MANUFACTURER DOCUMENT PACKAGE

# Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

## 6EP1436-3BA10

**SITOP PSU300M 24 V/20 A POWER SUPPLY**

Used with the applicable SITOP PSU300M configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens technical documentation for 6EP1436-3BA10

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## Data sheet 6EP1436-3BA10




SITOP PSU300M 20 A STABILIZED POWER SUPPLY INPUT: 400-500 V 3 AC OUTPUT: 24 V DC/20 A

| Technical specifications | |
|---|---|
| Product | SITOP PSU300M |
| Power supply, type | 24 V/20 A |

| Input | |
|---|---|
| Input | 3-phase AC |
| Rated voltage value Vin rated | 400 ... 500 V |
| Voltage range AC | 320 ... 575 V |
| Wide-range input | Yes |
| Mains buffering at Iout rated, min. | 15 ms; at Vin = 400 V |
| Rated line frequency | 50 ... 60 Hz |
| Rated line range | 47 ... 63 Hz |
| Input current at rated input voltage 400 V Rated value | 1.2 A |
| Input current at rated input voltage 500 V Rated value | 1 A |
| Switch-on current limiting (+25 °C), max. | 18 A |
| $I^2t$, max. | 0.8 $A^2 \cdot s$ |
| Built-in incoming fuse | none |
| Protection in the mains power input (IEC 898) | Required: 3-pole connected miniature circuit breaker 6 ... 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 ± | 3 % |


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| | |
|---|---|
| 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. 480 W |
| Status display | Green LED for 24 V OK |
| Signaling | Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" |
| 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 | 20 A |
| Current range | 0 ... 20 A |
| • Note | +60 ... +70 °C: Derating 3%/K |
| Active power supplied typical | 480 W |
| Constant overload current on short-circuiting during the start-up typical | 23 A |
| Short-term overload current at short-circuit during operation typical | 60 A |
| Duration of overloading capability for excess current at short-circuit during operation | 25 ms |
| 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. | 93 % |
| Power loss at Vout rated, Iout rated, approx. | 36 W |

## Closed-loop control

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

## Protection and monitoring

| | |
|---|---|
| Output overvoltage protection | < 35 V |
| Current limitation, typ. | 23 A |
| Property of the output Short-circuit proof | Yes |
| Short-circuit protection | Alternatively, constant current characteristic approx. 23 A or latching shutdown |
| Enduring short circuit current RMS value typical | 23 A |


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| | |
|---|---|
| Overcurrent overload capability in normal operation | overload capability 150 % Iout rated up to 5 s/min |
| 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 Uout acc. to EN 60950-1 and EN 50178 |
| Protection class | Class I |
| Leakage current maximum | 3.5 mA |
| Leakage current typical | 0.9 mA |
| CE mark | Yes |
| UL/CSA approval | Yes |
| UL/cUL (CSA) approval | cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 |
| Explosion protection | ATEX (EX) II 3G Ex nA nC IIC T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4 |
| Certificate of suitability IECEx | No |
| Certificate of suitability NEC Class 2 | No |
| FM approval | - |
| CB approval | Yes |
| Marine approval | GL, ABS |
| 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 | -25 ... +70 °C |
| • Note | with natural convection |
| Ambient temperature during transport | -40 ... +85 °C |
| Ambient temperature 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 mm² single-core/finely stranded |
| Connections Output | +, -: 2 screw terminals each for 0.2 ... 4 mm² |
| Connections Auxiliary | 13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm² |
| Width of the enclosure | 70 mm |
| Height of the enclosure | 125 mm |
| Depth of the enclosure | 125 mm |
| Weight, approx. | 1.2 kg |
| Product property of the enclosure housing for side-by-side mounting | Yes |


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