powerbox
Powering Progress

B2591-27

Schaefer AC/DC Battery Charger

For illustrative purposes only

FEATURES

- ARTC Type Approved – Certificate No. NESA-S061 for signalling and level crossing applications.
- Recommended replacement for EOL Enatel RW512 / RW312 Series battery chargers.
- Natural convection cooling - no fans, reducing potential failure points and increasing longterm reliability.
- High-temperature operation up to 75°C for stable performance in signalling and equipment huts.
- Supports parallel and redundant operation with active current sharing for load balancing and system redundancy.
- Chassis-mounting design – Simple installation with easily accessible wiring terminals.

SPECIFICATIONS

INPUT

Voltage Range	115V AC ±20% or 230V AC +15%/-20% (Auto-Ranging) - unit switches off at under- and overvoltage
Frequency	50/60Hz
Recommended Input Fuse / MCB	External, 10A time lag / K-characteristic related to MCB`s manufactured by ABB
No-load Input Power	Approx. 6W
Switch-on Time	300ms typical
Inrush Current	Limiting by thermistor

OUTPUT

Voltage	13.7 Vdc (adjustable 12 ... 16V DC)
Current	23A
Line Regulation (±10%)	0.1 %
Load Regulation (10-90%)	< 2%
Efficiency at Full Load	Approx. 85%
Switching Frequency	Approx. 33 kHz
Ripple	≤ 1% +30mVp-p
Load Transient (10-90-10%)	6 % typical
Response Time to ±1 %	2ms typical
Turn-on Rise Time	Softstart, 300ms typical
Overload Protection	Current limited to 105 ... 110 % of full load
Overvoltage Protection	OVP switches off the module at U_{out} = 18V (with automatic return to operation)
Remote Sensing	Internally connected to the output
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

MECHANICAL

Mounting Type	Chassis Mount
Connector Type	Phoenix Contact
Dimensions	117.5 x 106 x 232.50mm (WxHxD)
Weight	Approx. 3.0 kg
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
Humidity	Up to 99% RH, non-condensing
Temperature Coefficient	0.02 %/°C typical
Operating Temperature	-20°C to +75°C
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_{OUT}>10.8VDC

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RELIABILITY

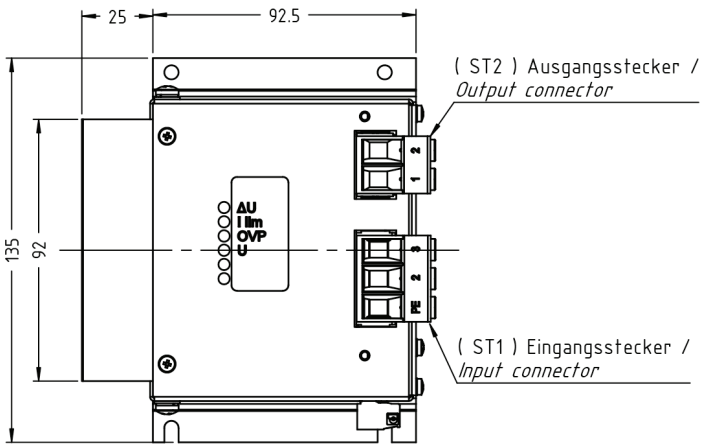
MTBF	Approx. 100.000 h at 40°C (in acc. to MIL-HDBK-217E Notice 1)

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

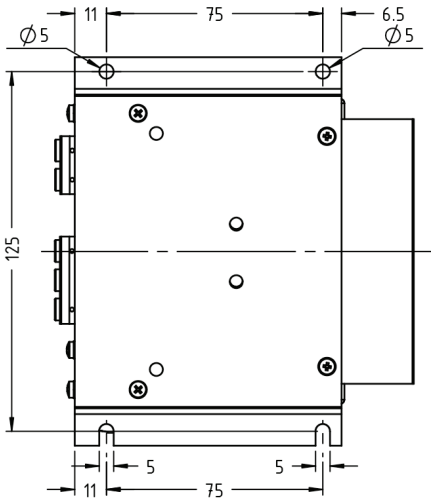
TECHNICAL DRAWINGS

B2591-7-FRONT

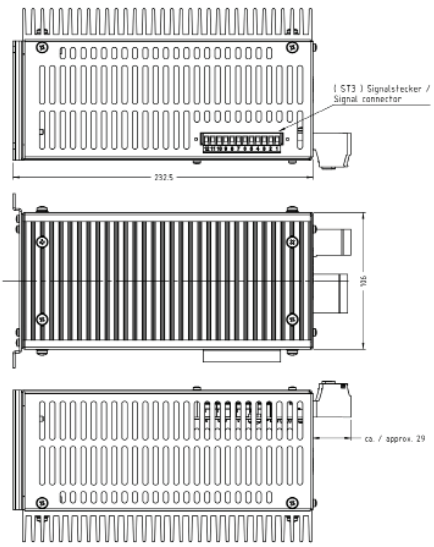


B2591-7-REAR

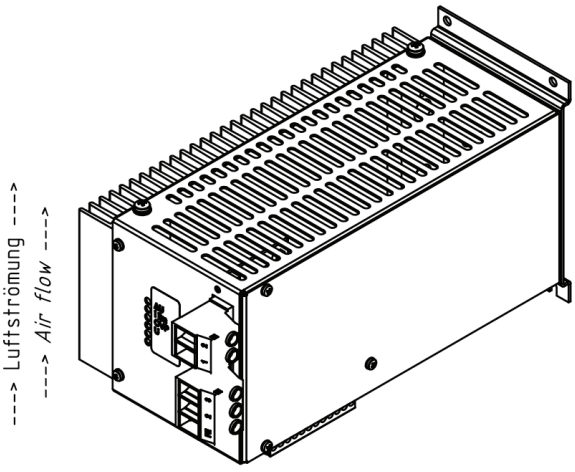
Rückansicht / *rear view*



B2591-7-TOP



B2591-7-ISOMETRIC



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