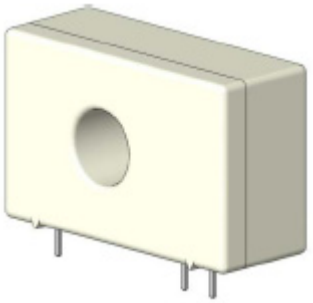
Current Transducer

Hall Effect



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 (2.5 KV ac).
- 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 eg. electric trains.
- Other automatic control systems.

Specification Table

Parameter	Symbol	Unit	TQL100A			
Nominal Input Current	I_{pn}	A dc	±100			
Supply Voltage Range	V_{CC} / V_{EE}	V	±12 to ±15			
Supply Voltage ±5%			±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}		0	0	0	0
Conversion Ratio	K_N	-	1:2000			
Secondary Current at I_{pn}	I_s	mA	50			
Secondary Resistance	R_{Mmax}	Ω	126 at 25°C, 130 at 80°C			
Offset Current	I_{os}	mA	Within ±0.3 mA at I_p = 0, T_a = 25°C			
Overall Accuracy at I_{pn}	-	%	Within ±0.3% of I_{pn}			
Linearity	p		Within ±0.1% of I_{pn}			
Response Time (90% V_{hn})	T_r	µs	2 µs Max. at d I_f / dt = I_{pn} / µs			
Frequency Bandwidth (-3 dB)	f_{BW}	Hz	DC to 150 KHz			

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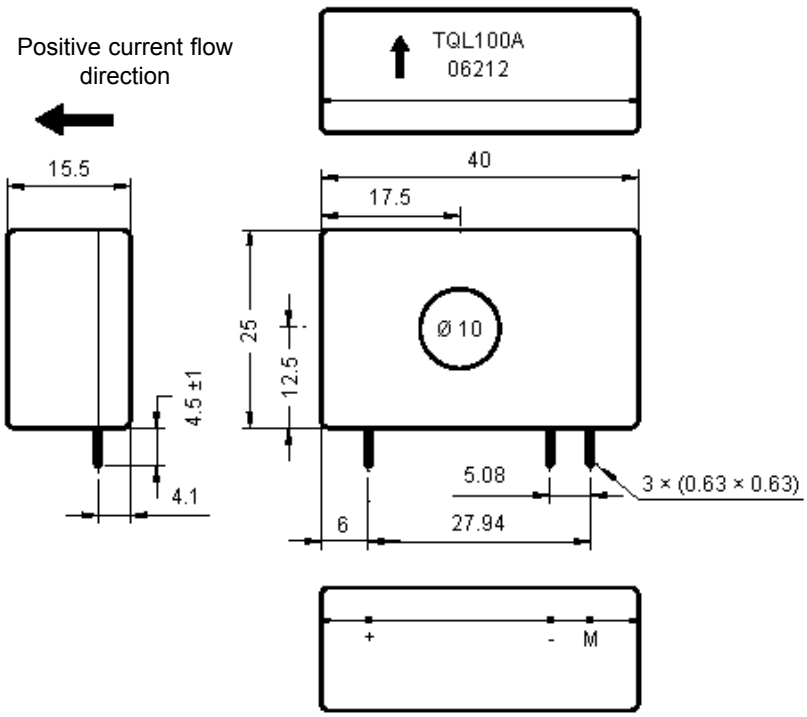
Specification Table

Parameter	Symbol	Unit	TQL100A
Thermal Drift of Output	-	mA	Within ±0.5 mA 0°C to 80°C
Dielectric Strength	-	V	2.5 KV ac × 60 s
Isolation Resistance at 1,000 V dc	R_{IS}	MΩ	> 1,000 M
Operating Temperature	T_a	°C	-20°C to 80°C
Storage Temperature	T_s		-20°C to 85°C
Mass	W	g	28 g

Appearance, Dimensions and Pin Identification

All dimensions in mm ±0.1, holes –0, +0.2 except otherwise noted



Dimensions : Millimetres

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

Part Number Table

Description	Part Number
Current Transducer	TQL100A