

- Slim profile, for DIN-rail mounting
- Alternative side-mounting for flat panels
- High power factor by active power correction
- Very high efficiency up to 95%
- Back power immunity
- 150% peak current for 4 s
- Operating temperature range: -40°C to +70°C max.
- Adjustable output voltage
- Short circuit and overload protection
- 3 year product warranty



This generation of DIN-rail power supplies combines the most efficient circuit topology with optimized cost/performance ratio for industrial environments and for electrical control cabinets. They have a very high efficiency of up to 95.0% which allows a very slim package design. The output voltage is adjustable from -2% to +17%. The case offers the potentially useful feature to fix the DIN-rail clip to the side wall for the mounting inside flat panels. Over a period of minimum 4 seconds they can operate with a boost power of 150%. The boost power facilitates the activation of stepper motors, solenoids or actuators. The units operate with a high power factor of up to 98% by active power factor correction which also keeps the input inrush current low. The TIB series are also available with other nominal power of 80, 120 or 480 Watt (+50% boost power). They come with the safety standard approvals for IEC/EN 60950-1, UL 60950-1 and UL 508.

Models

| Order Code | Output Power max. | Output Voltage nom. (adjustable) | Output Current max. | Output Current peak | Efficiency typ. |
|-------------|-------------------|----------------------------------|---------------------|---------------------|-----------------|
| TIB 240-124 | 240 W | 24 VDC (23.5 - 28.0 VDC) | 10'000 mA | 15'000 mA | 95 % |
| TIB 240-148 | | 48 VDC (47.0 - 56.0 VDC) | 5'000 mA | 7'500 mA | 95 % |

Input Specifications

| | | |
|----------------------|--------------|--|
| Input Voltage | | 85 - 264 VAC (Full Range) |
| Input Frequency | | 45 - 65 Hz |
| Power Consumption | - at no Load | 2'300 mW typ. |
| Input Inrush Current | - at 230 VAC | 30 A max. |
| | - at 115 VAC | 15 A max. |
| Power Factor | - at 230 VAC | 0.92 min. (Active Power Factor Correction) |
| | - at 115 VAC | 0.98 min. (Active Power Factor Correction) |

Output Specifications

| | | |
|--|---------------------------------|---|
| Output Voltage Adjustment | | 24 VDC model: 23.5 - 28.0 VDC |
| | | 48 VDC model: 47.0 - 56.0 VDC By trim potentiometer Output power must not exceed rated power! |
| Regulation | - Input Variation (Vmin - Vmax) | 0.1% max. |
| | - Load Variation (10 - 90%) | 0.5% max. |
| Output Current peak | | Peak Power: 105 - 150% of Iout max. Peak Operation Time: 4 s max. (switch off) Off Time: 10 s typ. In peak power mode, the unit continuously switches off the output voltage after 4 s and restarts after approx. 10 s. |
| Ripple and Noise (20 MHz Bandwidth) | | 24 VDC model: 100 mVp-p max. |
| | | 48 VDC model: 200 mVp-p max. |
| Capacitive Load | | Infinite |
| Minimum Load | | not required |
| Temperature Coefficient | | ±0.02 %/K max. |
| Hold-up Time | - at 230 VAC | 20 ms min. |
| | - at 115 VAC | 20 ms min. |
| Start-up Time | - at 230 VAC | 2'000 ms max. |
| | - at 115 VAC | 2'000 ms max. |
| Overload Protection | | CC-Mode |
| Output Current Limitation | | 155% min. of Iout max. |
| Short Circuit Protection | | Switch off after 4 s delay, automatic restart |
| Overvoltage Protection | | 117 - 146% of Vout nom. (depending on model) 32 - 35 VDC (24 VDC model) 56 - 60 VDC (48 VDC model) (In case of an internal error a second voltage regulation loop keeps the output voltage at a safe level, the power supply turns off and tries to restart after 10 s.) |
| Transient Response | - Peak Variation | 600 mV max. (10% to 90% Load Step) |
| | - Response Time | 2000 µs typ. (10% to 90% Load Step) |

Safety Specifications

| | | |
|-----------------------|--------------------------------|--|
| Safety Standards | - IT / Multimedia Equipment | IEC 60950-1 EN 60950-1 UL 60950-1 CSA-C22.2, 60950-1-07 |
| | - Industrial Control Equipment | UL 508 |
| | - Certification Documents | www.tracopower.com/overview/tib240 |
| | | |
| Protection Class | | Class I Prepared: Connection to PE |
| Pollution Degree | | PD 2: Office or Laboratory Environments |
| Over Voltage Category | | OVC II |

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

EMC Specifications

| | | |
|--------------------------------|------------------|---|
| EMC Emissions | | EN 61000-6-3 (Generic Residential) |
| | | EN 61204-3 (Low Voltage Power Supplies) |
| | | EN 50121-3-2 (EMC for Rolling Stock) |
| | | EN 50121-4 (Railway Application Signalling) |
| - 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 |
| EMC Immunity | | EN 50121-3-2 (EMC for Rolling Stock) |
| | | EN 50121-4 (Railway Application Signalling) |
| | | EN 61000-6-2 (Generic Industrial) |
| | | EN 61204-3 (Low Voltage Power Supplies) |
| - Electrostatic Discharge | Air: | EN 61000-4-2, ± 8 kV, perf. criteria A |
| | Contact: | EN 61000-4-2, ± 4 kV, perf. criteria A |
| - RF Electromagnetic Field | | EN 61000-4-3, 10 V/m, perf. criteria A |
| - EFT (Burst) | | EN 61000-4-4, ± 2 kV, perf. criteria B |
| - Surge | 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 | | 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 C |
| | | 60%, 10 periods, perf. criteria C |
| | | >95%, 1 period, perf. criteria B |
| | | >95%, 5 periods, perf. criteria C |
| | | 20%, 250 periods, perf. criteria C |
| | 115 VAC / 60 Hz: | EN 61000-4-11 |
| | | 30%, 25 periods, perf. criteria C |
| | | 60%, 10 periods, perf. criteria C |
| | | >95%, 1 period, perf. criteria B |
| | | >95%, 5 periods, perf. criteria C |
| | | 20%, 250 periods, perf. criteria C |
| - Voltage Sag Immunity | | SEMI F47, criteria A |

General Specifications

| | | |
|---------------------------|------------------------------|--|
| Relative Humidity | | 95% max. (non condensing) |
| Temperature Ranges | - Operating Temperature | -40°C to +70°C |
| Power Derating | - High Temperature | 2 %/K above 60°C (at standard operation) |
| | | 3 %/K above 60°C (at peak power mode) |
| | - Low Input Voltage | 3 %/V below 90 VAC (at standard operation) |
| | | 1.5 %/V below 100 VAC (at peak power mode) |
| Cooling System | | Natural convection (no internal fan, 20 LFM) |
| Altitude During Operation | | 2000 m max. |
| Switching Frequency | | 75 - 100 kHz (PWM) |
| Insulation System | | Reinforced Insulation |
| Isolation Test Voltage | - Input to Output, 60 s | 4'250 VDC |
| | - Input to Case or PE, 60 s | 1'500 VDC |
| | - Output to Case or PE, 60 s | 750 VDC |
| Creepage | - Input to Output | 8 mm min. |
| | - Input to Case or PE | 4 mm min. |
| | - Output to Case or PE | 1.5 mm min. |
| Clearance | - Input to Output | 8 mm min. |
| | - Input to Case or PE | 4 mm min. |
| | - Output to Case or PE | 1.5 mm min. |

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

| | | |
|--------------------------|--|---|
| Leakage Current | - Earth Leakage Current - Touch Current | 3500 µA max. 310 µA max. |
| Reliability | - Calculated MTBF | 1'300'000 h (IEC 61709) |
| Environment | - Vibration - Mechanical Shock | EN 61373 IEC 60068-2-6 3 axis, sine sweep, 10 - 55 Hz, 2 g, 11 oct/min EN 61373 IEC 60068-2-27 3 axis, 25 g half sine, 11 ms shock |
| Housing Material | | Aluminium (Chassis) Stainless Steel (Cover) |
| Connection Type | | Screw Terminal |
| Mounting | - DIN Rail | For DIN-rails as per EN 50022-35x15/7.5 |
| Weight | | 643 g |
| Thermal Impedance | | 0.95 K/W |
| Power Back Immunity | | 24 VDC model: 35 V max. 48 VDC model: 60 V max. When external voltage is supplied above set out-put voltage and below OVP threshold, the power supply will function normally without switch off or destruction, even if external voltage is applied continuously. |
| Power OK Signal | - Trigger Threshold - Power OK - Power Off - Pin Specifications | Relay Output 24 VDC model: OK: 22.5 VDC, Off: 21.5 VDC 48 VDC model: OK: 45 VDC, Off: 43 VDC Relay contact closed Relay contact open 30 VDC / 1 A max. |
| Status Indicator | | Also indicated by green LEDs: front and side |
| Environmental Compliance | - Reach - RoHS | www.tracopower.com/info/reach-declaration.pdf www.tracopower.com/info/rohs-declaration.pdf |

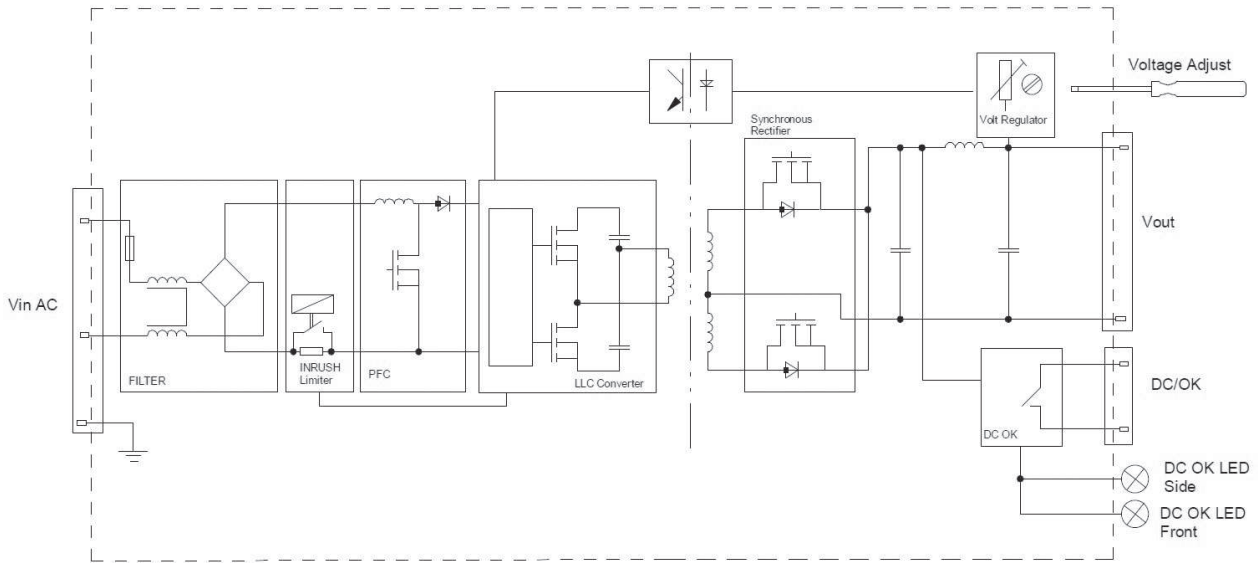
Supporting Documents

Overview Link (for additional Documents)

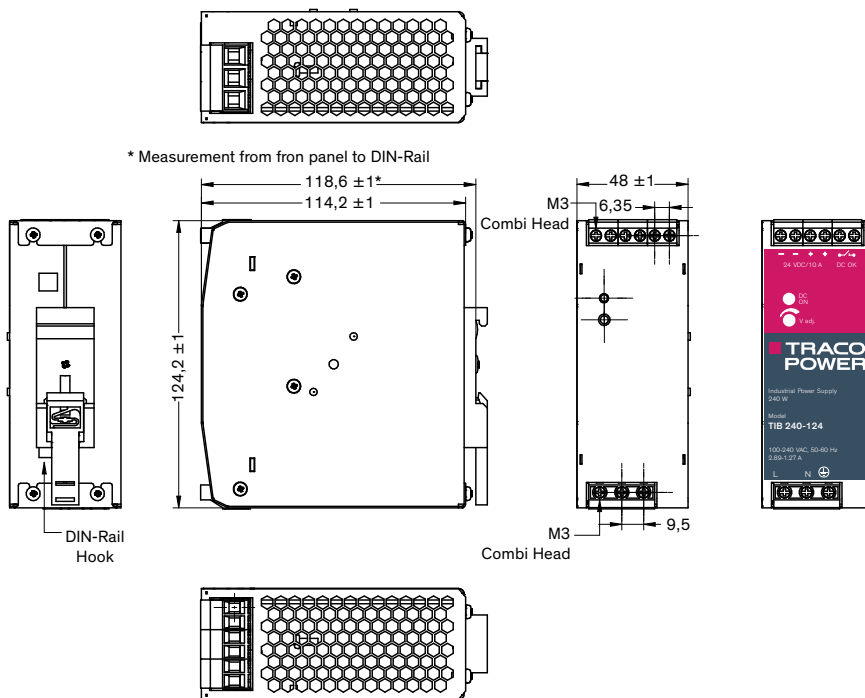
www.tracopower.com/overview/tib240

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Blockdiagram

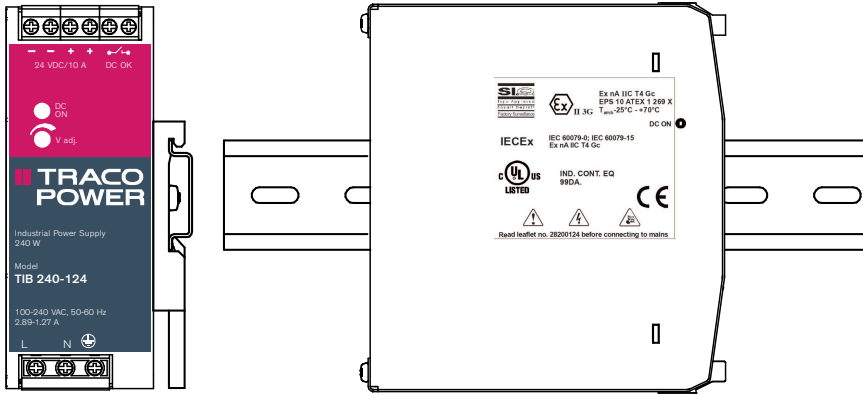


Outline Dimensions



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

Alternative side mounting



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JONHON

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«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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