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Reference(s) : **4 226 80**

ATS
# Automatic transfer switches

CONTENTS

1. USE

ATS automation transfer switches can control power supply inversion between two sources, manage generator start/stop, control single phase, two-phase and three-phase networks, control phase-phase and phase-neutral voltages.
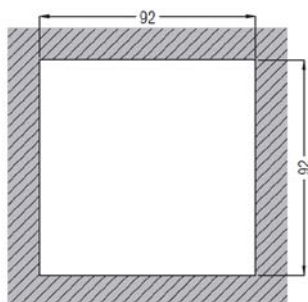
2. RANGE

Reference	Management
4 226 80	2 breakers standard managing

3. DIMENSIONS

Overall dimensions (mm)
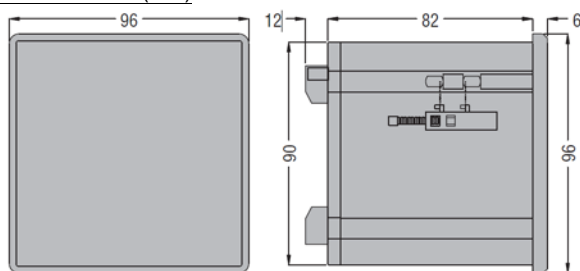
Panel cutout (mm)

4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

		4 226 80
AC power supply	Rated voltage Ue	-
	Frequency	-
	Power consumption/ dissipation	-
DC power supply	Battery rated voltage	12 or 24 V DC; 48 V DC
	Maximum current consumption	250mA at 12 V DC 130mA at 24 V DC 70mA at 48 V DC
	Maximum power consumption/ dissipation	3.3W
Line 1 and Line 2 voltage inputs	Maximum rated voltage U_e	100 ÷ 480 V AC L-L (277 V AC L-N)
	Measuring range	50 ÷ 576 V AC L-L (330 V AC L-N)
	Frequency range	45 ÷ 66 Hz
	Measuring method	True RMS
	Measuring input impedance	> 1,1MΩ L-L > 570kΩ L-N
	Wiring mode	1, 2 or 3 phase with or without neutral
Measuring accuracy		±0.5% f.s. ±1digit
AC Supply Insulation voltage	Rated insulation voltage U_i	-
	Rated impulse withstand voltage U_{imp}	-
	Power frequency withstand voltage	-
Line 1 and Line 2 voltage inputs insultation voltage	Rated insulation voltage Ui	480 V AC
	Rated impulse withstand voltage U_{imp}	4.0 kV
	Power frequency withstand voltage	3.8 kV
Ambient operating conditions	Operating temperature	-20 °C ÷ +60 °C
	Storage temperature	-30°C ÷ +80°C
	Measurement category	III
Connections	Terminal type	Removable screw terminal, plug-in
	Cable cross section (min... max)	0.2 ÷ 2.5 mm2 (24 ÷ 12 AWG)
	Tightening torque	0.5 Nm (4.5 LBin)
Housing	Degree of protection	IP54 on front; IP20 terminals
	Weight	470g

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4. ELECTRICAL AND MECHANICAL CHARACTERISTICS
(NEXT)

Digital inputs	
Input type	Negative
Current input	8mA
Input Low Voltage	≤ 1.5V (typ. 2.9V)
Input High Voltage	≥ 5.3V (typ. 4.3V)
Input delay	≥ 50ms

|	Outputs		
	Line1 Relay	**Line2 Relay**	**Aux Relay**
Number of relays	2	2	2
Type of contact	1 N/O (single common)	1 N/O (single common)	1 N/O + 1 C/O
Operation category	30 V DC 8A; 30 V DC 1 A auxiliary duty	30 V DC 8A; 30 V DC 1 A auxiliary duty	30 V DC 8A; 30 V DC 1 A auxiliary duty
Maximum current at common contact	12A	12A	-

4.1 MONITORED PARAMETERS

Value	Parameter	Limits
Voltage	Threshold - Trip	MIN
		MAX
	Threshold - Restore	MIN
		MAX
	Threshold - Delay	MIN
		MAX
Voltage unbalance	Threshold	-
	Delay	-
Phase loss	Threshold	-
	Delay	-
Frequency	Threshold	MIN
		MAX
	Threshold - Delay	MIN
		MAX
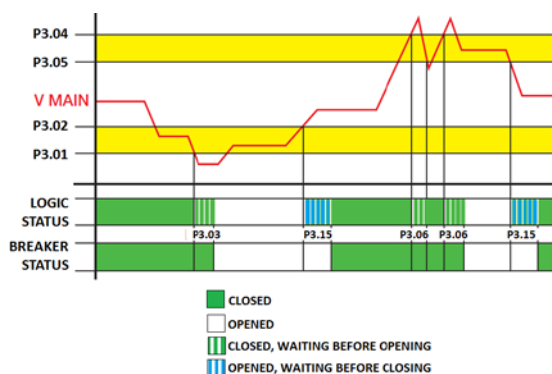
Example of variation of the main line voltage within the minimum and maximum thresholds and relative hysteresis, with indication of the presence / absence delay times. The example considers the secondary line voltage absent with its circuit breaker open, hence the changeover times are not shown. The BREAKER STATUS bar represents the required status of the main line switch, while the LOGIC STATUS bar represents actual logic status of line controller.
Px.y identify values to set for ATS (see instruction manual for details) and they correspond to the ones listed into table above on line "Voltage".

4.2 CONTROL PANEL
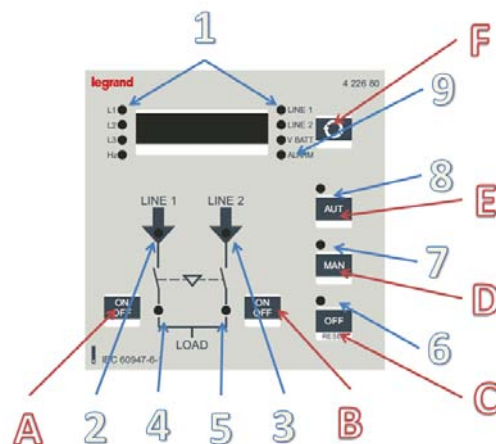
Led	Colour	Status ON	Status OFF	Status BLINK
1	Red	Measure selection	-	-
2,3	Green	Voltage AND frequency within limits	Voltage OR frequency out of limits	Presence or absence delay times running
4,5	Yellow	Breaker closed	-	Breaker in operation
6	Red	OFF / RESET Mode active	-	OFF / RESET Mode, remote control active
7	Red	MANUAL Mode active	-	MANUAL Mode, remote control active
8	Red	AUTO Mode active	-	AUTO Mode, remote control active
9	Red	-	-	Alarm active

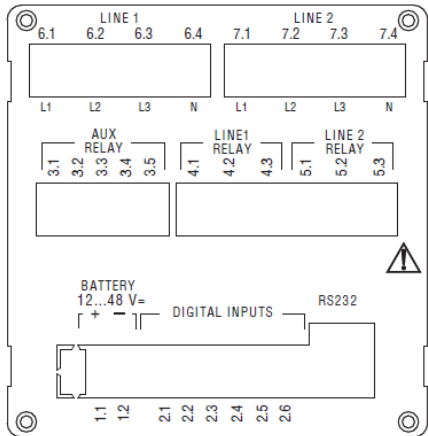| Button	Behaviour
A, B	Breakers manual command
C	OFF / RESET Mode active
D	MANUAL mode
E	AUTO mode
F	Navigation key

5. CONFORMITY
IEC 60 947-6-1

5.1 MARKING
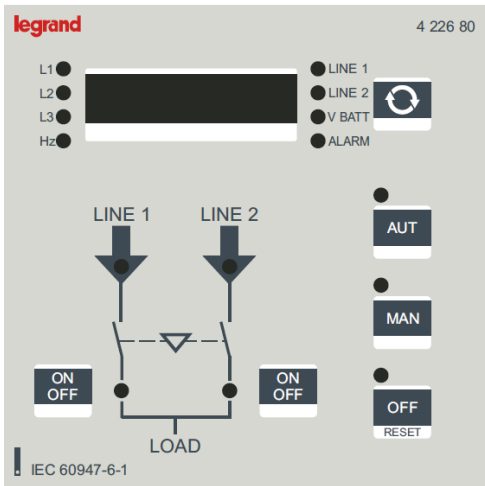
Rear connections

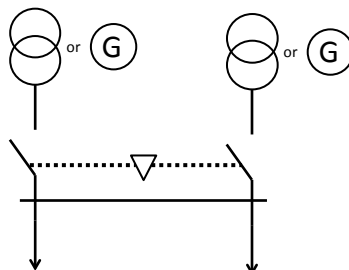## 6. EQUIPMENTS AND ACCESSORIES

6.1 Configuration software

Programming software (*Automatic Control Unit Configurator*) available for download via E-catalogue.

7. SOURCE PRIORITIES

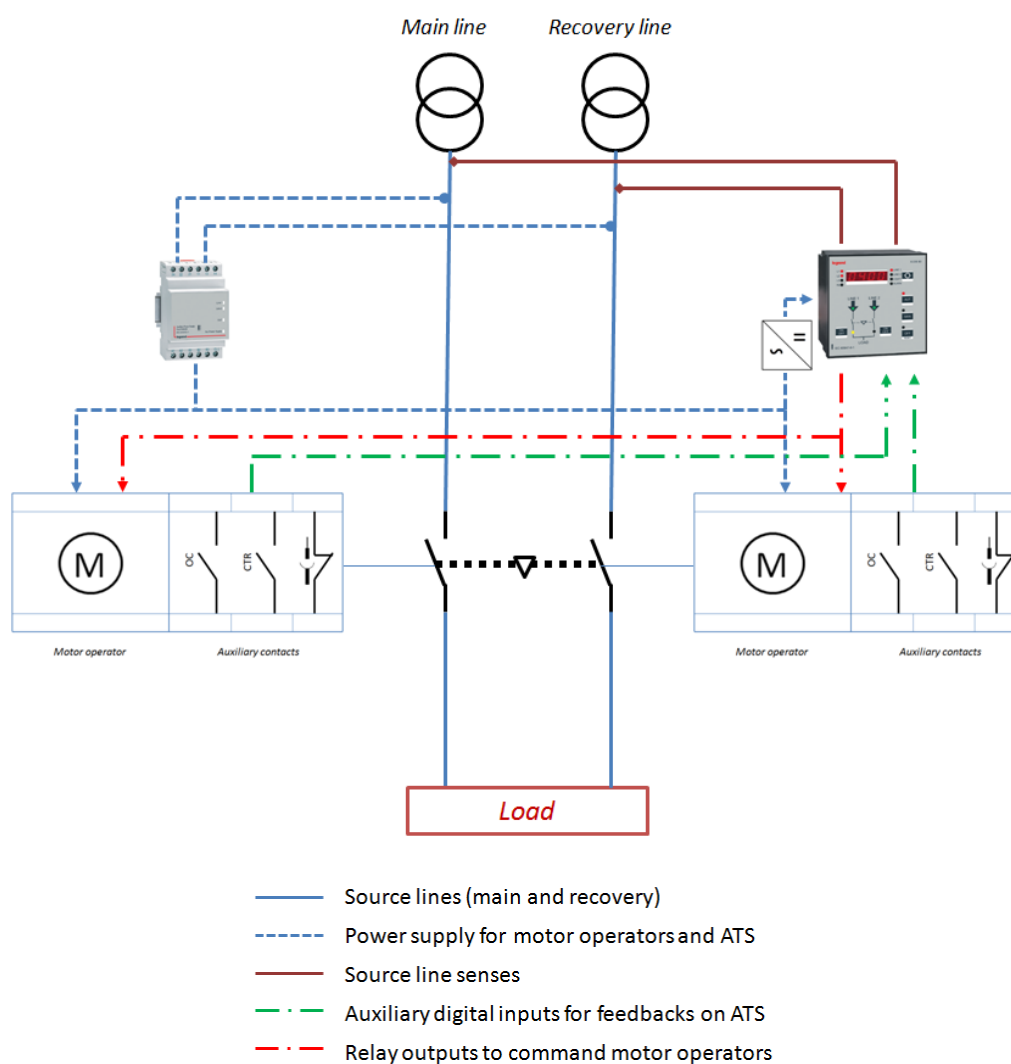| Main line	Secondary line
◯	◯
◯	Ⓖ
Ⓖ	◯
Ⓖ	Ⓖ

DEFAULT

8. SYNOPTICS

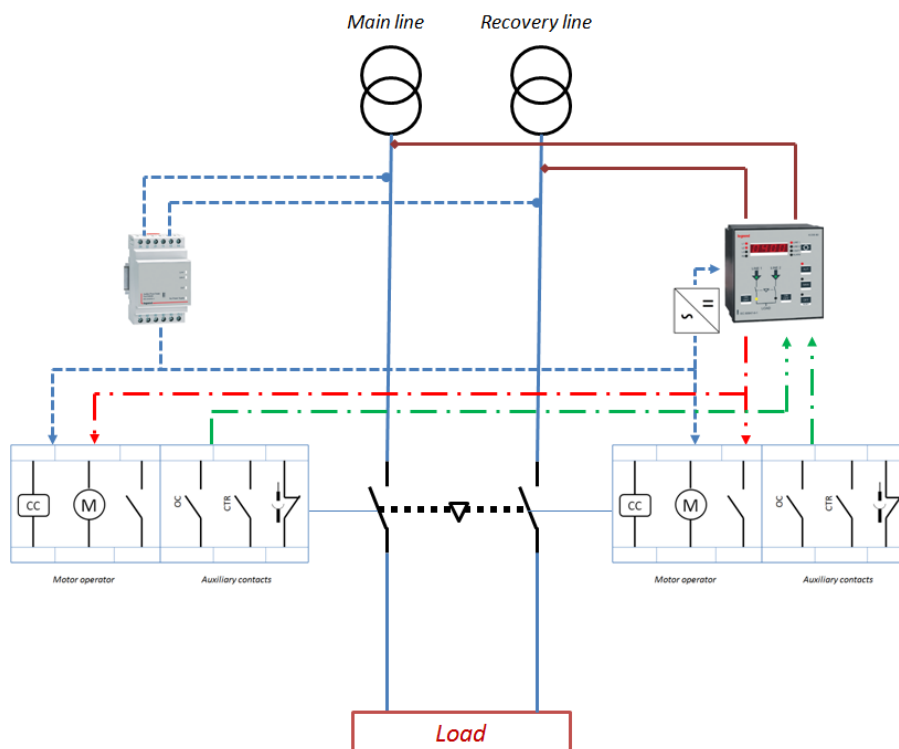Many configurations can be done with advanced ATS drivers. Here below some schematics.

For every possible setup, a range of example synoptic is available on Legrand e-Catalogue. Besides synoptic, parameters configuration files for every product is available on e-Catalogue. Synoptics and configuration files are for free download.

8.1 DIRECT COMMAND WITH FEEDBACK FOR DPX³ 160 AND DPX³ 250
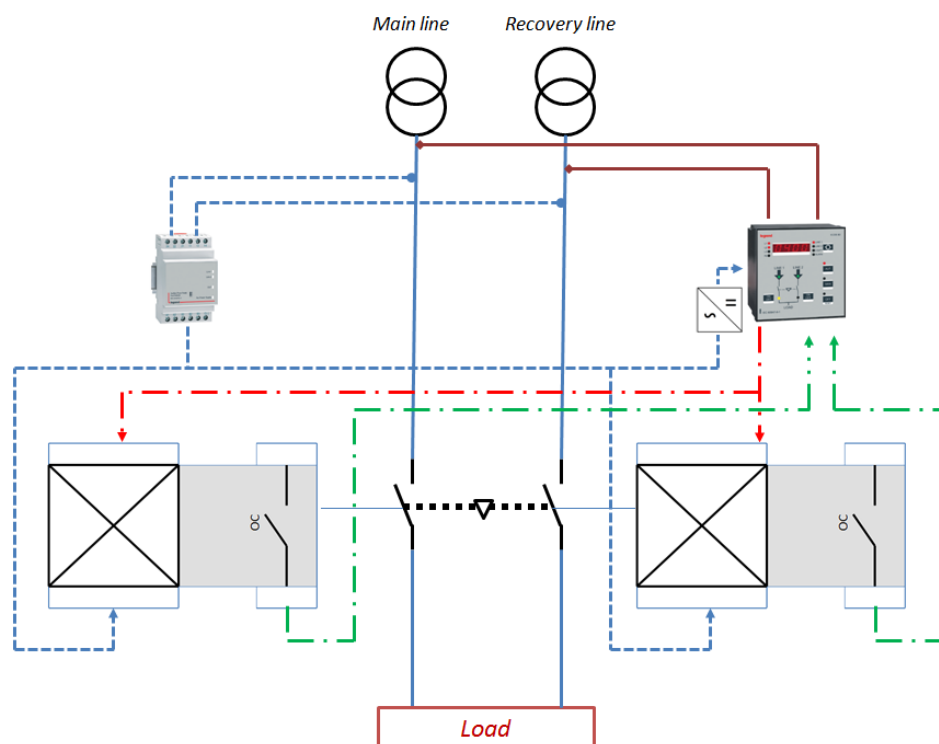
Main line   Recovery line

Load

—— Source lines (main and recovery)
- - - Power supply for motor operators and ATS
—— Source line senses
—·— Auxiliary digital inputs for feedbacks on ATS
—·— Relay outputs to command motor operators

8.2 DIRECT COMMAND WITH FEEDBACK FOR DPX³ 630

Main line   Recovery line

CC   M   OC CTR   CC   M   OC CTR

Motor operator   Auxiliary contacts   Motor operator   Auxiliary contacts

Load

8.3 FAST CLOSING OPERATION COMMAND WITH FEEDBACK FOR DPX³ 1600
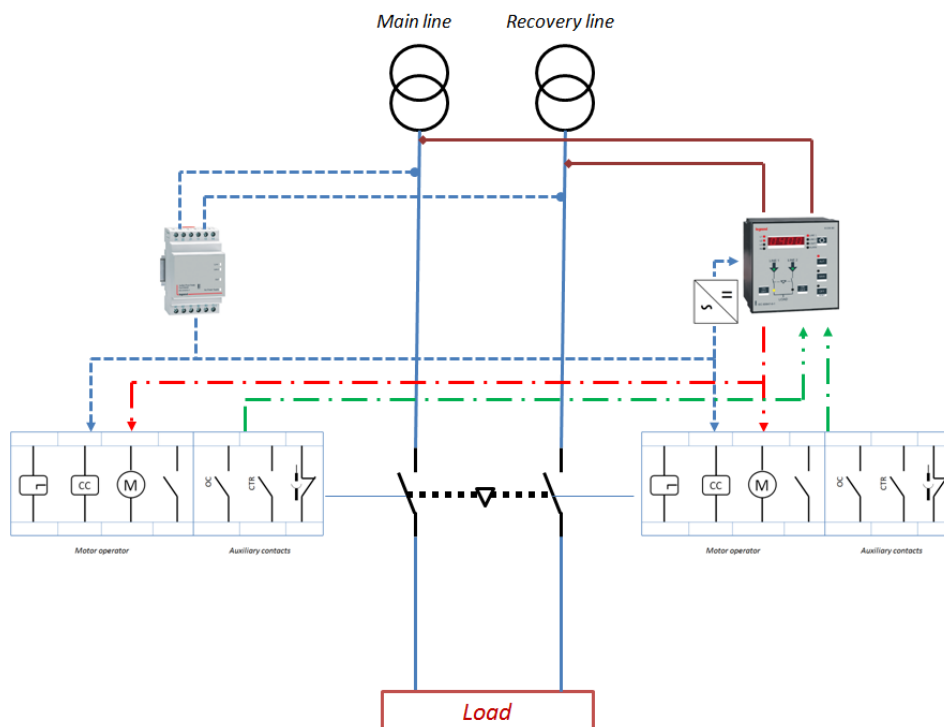
Main line   Recovery line

CC   M   OC CTR   CC   M   OC CTR

Motor operator   Auxiliary contacts   Motor operator   Auxiliary contacts

Load

———	Source lines (main and recovery)
- - - -	Power supply for motor operators and ATS
———	Source line senses
—·—·—	Auxiliary digital inputs for feedbacks on ATS
—·—·—	Relay outputs to command motor operators

ATS
Automatic transfer switches

Reference(s) : **4 226 80**

8.4 COMMANDS FOR CTX³

Main line   Recovery line

Load

	Source lines (main and recovery)
	Power supply for motor operators and ATS
	Source line senses
	Auxiliary digital inputs for feedbacks on ATS
	Relay outputs to command motor operators

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