

Topstek Current Transducer THX20A .. THX50A

THX 20A~50A

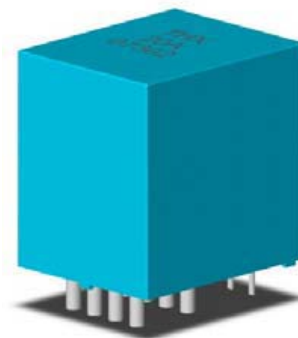
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Features

- ◆ Highly reliable Hall Effect device
- ◆ Wide selectable input ranges with flexible pin configurations.
- ◆ Compact and light weight
- ◆ Fast response time
- ◆ Excellent linearity of the output voltage over a wide input range
- ◆ Excellent frequency response (> 50 kHz)
- ◆ Low power consumption (<12 mA)
- ◆ Capable of measuring both DC and AC, both pulsed and mixed
- ◆ High isolation voltage between the measuring circuit and the current-carrying conductor (AC2.5KV)
- ◆ Extended operating temperature range
- ◆ Flame-Retardant plastic case and silicone encapsulate, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

Applications

- ◆ UPS systems
- ◆ Industrial robots
- ◆ NC tooling machines
- ◆ Elevator controllers
- ◆ Process control devices
- ◆ AC and DC servo systems
- ◆ Motor speed controller
- ◆ Electrical vehicle controllers
- ◆ Inverter-controlled welding machines
- ◆ General and special purpose inverters
- ◆ Power supply for laser processing machines
- ◆ Controller for traction equipment e.g. electric trains
- ◆ Other automatic control systems



Specifications

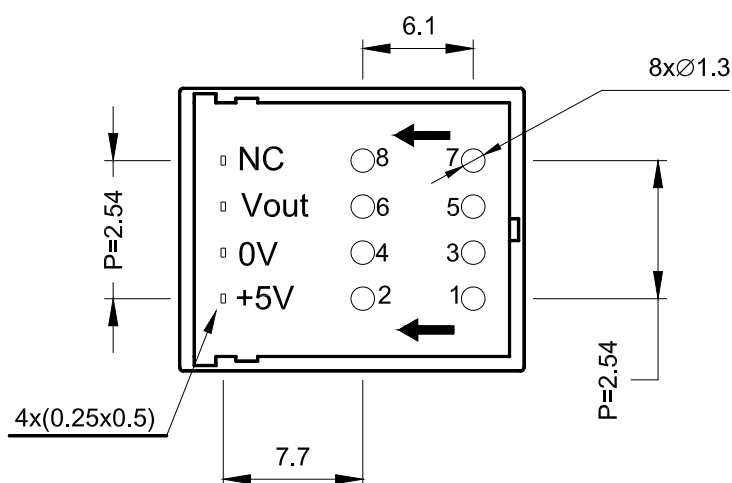
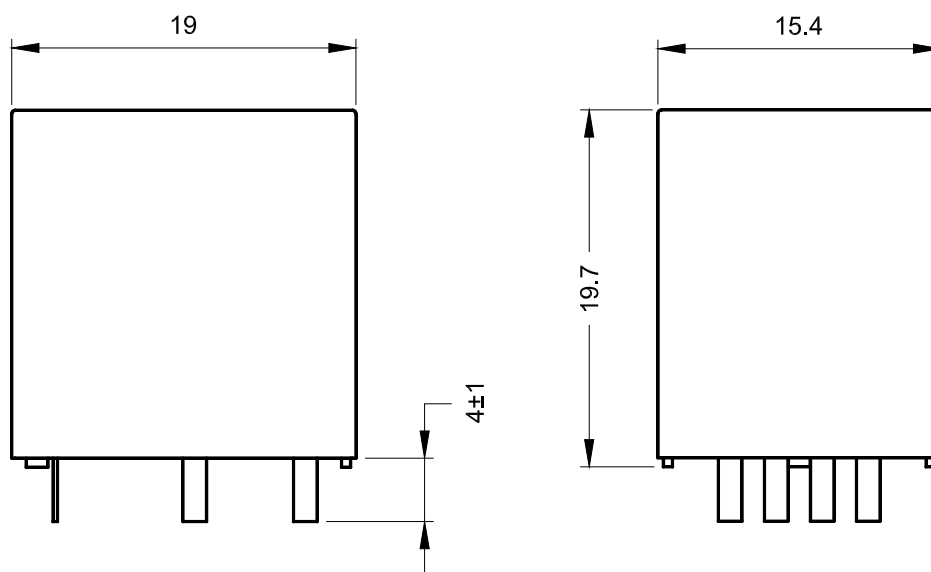
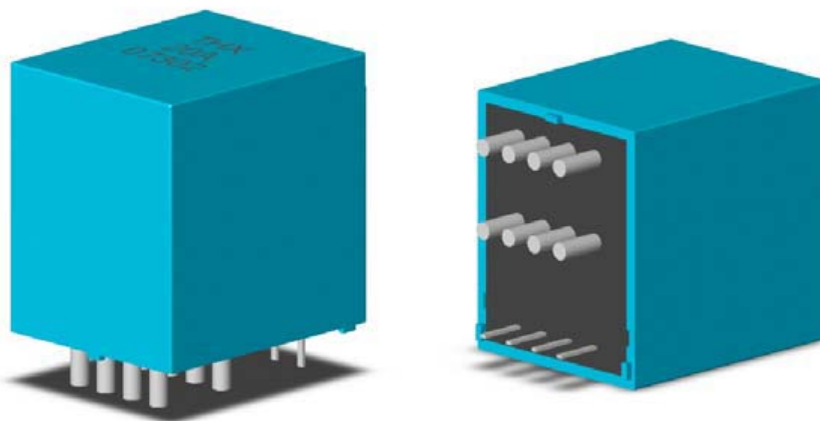
Parameter	Symbol	Unit	Configuration			
Primary Pin Configurations (to change N and I_{fn})						
Number of Primary Turns	N		1	2	4	
THX20A	Nominal Input Current	I_{fn}	A DC	20	10	5
	Linear Range	I_{fs}	A DC	±60	±30	±15
THX30A	Nominal Input Current	I_{fn}	A DC	30	15	7.5
	Linear Range	I_{fs}	A DC	±90	±45	±22.5
THX50A	Nominal Input Current	I_{fn}	A DC	50	25	12.5
	Linear Range	I_{fs}	A DC	±150	±75	±37.5
Nominal Output Voltage	V_{hn}	V	$V_{REF} + 0.625 V \pm 1\% \text{ at } I_f = I_{fn} \text{ (} R_L = 10k\Omega \text{)}$			
Nominal Output @ $I_f = 0$	V_{REF}	V	$V_{CC}/2 \pm 12.5 \text{ mV, } T_a = 25^\circ\text{C}$			
Output Resistance	R_{OUT}	Ω	<50 Ω			
Hysteresis Error	V_{oh}	mV	Within ±5 mV @ $I_f = I_{fn} \rightarrow 0$			
Supply Voltage	V_{CC}/V_{EE}	V	+5V ±5%			
Linearity	ρ	%	Within ±0.5% of I_{fn}			
Consumption Current	I_{CC}	mA	<12 mA			
Response Time (90% V_{hn})	T_r	μsec	5 μsec max. @ $d I_f / dt = I_{fn} / \mu\text{sec}$			
Frequency bandwidth (-3dB)	f_{BW}	Hz	DC to 50kHz			
Thermal Drift of Output	-	%/ $^\circ\text{C}$	Within ±0.1 %/ $^\circ\text{C}$ @ I_{fn}			
Thermal Drift of Zero Current Offset	-	mV/ $^\circ\text{C}$	Within ±0.4 mV/ $^\circ\text{C}$ @ I_{fn}			
Dielectric Strength	-	V	AC2.5KV X 60 sec			
Isolation Resistance @ 1000 VDC	R_{IS}	M Ω	>1000 M Ω			
Operating Temperature	T_a	$^\circ\text{C}$	-15 $^\circ\text{C}$ to 80 $^\circ\text{C}$			
Storage Temperature	T_s	$^\circ\text{C}$	-20 $^\circ\text{C}$ to 85 $^\circ\text{C}$			
Mass	W	g	10 g			

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Appearance, dimensions and pin identification

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All dimensions in mm ± 0.1 , holes $-0, +0.2$ except otherwise noted.



Primary Current Input Pins	I+	I-
pin	1,3,5,7	2,4,6,8