

# Topstek Current Transducer TQL50A

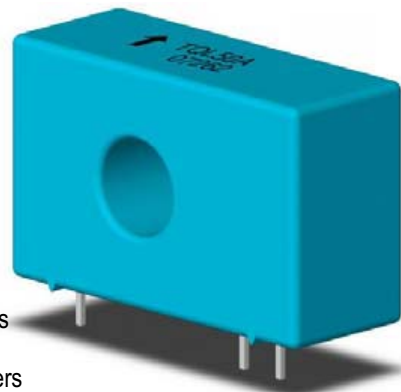
## TQL50A

### 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



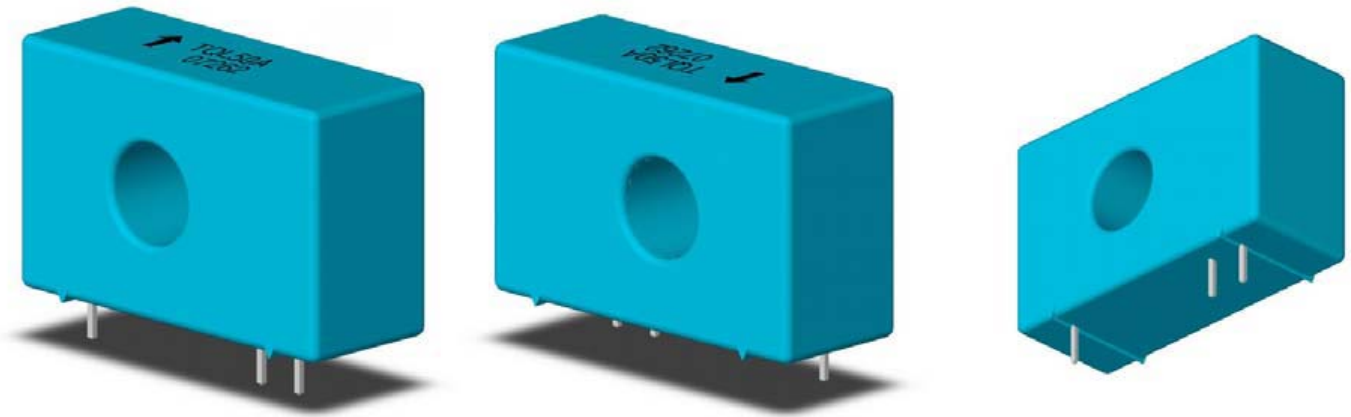
### Specifications

Parameter	Symbol	Unit	TQL50A			
Nominal Input Current	I <sub>pn</sub>	A DC	±50			
Supply Voltage Range	V <sub>CC</sub> /V <sub>EE</sub>	V	±12 --- ±15			
Supply Voltage ±5%	V <sub>CC</sub> /V <sub>EE</sub>	V	±12		±15	
Consumption Current	I <sub>CC</sub>	mA	15 mA + I <sub>s</sub>			
Measuring Range	I <sub>fs</sub>	A DC	±80	±100	±80	±100
Maximum Load Resistance	R <sub>Mmax</sub>	Ω	37.5	15	75	45
Minimum Load Resistance	R <sub>Mmin</sub>	Ω	0	0	20	20
Conversion Ratio	K <sub>N</sub>		1:1000			
Secondary Current @ I <sub>pn</sub>	I <sub>s</sub>	mA	50			
Secondary Resistance	R <sub>Mmax</sub>	Ω	63 @ 25°C, 65 @ 80°C			
Offset Current	I <sub>os</sub>	mA	Within ±0.3 mA @ I <sub>p</sub> =0, T <sub>a</sub> =25°C			
Overall Accuracy @ I <sub>pn</sub>		%	Within ±0.3% of I <sub>pn</sub>			
Linearity	ρ	%	Within ±0.1% of I <sub>pn</sub>			
Response Time (90%V <sub>hn</sub> )	T <sub>r</sub>	μsec	2 μsec max. @ d I <sub>f</sub> / dt = I <sub>pn</sub> / μsec			
Frequency bandwidth (-3dB)	f <sub>BW</sub>	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 <sub>IS</sub>	MΩ	>1000 MΩ			
Operating Temperature	T <sub>a</sub>	°C	-20°C to 80°C			
Storage Temperature	T <sub>s</sub>	°C	-20°C to 85°C			
Mass	W	g	27 g			

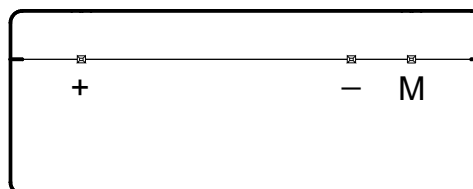
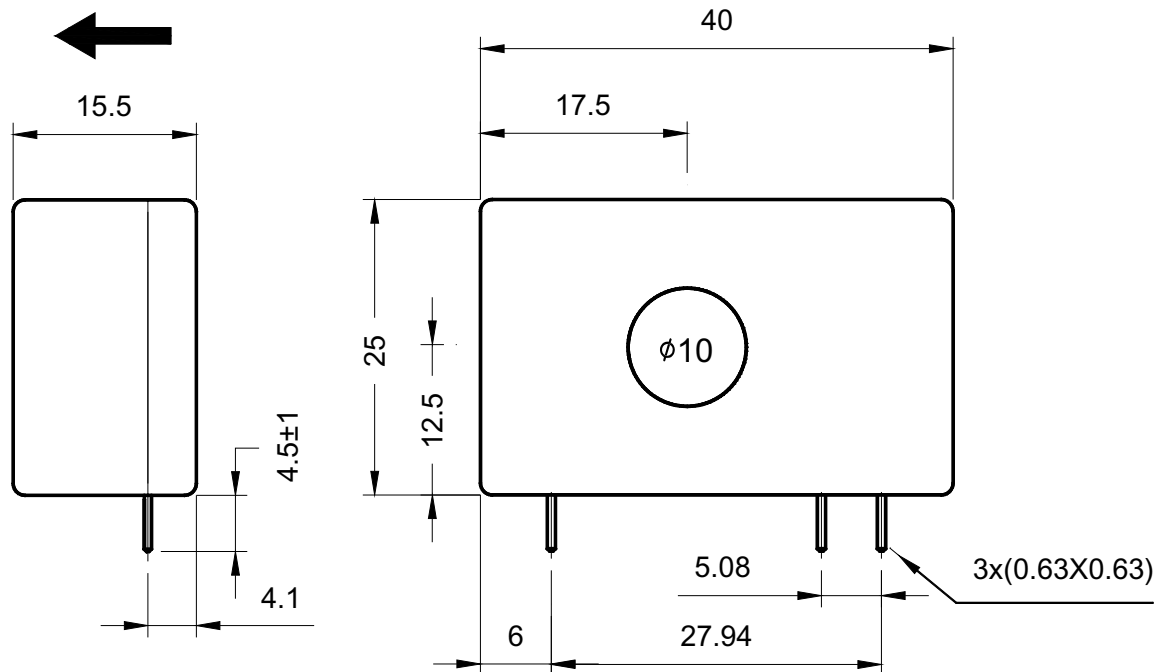
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## Appearance, dimensions and pin identification

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



Positive current flow direction



Pin Assignment	Description
+	+12 ~ 15V
-	-12 ~ -15V
M	Measure ( connect R <sub>L</sub> to 0V Ground )