



### 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
- ◆ UL508 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
- ◆ 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 product is 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   | – nominal  | 100 – 240 VAC                                                         |
|                 | – AC range | 85 – 264 VAC (output power derating 5 %/V for operation below 90 VAC) |
| Input frequency |            | 47 – 63 Hz                                                            |
| Harmonic limits |            | EN 61000-3-2, Class 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) |
| Hold-up time                        | 115 VAC        | 230 VAC                                                     |
|                                     | min. 10 ms     | min. 20 ms                                                  |

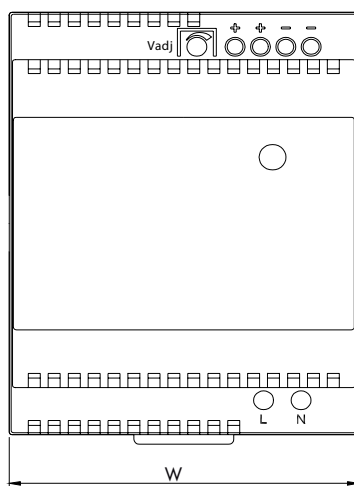
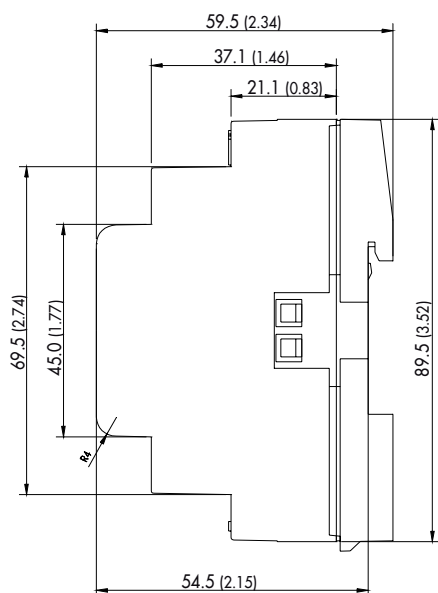
### General Specifications

|                                                |                                              |                                                                                                                                                  |
|------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature ranges                             | – Operating                                  | –25°C to +70°C max. (-13°F to +158°F)                                                                                                            |
|                                                | – Storage                                    | –40°C to +85°C max. (-40°F to +185°F)                                                                                                            |
| Power derating                                 |                                              | 2.5 %/K above 60°C                                                                                                                               |
| Humidity (non condensing)                      |                                              | 5 – 95 % rel. H                                                                                                                                  |
| Temperature coefficient                        |                                              | 0.02 %/K                                                                                                                                         |
| Safety standards                               |                                              | UL 508, UL 1310, class II<br>IEC/EN 60950-1, UL 60950-1, EN 50178,<br>EN 60204, EN 61558-2-8<br>CSA C22.2 No. 60950-1 2003                       |
| Safety approvals<br>(TBL 150 models pending)   | – CB report                                  | IEC/EN 60950-1<br><a href="http://www.tracopower.com/products/tbl_cb60950-1.pdf">www.tracopower.com/products/tbl_cb60950-1.pdf</a>               |
|                                                | – UL approval                                | UL 508 listed<br><a href="http://www.tracopower.com/products/tbl_ul508.pdf">www.tracopower.com/products/tbl_ul508.pdf</a>                        |
|                                                |                                              | UL 1310 listed<br><a href="http://www.tracopower.com/products/tbl_ul1310.pdf">www.tracopower.com/products/tbl_ul1310.pdf</a>                     |
|                                                | – CSA certification                          | UL 60950-1, CSA 60950-1-03<br><a href="http://www.tracopower.com/products/tbl_csa60950-1.pdf">www.tracopower.com/products/tbl_csa60950-1.pdf</a> |
|                                                | – GS certification                           | <a href="http://www.tracopower.com/products/tbl_gs.pdf">www.tracopower.com/products/tbl_gs.pdf</a>                                               |
| Electromagnetic compatibility (EMC), emissions | – Conducted RI suppression on input          | EN 61000-6-3                                                                                                                                     |
|                                                | – Radiated RI suppression                    | EN 55022 class B<br>EN 55022 class B                                                                                                             |
| Electromagnetic compatibility (EMC), immunity  |                                              | EN 61000-6-2                                                                                                                                     |
|                                                | – 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

|                           |                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| 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                                         |
| 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)                              |
| Connection                | screw terminals with combi-type screw heads<br>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> |

## Case Dimensions



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

Dimensions in [mm], ( ) = Inch  
Tolerances:  $\pm 0.5$  mm ( $\pm 0.02$ )

## Wiring

|                  | Description                            | Wire size                              |
|------------------|----------------------------------------|----------------------------------------|
| <b>AC Input</b>  | all models: L, N only (2 pin terminal) | AWG 26 – 16 / 1.5 mm <sup>2</sup> max. |
| <b>DC Output</b> | 15 – 30 W models: single terminal      | AWG 26 – 14 / 1.5 mm <sup>2</sup> max. |
| <b>DC Output</b> | 60 – 150 W models: double terminal     | AWG 26 – 14 / 1.5 mm <sup>2</sup> max. |

Specifications can be changed any time without notice.