

ML30.100

24VDC Power Supply with 100 to 240 VAC Input

- 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
- NEC Class 2 Power Supply and Hazardous Location Class I Div. 2 (UL 1604)
- Output voltage adjustable from 24V to 28V DC
- 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)



◆ Input

Input voltage	AC100-240V (Wide Range), 47...63Hz 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%)

◆ Output

Output voltage	DC 24-28V, adj. by front panel potentiometer
• preset	24.5V ±0.5%
Voltage regulation	stat. 0.5% V _{out} , dyn. ±2% V _{out} overall
Ripple/Noise	<50mV _{pp} (20MHz bandw., 50 Ω-measur.)
Overvoltage prot. (OVP)	<40V
Output noise suppression	EMI values below EN 61000-6-3, even when using long (>2m), unshielded 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)

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  (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 (0.24in) recommended

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) incl. output noise suppression

Electromagnetic immunity (EMI) EN 61000-6-2 (includes EN 61000-6-1)

Safe low voltage: SELV (EN60950, VDE0100/T.410), PELV (EN50178)

Prot. class/degree: Class I (EN60950) / IP20 (EN60529)

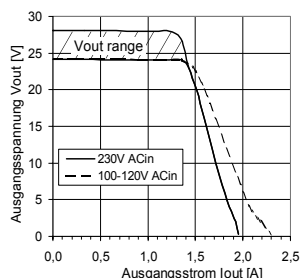
The PSU complies with all major **safety approvals** for EU (EN 60 950, EN 60204-1, EN 50178), USA (UL 60950, E137006, UL508 LISTED, E198865), Canada (CAN/CSA-C22.2 No 60950 [CUR], CAN/CSA-C22.2 No. 14 [CUL]), CB Scheme (IEC 60950), NEC Class 2 Power Supply and Hazardous Location Class I Div. 2 (UL 1604)

Design details – for your advantage:

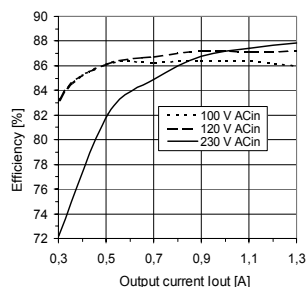
- All terminals are easy to reach as mounted on the front panel.
 - Input and output are strictly apart from each other (input below, output above) and so cannot be mixed up
 - Mounting and connection do not require any screwdriver**
- Easy, quick, durable and reliable installation

Diagrams

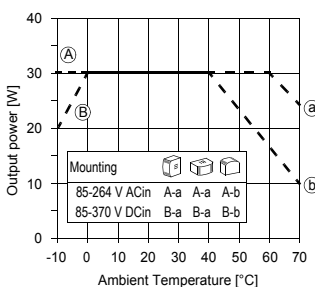
Output characteristic V_{out}/I_{out} (min.)



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



Derating of output power



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

