



Features

- ◆ Low profile case, module depth only 55mm
- ◆ Fits into flat control panels used in building automation
- ◆ Safety class II product
- ◆ UL 1310 class II, NEC class 2 compliance (models up to 90 W)
- ◆ UL 508 listed
- ◆ Power ranges from 12 to 150 W
- ◆ Universal input range 85 to 264 VAC (auto range for 150 Watt models)
- ◆ Operating temperature range: -25°C to +70°C max.
- ◆ Adjustable output voltage
- ◆ Short circuit and overload protection
- ◆ DC-OK indicator
- ◆ Easy snap-on mounting on DIN-rail or w/ wall mounting bracket (included)
- ◆ 3-year product warranty



The TBL series is a new range of small DIN-rail mount power supplies which have been designed particularly with building- and factory automation applications in mind. The ultra-compact low profile cases fit in the standardized wall mounted control panels used in the building automation industry. The power supplies can be operated at full load across an ambient temperature range of -25°C to +60°C without need of additional cooling. Universal input voltage range and full compliance with all important safety and EMC standards qualifies the TBL series power supplies for worldwide markets. For commercial and residential applications requesting safety class II the models up to 90 Watt are approved to UL 1310.

Models

Order Code	Output Power (max.)	Output Voltage* (nom.)	Output Current (max.)	Efficiency (typ.)
TBL 015-105	12 W	5.0 VDC	2.4 A	73 %
TBL 015-112	15 W	12 VDC	1.25 A	79 %
TBL 015-124	15 W	24 VDC	0.63 A	81 %
TBL 030-112	30 W	12 VDC	2.5 A	81 %
TBL 030-124	30 W	24 VDC	1.25 A	83 %
TBL 060-112	54 W	12 VDC	4.5 A	83 %
TBL 060-124	60 W	24 VDC	2.5 A	85 %
TBL 090-112	72 W	12 VDC	6.0 A	84 %
TBL 090-124	90 W	24 VDC	3.75 A	86 %
TBL 150-112	120 W	12 VDC	10 A	84 %
TBL 150-124	150 W	24 VDC	6.25 A	87 %

* adjustable

Input Specifications

Input voltage	- AC nominal rated	TBL 150 models:	100 – 240 VAC; 50/60 Hz
	- AC range (designed for)	TBL 150 models:	100 – 120 / 220 – 240 VAC; 50/60 Hz 85 – 264 VAC; 47 – 63 Hz
	- Power derating at low input voltage	TBL 150 models:	85 – 132 / 187 – 264 VAC; 47 – 63 Hz 5% below 90 VAC
Harmonic limits			EN 61000-3-2, Class A
Recommended circuit breaker (characteristic C or slow blow fuse)			6.0 A

Output Specifications

Output voltage adjustable range	5 VDC model:	5.0 – 5.2 VDC
	12 VDC models:	12 – 16 VDC
	24 VDC models:	24 – 28 VDC
Output regulation		1 %
Ripple and noise (20MHz bandwidth)		<100 mV pk-pk
Electronic short circuit protection		current limitation at 100 – 150 % typ. (automatic recovery)
Overvoltage protection, trigger point	5 VDC model:	5.5 – 7.5 VDC
	12 VDC models:	16 – 24 VDC
	TBL 030-124, TBL 150-124:	30 – 37 VDC
	TBL 015-124, TBL 060-124, TBL 090-124:	29 – 44 VDC
Status indicator		Bi-colour LED (green: normal operation, red: overload or short circuit)
Hold-up time		min. 10 ms (115 VAC), min. 20 ms (230 VAC)

General Specifications

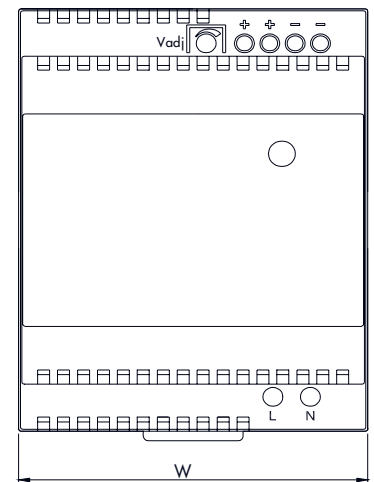
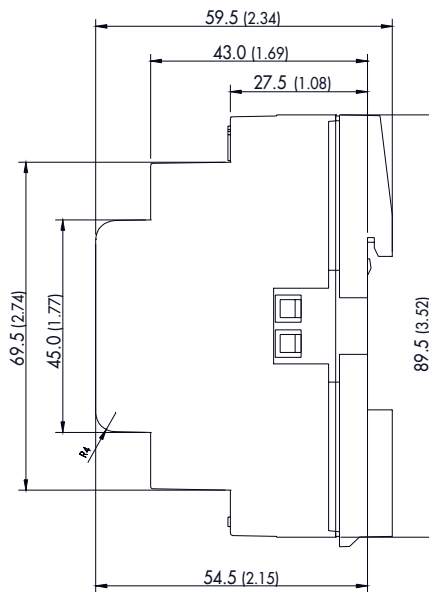
Temperature ranges	- Operating	-25°C to +70°C max. (with derating)			
	- Storage	-40°C to +85°C max.			
Power derating		2.5 %/K above 60°C			
Humidity (non condensing)		5 – 95 % rel. H			
Temperature coefficient		0.02 %/K			
Reliability, calculated MTBF at +25°C acc. to IEC 61709	TBL 015:	>1.5 Mio h			
	TBL 060:	>2.1 Mio h			
	all other models:	>1.3 Mio h			
Isolation voltage (60 s)	- Input to Output	3000 VAC			
Safety standards	- UL certificate of compliance	UL 508 listed UL 1310, class II (15 – 90 W models)			
	- CB test certificate	IEC 60950-1 IEC/EN 61010-1, IEC/EN 61010-2-201			
	- SIQ type approved	EN 60950-1 IEC/EN 61010-1, IEC/EN 61010-2-201			
	- CSA certificate of compliance	EN 50178, EN 60204-1, EN 61558-2-16 CAN/CSA-C22.2 No. 60950-1-07 2nd Ed			
	- Certification documents	UL 60950-1 2nd Ed www.tracopower.com/overview/tbl			
	Electromagnetic compatibility (EMC), emissions		EN 61000-6-3 EN 55022 class B EN 55022 class B		
Electromagnetic compatibility (EMC), immunity	- Electrostatic discharge (ESD)	EN 61000-4-2	4 kV / 8 kV	criteria B	
	- Radiated RF field immunity	EN 61000-4-3	10 V/m	criteria A	
	- Electrical fast transient / burst immunity	EN 61000-4-4	±2 kV	criteria B	
	- Surge immunity line – ground	EN 61000-4-5	2 kV	criteria B	
	- Surge immunity line – line	EN 61000-4-5	1 kV	criteria B	
	- Immunity to conducted RF disturbances	TBL 90/150:	EN 61000-4-6	3 V	criteria A
	- Immunity to conducted RF disturbances	other models:	EN 61000-4-6	10 V	criteria A
	- Magnetic field immunity		EN 61000-4-8	100 A/m	criteria A
	- Mains voltage dips and interruptions		EN 61000-4-11		
	- Voltage Sag immunity		SEMI F47-0706		

General Specifications

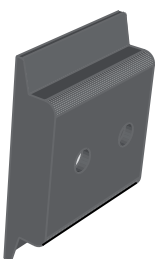
Protection class		class II as per IEC/EN 61140
Case protection		IP 20 (IEC 60529)
Altitude during operation		2'000 m max.
Environment	- Vibration acc. IEC 60068-2-6; - Shock acc. IEC 60068-2-27	3 axis, sine sweep, 10 – 55 Hz, 0.075 mm 3 axis, 15 g half sine, 11 ms
Enclosure material		plastic FR2010-110C (UL 94V-0 rated)
Mounting		DIN-rails as per EN 50022-35x15/7.5 (snap-on with self-locking spring or wall mounting with bracket) (included)
Connection		screw terminals with combi-type screw heads for wire size 0.5 – 1.5 mm ²
Installation instructions		www.tracopower.com/overview/tbl
Environmental compliance	- Reach - RoHS	www.tracopower.com/overview/tbl RoHS directive 2011/65/EU

Case Dimensions

Model	Width (W) mm (inch)	Weight g (oz)
TBL 015	26.3 (1.04)	100 (3.53)
TBL 030	52.5 (2.07)	160 (5.64)
TBL 060	70.0 (2.76)	230 (8.11)
TBL 090	105.0 (4.13)	340 (12.0)
TBL 150	175 (6.89)	625 (22.0)



Dimensions in [mm], (I) = Inch
Tolerances: ±0.5 mm (±0.02)



Wall Mounting Bracket

Instead on a DIN-rail, the modules can be also mounted on a chassis or wall with help of a mounting bracket which is supplied as standard with each power supply

Wiring

	Description	Wire size	Max. terminal screw locked torque
AC Input	15 – 90 W models	0.5 – 2.5 mm ² / AWG 20 – 14	0.5 Nm
AC Input	150 W model	1.3 – 2.5 mm ² / AWG 16 – 14	
DC Output	15 – 90 W models	1.5 – 2.5 mm ² / AWG 16 – 14	
DC Output	150 W model	2.5 mm ² / AWG 14	

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