PULS does it again: practical, versatile and reliable like the SilverLine – yet small like no other.

MiniLine
with DC 48-56V / 50W

- Mounted and connected in record time, no tools required
- World-wide approvals (UL, EN, CSA, CB Scheme) for industry and office/home
- Tiny: WxHxD = 45 x 75 x 91 mm
- NEC Class 2 Power Supply
- Adjustable output voltage up to DC 56V
- 100-240V Wide Range Input
- PULS Overload Design™ (high output overload capability)

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Mini is more.
Technical Data ML50.105

### Input

- **Input voltage**: AC 100-240V (Wide Range), 47...63Hz
- **Admiss. limits**: AC 85...264V (DC 85...375V)
- **Input current**: <1.0A (@ AC 100V, 50W Pout), <0.6A (@ AC 196V, 50W Pout)
- **External fusing**: not required, unit provides internal fuse (T3A15H, not accessible)
- **Transient immunity**: Transient resistance acc. to VDE 0160 / W2 (750V / 1.3ms, over entire load range)
- **Hold-up time** (see diagram below):
  - >170ms @ AC 230V, 48V / 1.05A
  - >97ms @ AC 196V, 48V / 1.05A
  - >17ms @ AC 100V, 48V / 1.05A

### Efficiency, Reliability

- **Efficiency**:
  - typ. 90% (AC 230V, 48V / 1.05A)
  - (see also diagram below)
- **Losses**:
  - typ. 6W (AC 230V, 48V / 1.05A)
- **MTBF (Reliability)**: appr. 600.000h acc. to Siemensnorm SN 29500

Prior to shipment, every unit undergoes the following tests in order to isolate any defective units which might suffer an early failure:
- Run-in/burn-in (Full load, Tamb = +60°C, on/off cycle)
- Functional test (100%)

### Construction, Mechanics, Installation

Robust plastic housing (US Patent No. D442, 925S), fine ventilation grid on three housing sides to keep out small parts (e.g. screws), IP20

### Dimensions and weight

- **W x H x D**: 45mm x 75mm x 91mm (+ DIN Rail)
- **Weight**: 240g
- **Mounting orientation**:  and  (cf. ‘Output’)
- **Ventilation/Cooling**: Normal convection, no fan required
- **Free space f. cooling**: recom’d.: 25mm on sides with ventilation grid

### Easy snap-on mounting onto the DIN-rail

- **Connection** by Spring Clamp terminals; uniformly firm hold, vibration-resistant and maintenance-free:
  - 2 terminals per output

### Connector size range

- **flexible cable**: 0.3-2.5mm² (28-12 AWG)
- **solid cable**: 0.3-4mm² (28-12 AWG)
- **Wire strip length**: 6mm (0.24in) recommended

### Output

- **Output voltage**: DC 48-56V (adj. by front panel potentiometer)
  - preset
  - Voltage regulation: stat. <1% Vout, dyn. ±2% Vout over all
- **Ripple/Noise**: <200mVpp (20MHz bandw., 50 Ω measurement)
- **Overvoltage prot. (OVP)**: <60V

### Rated continuous loading

- up to 1.05A @ 48V / 0.9A @ 56V (convection cooling), depending on built-in orientation, Vout, and Tamb.

### Overload behaviour

PULS Overload Design™: No switch-off at overloads/short-circuit, instead: up to 1.5 ⋅ Irated. So you need no oversizing to start awkward loads.

### Protection

- Unit is protected against (also permanent) short-circuit, overload and open-circuit.

### Derating

- depending on built-in orientation; see diagram below

### Power back immunity

- 63V

### Operating indicator

- Green LED

### Environmental Data, EMC, Safety

- **Ambient temperature range** (measured 25mm below unit): -25°C ... +85°C
- **Humidity**: max. 95% (without condensation)
- **Electromagnetic emissions (EME)**: Class B (EN 55011, EN 55022)
- **Electromagnetic immunity (EMI)**: EN 61000-6-3 (includes EN 61000-6-3), EN 60601-1-2
- **Safe low voltage**: SELV (EN60950, VDE1000/410), PELV (EN50178)

The PSU complies with all major safety approvals for EU (EN 60 950, EN 60624-1, EN 50178), USA (UL 60950, E137006, UL508 LISTED, E198865), Canada (CAN/CSA-C22.2 No 60950 [CUR], CAN/CSA-C22.2 No. 14 [CUL], CB Scheme (IEC 60950)).

### Design details – for your advantage:

- All terminals are easy to reach as mounted on the front panel.
- Input and output are strictly apart from each other (input below, output above) and so cannot be mixed up.
- Mounting and connection do not require any screwdriver → Easy, quick, durable and reliable installation.

### Diagrams

- **Output characteristic Vout/Iout** (min.)
- **Efficiency** (@ Vout = 48V, typ.)
- **Derating of output power**
- **Hold-up time with ACin** (at Vout = 48V, typ. + min.)

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*Product information (ML50e105), Rev. 6. May 2004. Unless otherwise stated, specifications are valid for AC 230V input voltage, +25°C ambient temperature, and 5 min. run-in time. They are subject to change without prior notice.*

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