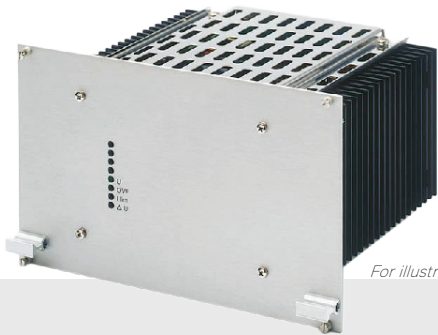


B692-28

Schaefer AC/DC Battery Charger



For illustrative purposes only

FEATURES

- Queensland Rail Type Approval C0192 - validated for signalling and level crossing applications.
- Natural convection cooling - no fans, reducing potential failure points and increasing long-term reliability.
- High-temperature operation up to 75°C
- for stable performance in signalling and equipment huts.
- Conformal-coated electronics and reinforced chassis resist humidity, vibration, and contamination common within the rail corridor.
- Supports parallel and redundant operation with active current sharing for load balancing and system redundancy.
- High transient protection, reverse polarity protection, and monitoring via Charger Fail and DC OK relay outputs.

SPECIFICATIONS

| | | |
|---|--|--|
| INPUT | | |
| Voltage range | 115V AC $\pm 20\%$ or 230V AC $+15\%/-20\%$, unit switches off at under and overvoltage | |
| Frequency | 50/60Hz | |
| Recommended Input Fuse / MCB | Internal, mini-fuse $\varnothing 5 \times 20 \text{mm}$ / T16A (time lag) | |
| No-load Input Power | Approx. 6W | |
| Switch-on Time | 300ms typical | |
| Inrush Current | Limiting by thermistor | |
| OUTPUT | | |
| Voltage | 27.6V DC (adjustable 24 ... 32V DC) | |
| Current | 16A | |
| Recommended Output Fuse | External 20A time lag/ B-characteristic related to fuses manufactured by ABB | |
| Line Regulation ($\pm 10\%$) | 0.1 % | |
| Load Regulation (10-90%) | $< 2\%$ | |
| Efficiency at Full Load | Approx. 85% | |
| Switching Frequency | Approx. 33 kHz | |
| Ripple | $\leq 1\% + 30 \text{mVp-p}$ | |
| Load Transient (10-90-10%) | 6 % typical | |
| Response Time to $\pm 1\%$ | 2ms typical | |
| Turn-on Rise Time | Softstart, 300ms typical | |
| Overload Protection | Current limited to 70 ... 110 % of full load | |
| Overvoltage Protection | OVP switches off the module at $U_{\text{out}} = 35 \text{V}$ (with automatic return to operation) | |
| Remote Sensing | Sense lines have to be connected to the output or to the load under regard of polarity | |
| Redundant Operation | Via installed decoupling diode in the (+) output line | |
| Parallel Operation | | Includes Current Sharing with Interrupt in case of faulty unit in parallel operation |
| Reverse Polarity Protection | | Via anti-parallel diode in the output (output fuse required) |
| Transient and Surge Protection | | Varistor on Input and Output to meet 2kV transient/surge in accordance with EN61000-4-4 / EN61000-4-5 |
| MECHANICAL | | |
| Mounting Type | | Wall |
| Dimensions | | 220 x 220 x 167mm (WxHxD) |
| Weight | | Approx. 4.5 kg |
| Increased Mechanical Strength | | For shock and vibration in accordance with EN61373 |
| Protection Category | | IP20 |
| Mounting Instructions | | Only in provided position (cooling fin vertical). Above and below the unit at least 40mm distance to neighbouring parts. |
| ENVIRONMENTAL | | |
| Cooling | | Natural Convection (be aware of good hear dissipation) |
| Humidity | | Up to 99% RH, non-condensing due to additional Tropical Protection (Conformal Coating) applied to all PCBs. |
| Temperature Coefficient | | 0.02 %/°C typical |
| Operating Temperature | | -20°C to +75°C |
| Internal Temperature | | Switch 90°C heatsink temperature for emergency power off |
| Load Derating | | 2.5 %/°C from +55°C |
| Storage Temperature | | -40°C to +85°C |
| ALARMS / MONITORING | | |
| Charger Failure | | Indicating with relay |
| DC-OK with Relay (output voltage monitoring) | | Switching threshold: $U_{\text{out}} > 21.6 \text{VDC}$ |

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RELIABILITY

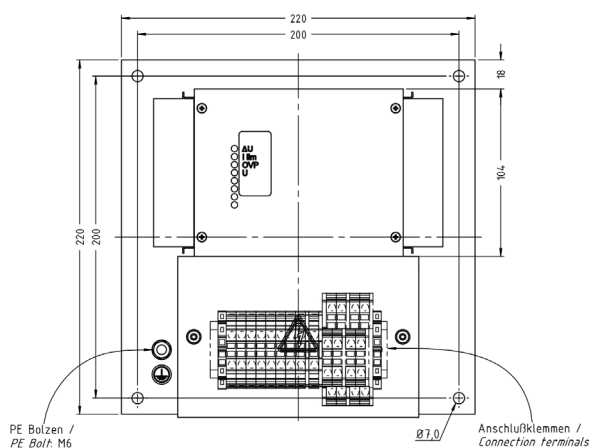
MTBF Approx. 100.000 h at 40°C (in acc. to MIL-HDBK-217E Notice 1)

SAFETY & STANDARDS

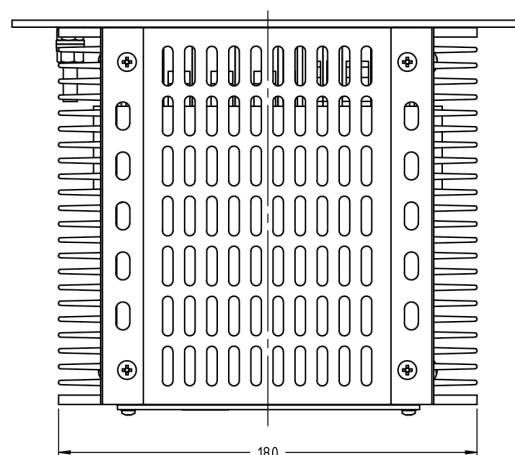
| | |
|--------------------------------------|---|
| Safety / Construction | Acc. to to EN/IEC 61010-2-201 + EN/IEC 61010-1 |
| Earth Leakage | < 3.5mA, acc. to EN/IEC 61010-2-201 + EN/IEC 61010-1 |
| EMC Compatibility | Acc. to EN 61000-6-2 / EN 61000-6-4 / EN61000-4-4 / EN61000-4-5 |
| Safety Class | 1 (equipment with protective earth connection) |
| Overvoltage Category | II |
| Pollution Degree | 2 |
| Maximum Installation Altitude | 2000m |
| Isolation Resistance | > 10 MΩ at 500V DC |
| Isolation Test | Acc. to EN/IEC 61010-2-201 + EN/IEC 61010-1 |

TECHNICAL DRAWINGS

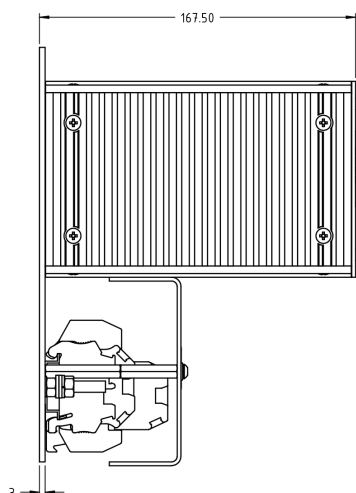
B692-28-FRONT



B692-28-TOP



B692-28-SIDE



B692-28-ISOMETRIC

