

- High power density in low profile case, module depth < 55 mm
- Suitable for mounting in domestic installation panels
- Very high efficiency and low standby power -> compliance to ECO-Standard
- Low output ripples and spikes
- Suitable for household appliance and industrial application
- For distributed power
- Operating temperature range: -25°C to +70°C
- UL 508 listed
- UL 1310 class II, NEC class 2 compliance
- 3-year product warranty



This new DIN-Rail mounting power supplies are designed for industrial and residential applications. They are lower cost than the existing TBL range, with similar electrical specifications. Additionally, they fully comply to the new standby power and efficiency requirements (ECO Standard). They are intended for connecting as class II devices, so the safety earth connection is not required. They are mountable in flat racks due to their small dimensions in depth. Their dimensions comply to the DIN 43880 standard.

Models				
Order Code	Output Power max.	Output Voltage nom. (adjustable)	Output Current max.	Efficiency typ.
TBLC 15-105	12 W	5 VDC (5.0 - 5.5 VDC)	2'400 mA	81 %
TBLC 15-112	15 W	12 VDC (12.0 - 16.0 VDC)	1'250 mA	85 %
TBLC 15-124		24 VDC (24.0 - 28.0 VDC)	630 mA	85 %

Input Specifications

Input Voltage		85 - 264 VAC (Full Range)
Input Frequency		47 - 63 Hz
Power Consumption	- At no load	300 mW max. (Ready to meet ErP directive)
Input Inrush Current	- At 230 VAC - At 115 VAC	30 A max. 15 A max.
Recommended Input Fuse		(The need of an external fuse has to be assessed in the final application.)

Output Specifications

Output Voltage Adjustment		5 VDC model: 5.0 - 5.5 VDC 12 VDC model: 12.0 - 16.0 VDC 24 VDC model: 24.0 - 28.0 VDC (By trim potentiometer) Output power must not exceed rated power!
Regulation	- Input Variation (Vmin - Vmax) - Load Variation (10 - 90%)	0.3% max. 0.3% max.
Ripple and Noise (20 MHz Bandwidth)		50 mVp-p max.
Minimum Load		Not required
Temperature Coefficient		±0.02 %/K max.
Hold-up Time	- At 230 VAC - At 115 VAC	60 ms min. 15 ms min.
Start-up Time	- At 230 VAC - At 115 VAC	1'000 ms max. 1'000 ms max.
Short Circuit Protection		Continuous, Automatic recovery 120 - 200% of Iout nom.
Overload Protection		Constant Current Mode
Output Current Limitation		105 - 130% of Iout max.
Overvoltage Protection		125 - 150% of Vout nom.
Transient Response	- Peak Variation - Response Time	300 mV max. (10% to 90% Load Step) 2500 µs typ. (10% to 90% Load Step)

Safety Specifications

Safety Standards	- IT / Multimedia Equipment - Industrial Control Equipment - Household - Machines Equipment - Power Installation - Measurement, Control & Lab. - Power Transformers - Converter System - Certification Documents	EN 60950-1 IEC 60950-1 UL 60950-1 UL 508 EN 60335-1 IEC 60335-1 EN 60204 EN 50178 EN 61010-1 (pending) EN 61558-2-8 EN 61558-2-16 EN 62477 IEC 62477 www.tracopower.com/overview/tb1c15
Protection Class		Class II (Prepared): Reinforced Insulation
Class 2 Power Units		UL 1310 NEC Class 2
Pollution Degree		PD 2
Over Voltage Category		OVC II

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

EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential)
		EN 61204-3 (Low Voltage Power Supplies)
- Conducted Emissions		EN 55011 class B (internal filter)
		EN 55032 class B (internal filter)
- Radiated Emissions		EN 55011 class B (internal filter)
		EN 55032 class B (internal filter)
- Harmonic Current Emissions		EN 61000-3-2, class A
EMS Immunity		EN 61000-6-2 (Generic Industrial)
		EN 61204-3 (Low Voltage Power Supplies)
- Electrostatic Discharge	Air:	EN 61000-4-2, ± 8 kV, perf. criteria B
	Contact:	EN 61000-4-2, ± 4 kV, perf. criteria B
- RF Electromagnetic Field		EN 61000-4-3, 10 V/m, perf. criteria A
- EFT (Burst) / Surge		EN 61000-4-4, ± 2 kV, perf. criteria B
	L to L:	EN 61000-4-5, ± 1 kV, perf. criteria B
	L to PE:	EN 61000-4-5, ± 2 kV, perf. criteria B
- Conducted RF Disturbances		EN 61000-4-6, 10 Vrms, perf. criteria A
- PF Magnetic Field	Continuous:	EN 61000-4-8, 30 A/m, perf. criteria A
- Voltage Dips & Interruptions	230 VAC / 50 Hz:	EN 61000-4-11 30%, 25 periods, perf. criteria A 60%, 10 periods, perf. criteria B >95%, 1 period, perf. criteria A
	115 VAC / 60 Hz:	EN 61000-4-11 30%, 25 periods, perf. criteria B 60%, 10 periods, perf. criteria B >95%, 1 period, perf. criteria B
- Voltage Sag Immunity		SEMI F47, criteria A

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	-25°C to +70°C
	- Case Temperature	+70°C max.
	- Storage Temperature	-40°C to +85°C
Power Derating	- High Temperature	2.5 %/K above 55°C
	- Low Input Voltage	2 %/V below 100 VAC
Cooling System		Natural convection (20 LFM)
Altitude During Operation		5'000 m max. (Lower altitude required for IEC61558-1 & 60335 of 3000 m)
Switching Frequency		93 - 130 kHz (PWM)
Insulation System		Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s	3'000 VAC
Creepage	- Input to Output	7.4 mm min.
Clearance	- Input to Output	7.4 mm min.
Leakage Current	- Touch Current	250 μ A max.
Reliability	- Calculated MTBF	1'900'000 h (IEC 61709)
Environment	- Vibration	IEC 60068-2-6 2 g, 3 axis, sine sweep, 3x60 min, 10-150 Hz
	- Mechanical Shock	IEC 60068-2-27 30 g, 3 axis, half sine, 11 ms
Case Ingress Protection		IP 20 (acc. IEC 60529)
Housing Material		Plastic (UL 94 V-2 rated)
Connection Type		Screw Terminal
Mounting	- DIN Rail	For DIN-rails as per EN 50022 (snap-on with self locking spring) (included)
Weight		80 g
Thermal Impedance		3.11 K/W

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

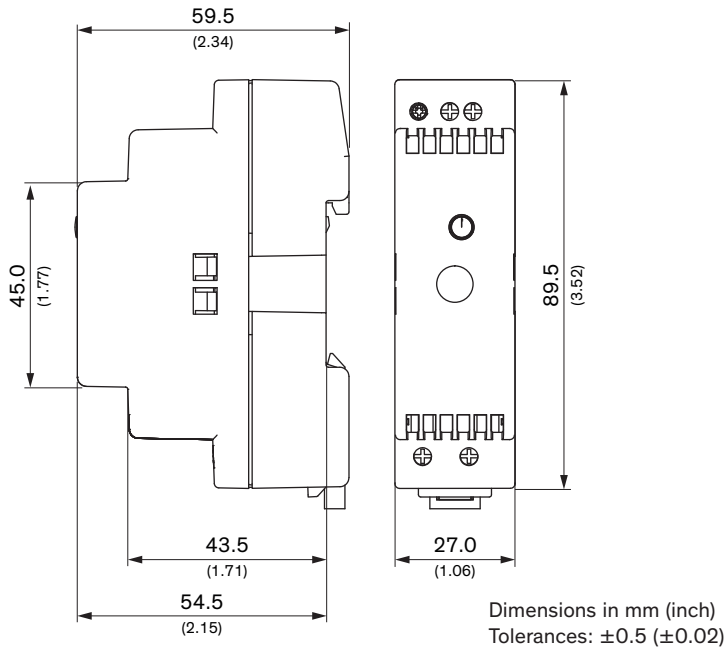
Status Indicator	Indicated by green LED
Environmental Compliance - Reach	www.tracopower.com/info/reach-declaration.pdf
- RoHS	www.tracopower.com/info/rohs-declaration.pdf

Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/tb1c15

Outline Dimensions



Wiring		
Description	Wire size	Torque
AC Input all models: L, N only (2 pin terminal)	AWG 20 - 14 0.5 - 2.5 mm ² max.	0.5 Nm
DC Output single terminal	AWG 20 - 14 0.5 - 2.5 mm ² max.	0.5 Nm