

Input Specifications

Input Current	- At no load	12 Vin models: 20 mA typ. 24 Vin models: 15 mA typ. 48 Vin models: 10 mA typ.
	- At full load	12 Vin models: 940 mA typ. 24 Vin models: 470 mA typ. 48 Vin models: 240 mA typ.
Surge Voltage		12 Vin models: 25 VDC max. (1 s max.) 24 Vin models: 50 VDC max. (1 s max.) 48 Vin models: 100 VDC max. (1 s max.)
Under Voltage Lockout		12 Vin models: 8.5 VDC max. 24 Vin models: 17 VDC max. 48 Vin models: 34 VDC max.
Recommended Input Fuse		(The need of an external fuse has to be assessed in the final application.)
Input Filter		Internal Pi-Type

Output Specifications

Voltage Set Accuracy		±2% max.
Regulation	- Input Variation (Vmin - Vmax)	single output models: 1% max. dual output models: 1% max.
	- Load Variation (0 - 100%)	single output models: 1.2% max. dual output models: 1.2% max. (Output 1) 1.2% max. (Output 2)
	- Voltage Balance (symmetrical load)	dual output models: 2% max.
Ripple and Noise (20 MHz Bandwidth)	- single output	3.3 Vout models: 80 mVp-p typ. 5.1 Vout models: 80 mVp-p typ. 12 Vout models: 100 mVp-p typ. 15 Vout models: 100 mVp-p typ.
	- dual output	12 / -12 Vout models: 100 / 100 mVp-p typ. 15 / -15 Vout models: 100 / 100 mVp-p typ.
Capacitive Load	- single output	3.3 Vout models: 1'000 µF max. 5.1 Vout models: 1'000 µF max. 12 Vout models: 470 µF max. 15 Vout models: 330 µF max.
	- dual output	12 / -12 Vout models: 220 / 220 µF max. 15 / -15 Vout models: 150 / 150 µF max.
Minimum Load		Not required
Temperature Coefficient		±0.02 %/K max.
Short Circuit Protection		Continuous, Automatic recovery
Output Current Limitation		110% min. of Iout max. 150% typ. of Iout max.
Transient Response	- Response Deviation	3% typ. / 5% max. (75% to 100% Load Step)
	- Response Time	300 µs typ. / 600 µs max. (75% to 100% Load Step)

Safety Specifications

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 UL 62368-1
	- Certification Documents	www.tracopower.com/thd10n-safety-cert

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

Energy Source	- Output, acc. to 62368-1	ES1
Power Source	- Output, acc. to 62368-1	PS3
Pollution Degree		PD 2
Over Voltage Category		Not mains connected

EMC Specifications

EMI (Emissions)	- Conducted Emissions	EN 55032 class A (internal filter)
	- Radiated Emissions	EN 55032 class A (with external filter)
External filter proposal: www.tracopower.com/thd10n-emc-filter		
EMS (Immunity)		EN 55024 (IT Equipment)
		EN 55035 (Multimedia)
	- Electrostatic Discharge	Air: EN 61000-4-2, ± 8 kV, perf. criteria A
		Contact: EN 61000-4-2, ± 6 kV, perf. criteria A
	- RF Electromagnetic Field	EN 61000-4-3, 10 V/m, perf. criteria A
	- EFT (Burst) / Surge	EN 61000-4-4, ± 2 kV, perf. criteria A
Ext. input component: 220 μ F, 100 V		
	- Conducted RF Disturbances	EN 61000-4-6, 10 Vrms, perf. criteria A

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature	-40°C to +85°C
	- Case Temperature	+105°C max.
	- Storage Temperature	-50°C to +125°C
Power Derating	- High Temperature	2.86 %/K above 70°C
	See application note: www.tracopower.com/thd10n-cc	
Cooling System		Natural convection (20 LFM)
Remote Control	- Voltage Controlled Remote (passive = on)	On: 3.5 to 12 VDC or open circuit
		Off: 0 to 1.2 VDC or short circuit
		Refers to 'Remote' and '-Vin' Pin
	- Off Idle Input Current	10 mA max.
	- Remote Pin Input Current	-0.5 to 0.5 mA
Altitude During Operation		6'000 m max.
Switching Frequency		330 kHz typ. (PWM)
Insulation System		Functional Insulation
Isolation Test Voltage	- Input to Output, 60 s	1'500 VDC
	- Input to Output, 1 s	1'800 VDC
Isolation Resistance	- Input to Output, 500 VDC	1'000 M Ω min.
Isolation Capacitance	- Input to Output, 100 kHz, 1 V	1'000 pF typ.
		1'500 pF max.
Reliability	- Calculated MTBF	1'000'000 h (MIL-HDBK-217F, ground benign)
Washing Process		According to Cleaning Guideline www.tracopower.com/info/cleaning.pdf
Housing Material		Metal
Base Material		Non-conductive Plastic (UL 94 V-0 rated)
Potting Material		Silicone (UL 94 V-0 rated)
Pin Material		Copper Alloy (C6801)
Pin Foundation Plating		Nickel (2 - 4 μ m)
Pin Surface Plating		Tin (3 - 5 μ m), matte
Housing Type		Metal Case
Mounting Type		PCB Mount
Connection Type		THD (Through-Hole Device)
Footprint Type		DIP24
Soldering Profile		Lead-Free Wave Soldering
		260°C / 10 s max.

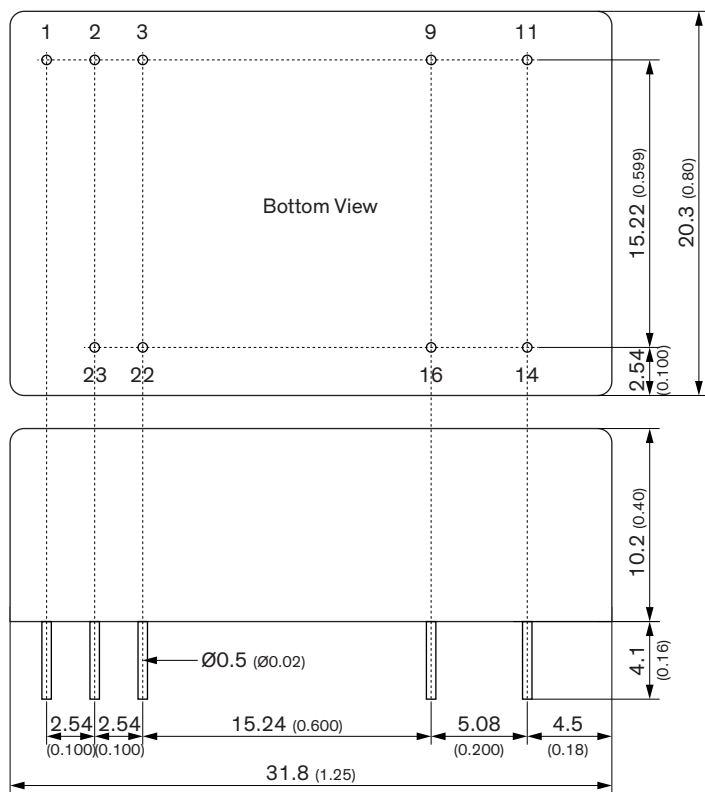
All specifications valid at nominal voltage, resistive full load and +25°C after warm-up time, unless otherwise stated.

Weight	17.3 g
Environmental Compliance	- REACH Declaration www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant www.tracopower.com/info/rohs-declaration.pdf Exemptions: 7(a) (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).) - RoHS Declaration www.tracopower.com/info/rohs-declaration.pdf - SCIP Reference Number 0e7ab114-c5ea-46b9-89dd-9cc326cfc9f0

Additional Information

Supporting Documents	www.tracopower.com/overview/thd10n
Frequently Asked Questions	www.tracopower.com/glossary-faq
Glossary	www.tracopower.com/info/glossary.pdf

Outline Dimensions

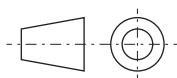


Dimensions in mm (inch)

Tolerances: x.x ±0.50 (x.xx ±0.02)

Tolerances: x.xx ±0.25 (x.xxx ±0.01)

Pin diameter tolerance: x.x ±0.05 (x.xx ±0.002)



Pinout		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin (GND)	-Vin (GND)
3	-Vin (GND)	-Vin (GND)
9	No pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin (Vcc)	+Vin (Vcc)
23	+Vin (Vcc)	+Vin (Vcc)

NC: Not connected