PULS MiniLine:
practical, versatile and reliable like
the Silverline – yet small like
no other.

Data Sheet

MiniLine ML30.101
with 5 V DC / 25 W

- 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 91mm
- Adjustable output voltage
  up to DC 5.5V
- 100-240V Wide Range Input
- NEC Class 2 Power Supply and
  Hazardous Location Class I Div. 2
  (UL 1604)

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Mini is more.
Technical Data ML30.101

**Input**

- **Input voltage**: AC 100-240V (Wide Range), 47...63Hz
- **Admiss. limits**: AC 85...264V (DC 85...370V)
- **Input current**: <0.6A (@ AC 100V, 25W Pout)
- <0.35A (@ AC 196V, 25W 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): >19ms @ AC 100V, 5.1V / 5A
  - >107ms @ AC 196V, 5.1V / 5A
  - >170ms @ AC 230V, 5.1V / 5A

**Efficiency, Reliability**

- **Efficiency**: >80% (AC 230V, 5.1V / 5A)
- **Losses**: typ. 6W (AC 230V, 5.1V / 5A)
- **MTBF (Reliability)**: 600.000h acc. to Siemensnorm SN 29500
  (5.1V / 5A, AC 230V, T amb = +40°C)
- **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, T amb = +60°C, on/off cycle)
  - **Functional test (100%)**

**Construction, Mechanics, Installation**

- **Robust plastic housing** (US Patent No. D442, 923S), 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)
  - Depth incl. terminals: 98 mm (+ DIN Rail)
  - **Weight**: 240g
- **Mounting orientation**
  - **Mounting orientation**: Rectangular
  (see also diagram below)
- **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** (T35/7.5 or T35/15).
- **Unit sits safely and firmly on the rail; no tools required even to remove**
- **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 5-5.5V; adj. by front panel potentiometer
  - **preset**: 5.1V ±0.5% @ 5A
- **Voltage regulation**: stat. <2% Vout
  dyn. ±5% Vout over all
- **Ripple/Noise**: <50mVpp (20MHz bandw., 50Ω measurement)
- **Overvoltage protection (OVP)**: <6.5V
- **Rated continuous output**: Iout = 5A @ Vout = 5.1V (convection cooling);
  details see derating diagram below
- **loading**: 20%-35% (depending on V in); for details see diagram 'output characteristic' below
- **Overload behaviour**: Straight VI characteristic (depending on V in);
  details see diag. 'output characteristic' below
- **Protection**: Unit is protected against (also permanent)
  short-circuit, overload and open-circuit.
- **Derating**: depending on built-in orientation;
  details see diagram below
- **Power back immunity**: 10V
- **Operating indicator**: Green LED

**Environmental Data, EMC, Safety**

- **Ambient temperature range** (measured 25mm below unit)
  - **storage/transport**: -25°C ... +85°C
  - **operation**: -10°C ... +70°C (for derating see diagram below)
- **Humidity**: max. 95% (without condensation)
- **Electromagnetic emissions (EME)**: EN 61000-6-3 (includes EN 61000-6-4)
  - Class B (EN 55011, EN 55022)
- **Electromagnetic immunity (EMI)**: EN 61000-6-2 (includes EN 61000-6-1)
- **Safe low voltage.:** SELV (EN60950, VDE0100/10.410), PELV (EN50178)
- **Prot. class/degree:** Class I (EN60950) / IP20 (EN60529)
- The PSU complies with all major safety approvals for EU (EN 60 950,
  EN 60204-1, EN 50178), USA (UL 60950, UL508 LISTED, E198865),
  Canada (CAN/CSA-C22.2 No 60950 [CUR], CAN/CSA-C22.2 No. 14 [CUL]),
  CB Scheme (IEC 60950). NEC Class 2 Power Supply and Hazardous Locati-
  on Class I Div. 2 (UL 1604)
- **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, out-
    put above) and so cannot be mixed up
  - **Mounting and connection do not require any screwdriver**
    → Easy, quick, durable and reliable installation

**Diagrams**

- **Output characteristic V_{out}/I_{out} (@ V_{out} = 5.1V, typ.)**
- **Efficiency (@ V_{out} = 5.1V, typ.)**
- **Derating of output power (@ V_{out} = 5.1V, typ. + min.)**
- **Hold-up time with ACIn (@ V_{out} = 5.1V, typ.)**