

Panel Builders & Contractors

2020

Product Catalogue



se.com

Life Is On

Schneider
Electric

About our Company

Schneider Electric provides energy and automation digital solutions for efficiency and sustainability. We combine world-leading energy technologies, real-time automation, software and services into integrated solutions for homes, buildings, data centers, infrastructure and industries. We make process and energy safe and reliable, efficient and sustainable, open and connected.



Schneider Electric in figures

€26.6

billion in sales in FY2015

160,000+

employees in more than 100 countries

~5%

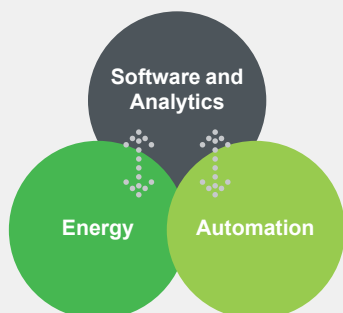
of revenues devoted to R&D

Our team serving your business...

- are the 20,000 sales and marketing professionals deeply engaged in your business
- are the expert 20,000 R&D, Software & Application engineers ensuring the most innovative solution for your business
- are the 2800+ customer care team providing 24/7 support to you
- are the 100,000+ industrialization team in over 200 factories close to you, securing quality and cost advantage and proximity logistics with tailored supply chain support
- are our community of millions of certified, professional, expert partners worldwide.

At Schneider Electric, we call this Life Is On

At Schneider Electric,
we combine **Energy Management,**
Automation and Software
serving 4 markets, i.e. 70% of the
world energy consumption



Buildings



> 30%



Residential

% are calculated on final energy



Industry &
Infrastructure
> 30%



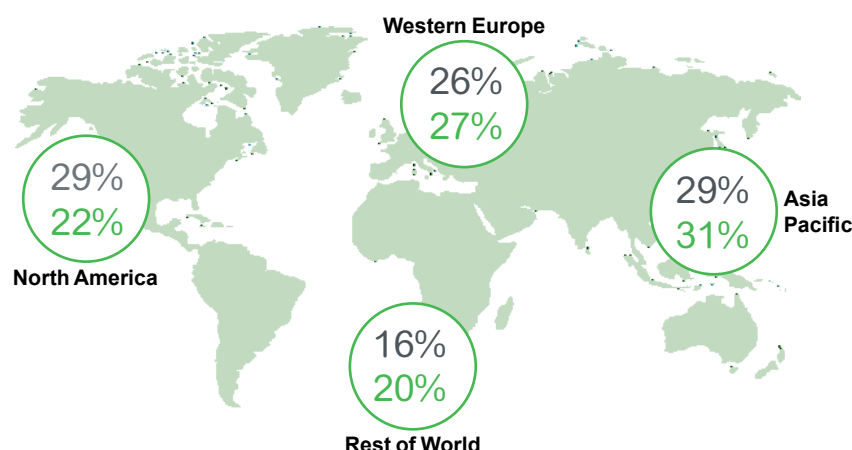
~2%
Data Centres &
Networks

Source: IEA Explore 2015

Schneider Electric provides

A well-balanced global presence

2019 Revenues breakdown



% of revenue by geography 2018

% of total employees by geography 2018

Two Businesses:



Key figures for 2019

5%

of revenues
devoted to R&D

€27.2

billion 2019 revenues

41%

of revenues
in new economies

135,000+

Employees
in over 100 countries

Go with us. You'll be going places

When you buy Schneider Electric products, you also get a lot more:
Our vast distribution network can deliver select products within 72 hours.
Dedicated support services are there when you need them. And you'll gain opportunities to grow professionally and even earn special rewards.
The Schneider Electric Panel Builder and contractor programs are ready for you.



Partnership

Grow in your profession and expand your business.

You may be eligible for exclusive partnership opportunities to grow your business and your skill set.



Service

Trust a partner who stands behind their product ... and you.

Our dedicated support services are available to give you the help you need.



Rewards

Earn benefits that go beyond your business.

Redeem your loyalty rewards and stay connected with what matters most to you.



Green Premium™

An industry leading portfolio of offers delivering sustainable value

More than 75% of our product sales offer superior transparency on the material content, regulatory information and environmental impact of our products:

- RoHS compliance
- REACH substance information
- Industry leading # of PEP's*
- Circularity instructions



Discover what we mean by green
Check your products!

The Green Premium program stands for our commitment to deliver customer valued sustainable performance. It has been upgraded with recognized environmental claims and extended to cover all offers including Products, Services and Solutions.

CO₂ and P&L impact through... Resource Performance

Green Premium brings improved resource efficiency throughout an asset's lifecycle. This includes efficient use of energy and natural resources, along with the minimization of CO₂ emissions.

Cost of ownership optimization through... Circular Performance

We're helping our customers optimize the total cost of ownership of their assets. To do this, we provide IoT-enabled solutions, as well as upgrade, repair, retrofit, and remanufacture services.

Peace of mind through... Well-being Performance

Green Premium products are RoHS and REACH compliant. We're going beyond regulatory compliance with step-by-step substitution of certain materials and substances from our products.

Improved sales through... Differentiation

Green Premium delivers strong value propositions through third-party labels and services. By collaborating with third-party organizations we can support our customers in meeting their sustainability goals such as green building certifications.

Contents



Air Circuit Breakers (ACBs)

A



Molded Case Circuit Breakers (MCCBs)

B



Miniature Circuit Breakers (MCBs)

C



Motor Management

D



Power Monitoring

E



Pushbuttons, Switches and Pilot lights

F



Power Factor Correction Capacitors

G



Switchboards and Enclosures

H

Air Circuit Breakers (ACBs)



MasterPact MTZ

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EasyPact MVS

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A

NOW, YOU'RE READY...

B

C

Built on the legendary performance and reliability of the Master**Pact** range

D

Master**Pact** MTZ circuit breakers prepare you for the future of power distribution with smart connectivity, remote monitoring, and easy customization via digital modules.

E

- Intuitive EcoStruxure™ Power Device App smartphone app for easy operation and maintenance
- Precise Class 1 power meter built in for energy-saving capabilities
- Easy customization with digital modules.
- Intuitive MicroLogic™ X control unit
- Easy installation using established architectures
- Seamless integration with building and energy management systems with EcoStruxure™ architectures
- Designed and tested to applicable standards for ANSI, UL, and IEC
- Low migration cost from Master**Pact** NT/NW to Master**Pact** MTZ.

F

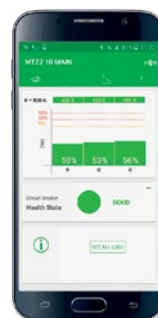


G

H

With Master**Pact** MTZ breakers, enhanced performance and connectivity equip you for the future of power distribution.

Available from 630 A to 6300 A.



...FUTURE READY

With MasterPact MTZ air circuit breakers, you're ready for all the ways power distribution is changing. Smart connectivity gives you real-time data to help avoid downtime. Digital modules allow you to customize the circuit breaker to your specific needs. And proven durability gives you the assurance that you're placing your power distribution on a reliable foundation.

MasterPact MTZ circuit breakers are available in three sizes:

MTZ1

From 630 to 1600 A



MTZ2

From 800 to 4000 A



MTZ3

From 4000 to 6300 A

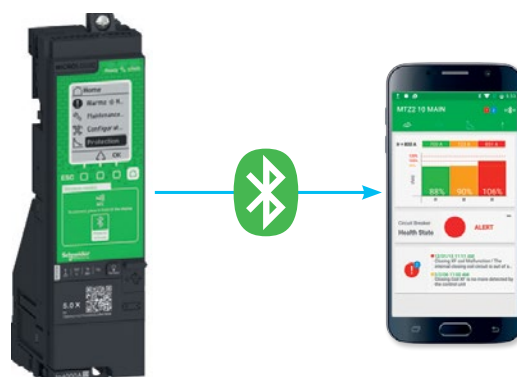


Now featuring digital
modules to customize
MicroLogic X control units

2.0 X (LI) | 5.0 X (LSI) | 6.0 X (LSIG) | 7.0 X (LSIV)

Downloadable digital modules provide enhanced:

- Protection: Energy Reduction Maintenance Settings, Ground-fault alarm, Under/Over voltage protection, Under/Over frequency protection, Reverse active power protection, IDTML overcurrent protection, Directional overcurrent protection
- Measurement: Energy per phase, Individual harmonics analysis
- Maintenance & Diagnostics: Power restoration assistant, MasterPact operation assistant, Wave form capture on trip event, Modbus legacy dataset, IEC 61850 for MasterPact MTZ.



MasterPact MTZ

A

Innovation at every level

Whether you're a panel builder or a contractor, Master**Pact** MTZ circuit breakers offer the innovative features you need to streamline system design, construction, and operation.

B

I build



Install and retrofit easily

The transition from MasterPact NT/NW to Master**Pact** MTZ air circuit breakers merges installation ready design with future ready evolutions in smart connectivity, remote monitoring and easy customization. It doesn't require switchboard modification or IEC 61439-1 and -2 recertification.

Commission quickly

With EcoStruxure™ Power Commission software, you can integrate smart devices, commission connected switchboards, and generate comprehensive reports as part of factory and site acceptance tests.

Provide better service

Our partner programs offer tools, software, support, and loyalty awards to help you grow your business and meet your customers' needs with high-quality pre- and post-sale services.

D

E

I operate



Improve customer loyalty

Master**Pact** MTZ circuit breakers allow you to provide commissioning and maintenance reports to demonstrate your reliability and value to your customers or employer.

Make maintenance easier

Master**Pact** MTZ circuit breakers send alerts to your smartphone, helping you to diagnose problems quickly and avoid downtime. In case of a power outage, the Power Restoration Assistant digital module guides you to the root cause and helps you restore power quickly.

Increase safety

Because Master**Pact** MTZ circuit breakers can be operated remotely via Bluetooth, operations can occur outside of the arc flash zone. Plus, NFC allows access to stored breaker data even when the power is off.

F

G

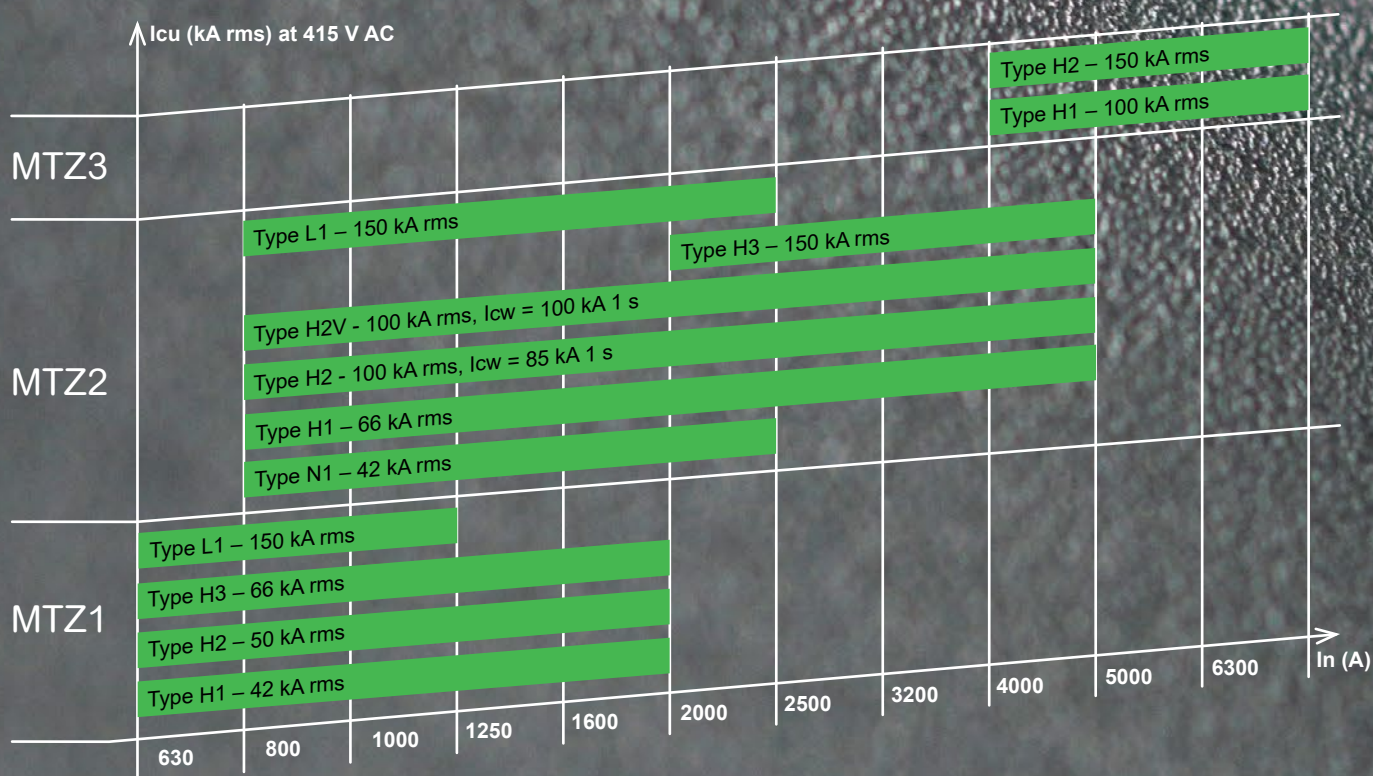
H

The MasterPact MTZ range covers your protection needs.

Masterpact

Five performance levels

N1 | H1 | H2 | H3 | L1



MasterPact MTZ

Selection guide

Circuit breakers

Selection criteria

MasterPact MTZ front face provides reinforced insulation (Class 2) according to IEC 60664-1. It allows Class 2 installation with breaker control from outside.



MasterPact MTZ1

From 630 to 1600 A

Safety of operation

Rated current (A) at 40/50°C^[1]

Type	H1	H2	H3 ^[8]	L1
MTZ1 06	630	630	630	630
MTZ1 08	800	800	800	800
MTZ1 10	1000	1000	1000	1000
MTZ1 12	1250	1250	1250	
MTZ1 16	1600	1600	1600	

Selectivity category^[2]

			B	B	B	A
Ultimate breaking capacity V AC 50/60 Hz	Icu (kA rms)	At 440 V	42	50	66	130
		At 1150 V	-	-	-	-
Rated service breaking capacity	Ics (kA rms)	At 440 V	42	50	50	130
		At 1150 V	-	-	-	-
Rated short-time withstand current V AC 50/60 Hz	Icw (kA rms)	0.5 s	42	42	50	10
		1 s	42	42	50	-
		3 s	24	24	30	-
Compliant with IEC/EN 60947-2 Annex H			Yes	Yes	Yes	Yes
Position of neutral (Left: L, Right: R)			L	L	L	L
Type of control unit: MicroLogic X			⊙	⊙	⊙	⊙

Installation characteristics

Type		H1	H2	H3	L1
Connection					
Drawout, front					
Drawout, rear					
Fixed, front					
Fixed, rear					
Dimensions (mm) H x W x D					
Drawout 3P		322 x 288 x 291			
Drawout 4P		322 x 358 x 291			
Fixed 3P		301 x 276 x 209			
Fixed 4P		301 x 346 x 209			
Weight (kg) approximate					
Drawout 3P/4P		30/39			
Fixed 3P/4P		14/18			

[1] 50°C for rear vertical connected only, refer to temperature derating tables for other connection types.

[2] For details on selectivity category A and B, see MTZ Catalogue reference LVPED216026EN.

[3] No front connection for 4000 A.

[4] No horizontal rear connection for 6300 A.

[5] To be specified when ordering.

[6] MTZ2-H10 dedicated to 1250 V systems.

[7] For MasterPact MTZ2-H10 circuit breaker the MicroLogic X control unit cannot be directly connected to the internal voltage pick-up on the downstream terminal. The external voltage pick-up option PTE associated with external voltage transformer shall be used, see MTZ Catalogue reference LVPED216026EN.

[8] For MasterPact MTZ1 H3 and MTZ2 H2V the rated operational voltage is limited to 440 V AC - 50/60 Hz.

MasterPact MTZ

Selection guide

Circuit breakers

MasterPact **MTZ2**

From 800 to 4000 A

MasterPact **MTZ3**

From 4000 to 6300 A

	Type	N1	H1	H2	H2V ^[8]	H3	L1	H10 ^[6]	Type	H1	H2
	MTZ2 08	800	800	800	800		800	800			
	MTZ2 10	1000	1000	1000	1000		1000	1000			
	MTZ2 12	1250	1250	1250	1250		1250	1250			
	MTZ2 16	1600	1600	1600	1600		1600	1600			
	MTZ2 20	2000	2000		2000	2000	2000	2000			
	MTZ2 25			2500	2500	2500	2500	2500			
	MTZ2 32			3200	3200	3200	3200	3200			
	MTZ2 40			4000	4000	4000	4000	4000	MTZ3 40	4000	4000
									MTZ3 50	5000	5000
									MTZ3 63	6300	6300
		B	B	B	B	B	B	B		B	B
		42	66	100	100	150	150	-		100	150
		-	-	-	-	-	-	50		-	-
		42	66	100	100	150	150	-		100	150
		-	-	-	-	-	-	50		-	-
		42	66	66	85	85	100	65	30	100	100
		42	66	66	85	85	100	65	30	100	100
		22	36	66	50	75	75	65	30	100	100
		Yes	Yes	Yes	Yes	Yes	Yes	No		Yes	Yes
		L	L or R ^[5]	L or R ^[5]	L or R ^[5]	L	L	L		L or R ^[5]	L or R ^[5]
		⊙	⊙	⊙	⊙	⊙	⊙	⊙ ^[7]		⊙	⊙

	N1	H1	H2	H2V	H3	L1	H10		H1	H2
	⊙	⊙ ^[3]	⊙ ^[3]	⊙ ^[3]	⊙ ^[3]	⊙	⊙		⊙	⊙
	⊙	⊙	⊙	⊙	⊙	⊙	⊙		⊙ ^[4]	⊙ ^[4]
	⊙	⊙ ^[3]	⊙ ^[3]	⊙ ^[3]	⊙	⊙	⊙		⊙	⊙
	⊙	⊙	⊙	⊙	⊙	⊙	⊙		⊙ ^[4]	⊙ ^[4]
	439 x 441 x 403								479 x 786 x 403	
	439 x 556 x 403								479 x 1016 x 403	
	352 x 422 x 300								352 x 767 x 300	
	352 x 537 x 300								352 x 997 x 300	
	90/120								225/300	
	50/65								120/160	

Select your circuit breakers

MasterPact MTZ

Characteristics and performance

Circuit breakers

A

Common characteristics		MTZ1	MTZ2 & MTZ3	MTZ2 H10	MTZ2 H2V
Number of poles		3/4	3/4	3/4	3/4
Rated insulation voltage	Ui (V)	1000	1000	1250	1000
Impulse withstand voltage	Uimp (kV)	12	12	12	12
Rated operational voltage	Ue (V AC 50/60 Hz)	690 ^[7]	690	1150	440
Suitability for isolation	IEC/EN 60947-2				
Degree of pollution	IEC/EN 60947-1	3	3	3	3

B

Characteristics

MasterPact MTZ1

From 630 to 1600 A

Circuit breaker as per IEC/EN 60947-2

MasterPact				06	08	10	12	16		
Rated current at 40/50°C ^[1]		In (A)		630	800	1000	1250	1600		
Sensor ratings		(A)		400 to 630	400 to 800	400 to 1000	630 to 1250	800 to 1600		
MasterPact				06 to 10				12 to 16		
Type				H1	H2	H3 ^[7]	L1 ^[2]	H1	H2	H3 ^[7]
Ultimate breaking capacity V AC 50/60 Hz	Icu (kA rms)	220/415 V		42	50	66	150	42	50	66
		440 V		42	50	66	130	42	50	66
		500/525 V		42	42	-	100	42	42	-
		660/690 V		42	42	-	-	42	42	-
		1150 V		-	-	-	-	-	-	-
Rated service breaking capacity	Ics (kA rms)	% Icu		100	100	75 ^[4]	100	100	100	75 ^[4]
Selectivity category ^[3]				B	B	B	A	B	B	B
Rated short-time withstand current V AC 50/60 Hz	Icw (kA rms)	0.5 s		42	42	50	10	42	42	50
		1 s		42	42	50	-	42	42	50
		3 s		24	24	30	-	24	24	30
Rated making capacity V AC 50/60 Hz	Icm (kA)	220/415 V		88	105	145	330	88	105	145
		440 V		88	105	145	286	88	105	145
		500/525 V		88	88	-	220	88	88	-
		660/690 V		88	88	-	52	88	88	-
		1150 V		-	-	-	-	-	-	-
Integrated instantaneous protection (DIN kA instantaneous ± 10%) ^[3]				-	90	110	10 x In	-	90	105
Break time between tripping order and arc extinction		(ms)		25	25	25	9	25	25	25
Closing time		(ms)		<50				<50		

D

Durability as per IEC/EN 60947-2/3

Mechanical durability ^[6]		MTZ1 06 to 10				MTZ1 12 to 16		
Mechanical durability, C/O cycles x 1000	With periodic preventive maintenance	12.5	12.5	10	12.5	12.5	12.5	10
Electrical durability ^[6] at rated current In		MTZ1 06 to 10 630 to 1000 A				MTZ1 12 to 16 1250 to 1600 A		
Type of MasterPact		H1	H2	H3 ^[7]	L1	H1	H2	H3 ^[7]
Electrical durability, C/O cycles x 1000 IEC/EN 60947-2	440 V	6	6	6	3	6	6	6
	690 V	3	3	-	2	3	3	-
	1150 V	-	-	-	-	-	-	-
Electrical durability ^[6] at rated operational current Ie in AC-23A ^[3]		MTZ1 06 to 12 630 to 1250 A				MTZ1 16 1600 A		
Type of MasterPact		H1	H2	H3 ^[7]		H1	H2	H3 ^[7]
Electrical durability, C/O cycles x 1000 IEC/EN 60947-3	440 V	6	6	6		6	6	6
	690 V	3	3	-		3	3	-
	1150 V	-	-	-		-	-	-
Electrical durability ^[6] at rated operational current Ie in AC-3 ^[3]		MTZ1 06 to 10 500 A				630 A		
Type of MasterPact		H1/H2/H3				800 A		
Motor power (kW)	380/415 V	≤ 250		250 to 335		335 to 450		450 to 560
	440 V	≤ 300		300 to 400		400 to 500		500 to 630
	690 V	-		-		-		-
Electrical durability, C/O cycles x 1000 IEC/EN 60947-3 and IEC/EN 60947-4-1	440 V	6						
	690 V	-						

E

F

G

H

^[1] 50°C: rear vertical connected. Refer to temperature derating tables for other connection types.

^[2] See the current-limiting curves in the "additional characteristics" section.

^[3] For details on selectivity category A, B, AC-3, AC-23A, DIN-DINF, see MTZ Catalogue reference LVPED216026EN.

^[4] Ics: 50 kA for 415-440 V.

^[5] MTZ2 H10 dedicated to 1250 V systems.

MasterPact MTZ

Characteristics and performance

Circuit breakers

Sensor selection

Sensor rating In (A)	400	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Ir threshold setting (A)	160 to 400	250 to 630	320 to 800	400 to 1000	500 to 1250	630 to 1600	800 to 2000	1000 to 2500	1250 to 3200	1600 to 4000	2000 to 5000	2500 to 6300

MasterPact MTZ2

From 800 to 4000 A

MasterPact MTZ3

From 4000 to 6300 A

	08	10	12	16	20	25	32	40	40	50	63									
	800	1000	1250	1600	2000	2500	3200	4000	4000	5000	6300									
	400 to 800	400 to 1000	630 to 1250	800 to 1600	1000 to 2000	1250 to 2500	1600 to 3200	2000 to 4000	2000 to 4000	2500 to 5000	3200 to 6300									
	08 to 16					20							25 to 40					40 to 63		
	N1	H1	H2	H2V ^[7]	L1 ^[2]	H10 ^[6]	N1	H1	H2	H2V ^[7]	H3	L1 ^[2]	H10 ^[6]	H1	H2	H2V ^[7]	H3	H10 ^[6]	H1	H2
	42	66	100	100	150	-	42	66	100	100	150	150	-	66	100	100	150	-	100	150
	42	66	100	100	150	-	42	66	100	100	150	150	-	66	100	100	150	-	100	150
	42	66	85	-	130	-	42	66	85	-	130	130	-	66	85	-	130	-	100	130
	42	66	85	-	100	-	42	66	85	-	100	100	-	66	85	-	100	-	100	100
	-	-	-	-	-	50	-	-	-	-	-	-	50	-	-	-	-	50	-	-
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	42	66	85	100	30	50	42	66	85	100	65	30	50	66	85	100	65	50	100	100
	42	66	85	100	30	50	42	66	85	100	65	30	50	66	85	100	65	50	100	100
	22	36	50	75	30	50	22	36	75	75	65	30	50	66	75	75	65	50	100	100
	88	145	220	220	330	-	88	145	220	220	330	330	-	145	220	220	330	-	220	330
	88	145	220	220	330	-	88	145	220	220	330	330	-	145	220	220	330	-	220	330
	88	145	187	-	286	-	88	145	187	-	286	286	-	145	187	-	286	-	220	286
	88	145	187	-	220	-	88	145	187	-	220	220	-	145	187	-	220	-	220	220
	-	-	-	-	-	105	-	-	-	-	-	-	105	-	-	-	-	105	-	-
	-	-	190	-	80	-	-	-	190	-	150	80	-	-	190	-	150	-	-	270
	25	25	25	25	10	25	25	25	25	25	25	10	25	25	25	25	25	25	25	25
	<70						<70							<70					<80	

	MTZ2 08 to 16 25 (15 for H2V)				MTZ2 20 20 (15 for H2V)					MTZ2 25 to 40 20 (15 for H2V)				MTZ3 40 to 63 10		
	MTZ2 08 to 16 800 to 1600 A				MTZ2 20 2000 A					MTZ2 25 to 40 2500 to 4000 A				MTZ3 40 to 63 4000 to 6300 A		
	N1/H1/H2	H2V ^[7]	L1	H10	N1/H1/H2	H2V ^[7]	H3	L1	H10	H1/H2	H2V	H3	H10	H1	H2	
	10	10	3	-	8	8	2	3	-	5	5	1.25	-	1.5	1.5	
	10	-	3	-	6	-	2	3	-	2.5	-	1.25	-	1.5	1.5	
	-	-	-	0.5	-	-	-	-	0.5	-	-	-	0.5	-	-	
	MTZ2 08 to 16 800 to 1600 A				MTZ2 20 2000 A					MTZ2 25 to 40 2500 to 4000 A				MTZ3 40 to 63 4000 to 6300 A		
	H1/H2	H2V ^[7]		H10	H1/H2/H3	H2V ^[7]		H10		H1/H2/H3	H2V		H10	H1	H2	
	10	10		-	8	8		-		5	5		-	1.5	1.5	
	10	-		-	6	-		-		2.5	-		-	1.5	1.5	
	-	-		0.5	-	-		0.5		-	-		0.5	-	-	
	MTZ2 08 to 16 800 A				MTZ2 20 2000 A											
	H1/H2/H2V ^[7]		1000 A	1250 A	1600 A	H1/H2/H3 H2V ^[7]										
	335 to 450	450 to 560	560 to 670	670 to 900	900 to 1150					-				-		
	400 to 500	500 to 630	500 to 800	800 to 1000	1000 to 1300					-				-		
	≤ 800	800 to 1000	1000 to 1250	1250 to 1600	1600 to 2000					-				-		
	6				6	6				-				-		
	6 for H1/H2 (not available for H2V)				6	-					-				-	

[6] The term "durability" is used to express the expectancy of the number of the operating cycles which can be performed by the device.

[7] For MTZ1 H3 and MTZ2 H2V the rated operational voltage Ue is limited to 440 V AC - 50/60 Hz.

MasterPact MTZ

Overview of functions

A

Measurement

Energy management is the challenge of present & future generations.

To meet this requirement MicroLogic X incorporates all the measuring functions of a power meter including **Energy Class 1 accuracy** third-party certified.

B

Maintenance & Diagnostics

Optimal continuity of services as well as extended life of equipment is one of customers main concerns. For that purpose

MicroLogic X integrates new extended diagnosis and assistance to maintenance.

C

Protection

Improvement of the reliability of MicroLogic X, dual settings and additional facilities **increase the performance and the flexibility** of low voltage systems of protection.

D

E



F

14 Optional 24/7 downloadable digital modules dedicated to upgrading MicroLogic X

- Undervoltage and overvoltage
- Underfrequency and overfrequency
- Reverse active power
- IDMTL overcurrent protection
- Directional overcurrent
- Ground-fault alarm
- Energy Reduction Maintenance Settings
- Energy per phase
- Individual harmonics analysis
- Power restoration assistant
- MasterPact operation assistant
- Waveform capture on trip event
- IEC 61850 for MasterPact MTZ
- Modbus legacy dataset.

G

H

Communication

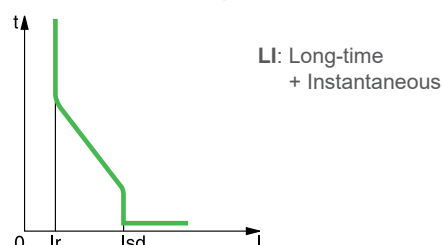
- It is now common practice to make available most of the information processed by a Protection Control Unit, locally for network operation and maintenance, as well as remotely for higher functions of control, monitoring, energy efficiency and assets management
- To comply with this requirement, MicroLogic X control units **incorporate several channels of communication, including Ethernet, Modbus SL and wireless communication facilities.**

MasterPact MTZ

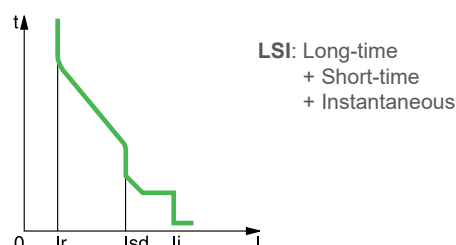
Overview of functions

> Protection for ...

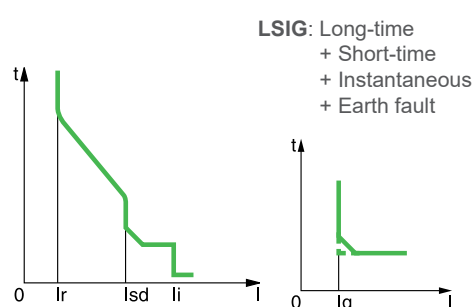
... MicroLogic 2.0 X



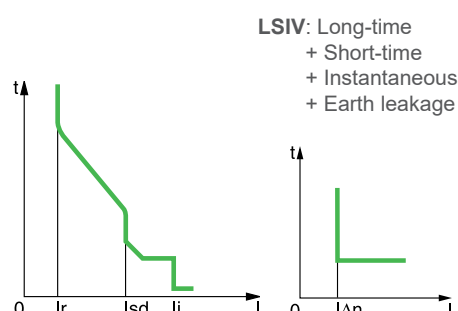
... MicroLogic 5.0 X



... MicroLogic 6.0 X



... MicroLogic 7.0 X



> Additional features of protections

Along with the LSIGV protections, new additional features and facilities allow to improve the protection performance of a system when difficulties are met such as low values of the short-circuit current or the need to limit the thermal constraints to the equipment: dual settings, fine settings, zone selective interlock, tripping mode (Standard/Fast).

> Measurement

MicroLogic X measures all electrical parameters of an electrical network: currents, voltages, frequency, power, energy, power factor, current and power demand. Min/Max and average values are calculated for most of the parameters.

Optional digital modules allow the measurement of energy per phase, and to perform Waveform capture.

> Maintenance & Diagnostics

Diagnostic features are intended to limit the risk of power interruptions and to re-energize the installation as quickly as possible after a trip.

They provide alarms and messages to help the user in scheduling both preventive and predictive maintenance, and device replacement.

> Communication

New generation MicroLogic X control units incorporate wireless technology (Bluetooth and NFC) that allows the transfer of a wide selection of critical information (protection, measurements, Maintenance & diagnostics) to your mobile device, by means of Ecostruxure Power Device App app. Alternatively, MasterPact MTZ can be equipped with ETHERNET communication through either the IFE module or the new embedded EIFE that includes webpages. Modbus SL communication is available through the IFM interface module.

> Optional digital modules

Optional digital modules can be purchased and downloaded to extend the performance of MicroLogic X control units. They are dedicated to Protection, Measurement, and Maintenance & diagnostics, and are available through Go Digital on the Schneider Electric website, open 24/7.

Customize your circuit breaker with accessories

MasterPact MTZ

Overview of accessories

Mounting versions

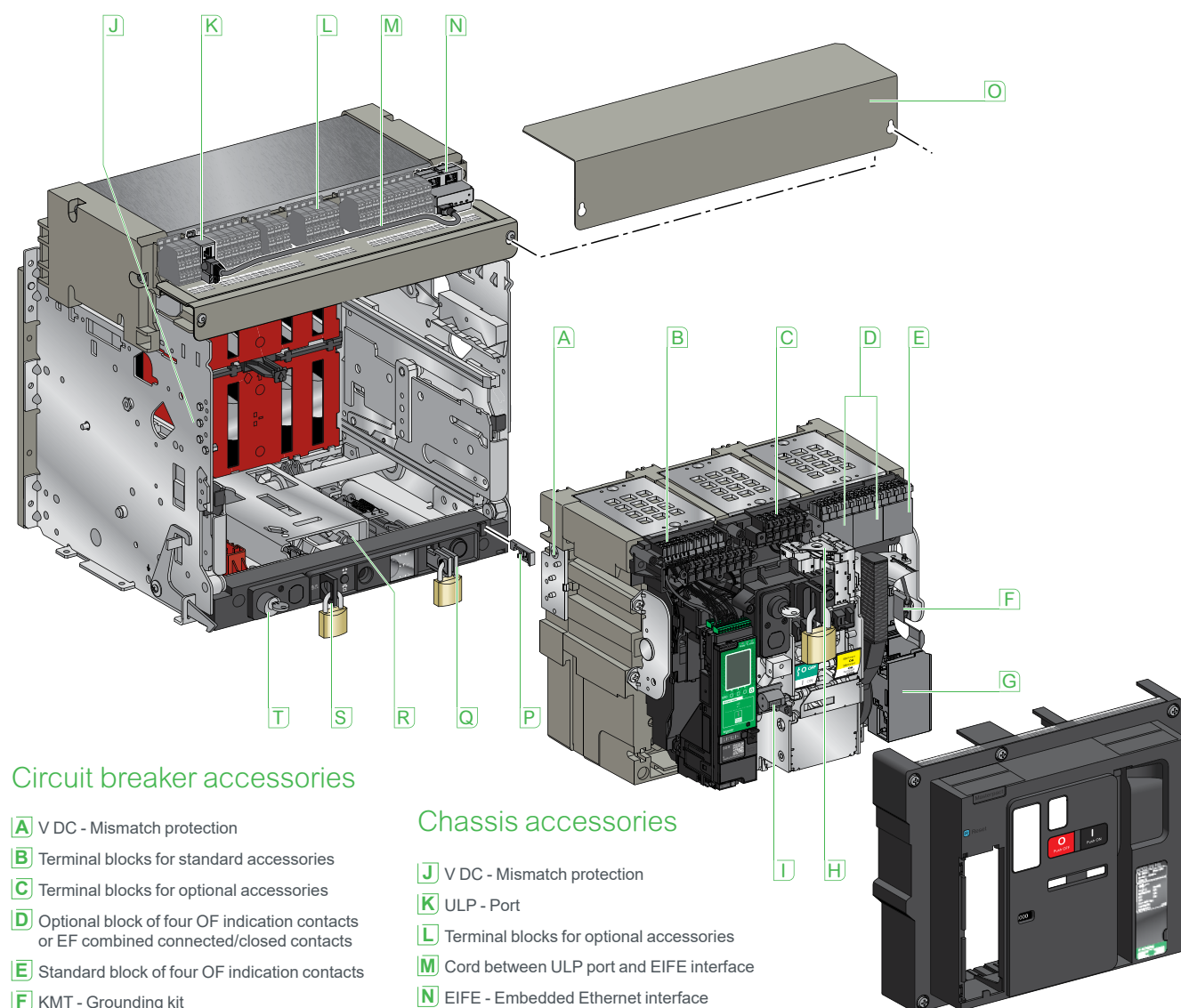
MasterPact circuit breakers are available in two mounting versions: fixed and drawout. The drawout version is preferred in most of the applications due to its following benefits:

- visible separation of the power contacts via racking out
- easy and complete access to the device for periodic maintenance
- possibility of a quick replacement of the device if necessary.

MasterPact MTZ Accessories provide the possibility to further customize the circuit breaker and enhance functionality at all stages of the lifecycle.

- The comprehensive range of accessories addresses the needs of majority of applications.
 - Many accessories are common between MasterPact NT, NW, MTZ1, MTZ2 and MTZ3.
- In addition, some accessories are also common between MasterPact and ComPact ranges. Safety stock can therefore be optimized and less training is required to master the installation of different ranges of Schneider Electric circuit breakers. The design of the circuit breaker incorporates the need to simplify installation, last minute changes and future upgrading.

MasterPact MTZ2/3 drawout version as an example



Circuit breaker accessories

- A** V DC - Mismatch protection
- B** Terminal blocks for standard accessories
- C** Terminal blocks for optional accessories
- D** Optional block of four OF indication contacts or EF combined connected/closed contacts
- E** Standard block of four OF indication contacts
- F** KMT - Grounding kit
- G** MCH - Gear motor
- H** MX, XF, MN, MX diag&com, XF diag&com, MN diag&com and MN diag voltage release
- I** CDM - Operation counter

Chassis accessories

- J** V DC - Mismatch protection
- K** ULP - Port
- L** Terminal blocks for optional accessories
- M** Cord between ULP port and EIFE interface
- N** EIFE - Embedded Ethernet interface
- O** CB - Terminal block shield
- P** VPOC - Racking interlock
- Q** VIVC - Shutter position indication locking
- R** Latch to lock the device in any position
- S** Chassis locking in disconnected position by padlock
- T** VSPD - Chassis locking in disconnected position by keylock

MasterPact MTZ

Operation efficiency

Signalling

Efficient day-to-day operation is vital. It means precise, in time and accessible data about the status of the circuit breaker and fast action without the limitation of physical location. MasterPact further develops the operation efficiency of the circuit breaker through signalling and control accessories.

Signalling

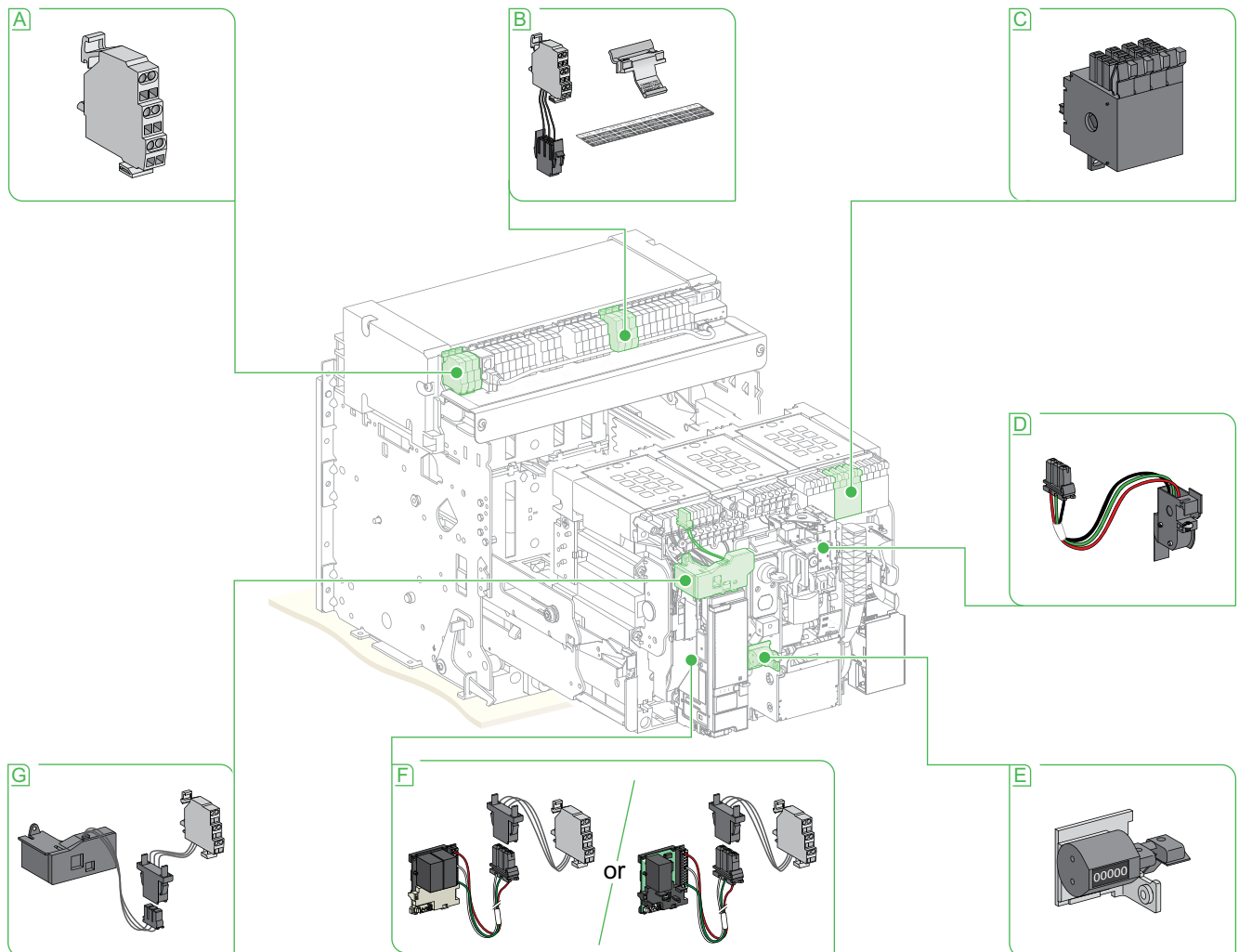
Signalling accessories provide status indications for both the device and the chassis.

The accessories listed below are available to achieve efficiency objectives.

Combinations of contacts are possible depending on the needs.

- On/Off position of the breaker main poles - OF.
- Fault trip of the breaker - SDE.
- Combined connected/closed position of the breaker (for MTZ 2/3 only) - EF.
- Connected, disconnected and test positions of the chassis - CE, CD, CT.
- Threshold overruns or status change through M2C programmable contacts - M2C.
- Indication ERMS engaged through ESM, ERMS switch module.
- Ready-to-close contact - PF.
- Operation counter - CDM, OF, EF, CE, CD, CT, SDE and PF are available:
 - in the standard version for relay applications,
 - in a low-level version for control of PLCs and electronic circuits.

MasterPact MTZ2 drawout version as an example



A CE, CD - Carriage switches

B EF - Combined connected/closed contacts

C OF - ON/OFF indication contacts

D PF - Ready-to-close contact

E CDM - Mechanical operation counter

F M2C - Programmable contacts
or ESM - ERMS switch module

G SDE - Fault-trip indication contact

Customize your circuit breaker with accessories

MasterPact MTZ

Operation efficiency

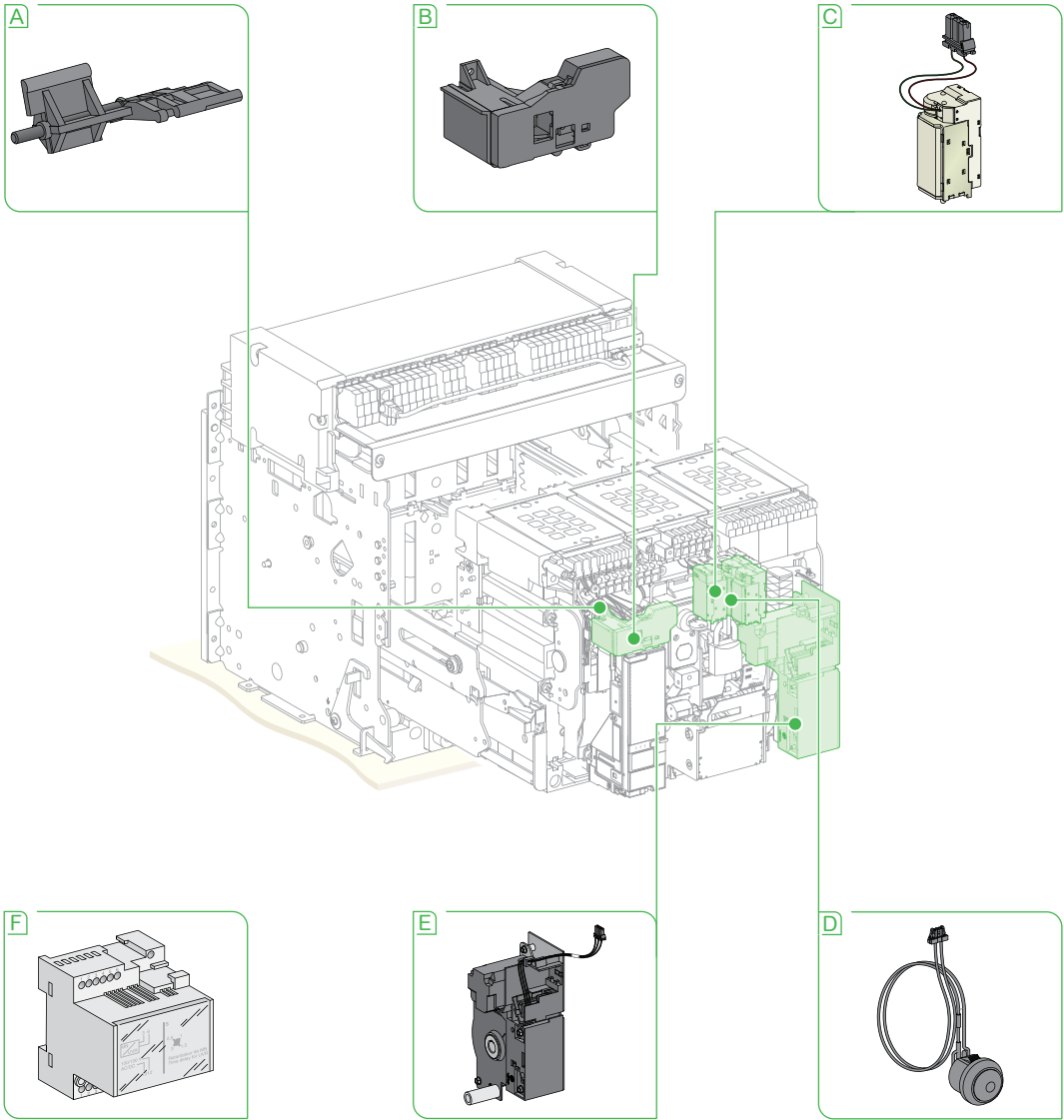
Controlling

A

Control accessories bring convenience and safety by providing multiple ways of controlling the circuit breaker and the possibility to operate it remotely.

Two control devices are presented here:

- remote On/Off
- remote reset after fault tripping.



B

C

D

E

F

G

H

A RAR - Automatic reset option

B RES - Electric reset option

C ■ XF - Closing voltage release
■ XF diag&com - Diagnostic and communicating closing voltage release

■ MX - Opening voltage release
■ MX diag&com - Diagnostic and communicating opening voltage release 2nd MX or MX diag&com
■ MN - Undervoltage release
■ MN diag - Diagnostic undervoltage release

D BPFE - Electric closing pushbutton

E MCH - Gear motor

F ■ R - Delay unit non-adjustable
■ Rr - Delay unit adjustable for MN and MN diag undervoltage release

MasterPact MTZ

Usefull links

> MasterPact MTZ Catalogue



LVPED216026EN_WEB

> MasterPact MTZ Catalogue numbers and spare parts



COM-POWER-LVMKT215EN

> Complementary technical information

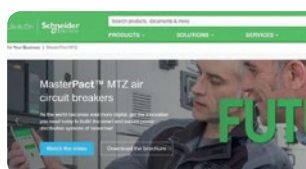


LVPED318033EN

> Substitution guide MasterPact MTZ



LVPED516027EN



Innovation that protects:
Learn about
the technical information
of the MasterPact
range here



Scan or
click on
QR code

Offer

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

A

EasyPact MVS range

The easy choice for reliable performance

One family and two frame sizes

- Performance without compromise
- Assured quality and safety you can trust
- Deliver exceptional reliability and flexibility in its class
- Outstanding value for an optimized feature set
- Precision engineered to meet your needs
- Unbeatable value throughout its lifecycle
- Simple to choose and easy to install.

B

C

2 sizes:

MVS Frame 1:
630 to
1600 A



Performances



D

MVS Frame 2:
800 to
4000 A

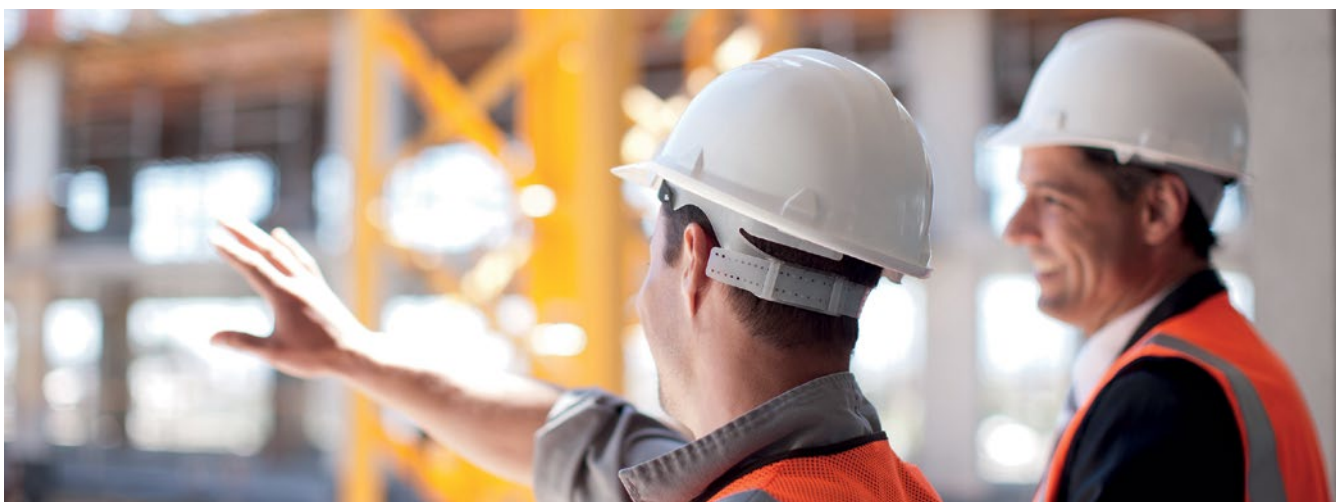


E

F

G

H



Choose the leader



- 630 to 4000 A ratings
- Breaking capacity: 50 & 65 kA
- Suitable for 690 V applications
- Complete selectivity with $I_{cs} = I_{cu}$
- Intelligent ET range of trip system with display
- Fully protected neutral on 4 pole breakers
- Full accessories with modular design
- Conforms to IEC 60947- 2 & 3.

Performance Level

- Ratings:
 - Frame 1: 630 to 1600 A,
 - Frame 2: 800 to 4000 A.
- Breaking capacity: 50 & 65 kA.
- Suitable for 690 V applications.
- Complete selectivity with $I_{cs} = 100\% I_{cu}$.
- Circuit breakers type C, N, H.
- Switch-disconnectors type CA, NA, HA.
- 3 or 4 poles.
- Fixed or drawout versions.
- Conforms to IEC 60947- 2 & 3.

ET range of trip system

Type of measurement

- ET for basic protection.
- ETA for "current".
- ETV for "Energy".

Type of protection

- 2.0 for basic protection.
- 5.0 for selective protection.
- 6.0 for selective + earth-fault protection.



Communication

Eco COM

- EasyPact in a communication network.
- BCM-ULP COM option inside breaker.
- IFM: Modbus interface module.
- I/O application module.

Transmission signal

- Breaker signal: OF, SDE, PF and CH.
- Cradel signal: CD, CT, CE.
- Measurements ways: instantaneous, maximum/minimum, demand.
- Measurements value: current, voltage, power, power factor, energy.
- Protection settings.
- Trip causes.



EasyPact MVS communication module

- Independent Modbus interface module.
- Digital Input: 3 sets of OF, SDE, PF.
- Digital output: 3 sets of MX & XF.
- Analog Input: 1 set of 4-20 mA.



M2C programmable contacts

- Two programmable contacts.
- Signal events: Ir, Isd, Alarm Ir, Alarm Ig, Igv.



Benefits for every Panel Builder and Contractor

EasyPact MVS06 to MVS40

Panel builders / Contractors

- Suitable for copper & Aluminium termination with the pole pitch of 70 or 115 mm
- Terminal orientation can be converted from horizontal to vertical and vice-versa at workshop
- Direct mounting Door frames (escutcheon) without drilling any holes
- Front fitted accessories like under-volt release, shunt release & closing coil for complete range
- Conversion of manual operated breaker in to electrical operated, with single bolt fixing

EasyPact MVS with modular design helps to increase the shop floor efficiency, enabling faster delivery of switch boards.



The Key values

90%

of applications are covered



The performance you need

EasyPact MVS provides the ideal level of capability for your installation from 630 to 4000 A.

30%

Reduce stock by up to



At a cost-effective investment

Pay for what you need:
Get outstanding durability with the features you need, with the benefit of easy to order and stock.

100%

Commitment to quality



With the quality you demand

Designed and manufactured by Schneider Electric using advanced manufacturing methods and premium materials.

Gain peace of
mind and
optimised cost
for every
installation



EasyPact MVS

General overview

This overview describes all the functions offered by EasyPact MVS devices.



Circuit breakers and switch-disconnectors

- Ratings: EasyPact MVS 800 to 4000 A.
- Circuit breakers type N, H.
- Switch-disconnectors type NA, HA.
- 3 or 4 poles.
- Fixed or draw-out versions.

ET trip system

- 2I basic protection.
- 5S selective protection.
- 6G selective + earth-fault protection.
- Standard long-time rating plug: current setting (A) 0.4 to 1 x In.

ETA trip system with current measurement

- 2I basic protection.
- 5S selective protection.
- 6G selective + earth-fault protection.
- Standard long-time rating plug: current setting (A) 0.4 to 1 x In.
- External power-supply module.

ETV trip system with voltage measurement

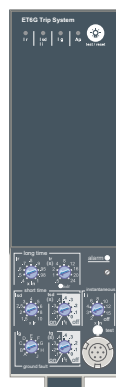
- 2I basic protection.
- 5S selective protection.
- 6G selective + earth-fault protection.
- Standard long-time rating plug: current setting (A) 0.4 to 1 x In.
- External power-supply module.



ET2I trip system



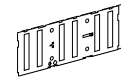
ET5S trip system



ET6G trip system

Connections

- Rear connection:
 - horizontal,
 - vertical.
- Optional accessories:
 - interphase barriers,
 - safety shutters and shutter locking blocks.



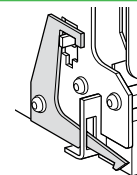
Safety shutters



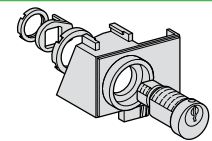
Interphase barriers

Locking

- Pushbutton locking by padlockable transparent cover.
- OFF-position locking by keylock.
- Chassis locking in disconnected position by keylock.
- Chassis locking in connected, disconnected and test positions.
- Door interlock (inhibits door opening) with breaker in "connected" or "test" position.



Door interlock



Chassis key lock

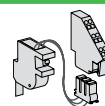
EasyPact MVS

General overview

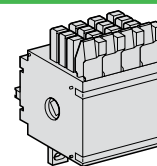


Indication contacts

- Standard:
 - ON/OFF indication (OF),
 - "Fault" trip indication (SDE).
- Optional:
 - additional ON/OFF, indication (OF),
 - ready-to-close contact (PF),
 - carriage switches for connected (CE) disconnected (CD) and test (CT) positions.



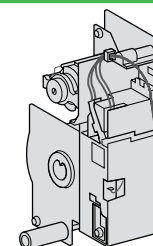
Ready-to-close contact



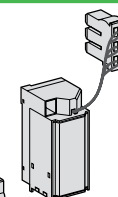
OF contact

Remote operation

- Remote ON/OFF:
 - gear motor,
 - XF closing or MX opening voltage releases.
- Remote tripping function:
 - MN voltage release
 - standard,
 - adjustable or non-adjustable delay.



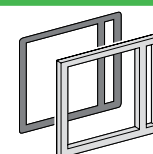
Gear motor



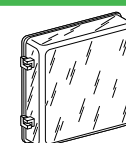
MX, XF and MN voltage releases

Accessories

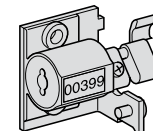
- Auxiliary terminal shield.
- Operation counter.
- Escutcheon (Door sealing frame).
- Transparent cover for escutcheon.
- Escutcheon blanking plate.



Escutcheon



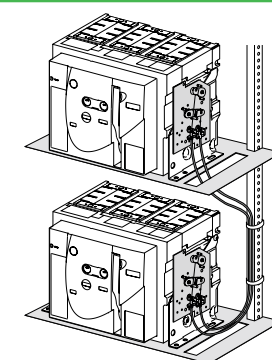
Transparent cover



Mechanical operation counter

Source-changeover systems

- Mechanical interlocking using cables:
 - interlocking between two devices,
 - interlocking between three devices.



Interlocking of two devices

EasyPact MVS

Characteristics and performance

Circuit breakers and switch-disconnectors MVS06 to MVS16 (Frame 1)

A

B

C



Circuit breaker

D

E

F

G

H

Common characteristics

Number of poles		3/4
Rated insulation voltage (V)	Ui	1000
Impulse withstand voltage (kV)	Uimp	12
Rated operational voltage (V AC 50/60 Hz)	Ue	440
Suitability for isolation	IEC 60947-2	Yes
Degree of pollution	IEC 60664-1	3

Basic circuit-breaker

Circuit-breaker as per IEC 60947-2

Rated current (A)	In	At 40°C ^[1]
Rating of 4 th pole (A)	In	At 40°C ^[1]
Sensor ratings (A)		

Type of circuit breaker

Ultimate breaking capacity (kA rms)	Icu	220...440 V
Rated service breaking capacity (kA rms)	Ics	% Icu
Utilisation category		
Rated short-time withstand current (kA rms) V AC 50/60 Hz	Icw	1 s 220...440 V 3 s 440 V
Rated making capacity (kA peak)	Icm	220...440 V
Integrated instantaneous protection (DIN KA instantaneous ± 10%)		
Breaking time (ms) between tripping order and arc extinction (ms)		
Closing time (ms)		

Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector

Operational current AC23A Icm	Icm	
Rated short-time withstand current (kA rms)	Icw	1 s 3 s

Maintenance / Connection / Installation

Service life C/O cycles x 1000	Mechanical	With maintenance	
		Without maintenance	
	Electrical	Without maintenance	440 V
Connection		Horizontal	
		Vertical	
Dimensions (mm) (H x W x D)	Draw-out		3P
			4P
	Fixed		3P
			4P
Weight (kg) (approximate)	Draw-out		3P/4P
	Fixed		3P/4P

[1] Refer to catalogue EasyPact reference LVED211021EN.

EasyPact MVS

Characteristics and performance

Circuit breakers and switch-disconnectors MVS06 to MVS16 (Frame 1)

	MVS06	MVS08	MVS10	MVS12	MVS16
	630	800	1000	1250	1600
	630	800	1000	1250	1600
	630	800	1000	1250	1600
	C	C	C	C	C
	50	50	50	50	50
	100%	100%	100%	100%	100%
	B	B	B	B	B
	35	35	35	35	35
	20	20	20	20	20
	105	105	105	105	105
	105	105	105	105	105
	25	25	25	25	25
	<50	<50	<50	<50	<50

	MVS06	MVS08	MVS10	MVS12	MVS16
	CA	CA	CA	CA	CA
	75	75	75	75	75
	35	35	35	35	35
	20	20	20	20	20

	MVS06	MVS08	MVS10	MVS12	MVS16
	20	20	20	20	20
	10	10	10	10	10
	5	5	5	5	5
	Yes				
	Yes				
	322 x 288 x 277				
	322 x 358 x 277				
	301 x 276 x 196				
	301 x 346 x 196				
	30/39				
	14/18				

EasyPact MVS

Characteristics and performance

Circuit breakers and switch-disconnectors MVS08 to MVS40 (Frame 2)

A

B

C



Circuit breaker

D

E



Switch disconnector

F

G

H

Common characteristics

Number of poles		3/4
Rated insulation voltage (V)	Ui	1000
Impulse withstand voltage (kV)	Uimp	12
Rated operational voltage (V AC 50/60 Hz)	Ue	690
Suitability for isolation	IEC 60947-2	Yes
Degree of pollution	IEC 60664-1	4

Basic circuit-breaker

Circuit-breaker as per IEC 60947-2

Rated current (A)	In	At 40°C ^[1]
Rating of 4 th pole (A)	In	At 40°C ^[1]
Sensor ratings (A)		

Type of circuit breaker

Ultimate breaking capacity (kA rms) V AC 50/60 Hz	Icu	220...440 V 690 V
Rated service breaking capacity (kA rms)	Ics	% Icu
Utilisation category		
Rated short-time withstand current (kA rms) V AC 50/60 Hz	Icw	1 s 220...440 V 690 V 3 s 440/690 V
Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220...440 V 690 V
Breaking time (ms) between tripping order and arc extinction		
Closing time (ms)		

Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector

Operational current AC23A		
Rated making capacity (kA peak)	Icm	
Rated short-time withstand current (kA rms)	Icw	1 s 3 s

Maintenance / Connection / Installation

Service life C/O cycles x 1000	Mechanical	With maintenance	
		Without maintenance	
	Electrical	Without maintenance	440 V 690 V
Connection		Horizontal	
		Vertical	
Dimensions (mm) (H x W x D)	Draw-out		3P 4P
	Fixed		3P 4P
Weight (kg) (approximate)	Draw-out		3P/4P
	Fixed		3P/4P

[1] Refer to catalogue EasyPact reference LVED211021EN.

EasyPact MVS

Characteristics and performance

Circuit breakers and switch-disconnectors MVS08 to MVS40 (Frame 2)

	MVS08		MVS10		MVS12		MVS16		MVS20		MVS25		MVS32		MVS40	
	800		1000		1250		1600		2000		2500		3200		4000	
	800		1000		1250		1600		2000		2500		3200		4000	
	800		1000		1250		1600		2000		2500		3200		4000	
	N	H	N	H	N	H	N	H	N	H	N	H	N	H	N	H
	50	65	50	65	50	65	50	65	50	65	50	65	50	65	55	65
	42	50	42	50	42	50	42	50	42	50	42	50	42	50	42	50
	100%		100%		100%		100%		100%		100%		100%		100%	
	B		B		B		B		B		B		B		B	
	50	65	50	65	50	65	50	65	50	65	50	65	50	65	55	65
	42	50	42	50	42	50	42	50	42	50	42	50	42	50	42	50
	25	36	25	36	25	36	25	36	25	36	25	36	25	36	30	36
	105	143	105	143	105	143	105	143	105	143	105	143	105	143	121	143
	88	105	88	105	88	105	88	105	88	105	88	105	88	105	88	105
	25		25		25		25		25		25		25		25	
	<70		<70		<70		<70		<70		<70		<70		<70	

	MVS08		MVS10		MVS12		MVS16		MVS20		MVS25		MVS32		MVS40	
	NA	HA	NA	HA	NA	HA	NA	HA	NA	HA	NA	HA	NA	HA	NA	HA
	800	-	1000	-	1250	-	1600	-	2000	-	2500	-	3200	-	4000	-
	105	143	105	143	105	143	105	143	105	143	105	143	105	143	121	143
	50	65	50	65	50	65	50	65	50	65	50	65	50	65	55	65
	25	36	25	36	25	36	25	36	25	36	25	36	25	36	30	36

	MVS08		MVS10		MVS12		MVS16		MVS20		MVS25		MVS32		MVS40	
	20		20		20		20		20		20		20		20	
	10		10		10		10		10		10		10		10	
	6000		6000		6000		6000		6000		5000		5000		5000	
	4000		4000		4000		4000		4000		2500		2500		2500	
	Yes															
	Yes															
	439 x 441 x 395															
	439 x 556 x 395															
	352 x 422 x 297															
	352 x 537 x 297															
	70/85										90/120					
	40/50										60/80					

Functions and characteristics

EasyPact MVS

Identifying ET range of trip system

A

EasyPact MVS circuit breakers equipped with ET range of trip system are designed to protect power circuit and connected loads. Measurement of current and Energy helps users to maintain continuity of service and optimize installation.



B

C

D

E

F

G

H

Dependability

Integration of protection functions in an ASIC electronic component used in all trip units guarantees a high degree of reliability and immunity to conducted or radiated disturbances.

On ET range, measurement functions are managed by an independent microprocessor. Protection functions are independent of measurement functions, ensure system protection even at very low load currents.

Accessories

Some functions require the addition of trip unit accessories, described on catalogue EasyPact reference LVED211021EN.

Trip unit name codes

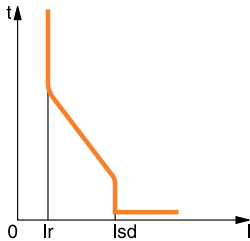
Type of protection

- 2I for basic protection
- 5S for selective protection
- 6G for selective + earth-fault protection

Type of measurement

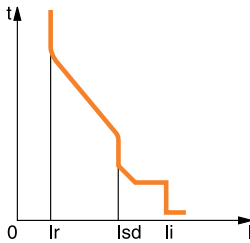
- ET for basic
- ETA for "Current"
- ETV for "Current" and "Energy"

ET2I: basic protection



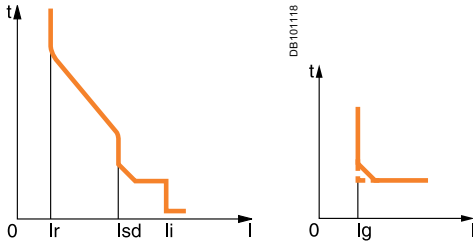
Protection:
long time
+ instantaneous

ET5S: selective protection



Protection:
long time
+ short time
+ instantaneous

ET6G: selective + earth-fault protection



Protection:
long time
+ short time
+ instantaneous
+ earth fault

Protection and measurement functions

ET	ETA	ETV
■ Fault indications ■ Settings in amperes and in seconds	■ I_1, I_2, I_3, I_N, $I_{\text{earth-fault}}$ and maximeter for these measurements: □ fault indications □ settings in amperes and in seconds	■ Incorporates all the rms measurements of ETA trip unit, plus voltage, power factor, power and energy metering measurements: □ calculates the current demand value □ "Quickview" function for the automatic cyclical display of the most useful values

2I



2I



2I



5S



5S



5S



6G



6G



6G

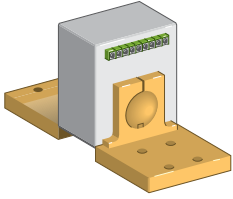


Functions and characteristics

EasyPact MVS

ET range of trip system - Accessories and test equipment

A



External sensor (CT)

B



External 24 V DC power supply module

D

E



M2C

F

G



Lead-seal cover

H

External sensors

External sensor for earth-fault protection

The sensors, used with the 3P circuit breakers, are installed on the neutral conductor for: residual type earth-fault protection (with 6G trip units). The rating of the sensor (CT) must be compatible with the rating of the circuit breaker:

- MVS 06 to MVS16 (frame 1): TC 400/1600
- MVS 08 to MVS 20 (frame 2): TC 400/2000
- MVS25 to MVS40: TC 1000/4000.

Voltage measurement inputs ^[1]

As standard, the control unit is supplied by internal voltage measurement inputs placed downstream of the pole for voltages between 220 and 690 V AC.

[1] Refer to EasyPact MVS user manual on using 3 pole circuit breakers in 4 wire system with ETV trip system for Energy measurement.

External 24 V DC power-supply module (AD)

The external power-supply module makes it possible:

- to use the display even if the circuit breaker is open or not supplied (for the exact conditions of use, see the "electrical diagrams" part of this catalogue)
- to display fault currents after tripping
- to modify settings when the circuit breaker is open (OFF position).

An external 24 V DC power supply is required for installation with communication, whatever the type of trip unit.

This module is not designed to power on 24 V DC voltage releases and electric motor mechanism.

This module powers both the control unit and the M2C programmable contacts. We recommended using the AD power supply due to its low stray primary secondary capacitance. Good operation of the Micrologic control unit in noisy environment is not guaranteed with other power supplies.

If the COM option is used, a second dedicated power supply shall be used.

This module powers both the control unit and the M2C programmable contacts.

Characteristics

- Power supply AC-to-DC or DC-to-DC.
- Output voltage: 24 V DC $\pm$ 5%.
- Output current: 1 A.
- DIN rail or platine fixing with Acti9 form factor.
- Conducted emissions power line: class B per EN 61000-6-3.

M2C programmable contacts

These contacts are optional equipment for the ETV control units.

They are described with the indication contacts for the circuit breakers.

Micrologic			Type ETV
Characteristics			M2C
Minimum load			100 mA/24 V
Breaking capacity (A) p.f.: 0.7	V AC	240	5
		380	3
		V DC	1.8
	V DC	48	1.5
		125	0.4
		250	0.15

M2C: 24 V DC power supplied by control unit (consumption 100 mA).

Spare parts

Lead-seal covers

A lead-seal cover controls access to the adjustment dials.

When the cover is closed:

- it is impossible to modify settings using the keypad unless the settings lockout pin on the cover is removed
- the test connector remains accessible
- the test button for the earth-fault protection function remains accessible.

Characteristics

- Transparent cover for all trip units.

Spare battery

A battery supplies power to the LEDs identifying the tripping causes.

The healthiness of the battery to be checked periodically.

A test button on the front of the control unit is used to check the battery condition.

The battery may be replaced on site when discharged.



Functions and characteristics

EasyPact MVS

Eco COM Communication

Eco COM transmits metering data and status.
It is not used to communicate controls.



BCM ULP



I/O application module

Eco COM

For fixed and Drawout devices, the common communication option is made up of:

- a BCM ULP module, installed behind the Trip System and supplied with its set of sensors (OF, SDE, PF and CH micro switches) and its COM terminal block (inputs E1 to E6).

This module is independent of the control unit. It receives and transmits information on the communication network.

An infra-red link transmits data between the control unit and the communication module.

Consumption: 30 mA, 24 V.

- IFM, this module required for connection to the network, contains the Modbus address (1 to 99) declared by the user via the two dials in front. It automatically adapts (baud rate, parity) to the Modbus network in which it is installed.

For drawout device the Cradle Management option must be added:

I/O (Input/Output) application module for LV breaker, the I/O application module is delivered with withdrawable devices ordered with the COM option, for cradle management.

It must be installed on a DIN rail near the device. It must be connected to the ULP system and to the position contacts (CD, CT, CE) that transmit the position of the device in the cradle.

Functions and characteristics

EasyPact MVS

Communication module



Overview

EasyPact MVS Communication module allows you to connect and control the air circuit breakers over Modbus communication architecture.

Resources (Inputs/Outputs)

The Communication module resources are:

- nine digital inputs
- six digital outputs
- one analog input.

Key Features

The main features of the communication module are:

- ensures to make communication architecture affordable and easily maintainable
- connects, controls, and manages up to three circuit breakers:
 - connect: Breaker ON/OFF status (OF), Breaker Trip status (SDE), Ready To Close status (PF),
 - control: Remote Open/Close of EasyPact air circuit breakers,
 - manage: One Analog Input for temperature measurement (4...20 mA)

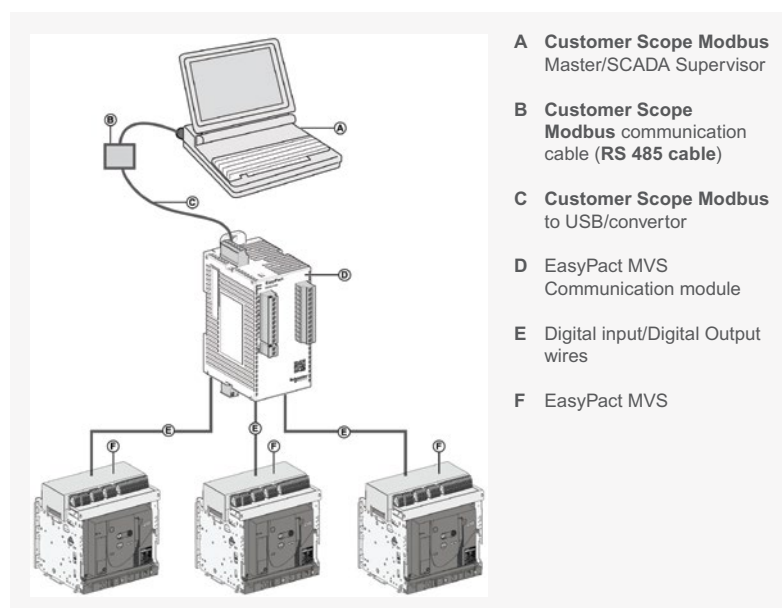
Safety Operation

The communication module keeps safety as its top priority while you control the communication architecture.

- During maintenance, the local operator can switch OFF the remote operation module locally. The remote operator can see the status of the air circuit breaker from remote, but cannot give the ON/OFF command.
- The communication module provides "ready-to-close" indication on the communication network, keeping the safety of the operator and installation on priority.
- The operator must check the following status of the air breaker before the ON command is given to the circuit breaker through the communication architecture.
 - the circuit breaker is in the OFF position,
 - the Spring mechanism is charged,
 - a maintained opening order is not present,
 - the tripping command is not present through shunt, under voltage,
 - the air circuit breaker is completely rack in or not,
 - the air circuit breaker is locked in the OFF position or is mechanically interlock with any other air circuit breaker.

The EasyPact air circuit breaker is equipped with a Ready To Close accessory that helps to check these conditions from remote on the communication architecture. Once it is fulfilled, the ON command is given to the circuit breaker.

Communication Architecture



A

B

C

D

E

F

G

H



Innovation that protects:
Learn about
the technical information
of the EasyPact MVS
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

Molded Case Circuit Breakers (MCCBs)



ComPact NSX & NSXm

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EasyPact CVS

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EasyPact EZC

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B



Innovation that protects

60 years of innovative and reliable protection

The Schneider Electric Com**Pact** range is built on 60 years of expertise and leadership in industrial circuit breakers.

Schneider Electric is continuously introducing new features and innovations in its range of molded case circuit breakers.

The comprehensive, optimized Com**Pact** NSX range covers your protection needs and now comes in a smaller size, and with integrated earth leakage protection.

This range can be connected to Schneider Electric's open, interoperable, IoT- (Internet of Things) enabled EcoStruxure™ Power architecture. Through this platform we deliver enhanced value in terms of safety, reliability, efficiency, sustainability, and connectivity for our customers.

The range combines intelligent metering and monitoring, along with advanced protective functions.

We leverage technologies in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level. This includes connected products, edge control, apps, analytics and services.



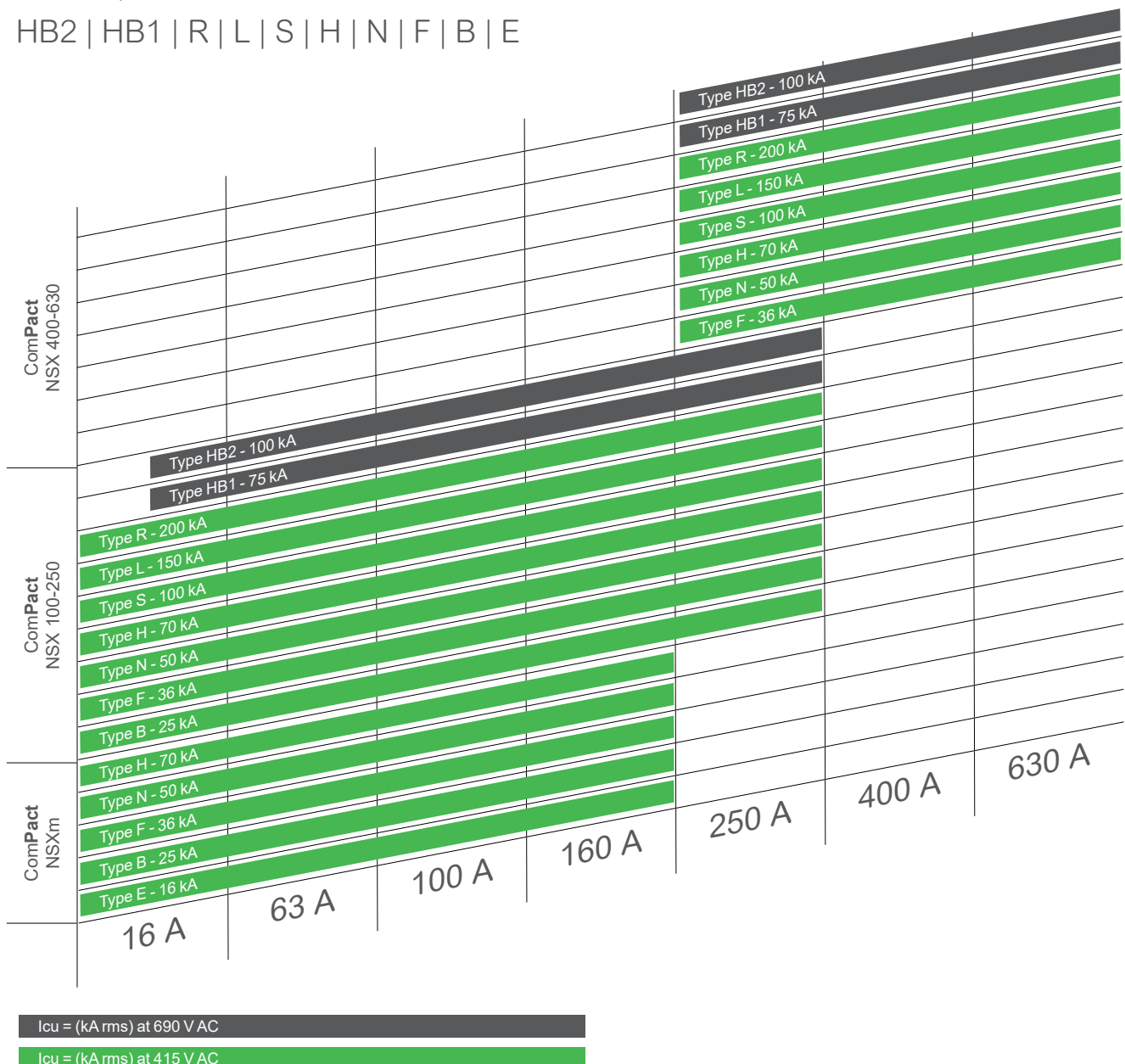
ComPact NSX and NSXm, even more innovative and efficient

ComPact circuit breakers feature Schneider Electric's exclusive Roto-Active Breaking System; it reduces the effects of short circuits of your installation.

Today, the ComPact range is optimized with a high level of breaking capacities, outstanding selectivity and cascading. It offers more advanced functions and ergonomic designs for easy installation and operations.

Ten performance levels

HB2 | HB1 | R | L | S | H | N | F | B | E



ComPact NSX & NSXm

Schneider Electric is proud to introduce two new innovations to the Com**Pact** NSX range. As the latest family member, Com**Pact** NSXm comes to you with a smaller footprint as well as integrated earth leakage protection - which is available across the range.

New

Com**Pact** NSXm

New

MicroLogic Vigi



Smallest size in the range

- The smallest frame size in the Com**Pact** NSX range, incorporating new features and innovations
- Gain up to 40% in space when using with integrated earth leakage protection
- Reduce up to 40% mounting and cabling time with EverLink™ connectors, built-in DIN rail and spring-type auxiliaries
- Select, configure and commission with ease, thanks to Schneider Electric online tools: EcoStruxure™ Customer Lifecycle Software.

Integrated earth leakage protection

- Easy to integrate into a row that does not have earth leakage protection
- Simple to use, reliable, and now comes in the same frame size, and for the same panel support
- Gain up to 40% in space when using with integrated earth leakage protection into the MicroLogic Vigi trip units
- Part of the EcoStruxure™ Power architecture, with digital communication capability and data management (settings, measurement, pre-alarms, trip & test history).

Reliability that fits

Made to protect

You can depend on the ComPact range, even in the most stressful of environments. The ComPact range addresses demanding applications, thanks to its high level of breaking capacities.

- An excellent choice for standard and specific applications
- The highest-rated breaking capacity in its class with 100 kA at 690 V.
- Quality-certified by independent authorities
- Extended breaking capacity available in the same space-saving ComPact NSX frame size.



Compliance with international standards and for specific applications. See catalog for details.



ComPact NSX & NSXm

A

Efficiency that clicks

Mounting, installing and cabling made easier

Today, the ComPact range is optimized with a high level of breaking capacity, outstanding selectivity and cascading. It offers more advanced functions and ergonomic designs for easy installation and operations.

B

The latest innovations that reinforce this:

- The ComPact NSXm is an innovative frame that minimizes space occupation with combinations up to 160 A.
- ComPact NSX and NSXm are now available with integrated earth leakage protection via MicroLogic Vigi trip unit technology.

C



D

Software for each step of your project

To complement its high-quality products, Schneider Electric offers power supply professionals a wide range of online and offline software tools that help to improve efficiency at all stages of your project. These resources include: EcoStruxure™ Power Design, EcoStruxure™ Power Build, EcoStruxure™ Power Commission and Product Selector.

E

F

G

H



Innovation that protects

Maintenance made more efficient

The ComPact range combines intelligent metering and monitoring with advanced protective functions. The range can be connected as part of an EcoStruxure™ Power digital architecture. By measuring performance data and offering performance analysis, building owners and managers can anticipate and prevent issues throughout lifecycle of the equipment.



Instant access to product information

Scan the ComPact NSXm QR code for product information and easy access to the customer care center.



Visible auxiliaries

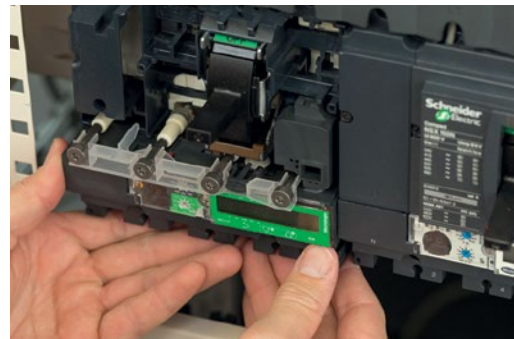
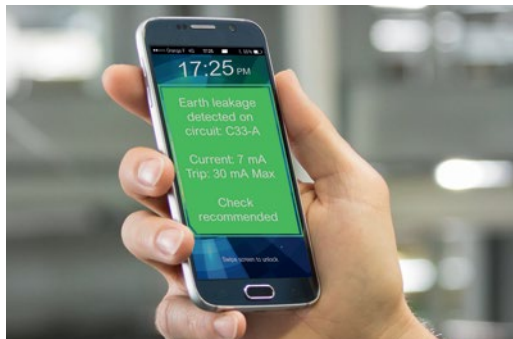
One-click auxiliaries on the ComPact NSXm with field-installable accessories and auxiliaries. Their presence in the breaker is externally visible through flags and its window.



ComPact NSX & NSXm

New

Micrologic Vigi



Preventative maintenance is now a reality

Thanks to the advanced Micrologic Vigi trip unit, EcoStruxure™ Power notifies in the event of overloads or current leakage, before tripping thresholds are reached.

Easy product upgrades

Simply upgrade the ComPact NSX to improve circuit breaker functionality - and to take advantage of earth leakage protection and digital communication. Just replace the former Micrologic or Thermal-Magnetic trip unit with the new Micrologic Vigi.

Connectivity: from corrective to predictive maintenance

As Schneider Electric's IoT-connected power supply architecture, EcoStruxure™ Power makes maintenance more effective, and reduces the probability and duration of blackouts. ComPact circuit breakers play a major role in the EcoStruxure™ architecture, acting as watchdogs over the power supply systems, and providing data to digital architectures and monitoring software.

Corrective maintenance

EcoStruxure™ Power enables maintenance managers to dramatically reduce power outage duration.

Example: In case of a tripped breaker, the system automatically sends email alerts. Technical staff can diagnose the incident remotely, decide upon the appropriate actions, and monitor the results.

Preventative maintenance

Enables technicians to fix issues before impacting the comfort and productivity of building occupants. This is done by:

- Sending remote warnings as soon as a creeping fault is detected, especially current leakage.
- Assisting during routine checks, making sure all points are verified regularly and providing access to all information, including event logs, in case of a suspected weakness.

The available information enables preventive maintenance based on wear-out indications and warnings sent via the digital system.

Predictive maintenance

Data collected across the power distribution network, stored and computed by Schneider Electric analytics, provides greater insight for improved long-term planning and life-cycle management. Furthermore, advanced data processing enables predictive maintenance.

Example: By analyzing historical data and monitoring load profiles, maintenance and upgrades can be scheduled efficiently.

A

B

C

D

E

F

G

H

ComPact NSX & NSXm

Characteristics and performance

ComPact NSXm circuit breakers from 16 to 160 A up to 690 V



ComPact NSXm

Common characteristics

Rated voltages	Insulation voltage (V)	Ui	800
	Insulation voltage for ELCB ^[1] (V)	Ui	500
	Impulse withstand voltage (kV)	Uimp	8
	Operational voltage (V)	Ue AC 50/60 Hz	690
	Operational voltage for ELCB ^[1] (V)	Ue AC 50/60 Hz	440
Suitability for isolation	IEC/EN 60947-2		Yes
Utilisation category			A
Pollution degree	IEC 60664-1		3

Circuit breakers

Breaking capacity levels

Breaking capacity (kA rms)

Icu	AC 50/60 Hz	220...240 V
		380...415 V
		440 V
		500 V
		525 V
		660...690 V

Service breaking capacity (kA rms)

Ics	AC 50/60 Hz	220...240 V
		380...415 V
		440 V
		500 V
		525 V
		660...690 V

Durability (C-O cycles)

Mechanical

Electrical

440 V	In/2
	In
690 V	In/2
	In

Protection and measurements

Overload / short-circuit protection	Thermal magnetic
	Electronic with Earth Leakage Protection (ELCB)
Options	Device status/control
	For ELCB ^[1] : alarming and fault differentiation

Installation / connections

Dimensions and weights

Dimensions (mm) W x H x D	3P
	4P
	ELCB ^[1]
Weight (kg)	3P
	4P
	ELCB ^[1]

Connections

Pitch (mm)	Standard
	With spreaders
EverLink lug Cu or Al ^[2] cables	Cross-section (mm²)
	Rigid
	Flexible
Crimp lugs Cu or Al	Cross-section (mm²)
	Rigid
	Flexible

Source changeover system

Manual mechanical interlocking

^[1] ELCB: Earth Leakage Circuit Breaker (MicroLogic Vigi 4.1).^[2] Al up to 100 A.

ComPact NSX & NSXm

Characteristics and performance

ComPact NSXm circuit breakers from 16 to 160 A up to 690 V

Common characteristics

Control	Manual	With toggle	☒
		With direct or extended rotary handle	☒
		With side rotary handle	☒
Versions	Fixed		☒

NSXm up to 63 A						NSXm from 80 to 160 A and ELCB ^[1]				
E	B	F	N	H		E	B	F	N	H
25	50	85	90	100		25	50	85	90	100
16	25	36	50	70		16	25	36	50	70
10	20	35	50	65		10	20	35	50	65
8	10	15	25	30		-	-	-	-	-
-	-	10	15	22		-	-	-	-	-
-	-	-	10	10		-	-	-	-	-
25	50	85	90	100		25	50	85	90	100
16	25	36	50	70		16	25	36	50	70
10	20	30	50	65		10	20	30	50	65
8	10	10	25	30		-	-	-	-	-
-	-	10	15	22		-	-	-	-	-
-	-	-	2.5	2.5		-	-	-	-	-
20000										
20000										
10000										
10000										
5000										
☒						☒				
						☒				
☒										
☒										
81 x 137 x 80										
108 x 137 x 80										
108 x 144 x 80										
1.06										
1.42										
1.63										
27										
35										
95										
70										
120										
95										
☒						☒				

Select your circuit breakers and switch-disconnectors

ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 100 to 250 A up to 690 V

A



ComPact NSX single-pole

B

C



ComPact NSX two-pole

D

E

F

G

H

ComPact circuit breakers

Number of poles

Control	Manual	Toggle
		Direct or extended rotary handle

Electric

Connections	Fixed	Front connection
		Rear connection
	Withdrawable	Front connection
		Rear connection

Electrical characteristics as per IEC/EN 60947-2

Rated current (A)	In	40°C
Rated insulation voltage (V)	Ui	
Rated impulse withstand voltage kV)	Uimp	
Rated operational voltage (V)	Ue	AC 50/60 Hz
		DC

Type of circuit breaker

Ultimate breaking capacity (kA rms)	Icu	AC	220/240 V
		50/60 Hz	380/415 V
			440 V
			500/525 V
			660/690 V
		DC	250 V (1P)
			500 V (2P)

Service breaking capacity (kA rms)	Ics	% Icu
------------------------------------	------------	-------

Suitability for isolation

Utilisation category

Durability (C-O cycles)	Mechanical		
	Electrical	277 V	In/2
			In

Protection and measurements

Type of trip units

Ratings		In
Overload protection (thermal)	Long time threshold	Ir
Short-circuit protection (magnetic)	Instantaneous pickup	Im
		Value indicated for AC ^[1]
		Real value for DC
Add-on earth-leakage protection	Vigi add-on	
	Combination with Vigirex relay	

Additional indication and control auxiliaries

Indication contacts

Voltages releases	MX shunt release
	MN undervoltage release

Installation

Accessories	Terminal extensions and spreaders
	Terminal shields and interphase barriers
	Escutcheons

Dimensions (mm)	W x H x D
-----------------	-----------

Weight (kg)

Source changeover system

Manual mechanical interlocking

^[1] The thresholds for TMD and TMG 1-pole and 2-pole magnetic trip units up to 63 A are indicated for AC. The real DC thresholds are indicated on the following line.



ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 100 to 250 A up to 690 V

NSX100			NSX160			NSX250		
1	2		1	2		1		
-	-		-	-		-		
-	-		-	-		-		
-	-		-	-		-		
-	-		-	-		-		

100	100	160	160	250
750	750	750	750	750
8	8	8	8	8
277	690	277	690	277
250	500	250	500	-
F N M	F M S	F N M	F M S	N
18 25 40	36 85 100	18 25 40	36 85 100	25
- - -	18 25 70	- - -	18 25 70	-
- - -	15 25 65	- - -	15 25 65	-
- - -	10 18 35	- - -	10 18 35	-
- - -	5 8 10	- - -	5 8 10	-
36 50 85	36 85 100	36 50 85	36 85 100	-
- - -	36 85 100	- - -	36 85 100	-
100%	100%	100%	100%	100%
A	A	A	A	A
20000	20000	20000	20000	10000
20000	20000	20000	20000	10000
10000	10000	10000	10000	5000

Built-in thermal-magnetic										Built-in thermal-magnetic										Built-in thermal-magnetic		
16	20	25	30	40	50	63	80	100		125	160				160	200	250					
Fixed										Fixed					Fixed							
16	20	25	30	40	50	63	80	100		125	160				160	200	250					
Fixed										Fixed					Fixed							
190	190	300	300	500	500	500	640	800		1000	1250				850	850	850					
260	260	400	400	700	700	700	800	1000		1200	1250				-	-	-					
-	-	-	-	-	-	-	-	-		-	-				-	-	-					
-	-	-	-	-	-	-	-	-		-	-				-	-	-					

-		-		-		-		-	
-		-		-		-		-	
-		-		-		-		-	

35 x 161 x 86	70 x 161 x 86	35 x 161 x 86	70 x 161 x 86	35 x 161 x 86
0.7	1.2	0.7	1.2	0.7

--	--	--	--	--

Select your circuit breakers and switch-disconnectors

ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 100 to 250 A up to 690 V

A



ComPact NSX100/160/250

B

C



ComPact NSX250 R

D

E



ComPact NSX250 HB2

F

G

H

[1] OSN: Over Sized Neutral protection for neutrals carrying high currents (e.g. 3rd harmonics).

[2] ZSI: Zone Selective Interlocking using pilot wires.

[3] Vigi add-on is not available for breaking capacity levels HB1/HB2.

[4] There is no 160 A frame, use 250 A frame with lower rating trip units for R, HB1, HB2.

[5] 2P circuit breaker in 3P case for B and F types, only with thermal-magnetic trip unit.

[6] Earth Leakage Circuit Breaker (MicroLogic Vigi 4.2 and 7.2 E).

Common characteristics

Rated voltages	Insulation voltage (V)	Ui	800
	Insulation voltage for ELCB [6]	Ui	500
	Impulse withstand voltage (kV)	Uimp	8
	Operational voltage (V)	Ue	AC 50/60 Hz 690
	Operation voltage for ELCB [6]	Ue	AC 50/60 Hz 440
Suitability for isolation			IEC/EN 60947-2 Yes
Utilisation category			A
Pollution degree			IEC 60664-1 3

Circuit breakers

Breaking capacity levels

Electrical characteristics as per IEC/EN 60947-2

Rated current (A)	In	40°C
-------------------	----	------

Number of poles

Breaking capacity (kA rms)

Icu	AC 50/60 Hz	220/240 V
		380/415 V
		440 V
		500 V
		525 V
		660/690 V

Service breaking capacity (kA rms)

Ics	AC 50/60 Hz	220/240 V
		380/415 V
		440 V
		500 V
		525 V
		660/690 V

Durability (C-O cycles)

Mechanical

Electrical

440 V	In/2
	In
690 V	In/2
	In

Characteristics as per UL 508

Breaking capacity (kA rms)	AC 50/60 Hz	240 V
		480 V
		600 V

Protection and measurements

Short-circuit protection	Magnetic only
Overload/short-circuit protection	Thermal magnetic
	Electronic
	With neutral protection (Off-0.5-1-OSN) [1]
	With ground-fault protection
	With zone selective interlocking (ZSI) [2]

Display / I, U, f, P, E, THD measurements/interrupted-current measurement

Options	Power Meter display on door
	Operating assistance
	Counters
	Histories and alarms
	Metering Com
	Device status/control Com

Earth-leakage protection

By Vigi add-on [3]

By Vigirex relay

Installation / connections

Dimensions and weights

Dimensions (mm)	Fixed, front connections	2/3P
		4P
Weight (kg)	Fixed, front connections	2/3P
		4P

Connections

Connection terminals	Pitch	With/without spreaders
Large Cu or Al cables	Cross-section	mm ²

Source-changeover system

Manual mechanical interlocking

Automatic source-changeover



ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 100 to 250 A up to 690 V

Common characteristics			
Control	Manual	With toggle	
		With direct or extended rotary handle	
	Electrical	With remote control	
Versions	Fixed		
	Withdrawable	Plug-in base	
		Chassis	

	NSX100									NSX160 ^[4]							NSX250								
	B	F	N	H	S	L	R	HB1	HB2	B	F	N	H	S	L	B	F	N	H	S	L	R	HB1	HB2	
	100									160							250								
	2 ^[5] , 3, 4									2 ^[5] , 3, 4							2 ^[5] , 3, 4								
	40	85	90	100	120	150	200	-	-	40	85	90	100	120	150	40	85	90	100	120	150	200	-	-	
	25	36	50	70	100	150	200	-	-	25	36	50	70	100	150	25	36	50	70	100	150	200	-	-	
	20	35	50	65	90	130	200	-	-	20	35	50	65	90	130	20	35	50	65	90	130	200	-	-	
	15	25	36	50	65	70	80	85	100	15	30	36	50	65	70	15	30	36	50	65	70	80	85	100	
	-	22	35	35	40	50	65	80	100	-	22	35	35	40	50	-	22	35	35	40	50	65	80	100	
	-	8	10	10	15	20	45	75	100	-	8	10	10	15	20	-	8	10	10	15	20	45	75	100	
	40	85	90	100	120	150	200	-	-	40	85	90	100	120	150	40	85	90	100	120	150	200	-	-	
	25	36	50	70	100	150	200	-	-	25	36	50	70	100	150	25	36	50	70	100	150	200	-	-	
	20	35	50	65	90	130	200	-	-	20	35	50	65	90	130	20	35	50	65	90	130	200	-	-	
	7	12	36	50	65	70	80	85	100	15	30	36	50	65	70	15	30	36	50	65	70	80	85	100	
	-	11	35	35	40	50	65	80	100	-	22	35	35	40	50	-	22	35	35	40	50	65	80	100	
	-	4	10	10	15	20	45	75	100	-	8	10	10	15	20	-	8	10	10	15	20	45	75	100	
	50000						20000			40000						20000						20000			
	50000						20000			40000						20000						20000			
	30000						10000			20000						10000						10000			
	20000						10000			15000						10000						10000			
	10000						5000			7500						5000						5000			
	-	85	85	85	-	-	-	-	-	-	85	85	85	-	-	-	85	85	85	-	-	-	-	-	
	-	25	50	65	-	-	-	-	-	-	35	50	65	-	-	-	35	50	65	-	-	-	-	-	
	-	10	10	10	-	-	-	-	-	-	10	10	10	-	-	-	15	15	15	-	-	-	-	-	

105 x 161 x 86		105 x 161 x 86		105 x 161 x 86		105 x 161 x 86	
140 x 161 x 86		140 x 161 x 86		140 x 161 x 86		140 x 161 x 86	
2.05		2.4		2.2		2.4	
2.4		2.8		2.6		2.8	
35/45 mm		35/45 mm		35/45 mm		35/45 mm	
300		300		300		300	

ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 400 to 630 A up to 690 V



ComPact NSX400/630



ComPact NSX630 R



ComPact NSX630 HB2

Common characteristics

Rated voltages	Insulation voltage (V)	Ui	800
	Insulation voltage for ELCB ^[4]		500
	Impulse withstand voltage (kV)	Uimp	8
	Operational voltage (V)	Ue	AC 50/60 Hz 690
	Operation voltage for ELCB ^[4]	Ue	AC 50/60 Hz 440
Suitability for isolation		IEC/EN 60947-2	Yes
Utilisation category			A
Pollution degree		IEC 60664-1	3

Circuit breakers

Breaking capacity levels

Electrical characteristics as per IEC/EN 60947-2

Rated current (A)	In	40°C
Number of poles		

Breaking capacity (kA rms)

	Icu	AC 50/60 Hz	220/240 V 380/415 V 440 V 500 V 525 V 660/690 V
--	-----	-------------	--

Service breaking capacity (kA rms)

	Ics	AC 50/60 Hz	220/240 V 380/415 V 440 V 500 V 525 V 660/690 V
--	-----	-------------	--

Durability (C-O cycles)	Mechanical		
	Electrical	440 V	In/2
		690 V	In/2
			In

Characteristics as per UL 508

Breaking capacity (kA rms)	AC 50/60 Hz	240 V 480 V 600 V
----------------------------	-------------	-------------------------

Protection and measurements

Short-circuit protection	Magnetic only
Overload / short-circuit protection	Thermal magnetic Electronic
	With neutral protection (Off-0.5-1-OSN) ^[1]
	With ground-fault protection
	With zone selective interlocking (ZSI) ^[2]

Display / I, U, f, P, E, THD measurements / interrupted-current measurement

Options	Power Meter display on door Operating assistance Counters Histories and alarms Metering Com Device status/control Com
---------	--

Earth-leakage protection	By Vigi add-on ^[3] By Vigirex relay
--------------------------	---

Installation / connections

Dimensions and weights

Dimensions (mm) W x H x D	Fixed, front connections	2/3P 4P
Weight (kg)	Fixed, front connections	2/3P 4P

Connections

Connection terminals	Pitch	With/without spreaders
Large Cu or Al cables	Cross-section	mm ²

Source-changeover system

Manual mechanical interlocking

Automatic source-changeover

^[1] OSN: Over Sized Neutral protection for neutrals carrying high currents (e.g. 3rd harmonics).

^[2] ZSI: Zone Selective Interlocking using pilot wires.

^[3] Vigi add-on is not available for breaking capacity levels HB1/HB2.

^[4] Earth Leakage Circuit Breaker (MicroLogic Vigi 4.3 and 7.3 E)

ComPact NSX & NSXm

Characteristics and performance

ComPact NSX circuit breakers from 400 to 630 A up to 690 V

Common Features				
Control	Manual	With toggle	☒	
		With direct or extended rotary handle	☒	
Versions	Electrical	With remote control	☒	
	Fixed		☒	
		Withdrawable	Plug-in base	☒
		Chassis	☒	

A

B

C

D

F

F

G

F

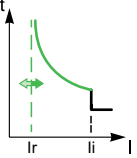
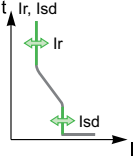
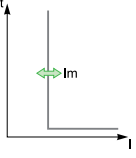
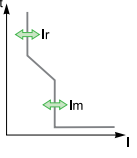
Select your protection

ComPact NSX & NSXm

Overview of trip units

ComPact NSX circuit breakers from 400 to 630 A up to 690 V

ComPact NSXm has a built-in trip unit.

	ComPact NSXm up to 160 A		ComPact NSX up to 250 A	
				
	TM-D distribution	MicroLogic Vigi 4.1 Distribution and earth leakage protection	MA Distribution and motors	TM-D distribution TM-G generators
				
Settings & indications	Pick-up set in amps using dials Non-adjustable time delay			
Front indication	☒	☐	☒	☒
Test connector	☐	☒	☐	☐
Self test	☒	☒	☒	☒
Measurements				
Amps	☐	☐	☐	☐
Power	☐	☐	☐	☐
Diagnostic & Maintenance				
Status indication	☒	☒	☒	☒
Operating assistance	☐	☐	☐	☐
Control				
Voltage release	☒	☒	☒	☒
Motor mechanism	☐	☐	☒	☒
Communication				
Modbus SL	☐	☐	☒	☒
Ethernet	☐	☐	☒	☒
Local display	☐	☐	☒	☒
Input / Output control				
SDx	☐	☒	☐	☐
I/O module	☐	☐	☒	☒
Earth Leakage				
Integrated protection	☐	☒	☐	☐
Vigi Add-on module	☐	☐	☒	☒
External relay	☒	☐	☒	☒

[1] Only for MicroLogic 6 electronic.

[2] Only for MicroLogic E.

Select your protection

ComPact NSX & NSXm

Overview of trip units

ComPact NSX circuit breakers from 400 to 630 A up to 690 V

ComPact NSX offers a range of trip units in interchangeable cases, whether they are magnetic, thermal-magnetic or electronic. Versions 5 and 6 of the electronic trip unit offer communication and metering. Using MicroLogic sensors and intelligence, ComPact NSX supplies all the information required to manage the electrical installation and optimise energy use.

A

B

C

D

E

F

G

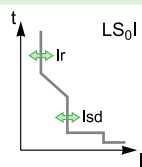
H

ComPact NSX up to 630 A



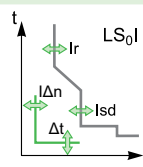
MicroLogic 2 and 1.3

1.3 M Motors (I only)
2.2/2.3 A Distribution
2.2/2.3 AB Service connection
(public distribution)
2.2 G Generators
2.2/2.3 M Motors



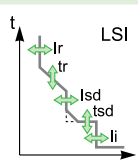
MicroLogic Vigi 4

4.2/4.3 Distribution and
earth leakage protection
4.2/4.3 AB Service
connection (public
distribution)
4.2/4.3 AL



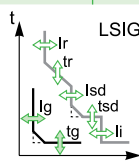
MicroLogic 5 / 6 A

5.2/5.3/6.2/6.3 A
Distribution and generators
5.2/5.3 A-Z 16Hz 2/3 networks



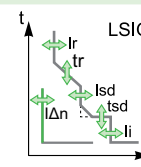
MicroLogic 5 / 6 E

5.2/5.3/6.2/6.3 E
Distribution and generators
6.2/6.3 E-M Motors



MicroLogic Vigi 7 E

7.2/7.3 E Distribution
and earth leakage
protection
7.2/7.3 E AL



Pick-up set in amps using dials
Non-adjustable time delay

☒	☒	☒	☒	☒
☒	☒	☒	☒	☒
☒	☒	☒	☒	☒
		☒	☒	☒
			☒	☒
☒	☒	☒	☒	☒
		☒	☒	☒
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		☒	☒	☒
☒	☒	☒	☒	☒
☒	☒	☒	☒	☒
	☒			☒
☒		☒	☒	
☒		☒	☒	

Customize your circuit breaker with accessories

ComPact NSX & NSXm

Accessories and auxiliaries

Overview

A

B

C

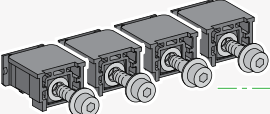
D

E

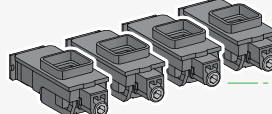
F

G

H



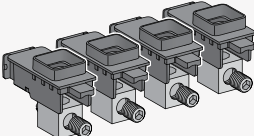
Compression lug / busbar connector



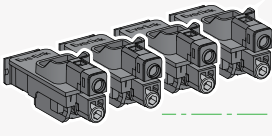
EverLink™ without control wire terminal connector



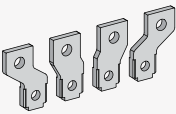
Torque limiting breakaway bit



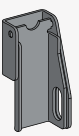
AI mechanical lug



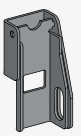
EverLink™ with control wire terminal connector



Terminal spreaders



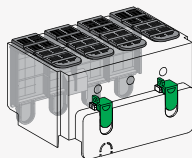
Fixed toggle padlocking device (OFF only)



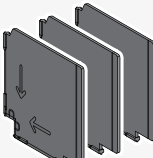
Fixed toggle padlocking device (OFF and ON)



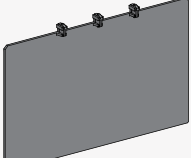
Removable toggle padlocking device (OFF only)



Long terminal shield



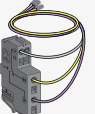
Interphase barriers



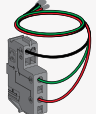
Rear insulation screen



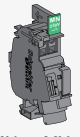
OF or SD auxiliary contact standard



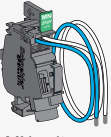
OF auxiliary contact pre-wired



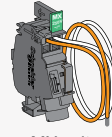
SD auxiliary contact pre-wired



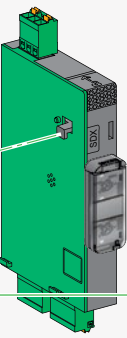
MN or MX voltage releases standard



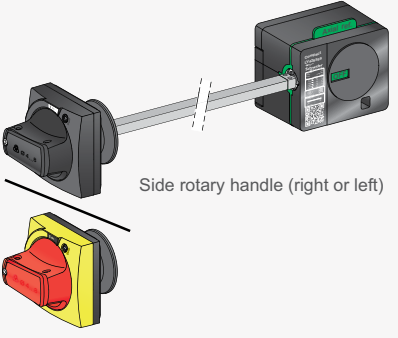
MN voltage releases pre-wired



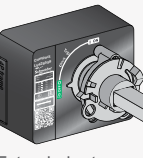
MX voltage releases pre-wired



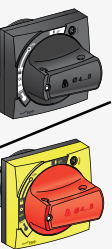
Contacts module SDX



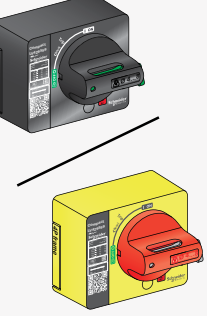
Side rotary handle (right or left)



Extended rotary handle



Open door shaft operator

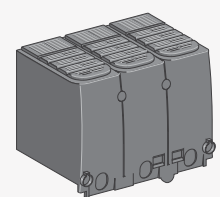


Direct mounted rotary handle

ComPact NSX & NSXm

Accessories and auxiliaries

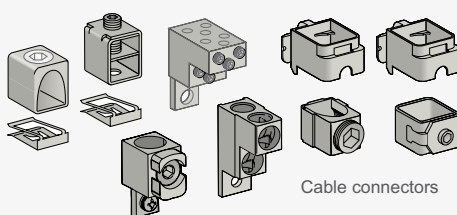
Overview fixed version



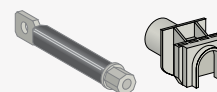
Sealable terminal shields



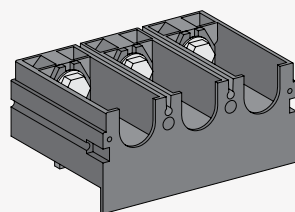
Interphase barriers



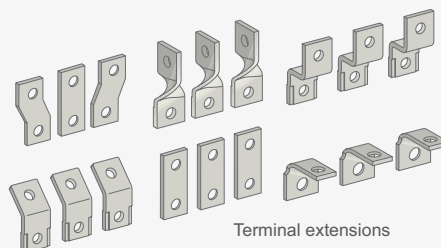
Cable connectors



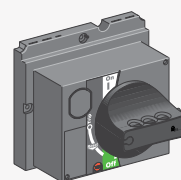
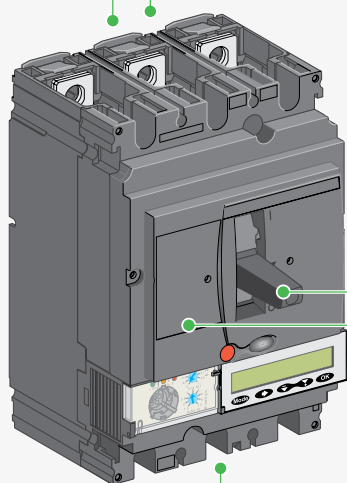
Rear connectors



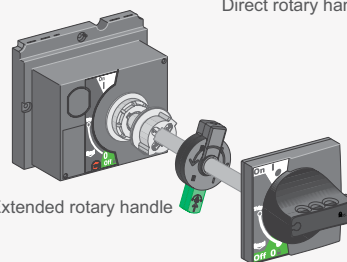
One-piece spreader



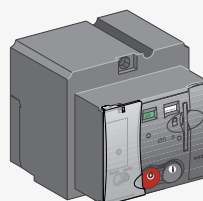
Terminal extensions



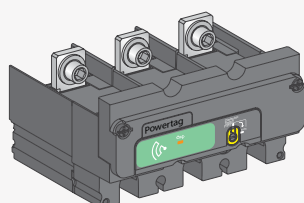
Direct rotary handle



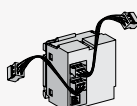
Extended rotary handle



Motor mechanism



PowerTag NSX



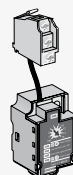
BSCM module



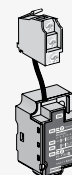
Indication contact



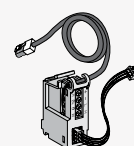
Voltage release



SDTAM module



SDx module



NSX cord

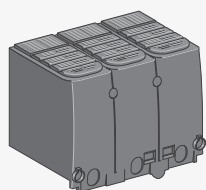
Customize your circuit breaker with accessories

ComPact NSX & NSXm

Accessories and auxiliaries

Overview plug-in and withdrawable versions

A

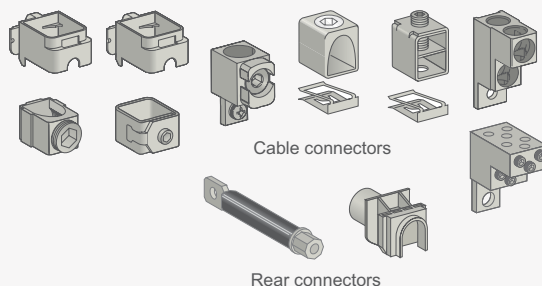


Sealable long terminal shields for plug-in base



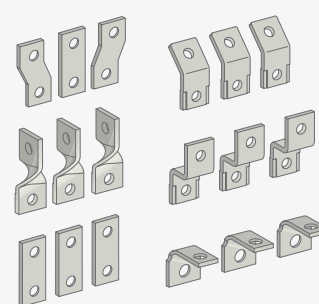
Interphase barriers

B

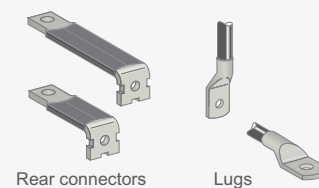


Cable connectors

Rear connectors



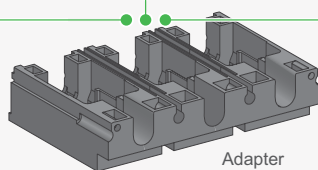
Terminal extensions



Rear connectors

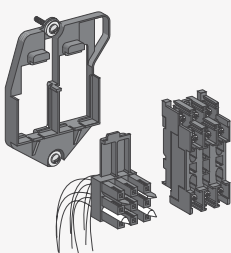
Lugs

C

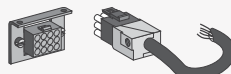


Adapter

D

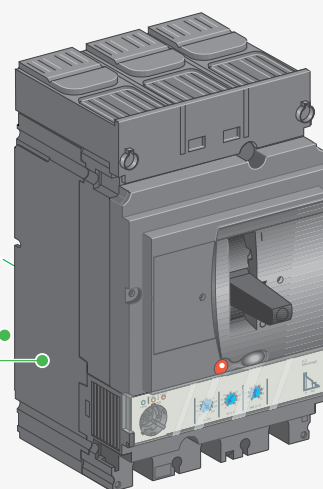
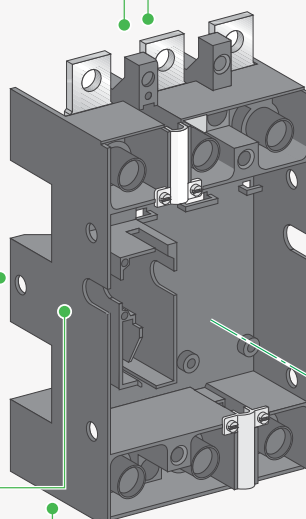


Automatic withdrawable auxiliary connector

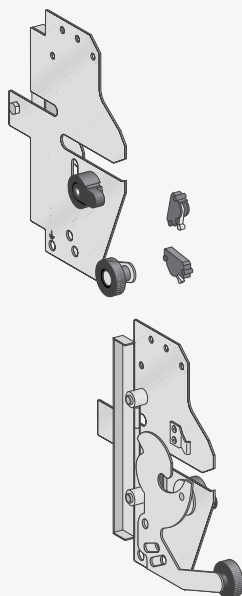


Manual auxiliary connector

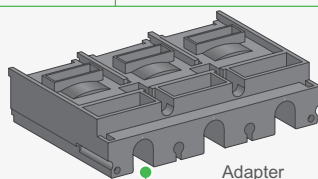
E



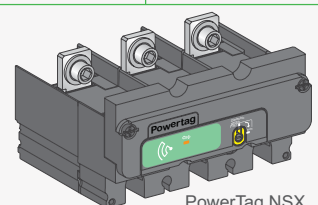
F



Chassis side plate

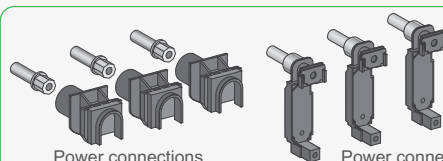


Adapter



PowerTag NSX

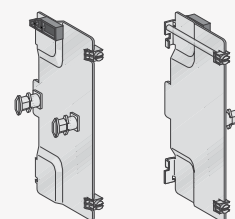
[1]



Power connections

Power connections for Vigi add-on

G



Circuit breaker side plate

H

A

B

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Innovation that protects:
Learn about
the technical information
of the Com**Pact** NSX
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

Molded Case Circuit Breakers (MCCBs)

PowerLogic PowerTag

A

Robust load-level energy monitoring

Think of PowerTag as a powerful enabler of energy usage analysis, monitoring, alarming and control capabilities close to final loads

B

The PowerTag system – wireless Energy Sensors, Control and Link devices – work together seamlessly to provide a refined, accurate view of how energy is used at every level, from the incoming circuit to the final electrical load.

C

PowerTag combines the experience and power of Schneider Electric's world-class solutions and is a key innovation within our EcoStruxure™ platform, our IoT-enabled power management solutions that enhance connectivity, real-time operational reliability and smart analytics.

D

E

F

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H



One simple system, one major innovation

Use energy more efficiently and economically with the PowerTag system on all electrical loads, from heavy and critical equipment to smaller circuits. With alerts, alarming and cost allocation capabilities, PowerTag also helps improve your operational efficiency, reduce risk of downtime and provide complete peace of mind.

No additional space in the panel: the smallest energy sensor available today, PowerTag is an industry-leading innovation and the only energy sensor that can be tagged to the breaker.

Ease of installation: the only wireless energy sensor available today, PowerTag greatly reduces installation time by up to 90% – and with no need to add communication cables.

Modular and adaptable: perfectly suited to adapt to changing business needs, energy regulations or certifications, retrofit applications, and competitor devices.

Advanced connectivity: an innovation to enable our EcoStruxure™ solutions.

Monitor and secure your electrical assets

PowerTag system delivers reliable wireless communication inside the electrical panel, fully tested for electromagnetic compatibility (EMC).

It assists your ISO 50001 goals and supports your energy efficiency or carbon footprint reduction targets.

The PowerTag system lets facility managers monitor energy consumption at the load. This level of detail provides the data required to understand energy use and make decisions based on that data. Monitoring at the load also improves visibility into facility energy demands. Combined with a power monitoring system like EcoStruxure™ Power Monitoring Expert, this data can be used to profile energy demands of specific systems to detect inefficiencies or areas for improvement.



PowerLogic PowerTag

A

PowerTag Energy 250/630 A

A scalable, compact design for all segments, a perfect solution for retrofit or new panels



B

PowerTag energy sensors 250/630 A mount directly to the underside of the Com**Pact** NSX, INS or INV with limited impact on switchboard size. Compared to traditional metering solutions, installation time is much reduced with no wiring for an error-proof install and built-in Class 1 accuracy.

Values measured in accordance with the IEC 61557-12 standard:

C

Energy

- Active Energy received/delivered (Class 1), total and partial (kWh)
- Reactive Energy received/delivered.

Real Time

- Phase-to-neutral and phase-to-phase Voltage
- Current per phase
- Active/Reactive Power, total and per phase
- Apparent Power total
- Power factor
- Frequency.

Alarm

- Voltage loss.

D

E

PowerTag Link

PowerTag Link is an Ethernet connected concentrator (Modbus TCP/IP) for wireless devices on EcoStruxure™ platforms. When integrated with PowerTag Energy Sensors, it can manage alarms via email for terminal loads as well as accurately measure energy, power, current and voltage in real time. The entire system is designed to install easily in existing switchboards using Multi9/Acti9/Com**Pact** NSX type circuit breakers.



F

Besides concentrating data from wireless devices, it also permits load monitoring, alarm management (including pre-alarms on predefined thresholds) and the display of alarms on its embedded web pages.

G

H



For Commercial Buildings

- Energy metering close to final loads
- Compliance with local standards
- ISO50001 certification
- Energy cost allocation
- Energy zone and usage analysis.
- Load monitoring
- Status of sensitive loads
- Abnormal electrical situations.
- Configurable alarms.

PowerTag empowers simple, efficient monitoring that optimizes energy consumption, enables preventive maintenance and improves electrical system operations. It's perfect for commercial malls, office buildings and even multi-residential sites.



For Power Critical Facilities

The main goal for any critical facility or process is to keep the power on. PowerTag offers 24/7 access to real-time information, threshold notifications and alarms to put you ahead of any power issues. PowerTag also gives you the ability to expand as your business needs change, as regulations require or as your need for digital intelligence grows.



For Data Centers

PowerTag improves availability and anticipates and reduces downtime with pre-alarm and live-disconnection capabilities. Reports help enable and support energy efficiency initiatives.

- Optimize your server rooms
 - Meet connectivity needs - energy management, alarm notifications, real-time monitoring at rack server level
 - More space for IT servers - up to 30% footprint reduction compared to PDU with traditional metering features
 - Seamless design - no need to alter work processes, just add to architectures
 - Fast, simple scalability - best-in-class live, disconnectable tap-off units with wireless metering features
 - Optimize TCO - wireless, compact features enable cost savings, faster configuration and supervision integration.
- Robust, well-managed installations
 - Fast and simple - plug & play wireless sensors fit perfectly onto circuit breakers
 - Reduced commissioning time - from configuration to supervision system integration.



Customize your circuit breaker with accessories

PowerLogic PowerTag

ComPact NSX accessories and auxiliaries

Additional measurement module: PowerLogic PowerTag NSX

A

PowerTag NSX is a ComPact NSX wireless-communication modules for 3P and 3P+N electrical networks, mounted directly on the bottom side of the circuit breaker or the Vigi add-on. PowerTag NSX provides capability to measure energy, monitor voltage loss, and trigger alarms. It then delivers useful data for monitoring and diagnosis of the associated circuit breaker to a concentrator.

B

C

D



PowerLogic™ PowerTag NSX

E

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H

Functions

PowerTag NSX energy sensor measures the following values in accordance with the IEC 61557-12 standard:

- Energy (4 quadrants):
 - Active energy (kWh): total and partial, delivered and received.
 - Active energy per phase (kWh): total.
 - Reactive energy (VARh): partial, delivered and received.
- Power:
 - Active power (W): total and per phase
 - Reactive power (VAR): total
 - Apparent power (VA): total.
- Voltages (V): phase-to-phase (U12, U23, U31) and phase-to-neutral (V1N, V2N, V3N)
- Currents (A): per phase (I1, I2, I3)
- Frequency
- Power factor
- Voltage loss alarm:

PowerTag energy sensor sends a "voltage loss" alarm and the current-per-phase value before being de-energized,

- At "voltage loss", PowerTag adds an overload alarm if the current is higher than the rated current of the associated protective device.

Installation

The module is self-powered and is installed for fixed devices directly on the bottom side of the circuit breaker or Vigi add-on terminals.

For plug-in devices, it has to be installed on the base itself.

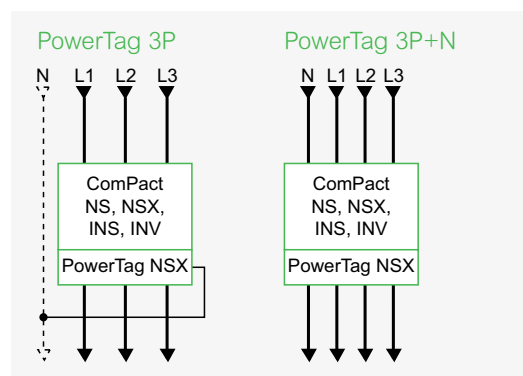
PowerTag NSX 3P has to be used with 3P devices, and an external neutral voltage tap is provided in case of the installation has a neutral to provide phase-to-neutral voltages, active energy per phase and power per phase.

PowerTag 3P+N has to be used with 4P devices.

PowerTag NSX modules are compatible with ComPact NSX100/160/250, ComPact NSX400/630, ComPact INS250-100 A to 250 A, ComPact INS320/400/500/630, ComPact INV100/160/200/250, ComPact INV320/400/500/630, ComPact NS100/160/250 and ComPact NS400/630.

In case of retrofit, following points have to be checked:

- Clearance to be able to add PowerTag module (see dimensions in chapter E)
- and to respect bending radius of cables
- Condition of power connectors: to be replaced if damaged
- Tightening torques depending of the connector used.



PowerLogic PowerTag

ComPact NSX accessories and auxiliaries

Additional measurement module: PowerLogic PowerTag NSX

In combination with PowerTag Acti9, you can take advantage of a full wireless class 1 solution to monitor energy and to be aware in case of voltage loss or alarming at any level of a distribution panel, being able to take immediately the right actions in case of electrical issue. In addition to monitoring and alarming, PowerTag solution provides a complete knowledge of real time electrical values with a rich and accurate data transfer every 5 seconds. PowerTag energy sensors can be quickly and easily installed in new or existing panels at any time. Compared to traditional metering solutions, installation time and commissioning are much shorter with no wiring, hence an error proof high density solution and a built-in class 1 accuracy.

Integration in concentrator

PowerTag Link concentrate wirelessly data from PowerTag and make them available over Ethernet:

For Commercial & Building applications

PowerTag Link (Monitoring)	PowerTag Link HD (Monitoring)	Smartlink SI B (Monitoring & Control)
		
A9XMWD20	A9XMWD100	A9XMZA08

For Small Business applications

PowerTag Link C (Monitoring)



A9XELC10

Concentrator embedded web pages allow:

- to do commissioning
- to display measured values
- to set and display alarms and pre-alarms.

PowerTag NSX is also compatible with Wiser Energy (Residential).
Refer to the concentrator catalogs for more information.

Commissioning

Commissioning can be done very easily:

- for PowerTag Link C: with a smartphone
- for PowerTag Link, PowerTag Link HD and Smartlink SI B: with embedded webpages or with EcoStruxure™ Power Commission which provides a test report for system integration with all the Modbus registers, including bits and descriptions associated.

Customize your circuit breaker with accessories

PowerLogic PowerTag

ComPact NSX accessories and auxiliaries

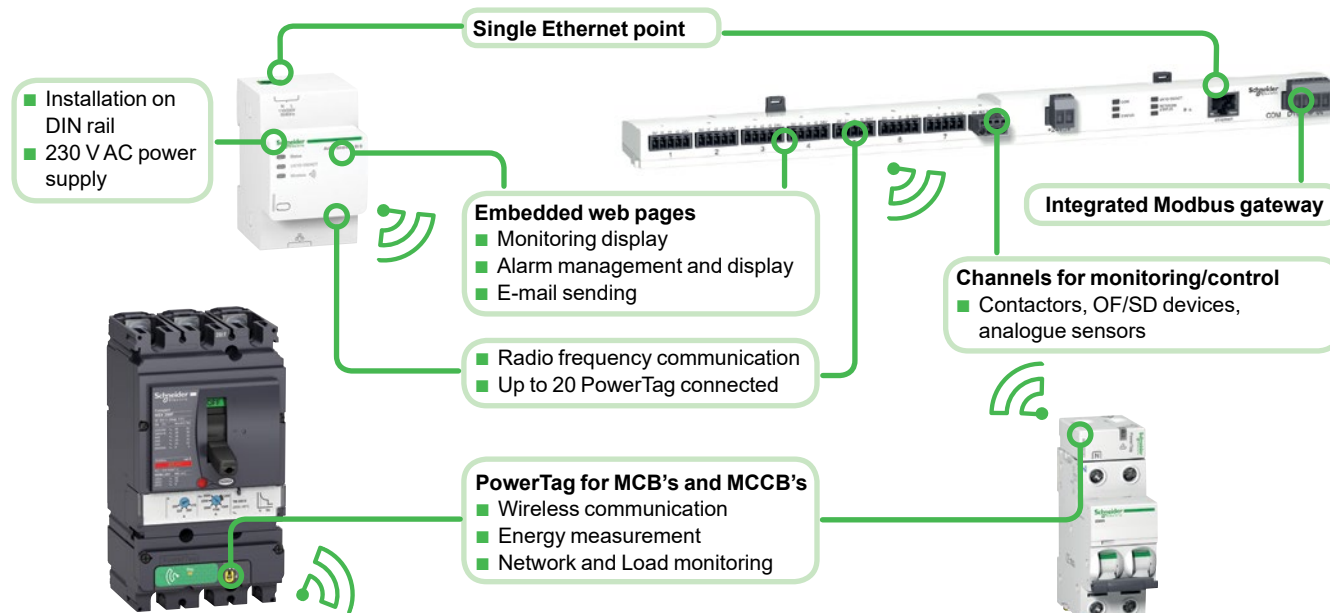
Additional measurement module: PowerLogic PowerTag NSX

Metering and monitoring

PowerTag Link / PowerTag Link HD (Ethernet)

Metering, monitoring and control

Smartlink SI B (Ethernet)



Technical characteristics

Main characteristics

Rated voltage	Un	Phase-to-neutral	230 VAC $\pm$ 20%
		Phase-to-phase	400 VAC $\pm$ 20%
Frequency			50/60 Hz
Operating current	In		250 A / 630 A
Maximum operating current			1.2 x In
Saturation current			2 x In
Maximum consumption			3.7 VA
Starting current	Ist		160 mA / 400 mA
Base current	Ib		40 A / 100 A

Additional characteristics

Operating temperature			-25°C to +70°C
Storage temperature			-50°C to +85°C
Overvoltage category		As per IEC 61010-1	Cat. IV
Measuring category		As per IEC 61010-2-30	Cat. III
Pollution degree			3
Altitude			Up to 2000 m without derating ^[1]
Degree of protection device			IP20 IK07

Radio-frequency communication

ISM band 2.4 GHz			2.4 GHz to 2.4835 GHz
Channels		As per IEEE 802.15.4	11 to 26
Isotropic Radiated Power		Equivalent (EIRP)	0 dBm
Maximum transmission time			< 5 ms
Channel occupancy		For 1 device	messages sent every 5 seconds

Characteristics of measuring functions

Function	Symbol	Performance as per IEC 61557-12		Measuring range (250 A / 630 A)
		Class	Measuring range (250 A / 630 A)	
Active power (per phase, total)	P	1	4 to 250 A / 10 to 630 A	88 W to 416 kW / 221 W to 1048 kW
Total reactive power	Q _A	2		88 VAR to 416 kVAR / 221 VAR to 1048 kVAR
Total apparent power	S _A	2		88 VA to 416 kVA / 221 VA to 1048 kVA
Active Energy (per phase, total, partial)	E _a	1		0 to 281.10 ⁹ kWh
Total reactive Energy	E _{ra}	2		0 to 281.10 ⁹ kVARh
Frequency	f	1	45 to 55 Hz	45 to 65 Hz
Phase current	I	1	8 to 250 A / 20 to 630 A	160 mA to 500 A / 400 mA to 1260 A
Voltages (Line to Line)	U	0.5	Un $\pm$ 20%	320 to 480 VAC
Power factor (arithmetic)	PF _A	1	From 0.5 inductive to 0.8 capacitive	-1 to 1

[1] Above 2000 m, please consult us.



PowerLogic PowerTag

ComPact NSX accessories and auxiliaries

Selection guide for concentrators / gateways compatibility^[*]

Products (AC network)	Mounting position	250 3P	250 3P+N	630 3P	630 3P+N
--------------------------	----------------------	--------	----------	--------	----------

ComPact

Circuit breakers					
NSX100/160/250 B/F/N/H/S/L/R Fixed	3P	Bottom	✓	-	-
	4P	Bottom	-	✓	-
NSX400/630 F/N/H/S/L/R Fixed	3P	Bottom	-	✓	-
	4P	Bottom	-	-	✓
NSX100/160/250 B/F/N/H/S/L/R Plug-In (mounted on the base)	3P	Top / Bottom	✓	-	-
	4P	Top / Bottom	-	✓ ^[1]	-
NSX400/630 F/N/H/S/L/R Plug-In (mounted on the base)	3P	Top / Bottom	-	✓ ^[2]	-
	4P	Top / Bottom	-	-	✓ ^{[1] [2]}
NS100/160/250 N/SX/H/L Fixed	3P	Bottom	✓	-	-
	4P	Bottom	-	✓	-
NS400/630 N/H/L Fixed	3P	Bottom	-	✓	-
	4P	Bottom	-	-	✓
NS100/160/250 N/SX/H/L Plug-in (mounted on the base)	3P	Top / Bottom	✓	-	-
	4P	Top / Bottom	-	✓ ^[1]	-
NS400/630 N/H/L Plug-in (mounted on the base)	3P	Top / Bottom	-	✓ ^[2]	-
	4P	Top / Bottom	-	-	✓ ^{[1] [2]}
Circuit breakers equipped with Vigi block					
NSX100/160/250 B/F/N/H/S/L/R Fixed	3P	Bottom	✓	-	-
	4P	Bottom	-	✓	-
NSX400/630 F/N/H/S/L/R Fixed	3P	Bottom	-	✓	-
	4P	Bottom	-	-	✓
NSX100/160/250 B/F/N/H/S/L/R Plug-In (mounted on the base)	3P	Top	✓	-	-
NSX400/630 F/N/H/S/L/R Plug-In (mounted on the base)	3P	Top	-	✓ ^[2]	-

^[1] Neutral on the right when mounted on top side^[2] When plate mounted, need to add an intercalary wedging plate under the PowerTag module with following dimensions.

[*] Refer to the product catalogue for technical characteristics.



Concentrators / gateways	Acti9 PowerTag Link C A9XELC10	Acti9 Smartlink SI B A9XMZA08	Acti9 Smartlink SI D A9XMWA20	Acti9 PowerTag Link A9XMWD20	Acti9 PowerTag Link HD A9XMWD100	Harmony Hub ZBRN1 & ZBRN2
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PowerTag Energy M250-M630

	LV434020	✓	✓	✓	✓	✓
	LV434021	✓	✓	✓	✓	✓
	LV434022	✓	✓	✓	✓	✓
	LV434023	✓	✓	✓	✓	✓



Innovation that protects:
Learn about
the technical information
of the PowerTag
range here



Scan or
click on
QR code

Offer

Selection guide

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

A

Low voltage circuit breakers from 100 to 630 A

B

Easy**Pact** CVS is packed with world class features and designed especially to meet technical and commercial needs of customers

C

- Conforms to IEC 60947-1 and 2
- Breaking Capacities:
 - 25 kA (100 A - 250 A), 36 kA (100 A - 630 A),
 - 50 kA (400 A and 630 A)
- Complete range with Service breaking capacity, Ics = 100% Ultimate breaking capacity, Icu
- Two frame sizes for complete range helps is faster design and delivery of distribution systems
- Thermal magnetic trip units (100 A - 630 A) and electronic trip units (400 A and 630 A)
- Fault current limitation technology helps to reduce the thermal stresses and thus increases the life of cables and installation.

D

- Front accessible common snap fit auxiliaries simplifies the installation procedures and reduces inventory costs
- Suitability for Isolation ensures that the circuit is isolated from the remainder of the system thus the personnel carry out work with complete safety
- Class 2 front face reinforces safety with unique modular construction where the auxiliaries are isolated from the main current path
- MCCB's can be either pad locked or key locked, thus ensuring safety and better control on installation
- High electrical and mechanical endurance.



100 A - 250 A



EasyPact CVS MCCBs
400 A - 630 A

E



F

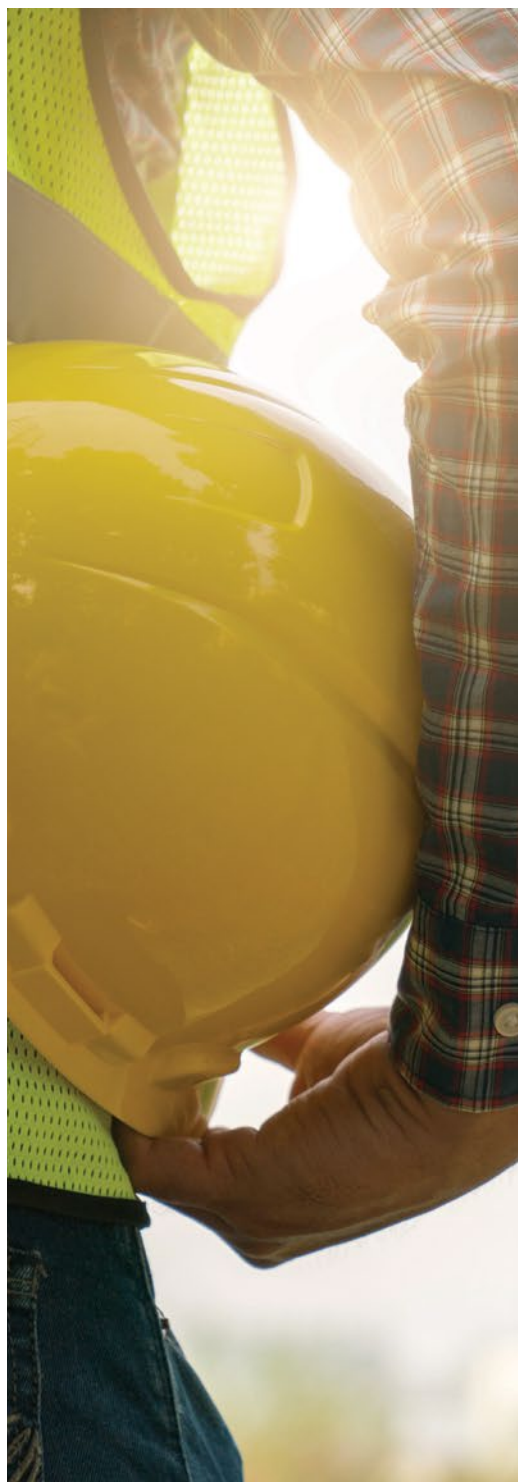
G

H

Easy choice for Quality and Value:

Safe, reliable and simple

Safe



Isolation

- EasyPact CVS circuit breakers are suitable for Isolation as defined in IEC 60947-2 standards. The aim of isolation is to separate a circuit or apparatus from the remainder of a system which is energized in order that personnel may carry out work on the isolated part in perfect safety
- MCCB locking with external padlocks enables a user to isolate and undertake maintenance with utmost safety.

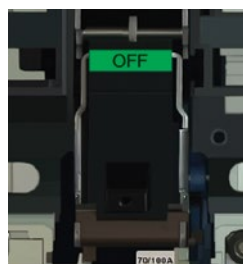
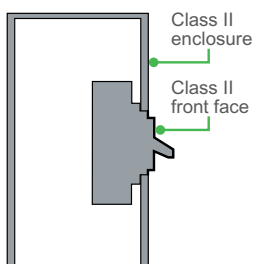


Isolation



Class II front Face

- All EasyPact CVS MCCBs are class II Front face devices, they may be installed through the door of class II switchboards without downgrading the switchboard insulation. Installation requires no special operation, even when the Circuit Breaker is equipped with a rotary handle.



Class II panel with circuit breaker having a class II front face

Locking in OFF position

- Key locks enable to lock the breaker in OFF position ensuring safety and better control on installation
- It also helps in interlocking multiple circuit breakers in an installation.



A

Reliable

Conforms to IEC 60947-2 for circuit breaker

- Tested at renown international laboratories like KEMA
- Complete range with $I_{cs} = 100\% I_{cu}$.

High electrical & Mechanical endurance

- 30000 mechanical operations for 100 A
- 12000 electrical operations for 100 A.



Reliable accessories

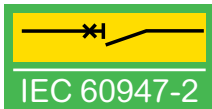
- Continuous rated shunt coils
- Multifunctional Aux./Alarm contact
- Unique electrical fault trip indication (SDE).

EasyPact CVS offer protection for human as well as Electrical installation

Earth leakage protection through Vigi Module to protect human against leakage current.



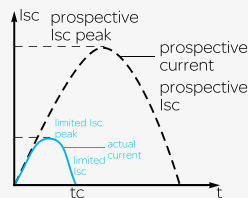
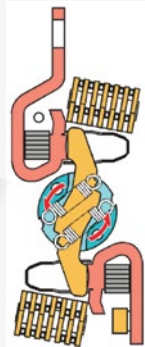
C



D



EasyPact CVS Double break Roto mechanism



Current limitation technology

Fault current limitation technology

- EasyPact CVS Double break mechanism ensures high fault current limitation
- Reduces thermal stresses on the electrical distribution network
- Increases the life of cables and installation.

E

F

G

H

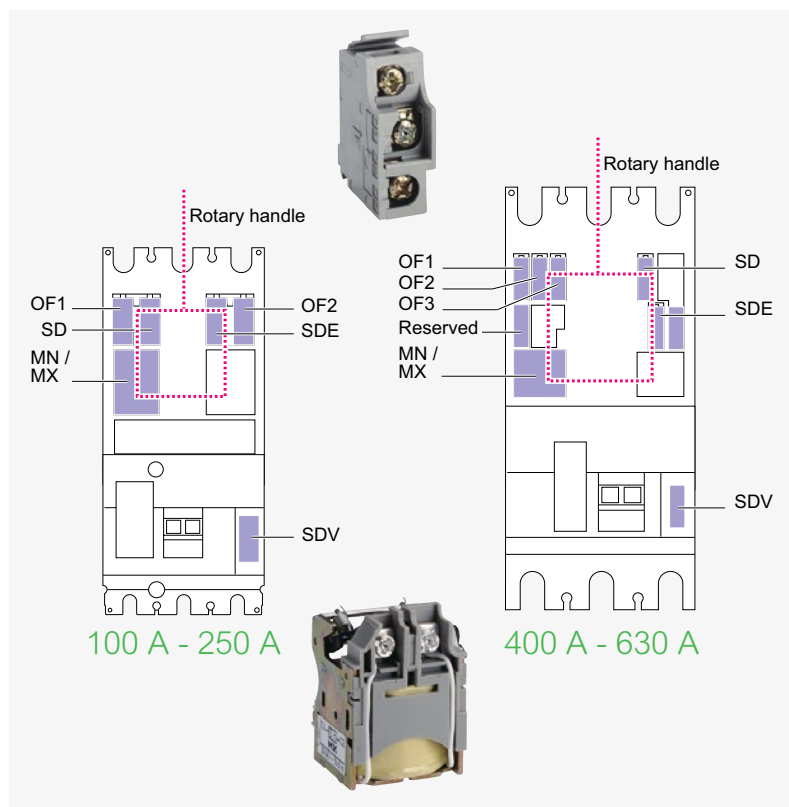


Simple

Only two frame sizes up to 630 A

Frame - I: 100 - 250 A

Frame - II: 400 - 630 A



- Common and snap-fit accessories up to 630 A
- Single OF contact for ON/OFF, Trip indication
- Single Shunt coil for remote tripping
- Single Under Voltage coil
- EasyPact CVS share same footprint of ComPact Family MCCBs.
- mounting dimensions
- easy retrofitting
- system upgradeability.

Stands for customer value

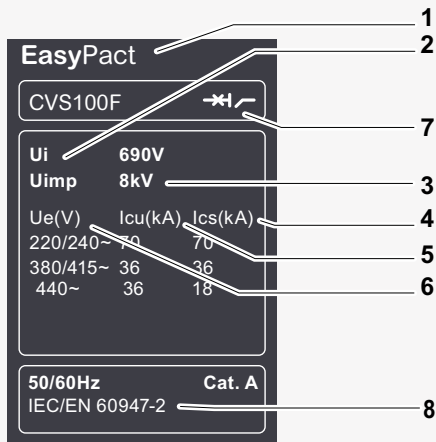


Panel builders

- Only two frame sizes up to 630 A
- Common accessories for complete range (ON/OFF/Trip Auxiliaries/Shunt/UV etc)
- Line load reversibility for entire range
- Suitable for class II switchboards.

Contractors

- Sufficient pole pitch helps to terminate Copper and Aluminum busbars or cables
- Easy availability of the product due to less number of frame size
- Designed to perform in demanding applications.



Standardised characteristics indicated on the rating plate:

- 1 Type of device: frame size and breaking capacity class
- 2 U_i : rated insulation voltage
- 3 U_{imp} : rated impulse withstand voltage
- 4 I_{cs} : service breaking capacity
- 5 I_{cu} : ultimate breaking capacity for various values of the rated operational voltage U_e
- 6 U_e : operational voltage
- 7 Suitable for Isolation symbol
- 8 Reference standard

Note: when the circuit breaker is equipped with an extended rotary handle, the door must be opened to access the rating plate.

Compliance with standards

EasyPact CVS circuit breakers and auxiliaries comply with the following international recommendations:

- IEC 60947-1: general rules
- IEC 60947-2: circuit breakers
- IEC 60947-3: switch-disconnectors.

Pollution degree

EasyPact CVS circuit breakers are certified for operation in pollution-degree III environments as defined by IEC 60947-1 and IEC 60664-1 standards (industrial environments).

Climatic withstand

EasyPact CVS circuit breakers have successfully passed the tests defined by the following standards for extreme atmospheric conditions:

- IEC 60068-2-1: dry cold (-55°C)
- IEC 60068-2-2: dry heat (+85°C)
- IEC 60068-2-30: damp heat (95% relative humidity at 55°C)
- IEC 60068-2-52 severity level 2: salt mist.

Environment

EasyPact CVS respects the European environment directive EC/2002/95 concerning the restriction of hazardous substances (RoHS).

All EasyPact CVS production sites have set up an ISO 14001 certified environmental management system.

Ambient temperature

- EasyPact CVS circuit breakers can be used between -25°C and +70°C.

For temperatures higher than 40°C (65°C for circuit breakers used to protect motor feeders), devices must be derated.

- Circuit breakers should be put into service under normal ambient, operating-temperature conditions. Exceptionally, the circuit breaker can be put into service when the ambient temperature is between -35°C and -25°C.
- The permissible storage-temperature range for EasyPact CVS circuit breakers in the original packing is -50°C and +85°C.

Electromagnetic compatibility

EasyPact CVS circuit breakers with ETS2.3 electronic trip unit have successfully passed the tests defined by the following standards for EMC:

- IEC/EN 60947-2, Annex F: immunity tests for circuit breakers with electronic protection.

Gain peace of mind,
quality, and value for
your installations



Functions and characteristics

EasyPact CVS

Characteristics and performance



EasyPact CVS100/160/250



EasyPact CVS400/630

Common characteristics			
Rated voltages			
Insulation voltage (V)	Ui		690
Impulse withstand voltage (kV)	Uimp		8
Operational voltage (V)	Ue	AC 50/60 Hz	440
Suitability for isolation		IEC/EN 60947-2	yes
Utilisation category			A
Pollution degree		IEC 60664-1	3

Circuit breakers

Performance

Electrical characteristics as per IEC 60947-2

Rated current (A)	In	40°C	
Number of poles			
Breaking capacity levels			
Breaking capacity (kA rms)			
	Icu	AC 50/60 Hz	220/240 V 380/415 V 440 V
Service breaking capacity (kA rms)			
	Ics	AC 50/60 Hz	220/240 V 380/415 V 440 V
Durability (C-O cycles)			
		Mechanical	
		Electrical	415 V In/2 In

Protection	
Short-circuit protection	Magnetic only
Overload/short-circuit protection	Thermal magnetic
	Electronic
	With neutral protection (Off-0.5-1)
Earth-leakage protection	By Vigi module

Installation/connections		
Dimensions and weights		
Dimensions (mm)	Fixed, front connections	3P
W x H x D		4P
Weight (kg)	Fixed, front connections	3P
		4P

Connections		
Connection terminals	Pitch	Without spreaders With spreaders
Large Cu or Al cables	Cross-section	mm²

Functions and characteristics

EasyPact CVS

Characteristics and performance

	CVS100			CVS160			CVS250			CVS400		CVS630	
	100			160			250			400		630	
	3, 4			3, 4			3, 4			3, 4		3, 4	
	B	F	N	B	F	N	B	F	N	F	N	F	N
	40	70	90	40	70	90	40	70	90	40	70	40	70
	25	36	50	25	36	50	25	36	50	36	50	36	50
	20	36	50	20	36	50	20	36	50	30	42	30	42
	40	70	90	40	70	90	40	70	90	40	70	40	70
	25	36	50	25	36	50	25	36	50	36	50	36	50
	15	18	38	15	18	38	15	18	38	23	32	23	32
	30000			25000			20000			15000		15000	
	30000			25000			20000			12000		8000	
	12000			12000			10000			6000		4000	
	■			■			■			■		■	
	■			■			■			■		■	
	-			-			-			■		■	
	-			-			-			■		■	
	■			■			■			■		■	
	105 x 161 x 86			105 x 161 x 86			105 x 161 x 86			140 x 255 x 110		140 x 255 x 110	
	140 x 161 x 86			140 x 161 x 86			140 x 161 x 86			185 x 255 x 110		185 x 255 x 110	
	1.8			1.8			2.0			4.7		5.2	
	2.2			2.3			2.6			6.3		7.1	
	35/45 mm			35/45 mm			35/45 mm			45/52.5 mm		45/52.5 mm	
										45/70 mm		45/70 mm	
	300			300			300			4 x 240		4 x 240	

Functions and characteristics

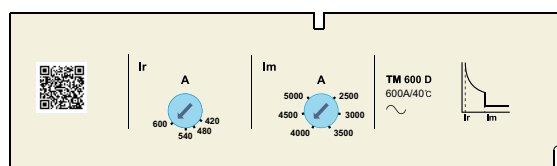
EasyPact CVS

Protection of distribution systems

TM-D thermal-magnetic trip units

TM-D thermal-magnetic trip units can be used on EasyPact CVS100-630 circuit breakers with performance levels B/F/N.

TM-D thermal-magnetic trip units



Protection

TM-D trip units are used mainly in electrical distribution applications for protection of cables supplied by transformers.

Thermal protection (I_r)

Thermal protection operates according to:

- I_r that can be adjusted in amps from 0.7 to 1 times the rating of the trip unit (16 A to 250 A), corresponding to settings from 11 to 250 A for the range of trip units
- a non-adjustable time delay.

Magnetic protection (I_m)

Short-circuit protection with a fixed or adjustable pick-up I_m that initiates instantaneous tripping if exceeded.

- TM-D: fixed pick-up, I_m , for 16 A to 250 A ratings and adjustable from 5 to 10 x I_n for 400 A ratings, 4.2 to 8.3 x I_n for 600 A rating.

Protection versions

- 3-pole:
 - 3P 3D: 3-pole frame (3P) with detection on all 3 poles (3D).
- 4-pole:
 - 4P 3D: 4-pole frame (4P) with detection on 3 poles (3D),
 - 4P 4D: 4-pole frame (4P) with detection on all 4 poles (same threshold for phases and neutral).

Thermal-magnetic trip units		TM16D to 250D												TM320D to 600D			
Ratings (A)	In at 40°C ^[1]	16	25	32	40	50	63	80	100	125	160	200	250	320	400	500	600
Circuit breaker	CVS100	■	■	■	■	■	■	■	■	-	-	-	-	-	-	-	-
	CVS160	-	-	-	-	-	-	-	■	■	■	-	-	-	-	-	-
	CVS250	-	-	-	-	-	-	-	-	-	■	■	■	-	-	-	-
	CVS400	-	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-
	CVS630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	■
Magnetic protection																	
Pick-up (A) accuracy ±20%	Im	Fixed		-	-	-	-	-	-	-	-	-	-	Adjustable			
	CVS100	190	300	400	500	500	500	640	800	-	-	-	-	-	-	-	-
	CVS160/250	-	-	-	-	-	-	-	800	1250	1250	2000, 2500	-	-	-	-	
	CVS400	-	-	-	-	-	-	-	-	-	-	-	-	1600 to 3200 (320 A), 2000 to 4000 (400 A)			
	CVS630	-	-	-	-	-	-	-	-	-	-	-	-	2500 to 5000			
Thermal protection																	
Pick-up (A) tripping between 1.05 and 1.30 Ir	Ir = In x ...	Adjustable in amps from 0.7 to 1 x In															
Neutral protection																	
Unprotected neutral	4P 3D	No detection															
Fully protected neutral	4P 4D	1 x Ir															

[1] For temperatures not equal to 40°C, the thermal protection characteristics are modified. See the temperature derating table.

Note: All the trip units have a transparent lead-sealable cover that protects access to the adjustment dials.

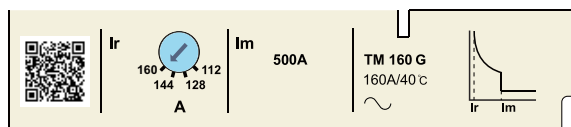
EasyPact CVS

Protection of distribution systems

TM-G thermal-magnetic trip units

TM-G thermal-magnetic trip units can be used on EasyPact CVS160-250 circuit breakers with performance levels B for the protection of generators or long cable length.

TM-G thermal-magnetic trip units



Protection

TM-G, with a low pick-up for generators (lower short-circuit currents than with transformers) and distribution system with long cable lengths (fault current limited by impedance of the cable).

Thermal protection (I_r)

Thermal protection operates according to:

- I_r that can be adjusted in amps from 0.7 to 1 times the rating of the trip unit (80 A to 250 A), corresponding to settings from 56 A to 250 A for the range of trip units
- a non-adjustable time delay.

Magnetic protection (I_m)

Short-circuit protection with a fixed I_m that initiates instantaneous tripping if exceeded.

- TM-G: fixed pick-up, I_m , for 80 A to 250 A ratings.

Protection versions

- 3-pole:
 - 3P 3D: 3-pole frame (3P) with detection on all 3 poles (3D).
- 4-pole:
 - 4P 3D: 4-pole frame (4P) with detection on 3 poles (3D).

Thermal-magnetic trip units		TM80G to 250G					
Ratings (A)	In at 40°C ^[1]	80	100	125	160	200	250
Circuit breaker	CVS160	■	■	■	■	-	-
	CVS250	-	-	-	-	■	■
Magnetic protection (Im)							
Pick-up (A) accuracy ±20%	CVS160/250	200	320	440	500	600, 750	
Thermal protection							
Pick-up (A) tripping between 1.05 and 1.30 Ir	Ir = In x ...	Adjustable in amps from 0.7 to 1 x In					
Neutral protection							
Unprotected neutral	4P 3D	No detection					

[1] For temperatures not equal to 40°C, the thermal protection characteristics are modified. See the temperature derating table.

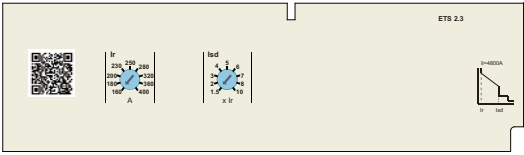
Note: All the trip units have a transparent lead-sealable cover that protects access to the adjustment dials.

EasyPact CVS

Protection of distribution systems

ETS 2.3 electronic trip unit and accessories

ETS2.3 electronic trip unit



Circuit breakers equipped with ETS2.3 trip units can be used to protect distribution systems supplied by transformers.

Protection

Settings are made using the adjustment dials with adjustment possibilities.

Overloads: Long time protection (Ir)

Inverse time protection against overloads with an adjustable current pick-up Ir set using a dial and a non-adjustable time delay tr.

Short-circuits: Short-time protection with fixed time delay (Isd)

Protection with an adjustable pick-up Isd. Tripping takes place after a very short delay used to allow discrimination with the downstream device.

Short-circuits: Non-adjustable instantaneous protection

Instantaneous short-circuit protection with a fixed pick-up.

Neutral protection

- On 3-pole circuit breakers, neutral protection is not possible.
- On four-pole circuit breakers, neutral protection may be set using a three-position switch:
 - 4P 3D: neutral unprotected,
 - 4P 3D + N/2: neutral protection at half the value of the phase pick-up, i.e. $0.5 \times I_r$,
 - 4P 4D: neutral fully protected at Ir.



ETS2.3

Ratings (A)	I_n at 40°C [1]	400	630
Circuit breaker	EasyPact CVS400	■	-
	EasyPact CVS630	-	■

L Long-time protection

Pick-up (A) tripping between 1.05 and 1.20 Ir		Ir	Value depending on trip unit rating (In) and setting on dial									
	In = 400 A	Ir =	160	180	200	230	250	280	320	360	400	
	In = 630 A	Ir =	250	280	315	370	400	440	505	565	630	
Time delay (s) accuracy 0 to -20%	tr	keypad setting	Non-adjustable									
		1.5 x Ir	200									
		6 x Ir	8									
		7.2 x Ir	5.5									

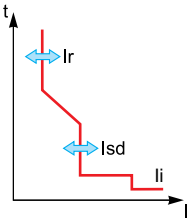
Thermal memory 20 minutes before and after tripping

S_n Short-time protection with fixed time delay

Pick-up (A) accuracy ±10%	Isd = Ir x ...	1.5	2	3	4	5	6	7	8	10
	tsd	Non-adjustable								
	Non-tripping time	20								
	Maximum break time	80								

I Instantaneous protection

Pick-up (A) accuracy ±15%	I_i non-adjustable	4800	6930
	Non-tripping time	10 ms	
	Maximum break time	50 ms for $I > I_i$	



[1] If the trip units are used in high-temperature environments, the ETS2.3 setting must take into account the thermal limitations of the circuit breaker. See the temperature derating table.

Note: All the trip units have a transparent lead-sealable cover that protects access to the adjustment dials.

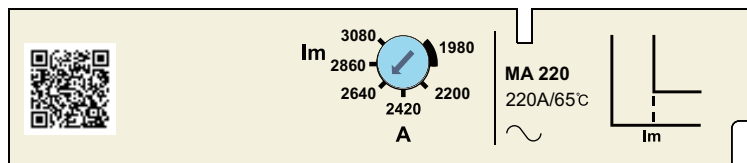


EasyPact CVS

Motor protection

MA instantaneous trip units

MA magnetic trip units for EasyPact CVS100-630 A



Circuit breakers with an MA trip unit are combined with a thermal relay and a contactor or a starter.

Protection

Magnetic protection (I_m)

Short-circuit protection with an adjustable pick-up I_m that initiates instantaneous tripping if exceeded.

■ $I_m = I_n \times \dots$ is set on an adjustment dial in multiples of the rating:

- 6 to 14 x I_n (2.5 to 100 A ratings),
- 9 to 14 x I_n (150 to 220 A ratings),
- 6 to 13 x I_n (320 to 500 A ratings).

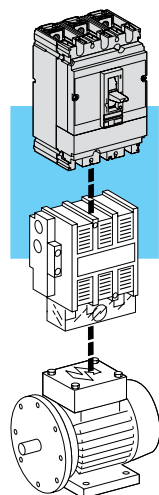
Protection version

- 3-pole (3P 3D): 3-pole frame (3P) equipped with detection on all 3 poles (3D).

Motor protection up to 250 kW

Motor protection rating (kW)

CVS 100/160/250	1.1...110	-
CVS 400/630	-	18.5...250
Breaking capacity (kA rms) 380/415 V	B 25	25
	F 36	36
	N -	-



CVS100 to 630 circuit breakers, equipped with an MA magnetic trip unit with adjustable thresholds, offer:

- short-circuit protection
- suitability for isolation.

CVS100 to 630 circuit breakers with trip unit are supplied ready-assembled.

MA trip units											
Ratings (A)	I_n at 65°C	2.5	6.3	12.5	25	50	100	150	220	320	500
Circuit breaker	CVS100	■	■	■	■	■	■	-	-	-	-
	CVS160	-	-	-	-	-	■	■	-	-	-
	CVS250	-	-	-	-	-	-	■	■	-	-
	CVS400	-	-	-	-	-	-	-	-	■	-
	CVS630	-	-	-	-	-	-	-	-	-	■
Short-circuit protection (magnetic)											
Pick-up (A)	$I_m = I_n \times \dots$	Setting						Setting		Setting	
	CVS100	6...14 x I_n						-		-	
	CVS160/250	-						9...14 x I_n		-	
	CVS400/630	-						-		6...13 x I_n	

Functions and characteristics

EasyPact CVS

Earth-leakage protection

Add-on protection against insulation faults using a Vigi module

A Vigi module can be added to any three or four-pole CVS100 to 630 circuit breaker to form a Vigi CVS.

Circuit breaker with add-on Vigi module (Vigi CVS)

- For general characteristics of circuit breakers, see page 80.
- Add-on Vigi modules: Earth-leakage protection is achieved by installing a Vigi module (characteristics and selection criteria on next page) directly on the circuit breaker terminals. It directly actuates the trip unit (magnetic, thermal-magnetic or ETS).



Vigi CVS100 to 630



Vigi CVS100 to 630 circuit breakers with earth-leakage protection

Addition of the Vigi module does not alter circuit-breaker characteristics:

- compliance with standards
- degree of protection, class II front-face insulation
- positive contact indication
- electrical characteristics
- trip-unit characteristics
- installation and connection modes
- indication, measurement and control auxiliaries
- installation and connection accessories.

Dimensions and weights		CVS100/160/250	CVS400/630
Dimensions W x H x D (mm)	3-pole	105 x 236 x 86	140 x 355 x 110
	4-pole	140 x 236 x 86	185 x 355 x 110
Weight (kg)	3-pole	2.5	8.8
	4-pole	3.2	10.8

Vigi earth-leakage protection modules

Compliance with standards

- IEC 60947-2, annex B.
- Decree dated 14 November 1988 (for France).
- IEC 60755, class A, immunity to DC components up to 6 mA.
- operation down to -25°C as per VDE 664.

Vigi module selection

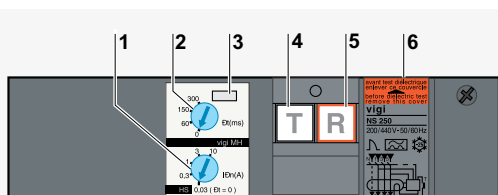
Type	CVS100/160/250	CVS400/630
Number of poles	3, 4 ^[1]	3, 4 ^[1]
Protection characteristics		
Sensitivity I _{Δn} (A)	Adjustable 0.03 - 0.3 - 1 - 3 - 10	Adjustable 0.3 - 1 - 3 - 10 - 30
Time delay	Adjustable	Adjustable
Intentional delay (ms)	0 - 60 ^[2] - 150 ^[2] - 300 ^[2]	0 - 60 - 150 - 300
Max. break time (ms)	< 40 < 140 < 300 < 800	< 40 < 140 < 300 < 800
Rated voltage V AC 50/60 Hz	200... 440	200...440

^[1] Vigi 3P modules may also be used on 3P circuit breakers used for two-phase protection.

^[2] If the sensitivity is set to 30 mA, there is no time delay, whatever the time-delay setting.

Operating safety

The Vigi module is a user safety device. It must be tested at regular intervals (every 6 months) via the test button.



- 1 Sensitivity setting
- 2 Time-delay setting (for selective earth-leakage protection).
- 3 Lead-seal fixture for controlled access to settings.
- 4 Test button simulating an earth-fault for regular checks on the tripping function
- 5 Reset button (reset required after earth-fault tripping).
- 6 Rating plate

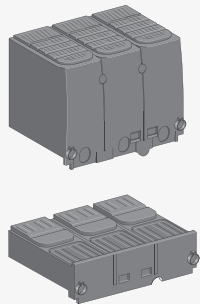
Functions and characteristics

EasyPact CVS

Accessories and auxiliaries

Overview

Insulation accessories

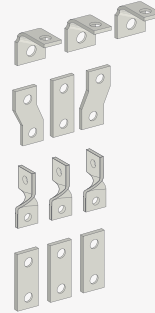


Sealable terminal shields

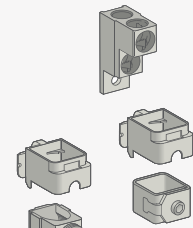


Interphase barriers

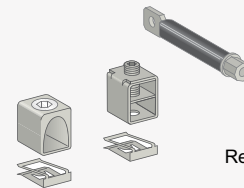
Connection



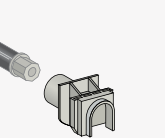
Terminal extensions



Cable connectors



Cable connectors



Rear connectors

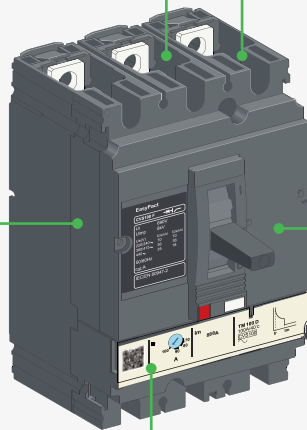
Electrical auxiliaries



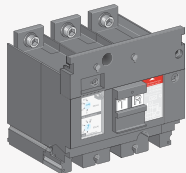
Indication contact



Voltage release

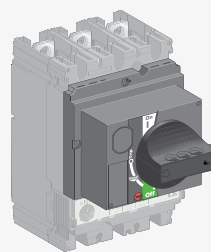


Monitoring

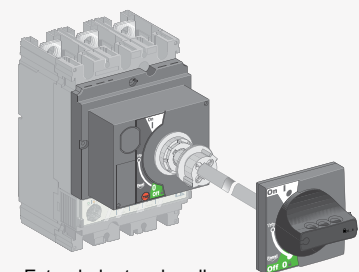


Earth leakage protection (VigiCVS)

Control accessories



Direct rotary handle



Extended rotary handle



Innovation that protects:
Learn about
the technical information
of the EasyPact CVS
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

A

Easy choice for total Simplicity So easy, so simple

B

EasyPact™ EZC:
Build your complete solution
with Schneider Electric



C

With just three sizes of circuit breakers, Schneider Electric's EasyPact™ EZC system is the simple, universal solution to fit all low-voltage protection needs.

D

- > The fixed version is particularly adapted to the OEM and Building markets, offering optimum performance at a competitive price.
- > The plug-in version offers an additional function dedicated to the Marine market.

E

EasyPact™ EZC range complies with worldwide standards:

- IEC 60947-2
- EN 60947-2
- JISC8201-2-1 / C8201-2-2 (annex 1 and 2)
- GB 14048.2
- UL508 ^[1]
- CSA22-2 ^[1]
- IACS for Merchant Marine (International Association of Classification Societies: ABS, BV, CCS, DNV, GL, KRS, LR, NK, RINA).

F

^[1] Only for the 100 A model;

G

H

With international certifications and approvals by independent laboratories:

- ASEFA, KEMA, TILVA, TÜV, UL.

And compliance with
RoHS Directive

- Restriction of Hazardous Substances.



Buildings



Marine

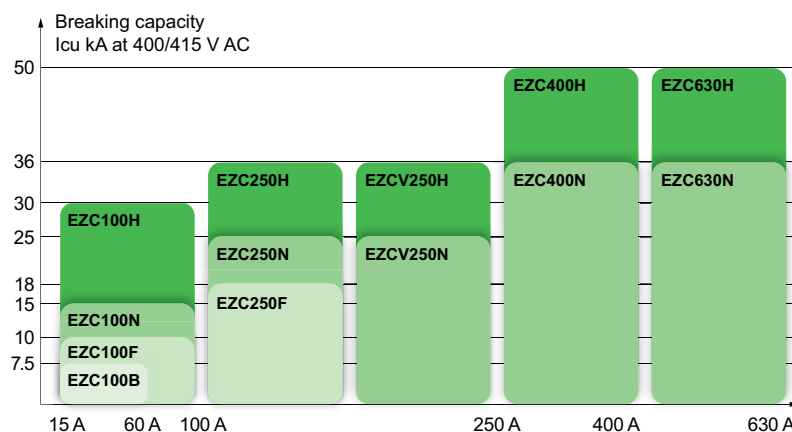


OEM

Easy to choose

EasyPact™ EZC brings you easy solutions

- From 15 A to 630 A
- Up to 50 kA at 415 V
- Up to 4 poles
- In only three frame sizes
- With a complete range of auxiliaries: rotary commands, auxiliaries, shunt trip, phase barrier, terminal cover, undervoltage trip.



Easy to install

- Fixed front mounting
- Plug-in mounting
- Front connections
- Bare cables connected through cable lugs, screwed inside the breaker
- Field-installable auxiliaries and accessories
- Built-in earth-leakage protection
- Interchangeable MCCB and ELCB.

EasyPact™ EZC 250 ELCB

Built-in Integrated Earth-Leakage Circuit Breaker (ELCB) function

- > Fully interchangeable with MCCB.
- > Same MCCB footprint and panel cut.

Easy to use

- A thermal calibration suitable for MCCB use at 50°C without derating (up to 250 A)
- Positive contact indication for safety and reliability
- A smaller case optimized for tight spaces.

Functions and characteristics

EasyPact EZC

General characteristics



EasyPact EZC-250N				
Ui	690V~			
Uimp	6kV			
Uel(V)	Icu(kA)	Ics(kA)		
230/240~	85	43		
400/415~	38	18		
440 ~	25	13		
550 ~	10	5		
250 ~	30	15		
50/60Hz IEC 60947-2 Cat. A				

Standardised characteristics indicated on the rating plate:

Ui:	rated insulation voltage
Uimp:	rated impulse withstand voltage
Ue:	rated operational voltage
Icu:	ultimate breaking capacity, for various values of the
	rated operational voltage Ue
Cat:	utilisation category
Ics:	service breaking capacity
In:	rated current
	suitability for isolation

EasyPact EZC circuit breakers and auxiliaries comply with the following international standards:

- IEC 60947-1 - general rules
- IEC 60947-2 - low-voltage switchgear and controlgear, part 2 (circuit breakers)
- European (EN 60947-1 and EN 60947-2) and the corresponding national standards
- GB 14048.2
- JIS C8201-2-1 Annex 1 and Annex 2, for moulded case circuit breakers
- JIS C8201-2-2 Annex 1 and Annex 2, for earth-leakage circuit breakers
- UL 60947-4-1(old UL508)/CSA 22-2 no. 14.

Approvals and Certifications

- IEC certification by independent laboratories (ASEFA, KEMA, TÜV).
- marking.
- certified by third-party Tilva.
- UL 60947-4-1(old UL508) certified by third party Underwriter Laboratories as a "Manual Motor Controller" (EZC100/EZC250/EZCV250).

Vibration and shock withstand test

EasyPact EZC circuit breakers resist mechanical vibrations and shocks.

Tests are carried out in compliance with standard IEC 60068-2-6 for the levels required by merchant-marine inspection organisation IACS:

International Association of Classification Societies up to 250 A (ABS, BV, DNV, LR, KRS, RINA, NK):

- 2 to 13.2 Hz: amplitude ± 1 mm
- 13.2 to 100 Hz: acceleration 0.7 g.

Pollution degree

EasyPact EZC circuit breakers are certified for operation in pollution-degree III environments as defined by IEC standard 60947 (industrial environments).

Tropicalization

EasyPact EZC circuit breakers have successfully passed the tests prescribed by the following standards for extreme atmospheric conditions:

- IEC 60068-2-1 - dry cold (-55°C)
- IEC 60068-2-2 - dry heat (+85°C)
- IEC 60068-2-30 - damp heat (95% relative humidity at 55°C)
- IEC 60068-2-52 - salt mist (severity level 2).

Positive contact indication

All EasyPact EZC circuit breakers are suitable for isolation as defined in IEC standard 60947-2:

- the operating position corresponds to the O (OFF) position
- the isolation handle cannot indicate the O (OFF) position ("green colour" visible) unless the contacts are effectively open
- padlocks may not be installed unless the contacts are open
- installation of a rotary handle does not alter the reliability of the position-indication system.

The isolation function is certified by tests guaranteeing:

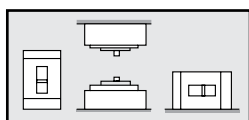
- the mechanical reliability of the position indication system
- the absence of leakage currents
- overvoltage withstand capacity between upstream and downstream connections.

EasyPact EZC circuit breakers take into account important concerns for environmental protection. Most components are recyclable and the parts are marked as specified in applicable standards.

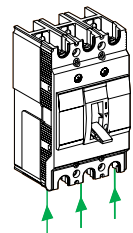


EasyPact EZC

General characteristics



Installation positions.



Reverse feeding.



Earth-leakage protection

EasyPact EZC circuit breakers have a specific version including earth-leakage protection. This protection is fully integrated inside the breaker and does not require any additional space. EasyPact EZC circuit breakers and earth leakage circuit breakers are fully interchangeable.

Ambient temperature

- EasyPact EZC circuit breakers have been particularly designed to hold 100% In at 50°C without tripping in normal condition (up to 250 A, except earth leakage circuit breakers).
- EasyPact EZC circuit breakers may be used between -25°C and +70°C.
- The permissible storage-temperature range for EasyPact EZC circuit breakers in the original packing is -35°C to +85°C.

Installation

EasyPact EZC circuit breakers are designed for easy installation in the various types of switchboards. They may be mounted vertically, horizontally or flat on their back without any derating of characteristics.

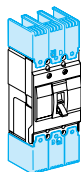
Power supply

EasyPact EZC circuit breaker can be supplied from either the top or the bottom (reverse feeding) without any reduction in performance. For earth-leakage circuit breakers, reverse feeding is possible only up to 240 V AC. This capability facilitates connection when installed in a switchboard.

Degree of protection

As per standards IEC 60529 (IP degree of protection) and EN 50102 (IK degree of protection against external mechanical impacts).

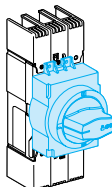
Bare circuit breaker with terminal shields



With toggle

IP20

IK07

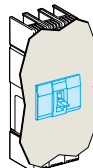


With direct rotary handle standard

IP40

IK07

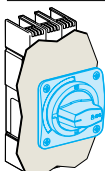
Circuit breaker installed in a switchboard



With toggle

IP40

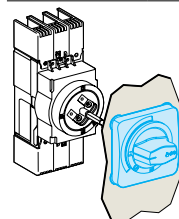
IK07



With direct rotary handle standard/VDE MCC

IP54

IK07



With extended rotary handle

IP54

IK08

Functions and characteristics

EasyPact EZC

Selection guide

A



EZC100-1P

B



EZC100-2P

C

D



E

F



G



H

EasyPact EZC circuit breakers

Fixed version

Plug-in version

Number of poles

Rated current (A)

In

At 40°C

Rated insulation voltage (V)

Ui

Rated impulse withstand voltage (kV)

Uimp

Rated operational voltage (V)

Ue

AC 50/60 Hz

DC

Electrical characteristics as per IEC 60947-2, EN 60947-2, JIS C8201-2-1

Ultimate breaking capacity (kA rms)

Icu

AC 50/60 Hz

110/130 V

220/230/240 V

380 V

400/415 V

440 V

550 V

DC

125 V (1P)

250 V (2P in series)

Rated service breaking capacity (kA rms)

Ics

% Icu

110-400 V

415-550 V

Suitability for isolation

Utilisation category

Pollution degree

Endurance (C-O cycles)

Mechanical

Electrical

In/415 V

Protection

Overload protection

Bimetal

Instantaneous protection

Magnetic

Fixed (±20%)

Auxiliaries

Indication contacts

Auxiliary switch

AX

Alarm switch

AL

Combined AX + AL

AXAL

Voltage releases

Shunt trip release

SHT

Undervoltage release

UVR

Installation

Connection

Crimp lugs/bars

Accessories

Box lugs for bare cables

Rotary handles

Direct

Extended

Terminal extensions

Spreaders

Phase barriers

Terminal shields

Padlocking system

DIN rail adaptor

Dimension and weight

Dimensions (mm)

D x H

W

Weight (kg)



EasyPact EZC

Selection guide

	EZC100B	EZC100F	EZC100N		EZC100H		EZC250F	EZC250N	EZC250H
	■	■	■	■	■	■	■	■	■
	■	■	-	■ ^[3]	-	■ ^[3]	■	■	■
	3	3	1	3-4	1	2-3-4	3	3	2-3
	15, 16, 20, 25, 30, 32, 40, 45, 50, 60	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	15, 16, 20, 25, 30, 32, 40, 45, 50, 60, 63, 75, 80, 100	100, 125, 150, 160, 175, 200, 225, 250	100, 125, 150, 160, 175, 200, 225, 250	100, 125, 150, 160, 175, 200, 225, 250
	690	690	690	690	690	690	690	690	690
	6	6	6	6	6	6	6	6	6
	550	550	415	550	415	550	550	550	550
	-	250	125	250	125	250	250	250	250

	10	25	25	25	50	100	25	50	85
	10	25	18	25	25	100 ^[1]	25	50	85
	7.5	10	2.5	18	5	30	18	25	36
	7.5	10	2.5	15	5	30	18	25	36
	5	7.5	-	10	-	20	15	20	25
	2.5	5	-	5	-	10	5	8	10
	-	5	5	5	10	10	5	20	30
	-	5	-	5	-	10	5	20	30
	25%	50%	50%	50%	50%	50%	50%	50%	50%
	25%	50%	50%	50%	50%	25%	50%	50%	50%
	■	■	■	■	■	■	■	■	■
	A	A	A	A	A	A	A	A	A
	3	3	3	3	3	3	3	3	3
	13 000	13 000	13 000	13 000	13 000	13 000	10 000	10 000	10 000
	4 000	4 000	4 000	4 000	4 000	4 000	5 000	5 000	5 000

	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	10 In	10 In	10 In

	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	-	■	-	■	■	■	■

	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	-	■	-	■ ^[2]	■	■	■
	■	■	-	■	-	■ ^[2]	■	■	■
	-	-	-	-	-	-	■	■	■
	■	■	-	■	-	■	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	-	■	-	■ ^[2]	■	■	■
	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	-	-	-

	60 x 130	60 x 130	60 x 130	60 x 130	60 x 130	60 x 130	60 x 165	60 x 165	60 x 165
	75	75	25	75 (3P) 100 (4P)	25	50 (2P) 75 (3P) 100 (4P)	105	105	105
	0.78	0.78	0.28	0.78 (3P) 1.0 (4P)	0.28	0.6 (2P) 0.78 (3P) 1.0 (4P)	1.3	1.3	1.1 (2P) 1.3 (3P)

[1] 50 kA for 2 poles.

[2] For 3 and 4 poles only.

[3] For 3P only.

EasyPact EZC

Selection guide

A



EZC250-4P

B

C



EZCV250-4P

D

E



EZC400-3P

F

G

H

EasyPact EZC circuit breakers

Fixed version

Plug-in version

Number of poles

Rated current (A)

I_n

At 40°C

Rated insulation voltage (V)

U_i

Rated impulse withstand voltage (kV)

U_{imp}

Rated operational voltage (V)

U_e

AC 50/60 Hz

DC

Electrical characteristics as per IEC 60947-2, EN 60947-2 and JIS C8201-2-1/C8201-2-2

Ultimate breaking capacity (kA rms)

I_{cu}

AC 50/60 Hz

220/230 V

380 V

400/415 V

440 V

550 V

DC

125 V (1P)

250 V (2P in series)

Rated service breaking capacity (kA rms) **I_{cs}**% I_{cu}

Suitability for isolation

Utilisation category

Pollution degree

Endurance (C-O cycles)

Mechanical

Electrical

In/415 V

Protection

Overload protection

Bimetal

Instantaneous protection

Magnetic

Fixed (± 20%)

Earth-leakage protection

Sensitivity (A)

I_{Δn}

Adjustable

Time-delay (ms)

Δt

Adjustable

Max. breaking time (s)

At 2 I_{Δn}

Auxiliaries

Indication contacts

Auxiliary switch

OF/AX

Alarm switch

SD/AL

Combined AX + AL

AXAL

Earth-alarm switch

ALV

Voltage releases

Shunt trip release

MX/SHT

Undervoltage release

MN/UVR

Installation

Connection

Crimp lugs / bars

Accessories

Box lugs for bare cables

Rotary handles

Direct

Extended

Terminal extensions

Spreaders

Phase barriers

Terminal shields

Padlocking system

Dimension and weight

Dimensions (mm)

D x H

W

Weight (kg)

EasyPact EZC

Selection guide

EZC250N	EZC250H	EZCV250N	EZCV250H	EZC400N	EZC400H	EZC630N	EZC630H
■	■	■	■	■	■	■	■
■	■	■	■	-	-	-	-
4	4	3-4	3-4	3-4	3-4	3-4	3-4
63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	63, 80, 100, 125, 150, 160, 175, 200, 225, 250	320, 350, 400	320, 350, 400	400, 500, 600	400, 500, 600
690	690	440	440	690	690	690	690
6	6	6	6	6	6	6	6
550	550	440	440	440	440	440	440
250	250	-	-	-	-	-	-

50	85	50	85	40	70	40	70
25	36	25	36	36	50	36	50
25	36	25	36	36	50	36	50
20	25	20	25	36	50	36	50
8	10	-	-	-	-	-	-
20	30	-	-	-	-	-	-
20	30	-	-	-	-	-	-
50%	50%	50%	50%	100% 77% (440 V)	100% 77% (440 V)	100% (220-415 V) 50% (440 V)	100% (220-415 V) 50% (440 V)
■	■	■	■	■	■	■	■
A	A	A	A	A	A	A	A
3	3	3	3	3	3	3	3
10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
5 000	5 000	5 000	5 000	4 000	4 000	3 000	3 000

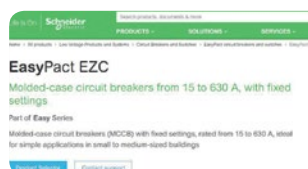
Fixed 10 In	Fixed 10 In	Fixed 10 In	Fixed 10 In	Fixed 10 In	Fixed 10 In	Fixed 10 In	Fixed 10 In (400/500 A) 5000 A (600 A)	Fixed 10 In (400/500 A) 5000 A (600 A)
----------------	----------------	----------------	----------------	----------------	----------------	----------------	--	--

-	-	0.1/0.3/0.5/1	0.1/0.3/0.5/1	-	-	-	-
-	-	0/200/500/1000	0/200/500/1000	-	-	-	-
-	-	0.15/0.4/1/2	0.15/0.4/1/2	-	-	-	-

■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	-	-	-	-
-	-	■	■	-	-	-	-
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■

■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■

68 x 165	68 x 165	68 x 165	68 x 165	110 x 255	110 x 255	110 x 255	110 x 255
140	140	105 (3P) 140 (4P)	105 (3P) 140 (4P)	140 (3P) 185 (4P)	140 (3P) 185 (4P)	140 (3P) 185 (4P)	140 (3P) 185 (4P)
1.8	1.8	1.6 (3P) 2.1 (4P)	1.6 (3P) 2.1 (4P)	4.8 (3P) 6.4 (4P)	4.8 (3P) 6.4 (4P)	4.8 (3P) 6.4 (4P)	4.8 (3P) 6.4 (4P)



Innovation that protects:
Learn about
the technical information
of the EasyPact EZC
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

Miniature Circuit Breakers (MCBs)



Acti9

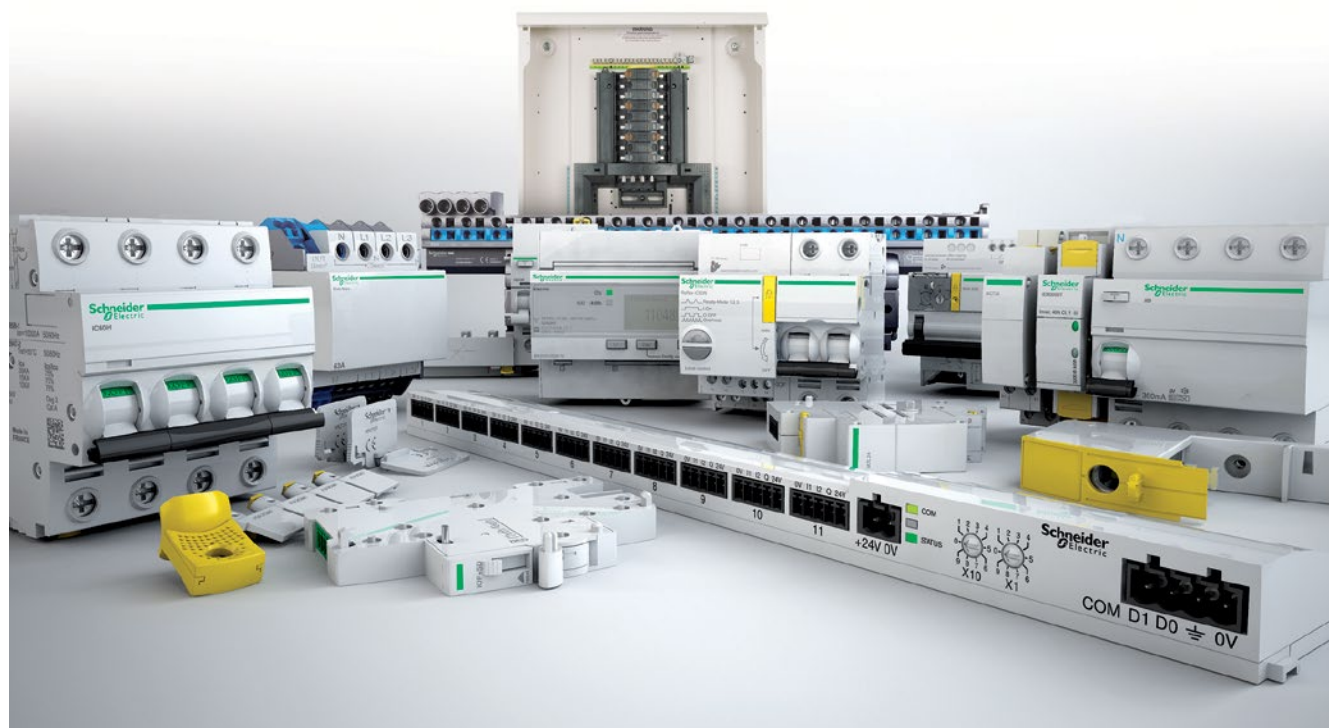
General overview	C-98
Technical characteristics	C-108
iC60H circuit breakers (curve B, C, D).....	C-110
K60H Biconnect circuit breakers	C-112
K60 Biconnect circuit breakers.....	C-113
PowerLogic PowerTag	C-116



Easy9

General overview	C-128
Technical characteristics	C-130

C



The safest, simplest and most efficient system for power distribution solutions

Protection devices

- Miniature circuit breaker
- Residual current circuit breaker
- Vigi™ residual current devices
- Surge arrester.

Control and monitoring

- Contactors
- Impulse relays
- Integrated control circuit breaker
- Light indicators
- Push-buttons and selector switches
- Kilowatt hour meters
- Communicating architecture.

Protection monitoring and supervision

- Indication and tripping auxiliaries
- Remote control auxiliaries
- Automatic recloser auxiliaries.

Installation system

- Isobar
- IP20B terminals
- Splitter block
- Full range of mounting and wiring accessories
- Multiclip.

Safer

- VisiSafe and Class 2 give complete safety for the life of your installation.



More efficient

- VisiTrip, super immunisation, and automatic reclosers increase continuity of service and enhance reliability.



Simpler and smarter

- Two certifications for one product, 100 per cent MCB and RCD coordination and easy ordering and design.



Monitor and adjust specific loads

- Manage loads, reduce operating or project costs and accurately plan maintenance.



Acti9 is your safe, efficient and simple choice for low-voltage modular systems

A better use of energy, from start to finish

Acti9 helps you meet developing energy efficiency and environmental certifications or requirements, now and in the future. It minimises impact from the design stage, through the installation's lifetime of use and eventual recycling. Through both design and technology, Acti9 provides you with the key combination of less impact and more efficiency that is necessary for the environment today.



100%

recyclable
and recoverable
materials, RoHS
compliant and REACH

Acti9

A

5 generations

of industry experience and 22 new patents make Acti9 the new reference in low-voltage modular systems

B

The new core modular system which makes your power distribution installation safer, simpler and more efficient

C

We leveraged five generations of low-voltage expertise to design a precise, high-quality modular system without compromise. Acti9™ offers the fastest, most flexible installation experience and completely eliminates safety concerns during maintenance and operation. Engineered to adapt to the most challenging networks and environments whilst remaining cost-effective over time, it is the most flexible, coordinated, comprehensive and innovative range of low-voltage modular devices available.

D

A new generation of distribution boards complements the Acti9 offer, based on the design of the proven Isobar range with added features for increased safety and measurement. Acti9 Isobar incorporates more cable space and an interlock to prevent inadvertent operation of the Isobar switch disconnecter unless an outgoing device is installed.

E

F

G

H



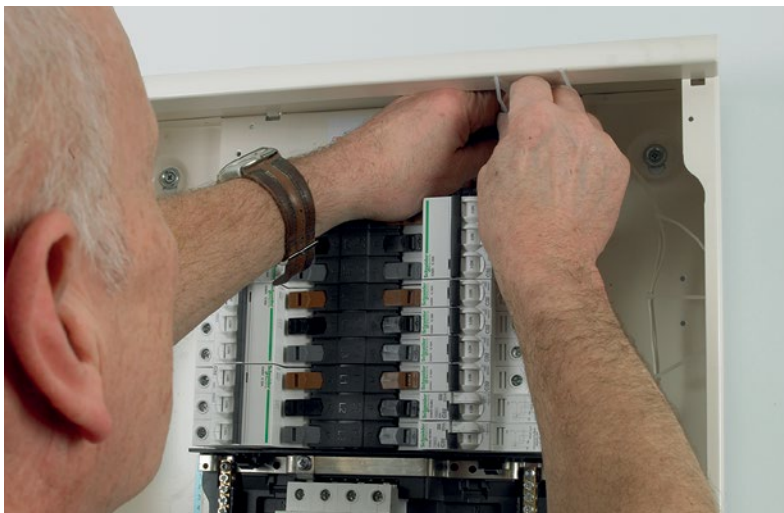
Acti9 gives you safety, simplicity and efficiency for the life span of your installation

> High-quality modular system without compromise.

Simple and smart

The right solution for every application

Acti9 simplifies final distribution operations in buildings and industrial facilities, giving you the right solution with the right technical characteristics for every application. As new installation standards emerge or building requirements are modified, Acti9 can easily scale to meet your needs. It's a flexible, open system with all-in-one, integrated components which can communicate with any building management system.



30%

of switchboards are modified at design, cabling or commissioning stages, increasing project start-up times

Easy to design and choose

Meets two certifications



Acti9 miniature circuit breakers comply with IEC/EN 947 (industrial) and IEC/EN 898 (tertiary) standards - two certifications in one product - making it perfect for commercial and industrial applications.

Guarantees 100% coordination



100% coordination between RCDs and MCBs means no more searching through technical guides or coordination tables. In addition, in the Reflex™ iC60, protection and control are a unique all-in-one concept fully covered by the manufacturer's warranty.

Reflex iC60: the all-in-one concept integrated control circuit breaker

+ Available only from
Schneider Electric

ComReady



Reflex iC60 combines the functions of an MCB and contactor. Designed to evolve and adapt with the dynamic requirements of tertiary and industrial lighting control applications, it easily communicates with PLCs and BMS systems without the need for add-ons, retrofits or extras. Everything you need is included.

Acti9

A

Safe

Safest operation guaranteed even in the most demanding environments

B

Designed for safety, even in the most demanding environments

Safety matters most and Acti9 Isobar gives you, your customers and their installations the highest level of protection available. It guarantees 100 per cent safe operation and maintenance for you and your customers. Its international certifications and numerous protection innovations allow Acti9 to exceed even the most demanding requirements to give you total safety during maintenance, for the lifetime of your installation.

C

Comprehensive certification

		
CEBEC	VDE	GOST
		
AENOR	IMQ	CCC (China)
		
IRAM	NF	SABS

Delivers complete industry-approved protection

Acti9 is fully tested, approved and certified by national and international third parties.

It guarantees that your installation is safe and compliant with all relevant safety standards and demonstrates to your customers that you use industry-approved materials and best practices.

D

E

F

G

H



> Best choice for industrial and commercial buildings.

Guarantees total safety during maintenance



VisiSafe

+ Available only from
Schneider Electric

VisiSafe

VisiSafe™ guarantees the downstream circuit is always safe, regardless of overvoltage conditions, wear or operator experience, even in the most demanding environments.

The green strip indicates the safe position of contacts. Unique safety features:

- Highest impulse voltage withstand: $U_{imp} = 6 \text{ kV}$,
- Guarantees longer equipment service life despite overvoltage conditions,
- Highest pollution resistance among modular devices: Pollution Degree level 3,
- A true "all-terrain" product ideally suited for all environments,
- Leading edge insulation voltage: 500 V ,
- Complete safety for operators manoeuvring the operating handle.

Promises absolute protection against electric shocks



+ Available only from
Schneider Electric

Class 2 front face

Acti9 circuit breaker is the only device available with this level of safety. Clearances between breaker surfaces and internal parts are more than double the industry standard. It guarantees risk-free handling during the life of the installation, regardless of environment or operator experience.

Guarantees long life service



Fast closing mechanism

Fast closure of all Acti9 MCBs and RCCBs limits wear and reduces voltage drops, helping to prevent premature equipment aging and overheating.

Provides zero-risk lockdown



Integrated padlocking

The integrated padlock guarantees protection and safety of Acti9 remote control devices, preventing toggle movement and inadvertent or unauthorised access.

Safer on site



Integrated interlock does not allow the Isobar switch disconnecter to be operated without an outgoing device fitted.

Acti9

A

Efficient

The system which streamlines
your operations workflow

B

C

Designed to minimise downtime
and avoid nuisance trips

With features like VisiTrip, super immunisation of RCDs (SI) and ARA automatic recloser auxiliary, Acti9 system allows easier building management, reduces downtime and makes your business more competitive limiting intervention costs on distant infrastructures sites.

D

E



Less downtime, more continuity of service

VisiTrip minimises downtime and reduces repair times. Identify faults in one glance and you will easily see the operating status of your network. VisiTrip™ indicates only the faulty outgoing, allowing fast diagnosis, resolution and reclosing loads for easier building management and reduced downtime.

F

Prevents unnecessary trips

Super immunisation (SI) of the RCDs guarantees the highest continuity of service and electrical immunity, especially where switchgear contends with electromagnetic or chemical interference. It also meets the high continuity of service requirements in all critical power applications (hospitals, data centres, telecoms and tunnels).

G

H

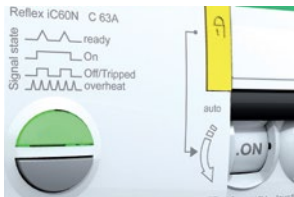
No need for on-site intervention

Acti9 introduces a new automatic recloser auxiliary (ARA iC60) designed to limit the cost of intervention on faraway infrastructure sites. There's no need to have permanent on-site teams responding to transient faults, limiting distant site intervention costs.



Easy to operate

Provides greater readability



Its ergonomic interface allows specific color coding for padlocking devices. The N indicator is easily readable for speed of servicing. Acti9 label maker gives your installation a professional appearance.

Safe and secure connections



Provides secure connections with quick, ergonomic and safe IP20B insulated terminal shutters.

Comes with tailored accessories



Acti9 system includes a comprehensive list of accessories: easily installed padlock system, splitter block, rotary handle mount for switchboard doors, screw shields, sealable terminal shields, plug-in base, interpole barrier and clip-on markers.

Easy to upgrade

Adapts to your installation



It adapts to new requirements and simplifies evolution of the system.

100%

coordination between
MCB and actuator

15%

time saved on design
and installation

Evolves with changing site requirements



Multiclip™ distribution system allows you to quickly add outgoing and balance phases. Multiclip offers screwless, safe connections.

Acti9 communication system

The system which streamlines your operations workflow

> Smart

- Centralise control, collect energy meter data with just a simple, ready-to-connect communication module
- Large diversity of data available to universal Modbus protocol.

> Efficient

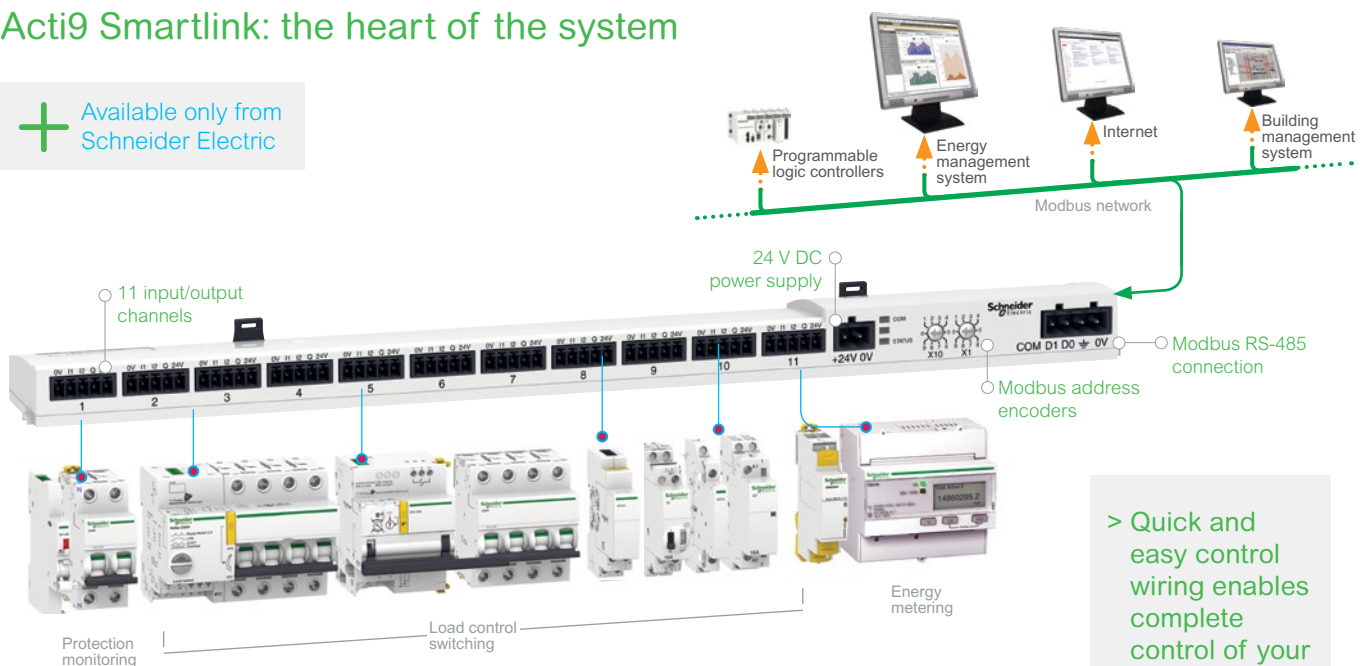
- One-click, prefabricated wiring for comprehensive communication between your distribution panel and any facility management system.

> Safe

- Reliable, error-proof manufacturer guaranteed connections
- EMC tested for immunity, radiated and conducted safety.

Acti9 Smartlink: the heart of the system

+ Available only from
Schneider Electric



> Quick and easy control wiring enables complete control of your installation.

Meets the challenge of all your applications

- Interior and exterior lighting, load monitoring and cost allocation.



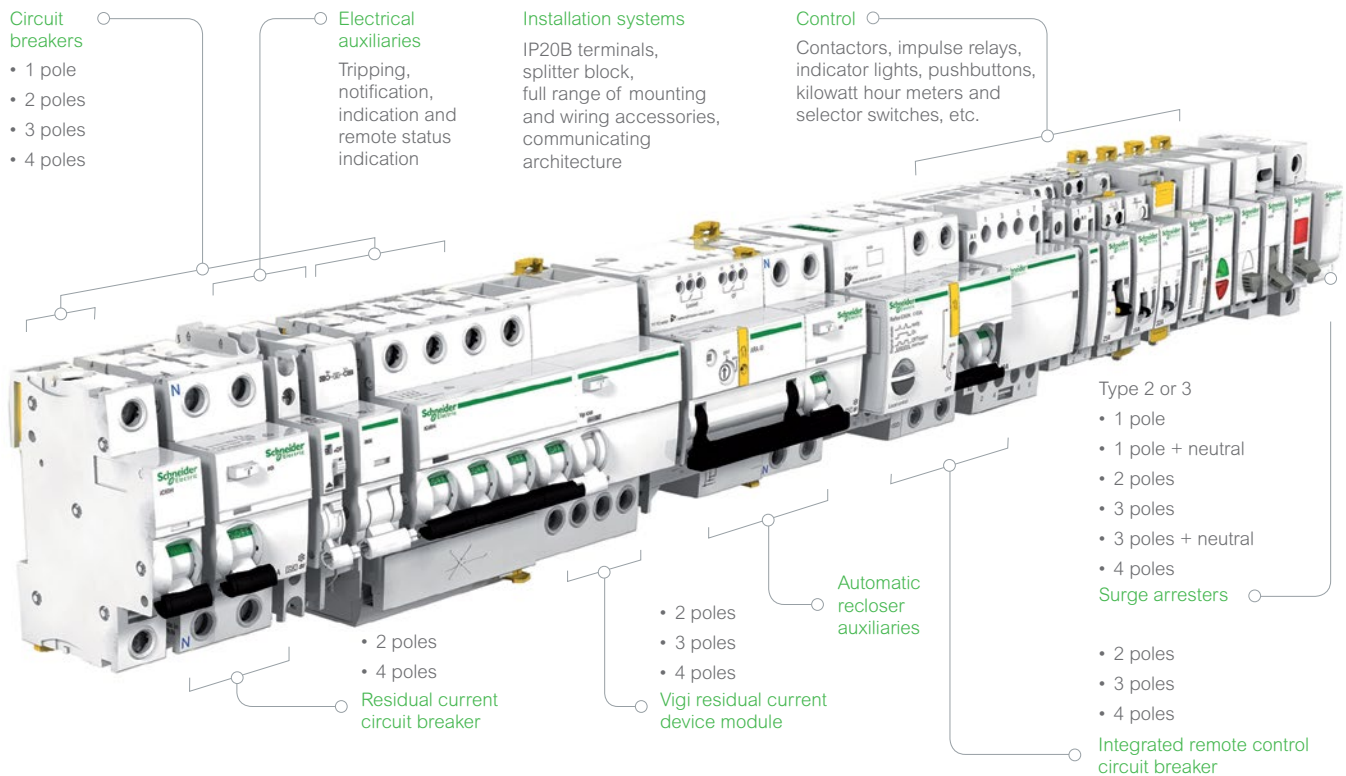
Monitor and adjust specific loads

- Detailed load control, reduced downtime and accurately planned maintenance.



Acti9 communication system

The safest, simplest and most efficient system for power distribution solutions



100%

safe for installers and users in the most severe environments

100%

coordination between MCB and actuator

100%

preventative maintenance

15%

time saved on design and installation

0%

down time

> Best choice for industrial and tertiary buildings.

A

Circuit breakers	iC60, H
ICU (A) at 400V - IEC/EN 60898-1	10000
ICU (kA) at 415V - IEC/EN 60947-2	15
Type	1P, 1P+N, 2P, 3P, 4P
Rating (A)	0,5 to 63
Curves	B, C, D
Standards	IEC/BSEN 60947-2, 60898-1



B

Residual current devices	Vigi iC60	iC60 RCBO
RCD Type	AC, A, SI	A
Type	2P, 3P, 4P	1P + N
Rating (A)	25, 40, 63	6 to 45
Standards	IEC/EN 61009-1	BSEN 61009-1
Sensitivity (mA)	10, 30, 100, 300, 300 Δ , 500, 500 Δ , 1000 Δ	10, 30, 100
Connection between iC60 and iC60 Vigi		



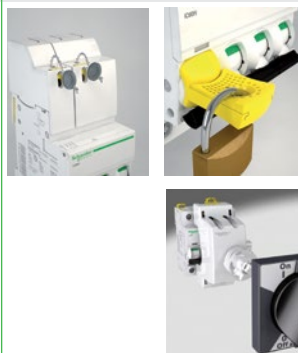
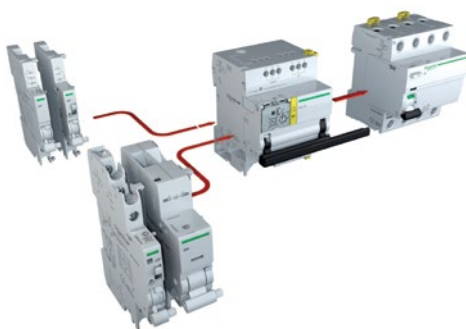
C

Residual current circuit breakers	iID
RCD Type	Asi, A, AC, B
Type	2P, 4P
Rating (A)	16 to 125
Standards	IEC/EN 61008-1
Sensitivity (mA)	10, 30, 100, 300, 300 Δ , 500, 500 Δ



D

Electrical auxiliaries and mounting accessories	
Combined iOF, iSD, iMN, iMX and iMSU electrical auxiliaries between iC60 circuit breakers and iID residual current circuit breakers, automatic recloser (ARA) and remote control auxiliaries (RCA)	Terminal shields, interpole barrier, screw shields, padlocking device, clip-on terminal markers and rotary handle



E

F

G

Surge arresters type 2 or 3	iPF, iPRD
Type	1P, 1P+N, 2P, 3P, 3P+N, 4P
I max (kA)	8, 20, 40, 65
Standards	IEC 61643-1, IEC 61643-11
Degree of protection	IP20/IP40



H

Integrated remote control MCBs	Reflex, iC60H
Curves	B, C, D
Type	2P, 3P, 4P
Rating (A)	10, 16, 25, 40
Standards	IEC 60947-2
Electrical endurance	30 000 cycles (AC1) 6,000 cycles (AC5 a/b) 50 000 cycles (AC21)



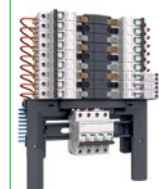
Control	iCT	iTL	iPB	iSSW	iIL	iEN, iEM
Function	Contactors	Impulse Relays	Push-buttons	Switches	Indicator Lights	Kilowatt hour meters
Type	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P	- Single - Double - Single + indicator light	1P, 2P, 3P, 4P	- Single - Double - Flashing light - Voltage presence	- Single phase - Three phases - Three phases - Neutral
Rating (A)	16, 25, 40, 63, 100	16 & 32	20	20 to 125	-	40 to 6000



Lighting, time and energy management	MIN	IH, IHP, ITM	IC	TH, THP	CDS
	Silent electronic and electromechanical timers	Programmable and mechanical time switches	Standard and programmable twilight switches	Standard and weekly programmable thermostats	Single and three-phase load-shedders



Installation and wiring	Multiclip™ splitter block	Acti9 Smartlink	Isobar
Rating (A)	80	-	250
Degree of protection	IP20	IP20	IP31



Technical characteristics

iC60H circuit breakers (curve B, C, D)

Protection - Circuit protection



BS/EN 60947-2

BS/EN 60898-1

- iC60H circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) according to IEC/EN 60947-2					Service breaking capacity (Ics)	
	Voltage (Ue)					
	Ph/Ph (2P, 3P, 4P)	12 to 133 V	220 to 240 V	380 to 415 V		440 V
	Ph/N (1P)	12 to 60 V	100 to 133 V	220 to 240 V		-
Rating (In)	1 to 4 A	70 kA	70 kA	70 kA	50 kA	100 % of Icu
	6 to 40 A	42 kA	30 kA	15 kA	10 kA	50 % of Icu
	50/63 A	42 kA	-	15 kA	10 kA	50 % of Icu

Breaking capacity (Icn) according to IEC/EN 60898-1

Voltage (Ue)	
Ph/Ph	400 V
Ph/N	230 V
Rating (In)	1 to 63 A
	10000 A

Direct current (DC)

Breaking capacity (Icu) according to IEC/EN 60947-2						Service breaking capacity (Ics)
	Voltage (Ue)					
Between ±	12 to 48 V 72 V		100 to 133 V		220 to 250 V	
Number of poles	1P		2P (in series)	3P (in series)	4P (in series)	
Rating (In) 1 to 63 A	20 kA	10 kA	10 kA	20 kA	10 kA	100 % of Icu

■ Insulated terminals IP20

Visi-trip window

- Fault tripping is indicated by a red mechanical indicator on the front face

■ Large circuit labelling area

Positive contact indication

- Suitable for industrial isolation according to IEC/EN 60947-2 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety

■ Double clip for dismounting with comb busbar in place

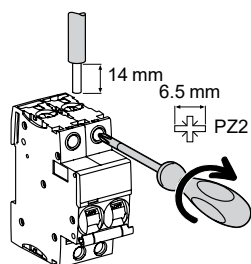
■ Insulated terminals IP20

- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

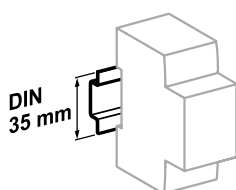
iC60H circuit breakers (curve B, C, D)

Protection - Circuit protection

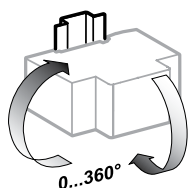
Connection



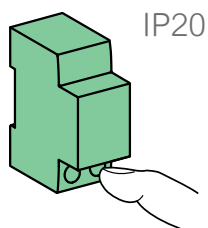
Rating	Tightening torque	Without accessory		With accessories			
		Copper cables		50 mm ² Al terminal	Screw-on connection for ring terminal	Multi-cables terminal	
		Rigid	Flexible or ferrule			Rigid cables	Flexible cables
1 to 25 A	2 N.m	1 to 25 mm ²	1 to 16 mm ²	-	Ø 5 mm	-	-
32 to 63 A	3.5 N.m	1 to 35 mm ²	1 to 25 mm ²	50 mm ²		3 x 16 mm ²	3 x 10 mm ²



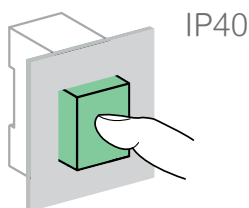
Clip on DIN rail 35 mm



Indifferent position of installation



IP20



IP40

Technical data

Main characteristics

According to IEC/EN 60947-2

Insulation voltage (Ui)	500 V AC
Pollution degree	3
Rated impulse withstand voltage (Uimp)	6 kV
Thermal tripping	Reference temperature
	50 °C
Magnetic tripping	B curve
	4 I _n ± 20 %
	C curve
	8 I _n ± 20 %
	D curve
	12 I _n ± 20 %
Utilization category	A

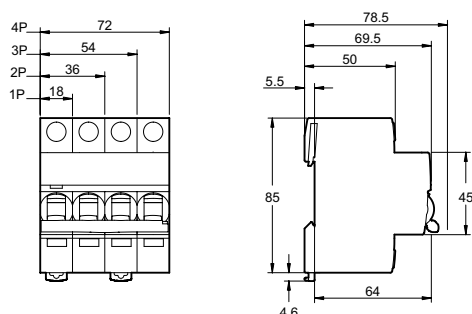
According to IEC/EN 60898-1

Limitation class	3
Rated making and breaking capacity of an individual pole (Icn1)	Icn1 = Icn

Additional characteristics

Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault)	40 A	4 kA
	50/63 A	3 kA
Degree of protection (IEC 60529)	Device only	IP20
	Device in modular enclosure	IP40
Endurance (O-C)	Electrical	10,000 cycles
	Mechanical	20,000 cycles
Overvoltage category (IEC 60364)		IV
Operating temperature		-35°C to +70°C
Storage temperature		-40°C to +85°C
Tropicalization (IEC 60068-1)		Treatment 2 (relative humidity 95 % to 55°C)

Dimensions (mm)



Weight (g)

Circuit-breaker

Type	iC60H
1P	125
2P	250
3P	375
4P	500

K60H Biconnect circuit breakers

Circuit protection



IEC/EN 60898-1

■ K60H Biconnect circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- disconnection, opening and closing.

K60H Biconnect circuit breaker 50/60 Hz

Breaking capacity in short circuit (I_{cn})
as per IEC/EN 60898-1

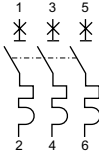
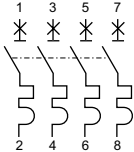
Service breaking
capacity (I_{cs})

Ph/Ph	400 V
Ph/N	230 V
Rating (I_n)	6 to 63 A
	10000 A

75 % of I_{cn}

Catalogue numbers

K60H Biconnect circuit breaker

Type	1P		2P		3P		4P	
								
Auxiliaries	Without auxiliaries		Without auxiliaries		Without auxiliaries		Without auxiliaries	
Rating (In)	Curve		Curve		Curve		Curve	
	B	C	B	C	B	C	B	C
6 A	A9K11106	A9K12106	A9K11206	A9K12206	A9K11306	A9K12306	A9K11406	A9K12406
10 A	A9K11110	A9K12110	A9K11210	A9K12210	A9K11310	A9K12310	A9K11410	A9K12410
16 A	A9K11116	A9K12116	A9K11216	A9K12216	A9K11316	A9K12316	A9K11416	A9K12416
20 A	A9K11120	A9K12120	A9K11220	A9K12220	A9K11320	A9K12320	A9K11420	A9K12420
32 A	A9K11132	A9K12132	A9K11232	A9K12232	A9K11332	A9K12332	A9K11432	A9K12432
40 A	A9K11140	A9K12140	A9K11240	A9K12240	A9K11340	A9K12340	A9K11440	A9K12440
50 A	A9K11150	A9K12150	A9K11250	A9K12250	A9K11350	A9K12350	A9K11450	A9K12450
63 A	A9K11163	A9K12163	A9K11263	A9K12263	A9K11363	A9K12363	A9K11463	A9K12463
Width in 9-mm modules	2		4		6		8	

K60 Biconnect circuit breakers

Circuit protection

- Reinforced cable pull-out strength: serrated terminals

- Fast closing independent of the speed of actuation of the toggle

**Padlocking device**

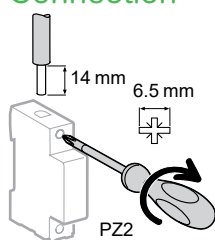
- Padlocking possible for work to be carried out on live parts

Connection

- Downstream by Biconnect comb busbar
- Upstream/downstream by tunnel terminals



Connection



Type	Rating	Tightening torque	Copper cables	
			Rigid	Flexible or with ferrule
K60 Biconnect	6 to 20 A	2 N.m		
	32 to 63 A	3.5 N.m	0.5 to 25 mm ² 0.5 to 35 mm ²	0.5 to 16 mm ² 0.5 to 25 mm ²

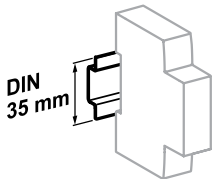
- Connection by comb busbar or cables (conforms to EN 50027).

Technical characteristics

K60 Biconnect circuit breakers

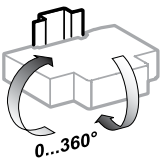
Circuit protection

A



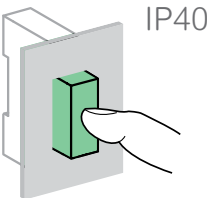
Clip on DIN rail 35 mm

B



Indifferent position of installation

C



D

E

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G

H

Technical data

Main characteristics		K60N	K60H
Insulation voltage (Ui)	Phase-to-phase	440 V AC	
Voltage rating (Ue)	Phase-to-neutral	230 V AC	
	Phase-to-phase	400 V AC	
Magnetic tripping	B curve	3 to 5 In	
	C curve	5 to 10 In	

According to EN 60898-1

Limitation class	3	
Rated breaking capacity (Icn)	6000 A	10000 A
Service breaking capacity (Ics)	100 % of Icn	75 % of Icn
Rated breaking and making capacity on a single pole (Icn1)	Icn1 = Icn	

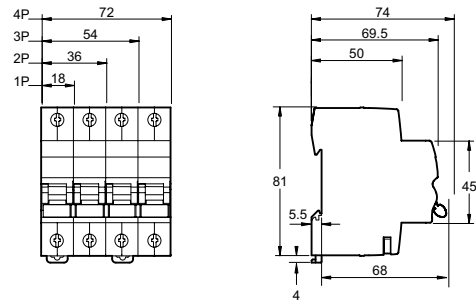
Additional characteristics

Degree of protection (IEC 60529)	Device in modular enclosure	IP40
Endurance (O-C)	Electrical	≤ 20 A ≥ 32 A
		20,000 cycles 10,000 cycles
	Mechanical	20,000 cycles
Operating temperature	-5°C to +55°C	
Storage temperature	-25°C to +85°C	
Tropicalization (IEC 60068-1)	Treatment 2 (relative humidity 95% at 55°C)	

Weight (g)

Circuit-breaker	
Type	K60 Biconnect
1P	120
2P	240
3P	360
4P	480

Dimensions (mm)



Innovation that protects:
Learn about
the technical information
of the Acti9 MCBs
range here



Scan or
click on
QR code

Offer

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

A

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PowerLogic PowerTag

A

Robust load-level energy monitoring

Think of PowerTag as a powerful enabler of energy usage analysis, monitoring, alarming and control capabilities close to final loads

B

The PowerTag system – wireless Energy Sensors, Control and Link devices – work together seamlessly to provide a refined, accurate view of how energy is used at every level, from the incoming circuit to the final electrical load.

C

PowerTag combines the experience and power of Schneider Electric's world-class solutions and is a key innovation within our EcoStruxure™ platform, our IoT-enabled power management solutions that enhance connectivity, real-time operational reliability and smart analytics.

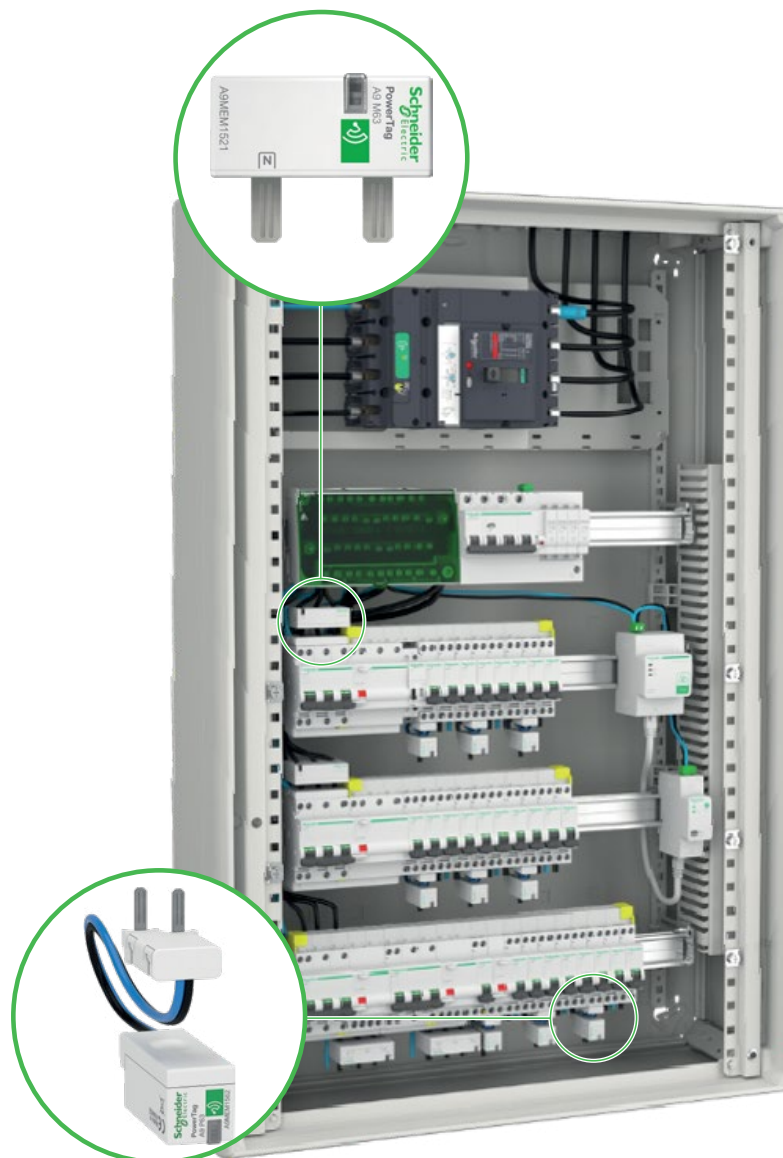
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One simple system, one major innovation

Use energy more efficiently and economically with the PowerTag system on all electrical loads, from heavy and critical equipment to smaller circuits. With alerts, alarming and cost allocation capabilities, PowerTag also helps improve your operational efficiency, reduce risk of downtime and provide complete peace of mind.

No additional space in the panel: the smallest energy sensor available today, PowerTag is an industry-leading innovation and the only energy sensor that can be tagged to the breaker.

Ease of installation: the only wireless energy sensor available today, PowerTag greatly reduces installation time by up to 90% – and with no need to add communication cables.

Modular and adaptable: perfectly suited to adapt to changing business needs, energy regulations or certifications, retrofit applications, and competitor devices.

Advanced connectivity: an innovation to enable our EcoStruxure™ solutions.

Monitor and secure your electrical assets

PowerTag system delivers reliable wireless communication inside the electrical panel, fully tested for electromagnetic compatibility (EMC).

It assists your ISO 50001 goals and supports your energy efficiency or carbon footprint reduction targets.

The PowerTag system lets facility managers monitor energy consumption at the load. This level of detail provides the data required to understand energy use and make decisions based on that data. Monitoring at the load also improves visibility into facility energy demands. Combined with a power monitoring system like EcoStruxure™ Power Monitoring Expert, this data can be used to profile energy demands of specific systems to detect inefficiencies or areas for improvement.



PowerLogic PowerTag

Discover the PowerTag System

PowerTag Energy 63 A



PowerTag Energy fits directly on the protective device with no impact on switchboard size. Voltage and current are measured at the same point of the circuit. "Tag" the head of groups to monitor energy use (lighting, sockets, etc.), or tag terminal devices to monitor critical loads like IT, HVAC or cold room to help ensure continuity of service and energy consumption.

Values measured in accordance with the IEC 61557-12 standard:

Energy

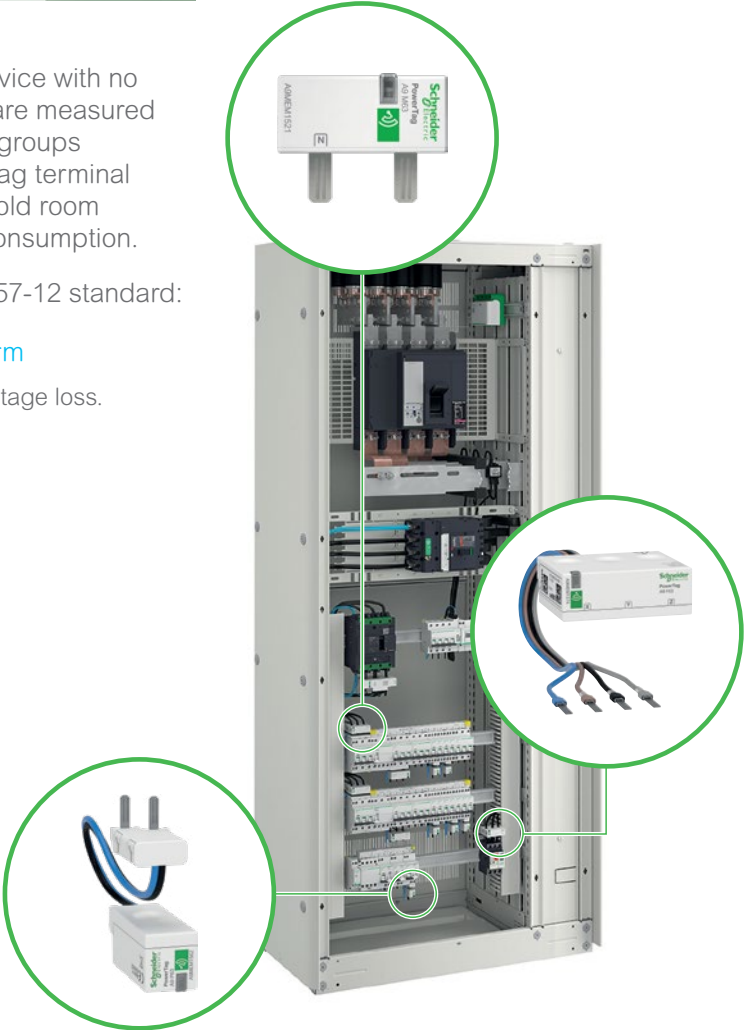
- Active energy received/delivered (Class 1), total and partial (kWh).

Real Time

- Phase-to-neutral and phase-to-phase voltage (V)
- Current per phase (A)
- Power factor
- Active power, total and per phase (W)
- Apparent power total (VA).

Alarm

- Voltage loss.



PowerLogic PowerTag

Discover the PowerTag System

PowerTag Control

A scalable, compact design for all segments, a perfect solution for retrofit or new panels

PowerTag Control monitors circuits wirelessly, collecting status of daisy-chained circuit breakers and notifying the data concentrator of information status, such as OF, SD, Contractor or Impulse Relay position indication.

These wireless input/output modules allow circuit control and status monitoring. Designed for use in commercial and building applications, they quickly and easily turn your distribution board into a connected panel.

PowerTag Control also connects to pulse relays or contactors for remote control within a building management system for non-critical loads, such as lighting.

PowerTag Link

PowerTag Link is an Ethernet-connected concentrator (Modbus TCP/IP) for wireless devices on EcoStruxure platforms. When integrated with PowerTag Energy sensors, it can manage alarms via email for terminal loads and accurately measure energy, power, current and voltage in real time. The entire system is designed to install easily in new and existing switchboards using any type of circuit breakers.

Concentrating data from wireless devices permits load monitoring, alarm management (including pre-alarms on predefined thresholds). Data and alarms can be displayed thanks to embedded web pages or a wireless display. The wireless display is a cost effective HMI to let local operator access to the data and critical alarms from maximum 20 wireless devices.



> PowerTag Link provides one single Ethernet access point for your entire switchboard.

General overview

PowerLogic PowerTag

Discover the PowerTag System

A

For Commercial Buildings

- Energy metering close to final loads
- Compliance with local standards
- ISO50001 certification
- Energy cost allocation
- Energy zone and usage analysis.
- Load monitoring
- Status of sensitive loads
- Abnormal electrical situations.
- Configurable alarms.

PowerTag empowers simple, efficient monitoring that optimizes energy consumption, enables preventive maintenance and improves electrical system operations. It's perfect for commercial malls, office buildings and even multi-residential sites.



B

C

For Power Critical Facilities

The main goal for any critical facility or process is to keep the power on. PowerTag offers 24/7 access to real-time information, threshold notifications and alarms to put you ahead of any power issues. PowerTag also gives you the ability to expand as your business needs change, as regulations require or as your need for digital intelligence grows.



D

E

For Data Centers

PowerTag improves availability and anticipates and reduces downtime with pre-alarm and live-disconnection capabilities. Reports help enable and support energy efficiency initiatives.

- Optimize your server rooms
 - Meet connectivity needs - energy management, alarm notifications, real-time monitoring at rack server level
 - More space for IT servers - up to 30% footprint reduction compared to PDU with traditional metering features
 - Seamless design - no need to alter work processes, just add to architectures
 - Fast, simple scalability - best-in-class live, disconnectable tap-off units with wireless metering features
 - Optimize TCO - wireless, compact features enable cost savings, faster configuration and supervision integration.
- Robust, well-managed installations
 - Fast and simple - plug & play wireless sensors fit perfectly onto circuit breakers
 - Reduced commissioning time - from configuration to supervision system integration.



F

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H

IEC 61557-12 PMD/DD/K55/1

PowerTags are energy sensor modules for 1P, 1P+N, 3P and 3P+N networks. They are mounted directly on equipment of the Acti9 or Multi9 range at intervals of 18 mm up to 63 A.



Functions

Combined with Acti9 Smartlink SI B (Ethernet) or Acti9 Smartlink SI D (Ethernet) by radio-frequency communication, PowerTag sensors measure the following values in accordance with the IEC 61557-12 standard

- Cumulative active energy, total and partial (kWh).
- Rms values:
 - phase-to-neutral and phase-to-phase voltages (V),
 - currents per phase (A),
 - total active power and active power per phase (W),
 - power factor.

Installed upstream or downstream of a protective device, they measure useful data for diagnosis of the associated circuit.

Configuration

- Recognition of the device in the Acti9 Smart Test configuration software: the product flashes in the switchboard during configuration for easy recognition.
- Addition of context-related information to Acti9 Smart Test (name of the load, energy usage, single-line circuit label).
- Partial energy counter can be reset or preset to a special value via the software.

Integration in Acti9 Smartlink

- Use of a wireless concentrator to report data:
 - Acti9 Smartlink SI B (Ethernet) for a complete metering, monitoring and control solution,
 - Acti9 Smartlink SI D (Ethernet) for a metering and monitoring solution only.
- Native display, in Smartlink's embedded web pages, of the quantities measured by the PowerTag sensors.
- Load monitoring
 - alarm sent by the sensor in the event of a voltage loss,
 - pre-alarm on predefined thresholds (50 %, 80 %) or customized thresholds (thresholds on currents, power, voltages and cumulative energies).
- Alarm management on current/voltage/load level thresholds by e-mail.
- Display of alarms and pre-alarm on Smartlink embedded web pages.
- Easy integration into system with Com'X200, Com'X 510 and other Schneider Electric software and third-party Building Management Systems (BMS's) thanks to the Acti9 Smart Test report in Excel format. This report provides dynamically all the Modbus registers, including bits and meanings associated, for an easy integration into the software.
- Remote metering possible using the Smartlink monitoring page.

Test software: Acti9 Smart Test

- Electrical continuity test (cabling of connected devices).
- Communication Testing of wired, wireless devices, analog and Modbus devices.
- Editing of a complete test report (Excel, pdf) with the Modbus communication registers for easy integration into a supervision system.
- Windows XP, Windows 7, Windows 8 and Windows 10 compatible.
- Downloadable from: se.com.

DB405140



Supervision and switchboard control

PowerTag

www.se.com

Metering, monitoring and control

Acti9 Smartlink SI B (Ethernet)

Embedded web pages

- Monitoring display
- Alarm management and display
- E-mail sending

Integrated Modbus gateway

Channels for monitoring/control

- Contactors, OF/SD devices, analog sensors

Compatible products

"Single terminal" circuit breakers and switches at intervals of 18 mm, ratings less than or equal to 63 A:

- Acti 9 : iC60/iID/iID K/iSW (< 63 A)/iSW-NA/Reflex iC60/iK60/i65N-K
- Multi9 : C32/C45/C60/K60/ID/iSW/I-NA
- DT60

See catalogue module CA908058

PowerTag

- Radio frequency communication
- Up to 20 sensors connected

Metering and monitoring only

Acti9 Smartlink SI D (Ethernet)

Embedded web pages

- Monitoring display
- Alarm management and display
- E-mail sending

PowerTag

- Radio frequency communication
- Up to 20 sensors connected

- Installation on DIN rail
- 230 V AC power supply

Compatible products

"Single terminal" circuit breakers and switches at intervals of 18 mm, ratings less than or equal to 63 A:

- Acti 9 : iC60/iID/iID K/iSW (< 63 A)/iSW-NA/Reflex iC60/iK60/i65N-K
- Multi9 : C32/C45/C60/K60/ID/iSW/I-NA
- DT60

See catalogue module CA908058



Technical characteristics

Main characteristics

Rated voltage	Un	Phase-to-neutral	230 V AC ± 20 %
		Phase-to-phase	400 V AC ± 20 %
Frequency			50/60 Hz
Maximum operating current	I _{max}		63 A
Saturation current			130 A
Maximum consumption			≤ 2 VA
Starting current	I _{st}		40 mA
Base current	I _b		10 A

Additional characteristics

Operating temperature			-25°C to +60°C
Storage temperature			-40°C to +85°C
Overvoltage category	As per IEC 61010-1	Cat. III	
Measuring category	As per IEC 61010-2-30	Cat. III	
Pollution degree			3
Altitude			$\leq$ 2000 m
Degree of protection	Device only		IP20
	IK		05

Radio-frequency communication

ISM band 2.4 GHz			2.4 GHz to 2.4835 GHz
Channels	As per IEEE 802.15.4	11 to 26	
Isotropic Radiated Power	Equivalent (EIRP)	0 dBm	
Maximum transmission time			< 5 ms
Channel occupancy	For 1 device	Messages sent every 5 seconds	

Characteristics of measuring functions

Function		Performance category as per IEC 61557-12	
Active power	P	1	9 W to 63 kW
Active energy	Ea	1	Total and partial 0 to 99999999.9 kWh
Current	I	1	2 A to 63 A
Voltage	U	0.5	Un $\pm$ 20 %
Power factor	PFA	1	0 to 1

PowerLogic PowerTag

Selection guide for product compatibility^[*]

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A



Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
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Acti9/Multi9

Circuit breakers

iC60/iK60/DT60	Top	✓	-	-	-
	Bottom	✓	-	-	-
iC60 (double terminal)	Top	-	-	-	✓
	Bottom	-	-	-	✓
iC40	Top	-	✓	-	-
	Bottom	-	✓	-	-
DT40/iDPN/C40	Top	-	✓	-	-
	Bottom	-	✓	-	-
C120 ≤ 63 A NG125 ≤ 63 A	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]
iC65N-K (China) iC65 (China)	Top	✓	-	-	-
	Bottom	✓	-	-	-
iDPN (China)	Top	-	✓	-	-
	Bottom	-	✓	-	-
iKQ (1P+W PowerTag on each pole)	Top	NA	-	-	-
	Bottom	✓ (1P+W only)	-	-	-
N40	Top	-	✓	-	-
	Bottom	-	✓	-	-
Reflex iC60	Top	✓	-	-	-
	Bottom	✓	-	-	-
Reflex XC40	Top	✓	-	-	-
	Bottom	-	-	-	✓ ^[1]
C32/C45/C60/C65/K60/T60/ C60-OEM	Top	✓	-	-	-
	Bottom	✓	-	-	-

Circuit breakers equipped with Vigi module

iC60/iC65/iC60/iC65N-K with Vigi module	Top	✓ (CB)	-	-	-
	Bottom	-	-	-	✓ ^[1] (Vigi)
iC40 with Vigi iCG40	Top CB	-	✓ (CB)	-	-
	Top (Vigi)	-	✓ ^[2] (Vigi 1P+N)	-	-
	Bottom (Vigi)	-	-	-	✓ (Vigi 3P+N)
iC40 with "outgoer" Vigi module	Top	-	✓ (CB)	-	-
	Bottom	-	-	-	✓ (Vigi)
DT40/DPN/C40 with "group feeder" Vigi module	Top CB	-	✓ (CB)	-	-
	Top Vigi	-	✓ (Vigi 1P+N)	-	✓ (Vigi 3P+N)
DT40/DPN/C40 with "outgoer" Vigi module	Top	-	✓ (CB)	-	-
	Bottom	-	-	-	✓ (Vigi)
DT60 with Vigi TG60	Top CB	✓ (CB) only A9MEM1541	-	-	-
	Top Vigi	-	-	-	✓ ^[1] (Vigi)

^[1] You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm²) for a more suitable connection to this product.

^[2] Product usually associated with a comb busbar.

^[*] Refer to the product catalogue for technical characteristics.

PowerLogic PowerTag

Selection guide for product compatibility^[*]

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A



Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
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Acti9/Multi9

Residual current devices

iID/iID K	Top	✓	-	-	-
	Bottom	✓	-	-	-
iID (double terminal)	Top	-	-	-	✓
	Bottom	-	-	-	✓
iID40	Top	-	✓ ^[2] (1P+N)	-	✓ ^[2] (3P+N)
	Bottom	✓	-	-	-
iDPN Vigi "outgoer" 1P+N	Top	-	✓	-	-
	Bottom	-	✓	-	-
iC60H RCBO/iC60H2 RCBO/ iKQE RCBO	Top	NA (fishbone)	-	-	-
	Bottom	-	-	✓	-
iC60 RCBO	Top	✓	-	-	-
	Bottom	✓	-	-	-
iCV40 "outgoer" 1P+N	Top	-	✓	-	-
	Bottom	-	✓	-	-
iCV40 "outgoer" 3P+N	Top	-	✓	-	-
	Bottom	-	-	-	✓
DPN Vigi/DT40 Vigi/C40 Vigi "outgoer" 1P+N	Top	-	✓	-	-
	Bottom	-	✓	-	-
DPN Vigi/DT40 Vigi/C40 Vigi/ iDPN Vigi "outgoer" 3P+N	Top	-	✓	-	-
	Bottom	-	-	-	✓
DPN Vigi K	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]
N40 Vigi "outgoer"	Top	-	✓	-	-
	Bottom	-	✓	-	-
iDc/ITG40/C40	Top Left	-	✓	-	-
	Top Right	-	✓	-	-
DCP Vigi	Top	✓	-	-	-
	Bottom	✓	-	-	-
C60H RCBO (Multi9)	Top	NA (fishbone)	-	-	-
	Bottom	-	-	✓	-
ID ≤ 63 A/iD K biconnect/ ID Type B ≤ 63 A	Top	✓	-	-	-
	Bottom	✓	-	-	-
RED/REDs/REDTest	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]

[1] You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm²) for a more suitable connection to this product.

[2] Product usually associated with a comb busbar.

[*] Refer to the product catalogue for technical characteristics.

PowerLogic PowerTag

Selection guide for product compatibility^[*]

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A



Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
-----------------------	-------------------	--------	--------	-------------	--------

Acti9/Multi9

Switches

iSW ≤ 63 A	Top	✓	-	-	-
	Bottom	✓	-	-	-
iSW-NA ≤ 63 A	Top	✓	-	-	-
	Bottom	✓	-	-	-
iSW 20/32 A	Top	-	-	-	✓
	Bottom	-	-	-	✓
i-NA ≤ 63 A	Top	✓	-	-	-
	Bottom	✓	-	-	-
NG125 NA ≤ 63 A	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]

Fuse disconnectors

ST1	Top	-	✓	-	-
	Bottom	-	✓	-	-
SBI 14x51/SBI 22x58 ≤ 63 A	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]
D01/D02	Top	-	-	-	✓ ^[1]
	Bottom	-	-	-	✓ ^[1]

TeSys

Motor circuit breakers

GV2	Top	-	-	-	✓ ^[1] [2]
	Bottom	-	-	-	✓ ^[1] [2]
GV3 ≤ 63 A	Top	-	-	-	✓ ^[1] [2]
	Bottom	-	-	-	✓ ^[1] [2]

Contactors

LC1D ≤ 63 A	Top	-	-	-	✓ Upstream only ^[1]
	Bottom	-	-	-	

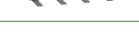
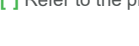
^[1] You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm²) for a more suitable connection to this product.

^[2] PowerTag Energy sensors withstand motor starting in-rush currents. Environmental mission profile: buildings as per 60721-3-3.

^[*] Refer to the product catalogue for technical characteristics.

PowerLogic PowerTag

Selection guide for concentrators / gateways compatibility^[*]

Concentrators / gateways						
						
Acti9 PowerTag Link C A9XELC10	Acti9 Smartlink SI B A9XMZA08	Acti9 Smartlink SI D A9XMWA20	Acti9 PowerTag Link A9XMWD20	Acti9 PowerTag Link HD A9XMWD100	Harmony Hub ZBRN1 & ZBRN2	
PowerTag Energy M63						
	A9MEM1520 ☒	☒	☒	☒	☒	-
	A9MEM1521 ☒	☒	☒	☒	☒	-
	A9MEM1522 ☒	☒	☒	☒	☒	-
	A9MEM1540 ☒	☒	☒	☒	☒	-
	A9MEM1541 ☒	☒	☒	☒	☒	-
	A9MEM1542 ☒	☒	☒	☒	☒	-
	A9MEM1543 ☒	-	-	☒	☒	-
PowerTag Energy P63						
	A9MEM1561 ☒	☒	☒	☒	☒	-
	A9MEM1562 ☒	☒	☒	☒	☒	-
	A9MEM1563 ☒	☒	☒	☒	☒	-
	A9MEM1571 ☒	☒	☒	☒	☒	-
	A9MEM1572 ☒	☒	☒	☒	☒	-
PowerTag Energy F63						
	A9MEM1560 ☒	☒	☒	☒	☒	☒
	A9MEM1564 -	-	-	☒	☒	-
	A9MEM1570 ☒	☒	☒	☒	☒	☒
	A9MEM1573 -	-	-	☒	☒	☒
	A9MEM1574 -	-	-	☒	☒	-

[*] Refer to the product catalogue for technical characteristics.



Innovation that protects:
Learn about
the technical information
of the PowerTag
range here



Offer



Selection guide

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

A

Affordable switchgear you can depend on

A complete range of modular devices

B

Just what you want from switchgear

We work closely and constantly with electricians worldwide, helping to bring safe electricity to homes and small buildings around the globe. Now you can take pride in delivering to your customers the enhanced safety and peace of mind they deserve.

C

Robust switchgear from a brand you trust

Easy9 range better supports your business, helping you to be more effective through:

- a high-quality, user-friendly design
- availability when and where you look for it
- high reliability at a price you can afford.

D

Easy9 switchgear provides long-lasting protection

Easy9 brings you the quality, peace of mind, and reliability of a high-end device at a mid-range price. Thanks to consistent design and high manufacturing standards, Easy9 is a durable range you can be proud to install.

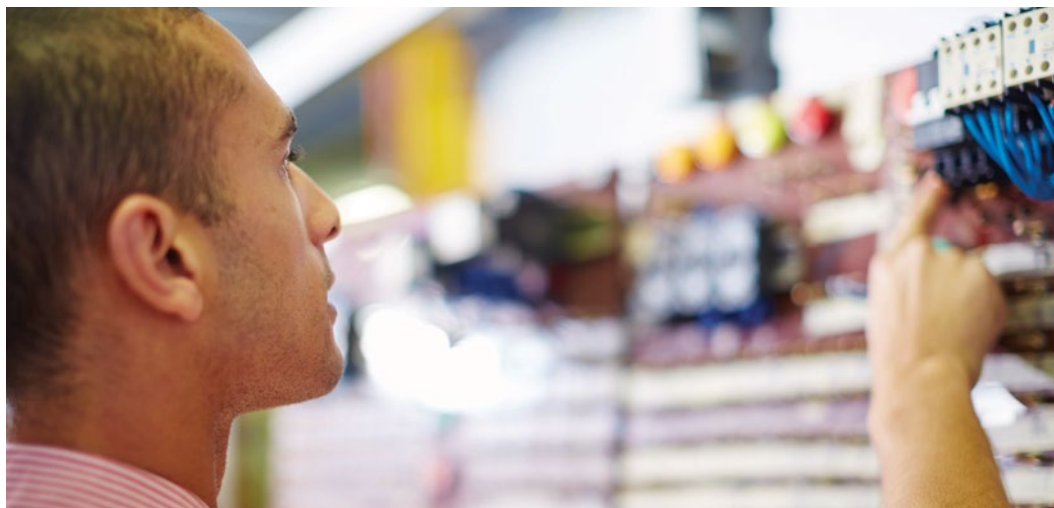
E

- Guaranteed compliance to product standards
- Certification by independent authorities.

F

G

H



Since
1920

Leader in electrical
switchgear



Quality

- 100% designed and manufactured by Schneider Electric
- All sites with ISO 9000 certification
- Brand selected everywhere for industry, hospitals, airports.



Availability

- Always on the shelf at your dealer's
- Complete coverage of protection features
- Large assortment of ratings.



Customer satisfaction

- Highly reliable and safe switchboards
- Dependable power supply.



Safety

- Protection from electric shocks, overloads, short circuits, and power surges
- Compliance to standards set by state authorities.



Time saving

- Consistent design and connection features
- One-stop shopping for all parts
- Proven robustness to withstand wear and tear.



A

B

C

D

E

F

G

H

Technical characteristics

Easy9

Miniature circuit breaker

4500 A - C Curve

A



1P
Width in 9-mm modules: 2

B

Easy9 circuit breakers combine the following functions:

Circuit protection against short-circuit currents.

Circuit protection against overload currents.

Fault tripping indication on the front panel by the position of the handle

C



2P
Width in 9-mm modules: 4

D

Rating (In):

- 6 A,
- 10 A,
- 16 A,
- 20 A,
- 25 A,
- 32 A,
- 40 A,
- 50 A,
- 63 A.

E



3P
Width in 9-mm modules: 6

F



4P
Width in 9-mm modules: 8

G

H

Connection		Tightening torque
Rigid copper cables		
6 to 32 A	1 to 25 mm ²	2 N.m
40 to 63 A	1 to 35 mm ²	3.5 N.m
Flexible copper cables		
6 to 32 A	1 to 16 mm ²	2 N.m
40 to 63 A	1 to 25 mm ²	3.5 N.m

Certified compliant IEC/EN 60898-1

Additional feature		
According to IEC/EN 60898-1		
Breaking capacity (Icn)		
Ph/N	230 V AC	4500 A
Ph/Ph	400 V AC	4500 A
Additional characteristics		
Endurance (O-C)	Electrical	4,000 cycles
	Mechanical	10,000 cycles
Hazardous substances		EU RoHS compliant
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +85°C

Easy9

Miniature circuit breaker

6000 A - B & C Curves



1P
Width in 9-mm modules: 2



2P
Width in 9-mm modules: 4



3P
Width in 9-mm modules: 6



4P
Width in 9-mm modules: 8

Rating (In):

- 6 A,
- 10 A,
- 16 A,
- 20 A,
- 25 A,
- 32 A,
- 40 A,
- 50 A,
- 63 A.

Connection		Tightening torque
Rigid copper cables		
6 to 32 A	1 to 25 mm ²	2 N.m
40 to 63 A	1 to 35 mm ²	3.5 N.m
Flexible copper cables		
6 to 32 A	1 to 16 mm ²	2 N.m
40 to 63 A	1 to 25 mm ²	3.5 N.m

Certified compliant IEC/EN 60898-1

Additional feature

According to IEC/EN 60898-1

Breaking capacity (Icn)		
Ph/N	230 V AC	6000 A
Ph/Ph	400 V AC	6000 A

Additional characteristics

Endurance (O-C)	Electrical	4,000 cycles
	Mechanical	10,000 cycles
Hazardous substances		EU RoHS compliant
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +85°C



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the technical information
of the Easy9 range here



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Motor Management



TeSys

General overview D-134



EasyPact TVS

General overview D-138

Functions and characteristics D-144

D



Start smart. Run smart. With TeSys motor controls

Stay smart with the world's best-selling motor control solutions from the inventor of the world's first contactor - Schneider Electric™

For almost a century, TeSys motor controls have driven the industry with innovations in motor protection, monitoring, and control

We work closely and constantly with electricians worldwide, helping to bring safe electricity to homes and small buildings around the globe. Now you can take pride in delivering to your customers the enhanced safety and peace of mind they deserve.

Schneider Electric, the leader in motor control solutions

Our comprehensive range of TeSys solutions makes us a single-source provider of motor controls, allowing OEMs to increase machine efficiency while meeting their customers' demands for greater machine productivity, reduced machine downtime, and improved maintenance decision-making.

You can trust TeSys contactors, circuit breakers, relays, and switches for unmatched reliability and complete compatibility with international standards.

You can count on Schneider Electric to provide robust support for all your motor control needs.

Stay smart

Our TeSys GV solution was introduced in the 1980s.

With an integrated short circuit and extended protection against thermal overload and phase loss, TeSys GV provides consistent performance, enhanced safety and uptime, cost savings, and greater functionality.

In addition, TeSys GV combines with the biggest-selling contactor in the world, the TeSys D range, to offer a complete motor control solution for everything from simple machines to complex motor control centers.

Recent game-changing products from Schneider Electric include TeSys island, a ground breaking digital multifunctional load management solution, designed to switch, protect, and manage motors and other electrical loads up to 80 Amps.

TeSys D Green contactors, a more sustainable and efficient than electro-mechanical contactors, thanks to an innovative electronic coil that reduces energy use by as much as 80 percent when the contactor is sealed.

The new TeSys GV4 marks another breakthrough, combining the simplicity of standard motor controls with the advanced protection of intelligent, digital designs.

Learn how these offers and the entire TeSys range allow you to commission quicker and install more efficiently while providing your customers with a modern digital offer.

Give your operations an edge by turning to Schneider Electric, the leader in motor control solutions for nearly a century.



TeSys

Superior safety for all industries

TeSys motor controls come with all of the isolation, protection and emergency handling you need to comply with international codes. High-contrast covers identify safety-critical devices to prevent inadvertent manual operation.

Every TeSys contactor is both mechanically linked and equipped with mirror contacts for safety applications and wherever auxiliary contact state reliability is critical.



HVAC

Ensure 24/7 availability of your HVAC system with reliable products that can reach high ambient temperatures without derating.



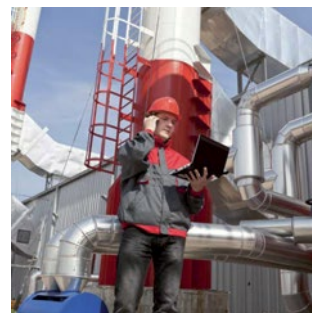
Conveying

Decentralize the control cabinet of your conveyor line and benefit from up to 80% space reduction.



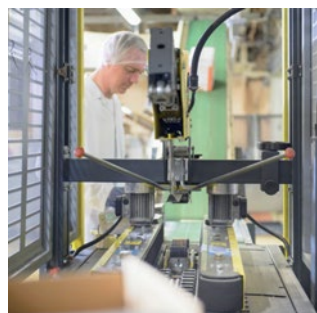
Genset

Make certain your generator starts even in the harshest conditions with robust TeSys solutions.



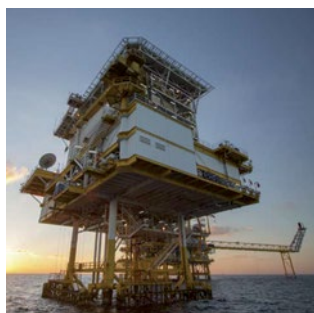
Pumping

Optimize single or multi-drive boosters for industry or infrastructure with energy and cost-effective solutions.



Packaging

Keep pace with the most demanding, high-end packing applications with solutions that can perform 30 million AC53a electrical cycles, like TeSys H.



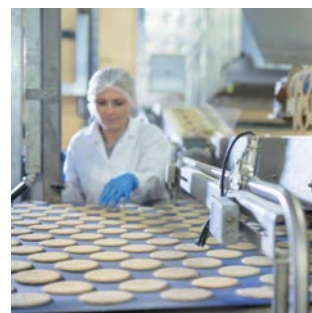
Oil and Gas

Keep your employees and assets safe and improve uptime in onshore and offshore applications: pipeline operations; LNG and natural gas processing; and refining and petrochemical applications.



Water and Wastewater

Optimize the treatment and delivery of safer water by reducing energy usage and lowering operating costs.



Food and Beverage

Serve your customers with environmentally friendly products to improve sustainability, efficiency, and flexibility, allowing you to adapt to changing customer habits.



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A

B

C

D

E

F

G

H

A

B

C

D



Part of **Easy** series
Designed for the essential
Motor starters from 6 to 630 A

E

F

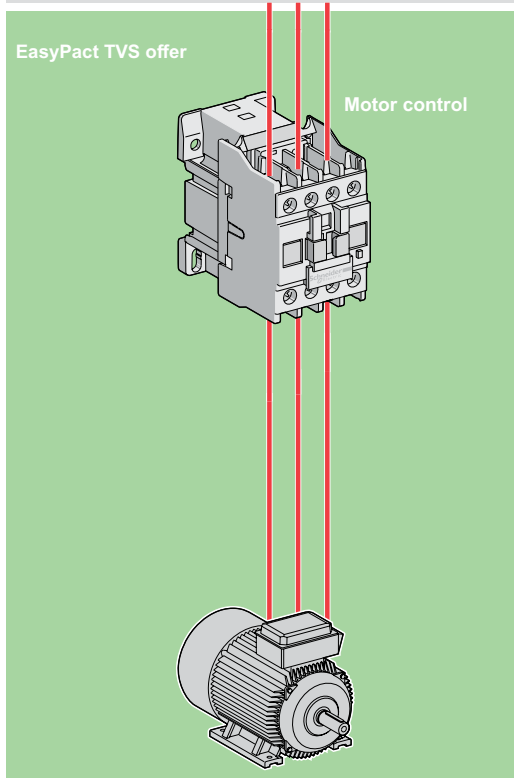
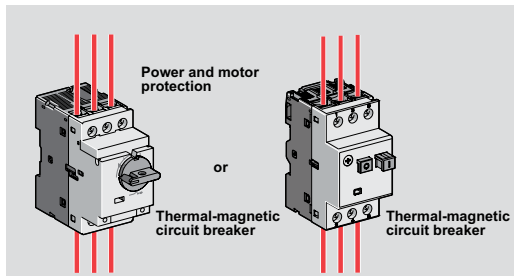
G

H

2 principles to build your starter solution

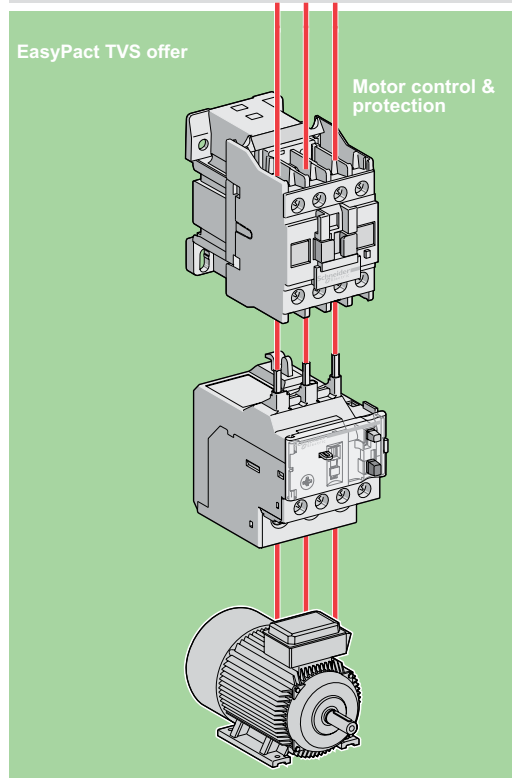
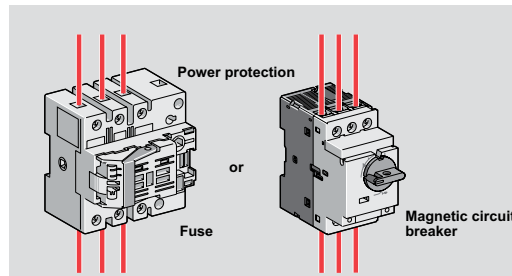
2-components solution

(Thermal-magnetic circuit breaker + Contactor)



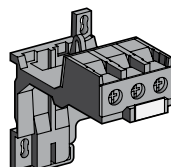
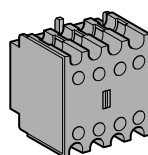
3-components solution

(Magnetic circuit breaker or fuse + Contactor + TOR)



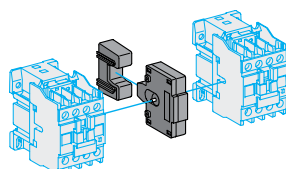
To build the essential solutions in an easy and simple way

Control

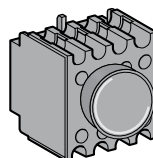


Terminal block

Reverser starter



Star-Delta solution



A

EasyPact TVS range

Comprehensive, simple, and capable motor starter solutions

EasyPact™ TVS provides all the performance, reliability, and cost-effectiveness required to meet the majority of LV motor starter needs.

B

Precision engineered to deliver the optimal set of capabilities, EasyPact TVS is a value-leader and ideal choice for AC1 and AC3 applications in HVAC, textile, material handling, and manufacturing environments, to name just a few.

Choose EasyPact TVS when you need to cover the broadest range of motor starting applications, simply, easily, and effectively.

C

Complete
range%

of motor starter solutions

D

80 years
of leadership in motor
starter technology

E

F



G

Part of the EasyPact family of protection and control solutions

The EasyPact TVS range of motor starters delivers the perfect balance of:

The performance you need

Application-optimized EasyPact TVS features answer 80% of your motor starting needs.

At a cost-effective investment

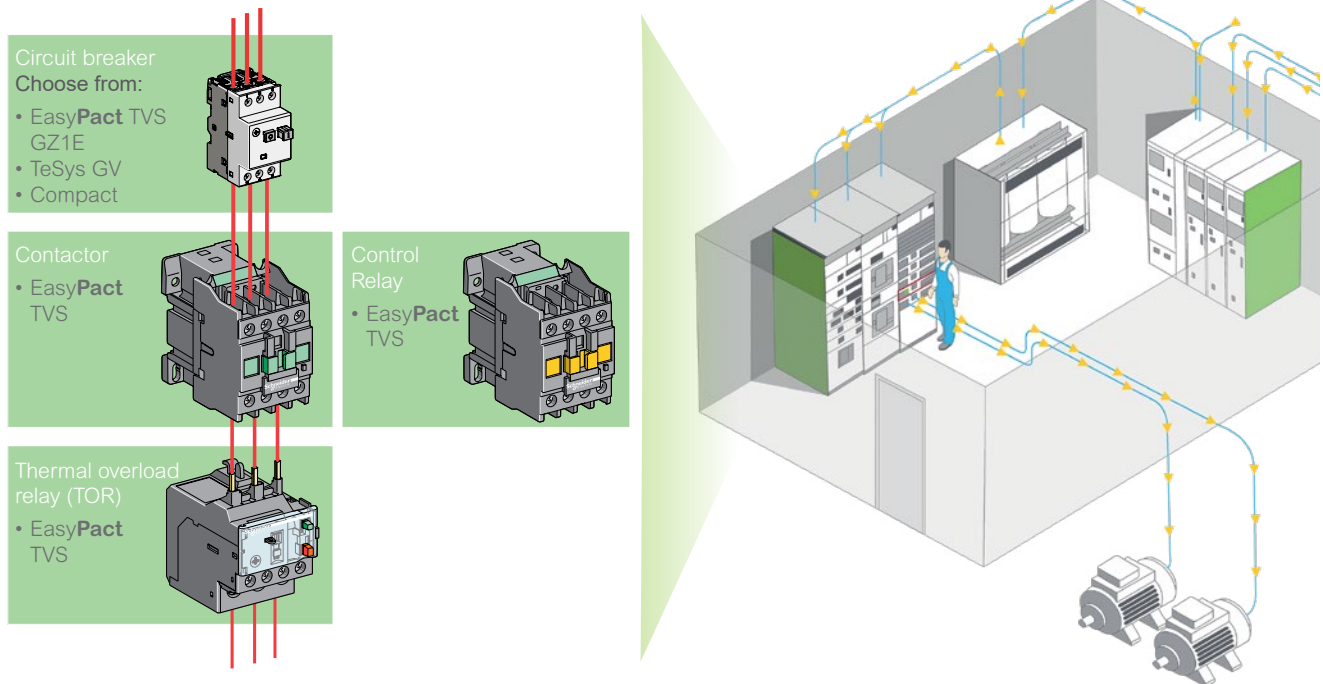
With simplicity of selection, purchasing, stocking, and installation designed into every unit, pay only for what you need and avoid specifying lower quality alternatives just to obtain excellent value.

With the quality you demand

Using advanced manufacturing methods and premium materials, EasyPact TVS delivers the Schneider Electric commitment to quality without compromise.

H

The performance you need



Four products to protect and control

Electric motors keep processes and facilities running, help enhance productivity and, when effectively controlled, keep costs in line.

EasyPact TVS solutions give you everything you need to control and protect motor loads in a wide variety of applications. Each essential component is compact while being quick and easy to install.

They combine seamlessly together to provide all of the essential functions for reliable control, with overload and short circuit protection.

80%

of common applications covered

Delivering the essential capabilities

Motor protection circuit breaker

- One size from 0.37 to 15 kW
- Width = 44.5 mm
- Icu breaking capacity up to 100 kA.

Thermal overload relay

- The complete range offers optional direct mounting under contactors
- Class 10 A.

Contactor

- Nine sizes from 6 to 630 A
- 2.2 kW to 335 kW (AC3 / 400 V)
- AC control
- Embedded auxiliary contacts.

Control relay

- Choose from three combinations of contact types: 2 NO / 2 NC, 3 NO / 1 NC, 4 NO / 0 NC.

A

A cost-effective investment

Optimized cost and maximum flexibility

In response to increasingly tight budgets in today's cost-conscious business environment, the EasyPact TVS range has been engineered with optimization in mind.

All components provide an optimum range of features, performance, and quality at their price point.

B



Extended flexibility

A maximum number of solutions are covered with an extended range of products, helping you reduce stocking requirements and simplify design.

9 sizes

cover common applications from 6 to 630 A

C

D



Introducing a motor protection circuit breaker that completes the EasyPact TVS range, making it one of the broadest choices of motor starter solutions in its class.

Easy ordering and stocking

An intuitive sales reference system ensures EasyPact TVS components are straightforward to understand, order, and stock.

E



Direct mounting of contactor and TOR reduces installation time and saves panel space.

Easy installation

EasyPact TVS components are easy to install in new panels or retrofit in existing motor control panels. Devices are designed for compatibility, which reduces the amount of cabling and time required, while enhancing reliability.

F

G

H

Key accessories for do-it-yourself solutions

Control

- Auxiliary contact block (LAEN).

Star Delta

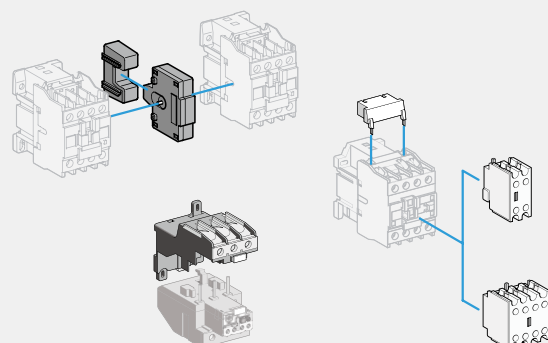
- Time delay auxiliary contact block (LAETSD).

Reversing starter

- Mechanical interlock (LAEM).

Terminal block

- Enables separate mounting of thermal overload relay (LAEB).



The quality you demand

The reliability and expertise you depend on

Being the Global Specialist in Energy Management™ means more than simply supplying industry-leading products, integrated solutions, and comprehensive services to customers around the world.

It also means leveraging our strong local presence and multidisciplinary expertise to ensure all your projects deliver more for less-on time and on budget.

Choose the leader

Schneider Electric leadership in energy management and power protection has resulted in an unparalleled portfolio of high quality products trusted for use in demanding applications.

All offers are easy to find and order, and you can count on our global network of skilled sales, engineering, and support professionals to help you be your most efficient.

An assurance of safety

The EasyPact TVS range conforms to the IEC 60947 standards, and all components are fully tested, approved, and certified by national, international, and third party organizations.

Proven quality

When you want exceptional quality and value in a motor starter, turn to Schneider Electric.

The EasyPact TVS range is manufactured from premium materials in ISO 9001 and ISO 14000 certified production plants.

Motor protection circuit breaker

The EasyPact TVS circuit breaker is design specifically for motor protection applications, offering simplicity in a single size combined with breaking capacity performance up to 100 kVA.

Control relay

Three types of EasyPact TVS control relays, with 4 normally open (NO) and normally closed (NC) contacts, support any requirement to interface EasyPact TVS contactors with manual control devices or automation equipment.

ISO9001
ISO14000

quality certified
manufacturing

100%

Commitment to quality



Functions and characteristics

EasyPact TVS contactors
3-pole contactors from 6 to 630 A

Size		1					2		3			
Rated operational current AC-3	A	6	9	12	18	25	32	38	40	50	65	
Rated operational current AC-1	A	20	25		32	36	50		60	70	80	
Rated operational power in AC-3	220/230 V	kW	1.1	2.2	3	4	5.5	7.5	9	11	15	18.5
	380/400 V		2.2	4	5.5	7.5	11	15	18.5	18.5	22	30
	415/440 V		2.2	4	5.5	9	11	15	18.5	22	25/30	37
	500 V		3	5.5	7.5	10	15	18.5	18.5	22	30	37
	660/690 V		3	5.5	7.5	10	15	18.5	18.5	30	33	37
Width	mm	45				45.5	56		75			
Coil rated operating voltage		24...440 V AC according to the coil voltage code (see below)										
Auxiliary built in contact		1 NO or 1 NC							1 NO + 1 NC			
References ^[1]		LC1E06	LC1E09	LC1E12	LC1E18	LC1E25	LC1E32	LC1E38	LC1E40	LC1E50	LC1E65	

[1] Partial.
Check the catalogue for complete references, see page 151.

Functions and characteristics

EasyPact TVS contactors

3-pole contactors from 6 to 630 A

									
4	5	6	7	8	9				
80	95	120	160	200	250	300	400	500	630
110	120	150	200	250	300	320	500	700	1000
22	25	37	45	55	75	90	110	147	185
37	45	55	75	90	132	160	200	250	335
45	45	59	80	100	140	160/185	220/250	280/295	375/400
45	55	75	90	110	160	200	257	355	400
45	45	80	100	110	160	220	280	335	450
85	120	168.5	213	213	233	309			
1 NO + 1 NC			-			-			
LC1E80	LC1E95	LC1E120	LC1E160	LC1E200	LC1E250	LC1E300	LC1E400	LC1E500	LC1E630

Common characteristics

- Contactors compatible with:



LAEN● auxiliary contact blocks.



LAETSD time delay auxiliary contact (from 25 A contactor).



LAERC●● RC switch suppressor (up to 95 A).



LAEM● mechanical interlock.



LAEP● set of power connections (up to 95 A).

Utilisation categories

- Class AC-1: AC loads with $\cos \phi$ at least equal to 0.95 (resistive load, heating, distribution, etc.)
- Class AC-3: squirrel-cage motors with breaking taking place with the motor running.

Functions and characteristics

EasyPact TVS contactors
4-pole contactors from 6 to 95 A

												
Size		1				2			3		4	
Rated operational current AC-3	A	6	9	12	18	25	32	38	40	65	80	95
Rated operational current AC-1	A	16	20	25	32	40	45	60	60	80	100	125
Width	mm	45				56			84.5		95.5	
Coil rated operating voltage		24...415 V AC according to the coil voltage code (see below)										
Auxiliary built in contact		no built in contact										
References ^[1]		LC1E06	LC1E09	LC1E12	LC1E18	LC1E25	LC1E32	LC1E38	LC1E40	LC1E65	LC1E80	LC1E95

[1] Partial.

Check the catalogue for complete references, see page 151.

Common characteristics

- Contactors compatible with:



LAEN● auxiliary contact blocks.



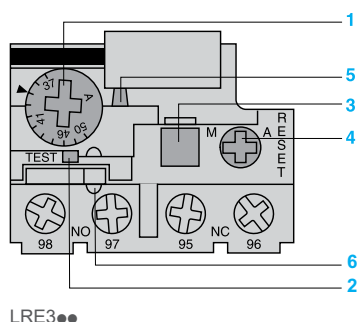
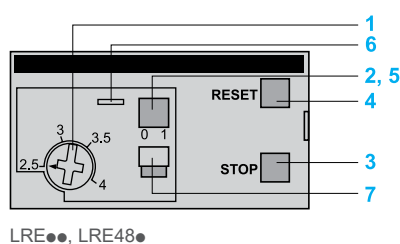
LAETSD time delay auxiliary contact
(from 25 A contactor).



LAERC●● RC switch suppressor
(up to 95 A).

Functions and characteristics

EasyPact TVS thermal overload relays



Presentation

EasyPact TVS thermal overload relays are designed to protect a.c. circuits and motors against:

- overloads
- phase failure
- long starting time
- prolonged stalled rotor condition.

The thermal relay controls permanently the current driven by the motor. When this current exceeds the setting it's auxiliary contacts will change state, causing the motor to stop.

Description

- 1 Adjustment dial Ir.
- 2 Test button.
Operation of the Test button allows:
 - checking of control circuit wiring,
 - simulation of relay tripping (actuates both the N/O and N/C contacts).
- 3 Stop button. Actuates the N/C contact; does not affect the N/O contact.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset.

LRE relays are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.

Functions and characteristics

EasyPact TVS thermal overload relays



TOR Com. Ref	Possible I _{max} Calibration	Compatible with Contactor (size 1 & 2) Com. Ref.						
		LC1E06	LC1E09	LC1E12	LC1E18	LC1E25	LC1E32	LC1E38
LRE01	0.10...0.16 A	■	■	■	■	■	■	■
LRE02	0.16...0.25 A	■	■	■	■	■	■	■
LRE03	0.25...0.40 A	■	■	■	■	■	■	■
LRE04	0.40...0.63 A	■	■	■	■	■	■	■
LRE05	0.63...1 A	■	■	■	■	■	■	■
LRE06	1...1.6 A	■	■	■	■	■	■	■
LRE07	1.6...2.5 A	■	■	■	■	■	■	■
LRE08	2.5...4 A	■	■	■	■	■	■	■
LRE10	4...6 A	■	■	■	■	■	■	■
LRE12	5.5...8 A		■	■	■	■	■	■
LRE14	7...10 A		■	■	■	■	■	■
LRE16	9 ...13 A			■	■	■	■	■
LRE21	12...18 A				■	■	■	■
LRE22	16...24 A					■	■	■
LRE32	23...32 A					■	■	■
LRE35	30...38 A							■

Common characteristics

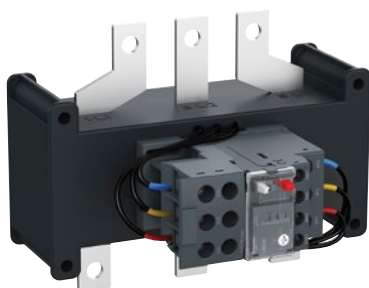
- Class: 10 A.
- Operating voltage: max. 690 V AC.

Functions and characteristics

EasyPact TVS thermal overload relays



TOR Com. Ref	Possible I _{max} Calibration	Compatible with Contactor (size 3 & 4) Com. Ref.				
		LC1E40	LC1E50	LC1E65	LC1E80	LC1E95
LRE322	17...25 A	■	■	■	■	■
LRE353	23...32 A	■	■	■	■	■
LRE355	30...40 A	■	■	■	■	■
LRE357	37...50 A		■	■	■	■
LRE359	48...65 A			■	■	■
LRE361	55...70 A				■	■
LRE363	63...80 A				■	■
LRE365	80...104 A					■



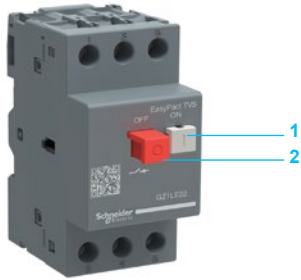
TOR Com. Ref	Possible I _{max} Calibration	Compatible with Contactor (size 5, 6, 7, 8 & 9) Com. Ref.							
		LC1E120	LC1E160	LC1E200	LC1E250	LC1E300	LC1E400	LC1E500	LC1E630
LRE480	51...81 A	■	■	□	□	□	□	□	□
LRE481	62...99 A	■	■	□	□	□	□	□	□
LRE482	84...135 A	■	■	□	□	□	□	□	□
LRE483	124...198 A		□	■	□	□	□	□	□
LRE484	146...234 A			□	■	■	■	□	□
LRE485	174...279 A			□	■	■	■	□	□
LRE486	208...333 A				■	■	■	□	□
LRE487	259...414 A					■	■	□	□
LRE488	321...513 A						□	■	□
LRE489	394...630 A							□	■

Note:

- means the relay can match with contactor both in electrical and mechanical.
- means the relay can match with contactor only in electrical (can not directly mounting).

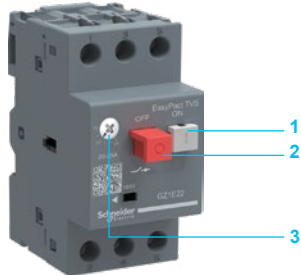
EasyPact TVS motor protection circuit breaker GZ1 0.1 A to 32 A

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GZ1LE

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GZ1E

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Presentation

Connection

These circuit-breakers are designed for connection by screw clamp terminals. This technique ensures secure, permanent and durable clamping that is resistant to harsh environments, vibration and impact and is even more effective when conductors without cable ends are used. Each connection can take two independent conductors.

Motor ON/OFF pushbutton control

Energisation is controlled manually by operating the Start button "I" **1**. De-energisation is controlled manually by operating the Stop button "O" **2**, or automatically by the thermal-magnetic protection elements or by a voltage trip attachment.

Protection of motors and personnel

For thermal magnetic circuit breakers GZ1E, Motor protection is provided by the thermal-magnetic protection elements incorporated in the motor circuit-breaker. The magnetic elements (short-circuit protection) have a non-adjustable tripping threshold, which is equal to about 13 times the maximum setting current of the thermal trips.

The thermal elements (overload protection) include automatic compensation for ambient temperature variations. The rated operational current of the motor is displayed by means of a graduated knob **3**.

For magnetic circuit breakers GZ1LE, motor protection is provided by the magnetic protection elements incorporated in the motor circuit breaker. Personnel protection is also provided. All live parts are protected against direct finger contact.

GZ1 E motor circuit-breakers are easily installed in any configuration thanks to their universal fixing arrangement: screw fixing or clip-on mounting on symmetrical, asymmetrical or combination rails.

Motor circuit breakers versus fuse protection?

Circuit breakers are a common solution for protecting motor against short circuits and overloads. As a comparison, a fuse based solution can only provide a partial protection depending on the choice of the fuse type and rating. The thermal magnetic circuit breaker is adjustable and can be fine-tuned to the practical motor load. The fuse based solution offers a very fast protection.

EasyPact TVS motor protection circuit breaker

GZ1 0.1 A to 32 A

Circuit breakers for motor protection and control

EasyPact TVS motor circuit breakers GZ1 provide easy and essential solutions for:

- isolation
- protection against short circuits and overloads
- on-off manual control of motors up to 15 kW.

They are conforming to, depending of the versions, IEC 60947-2 and IEC 60947-4-1.

EasyPact TVS protection technologies

Motor circuit breakers GZ1 are carried with 2 variants:

- thermal-magnetic: GZ1E for protection against short-circuit, overload, phase loss and phase unbalance
- magnetic detection: GZ1LE for protection against short-circuit.

With a magnetic circuit breaker, a thermal relay is frequently associated in order to have a short circuit protection and an overload protection.

GZ1 range overview

Molded case circuit breakers for motor protection and control.



GZ1LE



GZ1E

GZ1						
	Protection against Short-circuits	Overload	Range	Control	Terminals	Dimensions (W x H x D)
GZ1LE	■		Up to 15kW	Push button	Screw clamp	44.5 x 89 x 66
GZ1E	■	■	Up to 15kW	Push button	Screw clamp	44.5 x 89 x 66



Innovation that protects:
Learn about
the technical information
of the EasyPact TVS
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

Power Monitoring



PowerLogic™ PM5000 Series

General overview E-154

Functions and characteristics E-163



EasyLogic PM2000 Series

General overview E-168

Functions and characteristics E-170

PowerLogic PM5000 Series



The new benchmark in low cost, precision metering

PowerLogic™ PM5000 series

“With its accuracy, simplicity, quality, and rich feature set making the PowerLogic™ PM5000 series meters the industry’s performance benchmark for cost management applications, I’d have expected it to cost more.”



PowerLogic PM5000 Series

The PowerLogic™ PM5000 series power meters are the new benchmark in affordable, precision metering

The value you want, the precision you need.
Compact, affordable power meters with high-end cost capabilities and basic mobile energy management.



Applications

Capable of essential cost management:

- Sub-billing/tenant metering
- Equipment sub-billing
- Energy cost allocation.

Also ideal for electrical network management:

- Track real-time power conditions
- Monitor control functions
- Provide basic power quality values
- Detect and capture voltage sag and swell events
- Monitor residual current
- Analyze equipment and network status
- BACnet/IP, Ethernet/IP, and DNP3.0 protocol support.

Benefits

System integrators' benefit

- Ease of integration
- Ease of setup
- Cost effectiveness.

Panel builders' benefit

- Ease of installation
- Cost effectiveness
- Aesthetically pleasing
- Simplified ordering.

End users' benefit

- Ease of use
- Precision metering & sub-billing
- Billing flexibility
- Comprehensive, consistent and superior performance
- Maximize uptime, eliminate faults, and enhance safety.

Conformity of standards

- IEC 61557-12
- IEC 62053-22
- IEC 62053-24
- IEEE 802.3
- EN 50470-1
- EN 50470-3
- IEC 61010-1
- IEC 61326-1
- CISPR22 Class B
- ODVA certification
- ANSI C12.1-2008 (PM55xx)
- ANSI C12.20 Class 0.2 & 0.5.

Competitive advantages

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- Power quality analysis
- Load management combined with alarm and timestamping
- High performance and accuracy
- Residual Current Monitoring
- Voltage sag and swell detection with waveform capture
- MID ready compliance for legal billing application
- BACnet/IP, Ethernet/IP, and DNP3.0 protocol support.

PowerLogic PM5000 Series

More capability than you expected

Budget-conscious professionals have a new benchmark for metering performance

The PowerLogic™ PM5000 series meter is meticulously engineered to provide high-end cost management capabilities in a straightforward metering platform. This means it's both cost effective and capable, while being simple to purchase, install, and use. Use it to help reduce installation time, maximize operational efficiency, increase network reliability, and improve business performance.

Optimized for energy cost management

An essential combination of features, such as multiple tariffs and data logging, merges with industry-leading measurement accuracy to match the requirements of energy cost management applications in buildings and industry. Compliant with stringent, international metering standards, the PM5000 series meters remove any uncertainty in billing for energy costs and ensure a high level of performance that noncompliant devices cannot match.

Complying with most demanding international metering standards

- IEC 62053-22 Class 0.5S/Class 0.2S
- ANSI C12.20 Class 0.2 (PM5500, PM5600, PM5700 models)
- IEC 61557-12 PMD/S/K70/0.5 (PM5100 & PM5300 models)
- IEC 61557-12 PMD/S/K70/0.2 (PM5500, PM5600, PM5700 models)
- IEC 62053-23
- IEC 62052-11.
- MID, EN50470-1/3 - Annex B & Annex D
- CE as per IEC 61010-1 Ed.3
- cULus as per UL 61010-1 Ed.3
- BACnet™ - BTL® listed (B-ASC).



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PowerLogic PM5000 Series

Optimize energy use and costs across your entire organization

An ideal combination of features

The highly-capable PowerLogic™ PM5000 series meters offer the best combination of features to match all your energy cost management needs. Designed for use in both energy management systems and building management systems, they provide the measurement capabilities needed to allocate energy usage, perform tenant metering and subbilling, pinpoint energy savings, optimize equipment efficiency and utilization, and perform a basic assessment of the power quality of the electrical network.

PowerLogic™ PM5600 and PM5700 series meters also offer an enhanced feature set combining power quality features, residual current monitoring that are not found in similar meters on the market.

Energy cost management

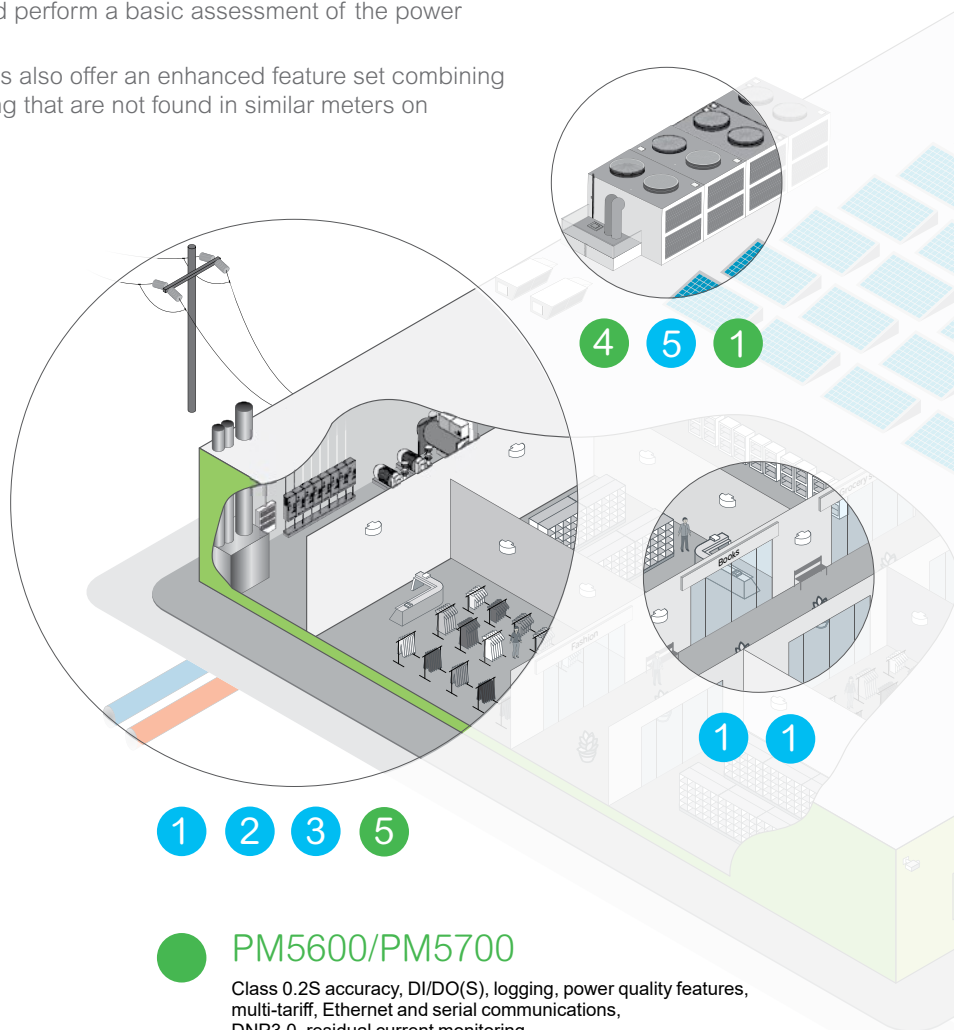
- 1 Identify consumption to recoup energy costs
 - reduce consumption of electricity and water
 - subbill tenants and identify process energy use
 - identify savings opportunities
 - integrate other water, air, gas, electricity, and steam meter data.
- 2 Improve energy supply
 - optimize energy procurement
 - verify billing.
- 3 Reduce energy bills
 - reduce billing penalties and optimize energy procurement
 - shed unnecessary loads
 - participate in demand response and peak shaving programs.

Electrical network management

- 4 Monitor to increase reliability
 - receive fast fault alarms
 - identify underperforming electrical assets
 - increased productivity, comfort, and safety
 - increase reliability and recover from outages faster
 - understand root failure causes
 - increase maintenance personnel productivity.

Asset management

- 5 Optimize asset usage to boost efficiencies
 - assess operational efficiency
 - optimize preventive maintenance
 - avoid overbuilding
 - identify spare network capacity
 - detect and mitigate power quality issues to increase equipment life.



1 2 3 5

4 5 1

1 1

PM5600/PM5700

Class 0.2S accuracy, DI/DO(S), logging, power quality features, multi-tariff, Ethernet and serial communications, DNP3.0, residual current monitoring.

PM5500

Class 0.2S accuracy, DI/DO(S), analog inputs, 24 VDC OR 24 VDC control power, logging, multi-tariff, Ethernet and serial communications, MID compliance.

PM5300

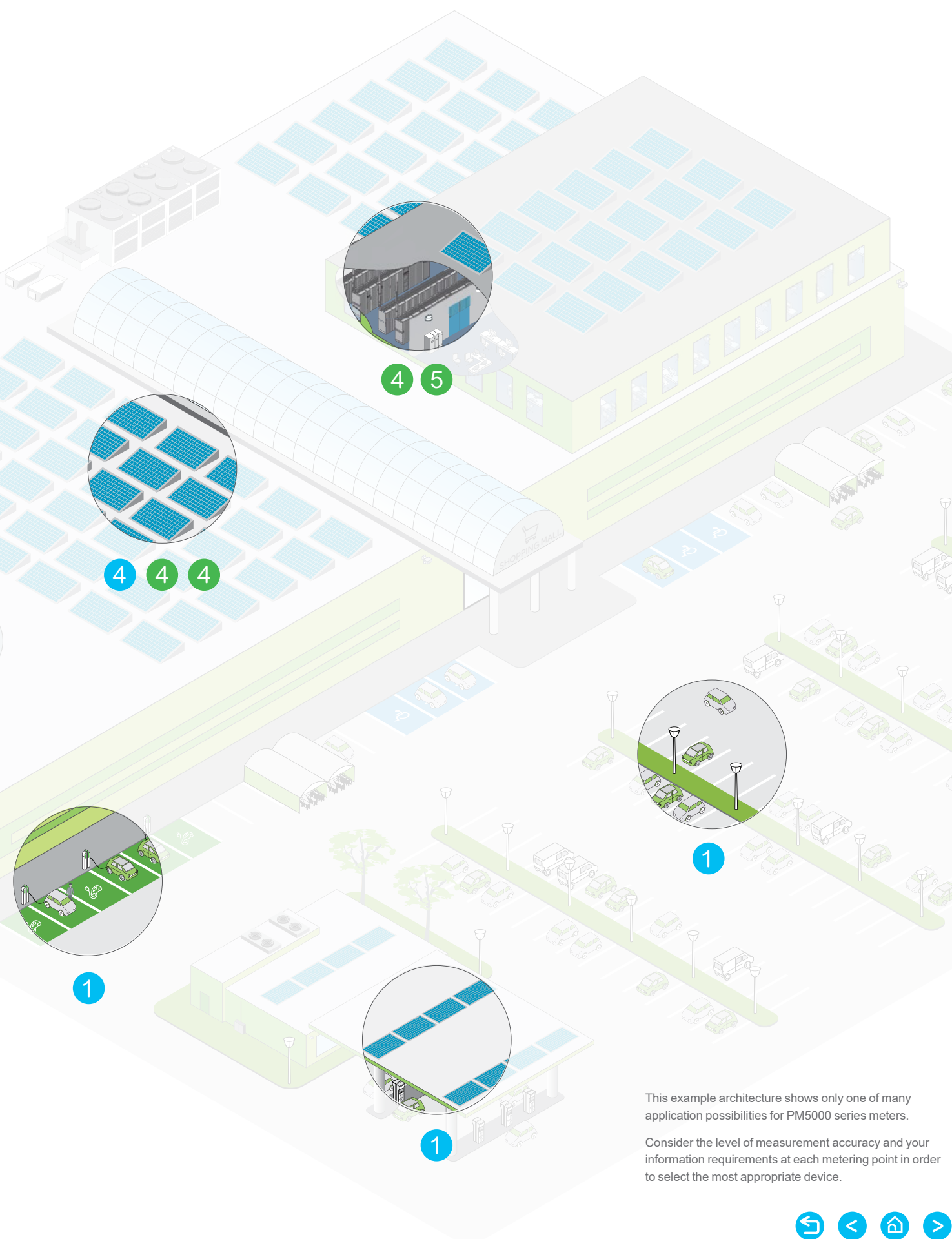
Class 0.5S accuracy, DI/DO(R), Load Profile, multi-tariff, Ethernet OR serial communications, MID compliance.

PM5100

Class 0.5S accuracy, pulse output, serial communication, MID compliance.



PowerLogic PM5000 Series



This example architecture shows only one of many application possibilities for PM5000 series meters.

Consider the level of measurement accuracy and your information requirements at each metering point in order to select the most appropriate device.

PowerLogic PM5000 Series

Key features and capabilities for improved metering performance

Installation

- Easy two-clip mounting in standard DIN 96 x 96 mm cutout
- Compact 72 mm depth
- Remote display option (PM5563).

Quick Click installation (PM5310R / PM5320R only)

- Quick Click feature reduced installation time by 75%
- Autoconfiguration for LVCTs - no CT setup required.

Graphical display

- Backlit, antiglare display provides easy reading in extreme lighting conditions and viewing angles
- Intuitive menu-driven navigation, large characters, icons, and graphics offer easy access to important information in English, Spanish, French, Italian, German, Portuguese, Chinese, and Russian.

Onboard web pages (PM5500/PM5600/PM5700 models)

- View real-time and logged information using any browser for easy information access without specialized software
- Verify communications and easily troubleshoot issues.

Battery backed real-time clock

- Continues operation during power outages
- Time-stamped alarms and events.

Alarms

- Combination of predefined and configurable alarms with 1s time stamping
- Alarm log and date/time-stamped active and historical alarms
- Program alarms to trigger digital outputs or mechanical relays (select PM5300 models).

Digital I/O

- Monitor alarms, synchronize demand with external pulse, count pulses, calculate consumption from other WAGES meters
- Use digital outputs to signal another device or software, or execute automatic actions such as control of basic equipment or alarm annunciation.

Harmonics

- THD and individual harmonics to the 15th, 31st, or 63rd order depending on model.

Analog inputs (PM5570 models)

- Monitor external, non-electrical parameters (e.g. temperature, flow rate) in a facility with a single metering device.



Back view

Front view

PowerLogic PM5000 Series

Four current inputs (PM5500/PM5600/PM5700 models)

- Measuring neutral current is essential for avoiding device overload and network outage
- Calculate ground current in a 3-phase, 4-wire system to determine all the possible current values.

Data logging and internal memory

- PM5500, PM5600, PM5700 models: up to 14 selectable parameters with configurable interval and duration (e.g., 6 parameters for 90 days at 15 minute interval)
- PM5300 models: 2 parameters (kWh and kVAh) with configurable interval and duration for a total of 60 days at 15 minutes.

Extended voltage range

- Direct connection up to 690 V L-L can help save panel space by dispensing with transformers for control power or voltage inputs.

Multiple tariffs

- Multiple tariffs offer the most flexibility with billing structures
- Delivered and received real and reactive energy, apparent energy, input metering accumulated values, peak real power demand, peak reactive power demand.

Gateway functionality (PM5500/PM5600/PM5700 models)

- Ethernet connectivity to devices through a host meter's RS-485 serial port.

BACnet/IP protocol (PM5300/PM5500/PM5600/PM5700 models)

- Simplifies meter integration into new and existing BMS systems
- Simultaneous communication via BACnet and modbus
- BTL tested and approved.

Dual-port Ethernet (PM5500/PM5600/PM5700 models)

- Daisy chain meters together to minimize both the wiring and the need for external switches or hubs (single IP address per meter).

Residual current monitoring (PM5600/PM5700 models)

- Maximize electrical distribution uptime, eliminate faults, and improve safety by proactively identifying when and where residual current is present in the system.

Power quality monitoring (PM5600/PM5700 models)

- Sag/swell detection with waveform capture to identify power quality events, pinpoint root causes, avoid downtime, and prevent equipment damage.

DNP3.0 protocol (PM5500/PM5600/PM5700 models)

- Seamless tie-in to new or existing utility and heavy industrial applications without the need for additional gateways or protocol converters.

LVDC control power option (PM5580 models)

- Continuously monitor system and log data, even during outages or voltage instability, in addition to significant installation and material cost savings.

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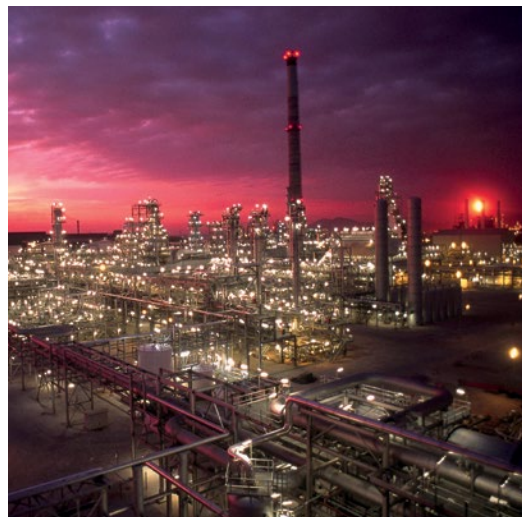
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PowerLogic PM5000 Series

Market segments



Industry

- Cost allocation
- Procurement optimization
- Power factor correction
- Continuity of service even in case of an earth fault.



Buildings

- Tenant sub-billing
- Cost allocation
- Energy efficiency & benchmarking
- Procurement optimization
- Power availability
- Demand response / load curtailment.



Utilities

- Revenue metering
- Power quality monitoring
- Power availability and reliability
- Insulation monitoring.



Critical infrastructure

- Infrastructure optimization
- Power quality analysis compliance
- Alarming and event notification
- Energy efficiency
- Cost allocation
- Procurement optimization.

Functions and characteristics

PowerLogic PM5000 Series

		PM5100	PM5300	PM5500	PM5600	PM5700
Use on LV and MV systems		■				
Basic metering with THD and min/max readings		■				
Instantaneous rms values						
Current	Per phase, neutral and ground (PM5500)	■				
Voltage	Total, per phase L-L and L-N	■				
Frequency		■				
Real, reactive, and apparent power	Total and per phase	Signed, Four Quadrant				
True Power Factor	Total and per phase	Signed, Four Quadrant				
Displacement PF	Total and per phase	Signed, Four Quadrant				
% Unbalanced I, V L-N, V L-L		■				
Direct monitoring of neutral current		-			■	
Energy values						
Accumulated Active, Reactive and Apparent Energy		Received/Delivered; Net and absolute; Time Counters				
Demand value						
Current average		Present, Last, Predicted, Peak, and Peak Date Time				
Active power		Present, Last, Predicted, Peak, and Peak Date Time				
Reactive power		Present, Last, Predicted, Peak, and Peak Date Time				
Apparent power		Present, Last, Predicted, Peak, and Peak Date Time				
Peak demand with timestamping D/T for current and powers		■				
Demand calculation	Sliding, fixed and rolling block, thermal methods	■				
Synchronisation of the measurement window to input, communication command or internal clock		■				
Settable Demand intervals		■				
Demand calculation for Pulse input (WAGES)		-			■	
Other measurements						
I/O timer		■				
Operating timer		■				
Load timer		■				
Alarm counters and alarm logs		■				
Power quality measurements						
THD, thd (Total Harmonic Distortion) I, VLN, VLL		I, VLN, VLL				
TDD (Total Demand Distortion)		■				
Individual harmonics (odds)		15 th	31 st	63 rd		
Neutral Current metering with ground current calculation		-	-	■		
Waveform capture and sag/swell detection		-	-	-	8 cycles at 128 cycles/sec	
Data recording						
Min/max of instantaneous values, plus phase identification ^[1]		■				
Alarms with 1s timestamping ^[1]		■				
Data logging			2 fixed parameters kWh and kVAh with configurable interval & duration (e.g. 2 parameters for 60 days at 15-minute intervals) 256 KB	Up to 14 selectable parameters with configurable interval and duration (e.g. 6 parameters for 90 days at 15-minute intervals)		
Memory capacity		-	256 kB	1.1 MB		
Min/max log		■	■	■		
Maintenance, alarm and event logs		-	■	■		
Customisable data logs		-		■		

^[1] Stored in non-volatile memory.

PowerLogic PM5000 Series

		PM5100	PM5300	PM5500	PM5600	PM5700
Inputs / Outputs / Mechanical Relays						
Digital inputs		-	2	■ 4 with WAGES for PM5560, PM5563, PM5580, PM5650 ■ 2 with WAGES for PM5570, PM5660, PM5760		
Digital outputs		1 (kWh only)	2 (configurable)	2 (configurable)		
Form A Relay outputs		-	2	-		
Analog inputs		-	-	2 for PM5570		-
Residual Current inputs		-	-	-	2 for PM5660	2 for PM5760
Timestamp resolution in seconds		1	1	1	1	1
Whetting source		-	24 V DC, 8 mA	-	-	-
Type of measurement: True rms on three-phase (3P, 3P + N)		64 samples per cycle		128 samples per cycle		
Measurement accuracy	IEC 61557-12	PMD/[SD SS]/K70/0.5		PMD/[SD SS]/K70/0.2		
	Active Energy	Class 0.5S as per IEC 62053-22		Class 0.2S as per IEC 62053-22		
	Reactive Energy	Class 2 as per IEC 62053-23		Class 2 as per IEC 62053-23		
	Active Power	Class 0.5 as per IEC 61557-12		Class 0.2 as per IEC 61557-12		
	Apparent Power	Class 0.5 as per IEC 61557-12				
	Current, Phase	Class 0.5 as per IEC 61557-12 ±0.15%				
	Voltage, L-N	Class 0.5 as per IEC 61557-12 ±0.1%				
	Frequency	±0.05%				
MID Directive EN50470-1, EN50470-3		Annex B and Annex D (Optional model references) Class C				
Input-voltage (up to 1.0 MV AC max, with voltage transformer)	Nominal Measured Voltage range	20 V L-N / 35 V L-L to 400 V L-N /690 V L-L absolute range 35 V L-L to 760 V L-L		20 V L-N / 20 V L-L to 400 V L-N /690 V L-L absolute range 20 V L-L to 828 V L-L		
	Impedance	5 MΩ				
	Frequency nom	50 or 60 Hz ±5%		50 or 60 Hz ±10%		
Input-current (configurable for 1 or 5 A secondary CTs)	I nom	5 A				-
	Measured Amps with over range and Crest Factor	■ Starting current: 5 mA ■ Operating range: 50 mA to 8.5 A		■ Starting current: 5 mA ■ Operating range: 50 mA to 10 A		
	Withstand	Continuous 20 A, 10 s/hr 50 A, 1s/hr 500 A				
	Impedance	< 0.3 mΩ				
	Frequency nom	50 or 60 Hz, ±5%		50 or 60 Hz, ±10%		
	Burden	<0.026 VA at 8.5 A				
	AC control power	Operating range	■ 100-277 V AC L-N / 415 V L-L, ±10% ■ CAT III 300 V class per IEC 61010		■ 100-480 V AC, ±10% ■ CAT III 600 V class per IEC 61010	
Burden		<5 W, 11 VA at 415 V L-L		<5 W, 16.0 VA at 480 V AC		
Frequency		45 to 65 Hz				
Ride-through time		■ 80 ms typical at 120 V AC and maximum burden. ■ 100 ms typical at 230 V AC and maximum burden ■ 100 ms typical at 415 V AC and maximum burden		■ 35 ms typical at 120 V L-N and maximum burden ■ 129 ms typical at 230 V L-N and maximum burden		
DC control power	Operating range	125-250 V DC, ±20%				
	Burden	<4 W at 250 V DC		Typical 3.1 W at 125 V DC, max. 5 W		
	Ride-through time	50 ms typical at 125 V DC and maximum burden				
LV DC control power	20-60 V DC, ±10% CAT III Burden 4.1 W max.	-	-	PM5580	-	-

Functions and characteristics

PowerLogic PM5000 Series

			PM5100	PM5300	PM5500	PM5600	PM5700	
Outputs	Relay	Max output frequency	-	0.5 Hz maximum (1 second ON / 1 second OFF - min times)	-	-	-	
		Switching current	-	250 V AC at 8.0 Amps, 25 k cycles, resistive 30 V DC at 2.0 Amps, 75 k cycles, resistive 30 V DC at 5.0 Amps, 12.5 k cycles, resistive	-	-	-	
		Isolation	-	2.5 kV rms	-	-	-	
		Max load voltage	40 V DC			30 V AC / 40 V DC PM5570, PM5560, PM5561, PM5760, PM5761		
		Max load current	20 mA			125 mA		
		On Resistance	50 Ω max.			8 Ω		
		Meter constant	From 1 to 9,999,999 pulses per kWh					
		Pulse width for Digital Output	50% duty cycle					
		Pulse frequency for Digital Output	25 Hz max.					
		Leakage current	0.03 micro Amps			1 micro Amps		
		Isolation	5 kV rms			2.5 kV rms		
	Optical outputs	Pulse width (LED)	200 ms					
		Pulse frequency	50 Hz max.			2.5 kHz max.		
		Meter constant	From 1 to 9,999,999 pulses per k_h					
Status Inputs	ON Voltage	-	18.5 to 36 V DC	30 V AC / 60 V DC max.				
	OFF Voltage	0 to 4 V DC						
	Input Resistance	-	110 k Ω	100 k Ω				
	Maximum Frequency	-	2 Hz (T ON min = T OFF min = 250 ms)	25 Hz (T ON min = T OFF min = 20 ms)				
	Response Time	-	20 ms	10 ms				
	Opto Isolation	-	5 kV rms	2.5 kV rms				
	Whetting output	-	24 V DC/ 8 mA max.	-			-	
Analog inputs	Input Burden	-	2 mA at 24 V DC	2 mA at 24 V AC/DC				
		-		4-20 mA DC (nominal) Accuracy: 1% of full-scale reading <20 ohm Operating voltage: 24 V DC max	-			
Residual Current inputs		-				5 µA to 1,200 µA (nominal), 1,500 µA max (continuous) Input type: AC 45 to 65 Hz Burden: 150 ohms Default toroid: 1000 turns		

Mechanical characteristics

Product weight	380 g	430 g	450 g	450 g	450 g
IP degree of protection (IEC 60529)	IP52 front display, (IP54 for PM53xx and PM55xx), IP30 meter body				
Dimensions W x H x D [protrusion from cabinet]	96 x 96 x 72 mm (77 mm for PM5500) (depth of meter from housing mounting flange) [13 mm]				
Mounting position	Vertical				
Panel thickness	6 mm maximum				

Environmental characteristics

Operating temperature	Meter	-25°C to 70°C
	Display (Display functions to -25° with reduced performance)	-25°C to 70°C
Storage temp.	-40°C to 85°C	
Humidity range	5 to 95% RH at 50°C (non-condensing)	
Pollution degree	2	
Altitude	2000 m CAT III / 3000 m CAT II	3000 m max. CAT III

Functions and characteristics

PowerLogic PM5000 Series

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A

Electromagnetic compatibility

Harmonic current emissions	IEC 61000-3-2
Flicker emissions	IEC 61000-3-3
Electrostatic discharge	IEC 61000-4-2
Immunity to radiated fields	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to surge	IEC 61000-4-5
Conducted immunity 150 kHz to 80 MHz	IEC 61000-4-6
Immunity to magnetic fields	IEC 61000-4-8
Immunity to voltage dips	IEC 61000-4-11
Radiated emissions	FCC part 15, EN 55022 Class B
Conducted emissions	FCC part 15, EN 55022 Class B

B

C

Safety

	PM5100	PM5300	PM5500	PM5600	PM5700
Europe	CE, as per IEC 61010-1 Ed. 3, IEC 62052-11 & IEC 61557-12				
U.S. and Canada	cULus as per UL 61010-1 (3 rd Edition)				
Measurement category (Voltage & Current inputs)	CAT III up to 400 V L-N / 690 V L-L				
Dielectric	As per IEC/UL 61010-1 Ed. 3				
Protective Class	II, Double insulated for user accessible parts				

Communication

RS-485 port Modbus RTU, Modbus ASCII (7 or 8 bit), JBUS	■ 2-Wire ■ 9600, 19200 or 38400 baud ■ Parity - Even ■ Odd ■ None ■ 1 stop bit if parity Odd or Even ■ 2 stop bits if None (Optional in PM51x and PM53x)				
Ethernet port: 10/100 Mbps; Modbus TCP/IP	-	1 Optional	2 (daisy chain only, 1 IP address)		
Native Ethernet/IP & DNP3.0 over Ethernet	-	-	Yes	Yes	Yes
Native BACnet/IP Support	-	Yes	Yes	Yes	Yes
Firmware and language file update	Meter firmware update via the communication ports				
Isolation	2.5 kVrms, double insulated				

D

E

Human machine interface

Display type	Monochrome Graphics LCD
Resolution	128 x 128
Backlight	White LED
Viewable area (W x H)	67 x 62.5 mm
Keypad	4-button
Indicator Heartbeat / Comm activity	Green LED
Energy pulse output / Active alarm (configurable)	Optical, amber LED
Wavelength	590 to 635 nm
Maximum pulse rate	2.5 kHz

F

G

H



Innovation that protects:
Learn about
the technical information
of the PowerLogic PM5000
range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

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H



Multifunction energy and power meters

EasyLogic PM2000 series Part of Easy Series

The easy choice for energy cost management applications in commercial buildings and SME industries

EasyLogic PM2000 series energy and power meters provide all the measurement capabilities required to monitor an electrical installation in a single 96 x 96 mm unit. Two variants are available with LED and LCD display options.

The easy choice...

- for quality - Designed and manufactured in ISO-certified Schneider Electric facilities.
- for value - The right balance of features and price.
- for peace of mind - Reliable performance where you need it.

Leaner, more efficient order management thanks to field settable CT or PT ratios, modularity Fast and efficient installation & commissioning. Safety marks for CE and UL compliance in accordance with latest IEC/UL 61010-1 Ed-3 standard.

Performance without compromise -
exceptional reliability in its class

- > Assured quality that you can trust to meet your needs throughout its lifecycle.
- > Outstanding value for an optimized feature set.
- > Simple to choose and easy to install and use for many applications.

The **EasyLogic™** PM2000 multi-function energy and power meter

Offering all the measurement capabilities required to monitor electrical installation in a single 96 x 96 mm unit, with LED or LCD display options.

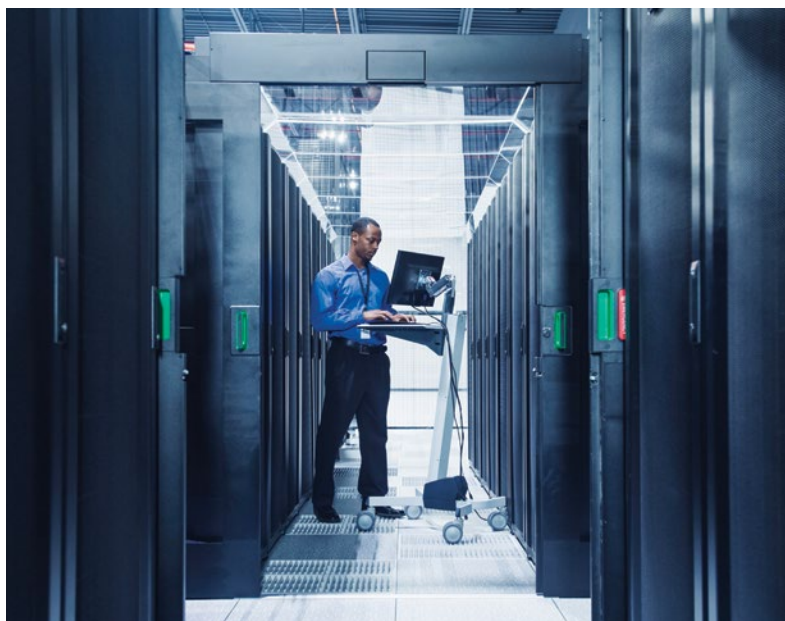
Applications

Cost management applications

- Bill checking to verify that you are only charged for the energy you use
- Aggregation of energy consumption, including WAGES, and cost allocation per area, per usage, per shift or per time within the same facility
- Energy cost and usage analysis per zone, per usage or per time period to optimise energy usage.

Network management applications

- Metering of electrical parameters to better understand the behaviour of your electrical distribution system
- Power quality analysis.



Functions and characteristics

EasyLogic PM2000 Series

A



PM2000 series LED display meter

B

C



PM2000 LCD display

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Introducing EasyLogic PM2000 series, next generation power meter which offers all the measurement capabilities required to monitor an electrical installation in a single 96 x 96 mm unit. PM2000 meters are available in LED and LCD display variants.

- PM2100 series:
 - LED display type: Intuitive navigation with self-guided, three buttons, bright red colour LEDs of 14.2 mm height. Two columns of LEDs indicate the parameter name chosen for display.
- PM2200 series:
 - LCD display type: Monochrome graphical LCD of 128 x 128 resolution lets users read all three phase values simultaneously. The bright display enables easy reading even in extreme lighting conditions and viewing angles, with intuitive menus, multi-language text, icons and graphics.
- Network management:
 - power quality analysis: THD % and individual harmonics to 15th and 31st order,
 - measurement of True PF and Displacement PF,
 - recording Min/Max values of instantaneous parameters with date & timestamp,
 - optional IO modules comprising either 2 Digital Inputs and 2 Outputs, or 2 Analog Inputs and 2 Outputs for comprehensive WAGES monitoring,
 - calculates % unbalance for voltage & current,
 - embedded 2 DI/DO or 2 AI/AO in PM2125 and PM2225 meters.

Feature selection	
Commercial ref. number	Model
METSEPM2110	PM2110
METSEPM2120	PM2120
METSEPM2125CL05	PM2125 ^[1]
METSEPM21252AI2AO	PM2125 ^[1]
METSEPM2125C2DI2RO	PM2125 ^[1]
METSEPM2130	PM2130
METSEPM2210	PM2210
METSEPM2220	PM2220
METSEPM2225CL05	PM2225 ^[1]
METSEPM2225C2AI2AO	PM2225 ^[1]
METSEPM2225C2DI2RO	PM2225 ^[1]
METSEPM2230	PM2230
METSEPM2KDGTLIO22	PM2K2DIDO
METSEPM2KANLGIO22	PM2K2AIAO
METSEPM2KANLGIO11	PM2K1AIAO

See your Schneider Electric representative for complete ordering information.
^[1]: available in China only.

Functions and characteristics

EasyLogic PM2000 Series

■ Main characteristics:

- easy to install: mounts using two clips, no tools are required. Compact 54 mm depth, connectable up to 480 V AC, $\pm 10\%$, L-L, without voltage transformers for installations compliant with measurement category III, and double insulated,
- easy to operate: intuitive navigation with self-guided menus and LED for test and calibration on site or lab. Heart-beat LED indicates normal functioning and communication status if connected to RS-485 network,
- product standard compliance:
 - active energy Class 1.0 as per IEC 62053-21,
 - active energy Class 0.5S as per IEC 62053-22 (partial compliance for active energy test clause only),
 - reactive energy Class 1.0 as per IEC 62053-24 (partial compliance for reactive energy test clause only).
- tested in accordance with IEC 62052-11 standard for:
 - 5 A, I-nominal,
 - 1 A, I-nominal (field settable).
- power quality analysis: the PM2000 offers THD % measurements and Individual harmonics up to 15th order in PM2 x 20 variants and up to 31st in PM2 x 30 variants,
- load management: simultaneous display of peak, present, predicted & rising demands of all the four demand parameters (W, VA, VAR, Amps),
- billing: tenant billing/utility meter cross check (where local regulations are not applicable),
- timer: active load timer, Meter operation timer and Run hours timer. These features help advise maintenance requirements and scheduling,
- password: field configurable password for securing set up information and prevent tampering of integrated values,
- cyber security: option for disabling RS-485 port through front panel keys against unauthorized access. It helps during installation and trouble shooting of communication network,
- LED display: auto scaling, 9+3 digits for energy, 4 digits for other parameters,
- LCD display: 5 digits for energy, 5 or 6 digits for other parameters, with auto scaling,
- daily time snap shot: snap shot of Avg Voltage, Avg Current, Total Active Power & Energy delivered as measured by the meter at configurable time of day in HH:MINUTES format. The static page will be refreshed with new values at a configured time next day,
- rate counters: 2 configurable counters display values in custom specified units based on energy recorded (e.g., kg CO₂ carbon emission or energy cost),
- energy preset feature: for retrofit application,
- auto reset: monthly reset of all energies and max demand based on configurable day of the month at fixed 00 Hrs (PM2220, PM2230),
- suppression current: to disregard induced or negligible current flowing in the circuit, minimum value of current detection can be settable from 5 to 99 mA, default is 5 mA (all variants),
- retrofit register - Legacy modbus registers to read 50 parameters (meters with communication port),
- quadrant based VARh: available through communication,
- multi-tariff energy - 4 multi tariff registers, can be activated through command, TOU or Input mode with Digital IO card (PM2230),
- non-resettable energy: separate Wh counter on display that cannot be reset to zero (PM2210/20/30),
- configurable favorite page: pick and configure any 4 parameters for display from the list of - V L-L, V L-N, Amps, F, W-tot, VA-tot, VAR-tot, PF and Wh-Del, VAh-Del, VARh-Del (PM2220, PM2230).

Functions and characteristics

EasyLogic PM2000 Series

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Rear of PM2000 closed



Rear of PM2000 open

PM2000 technical specifications

General

Use on LV and MV systems with onsite programmable PT/CT ratio
Basic metering with THD %, Individual Harmonics, RTC and min/max readings

Instantaneous rms values

Current	Average line current of 3-phase, per-phase, and calculated neutral current
Voltage	Average voltage of L-L, L-N parameters, and per-phase
Frequency	Any available line
Real, reactive, and apparent power	Total and per-phase value
Displacement power factor	Average and per-phase signed, four quadrant
True Power Factor	Average and per-phase signed, four quadrant
% Unbalance	Among the phase for Amps, V L-N, V L-L

Energy values stored in non-volatile memory

Four quadrant measurement for Delivered (Forward or Import) and Received (Reverse or Export) energy	Accumulated energy values for Active, Reactive & Apparent Energy parameters, quadrant basis Net & Total (absolute) values
Timer	Accumulated time counters for active load timer, meter operation timer, run hours and power outage counter
Old Registers	Facilitates retrieval of last cleared energy values

Demand values

Current average	Present, Last, Predicted, Peak, and Peak Date Time
Active power	Present, Last, Predicted, Peak, and Peak Date Time
Reactive power	Present, Last, Predicted, Peak, and Peak Date Time
Apparent power	Present, Last, Predicted, Peak, and Peak Date Time
Demand sync methods	Thermal, Timed, Command Sync, and Clocked Sync
Demand calculation mode	Sliding, fixed and rolling block
Demand intervals	Settable from 1 to 60 minutes, in the step of 1 minute

Display

PM2100 series	Bright red colour LED display, 7 segment LED, ~14.2 mm height, 3 rows with 4 digits per row, Auto range
PM2200 series	Full scape, monochrome graphical LCD of 128 x 128 resolution with viewable area of 67 x 62.5 mm
Visualization mode for signs	IEC or IEEE type in LCD display meter

Communication

RS-485 serial	Channel connection Industry standard Modbus RTU protocol
Integration with software	SCADA/DCS/PMS/EMS/BAS/BMS software
Native Plug and Play support	- Schneider Electric energy management system software EcoStruxure™ Power Monitoring Expert, - EcoStruxure™ PowerSCADA Operation, & ION Setup programming support

Min/Max values

Minimum & Maximum value recording of 3-ph average or total	For 8 parameters, viz., V L-L, V L-N, Amps, PF, Hz, W, VA, VAR with date and time stamp, resettable separately through set up mode
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Alarms

Alarming with time stamping in PM2x30 meters	A different combination of set point driven alarms and digital alarms with 1 s time stamping. The alarms can be programmed and combined to trigger digital outputs, the meter keeps an alarm logs with the active and historical alarms with date and time stamping in 40 registers
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Diagnostics

Diagnostic page	Indicates LED/LCD status, sl number, diag pages, OS & RS version, Run Hour counter in PM2100
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Lock/ Un-Lock

Page Lock & Unlock (PM2100 series)	Unique feature to ensures that commonly referred page is restored in 4 minutes of inactive time
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Rate 1 counter ^[2]

Kg CO ₂ emission (example)	Rate counter can be configured to display the CO ₂ emission in kg CO ₂ format based on the kWh measured either in delivered or received direction
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Rate 2 counter ^[2]

Tariff counter (example)	Rate counter can also be configured to calculate the electricity cost based on the energy consumption in customized currency format
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Configurable snap shot

Configurable snap shot ^[2]	Snap shot of Avg Voltage, Avg Current, Total Active Power & Energy delivered as measured by the meter at configurable time in Hours: Minutes format. Static page is refreshed with new values by next day at pre-configured time
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^[2]: available in PM2220/PM2230 (LCD) meters.



Functions and characteristics

EasyLogic PM2000 Series

PM2000 electrical characteristics

Type of measurement	True RMS 64 samples per cycle
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Measurement accuracy

Current, average & per-phase	± 0.5%
Voltage average & per-phase	± 0.5%
Frequency	± 0.05%
Power Factor, average & per-phase	± 0.01
Power (W-Active, VA- Apparent)	± 0.5%
Power (VAR- Reactive)	± 1.0%
Real/ Active Energy (Wh)	■ Class 0.5S as per IEC 62053-22 ■ Class 1.0 as per IEC 62053-21 for both CT nominal of 5 A and 1 A ^[3]
Reactive Energy	Class 1.0 as per IEC 62053-24
Apparent Energy	± 0.5%
THD % and Individual Harmonics- V & A	± 5% FS for THD % & Individual harmonics

Input-voltage

VT primary	999 kV L-L max, secondary voltage depends on VT ratio
U nominal	277 V L-N/480V L-L
Measured V with full range	■ 20-277 V L-N/35 - 480 V L-L, cat III ■ 20-347 V L-N/35 - 600 V L-L, cat II
Permanent overload	750 V AC L-L
Impedance	≥ 5 MΩ
Frequency nominal	50/60 Hz
VA burden	< 0.2 VA at 240 V AC L-N

Input-current

CT ratings	■ Primary adjustable 1 A to 32768 A ■ Secondary 1 A or 5 A I-nominal
Measured Amps with over range & Crest Factor	5 mA to 6 A
Over current withstand	■ Continuous 12 A ■ 10s/hr 50 A ■ 1s/hr 500 A
Impedance	< 0.3 mΩ
Frequency nominal	50/60 Hz
VA Burden	<0.024 VA at 6 A

AC control power

Operating range	44-277 V AC, ±10% (80-277 V AC, ±10% with I/O card)
Burden	<6 VA at 277 V AC L-N (<8 VA for PM2x30 and PM2x25C)
Frequency	45 to 65 Hz
Ride-through time	■ 100 ms typical at 120 V AC and maximum burden (50 ms with Analog IO card for PM2x30) ■ 400 ms typical at 230 V AC and maximum burden (50 ms with Analog IO card for PM2x30)

DC control power

Operating range	48-277 V DC, ±10% (100-277 V AC ±10% with I/O card)
Burden	<2 W at 277 V DC (<3.3 W for PM2x30 and PM2x25C)
Ride-through time	50 ms typical at 125 V DC and maximum burden

Real time clock

RTC with battery backup	3 years (when meter is in Power OFF condition)
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Displays update

Instantaneous	1s
Demand	15s
Harmonics	5s

Wiring configuration

User programmable	■ 1ph, 2w, L-N ■ 1ph, 2w, L-L ■ 1ph, 3w, L-L with N (2phase) ■ 3ph, 3w, Delta, Ungrounded ■ 3ph, 3w, Delta, Corner Grounded ^[4] ■ 3ph, 3w, Wye, Ungrounded ^[4] ■ 3ph, 3w, Wye Grounded ^[4] ■ 3ph, 3w, Wye, Resistance Grounded ^[4] ■ 3ph, 4w, Open Delta, Center-Tapped ^[4] ■ 3ph, 4w, Delta, Center-Tapped ^[4] ■ 3ph, 4w, Wye, Ungrounded ^[4] ■ 3ph, 4w, Wye Grounded ■ 3ph, 4w, Wye, Resistance Grounded ^[4]
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^[3]: for 1 A CT nominal, additional error of ± 1% from 50 mA to 150 mA, ±2% for current >10 mA to <50 mA. Partial standard compliance for Class 0.5S meter type (energy test clause only).

^[4]: through communication in PM2100 series meters.

Functions and characteristics

EasyLogic PM2000 Series

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PM2000 series mechanical characteristics

Mechanical characteristics

Weight	~ 300 gm
IP degree of protection	IP54 front side, IP30 meter body as per IEC 60529
Material	Polycarbonate meets UL 94V-0 flammability rating
Dimensions W x H x D	96 x 96 x 54 mm maximum (depth of the meter from housing mounting flange) and 13 mm (protrusion of meter from housing flange). Meter depth with IO module is 74 mm
Mounting position	Vertical
Panel thickness	5 mm maximum

Environmental characteristics

Operating temperature	Meter -10 to +60°C (14 to 140°F)
Storage temperature	Meter -25 to +70°C (-13 to 158°F)
Humidity rating	5 to 95% RH non condensing
Pollution degree	2
Altitude	≤ 2000 m (6562 ft) Category III
Product life	Minimum 7 years

Electromagnetic compatibility (tested as per IEC 61326-1)

Electrostatic discharge	IEC 61000-4-2
Immunity to radiated field	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to impulse waves	IEC 61000-4-5
Conducted immunity	IEC 61000-4-6
Immunity to magnetic fields	IEC 61000-4-8
Immunity to voltage dips	IEC 61000-4-11
Emissions	Emissions FCC Part 15 Class A/CE

Safety

Europe	CE, as per IEC 61010-1 Ed-3
US and Canada	cULus as per UL61010-1 and CAN/CSA-C22.2 N°. 61010-1, for 600 V AC
Measurement Category (Voltage and Current inputs)	■ CAT III up to 480 V L-L ■ CAT II up to 600 V L-L
Overvoltage Category (Control power)	CAT III up to 300 V L-N
Dielectric	As per IEC/UL 61010-1 Ed-3
Protective Class	II, Double insulated for user accessible parts
Green premium	EOL, REACH, PEP, RoHS complied
Other certification	RCM (Australia), EAC (Russia)

Communication

RS-485 port	■ Modbus RTU: 2-Wires, with ground & shield, 4800, 9600, 19200 or 38400 baud, Parity - Even, Odd, None, 1 stop bit if parity is Odd or Even, 2 stop bits if None ■ DLF3000: Firmware update through communication port
Pulse Output – POP	Max 40 V DC, 20 mA 20 ms ON time Configurable pulse weight from 1 to 9999000 pulses/k_h (kWh, kVAh, or kVARh)
Isolation	2.5 kV RMS, double insulated
Protection features	Password protected for set-up & clearing energy and Min/Max data
Display language	English, Spanish, French, Chinese, German, Portuguese, Russian, Turkish. EN default, other languages selectable in communication variants of PM2200 series
Technical publication	Printed installation guide (IG) with the meter in multi language (EN, ES, FR, DE, PT, RU, TR, ZH) User guide soft copy format in EN, ES, FR, ZH languages

Human machine interface

Display type	■ LED display: 7 segment LED, ~14.2 mm height, 3 rows with 4 digits per row 2 columns of LEDs, one on each side of the LED panel to indicate the parameters under measurement ■ LCD display: Monochrome graphical LCD of 128 x 128 mm resolution with viewable area of 67 x 62.5 mm
Keypad	■ PM2100 series: 3 buttons for navigation & combination of 2 buttons for performing set-up, Lock/unlocking of page, Diagnostic page operation ■ PM2200 series: 4 buttons for intuitive navigation of HMI/ UI pages
CAL LED Indicator	Red colour, meter constant is configurable from 1 to 9,999,000 pulses/k_h (kWh, kVAh, or kVARh)
Comm. activity	Green LED (for indicating RS-485 interface or heart beat pulse)

Functions and characteristics

EasyLogic PM2000 Series



Rear of PM2000 with I/O module



Digital I/O module



Analog I/O module

PM2000 series electrical characteristics of IO modules

Status Inputs (Digital Inputs)

Voltage ratings	18.5 to 36 V DC, OFF 0 to 4 V DC
Input resistance	110 kW
Max Frequency	2 Hz (T ON min = T OFF min = 250 ms)
Detect Time	20 ms
Update time	1 s
Isolation	2.5 kV RMS
Supported models	Available as default feature in PM2125/PM2225 and Expandable option in PM2130/PM2230 meter model
Application	Integration of Breaker status or other non-electrical devices like steam, water, gas meter through pulse inputs
Display support	Available on PM2230/PM2225 (LCD type). In PM2130/PM2125 meter, data is available through communication only
Set up and configuration	Through set-up software

Digital Outputs

Voltage ratings	40 V DC max, 20 mA max
On Resistance	50 W max
Meter constant	Configurable from 1 to 9,999,000 k_h (kWh, kVARh, kVAh)
Pulse width	20 ms
Pulse frequency	25 Hz
Leakage current	1 micro Amps
Isolation	2.5 kV RMS
Supported models	Available as default feature in PM2125/PM2225 and Expandable option in PM2130/PM2230 meter model
Alarm conditions	14 set point driven alarms, 4 Unary alarms, 2 Digital inputs status
Application	Pulse output: configurable for energies upper / lower limit: configurable for 10 parameters with 23 set point: V L-L, V L-N, Amps, F, V-THD %, W-tot, VA-tot, VAR-tot, PF-avg, last, present & predicted parameters for 3 power demand
Display and communication	Available on PM2230/PM2225 (LCD type). In PM2130/PM2125 meter, data is available through communication only
Set up and Configuration	Through ION set-up software utility tool

Analog inputs

Measurement scale	4-20 mA
Input impedance	≤ 300 W
Max source impedance	>500 W
Update rate	1 s
Accuracy	1% of Full scale at ambient temp 0.1%/K for de-rating
Voltage ratings	Typical 12 V (max 30 V)
Power Consumption	<1.5 W
Isolation	2.5 kV RMS
Supported models	Available as default feature in PM2125/PM2225 and Expandable option in PM2130/PM2230 meter model
Application	Configurable for inputs from flow rates, RPM, fluid level, oil pressure, temperature measurement devices or transducers with option of 81 different Uni code selection. Configuration via set up software
Display and communication	Available on PM2230 (LCD type). In PM2130 meter, data is available through communication only
Set up and configuration	Through ION set-up software utility tool

Analog outputs

Scale	4-20 mA
Load impedance	≤ 600 W
Update rate	1 s
Accuracy	1% of Full scale at ambient temp
Voltage ratings	Typical 12 V (max 30 V)
Power Consumption	<1.5 W
Isolation	2.5 kV RMS
Supported models	Available as default feature in PM2125/PM2225 and Expandable option in PM2130/PM2230 meter model
Application	Analog outputs can be associated to 40 different instantaneous parameters
Display and communication	Available on PM2230 (LCD type). In PM2130 meter, data is available through communication only
Set-up & configuration	Through ION set-up software utility tool

Mechanical characteristics

Mechanical dimension	90.5 mm W x 53 mm H x 14.67 mm D (without connector)
Weight	50 g

Functions and characteristics

EasyLogic PM2000 Series

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Feature set summary	PM2110	PM2120	PM2125C	PM2130	PM2210	PM2220	PM2225C	PM2230
Accuracy Class for Wh	1.0		0.5S		1.0		0.5S	
Accuracy Class for VARh	1.0							
Accuracy for VAh	± 0.5%							
Amps, per-phase, average and calculated neutral current	■							
Voltage, V L-N, V L-L, per-phase and average	■							
Power Factor	True PF	■ True PF ■ Displacement PF1			True PF	■ True PF ■ Displacement PF		
Frequency, any available phase	■							
Power: W, VA, VAR: per phase and total	■							
3-phase unbalance %	Current	Current voltage ^[4]			Current	Current voltage		
Demand parameters (Present, Last, Predicted and Peak for W, VA, VAR, Amps) Date and Time stamp for peak demand	■ (no timestamp)	■			■ (no timestamp)	■		
Energy: Wh, VAh, VARh (4 quadrant) Delivered (Import or Forward), Received (Export or Reverse)	Delivered, Received	Delivered, Received, Total ^[4] , Net ^[4] , Last cleared ^[4]			Delivered, Received, Total, Net	Delivered, Received, Total, Net, Last cleared ^[3]		
Active load timer, meter operating timer, run hours and power outage counter	-	Through com			-	■		
THD %: Voltage L-N or L-L, Amps per phase	■							
Individual harmonics for Voltage, Current, per-phase ^[7]	-	Up to 15 th ^[4]	Up to 31 st ^[4]	Up to 31 st ^[4]	-	Up to 15 th	Up to 31 st	Up to 31 st
Min/Max with real time clock for avg or total of V L-L, V L-N, Amps, PF, Hz, W, VA, VAR parameters with date and time stamp of occurrence	-	Through com			-	■		
RTC/battery2	-	■	■	■	-	■	■	■
Communication	Pulse Output	RS-485			Pulse Output	RS-485		
Expandable Analog IO module ^[5] PM2K2AIAO: 2 input & 2 output channels PM2K1AIAO: 1 input & 1 output channel	-		Embedded with 2AI/AO	■	-		Embedded with 2AI/AO	■
Expandable Digital IO module3 PM2K2DIDO: 2 input & 2 output channels	-	-	Embedded with 2DI/DO	■	-	-	Embedded with 2AI/AO	■
Customizable data logging up to 2 parameters. Option to select Power (W, VA, VAR) Bi-directional energy (± Wh, ± VAh, ± VARh), Demand (W, VA, VAR) with configurable interval and duration (e.g. 2 parameters for 60 days at 15 minutes interval)	-		-	■	-		-	■
Alarms: 23 set point driven alarms from 10 parameters including - V L-L, V L-N, Amps, F, V-THD %, W-Tot, VA-Tot, VAR-Tot, PF-Avg, Last DM, Present DM, Predicted DM. 4 Unary alarms - meter power UP, meter reset, meter diagnostic, phase reversal. 2 digital input status - with DI/DO card only	-	-	■	■	-	-	■	■
12 am snap shot of Avg Voltage, Avg Current, Total active power & Energy delivered as measured every day at 12am ^[7]	-		-	-	-	■	-	■
Rate counters: 2 configurable counters to display values in customer specified units base on energy measured (e.g., kgCO2 emission or energy cost) ^[7]	-		-	-	-	■	-	■

[4]: through communication only

[5]: any one IO module can be used at a time with PM2130 or PM2230 meter. The control power range for PM2130 & PM2230 meters with or without IO module (including PM2125/PM2225 references) shall be 72 to 304 V AC L-N or 90 to 304 V DC.

[6]: battery backup duration 3 years when meter is in continuous or accumulated Power OFF condition.

[7]: individual harmonics, configurable snap shot and rate counter features not available in PM2125/PM2225 meters.



Innovation that protects:
Learn about
the technical information
of the EasyLogic PM2000
range here



Offer



Catalogue

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<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

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Pushbuttons, Switches and Pilot lights



Easy Harmony

General overview	F-180
Easy Harmony XA2, plastic	F-181
Easy Harmony XB7, plastic	F-186



Pushbuttons, switches, pilot lights and signaling devices

Easy Harmony™ XA2, plastic Control and signaling units Ø 22

Fit for purpose

All the products composing the Easy Harmony™ XA2 range have been designed to be used in numerous control and signaling applications:

- customers can easily select the key functions for standard applications
- their diameter, Ø 22 mm / 0.866 in. makes them suitable for standard OEM and panel builder applications
- with plastic material, they provide a solution for industrial applications demanding a high resistance to chemical agents.

Ease and comfort of choice

The range is available in the form of complete units. It involves:

- modular, plastic pushbuttons and switches with metallic-look ring. The modular design allows flexible and simple setup for complete products: the right product can be chosen among various types of heads and 2 types of functions are proposed (contact and signaling)
- complete pilot lights, provided with integral LED

All products are fitted with screw clamp terminals allowing fast and easy connection.

Easy Harmony™ XA2:

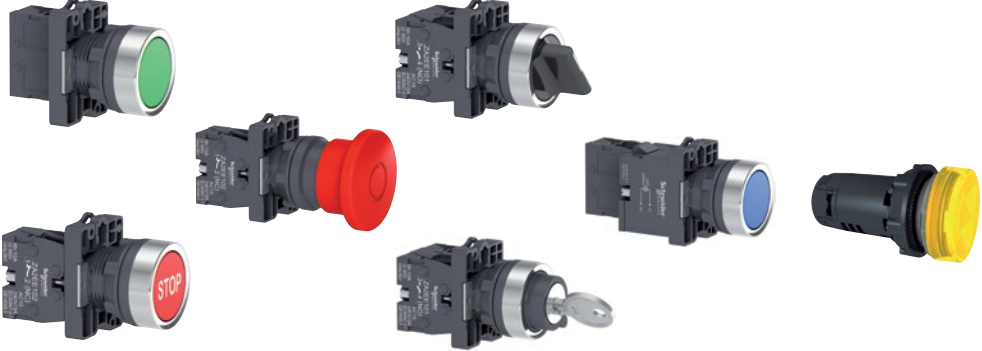
- > modular, plastic pushbuttons and switches with metallic-look ring.
- > complete, plastic pilot lights with integral LED.

Easy Harmony XA2, plastic

Control and signaling units Ø 22

Pushbuttons, switches and pilot lights

Type of products	Contact functions			Contact and signaling functions	Signaling functions
	Pushbuttons	Emergency switching off pushbuttons	Selector and key switches	Illuminated pushbuttons	Pilot lights



Description of range	Pushbuttons, spring return: flush push, mushroom head, and push-push	Emergency switching off pushbuttons: turn to release and push-pull	■ Selector switches, 2 or 3-position: standard or long handle ■ Key switches	Illuminated pushbuttons with integral LED, spring return: flush push	Pilot lights with integral LED
Drilling or cut-out for mounting	Ø 22 mm/0.866 in.				
Degree of protection	IP54 conforming to standard IEC 60529				IP40 conforming to standard IEC 60529
International standards	IEC 60947-5-1, EN 60947-5-1, GB/T 14048.1-93, GB/14048.5-93				
Product certification	CCC, EAC				
Cabling	Screw clamp terminal connections				
Mounting	Panel thickness	Ø 1 to 6 mm/ 0.04 to 0.24 in.			
Type references	XA2EA●●/EA●●●●/EC●●/XA2ER●●/EH0●●	XA2ET●●/ES●●●	XA2ED●●/EJ●●/EG●●	XA2EW3●●●	XB7EV●●●LC, XB7EV●D●LC

Easy Harmony XA2, plastic

Control and signaling units Ø 22

Spring return pushbuttons, marked and unmarked Mushroom head pushbuttons

A



XA2EA31

B

C

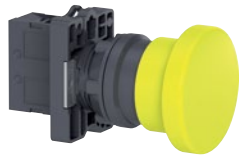
D



XA2EA4342

E

F



XA2EC51

G

H

Spring return pushbuttons with flush push

Shape of head	Type of contacts	Color of push	Marking	Reference	Weight kg/lb
					
	N/O	N/C			

Unmarked

	1	—	White	—	XA2EA11	0.032/0.071
			Black	—	XA2EA21	0.032/0.071
			Green	—	XA2EA31	0.032/0.071
			Yellow	—	XA2EA51	0.032/0.071
			Blue	—	XA2EA61	0.032/0.071
—	1	—	Red	—	XA2EA42	0.032/0.071

Marked

	1	—	Green	"I"	XA2EA3311	0.032/0.071
	1	—	Black	"↑"	XA2EA3351	0.032/0.071
	1	—	White	"↑"	XA2EA3341	0.032/0.071
	—	1	Red	"O"	XA2EA4322	0.032/0.071
	—	1	Red	"STOP"	XA2EA4342	0.032/0.071

Mushroom head pushbuttons, spring return

Shape of head	Type of contacts		Color of push	Diameter Ø (mm)/in.	Reference	Weight kg/lb
						
	N/O	N/C				
	1	–	Black	40/1.575	XA2EC21	0.052/0.115
	1	–	Green	40/1.575	XA2EC31	0.052/0.115
	–	1	Red	40/1.575	XA2EC42	0.052/0.115
	1	–	Yellow	40/1.575	XA2EC51	0.052/0.115
	1	–	Black	60/2.362	XA2ER21	0.058/0.128

Note: please refer to our website www.se.com for information on dimensions.

Easy Harmony XA2, plastic

Control and signaling units Ø 22

Pushbuttons, push-push, emergency switching off pushbuttons



XA2EH021

Pushbuttons, push-push with flush push						
Shape of head	Type of contacts		Color of push	Reference	Weight kg/lb	
	N/O 1	 N/C –	White	XA2EH011	0.04/0.088	
			Black	XA2EH021	0.04/0.088	
			Green	XA2EH031	0.04/0.088	
	–	1	Red	XA2EH042	0.04/0.088	
	1	–	Yellow	XA2EH051	0.04/0.088	
	1	–	Blue	XA2EH061	0.04/0.088	



XA2ET42

Emergency switching off pushbuttons							
Shape of head	Type of push	Type of contacts		Color	Diameter Ø (mm)/in.	Reference	Weight kg/lb
			 N/C				
	Push-pull	—	1	Red	40/1.575	XA2ET42	0.088/0.194
	Turn to release	—	1	Red	30/1.181	XA2ES442	0.056/0.123
		—	—	Red	40/1.575	XA2ES542	0.058/0.128
		—	—	Red	60/2.362	XA2ES642	0.064/0.141
		—	—	Black	30/1.181	XA2ES422	0.056/0.123

Note: please refer to our website www.se.com for information on dimensions.

Easy Harmony XA2, plastic

Control and signaling units Ø 22

Selector switches, with standard or long handle, key switches

A



XA2ED53

B

C

D

E



XA2EG03

F

G

H

Selector switches, with standard handle or with long handle

Shape of head	Type of push	Type of contacts		Number and type of positions	Reference	Weight kg/lb
						
		N/O	N/C			
	Standard handle	1	–	2 - stay put 	XA2ED21	0.04/0.088
		1	1	2 - stay put 	XA2ED25	0.054/0.119
		2	–	3 - stay put 	XA2ED33	0.054/0.119
		2	–	3 - spring return from 2 sides 	XA2ED53	0.054/0.119
		1	–	2 - spring return 	XA2ED41	0.041/0.090
	Long handle	1	–	2 - stay put 	XA2EJ21	0.041/0.090
		1	1	2 - stay put 	XA2EJ25	0.041/0.090
		2	–	3 - stay put 	XA2EJ33	0.055/0.121
		2	–	3 - spring return from 2 sides 	XA2EJ53	0.055/0.121

Key switches

Shape of head	Type of push	Type of contacts		Number and type of positions	Reference	Weight kg/lb
						
		N/O	N/C			
	Key	1	–	2 - stay put, one side pull-out 	XA2EG21	0.064/0.141
		2	–	2 - stay put, two sides pull-out 	XA2EG43	0.078/0.172
		2	–	2 - spring return, one side pull-out 	XA2EG63	0.078/0.172
		2	–	3 - spring return from 2 sides, middle pull-out 	XA2EG73	0.078/0.172
		2	–	3 - stay put, middle pull-out 	XA2EG33	0.078/0.172
		2	–	3 - stay put, 3 sides pull-out 	XA2EG03	0.078/0.172

Note: please refer to our website www.se.com for information on dimensions.

Easy Harmony XA2, plastic

Control and signaling units Ø 22

Illuminated pushbuttons with flush push, bulbs, contact functions for all XA2 pushbuttons and switches



XA2EW36B1



DL1LED244



DL1LED246

Illuminated pushbuttons with integral LED							
Shape of head	Type of push	Supply voltage V	Type of contacts		Color	Reference	Weight kg/lb
							
			N/O	N/C			
	Flush push	~ 24	1	–	White	XA2EW31B1	0.056/0.123
					Green	XA2EW33B1	0.056/0.123
					Red	XA2EW34B1	0.056/0.123
					Yellow	XA2EW35B1	0.056/0.123
					Blue	XA2EW36B1	0.056/0.123
					–	1	Red
		~ 220-230	1	–	White	XA2EW31M1	0.064/0.141
					Green	XA2EW33M1	0.064/0.141
					Red	XA2EW34M1	0.064/0.141
					Yellow	XA2EW35M1	0.064/0.141
					Blue	XA2EW36M1	0.064/0.141
					–	1	Red
	~ 380-400	1	–	White	XA2EW31Q1	0.064/0.141	
				Green	XA2EW33Q1	0.064/0.141	
				Red	XA2EW34Q1	0.064/0.141	
				Yellow	XA2EW35Q1	0.064/0.141	
				Blue	XA2EW36Q1	0.064/0.141	
				–	1	Red	XA2EW34Q2

Note: for accessories, please consult Schneider Electric catalog.

Easy Harmony XB7, plastic

Control and signaling units Ø 22

Pilot lights with integral LED

A



XB7EV●●5LC

B

C



XB7EV●●3LC

D

E

F

G

H

Pilot lights with integral LED					
Shape of head	Supply voltage V	Color of lens	Sold in lots of	Reference	Weight kg/lb
	~ 24	White	10	XB7EVB1LC	0.017/0.037
		Green	10	XB7EVB3LC	0.017/0.037
		Red	10	XB7EVB4LC	0.017/0.037
		Yellow	10	XB7EVB5LC	0.017/0.037
		Blue	10	XB7EVB6LC	0.017/0.037
	~ 110	White	10	XB7EVF1LC	0.017/0.037
		Green	10	XB7EVF3LC	0.017/0.037
		Red	10	XB7EVF4LC	0.017/0.037
		Yellow	10	XB7EVF5LC	0.017/0.037
		Blue	10	XB7EVF6LC	0.017/0.037
	= 110	White	10	XB7EVFD1LC	0.017/0.037
		Green	10	XB7EVFD3LC	0.017/0.037
		Red	10	XB7EVFD4LC	0.017/0.037
		Yellow	10	XB7EVFD5LC	0.017/0.037
		Blue	10	XB7EVFD6LC	0.017/0.037
	~ 220-230	White	10	XB7EVM1LC	0.017/0.037
		Green	10	XB7EVM3LC	0.017/0.037
		Red	10	XB7EVM4LC	0.017/0.037
		Yellow	10	XB7EVM5LC	0.017/0.037
		Blue	10	XB7EVM6LC	0.017/0.037
	= 220	White	10	XB7EVMD1LC	0.017/0.037
		Green	10	XB7EVMD3LC	0.017/0.037
		Red	10	XB7EVMD4LC	0.017/0.037
		Yellow	10	XB7EVMD5LC	0.017/0.037
		Blue	10	XB7EVMD6LC	0.017/0.037
	~ 380-400	White	10	XB7EVQ1LC	0.017/0.037
		Green	10	XB7EVQ3LC	0.017/0.037
		Red	10	XB7EVQ4LC	0.017/0.037
		Yellow	10	XB7EVQ5LC	0.017/0.037
		Blue	10	XB7EVQ6LC	0.017/0.037

Note: please refer to our website www.se.com for information on dimensions.

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Innovation that protects:
Learn about
the technical information
of the Easy Harmony
range here



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Catalogue

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

Power Factor Correction Capacitors



EasyCan

General overview	G-190
Technical characteristics	G-194



EasyCan: The new generation LV power factor correction capacitors

What is power factor correction?

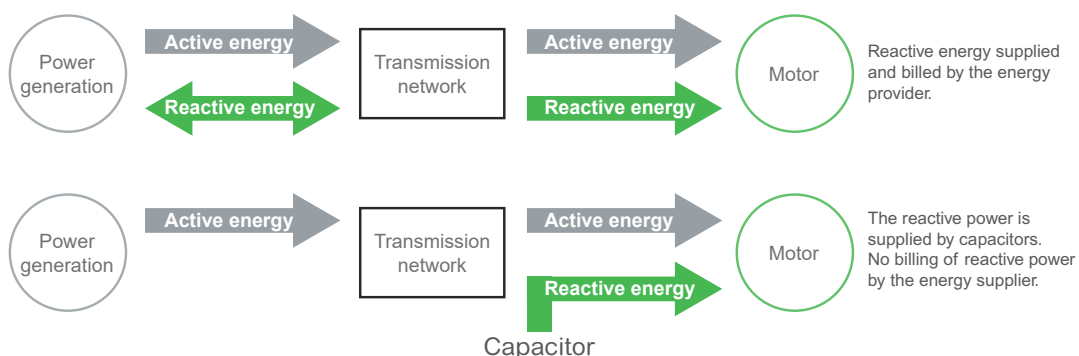
In electrical networks, reactive power and harmonics result in increased line currents for a given active power transmitted to loads. The principle of power factor correction is to reduce the apparent Power S (kVA) for a given active Power P (kW).

Preliminary steps proposed to customers include power quality audits and the installation of power monitoring systems. This will provide comprehensive knowledge of the electrical installation characteristics in terms of power factor and harmonic distortion. Compensation of reactive power/energy or harmonic mitigation will be selected accordingly.

Compensation of reactive power/energy

An electricity bill generally includes components relating to active and reactive power (or energy) that has been absorbed over time.

Compensation of reactive energy is typically achieved by producing reactive energy close to the consuming loads through capacitor banks connected to the network. As a result, the energy supplier provides active energy only.



5 Easy Steps for Energy Efficiency



30%

weight and size
reduction

100 k

lifetime hours

30%

more continuous current-
carrying capacity

Easy installation

EasyCan's optimised design reduces product size and weight by 30%, compared to the same rating of capacitor unit of the same class available in market. Its compact size helps to save panel space while its lower weight improves user experience during installation.

The EasyCan capacitor's ergonomically designed Clamptite terminals also make handling simple and effortless. Its unique termination system is designed to maintain tightness and reduce the risk of loose connections.

Eliminate extra earthing connections. EasyCan's capacitor uses a bottom nut for mounting and earthing, ensuring installation is efficient, effective and safe.

Easy reliability & safety usage

EasyCan capacitor offers exceptional reliability, extended life and high over-current capacity for handling slightly harmonic polluted networks. It gives a fail-safe performance and user confidence. EasyCan has a three-phase design with a peripheral Pressure Sensitive Disconnection (PSD) mechanism. Schneider Electric has implemented a very stringent quality checking procedure to ensure consistency and reliability of the PSD mechanism. This independent mechanical component helps to disconnect the electricity supply automatically and has a guaranteed safe disconnection when the capacitor reaches the end of its life.

The EasyCan capacitor incorporates non-accessible, built-in discharge resistors to ensure total user safety by avoiding user contact. Moreover, its non-accessible design prevents the misplacement of resistors and can help to decrease the risk of safety hazards from capacitor discharge.



Before PSD Operation



After PSD Operation

EasyCan

5 Easy Steps for Energy Efficiency



Easy quality assurance

EasyCan is manufactured in a state-of-the-art factory with advanced testing equipment to maintain product quality. All products are being fully tested before being sold, with seven testing stages for components and a two-stage final test, including component and film inspection, element and CD testing.

EasyCan capacitors meet the highest standards to satisfy worldwide requirements.

All elements in the EasyCan capacitor undergo a vacuum heat treatment process to ensure product reliability. The factory is certified by ISO 9001, ISO 14000 and ISO 50001 and boasts advanced machinery, test equipment and a state-of-the-art testing laboratory. The production process is simple and effective but does not compromise on safety, quality and performance.

As well as quality assurance in product design and production, EasyCan capacitors reflect Schneider Electric's comprehensive approach to environmental responsibility and add a new dimension to the trend of green living. They are RoHS and REACH compliant and our manufacturing plant is a rated IGBC Green Factory. EasyCan also uses bio-degradable resin, which is easy to disassemble and recycle.

100%

commitment to testing
ISO 9001, ISO 14000
and ISO 50001 quality
certified manufacturing



Easy quality assurance

EasyCan power correction capacitors can help to reduce up to 30% energy wastage. This consequently saves money and increases the available power in the network. The use of EasyCan capacitors means electricity bill penalties are avoided and you can save more while spending less. Capacitor usage can reduce 1,000 kg of carbon footprint in a year, making it another easy way to protect the environment.

The compact size of EasyCan capacitors (30% smaller than other similar models) helps to save up to 20% power panel space and maximises the utility of power usage for each area.

30%

energy wastage
reduction



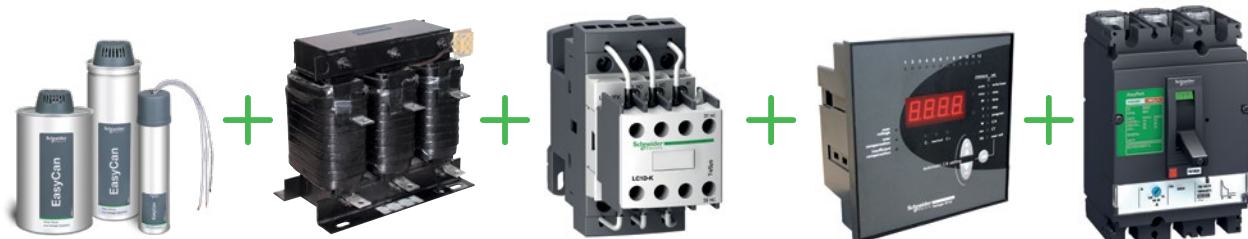
5 Easy Steps for Energy Efficiency



Easy combinations

To make the most of your investment in EasyCan, the power factor correction capacitors can be matched with a wide choice of components including combined usage with Detuned Reactors, Capacitor Duty Contactors, MCCB for overload protection and PFC Controllers.

> Easy choice of components to optimise your solution.



Detuned Reactors

This harmonic rated range of capacitors (480 V & 525 V) is dedicated to applications where a high number of non-linear loads are present.

These capacitors are designed for use with detuned reactors to deliver a perfect balance between performance and cost.

Schneider Electric's range of VarPlus Reactors should be associated with capacitor banks for Power Factor Correction in systems with significant non-linear loads, generating harmonics.

Capacitors and reactors are configured in a series resonant circuit, tuned so that the series resonant frequency is below the lowest harmonic frequency present in the system.

Capacitor Duty Contactors

Special contactors LC1 D•K are designed for switching three-phase, single- or multiple-step capacitor banks. They comply with IEC 60070 and 60831, NFC 54-100, VDE 0560, UL and CSA standards.

PFC Controller

The Varlogic controllers permanently monitor the reactive power of the installation, and control the connection and disconnection of capacitor steps in order to obtain the targeted power factor.

MCCB

The MCCBs acts as a overload and short circuit protector for individual capacitor bank, preventing disconnection of the bank in the event of overload due to harmonics or other fluctuations.

Use of MCCBs are highly recommended for every capacitor steps.

Specifications

Construction	Extruded aluminium can
Voltage range	230 V - 525 V
Power range (Three Phase)	1 - 30 kvar
Peak inrush current	Up to $200 \times I_n$
Over voltage	$1.1 \times U_n$ As per IEC 60831- ½
Over current	$1.5 \times I_n$
Mean life expectancy	Up to 100,000 h
Discharge device	50 V / 1 min
Dielectric	Special profile Al/Zn Metalised Poly Propylene film
Impregnation	Non-PCB Biodegradable soft resin
Ambient temperature	-25°C to max 55°C
Protection	IP20 (Fast on and clamptype type)
Mounting	1- point mounting, upright
Terminals	■ Double fast-on + cable < 10 kvar ■ CLAMPTITE - >10 kvar to 30 kvar ■ STUD TYPE for more than 30 kvar



Green innovation
RoHS and REACH
compliant



Technical characteristics

EasyCan

Single Phase & Three Phase



EasyCan Three Phase Capacitor

EasyCan Single Phase Capacitor

General characteristics

Standards	IEC 60831-1/2
Voltage range	■ 230 V to 525 V in Three Phase ■ 220-440 V in Single Phase
Frequency	50 / 60 Hz
Power range	1 to 30.3 kvar
Losses (dielectric)	< 0.2 W / kvar
Losses (total)	< 0.5 W / kvar
Capacitance tolerance	-5 %, +10 %
Voltage test	Between terminals 2.15 x U_N (AC), 10 s Between terminal & container 3 kV (AC), 10 s or 3.66 kV (AC), 2 s Impulse voltage 8 kV
Discharge resistor	Fitted, standard discharge time 60 s

Working conditions

Ambient temperature	-25 / 55°C (Class D)
Humidity	95 %
Altitude	2,000 m above sea level
Oversvoltage	1.1 x U_N 8 h in every 24 h
Overcurrent	Up to 1.5 x I_N
Peak inrush current	200 x I_N
Switching operations (max.)	Up to 5,000 switching operations per year
Mean Life expectancy	Up to 100,000 hrs
Harmonic content withstand	$N_{LL} \leq 10 \%$

Installation characteristics

Mounting position	Indoor, upright
Fastening	Threaded M12 stud at the bottom
Earthing	
Terminals	■ CLAMPTITE - terminals with electric shock protection (finger-proof) & double fast-on terminal in lower kvar ■ Stud type terminal: □ three way stud type terminals for the ratings above 30.3 kvar in three phase capacitors (2 terminals for single phase) □ two way stud terminals for ratings above 15.1 kvar in single phase

Safety features

Safety	Self-healing + Pressure-sensitive disconnecter + Discharge device
Protection	IP20 (for fast-on and clamptite)

Construction

Casing	Extruded Aluminium Can
Dielectric	Metallized polypropylene film with Zn/Al alloy
Impregnation	Biodegradable, Non-PCB, poly urethane soft resin

⚠ WARNING

HAZARD OF ELECTRICAL SHOCK

	Wait 5 minutes after isolating supply before handling Failure to follow these instructions can result in injury or equipment damage
--	---

EasyCan

Single Phase & Three Phase

A



EasyCan three phase

B

C

D



EasyCan three phase

E

F

G

H

Operating conditions

- For networks with insignificant non-linear loads: ($N_{LL} \leq 10\%$).
- Standard voltage disturbances.
- Standard operating temperature up to 55°C.
- Normal switching frequency up to 5000/year.
- Maximum current (including harmonics) is $1.5 \times I_N$.

Easy installation & maintenance

- Optimized design for low weight, compactness and reliability to ensure easy installation and upto 20% space savings in cubicles.
- New CLAMPTITE terminals that allows maintained tightness.
- Non accessible in-built discharge resistors to ensure safety.
- 1 point for mounting and earthing.
- Simultaneous and safe disconnection of all the phases at end of life in EasyCan.
- Stacked design and resin filled technology for better cooling.

Safety

- Self-healing.
- Pressure-sensitive disconnecter on all three phases.
- Discharge resistors fitted - non removable.
- Finger-proof CLAMPTITE terminals to reduce risk of accidental contact and to ensure firm termination (10 to 30.3 kvar in three phase and 8.3 - 15.1 kvar in single phase).

Technology

Constructed internally with single-phase capacitor elements assembled in an optimized design. Each capacitor element is manufactured with metallized polypropylene film.

The active capacitor elements are encapsulated in a specially formulated biodegradable, non-PCB, polyurethane soft resin which ensures thermal stability and heat removal from inside the capacitor.

The unique finger-proof CLAMPTITE termination is fully integrated with discharge resistors and allows suitable access to tightening and allows cable termination without any loose connections.

For lower ratings, double fast-on terminals with wires are provided.

EasyCan capacitors are designed to work in slightly polluted networks with detuned reactors. 480 V and 525 V range of EasyCan is designed to work with detuned reactors in 400 V.

Operating conditions

- For slightly polluted networks.
- Slight voltage disturbances.
- Need of switching frequency up to 5 000/year.

Rated voltage

In a detuned filter application, the voltage across the capacitors is higher than the network service voltage (U_s). Then, capacitors must be designed to withstand higher voltages.

Depending on the selected tuning frequency, part of the harmonic currents are absorbed by the detuned capacitor bank. Then, capacitors must be designed to withstand higher currents, combining fundamental and harmonic currents.

The rated voltage of EasyCan capacitors is given in the table below, for different values of network service voltage and relative impedance.

Capacitor Rated Voltage U_N (V)		Network Service Voltage U_s (V)	
		50 Hz	60 Hz
		400	400
Relative Impedance (%)	5.7	480	480
	7		
	14	480	480

Note: in the following pages, the effective power (kvar) given in the tables is the reactive power provided by the combination of capacitors and reactors.



Detuned reactor

EasyCan



Innovation that protects:
Learn about
the technical information
of the EasyCan range here



Offer



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If you need more details about product references and availability, please check your local Schneider Electric contact
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Switchboards and Enclosures



Prisma

General overview	H-200
Technical characteristics - Prisma G	H-207
Technical characteristics - Prisma P	H-208



Okken

General overview	H-210
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BlokSet

General overview	H-220
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Prisma:

the optimised, tested and IEC compliant solution,
for low voltage electrical distribution and control switchboards



A comprehensive range of enclosures and cubicles

- > A solution based on more than **30 years of experience** in low voltage switchboards.
- > Integrating Schneider Electric switchgear offerings and ensuring electrical, mechanical and communication **functions complete consistency**.
- > Quality production, **certified ISO 9001** and manufactured in Montmélian (France).

With Prisma, your solution is 100 % optimised

Flexible design for building applications and their operation

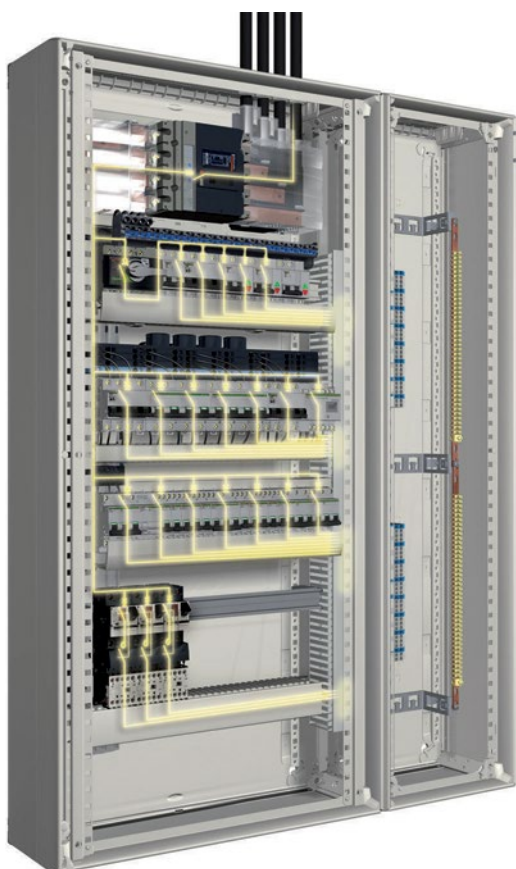
Thanks to Prisma solutions, design offices can design and customise switchboards easily and quickly:

- organisation by functional units, each corresponding to an application in the building (lighting, HVAC, lifts, etc.)
- organisation by dedicated physical zones: one for functional units (switchgear, mounting plates, front plates), one for power distribution, and one for connections.

100 % dependable and optimised design, in compliance with costs and deadlines

By supporting design offices with the services and software tools (Ecodial, Rapsody...) needed to quickly design switchboards, we help them to highlight their professionalism: switchboards with tested architectures to meet the most stringent specifications

Our tools and services also enable them to meet requirements concerning compliance with costs and deadlines: optimised selection of the appropriate components for each switchboard (switchgear, distribution systems, enclosures with perfect electrical and mechanical consistency), front panel design and fast cost studies.



100%

of dedicated building switchboard architectures are tested in compliance with IEC standards and can be customised

Prisma

Prisma G Pack 160 enclosures

Pack 250 enclosures up to 630 A

IP30, IP40, IP41, IP43, IP55



160 A

250 A

630 A

- Schools
- Small shops
- Hotels, etc.

Pack



- Small companies
- Buildings
- Offices
- Laboratories

- Healthcare centres
- Hotels
- Supermarkets
- Malls, etc.

Prisma G



Prisma P cubicles up to 4000 A IP30, IP31, IP55

The optimised, tested and IEC compliant solution, for low voltage electrical distribution and control switchboards.



- Hospitals
- Data centres
- Logistics centres
- Shopping centres
- Offices buildings
- Medium industrial solutions

Prisma P



Energy management has never been simpler

Smart Panels connect you to energy savings in three steps.

1. Measure

Embedded and stand-alone metering & control capabilities

- Embedded and stand-alone metering
- Control capabilities.

2. Connect

- Integrated communication interfaces
- Ready to connect to energy management platforms.

3. Act

- Data-driven energy efficiency actions
- Real time monitoring and control
- Access to energy and site information through on-line services.



Tested, Validated, Documented Smart Panels architecture

Smart Panels have been certified via Schneider Electric's "TVDA" quality process

Tested in performance labs by experts, in the most common configuration

Validated full functional compatibility of devices

Documented, with user guide, predefined CAD panel designs & wiring diagrams.

Develop your business efficiency...



Switchboards that are safe...

With Prisma you can be sure to build 100% Schneider Electric switchboards that are safe, optimised:

- All components (switchgear, distribution blocks, prefabricated connections, etc.) are perfectly rated and coordinated to work together.
- All switchboard configurations, even the most demanding ones, have been tested.

You can prove that your switchboard meets the current standards, at any time.

You can be sure to build a reliable electrical installation and give your customers full satisfaction in terms of dependability and safety for people and the installation.

...optimised and upgradeable

With Prisma you can build just the right switchboard for your customer, sized precisely to fit costs and needs. With this complete, prefabricated and tested system, it's easy to upgrade your installation and still maintain the original performance levels.

- The wall-mounted and floor-standing enclosures combine easily with switchboards already in service.
- Devices can be replaced or added at any time.



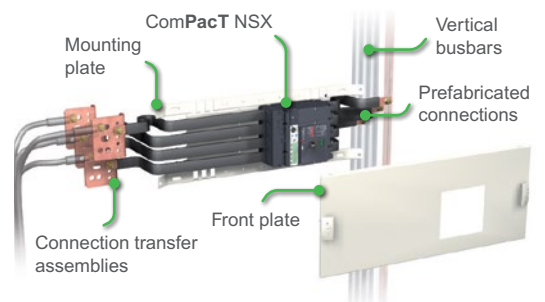
Tested low voltage switchboard, IEC 61439-1 & 2 compliant

- > Available power.
- > Safety of people and property.
- > Controlled costs and delivery times.
- > Upgradeability.

...with our functional LV systems

Straightforward organisation
to make your job easier

The switchboard is structured by zones dedicated to switchgear, busbars, cables, etc.



The functional units are naturally stacking in the switchboard.

Each configuration is tested for improved safety.



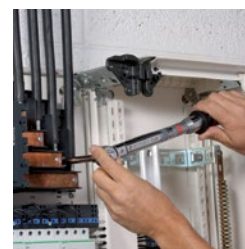
Temperature rise test in laboratory.

Readily available close by

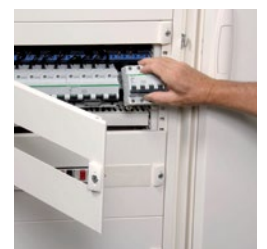
The kit concept makes handling and transport easier and you get to benefit from Schneider Electric's efficient international logistics. Your distributor, selected by Schneider Electric, can give you the very best advice.

Simple gestures
for cabling in the
workshop

All connection points are fully accessible and easy to check.

Efficient installation
and connection
work on site

Easy connection on site, whatever the cable cross-section or installation location.

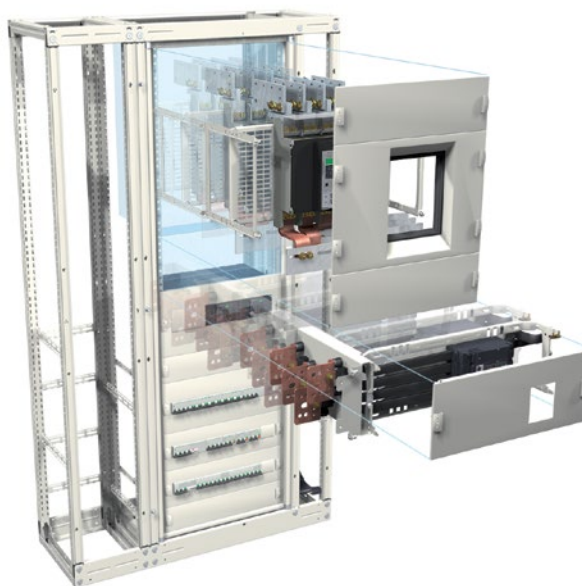
Easy maintenance
throughout the
switchboard

Easy and direct access to devices, in a switchboard in service.

Prisma

Electrical switchboards up to 4000 A

The Prisma functional system can be used for all types of low-voltage distribution switchboards (main, subdistribution and final) up to 4000 A, in commercial and industrial environments.



Switchboard design is very simple

1. A metal structure

The switchboard is made up of one or more frameworks combined side-by-side or back-to-back, on which a complete selection of cover panels and doors can be mounted.

2. A distribution system

A complete offer of centralized or row distribution blocks, with horizontal or vertical busbars positioned in a lateral compartment or at the rear of the panel are used to distribute electricity throughout the switchboard.

3. Complete functional units

- A dedicated mounting plate for device installation
- A front plate to block direct access to live parts
- Prefabricated busbar connections
- Devices for on-site connections.

Each functional unit contributes to a function in the switchboard.

The functional units are modular and are arranged rationally.

The system includes everything required for functional unit mounting, supply and onsite connection.

The components of the Prisma and those of the functional units in particular have been designed and tested taking into account device characteristics.

This design approach ensures a high degree of reliability in system operation and optimum safety for personnel.



Assets of Prisma switchboards

1. A dependable electrical installation

The total compatibility of Schneider Electric devices with the Prisma is a key advantage in ensuring a high level of installation dependability.

2. An upgradeable electrical installation

Thanks to modular design, Prisma switchboards can be modified easily to integrate new functional units as needed.

Maintenance operations, carried out with the switchboard de-energised, are fast and straight-forward due to easy access to devices.

3. Total safety for personnel

Work in a switchboard must be carried out by authorised persons in compliance with all applicable safety regulations.

To increase the safety of personnel, devices are installed behind protective front plates; only the operating handles are accessible. Additional internal protection (partitions, barriers) is available to create form 2, 3 or 4 separation to protect against direct contacts with live parts.

Terminal shields are mandatory for installation of ComPacT NSX and INS/INV devices in Prisma enclosures.

System design has been validated by type tests as per standard IEC 61439-1 & 2 and benefits from the combined experience of Schneider Electric over many years



Electrical characteristics

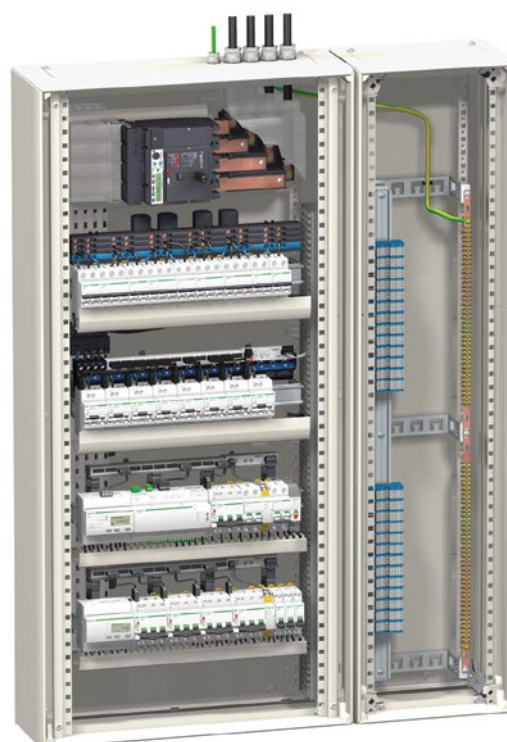
Comply with IEC 62208 and EN 62208 standards:

- rated insulation of main busbars at rear of enclosure: 1000 V
- InA: 630 A
- rated peak withstand current I_{pk}: 53 kA
- rated short-time withstand current I_{cw}: 25 kA rms / 1 second
- short-circuit current: 50 kA
- frequency: 50/60 Hz.



Mechanical characteristics

- Steel sheet metal.
- Electrophoresis treatment + hot-polymerised polyester epoxy powder, white colour RAL 9001.
- Enclosures supplied in kit form, totally dismountable, designed to be assembled and wired horizontally on a work station.
- Can be combined side by side and one on top of another.
- Degree of protection:
 - IP30: without door,
 - IP40: with door,
 - IP41: with door + canopy,
 - IP43: with door + gasket + canopy,
 - IP55: IP55 Prisma G offer, supplied in kit form.
- Degree of protection against mechanical impacts:
 - IK07: without door,
 - IK08: with door (transparent),
 - IK10: with plain door,
 - IK10: for Prisma G IP55.
- Seismic characteristics: 2.5G without accessories.
- Enclosure dimensions:
 - 3 widths:
 - W = 300: ducts 10 modules width,
 - W = 600: wall-mounted and floor-standing enclosures, 24 modules width,
 - W = 850: floor-standing enclosures 36 modules width,
 - depth with door:
 - enclosures G IP30: 250 mm,
 - enclosures G IP55: 260 mm,
 - heights:
 - Prisma G IP30: 12 heights: 330 mm to 1980 mm,
 - Prisma G IP55: 7 heights: 450 mm to 1750 mm.
- Inside switchboards.



Electrical switchboards up to 4000 A

System design has been validated by type tests as per standards IEC 61439-1 and 2 and benefits from the combined experience of Schneider Electric customers over many years



Electrical characteristics

Complying with standards IEC 62208 and EN 62208:

- rated insulation level of main busbars: 1000 V
- InA: 4000 A
- rated peak withstand current I_{pk}: 220 kA
- rated short-time withstand current I_{cw}: 100 kA rms / 1 second
- frequency: 50/60 Hz
- voltage U_e = 690 V under conditions.



Mechanical characteristics

- Steel sheet metal.
- Cataphoresis treatment + hot-polymerised polyester epoxy powder, white colour RAL 9001.
- Can be dismantled.
- Can be combined side-by-side and back-to-back.
- Degree of protection:
 - IP30: with IP30 cover panels including a door or a cover frame,
 - IP31: with IP30 cover panels including a door + gasket,
 - IP55: with IP55 cover panels.
- Degree of protection against mechanical impacts:
 - IK07: with cover frame,
 - IK08: with IP30 door,
 - IK10: with IP55 door.
- Framework dimensions:
 - 4 widths:
 - W = 300: cable compartment,
 - W = 400: cable compartment or device compartment,
 - W = 650: device compartment or cable compartment,
 - W = 800: device compartment with busbar compartment or cable compartment,
 - 2 depths: 400, 600 mm,
 - height: 2000 mm.
- Indoor cubicles.



> Electrical switchboards built using the Prisma functional system and Schneider Electric recommendations fully comply with international standards IEC 61439-1 and 2.



Innovation that protects:
Learn about
the technical information
of the Prisma range here



Offer



Catalogue Prisma G



Catalogue Prisma P

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

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Okken: intelligent switchboard solutions

With safety and reliability within reach, why settle for less?

Embodying decades of expertise, Okken™ solutions are complete and customized low-voltage (LV) power distribution, motor control, and integrated power control centres. Okken switchboards contribute to answer the need for operational safety in today's high-performance LV power applications. Versatile and durable, Okken switchboards have the comprehensive capabilities and intelligence you need to keep your business competitive.

Industry-leading features, design, and support make implementation and operation quick, easy, and reliable, so you can lower costs and realize a faster return on investment.

Okken solutions combine high level of safety and reliability with an optimized footprint, modular architecture, and smart devices.

A global player with local capabilities

Schneider Electric is present in more than 100 countries, delivering reliable products and solutions around the world. Our global reach helps us ensure high quality and local project and service capabilities, no matter your location.

Smart grid ready

Our broad expertise in electrical network management makes us a partner who knows what the smart grid means for your business, and how best to keep you at the forefront of technology.

15%

Okken solutions can provide up to 15% energy savings^[1]

150 k

More than 150,000 cubicles installed. Customers worldwide trust Okken LV switchboard solutions

^[1] Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

Electrical safety for personnel

Tested and certified by independent ASEFA and LOVAG labs

With Okken, protection is never left to chance

With high modularity and total insulation, safety is engineered into every Okken switchboard, from conception, through design, installation, and everyday operation.

Network management applications

Full type tests as per IEC 61439-1&2 confirm high level of electrical installation and operational safety. Insulation and provided screening of all live parts enhance service life and provide outstanding protection.

- Forms of internal separation up to 4b
- Embedded interlock systems to secure on-load disconnection
- Live-part protection up to IPxxD
- Fully insulated busbars
- Padlockable with three different locks
- Protection with optional doors and accessories
- Closed door racking drawers for extra operator protection in all drawer positions, particularly in case of internal short-circuit or arc event, and even during connecting and disconnecting.

Internal arc withstand and short-circuit protection

- Fully type tested in compliance with IEC TR 61641 edition 3
- Internal arc withstand up to 100 kA/0.5 s
- Arc-free zone with encapsulated active parts in the whole switchboard: incomer, horizontal busbar, withdrawable cubicle
- Active optical arc-flash detection with VAMP system
- Operator protection at three levels:
 - Horizontal and vertical busbars
 - Functional units on all three positions of withdrawable drawers
 - Outgoing cable connections
- Internal arc risk reduction thanks to our unique Polyfast™ system
- Partitioned terminals for electrical insulation between the upstream circuit breaker and the double contact clamps on the main busbar
- Rated conditional short-circuit current (Isc) up to 150 kA.



Note: In working environment, full operator safety measures should always be adopted.

Okken

Reliability and continuity of service

A

An "install-and-forget" level of dependability

The Okken design is based on a robust and type-tested architecture, standardized modules, and Schneider Electric devices. This allows functionality, continuity of supply, and installation reliability, even in very difficult environments

- All components and devices are designed by Schneider Electric and manufactured to rigorous quality standards
- Tested and validated compatibility between switchboards, functional units, and built-in devices
- Outstanding electrical and mechanical consistency and electromagnetic compatibility (EMC) of all Schneider Electric™ components.

B

C

D

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Tough enough for Oil & Gas applications

- Okken switchboards are DEP Shell approved for demanding needs of Oil & Gas facilities
- Total™, Chevron™, British Petroleum™, Air Liquide™, and others place their trust in Okken intelligent switchboard solutions.

Optimized for marine installations

- Okken switchboards satisfy the requirements of marine, offshore, and floating production storage and offloading applications
- They are DNV (Det Norske Veritas) and RINA (Registro Italiano Navale Group) certified for high vibration and saline environments.

Resistance to corrosive environments

- Tin, nickel, or silver busbar coating on copper conductive parts for H₂S and SO₂ atmosphere withstand
- Anticorrosion surface treatments on metallic sheets
- Okken switchboards provide a variety of protection levels (up to IP54).

Durability for seismic areas

- Okken 2.7G and 5G provide mechanical resistance and robust installation in seismic zones in compliance with the most demanding local and international standards: IBC 2006/AC 156, IEC 68-3-3, AS1170, EAK-2000, ENDESA-1986, GOST 17516.1-90, IEEE 693-1997, EDF CRT 91 C 112 00 (on Okken 5G)
- 5G versions are specifically engineered for high-demanding nuclear and industrial applications.

Thermal monitoring

- Permanent temperature monitoring with sensors on critical parts (Exertherm system)
- Predictive maintenance to increase the reliability of your switchboard.

Customized solutions for any application and severe environment





Oil & Gas



Offshore Platforms



Mining, Metals, Minerals



Marine



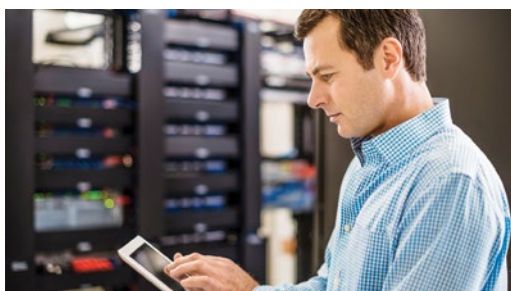
Nuclear



Water and Wastewater Treatment



Healthcare



Data Centres

Okken

A

High performance and superior efficiency

Compact, modular design - the right fit for your organization

B

Industry-leading capabilities

- Maximum busbar rating up to 7300 A
- Maximum rating of Power Control Centre (PCC), up to 6300 A
- Maximum rating of Motor Control Centre (MCC), up to 250 kW
- Smart communicating devices for connected switchboards
- Compact design for higher stacking density and optimized footprint
- Upgradeable energized equipment.

C

A disconnectable design for power distribution

The Polyfast system reinforces the electrical isolation of power distribution switchboard.

D

Power distribution

PCC including protection and power factor correction:

- Main busbar up to 7300 A
- Incomers up to 6300 A (Masterpact™ circuit breakers)
- Feeders up to 6300 A (Masterpact circuit breakers), and up to 630 A (Compact™ circuit breakers)
- Power factor correction up to 540 kVAR.

E

F

G

H

A flexible, withdrawable design for motor control and power distribution

Compact and powerful Okken switchboards answer the needs of the most demanding motor control and power distribution applications. Combining continuity of supply and performant operational services.

Motor control

MCC including protection, starters, and drives:

- Conventional starters up to 250 kW
- Soft starters up to 315 kW
- Drives up to 160 kW.



- > Electrical distribution up to 7300 A.
- > Incomer and feeder up to 6300 A.
- > Motor control up to 250 kW.

Improved versatility and flexibility

24/7 visibility of energy use and power quality

A compact and modular design for every function

Okken is a simple and modular solution that is easy to choose, intuitive to use, cost effective, and simple to install or upgrade.

Fast, easy installation, upgrading, and maintenance

Single front or double front access thanks to back-to-back configuration, top or bottom direct power connections, rear or side power connections for easy installation. Plus, standardized dimensions and an optimized footprint save time and money during installation.

- Fixed, disconnectable, or withdrawable functional units
- Withdrawable drawer size optimization: full and half-widths, different heights from 100 to 600 mm
- Direct power plug connection to the vertical busbar (50 mm pitch)
- Drawer position indicators on front faces and drawer stop
- Withdrawable Masterpact and plug-in
- Compact circuit breaker modules
- Current transformers inside.

Upgrade Okken while under load

Easily modify and upgrade your Okken solution and add new functions as your needs change: scalability while under load, equipping of additional slots in reserved spaces, association of cubicles, fast interchangeability without special tools.

- Degree of protection up to IPxxD on busbar with automatic shutters, and on connections on busbar by plug-in clamps
- Customer connection separate from the functional unit (form up to 4b).



General overview

Okken

A

Smart devices to improve productivity and energy efficiency

All our stand-alone devices and fully integrated solutions for energy monitoring, motor control, and power factor correction provide advanced technology and outstanding capabilities.

B



Power circuit protection and control

Masterpact MTZ-NW-NT, Compact NS-NSX-NSXm



Motor motion control

Altivar™ ATV630, ATV930, ATV31, ATV61, ATV71, Altistart™ ATS48



Energy server

Com'X 200

C



Motor protection monitoring, and control

TeSys™ T, TeSys U, TeSys D, TeSys GV



Process automation

Quantum, Premium, M340 and M580



Energy and power quality metering

PowerLogic™ PM 800

D



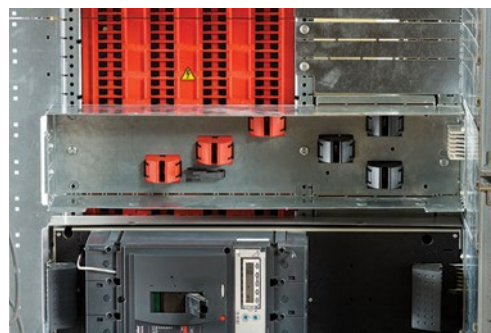
Coupler control

Sepam™

E



Double front access



Plug-in distribution feeders on Polyfast system

F

G



Comprehensive range of full and half-width drawers



Direct connection to the arc-free vertical busbars

H

iPMCC by Okken: built-in intelligence

Our digital solution for power distribution, motor control, and power factor correction

The intelligent Power and Motor Control Centre (iPMCC) by Okken is a highly capable and advanced smart solution for application fault prevention, protection, and automatic restart in continuous and critical processes. It helps you boost productivity and optimize the energy management and efficiency of your assets while enhancing continuity of service, and reducing downtime.

Energy savings up to 15%^[1]

- Integration of all your equipment to lower electrical energy consumption
- Synchronizing motors to loads with progressive starters and variable speed drives and reducing peak consumption by 50% or more^[1]
- Managing reactive power compensation (capacitors) and thermal withstand control to reduce costs and increase energy availability.

^[1] see page 218.

Optimized motor performance

- Motor monitoring and protection in accordance with IEC/EN 60947-7-1
- Motor and protection device configuration accessible at all times
- Associated with TeSys T, iPMCC by Okken enables the detection of electrical loads faults like no-load running, shaft bearing seizure, abnormal starting or heating, pump cavitations, and pulsating torque.

Enhanced control and monitoring

- Better traceability and control
- Local or remote real-time information access
- Motor operating status and time monitoring (alarms and tripping)
- Parameter monitoring and management of status, measurements, diagnostics, trends, and energy consumption.

Smart-grid integration

- Pretested communication architectures offering leading industry protocols engineered to optimize asset energy efficiency (Ethernet TCP/IP, Ethernet/IP, Profibus®-DP, DeviceNet™, Modbus, CANopen®, etc.)
- Seamless integration with energy management and control systems and process automation management systems
- Complete range of design assistance tools.



Okken iPMCC

A complete range to match your toughest needs

For power distribution and motor control including variable speed drives, motor starters, power factor correction, and harmonic filtering

PCC ^[1]		230 Very high-power incomers and feeders up to 6300 A	PCC/MCC		115-70 Mixed incomers and feeders	Enhanced efficiency and productivity 15% Up to 15% increase in productivity ^[†]		
		115 High-power incomers and feeders up to 4000 A		MCC and PCC			70-M^[**] Withdrawable feeders	70% Up to 70% reduction in untimely shutdowns ^[†]
		Single Masterpact MTZ-NW Single incomer or feeder (width 650 mm)			70-2 Polyfast plug-in feeders			
		Single Masterpact MTZ-NT-NS Single incomer or feeder (width 450 mm)	MCC ^[2]			VSD^[3] Variable speed drives and soft starters	90% Up to 90% fewer motor burn-outs ^[†]	
		70-F Fixed feeders			PFC ^[4]			
		185 Fixed feeders						

[1] PCC = Power Control Centre
[2] MCC = Motor Control Centre
[3] VSD = Variable Speed Drive
[4] PFC = Power Factor Correction and harmonic filtering
[†] Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.
[]** For specific applications (marine, seismic, nuclear, etc.), please contact Schneider Electric.

Okken intelligent switchboard specifications

General data		
Applications		Power distribution, motor control
MCC (Motor Control Centre)		Up to 250 kW
VSD (Variable Speed Drive)		Up to 160 kW
PCC (Power Control Centre)		Incomer & feeder up to 6300 A
PFC (Power Factor Correction)		Up to 6* 90 kVAR
Standards		IEC 61439-1 & 2, IEC TR 61641, IEC 60529
Certifications		EAC (Gost), CCC, AS
Electrical data		
Voltage		Up to 690 V AC (50/60 Hz)
Main busbar rating		Up to 7300 A
Distribution busbar rating		Up to 2100 A
Rated short-time current (I _{cw})	Horizontal main busbar	Up to 150 kA _{rms} - 1s (peak current I _{pk} up to 330 kA)
	Vertical distribution busbar	Up to 100 kA _{rms} - 1s (peak current I _{pk} up to 220 kA)
Conditional short-circuit current (I _{sc})		Up to 150 kA
Internal arc withstand current		100 kA – 0.5 s (IEC TR 61641 edition 3)
Earthing system		TT-IT-TNS-TNC
Communication		
Protocols		Ethernet TCP/IP, Ethernet/IP, Profibus-DP, DeviceNet, Modbus, CANopen, etc.
Mechanical data		
Form		2b/3b/4a/4b
Withdrawability		FFF/WFD/WFW/WWW
Seismic withstand		IBC 2006/AC 156 (site class B-C-D, floor level only), IEC68-3-3 (equivalent to Richter scale up to level 9), AS1170, EAK-2000, ENDESA-1986, GOST 17516.1-90 (civil market, all seismic intensity, up to installation level 2), IEEE 693-1997, EDF CRT 91 C 112 00 (Okken 5G only for nuclear applications)
Installation		Indoor environment type 2
Degree of protection		IP20, IP31, IP41, IP54
Operating temperature		-5°C to 35°C/50°C



Innovation that protects:
Learn about
the technical information
of the Okken range here



Offer



Catalogue

Scan or
click on
QR code

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

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Blokset, the switchboard solution

Enhanced safety and reliability within your reach

Embodying decades of expertise, Blokset™ solutions are engineered to be complete and personalized low-voltage (LV) switchboards for power distribution and motor control.

Blokset switchboards answer the need for operational safety in today's high performance LV power applications. Versatile and durable, Blokset switchboards have the comprehensive capabilities and intelligence you need to keep your business competitive.

Greater reliability, flexibility, and intelligence

Blokset solutions combine industry-leading features and designs with Schneider Electric™ support to make implementation and operation quick and reliable so that you can lower costs and realize a faster return on your investment. A fully functional switchboard with built-in intelligence for energy efficiency, Blokset is a simple and modular solution. It is easy to choose, intuitive to use, cost effective, and simple to install and upgrade.

Benefits at a glance

- High quality design for safety and performance
- High continuity of supply, even in severe environments
- Smart solutions for energy savings and optimized operation
- Pre-engineered modular architecture for easy implementation
- Quick return on investment
- Localized support and services for ease of ownership.

500 k

More than 500,000 cubicles installed. Blokset LV switchboards are trusted by customers worldwide



Electrical safety for personnel

Tested and certified by independent ASEFA and LOVAG labs

Type-tested for high electrical installation and operational safety

With IEC 61439-1&2 and full type-testing by independent ASEFA and LOVAG certified laboratories, you can have the peace of mind that safety is engineered into every Blokset switchboard.

With Blokset, protection is never left to chance

From conception through design, installation, and everyday operation, you can count on our commitment to maximize safety

Withdrawable drawers have three interlocked positions - connected, test, and disconnected, plus drawer stop - to improve operator safety when connecting and testing.



Note: In working environment, full operator safety measures should always be adopted.

Smart engineering and user-friendly operation

- Built-in intelligence for energy efficiency and continuity of service
- Smart-grid ready for enhanced control and monitoring
- Fully interoperable switchboards, functional units, and devices
- Compact footprint allows more equipment and functions
- Withdrawable functional units for high availability and continuous processes
- Fixed functional units for economical applications.

Improved safety measures

- Forms of internal separation up to 4b
- Embedded interlock systems to secure on-load disconnection
- Live-part protection up to IP xxB
- Fully insulated bus bars (optional)
- Padlockable with three different locks
- Protection with optional doors and accessories.

Internal arc withstand

- Fully type-tested in compliance with IEC TR 61641 edition 3 (internal arc) to increase safety for personnel and equipment
- Internal arc containment up to 100 kA/0.4 s
- Operator protection at three levels:
 - Horizontal and vertical busbars
 - Functional units, including withdrawable drawers
 - Outgoing cable connections.

BlokSet

Reliability and performance

Customized solutions for any applications and severe environments

Personalized solutions for diverse applications

Trusted worldwide for diverse industrial and infrastructural applications, Blokset solutions are personalized to fully satisfy different performance and harsh environmental requirements.

Durability in difficult environments

- Anticorrosion: surface treatments on metallic sheets protects against corrosion and salt-spray
- Tin, nickel, or silver busbar coating on copper conductive parts for H₂S and SO₂ atmosphere withstand
- 2G version for seismic or high-vibration environment.

Schneider Electric inside: quality and compatibility

A robust architecture, type-tested, standardized modules devices work together to improve functionality, continuity of supply, and installation reliability even in very difficult conditions

- All components and accessories are designed by Schneider Electric and manufactured to rigorous quality standards
- Compatibility between switchboards, functional units, and built-in devices is tested and validated
- Schneider Electric components have outstanding electrical and mechanical consistency and electromagnetic compatibility.





Mining, metals, minerals industry



Petrochemicals



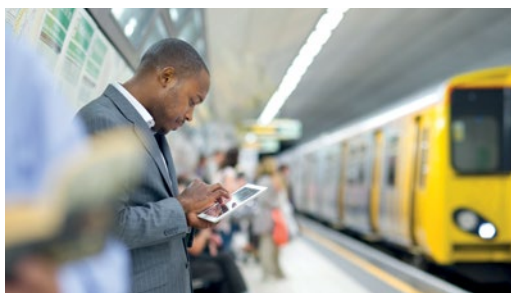
Water and wastewater industry



Commercial buildings



Airport



Subway and railway systems



Healthcare facilities



Data centers

BlokSet

High performance and superior efficiency

Compact, modular design - the right fit for your organization

Industry-leading capabilities

- Maximum busbar rating up to 7000 A
- Maximum rating of Power Control Center (PCC) up to 6300 A
- Maximum rating of Motor Control Center (MCC) up to 250 kW
- Smart communicating devices for connected switchboards
- Compact design for higher stacking density and optimized footprint
- Upgradeable energized equipment.

A disconnectable design for power distribution

The power distribution architecture is designed to offer reinforced electrical isolation.

Power distribution

Power Control Center (PCC) including protection and power factor correction:

- Main busbar up to 7000 A
- Incomers up to 6300 A (Masterpact™ circuit breakers)
- Feeders up to 6300 A (Masterpact™ circuit breakers) and 630 A (Compact™ circuit breakers)
- Power factor correction up to 540 kVAR.

A flexible, withdrawable design for motor control and power distribution

Compact and powerful switchboards answer the needs of the very demanding motor control and power distribution applications. Combining continuity of supply and reliable operational services.

Motor control

Motor Control Center (MCC) including protection, starters, and drives:

- Conventional starters up to 250 kW
- Soft starters up to 250 kW
- Drives up to 160 kW.



15%

Blokset solutions can provide up to 15% energy savings^[1]

7000 A

Electrical distribution up to 7000 A

6300 A

Incomer and feeder up to 6300 A

250 kW

Motor control up to 250 kW

^[1] Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

Improved versatility and flexibility

24/7 visibility of energy use and power quality



Note: In working environment, full operator safety measures should always be adopted.

Fast, stress-free installation, upgrading, and maintenance

Single front or double front access thanks to back-to-back configuration, top or bottom direct power connections, rear or side power connections for easy installation. Plus, standardized dimensions and an optimized footprint save time and money during installation.

- Fixed, disconnectable, or withdrawable functional units
- Withdrawable drawers size optimization: full and half-widths, different heights from 100 to 600 mm
- Direct power plug connection to the vertical busbar (50 mm pitch)
- Three drawers positions: connected, test, and disconnected
- Drawer position indicators on front faces and drawer stop
- Horizontal and vertical busbars (flat copper and Linergy) for power distribution
- Withdrawable Masterpact and plug-in Compact circuit breaker modules
- Current transformers inside.

Upgrade Blokset while under load

- Easily modify and upgrade your Blokset solution and add new functions as your needs change: scalability while under load, equipping of additional slots in reserved spaces, association of cubicles, fast interchangeability without special tools
- Degree of protection up to IPxxD on busbar and connections on busbar by plug-in clamps
- Customer connection separate from the functional unit (form up to 4b).

Smart devices to improve productivity and energy efficiency

As stand-alone devices or fully integrated solutions, each plug-and-play energy monitoring, motor control, and power factor correction solution within Blokset switchboards offers advanced technology.



Energy and power quality metering

PowerLogic™ PM 800
VarplusLogic controller



Motor motion control

Altivar™ ATV320, ATV630,
ATV930, ATV31, ATV61,
ATV71, Altistart™ ATS48



Power circuit protection and control

Masterpact MTZ-NW-NT,
Compact NS-NSX-NSXm



Motor protection monitoring, and control

TeSys™ T, TeSys U,
TeSys D, TeSys GV



Coupler control

Sepam™

General overview

BlokSet

iPMCC

iPMCC by Blokset

Smart panel - built-in intelligence for efficient control and monitoring

Greater efficiency and enhanced productivity

iPMCC (intelligent Power and Motor Control Center) is a highly capable and advanced smart solution for fault prevention, protection, and automatic restart. It helps improve energy efficiency and reduce down time for continuous and critical processes.

Save energy up to 15%^[1]

- All equipment works together to lower electrical energy consumption
- Synchronize motors to loads with progressive starters and variable drives, and reduce peak consumption by 50% or more
- Manage reactive power compensation and thermal withstand control to reduce costs.

Optimize motor performance

Motor monitoring and protection with failure activities in accordance with IEC/EN 60947-7-1

- Motor and protection device configuration accessible at all times
- Associated with TeSys T, iPMCC by Blokset enables the detection of faults like no-load running, shaft bearing seizure, abnormal starting or heating, pump cavitations, and pulsating torque.

Enhance control and monitoring

Easy access to real-time information

- Better traceability and control
- Local or remote real-time information access
- Motor operating status and time monitoring (alarms and tripping)
- Parameter monitoring and management of status, measurements, diagnostics, trends, and energy consumption.

Boost smart-grid integration

Pretested communication architectures offering leading industry protocols engineered to optimize asset energy efficiency (Ethernet TCP/IP, Ethernet/IP, Profibus®-DP, DeviceNet™, Modbus, CANopen®, etc.)

- Seamless integration with energy management and control systems, and process automation management systems
- Complete range of design assistance tools.

Enhanced efficiency and productivity

15%

Up to 15% increase in productivity^[1]

70%

Up to 70% reduction in untimely shutdowns^[1]

90%

Up to 90% fewer motor burn-outs^[1]

50%

Up to 50% reduction in maintenance costs^[1]

^[1] Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

A complete range for diverse applications

For power distribution and motor control including variable speed drives, motor starters, power factor correction, and harmonic filtering

PCC ^[1]	 D High-power incomers and feeders up to 6300 A Withdrawable, disconnectable, fixed	MCC ^[2]	 Mf Motor feeders Fixed	PFC ^[3]	 Dc Capacitors Fixed
MCC/PCC	 Mw2 Power and motor feeders Withdrawable		 Ms Variable speed drives and soft starters Fixed	[1] PCC = Power Control Centre. [2] MCC = Motor Control Centre. [3] PFC = Power Factor Correction and harmonic filtering.	

Maximize ease of ownership through Schneider Electric support

Blokset panel-builder network guarantees you optimum localized service Partner licensed by Schneider Electric

- The Blokset offer can be supplied by licensed panel-builders
- Our partners, selected for their expertise, are trained and regularly audited by Schneider Electric to guarantee high quality equipment and support
- Global network of over 150 licensed panel-builders
- Local presence in all geographic zones.

Schneider Electric supports you worldwide

Schneider Electric is a recognized global leader in energy management and power protection. Together with our global network of Regional Equipment Units, we can deliver the products, services, and support your need to be at your most efficient. Our highly skilled service and support professionals help provide business-aligned results for a measurable return on your investment.

Tools and support services

- Validated tools and architectures
- Regional and local services for the installed base, plus assistance and troubleshooting
- Advice and guidance for maintenance and upgrading
- Customized vocational training, on-site, or in one of our training centers.

Auditing, consulting, and solution engineering

- Customized projects, including critical applications
- Engineering expertise for new and existing sites
- Installation and energy audits
- Enterprise-wide energy efficiency solutions.

BlokSet

iPMCC

Blokset switchboard specifications

General data

Applications	Power distribution, motor control
MCC (Motor Control Centre)	Up to 250 kW
VSD (Variable Speed Drive)	Up to 160 kW
PCC (Power Control Centre)	Incomer & feeder up to 6300 A
PFC (Power Factor Correction)	Up to 6* 90 kVAR
Standards	IEC 61439-1 & 2, IEC TR 61641, IEC 60529

Electrical data

Voltage	Up to 690 V AC (50/60 Hz)
Main busbar rating	Up to 7000 A
Distribution busbar rating	Up to 3200 A
Rated short-time current (I _{cw})	Horizontal main busbar Up to 100 kA rms - 1s (peak current I _{pk} up to 220 kA)
	Vertical distribution busbar Up to 100 kA rms - 1s (peak current I _{pk} up to 220 kA)
Conditional short-circuit current (I _{sc})	Up to 100 kA
Internal arc withstand current	100 kA – 0.4 s (IEC TR 61641 edition 3)
Earthing system	TT-IT-TNS-TNC

Communication

Protocols	Ethernet TCP/IP, Ethernet/IP, Profibus-DP, DeviceNet, Modbus, CANopen, etc.
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Mechanical data

Form	2b/3b/4a/4b
Withdrawability	FFF/WWW
Seismic withstand	IBC 2006/AC 156 (site class B-C-D, floor level only), IEC68-3-3 (equivalent to Richter scale up to level 9), GOST 17516.1-90 (civil market, all seismic intensity, up to installation level 2)
Installation	Indoor environment type 2
Degree of protection	IP20, IP31, IP42, IP54
Operating temperature	-5°C to 35°C/50°C



Innovation that protects:
Learn about
the technical information
of the BlokSet range here



Scan or
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Offer

If you need more details about product references and availability, please check your local Schneider Electric contact
<https://www.se.com/ww/en/work/support/country-selector/contact-us.jsp>

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