

- 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



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 12-112	12 W	12 VDC	1'000 mA	1'300 mA	79 %
TIW 12-115		15 VDC	800 mA	1'040 mA	80 %
TIW 12-124		24 VDC	500 mA	650 mA	81 %

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	3 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		600% max. of Iout max.

Safety Specifications

Safety Standards	- IT / Multimedia Equipment	EN 60950-1 EN 62368-1 IEC 60950-1 IEC 62368-1 UL 60950-1
	- 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/overview/tiw12
Protection Class		Class I & II (Prepared); Reinforced Insulation
Class 2 Power Units		UL 1310

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

EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential)
- Conducted Emissions		EN 55014-1 (internal filter)
- Radiated Emissions		EN 55032 class B (internal filter)
		EN 55014-1 (internal filter)
- Harmonic Current Emissions		EN 55032 class B (internal filter)
		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
- Conducted RF Disturbances	L to L:	EN 61000-4-5, ± 1 kV, perf. criteria A
- Voltage Dips & Interruptions	230 VAC / 50 Hz:	EN 61000-4-6, 3 Vrms, perf. criteria A
		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

General Specifications

Relative Humidity		100% max.
Temperature Ranges		-25°C to +50°C (without derating)
- Operating Temperature		(Please take heat sources (such as lamps) nearby into consideration for ambient temperature of the power supply.)
Power Derating		0.45 %/V below 187 VAC (down to 132 VAC)
- Low Input Voltage		0.67 %/V below 115 VAC (down to 90 VAC)
		0.3 %/V below 224 VDC (down to 142 VDC)
		0.5 %/V below 120 VDC (down to 90 VDC)
Over Temperature Protection Switch Off		140°C typ. (Automatic recovery)
- Protection Mode		Internal IC temperature
- Measurement Point		
Cooling System		Natural convection (20 LFM)
Altitude During Operation		3'000 m max.
Insulation System		Reinforced Insulation
Isolation Test Voltage		3'000 VAC
- Input to Output, 60 s		
Leakage Current		0.25 mA max.
- Touch Current		
(at 254.4 VAC / 60Hz)		
Reliability		(Please refer to application-note.)
- Calculated MTBF		
Environment		IEC 60068-2-6
- Vibration		5 g, 3 axis, sine sweep, 60-500 Hz
		IEC 60068-2-27
- Mechanical Shock		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 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

- RoHS Declaration

REACH SVHC list compliant

REACH Annex XVII compliant

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

Exemptions: 7a, 7c-I

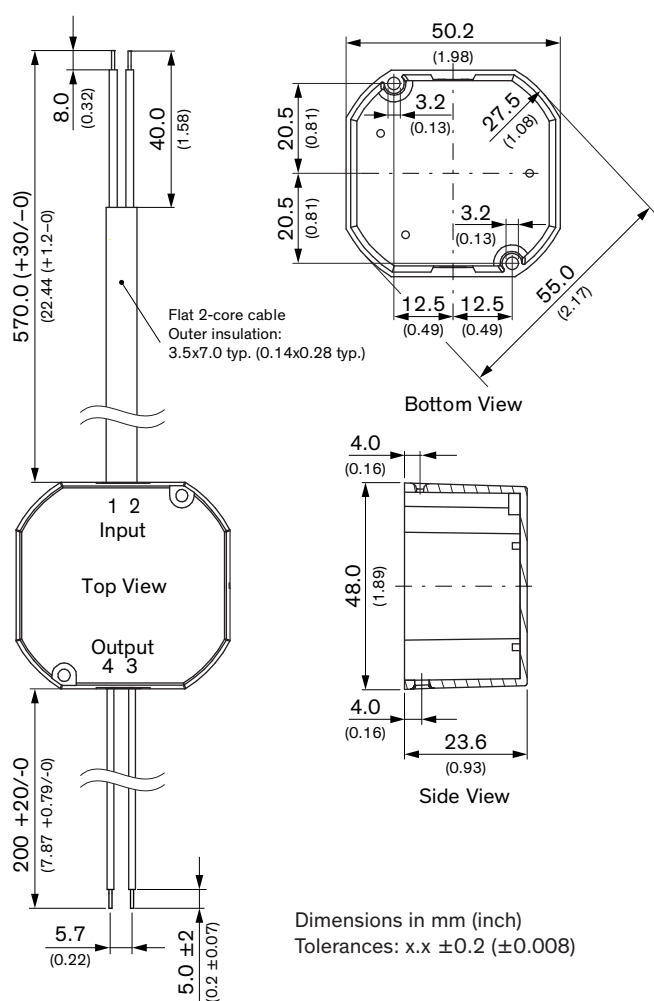
(RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule). The SCIP number is provided on request.)

Supporting Documents

Overview Link (for additional Documents)

www.tracopower.com/overview/tiw12

Outline Dimensions



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