TRACO POWER

AC/DC Power Supply

TIW 06 Series, 6 Watt

- **High efficiency switching power supplies**
- **Easy installation into standard flush boxes**
- **Fully encapsulated plastic housing**
- **Dust and waterproof to IP 67**
- **Protection class II**
- **Safety approval to IEC/EN 62368-1, EN 50178, IEC/EN 60335-1**
- **Approved for mounting onto wood or materials with unknown flammability**
- **Ready to meet ErP directive**
- **Universal input range 90 to 264 VAC**
- **Regulated output voltage**
- **3-year product warranty**

prepared

ErP ready

CB Scheme

IEC 60335-1
IEC 62368-1

The TIW series is a new range of small size DC-power supplies which have been designed particularly for applications in home and office installations. The compact module cases fit in the standardized in-wall flush boxes or also can be mounted on walls. The power supplies fully comply with the safety and EMC standards requested for commercial and residential class II installations. Typical applications are powering of electric devices used in home automation and in security systems like e.g. controllers, indicators, etc.

Models

Order Code	Output Power max.	Output Voltage nom.	Output Current max.	Output Current peak	Efficiency typ.
TIW 06-103	4 W	3.3 VDC	1'200 mA	1'560 mA	73 %
TIW 06-105	5 W	5 VDC	1'000 mA	1'300 mA	76 %
TIW 06-106	6 W	6 VDC	1'000 mA	1'300 mA	81 %

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Input Specifications

Input Voltage	- AC Range	Operational Range:	90 - 264 VAC (Full Range)
		Rated Range:	100 - 240 VAC (Full Range)
	- DC Range	Operational Range:	130 - 375 VDC (Designed for, no certification)
		Polarity:	+DC: L / –DC: N
Input Frequency		Operational Range:	47 - 63 Hz
		Certified:	50/60 Hz
Power Consumption	- No load & Vin = 230 VAC		300 mW max. (Ready to meet ErP directive)
	- No load & Vin = 115 VAC		300 mW max.
Input Inrush Current	- At 230 VAC		24 A max.
	- At 115 VAC		12 A max.
Recommended Input Fuse			6'000 mA (slow blow) (The need of an external fuse has to be assessed in the final application.)

Output Specifications

Voltage Set Accuracy		±3% max.
Regulation	- Input Variation (Vmin - Vmax)	1% max.
	- Load Variation (0 - 100%)	2% max.
Boost Power		Output Current peak: See model table Peak power time: 10 s max. Peak power duty cycle: 10% max.
Ripple and Noise (20 MHz Bandwidth)		200 mVp-p max.
Minimum Load		Not required
Hold-up Time	- At 230 VAC	20 ms min.
	- At 115 VAC	5 ms min.
Start-up Time	- At 230 VAC	1'000 ms max.
	- At 115 VAC	1'000 ms max.
Short Circuit Protection		Continuous, Automatic recovery
Output Current Limitation		250% max. of Iout max.

Safety Specifications

Standards	- IT / Multimedia Equipment		EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1
	- Household		EN 60335-1 IEC 60335-1
	- Power Installation		EN 50178 IEC 62103
	- LED Modules Controlgear		EN 61347-1 EN 61347-2-13
	- Luminaires for Furniture		VDE 0710-14
	- Power Transformers		EN 61558-1 EN 61558-2-8 EN 61558-2-16
	- Certification Documents		www.tracopower.com/tiw06-safety-cert
Protection Class			Class I & II (Prepared): Reinforced Insulation
		See application note:	www.tracopower.com/info/protection-class.pdf
Energy Source	- Output, acc. to 62368-1		ES1
Power Source	- Output, acc. to 62368-1		PS2
Class 2 Power Units			UL 1310
Over Voltage Category			OVC II

All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

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EMC Specifications

EMI (Emissions)			EN 61000-6-3 (Generic Residential)
	- Conducted Emissions		EN 55014-1 (internal filter)
			EN 55032 class A (internal filter)
			EN 55032 class B (internal filter)
	- Radiated Emissions		EN 55014-1 (internal filter)
			EN 55032 class A (internal filter)
			EN 55032 class B (internal filter)
	- Harmonic Current Emissions		EN 61000-3-2, class A
EMS (Immunity)			EN 61000-6-2 (Generic Industrial)
			EN 61204-3 (Low Voltage Power Supplies)
	- Electrostatic Discharge	Air:	EN 61000-4-2, ±8 kV, perf. criteria B
		Contact:	EN 61000-4-2, ±4 kV, perf. criteria B
	- RF Electromagnetic Field		EN 61000-4-3, 3 V/m, perf. criteria A
	- EFT (Burst) / Surge		EN 61000-4-4, ±0.5 kV, perf. criteria A
			EN 61000-4-4, ±2 kV, perf. criteria B
		L to L:	EN 61000-4-5, ±1 kV, perf. criteria A
	- Conducted RF Disturbances		EN 61000-4-6, 3 Vrms, perf. criteria A
	- Voltage Dips & Interruptions	230 VAC / 50 Hz:	EN 61000-4-11
			30%, 0.5 periods, perf. criteria A
			60%, 5 periods, perf. criteria B
		115 VAC / 60 Hz:	EN 61000-4-11
			30%, 0.5 periods, perf. criteria B
			60%, 5 periods, perf. criteria B
EMC / Environmental	- Certification Documents		www.tracopower.com/tiw06-emc-cert

General Specifications

Relative Humidity			100% max.
Temperature Ranges	- Operating Temperature		−25°C to +50°C (without derating) (Please take heat sources (such as lamps) nearby into consideration for ambient temperature of the power supply.)
Over Temperature Protection Switch Off	- Protection Mode		140°C typ. (Automatic recovery)
	- Measurement Point		Internal IC temperature
Cooling System			Natural convection (20 LFM)
Altitude During Operation			3'000 m max.
Insulation System			Reinforced Insulation
Isolation Test Voltage	- Input to Output, 60 s		3'000 VAC
Leakage Current (at 254.4 VAC / 60Hz)	- Touch Current		0.25 mA max.
Reliability		See application note:	www.tracopower.com/tiw06-mtbf
Environment	- Vibration		IEC 60068-2-6
			5 g, 3 axis, sine sweep, 60-500 Hz
	- Mechanical Shock		IEC 60068-2-27
			50 g, 3 axis, half sine, 11 ms
Case Ingress Protection			IP 67 (acc. IEC 60529)
Housing Material			Plastic (UL 94 V-0 rated)
Potting Material			Epoxy (UL 94 V-0 rated) (variant 1) Polyurethane (UL 94 V-2 rated) (variant 2)
Housing Type			Plastic Case
Mounting Type			Chassis Mount
Connection Type			Flying Leads
Weight			80 g

All specifications valid at 230 VAC, resistive full load and +25°C after warm-up time, unless otherwise stated.

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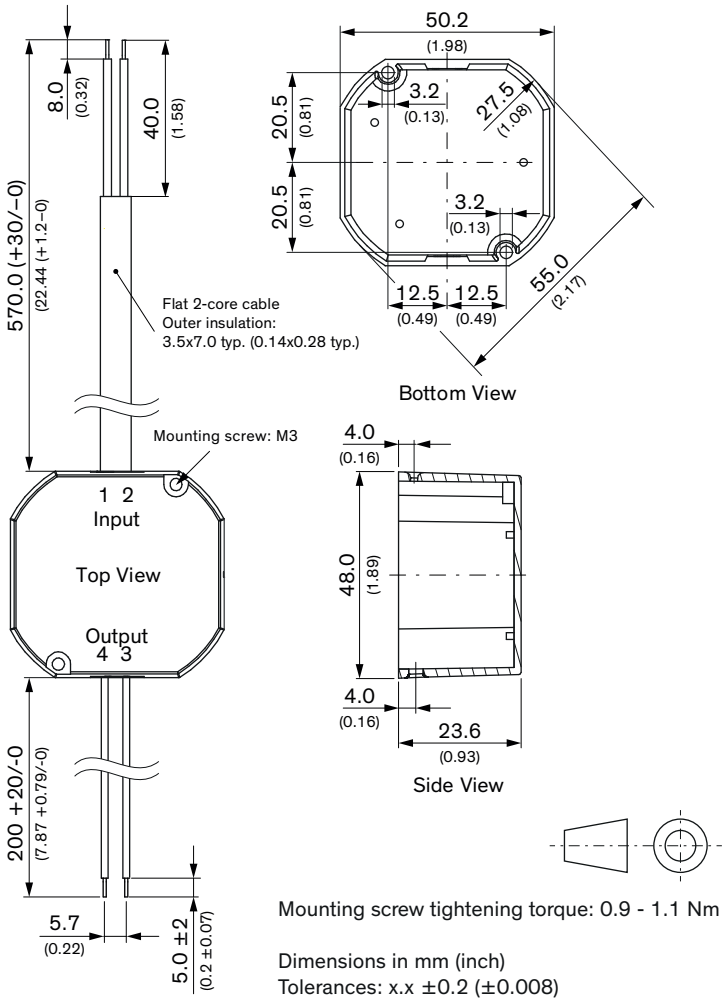
Environmental Compliance	- REACH Declaration	www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant
	- RoHS Declaration	www.tracopower.com/info/rohs-declaration.pdf Exemptions: 7(a), 7(c)-I (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).)
	- SCIP Reference Number	b9e41abd-c658-45d9-9349-65183c79d4ce

Additional Information

Supporting Documents	www.tracopower.com/overview/tiw06
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf

Outline Dimensions



Mounting screw tightening torque: 0.9 - 1.1 Nm

Dimensions in mm (inch)
Tolerances: x.x ±0.2 (±0.008)

Pinout

Pin	Function	Color	Type
1	AC (N)	White	18AWG / 0.82mm²
2	AC (L)	Black	18AWG / 0.82mm²
3	- Vout	Black	20AWG / 0.52mm²
4	+ Vout	Red	20AWG / 0.52mm²

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