



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PULS MiniLine:
practical, versatile and reliable like
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CE

UL US LISTED

CB
scheme



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

Spring Clamps

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 P _{out}) <0.35A (@ AC 196V, 25W P _{out})
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) (see also diagram below)
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  (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

Output

Output voltage	DC 5-5.5V; adj. by front panel potentiometer
• preset	5.1V ±0.5% @ 5A
Voltage regulation	stat. <2% V _{out} dyn. ±5% V _{out} over all
Ripple/Noise	<50mV _{pp} (20MHz bandw., 50Ω measurement)
Overvoltage prot. (OVP)	<6.5V
Rated continuous loading	I _{out} = 5A @ V _{out} = 5.1V (convection cooling); details see derating diagram below
• power reserve	20%-35% (depending on V _{in}); for details see diagram 'output characteristic' below
Overload behaviour	Straight V/I characteristic (depending on V _{in}); details see diagr. '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/T.410), PELV (EN50178)
Prot. class/degree: Class I (EN60950) / IP20 (EN60529)

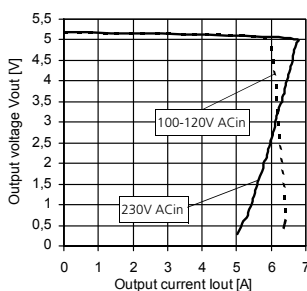
The PSU complies with all major **safety approvals** for EU (EN 60 950, EN 60204-1, EN 50178), USA (UL 60950, E137006, UL508 LISTED, E198865), Canada (CAN/CSA-C22.2 No 60950 [CUR], CAN/CSA-C22.2 No. 14 [CUL]), CB Scheme (IEC 60950). NEC Class 2 Power Supply and Hazardous Location Class I Div. 2 (UL 1604)

Design details – for your advantage:

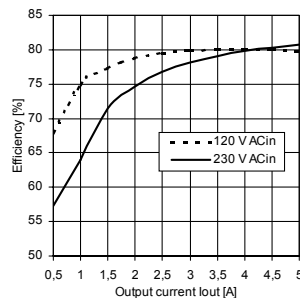
- All terminals are easy to reach as mounted on the front panel.
- Input and output are strictly apart from each other (input below, output above) and so cannot be mixed up
- **Mounting and connection do not require any screwdriver**
→ Easy, quick, durable and reliable installation

Diagrams

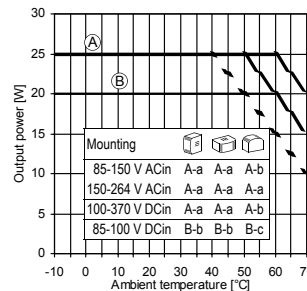
Output characteristic V_{out}/I_{out}
(@ V_{out} = 5.1V, typ.)



Efficiency
(@ V_{out} = 5.1V, typ.)



Derating of output power



Hold-up time with ACin
(@ V_{out} = 5.1V, typ. + min.)

