

SITOP MODULAR 24 V/40 A, VARNISHED PCB  
SITOP MODULAR PLUS 40 STABILIZED POWER SUPPLY INPUT:  
400-500 V 3 AC OUTPUT: 24 V DC/40 A VERSION WITH COATED  
PCB



Figure similar

| Input                                     |                           |
|-------------------------------------------|---------------------------|
| Input                                     | 3-phase AC                |
| Rated voltage value Vin rated             | 400 ... 500 V             |
| Voltage range AC                          | 320 ... 550 V             |
| • Note                                    | Starting from Vin > 340 V |
| Wide-range input                          | Yes                       |
| Overvoltage resistance                    | 2.3 × Vin rated, 1.3 ms   |
| Mains buffering at Iout rated, min.       | 6 ms; at Vin = 400 V      |
| Rated line frequency 1                    | 50 Hz                     |
| Rated line frequency 2                    | 60 Hz                     |
| Rated line range                          | 47 ... 63 Hz              |
| Input current                             |                           |
| • at rated input voltage 400 V            | 2.2 A                     |
| Switch-on current limiting (+25 °C), max. | 70 A                      |
| I²t, max.                                 | 2.8 A²·s                  |
| Built-in incoming fuse                    | none                      |

|                                               |                                                                                                                                                            |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protection in the mains power input (IEC 898) | Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Output                                                        |                                      |
|---------------------------------------------------------------|--------------------------------------|
| Output                                                        | Controlled, isolated DC voltage      |
| Rated voltage Vout DC                                         | 24 V                                 |
| Total tolerance, static $\pm$                                 | 3 %                                  |
| Static mains compensation, approx.                            | 0.1 %                                |
| Static load balancing, approx.                                | 0.2 %                                |
| Residual ripple peak-peak, max.                               | 100 mV                               |
| Spikes peak-peak, max. (bandwidth: 20 MHz)                    | 200 mV                               |
| Adjustment range                                              | 24 ... 28.8 V                        |
| Product function Output voltage adjustable                    | Yes                                  |
| Output voltage setting                                        | via potentiometer; max. 960 W        |
| Status display                                                | Green LED for 24 V OK                |
| Signaling                                                     | via signaling module (6EP1961-3BA10) |
| On/off behavior                                               | No overshoot of Vout (soft start)    |
| Startup delay, max.                                           | 2.5 s                                |
| Voltage increase time of the output voltage maximum           | 500 ms                               |
| Rated current value Iout rated                                | 40 A                                 |
| Current range                                                 | 0 ... 40 A                           |
| • Note                                                        | +60 ... +70 °C: Derating 2%/K        |
| Supplied active power typical                                 | 960 W                                |
| Short-term overload current                                   |                                      |
| • at short-circuit during operation typical                   | 120 A                                |
| Duration of overloading capability for excess current         |                                      |
| • at short-circuit during operation                           | 25 ms                                |
| Constant overload current                                     |                                      |
| • on short-circuiting during the start-up typical             | 46 A                                 |
| Parallel switching for enhanced performance                   | Yes; switchable characteristic       |
| Numbers of parallel switchable units for enhanced performance | 2                                    |

| Efficiency                                    |       |
|-----------------------------------------------|-------|
| Efficiency at Vout rated, Iout rated, approx. | 90 %  |
| Power loss at Vout rated, Iout rated, approx. | 106 W |

| Closed-loop control                                         |       |
|-------------------------------------------------------------|-------|
| Dynamic mains compensation (Vin rated $\pm 15$ %), max.     | 1 %   |
| Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ. | 2 %   |
| Load step setting time 50 to 100%, typ.                     | 4 ms  |
| Load step setting time 100 to 50%, typ.                     | 4 ms  |
| Setting time maximum                                        | 10 ms |

| Protection and monitoring                  |                                                                                  |
|--------------------------------------------|----------------------------------------------------------------------------------|
| Output overvoltage protection              | < 35 V                                                                           |
| Current limitation, typ.                   | 46 A                                                                             |
| Property of the output Short-circuit proof | Yes                                                                              |
| Short-circuit protection                   | Alternatively, constant current characteristic approx. 46 A or latching shutdown |
| Enduring short circuit current RMS value   |                                                                                  |
| • typical                                  | 46 A                                                                             |
| Overload/short-circuit indicator           | LED yellow for "overload", LED red for "latching shutdown"                       |

| Safety                          |                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------|
| Primary/secondary isolation     | Yes                                                                              |
| Galvanic isolation              | Safety extra-low output voltage U <sub>out</sub> acc. to EN 60950-1 and EN 50178 |
| Protection class                | Class I                                                                          |
| Leakage current                 |                                                                                  |
| • maximum                       | 3.5 mA                                                                           |
| CE mark                         | Yes                                                                              |
| UL/cUL (CSA) approval           | UL-Listed (UL 508), File E197259, CSA (CSA C22.2 No. 14, CSA C22.2 No. 107.1)    |
| Explosion protection            | -                                                                                |
| FM approval                     | -                                                                                |
| CB approval                     | No                                                                               |
| Marine approval                 | -                                                                                |
| Degree of protection (EN 60529) | IP20                                                                             |

| EMC                         |                  |
|-----------------------------|------------------|
| Emitted interference        | EN 55022 Class B |
| Supply harmonics limitation | EN 61000-3-2     |
| Noise immunity              | EN 61000-6-2     |

| Operating data                       |                                    |
|--------------------------------------|------------------------------------|
| Ambient temperature                  |                                    |
| • during operation                   | 0 ... 70 °C                        |
| — Note                               | with natural convection            |
| • during transport                   | -40 ... +85 °C                     |
| • during storage                     | -40 ... +85 °C                     |
| Humidity class according to EN 60721 | Climate class 3K3, no condensation |

| Mechanics             |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| Connection technology | screw-type terminals                                                                            |
| Connections           |                                                                                                 |
| • Supply input        | L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded |
| • Output              | +, -: 2 screw terminals each for 0.33 ... 10 mm <sup>2</sup>                                    |

|                                                                    |                                                                                                   |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| • Auxiliary                                                        | -                                                                                                 |
| Width of the enclosure                                             | 240 mm                                                                                            |
| Height of the enclosure                                            | 125 mm                                                                                            |
| Depth of the enclosure                                             | 125 mm                                                                                            |
| Required spacing                                                   |                                                                                                   |
| • top                                                              | 50 mm                                                                                             |
| • bottom                                                           | 50 mm                                                                                             |
| • left                                                             | 0 mm                                                                                              |
| • right                                                            | 0 mm                                                                                              |
| Weight, approx.                                                    | 3.2 kg                                                                                            |
| Product feature of the enclosure housing for side-by-side mounting | Yes                                                                                               |
| Installation                                                       | Snaps onto DIN rail EN 60715 35x15                                                                |
| Electrical accessories                                             | Buffer module, signaling module                                                                   |
| MTBF at 40 °C                                                      | 485 437 h                                                                                         |
| Other information                                                  | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |