

Features

- ◆ Very compact power modules with screw terminal connection
- ◆ Active PFC, power factor >0.95 (230VAC), >0.99 (115 VAC)
- ◆ High efficiency up to 93% typ.
- ◆ Remote On/Off input
- ◆ Adjustable output voltage $\pm 5\%$
- ◆ LED output indicator
- ◆ Universal input 100-240 VAC nominal
- ◆ Low leakage current
- ◆ EMI meets EN 55022, class B
- ◆ Protection class II prepared



The TML 100C series modules are very compact 85–100 Watt power supplies in a fully encapsulated plastic case. Active power factor correction and high efficiency across full load range qualify these modules for installation in energy related products. They feature screw terminals for easy installation. The TML 100C series is accompanied by an international safety approval package for worldwide markets.

Models

| Order code | Output power max. | Output voltage | Output current max. | Efficiency 115 VAC / 230 VAC |
|--------------|-------------------|----------------|---------------------|------------------------------|
| TML 100-112C | 85 | 12 VDC | 7000 mA | 89.5 % / 91.0 % |
| TML 100-115C | 85 | 15 VDC | 5660 mA | 90.0 % / 91.5 % |
| TML 100-124C | 100 | 24 VDC | 4200 mA | 92.5 % / 93.5 % |
| TML 100-148C | 100 | 48 VDC | 2100 mA | 93.0 % / 94.5 % |

Full TML and TMLM Series Model Range

| Series | Description | Datasheet |
|---------|---|--|
| TMLM 04 | 4 Watt, PCB mount, single and dual output models | www.tracopower.com/products/tmlm.pdf |
| TMLM 05 | 5 Watt, PCB mount, single output models | |
| TMLM 10 | 10 Watt, PCB mount, single output models | |
| TMLM 20 | 20 Watt, PCB mount, single output models (compact design) | |
| TML 20 | 20 Watt, PCB & chassis mount, single, dual and triple output models | www.tracopower.com/products/tml.pdf |
| TML 40 | 40 Watt, PCB & chassis mount, single, dual and triple output models | |

Input Specifications

| | | |
|--|--|--|
| Input voltage ranges | <ul style="list-style-type: none"> - nominal - AC full range - DC Input | 100 – 240 VAC (universal input) 90 – 264 VAC 120 – 370 VDC |
| Input frequency | | 47 – 63 Hz |
| Input current at full load (115 VAC / 230 VAC nominal input) | | < 2.0 A / < 1.0 A max. |
| Leakage current | | 0.5 mA max. |
| Harmonic limits | <ul style="list-style-type: none"> - Power factor | EN 61000-3-2, Class A >0.99 at 115 VAC, >0.95 at 230 VAC |

Output Specifications

| | | |
|-------------------------------------|---|--|
| Voltage set accuracy | | ±2 % |
| Output voltage adjustment range | | ±5% (see page 3) |
| Minimum load | | 3% of rated max current (operation at lower load condition is safe but a higher output ripple will be experienced) |
| Ripple and noise (20 MHz bandwidth) | 12 VDC model: 15 VDC model: 24 VDC model: 48 VDC model: | 120 mV max. 150 mV max. 200 mV max. 240 mV max. |
| Regulation | <ul style="list-style-type: none"> - input variation - load variation | ±1% ±1% |
| Current limitation | | 105% – 180% of rated output power. (automatic recovery) |
| Overvoltage protection | | by Zehner diode. |
| Short circuit protection | | indefinite (hiccup, automatic recovery) |
| Hold-up time | | 10 ms min. (110VAC) |
| Max. capacitive load | 12 VDC model: 15 VDC model: 24 VDC model: 48 VDC model: | 50'000 µF 40'000 µF 6'000 µF 1'000 µF |

General Specifications

| | | |
|---|---|---|
| Temperature ranges | <ul style="list-style-type: none"> - Operating - Power derating above +50°C - Case max. - Storage (non operating) | -25°C to +70°C 2.0 %/K +95°C -25°C to +85°C |
| Temperature coefficient | | 0.03 %/°C |
| Efficiency | | see model table |
| Remote On/Off control | | On: open or connection to -Vout Off: external +5VDC |
| Humidity (non condensing) | | 95 % rel max. |
| Switching frequency (pulse width modulation PWM) | | 100–133 kHz |
| Isolation voltage | <ul style="list-style-type: none"> - Input/Output | 3'000 VAC |
| Reliability /calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign) | | >250'000 h |
| Environmental compliance | <ul style="list-style-type: none"> - Reach - RoHS | www.tracopower.com/products/tml-reach.pdf RoHS directive 2011/65/EU |

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

General Specifications

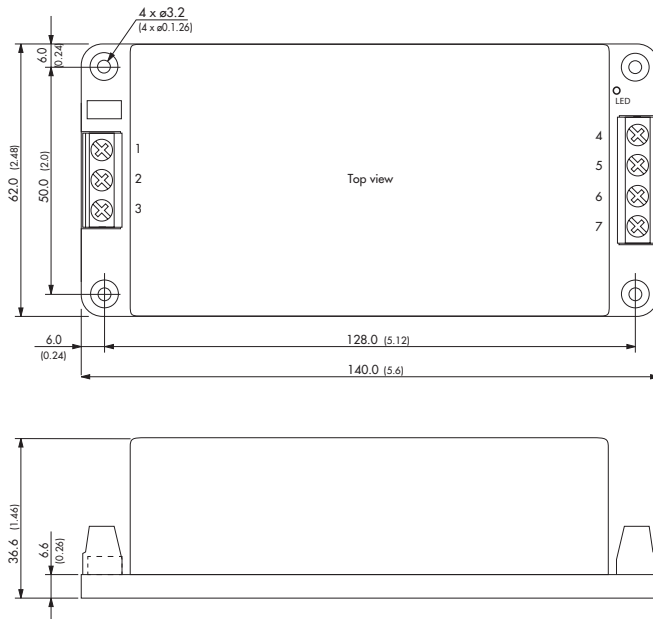
| | | |
|--|---|--|
| Electromagnetic compatibility (EMC), Emissions | | EN 61000-3-2:2006+A1:2009+A2:2009 EN 61000-3-3:2008 EN 55022, class B |
| Electromagnetic compatibility (EMC), Immunity | <ul style="list-style-type: none"> - Electrostatic discharge ESD (air/contact) - RF field susceptibility - Electrical fast transient / burst immunity input - Surge immunity line - neutral - Surge immunity line - PE, neutral - PE - Immunity to conducted RF disturbances - Power frequency magnetic field immunity - Mains voltage dips and interruptions | EN 55024 : 2010 EN 61000-4-2 ±2 kV / ±4 kV, criteria A EN 61000-4-3 3 V/m, criteria A EN 61000-4-4 ±1 kV, criteria A EN 61000-4-5, ±1 kV, criteria A EN 61000-4-5, ±2 kV, criteria A EN 61000-4-6 3 V, criteria A EN 61000-4-8 1 A/m, criteria A EN 61000-4-11 30 % 500 ms, criteria A 95 % 10 ms, criteria A 95 % 2500 ms, criteria C |
| Protection class | | class I and class II prepared |
| Safety standards | | IEC 60950-1 2nd ed +Am1 EN 60950-1:2006/A11:2009/A1:2010/A12:2011 UL 60950-1 2nd ed +Am1 |
| Safety approvals | <ul style="list-style-type: none"> - CB certificate for IEC/EN 60950-1 - UL/cUL 60950-1 (online certification) | www.tracopower.com/products/tml100c-cb.pdf www.ul.com File e188913 |
| Casing material | | plastic resin + fiberglass (UL 94V-0 rated) |

Output voltage adjustment (Trim resistor [KOhm])

Trim up: Resistor from Trim to -Vout (connection 7-6)
Trim down: Resistor from Trim to +Vout (connection 7-5)

| | | | | |
|----------------|--------|--------|--------|--------|
| output voltage | 12 VDC | 15 VDC | 24 VDC | 48 VDC |
| +5% | 85 | 95 | 90 | 85 |
| nominal | open | open | open | open |
| -5% | 220 | 300 | 600 | 1500 |

Outline Dimensions



| Connection | |
|------------|---------------|
| con. | Output |
| 1 | AC in (L) |
| 2 | AC in (N) |
| 3 | FG |
| 4 | Remote On/Off |
| 5 | +Vout |
| 6 | -Vout |
| 7 | Trim |

Weight : 440 g (11.5 oz)

Dimensions in [mm], () = Inches
Tolerances = 0.5mm (0.02)

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com