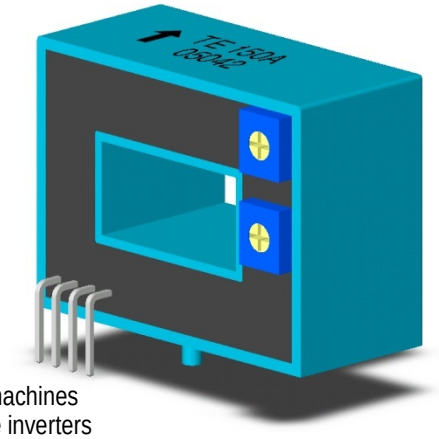
Topstek Current Transducers TE50A .. TE500A-S12

TE 50A~500A-S12



Features

- ♦ Highly reliable Hall Effect device
- ♦ 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 nominal)
- ♦ 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

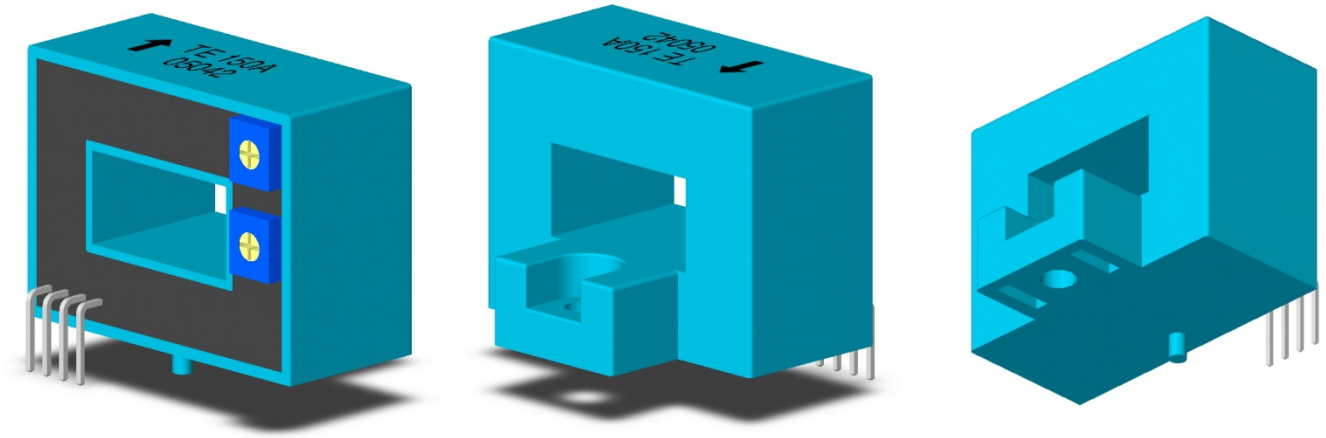
- ♦ UPS systems
- ♦ Industrial robots
- ♦ NC tooling machines
- ♦ Elevator controllers
- ♦ Process control devices
- ♦ AC and DC servo systems
- ♦ Motor speed controller
- ♦ Electrical vehicle controllers
- ♦ Inverter-controlled welding machines
- ♦ General and special purpose inverters
- ♦ Power supply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

Specifications

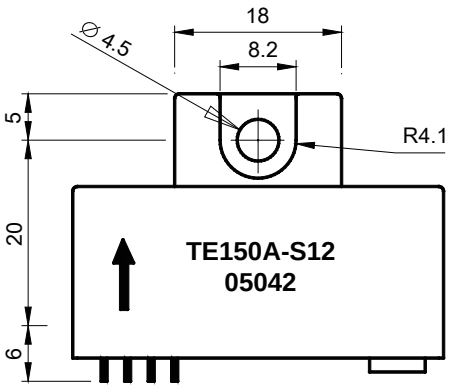
Parameter		Symbol	Unit	25A	37.5A	50A	75A	100A	150A	200A	250A	300A	500A
Nominal Input Current		I_{fn}	A DC	25	37.5	50	75	100	150	200	250	300	500
Linear Range		I_{fs}	A DC	$\pm I_{fn}$ x 1.25									
Output Voltage @ (R_L=10kΩ, T_a=25°C	$I_f = I_{fn}$	V_{hn+}	V	V_{hn0} + 2.0 V ± 20mV									
	$I_f = 0$	V_{hn0}	V	2.5 V ± 10 mV									
	$I_f = -I_{fn}$	V_{hn-}	V	V_{hn0} - 2.0 V ± 20mV									
Output Resistance		R_{OUT}	Ω	< 100Ω									
Hysteresis Error		V_{oh}	mV	Within ±10 mV @ I_f=I_{fn}→0									
Supply Voltage		V_{CC}	V	+12V ±5%									
Output Resistance		R_{OUT}	Ω	<100Ω									
Linearity		ρ	%	Within ±1% I_{fn} @25°C, Within ±1.5% @ -25~80°C									
Consumption Current		I_{CC}	mA	12 mA nominal, 15 mA max									
di/dt accurately followed		dI_f/dt	A/μsec	>50 A/μsec									
Response Time (90%V_{hn})		T_r	μsec	3 μsec max. @ $d I_f/dt = I_{fn}$/ μsec									
Frequency bandwidth (-3dB)		f_{BW}	Hz	DC to 50kHz									
Thermal Drift of Output @ I_{fn}		-	%	Within ±1% @25°C, Within ±3% @ -25~80°C									
Thermal Drift of Zero Current Offset		-	mV/°C	Within ±1 mV/°C @ T_a=-25~25°C, Within ±3 mV/°C @ T_a=25~80°C									
Reference Voltage Output		V_{REF}	V	2.5 V ± 25 mV									
Dielectric Strength		-	V	AC3KV X 60 sec									
Isolation Resistance @ 1000 VDC		R_{IS}	MΩ	>1000 MΩ									
Operating Temperature		T_a	°C	-25°C to 80°C									
Storage Temperature		T_s	°C	-40°C to 85°C									
Mass		W	g	50g									

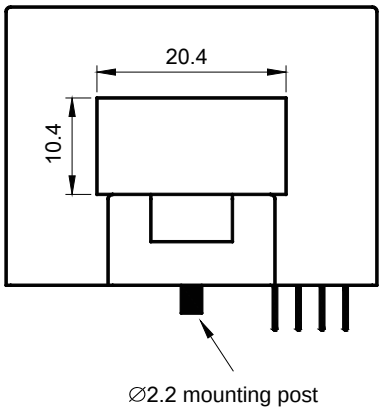
Appearance, dimensions and pin identification

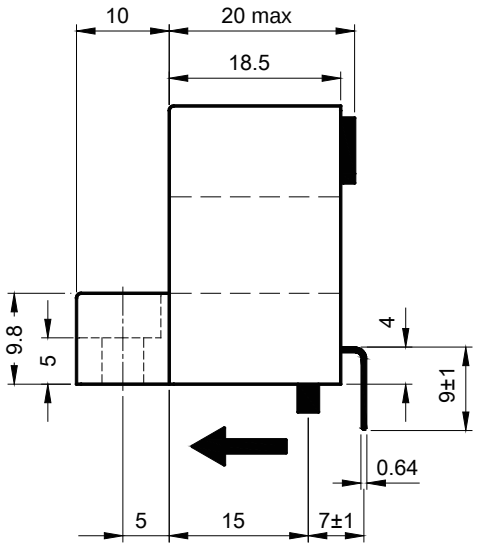
All dimensions in mm ±0.5, holes –0, +0.2 except otherwise noted.

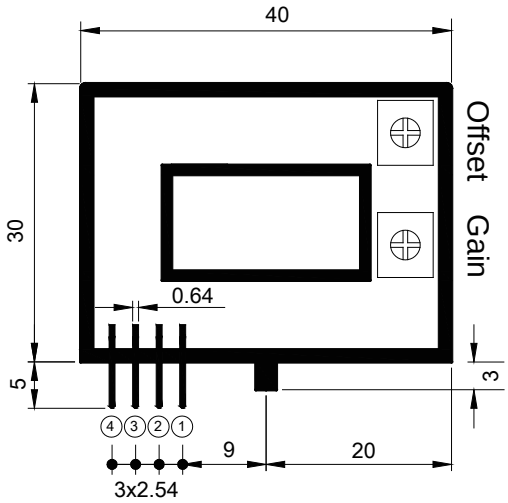


Pin Assignment	
①	+12V
②	0V
③	Vout
④	Vref(2.5V)









Positive current flow direction