

regulated, 2400 W



| | | |
|-----------------------|----------|---------------|
| Identification | Type | CPSB3-2400-24 |
| | Part-No. | 722814 |

| | |
|--------------------|---|
| Description | Primary switchmode power supply, PFC, 3-phase Input: Wide range input AC 340 - 550 V Output: DC 24 V, 100 A / DC 48 V, 50 A |
|--------------------|---|

25.08.2017 – Subject to technical modification

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SYSTEMATIC TECHNOLOGY

Technical data sheet · Power supply

Input

| | |
|--------------------------------|--|
| Input protection | Surge protection according to VDE 0160, over/undervoltage (auto restart) Phase monitoring (reduced output power): PFC error |
| Number of phases | 3 |
| Rated voltage U_N | 3 × AC 400–500 V |
| Operation voltage range | AC 340–550 V / DC 520–750 V |
| Line frequency | 47 – 63 Hz |
| Rated current I_N | 4.5 A @ AC 400 V / 3.5 A @ AC 500 V |
| Inrush current | < 10 A (active inrush current limitation) |
| External fuse | Mini-circuit breaker: 3 × C 10 A (required) |
| Power Factor Correction P.F.C. | >0.92 |

Output

| | |
|---|--|
| Rated voltage U_N | DC 24.00 V |
| Rated current I_N | 100.00 A |
| Max. output current | >150 A, 5 s @ $U_{out} > 90\%$ |
| Short-circuit current | 150 A, 5 s |
| Heat dissipation | <200 W |
| Setting range $U_{out\ min.}/U_{out\ max.}$ | DC 11.5–29 V |
| Load regulation | <1 % |
| Rise time | < 4.5 S |
| Ripple and Noise | <200 mV pp |
| Hold up time | >10 ms @ AC 400 V / >10 ms @ AC 500 V |
| Status indication DC ON LED green | alphanumeric display |
| Status indication DC LOW LED red | alphanumeric display |
| Parallel / redundant mode | max. 4 devices |
| Efficiency | >92 % |
| Over voltage protection | >30 V |
| Short circuit | Hiccup Mode / current limit / constant current |

Monitoring

| | |
|---------------------|--|
| DC ON Control (Rdy) | Relay, N/O contact active, adjustable, DCok: 90–110 % Uset, ACok: acc. input voltage range, overload Overtemperature range, charging complete |
| Switching capacity | AC/DC 30 V, 1 A, 30 W |
| Isolation voltage | AC 500 V |
| Output current | galvanically isolated: 0–10 V and 4–20 mA |

General

| | |
|------------------------------------|-----------|
| Insulation voltage input / output | DC 4.2 kV |
| Insulation voltage input / ground | DC 2.2 kV |
| Insulation voltage output / ground | DC 750 V |

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| Derating | >45 °C: -40 W/°C |
| Operation temperature range | -20 °C ... +60 °C (Derating) |
| Storage temperature range | -25 °C ... +85 °C |
| MTBF | >500000 h: SN29500 / >150000 h: MIL HDBK 217F |
| Cooling | Air convection, forced cooling >45°C, 80 mm distance top/bottom, 10 mm side |
| Housing material | Aluminum |
| Mounting | DIN rail mountable TS35 (EN 60715) |
| Installation position | vertical |
| Shock resistance | 30g |
| Vibration resistance | 5 – 17.8 Hz: ±1.6 mm, 17.8 – 500 Hz: 2 g 2 hours/axes X,Y,Z, IEC 60068-2-6: 2007 |
| Protection class | IP20 (IEC 529, EN 60529) |
| Protection class | I |
| Over voltage category | III |
| Degree of pollution | 2 |
| Weight | 2.800 kg/piece |
| Connection device | Screw terminal Input 0.20 mm ² – 4.0 mm ² Output 0.20 mm ² – 35.0 mm ² Auxiliary 0.20 mm ² – 1.5 mm ² |
| Dimensions (w × h × d) | 233.0 × 158.0 × 102.0 mm |
| Approvals | cULus (E249179) |
| Standards | UL 508 IEC 950 EN 60950 EN 55011 EN 61000-4-5 Surge immunity level IV VDE 0160 EN 61000-4-2/3/4/5/6/11 |
| PU | 1 piece |

Interface

| | |
|--------------------------|---|
| User Interface | LCD display 16 × 2 character, multi language, 4 keys (command and navigation) |
| Auxiliary voltage output | galvanically isolated DC 12 V, 100 mA |
| NTC | Temperature-controlled battery charging (mandatory) |

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Range of functions

The new power compact series provides a number of additional adjustment options via function keys. The selected functions are shown on a display. In addition, the current output voltage and current are displayed for normal operation.

Input protection

- Active Surge suppressor and inrush limiter (ASSIL) as protection against overvoltages according to VDE 0160
- PFC error monitoring
- Phase monitoring with automatic reduction of the output power
- Automatic start/restart system for over- and undervoltages

Output protection

- Adjustable current limiting between $0.1 I_N$ and I_N
- Hiccup autoreset based on current limiting or maximum output voltage (150%)

Status display and signal

- In addition to an LED for "DC OK" and error displays, the devices have the following analog outputs 0–10 V and 4–20 mA as direct function of the load current
- Programmable relay contact with the functions
 - Output voltage/current,
 - Overload,
 - Overtemperature

Additional functions

- Temperature-compensated battery charging function
- Display and compensation of the voltage drop for long cables
- Remote On/Off of the output voltage
- DC 12 V auxiliary voltage
- Monitoring and control interface based on RS232 (optional)
- Integrierte O-Ring-Diode
- Load sharing in parallel operation
- Load current sharing

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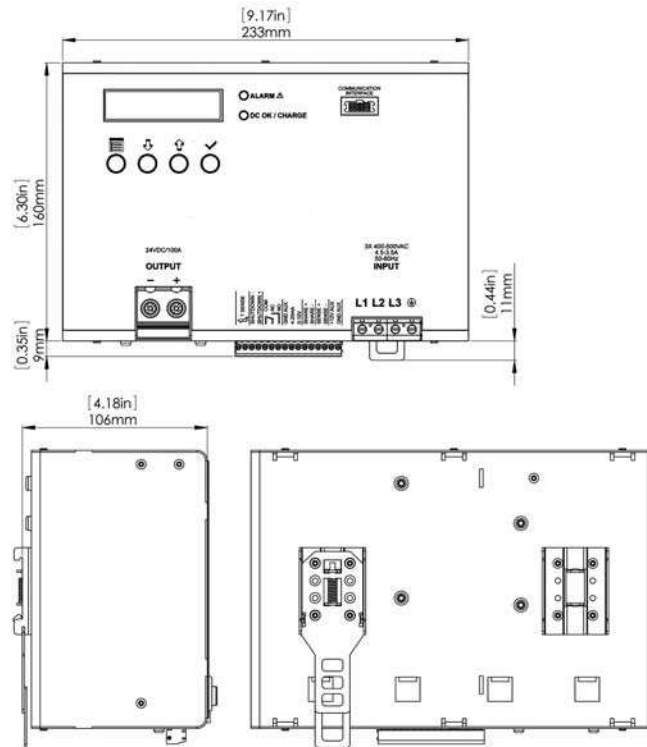
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Dimensions



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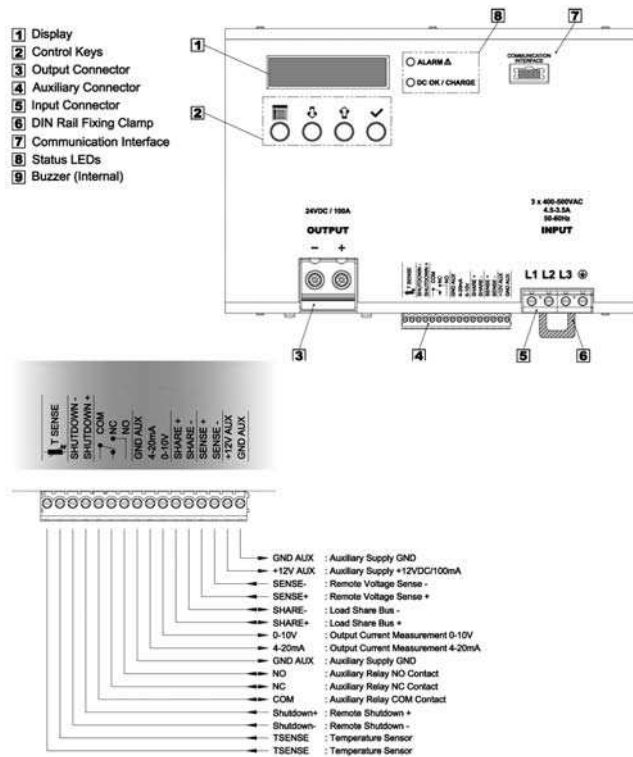
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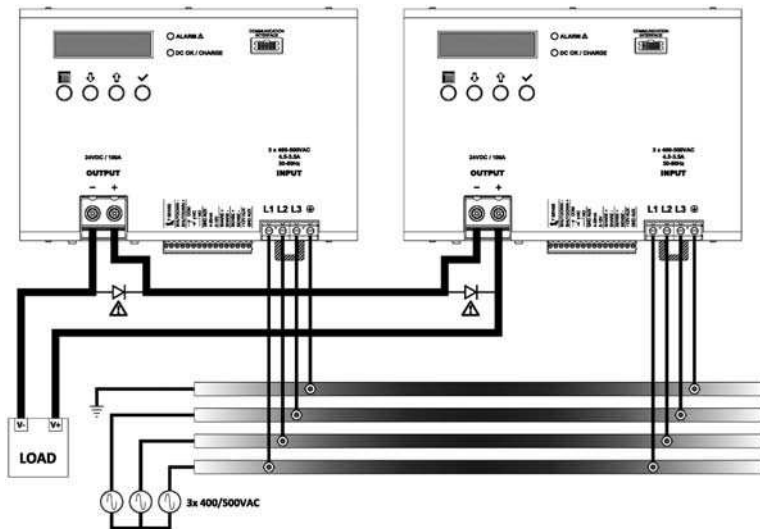
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PIN assignment



Serial operation



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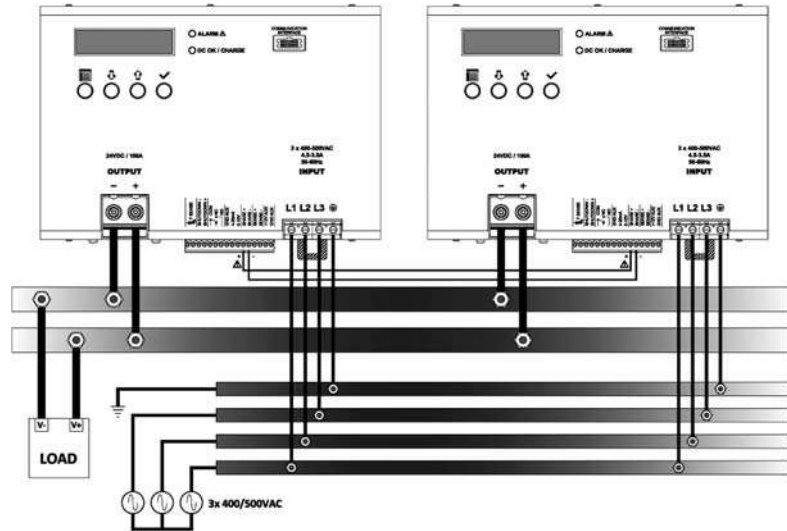
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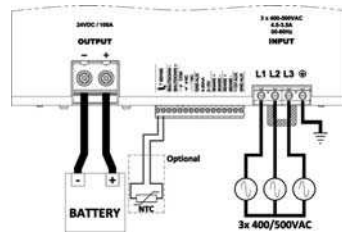
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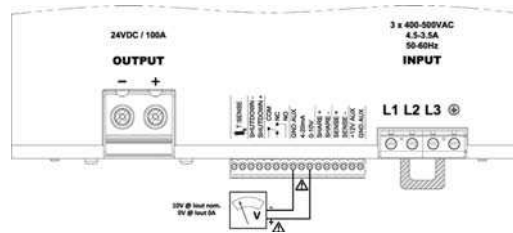
Parallel/redundant mode



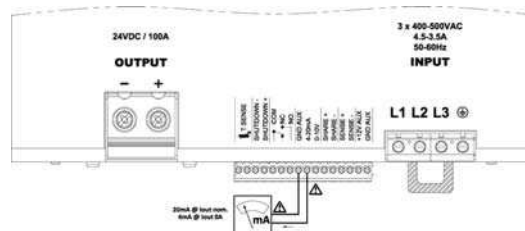
Charging operation



Output voltage in 0–10 V



Output voltage in 4–20 mA



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