MiniLine



Data Sheet

MiniLine ML30.100 with DC 24-28V / 30W

- Mounted and connected within seconds, no tools required
- World-wide approvals (UL, EN, CSA, CB Scheme) for industry and office/ home
- Tiny: WxHxD = 45 x 75 x 91mm
- NEC Class 2 Power Supply and Hazardous Location Class I Div. 2
- Output voltage adjustable to DC 28V
- 100-240V Wide Range Input (AC 85...264V permitted)
- PULS Overload Design (no switch off at overload but up to 1.5 times nominal current)

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Technical Data **ML30**.100

Input

Input voltage	AC100-240V (Wide Range), 50...60Hz Admiss. limits: AC 85...264V (DC 85...375V)
Input current	<0.6A (@ AC 100V, 30W P_{out}) <0.35A (@ AC 196V, 30W P_{out})
External Fusing	Not required, unit provides internal fuse (T3AH, not accessible)
Transient immunity	Transient resistance acc. to VDE 0160 / W2 (750V / 1.3ms), over entire load range
Hold-up time (see diagram below)	>190ms bei AC 230V, 24V / 1.3A >107ms @ AC 196V, 24V / 1.3A >19ms @ AC 100V, 24V / 1.3A

Efficiency, Reliability

Efficiency	typ. 87.5% (AC 230V, 24V / 1.3A) (see also diagram below)
Losses	typ. 4.5W (AC 230V, 24V / 1.3A)
MTBF (Reliability)	ca. 650.000h acc. to Siemensnorm SN 29500 (24V/1.3A, 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	
• B x H x T	45mm x 75mm x 91mm (+ DIN Rail) Depth incl. terminals: 98mm (+ DIN Rail)
• Weight	230g
Mounting orientation	, or (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 (TS35/7,5 or TS35/15).
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) Ferrules admissible
• Wire strip length	6mm recommended

Output

Output voltage • preset	DC 24-28V, adj. by front panel potentiometer 24.5V ±0.5%
Voltage regulation	stat. 0.5% V_{out}, dyn. ±2% V_{out} overall
Ripple/Noise	<50mV_{PP} (20MHz bandw., 50 Ω–measurem.)
Overvoltage prot. (OVP)	<40V
Output noise suppression	EMI values below EN 61000-6-3, even when using long (>2m), unscreened output cables
Rated continuous loading	up to 1.3A (convection cooling) depending on built-in orientation, V_{in} and T_{amb}; for details see derating diagram below
Overload behaviour	**PULS Overload Design:** No switch-off at overload/short-circuit, instead: up to 1.5 · I_{rated}. 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
Parallel operation	Yes
Power back immunity	35V
Operation indicator	Green LED (DC ON)

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)
Safe low voltage:	SELV (EN60950, VDE0100/T.410), PELV (EN50178)
Prot. class/degree:	Class I (EN60950) / IP20 (EN60529)

The PSUs comply with all major **safety approvals**
UL 508 LISTED: E198865,
IEC 60950-1 CB Scheme,
UL 60950-1: E137006 US and Canada,
CSA Class I Div 2: 5318-01 (Canada), 5318-81 (USA),
DNV: TAA00002JT
NEC CLASS 2
Corrosive Gases: IEC 60068-2-60 Method 4
Corrosive Gases - G3: ISA-71.04 G3

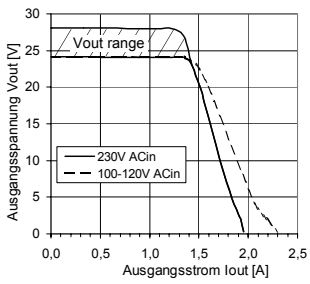
CE: EU Declaration of Conformity (EU DoC): 2014/35/EU (LVD), 2014/30/EU (EMC), 2011/65/EU (RoHS),
WEEE Directive (2012/19/EU), WEEE-Reg.-Nr. DE 55837529

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**

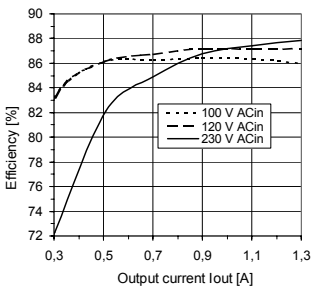
→ Easy, quick, durable and reliable installation

Diagrams

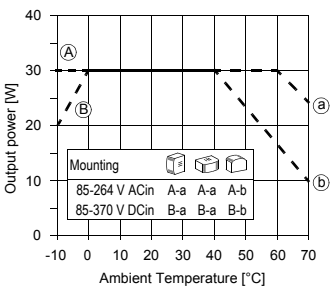
Output characteristic V_{out}/I_{out} (min.)



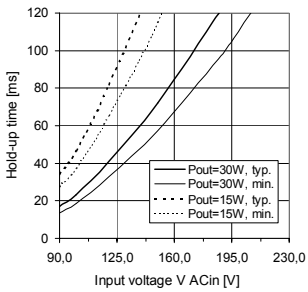
Efficiency (@ V_{out} = 24V, typ.)



Derating of output power



Hold-up time with ACin (@ V_{out} = 24V, typ. + min.)



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