

- 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



UL 508

UL 60950-1

IEC 60335-1  
IEC 60950-1

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 75-112 | 72 W              | 12 VDC (12.0 - 16.0 VDC)         | 6'000 mA            | 89 %            |
| TBLC 75-124 | 75 W              | 24 VDC (24.0 - 28.0 VDC)         | 3'100 mA            | 89 %            |

## Input Specifications

|                        |                                                                             |
|------------------------|-----------------------------------------------------------------------------|
| Input Voltage          | 85 - 264 VAC (Full Range)                                                   |
| Input Frequency        | 47 - 63 Hz                                                                  |
| Power Consumption      | - At no load<br>500 mW max. (Ready to meet ErP directive)                   |
| Input Inrush Current   | - At 230 VAC<br>50 A max.<br>- At 115 VAC<br>25 A max.                      |
| Recommended Input Fuse | (The need of an external fuse has to be assessed in the final application.) |

## Output Specifications

|                                        |                                                                                                                                        |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Output Voltage Adjustment              | 12 VDC model: 12.0 - 16.0 VDC<br>24 VDC model: 24.0 - 28.0 VDC<br>(By trim potentiometer)<br>Output power must not exceed rated power! |
| Regulation                             | - Input Variation (Vmin - Vmax)<br>0.3% max.<br>- Load Variation (10 - 90%)<br>0.3% max.                                               |
| Ripple and Noise<br>(20 MHz Bandwidth) | 50 mVp-p max.                                                                                                                          |
| Minimum Load                           | Not required                                                                                                                           |
| Temperature Coefficient                | ±0.02 %/K max.                                                                                                                         |
| Hold-up Time                           | - At 230 VAC<br>60 ms min.<br>- At 115 VAC<br>15 ms min.                                                                               |
| Start-up Time                          | - At 230 VAC<br>1'000 ms max.<br>- At 115 VAC<br>1'000 ms max.                                                                         |
| Short Circuit Protection               | Continuous, Automatic recovery<br>70 - 90% of Iout nom. (12 Vout model)<br>120 - 200% of Iout nom. (24 Vout model)                     |
| Overload Protection                    | Constant Current Mode                                                                                                                  |
| Output Current Limitation              | 105 - 130% of Iout max.                                                                                                                |
| Overvoltage Protection                 | 125 - 150% of Vout nom.                                                                                                                |
| Transient Response                     | - Peak Variation<br>350 mV max. (10% to 90% Load Step)<br>- Response Time<br>1750 µs typ. (10% to 90% Load Step)                       |

## Safety Specifications

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety Standards    | - IT / Multimedia Equipment<br>EN 60950-1<br>IEC 60950-1<br>UL 60950-1<br>- Industrial Control Equipment<br>UL 508<br>- Household<br>EN 60335-1<br>IEC 60335-1<br>- Machines Equipment<br>EN 60204<br>- Power Installation<br>EN 50178<br>- Measurement, Control & Lab.<br>EN 61010-1<br>EN 61010-2-201<br>IEC 61010-1<br>IEC 61010-2-201<br>EN 61558-2-8<br>EN 61558-2-16<br>- Power Transformers<br>EN 62477<br>IEC 62477<br>- Converter System<br>www.tracopower.com/overview/tbhc75<br>- Certification Documents |
| Protection Class    | Class I & II (Prepared): Reinforced Insulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Class 2 Power Units | UL 1310<br>NEC Class 2<br>(NEC class 2 only for 24 Vout model)                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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

|                       |        |
|-----------------------|--------|
| Pollution Degree      | PD 2   |
| Over Voltage Category | OVC II |

## EMC Specifications

|                                |  |                                                     |
|--------------------------------|--|-----------------------------------------------------|
| <b>EMI Emissions</b>           |  | EN 61000-6-3 (Generic Residential)                  |
|                                |  | EN 61204-3 (Low Voltage Power Supplies)             |
| - Conducted Emissions          |  | EN 55011 class B (internal filter)                  |
|                                |  | EN 55014-1 (internal filter)                        |
| - Radiated Emissions           |  | EN 55032 class B (internal filter)                  |
|                                |  | EN 55011 class B (internal filter)                  |
|                                |  | EN 55014-1 (internal filter)                        |
|                                |  | EN 55032 class B (internal filter)                  |
| - Harmonic Current Emissions   |  | EN 61000-3-2, class A                               |
| <b>EMS Immunity</b>            |  | EN 61000-6-2 (Generic Industrial)                   |
|                                |  | EN 61204-3 (Low Voltage Power Supplies)             |
| - Electrostatic Discharge      |  | Air: EN 61000-4-2, $\pm 8$ kV, perf. criteria B     |
|                                |  | Contact: EN 61000-4-2, $\pm 4$ kV, perf. criteria B |
| - RF Electromagnetic Field     |  | EN 61000-4-3, 10 V/m, perf. criteria A              |
| - EFT (Burst) / Surge          |  | EN 61000-4-4, $\pm 2$ kV, perf. criteria B          |
|                                |  | L to L: EN 61000-4-5, $\pm 1$ kV, perf. criteria B  |
|                                |  | L to PE: EN 61000-4-5, $\pm 2$ 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%, 0.5 periods, perf. criteria A                 |
|                                |  | >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 |                         | 4'800 m max. (Lower altitude required for IEC61558-1 & 60335 of 3000 m) |
| Switching Frequency       |                         | 80 - 100 kHz (PWM)                                                      |
| Insulation System         |                         | Reinforced Insulation                                                   |
| Isolation Test Voltage    | - Input to Output, 60 s | 3'000 VAC                                                               |
| Creepage                  | - Input to Output       | 6.4 mm min.                                                             |
| Clearance                 | - Input to Output       | 6.4 mm min.                                                             |
| Leakage Current           | - Touch Current         | 250 µA 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)                                               |

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

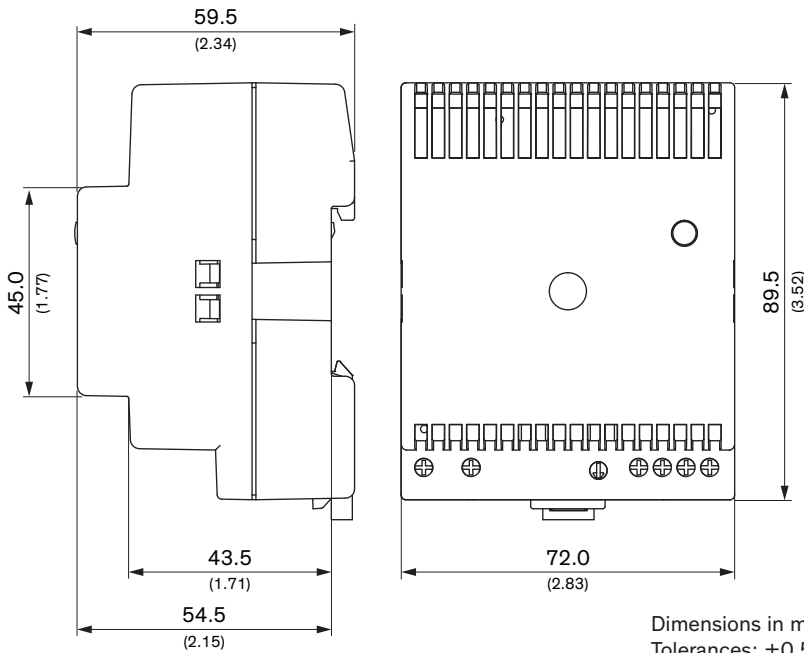
|                          |                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection Type          | Screw Terminal                                                                                                                                                                                                                                                                                                                                                                    |
| Mounting                 | - DIN Rail<br>For DIN-rails as per EN 50022 (snap-on with self locking spring) (included)                                                                                                                                                                                                                                                                                         |
| Weight                   | 220 g                                                                                                                                                                                                                                                                                                                                                                             |
| Thermal Impedance        | 1.89 K/W                                                                                                                                                                                                                                                                                                                                                                          |
| Status Indicator         | Indicated by green LED                                                                                                                                                                                                                                                                                                                                                            |
| Environmental Compliance | - REACH Declaration<br><a href="http://www.tracopower.com/info/reach-declaration.pdf">www.tracopower.com/info/reach-declaration.pdf</a><br>REACH SVHC list compliant<br>REACH Annex XVII compliant<br>- RoHS Declaration<br><a href="http://www.tracopower.com/info/rohs-declaration.pdf">www.tracopower.com/info/rohs-declaration.pdf</a><br>Exemptions: 6a, 6c, 7a, 7c-I, 7c-II |

## Supporting Documents

Overview Link (for additional Documents)

[www.tracopower.com/overview/tbhc75](http://www.tracopower.com/overview/tbhc75)

## Outline Dimensions



| Wiring                                                       |                                               |        |
|--------------------------------------------------------------|-----------------------------------------------|--------|
| Description                                                  | Wire size                                     | Torque |
| <b>AC Input</b><br>all models: L, N only<br>(2 pin terminal) | AWG 20 - 14<br>0.5 - 2.5 mm <sup>2</sup> max. | 0.5 Nm |
| <b>DC Output</b><br>double terminal                          | AWG 20 - 14<br>0.5 - 2.5 mm <sup>2</sup> max. | 0.5 Nm |