

- Slim profile, for DIN-rail mounting
- Alternative side-mounting for flat panels
- Very high efficiency up to 90%
- Back power immunity
- 150% peak current for 4 s
- Operating temperature range: -40°C to $+70^{\circ}\text{C}$ 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 90.0% 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 by active power factor correction which also keeps the input inrush current low. The TIB series are also available with higher nominal power of 120, 240 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 080-112 | 80 W | 12 VDC (11.8 - 15.0 VDC) | 6'700 mA | 10'050 mA | 88 % |
| TIB 080-124 | | 24 VDC (23.5 - 28.0 VDC) | 3'400 mA | 5'100 mA | 90 % |
| TIB 080-148 | | 48 VDC (47.0 - 56.0 VDC) | 1'700 mA | 2'550 mA | 90 % |

| Options | |
|---|---|
| on demand (backorder with MOQ non stocking item) | - Optional models with certified DC input |

Input Specifications

| | | |
|------------------------|--|--|
| Input Voltage | | Operational Range: 85 - 264 VAC (Full Range) Rated Range: 100 - 240 VAC (Full Range) (Optional models with certified DC input available on demand. Please see PCN no. 038-22.) |
| Input Frequency | | Operational Range: 45 - 65 Hz Certified: 50/60 Hz |
| Power Consumption | - No load & Vin = 230 VAC - No load & Vin = 115 VAC | 2'000 mW max. 2'000 mW max. |
| Input Inrush Current | - At 230 VAC - At 115 VAC | 30 A max. 15 A max. |
| Power Factor | - At 230 VAC - At 115 VAC | 0.48 min. 0.48 min. |
| Recommended Input Fuse | | (The need of an external fuse has to be assessed in the final application.) |

Output Specifications

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|--|--|---|
| Output Voltage Adjustment | | 12 VDC model: 11.8 - 15.0 VDC 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! |
| Voltage Set Accuracy | | ±0.25% max. |
| Regulation | - Input Variation (Vmin - Vmax) - Load Variation (10 - 90%) | 0.1% max. 0.5% max. |
| Boost Power | | Output Current peak: See model table Peak power time: 4 s max. (auto switch off) Off Time: 10 s typ. (During peak operation, the unit continuously switches off the output voltage after 4 s and restarts after approx. 10 s.) |
| Ripple and Noise (20 MHz Bandwidth) | | 12 VDC model: 100 mVp-p max. 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 - At 115 VAC | 160 ms min. 20 ms min. |
| Start-up Time | - At 230 VAC - At 115 VAC | 2'000 ms max. 2'000 ms max. |
| Short Circuit Protection | | Continuous, Automatic recovery |
| Overload Protection | | Constant Current Mode Switch off after 4 s delay, automatic restart |
| Output Current Limitation | | 155% min. of Iout max. |
| Overvoltage Protection | | 117 - 158% of Vout nom. (depending on model) 16 - 19 VDC (12 VDC 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 save level, the power supply turns off and tries to restart after 6 s.) |

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

| | | |
|--------------------|------------------|---|
| Transient Response | - Peak Variation | 600 mV max. (10% to 90% Load Step) |
| | - Response Time | 2'500 μ s typ. (10% to 90% Load Step) |

Safety Specifications

| | | |
|-----------------------|--------------------------------|--|
| Safety Standards | - IT / Multimedia Equipment | CSA-C22.2, No. 60950-1 EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1 UL 60950-1 |
| | - Industrial Control Equipment | UL 508 |
| | - Measurement, Control & Lab. | EN 61010-1 EN 61010-2-201 IEC 61010-1 IEC 61010-2-201 UL 61010-1 UL 61010-2-201 |
| | - Certification Documents | www.tracopower.com/overview/tib080 |
| Protection Class | | Class I (Prepared): Connection to PE |
| Pollution Degree | | PD 2 |
| Over Voltage Category | | OVC II |

EMC Specifications

| | | | |
|---------------|--------------------------------|--|--|
| EMI 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 | |
| EMS 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 EN 61000-4-3, 10 V/m, perf. criteria A EN 61000-4-4, ± 2 kV, perf. criteria B | |
| | - RF Electromagnetic Field | L to L: EN 61000-4-5, ± 1 kV, perf. criteria B L to PE: EN 61000-4-5, ± 2 kV, perf. criteria B | |
| | - EFT (Burst) / Surge | EN 61000-4-6, 10 Vrms, perf. criteria A Continuous: EN 61000-4-8, 30 A/m, perf. criteria A 230 VAC / 50 Hz: EN 61000-4-11 20%, 250 periods, perf. criteria C 30%, 25 periods, perf. criteria C 60%, 10 periods, perf. criteria C >95%, 1 period, perf. criteria B >95%, 5 periods, perf. criteria C | |
| | - Conducted RF Disturbances | 115 VAC / 60 Hz: EN 61000-4-11 20%, 250 periods, perf. criteria C 30%, 25 periods, perf. criteria C 60%, 10 periods, perf. criteria C >95%, 1 period, perf. criteria B >95%, 5 periods, perf. criteria C | |
| | - PF Magnetic Field | | |
| | - Voltage Dips & Interruptions | SEMI F47, criteria A | |
| | | | |
| | | | |
| | - Voltage Sag Immunity | | |

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General Specifications

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|--|------------------------------|--|
| 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) |
| Over Temperature Protection Switch Off | - Protection Mode | Latch off |
| Cooling System | | Natural convection (20 LFM) |
| Altitude During Operation | | 2'000 m max. |
| Switching Frequency | | 60 - 75 kHz (PWM) |
| Insulation System | | Reinforced Insulation |
| Isolation Test Voltage | - Input to Output, 60 s | 3'000 VAC |
| | - Input to Case or PE, 60 s | 1'500 VAC |
| | - 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. |
| Leakage Current | - Earth Leakage Current | 3500 µA max. |
| | - Touch Current | 310 µA max. |
| Reliability | - Calculated MTBF | 1'950'000 h (IEC 61709) |
| Environment | - Vibration | EN 61373 IEC 60068-2-6 2 g, 3 axis, sine sweep, 10-55 Hz, 11 oct/min |
| | - Mechanical Shock | EN 61373 IEC 60068-2-27 25 g, 3 axis, half sine, 11 ms |
| | | |
| Housing Material | | Aluminum (Chassis) Stainless Steel (Cover) |
| Housing Type | | Metal Case |
| Mounting Type | | DIN-Rail Mount (EN 60715 - 35x7.5mm/35x15mm) |
| Connection Type | | Screw Terminal |
| Weight | | 367 g |
| Thermal Impedance | - Case to Ambient | 1.81 K/W typ. |
| Power Back Immunity | | 12 VDC model: 19 V max. |
| | | 24 VDC model: 35 V max. |
| | | 48 VDC model: 60 V max. |
| | | (When external voltage is supplied above set output 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 | 12 VDC model: 10.5 - 11.1 VDC 24 VDC model: 21 - 23 VDC 48 VDC model: 42 - 46 VDC |
| | - Power OK | Relay contact closed |
| | - Power Off | Relay contact open |
| | - Pin Specifications | 30 VDC / 1 A max. |
| Status Indicator | | Also indicated by green LEDs: front and side |

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

Environmental Compliance - REACH Declaration

www.tracopower.com/info/reach-declaration.pdf

REACH SVHC list compliant

REACH Annex XVII compliant

- RoHS Declaration

www.tracopower.com/info/rohs-declaration.pdf

Exemptions: 7a, 7c-I

(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).

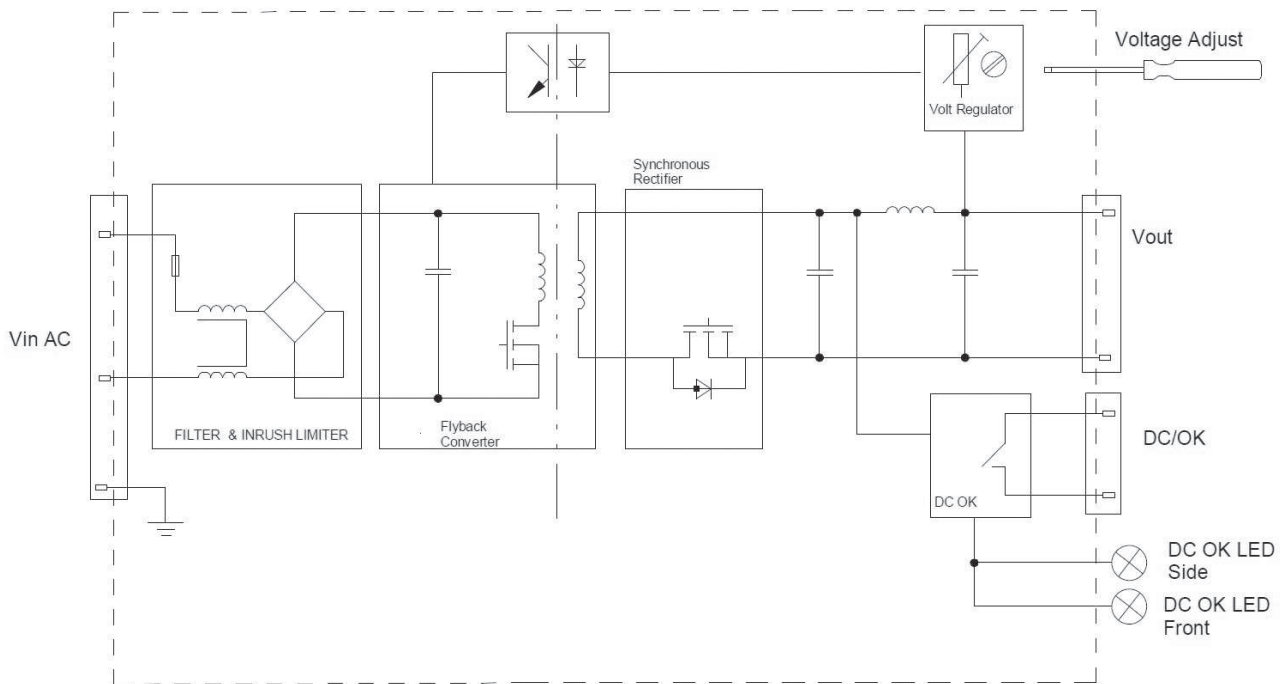
The SCIP number is provided on request.)

Supporting Documents

Overview Link (for additional Documents)

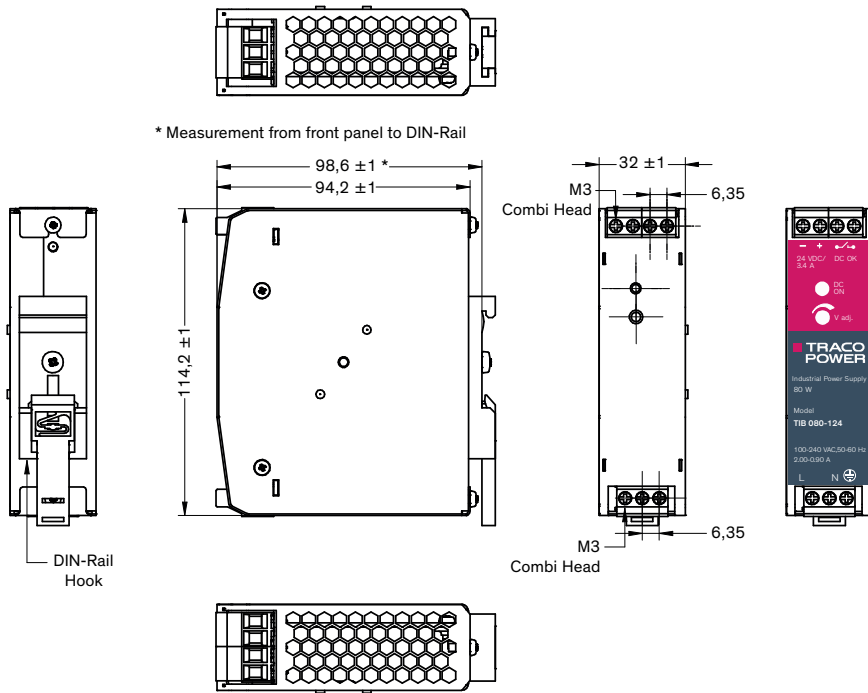
www.tracopower.com/overview/tib080

Blockdiagram



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

Outline Dimensions



Alternative side mounting

