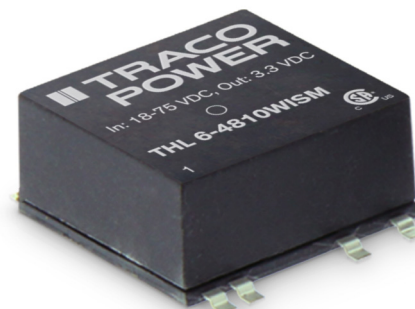


Features

- ◆ Compact design in SMD package
- ◆ Ultra wide 4:1 input voltage range
- ◆ Fully regulated outputs
- ◆ I/O isolation 1500 VDC
- ◆ Operating temp. range -40°C to +75°C
- ◆ Short circuit protection
- ◆ Input filter to meet EN 55022, class A
- ◆ Qualified for leadfree reflow solder process
- ◆ 3-year product warranty



The THL 6WISM series is a family of compact 6 W dc/dc-converters with 4:1 input voltage ranges. The product is available in SMD-package which is 31% smaller than a standard DIP-24 package. The internal filter to meet EN55022 Class A without external components makes these converters easy to design in.

They come with remote On/Off and short circuit protection. THL 6WISM converter is an excellent solution for data- and telecom applications and for instrumentation and industrial electronics.

Models

Order code	Input voltage range	Output voltage	Output current max.	Efficiency typ.
THL 6-2410WISM	9 – 36 VDC (nominal 24 VDC)	3.3 VDC	1450 mA	76 %
THL 6-2411WISM		5.0 VDC	1200 mA	79 %
THL 6-2412WISM		12 VDC	500 mA	83 %
THL 6-2413WISM		15 VDC	400 mA	83 %
THL 6-2415WISM		24 VDC	250 mA	83 %
THL 6-2421WISM		±5 VDC	±600 mA	82 %
THL 6-2422WISM		±12 VDC	±250 mA	83 %
THL 6-2423WISM		±15 VDC	±200 mA	83 %
THL 6-4810WISM	18 – 75 VDC (nominal 48 VDC)	3.3 VDC	1450 mA	76 %
THL 6-4811WISM		5.0 VDC	1200 mA	79 %
THL 6-4812WISM		12 VDC	500 mA	83 %
THL 6-4813WISM		15 VDC	400 mA	83 %
THL 6-4815WISM		24 VDC	250 mA	83 %
THL 6-4821WISM		±5 VDC	±600 mA	82 %
THL 6-4822WISM		±12 VDC	±250 mA	83 %
THL 6-4823WISM		±15 VDC	±200 mA	83 %

Input Specifications

Input current at no load (nominal input voltage)	24 Vin models:	30 mA typ.
	48 Vin models:	20 mA typ.
Input current at full load (nominal input voltage)	24 Vin; 3.3 VDC model:	260 mA typ.
	24 Vin other models:	300 mA typ.
	48 Vin; 3.3 VDC model:	130 mA typ.
	48 Vin other models:	150 mA typ.
Surge voltage (100 msec. max.)	24 Vin models:	50 V max.
	48 Vin models:	100 V max.
Conducted noise	EN 55022 level A, FCC part 15, level A without external components	
Recommended input fuse (slow blow)	24 V models:	1500 mA
	48 V models:	750 mA

Output Specifications

Voltage set accuracy	±2 % max	
Regulation	– Input variation Vin min. to Vin max.	1.0 % max.
	– Load variation 15 – 100 %	1.2 % max.
Minimum load	15 % of rated max current (operation at lower load condition is safe but a higher output ripple will be experienced)	
Temperature coefficient	±0.02 %/K	
Ripple and noise (20 MHz bandwidth)	100 mVp-p max.	
Transient response (25 % load step change)	– Recovery time	300 µs typ.
	– Deviation	± 3 % typ.
Short circuit protection	continuous, automatic recovery	
Maximum capacitive load	3.3 & 5 VDC models:	330 µF
	12, 15 & 24 VDC models:	100 µF
	±5, ±12 & ±15 VDC models:	100 µF (each output)

General Specifications

Temperature	– Operating (convection cooling 50 LFM, 0.25 m/s)	–40°C to +80°C
	– Storage	–50°C to +125°C
	– Case	+105°C max.
Load derating (convection cooling 50 LFM, 0.25 m/s)	3.3 & 5.0 VDC models:	2.2 %/K above +55°C
	other output models:	2.5 %/K above +60°C
Humidity (non condensing)	95 %	
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)	>350'000 h	
Isolation voltage	– Input/Output	60 sec. 1'500 VDC
		1 sec. 1'800 VDC
Isolation capacitance	– Input/Output (100 kHz, 1 V)	1500 pF max.
Isolation resistance	– Input/Output (500 VDC)	>1 GOhm
Safety standard	IEC/EN 60950-1, UL 60950-1	
	www.tracopower.com/overview/thl6wism	
Switching frequency	330 kHz	
Altitude during operation	5'000 m max. (16'400 ft) approved	
Remote On/Off	– On:	2.5 to 50 VDC or open circuit
	– Off:	–0.7 to +0.8 VDC
	– Off stand by input current	10 mA max.
Environmental compliance	– Reach	www.tracopower.com/info/reach-declaration.pdf
	– RoHS	RoHS directive 2011/65/EU

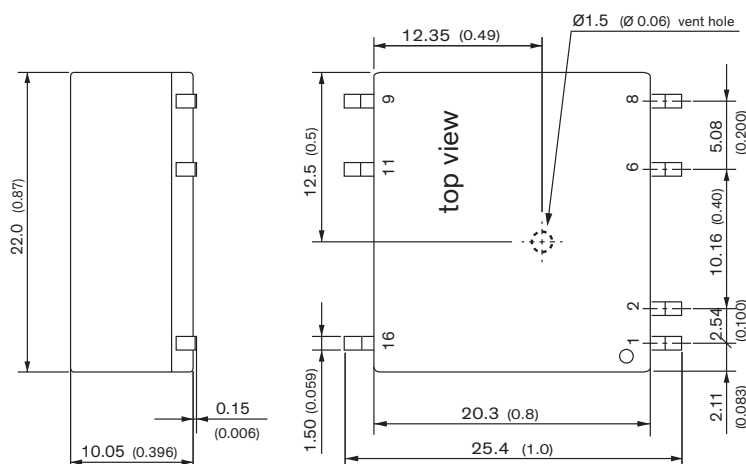
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Physical Specifications

Casing material	non-conductive plastic (UL94V-0 rated)
Pin material	Phosphor bronze
Weight	7.8 g (0.27oz)
Lead-free reflow solder process	as per J-STD-020D.01 (to find at: www.jedec.org - free registration required)
Moisture sensitivity level	level 2a as per J-STD-033B.01 (to find at: www.jedec.org - free registration required)

Application note: www.tracopower.com/overview/thl6wism

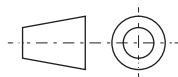
Outline Dimensions



Pin-Out		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	–Vin	–Vin
6	NC	Common
8	NC	–Vout
9	+Vout	+Vout
11	–Vout	Common
16	+Vin (Vcc)	+Vin (Vcc)

NC = Not connected

Dimensions in mm (inch)
Tolerances: $x.x \pm 0.25$ ($x.xx \pm 0.01$)
 $x.xx \pm .13$ ($x.xxx \pm .005$)
Pin tolerances: ± 0.05 (± 0.002)



Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com