

# Topstek Current Transducer TQL100A

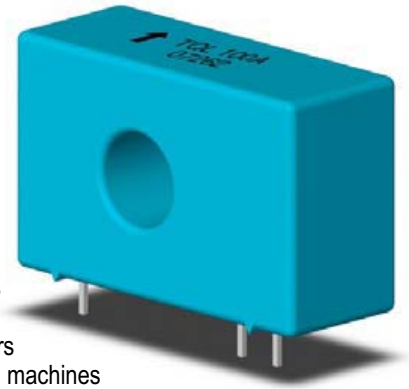
## TQL100A

### 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



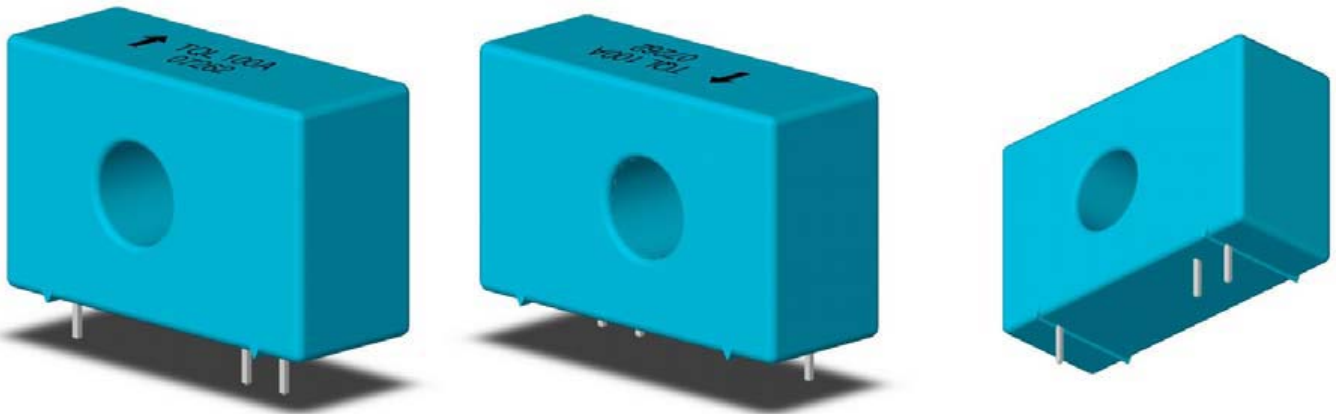
### Specifications

Parameter	Symbol	Unit	TQL100A			
Nominal Input Current	$I_{pn}$	A DC	±100			
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	±100	±120	±100	±150
Maximum Load Resistance	$R_{Mmax}$	Ω	43	15	105	26
Minimum Load Resistance	$R_{Mmin}$	Ω	0	0	0	0
Conversion Ratio	$K_N$		1:2000			
Secondary Current @ $I_{pn}$	$I_s$	mA	50			
Secondary Resistance	$R_{Mmax}$	Ω	126 @ 25°C, 130 @ 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	$\rho$	%	Within ±0.1% of $I_{pn}$			
Response Time (90% $V_{hn}$ )	$T_r$	μsec	2 μsec max. @ $d I_f / dt = I_{pn} / \mu\text{sec}$			
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	28 g			

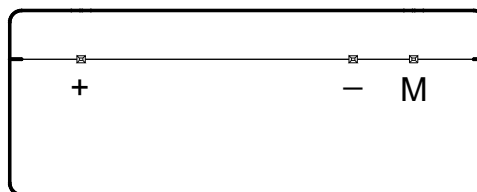
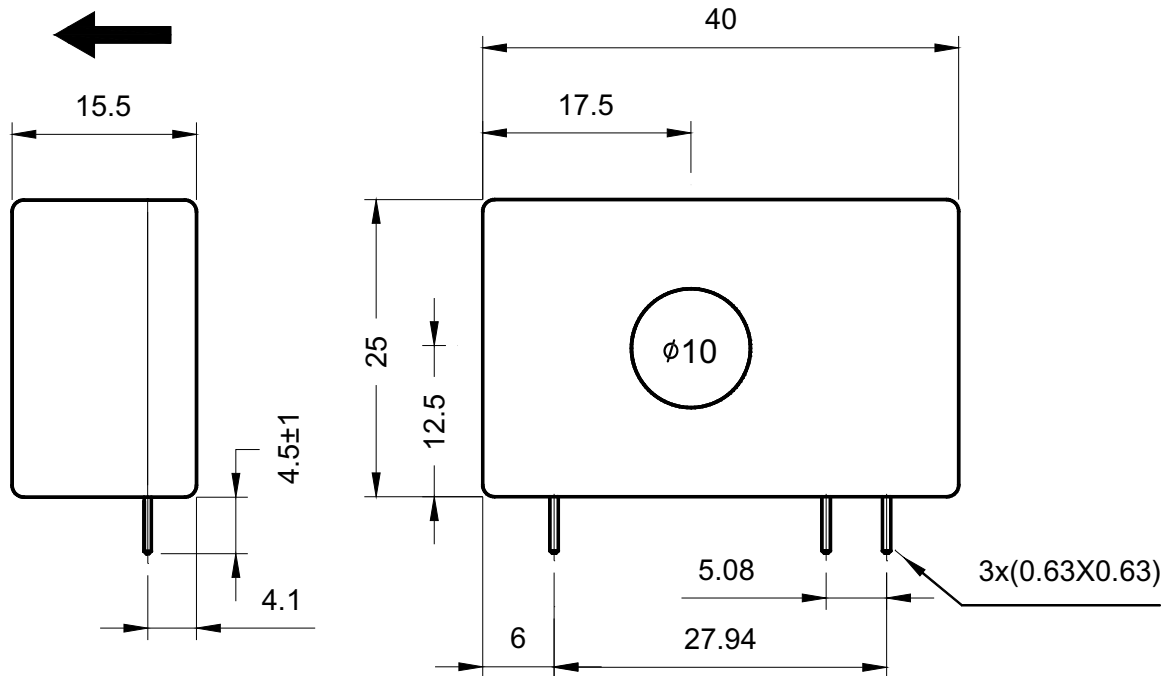
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## Appearance, dimensions and pin identification

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 $R_L$ to 0V Ground )