



### 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
- ◆ 5 power ranges from 15 to 150 W
- ◆ Universal input range 85 to 264 VAC
- ◆ 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 with 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<br>(max.) | Output Voltage*<br>(nom.) | Output Current<br>(max.) | Efficiency<br>(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                    | 86 %                 |
| 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                    | 100 – 240 VAC; 50/60 Hz                                                                                                     |
|                                                                  | – AC range (designed for)             | TBL 150 models: 100 – 120 / 220 – 240 VAC; 50/60 Hz                                                                         |
|                                                                  | – DC range (designed for)             | 85 – 264 VAC; 47 – 63 Hz                                                                                                    |
|                                                                  | – Power derating at low input voltage | TBL 150 models: 85 – 132 / 187 – 264 VAC; 47 – 63 Hz<br>120 – 373 VDC (except TBL 150 models)<br>5% below 90 VAC or 127 VDC |
| 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.<br>(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                                                    |
| Hold-up time                          | 115 VAC                                | 230 VAC                                                        |
|                                       | min. 10 ms                             | min. 20 ms                                                     |

## General Specifications

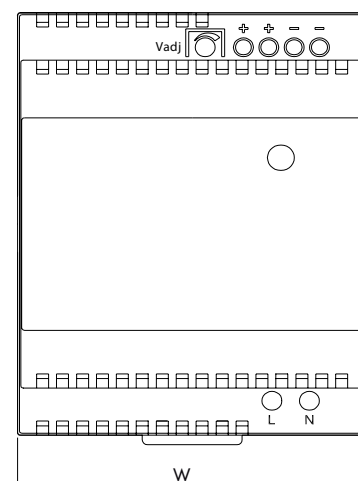
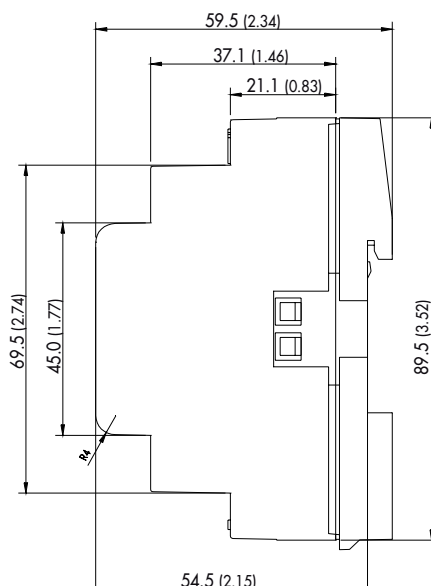
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|---------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature ranges                                      | – Operating                                     | –25°C to +70°C max.                                                                                                                                                                                                   |
|                                                         | – 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:                                        | >1,500 Mio h                                                                                                                                                                                                          |
|                                                         | TBL 060:                                        | >2,100 Mio h                                                                                                                                                                                                          |
|                                                         | all other models:                               | >1,300 Mio h                                                                                                                                                                                                          |
| Safety standards                                        |                                                 | UL 508 listed<br>UL 1310, class II (15 – 90 W models)<br>IEC 60950-1 2nd, EN 60950-1:2006+<br>Am1:2010 +Am11:2009 +Am12:2011<br>EN 50178, EN 60204-1, EN 61558-2-16<br>CAN/CSA-C22.2 No. 60950-1-07<br>UL 60950-1 2nd |
| Safety approvals                                        | – CB report IEC 60950-1                         | <a href="http://www.tracopower.com/products/tbl-cb.pdf">www.tracopower.com/products/tbl-cb.pdf</a>                                                                                                                    |
|                                                         | – UL certification UL 508 listed (File e181381) | <a href="http://www.tracopower.com/products/tbl-ul508.pdf">www.tracopower.com/products/tbl-ul508.pdf</a>                                                                                                              |
|                                                         | – UL certification UL 1310 (File e181381)       | <a href="http://www.tracopower.com/products/tbl-ul1310.pdf">www.tracopower.com/products/tbl-ul1310.pdf</a>                                                                                                            |
|                                                         | – CSA certification UL/CSA 60950-1              | <a href="http://www.tracopower.com/products/tbl-csa.pdf">www.tracopower.com/products/tbl-csa.pdf</a>                                                                                                                  |
|                                                         | – SIQ-BG certificate EN 60950-1 ++              | <a href="http://www.tracopower.com/products/tbl-siq.pdf">www.tracopower.com/products/tbl-siq.pdf</a>                                                                                                                  |
| Electromagnetic compatibility (EMC), emissions          |                                                 | EN 61000-6-3<br>EN 55022 class B<br>EN 55022 class B                                                                                                                                                                  |
| Electromagnetic compatibility (EMC), immunity           | – Conducted RI suppression on input             |                                                                                                                                                                                                                       |
|                                                         | – Radiated RI suppression                       |                                                                                                                                                                                                                       |
|                                                         | – Electrostatic discharge (ESD)                 | EN 61000-4-2 4 kV / 8 kV                                                                                                                                                                                              |
|                                                         | – Radiated RF field immunity                    | EN 61000-4-3 3 V/m                                                                                                                                                                                                    |
|                                                         | – Electrical fast transient / burst immunity    | EN 61000-4-4 1 kV / 0.5 kV                                                                                                                                                                                            |
|                                                         | – Surge immunity line – ground                  | EN 61000-4-5 2 kV                                                                                                                                                                                                     |
|                                                         | – Surge immunity line – line                    | EN 61000-4-5 1 kV                                                                                                                                                                                                     |
|                                                         | – Surge immunity output                         | EN 61000-4-5 0.5 kV                                                                                                                                                                                                   |
|                                                         | – Immunity to conducted RF disturbances         | EN 61000-4-6 3 V                                                                                                                                                                                                      |
|                                                         | – Mains voltage dips and interruptions          | EN 61000-4-11 30 % /10 mS, 60 % /100 mS                                                                                                                                                                               |

## General Specifications

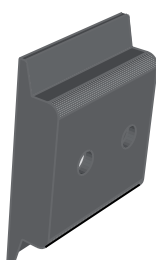
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|---------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Protection class          | class II as per IEC/EN 61140                                                                                       |                                                                                                                                       |
| Case protection           | IP 20 (IEC 60529)                                                                                                  |                                                                                                                                       |
| Environment               | – Vibration acc. IEC 60068-2-6;<br>– Shock acc. IEC 60068-2-27                                                     | 3 axis, sine sweep, 10 – 55 Hz, 0.075 mm<br>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<br>(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 <sup>2</sup>                                |                                                                                                                                       |
| Installation instructions | <a href="http://www.tracopower.com/products/tbl-inst.pdf">www.tracopower.com/products/tbl-inst.pdf</a>             |                                                                                                                                       |
| Environmental compliance  | – Reach<br>– RoHS                                                                                                  | <a href="http://www.tracopower.com/products/tbl-reach.pdf">www.tracopower.com/products/tbl-reach.pdf</a><br>RoHS directive 2011/65/EU |

## Case Dimensions

| Model   | Width (W)<br>mm (inch) | Weight<br>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], ( ) = 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                              |
|-----------|----------------------------------------|----------------------------------------|
| AC Input  | all models: L, N only (2 pin terminal) | AWG 26 – 16 / 1.5 mm <sup>2</sup> max. |
| DC Output | 15 – 30 W models: single terminal      | AWG 26 – 14 / 1.5 mm <sup>2</sup> max. |
| DC Output | 60 – 150 W models: double terminal     | AWG 26 – 14 / 1.5 mm <sup>2</sup> max. |

Specifications can be changed any time without notice.

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at [www.tracopower.com](http://www.tracopower.com)



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- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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