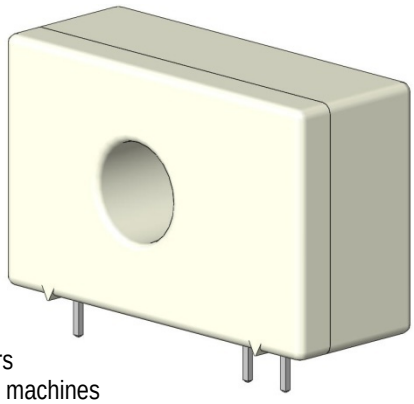
Topstek Current Transducer TQL50A

TQL50A



Features

- ♦ Highly reliable Closed Loop Hall Effect device
- ♦ Compact and light weight
- ♦ Fast response time
- ♦ Excellent linearity of the output voltage over a wide input range
- ♦ Excellent frequency response (> 150 kHz)
- ♦ Low power consumption (9 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 encapsulant, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

Applications

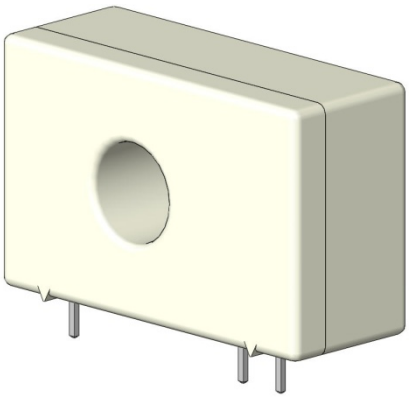
- ♦ UPS systems
- ♦ Industrial robots
- ♦ NC tooling machines
- ♦ Elevator controllers
- ♦ Process control devices
- ♦ AC and DC servo systems
- ♦ Motor speed controller
- ♦ Electrical vehicle controllers
- ♦ Inverter-controlled welding machines
- ♦ General and special purpose inverters
- ♦ Power supply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

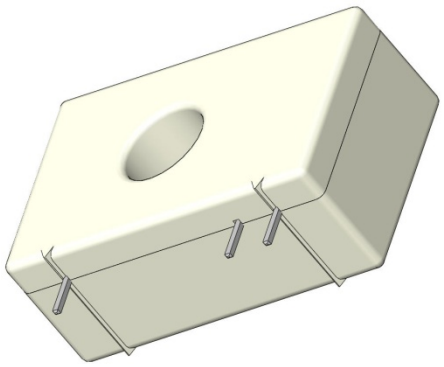
Specifications

Parameter	Symbol	Unit	TQL50A			
Nominal Input Current	I_{pn}	A DC	±50			
Supply Voltage Range	V_{CC}/V_{EE}	V	±12 --- ±15			
Supply Voltage ±5%	V_{CC}/V_{EE}	V	±12		±15	
Consumption Current	I_{CC}	mA	15 mA + I_s			
Measuring Range	I_{fs}	A DC	±80	±100	±80	±100
Maximum Load Resistance	R_{Mmax}	Ω	37.5	15	75	45
Minimum Load Resistance	R_{Mmin}	Ω	0	0	20	20
Conversion Ratio	K_N		1:1000			
Secondary Current @ I_{pn}	I_s	mA	50			
Secondary Resistance	R_{Mmax}	Ω	63 @ 25°C, 65 @ 80°C			
Offset Current	I_{os}	mA	Within ±0.3 mA @ I_p=0, T_a=25°C			
Overall Accuracy @ I_{pn}		%	Within ±0.3% of I_{pn}			
Linearity	ρ	%	Within ±0.1% of I_{pn}			
Response Time (90%V_{hn})	T_r	μsec	2 μsec max. @ $d\,I_f/dt = I_{pn}$/ μsec			
Frequency bandwidth (-3dB)	f_{BW}	Hz	DC to 150kHz			
Thermal Drift of Output	-	mA	Within ±0.5mA 0°C~80°C			
Dielectric Strength	-	V	AC2.5KV X 60 sec			
Isolation Resistance @ 1000 VDC	R_{IS}	MΩ	>1000 MΩ			
Operating Temperature	T_a	°C	-20°C to 80°C			
Storage Temperature	T_s	°C	-20°C to 85°C			
Mass	W	g	27 g			

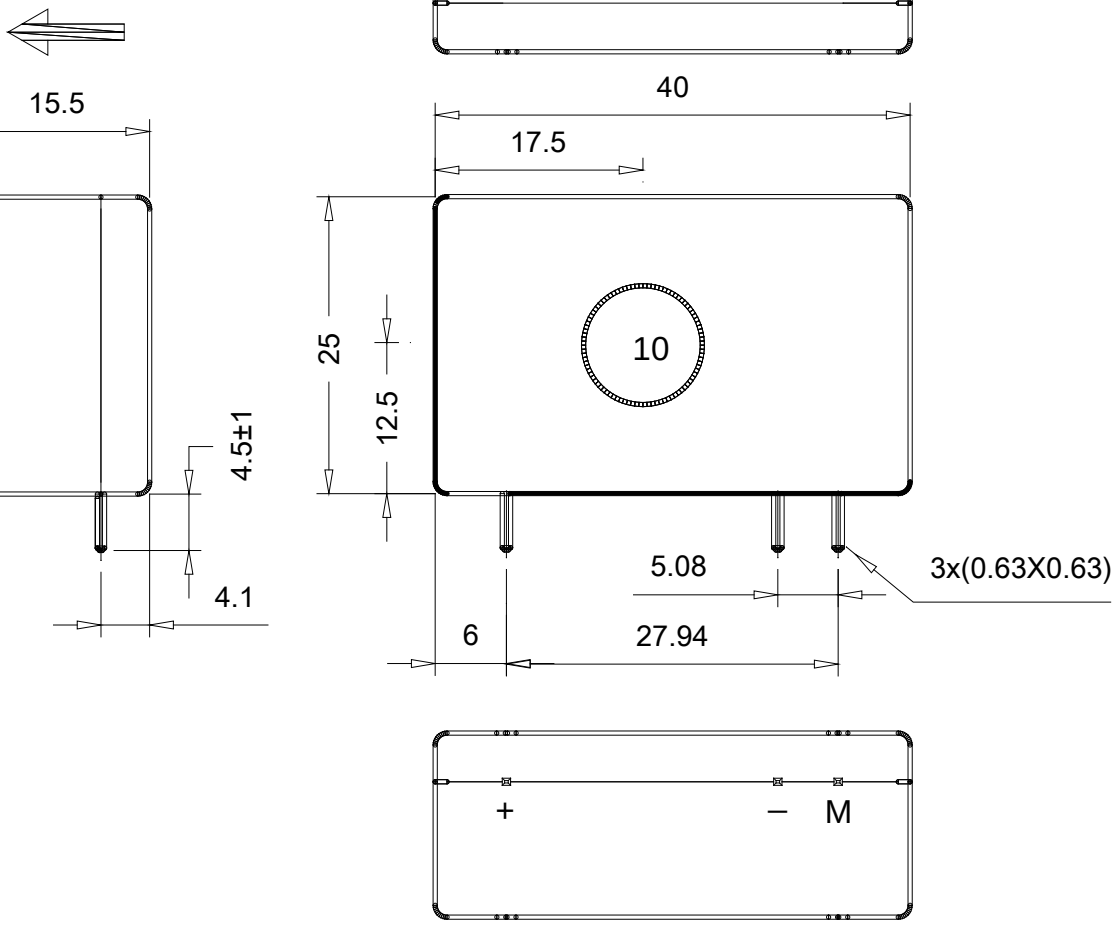
Appearance, dimensions and pin identification

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





Positive current flow direction



Pin Assignment	Description
+	+12 ~ 15V
-	-12 ~ -15V
M	Measure (connect R_L to 0V Ground)