

# Topstek Current Transducer TQE500A-T5

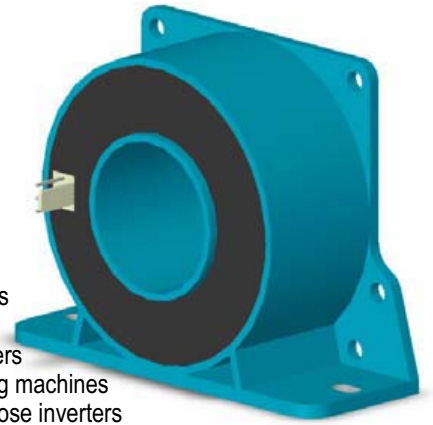
## TQE500A-T5

### 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 (> 50 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



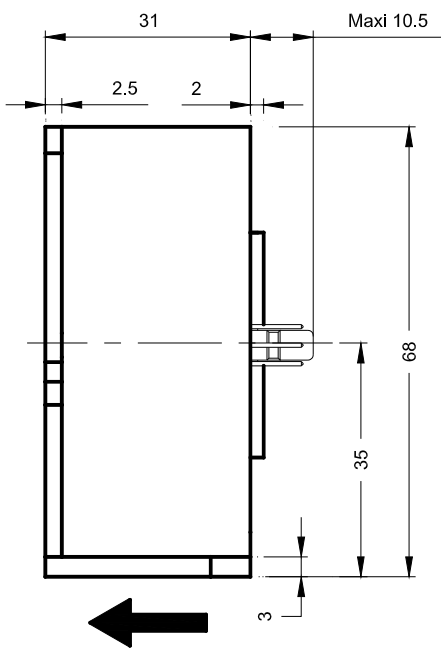
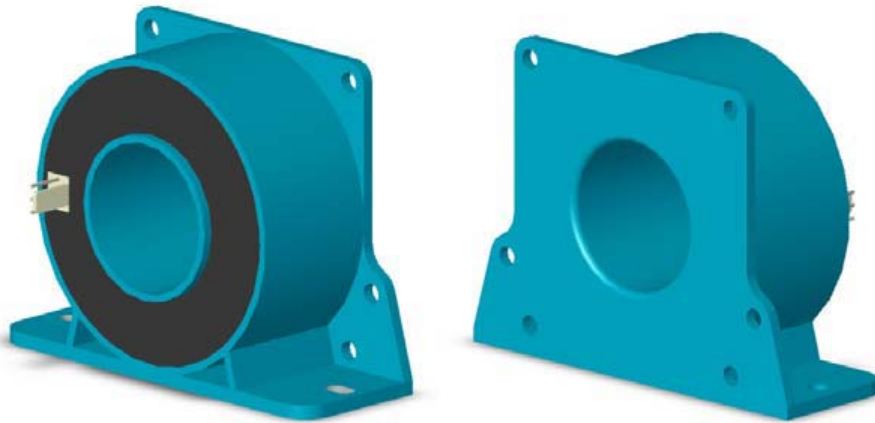
### Specifications

Parameter	Symbol	Unit	TQE500A-T5-B24				TQE500A-T5-B15		
Nominal Input Current	$I_{pn}$	A DC	±500				±500		
Supply Voltage Range	$V_{CC}/V_{EE}$	V	±12 --- ±24				±12 --- ±15		
Supply Voltage ±5%	$V_{CC}/V_{EE}$	V	±12	±15	±24	±12	±15		
Consumption Current	$I_{CC}$	mA	35 mA + $I_s$				15 mA + $I_s$		
Measuring Range	$I_{fs}$	A DC	±500	±600	±700	±800	±500	±600	±700
Maximum Load Resistance	$R_{Mmax}$	Ω	15	5	10	60	15	5	10
Minimum Load Resistance	$R_{Mmin}$	Ω	0	0	0	0	0	0	0
Conversion Ratio	$K_N$		1:5000						
Secondary Current @ $I_{pn}$	$I_s$	mA	100						
Secondary Resistance	$R_{Mmax}$	Ω	76						
Offset Current	$I_{os}$	mA	Within ±0.25 mA @ $I_p=0, T_a=25^\circ C$						
Overall Accuracy @ $I_{pn}$		%	Within ±0.3% of $I_{fn}$						
Linearity	$\rho$	%	Within ±0.1% of $I_{fn}$						
Response Time (90% $V_{hn}$ )	$T_r$	μsec	1 μsec max. @ $d I_f / dt = I_{pn} / \mu sec$						
Frequency bandwidth (-3dB)	$f_{BW}$	Hz	DC to 200kHz						
Thermal Drift of Output	-	%/°C	Within ±0.05 %/°C @ $I_{fn}$						
Dielectric Strength	-	V	AC2.5KV X 60 sec						
Isolation Resistance @ 1000 VDC	$R_{IS}$	MΩ	>1000 MΩ						
Operating Temperature	$T_a$	°C	-15°C to 80°C						
Storage Temperature	$T_s$	°C	-20°C to 85°C						
Mass	W	g	200 g						

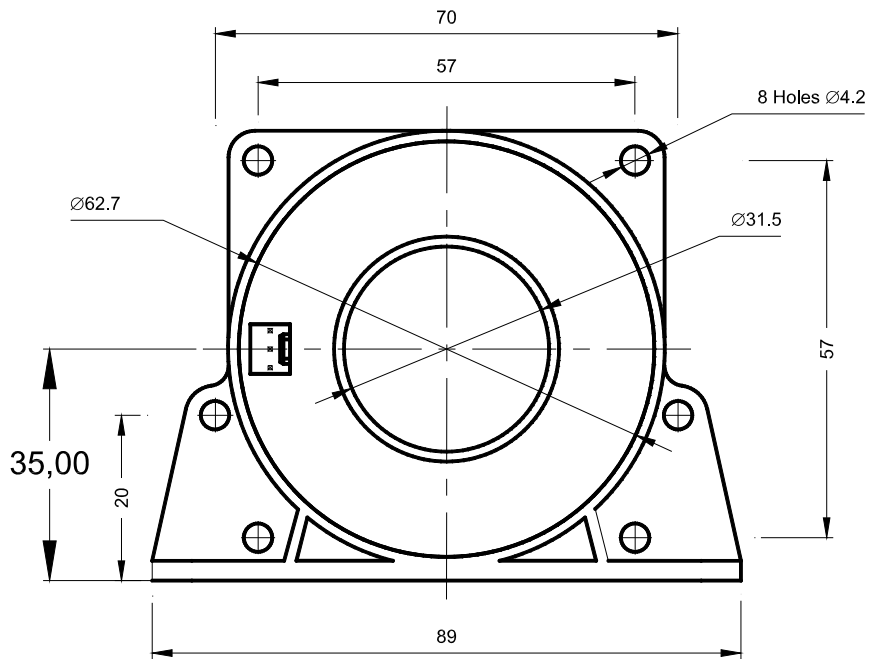
# TopTek Current Transducer TQE500A-T5

## Appearance, dimensions and pin identification

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



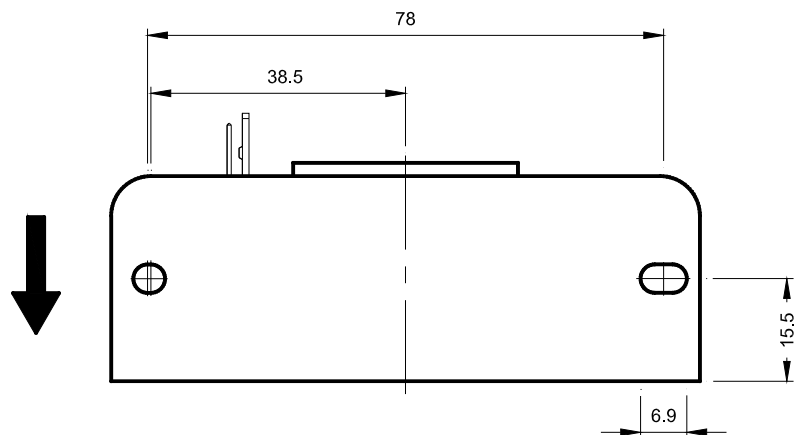
Positive current flow direction



Molex Connector  
(with 2.54 mm pitch)



JST Connector  
(with 3.81 mm pitch)





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**Additional Information :**

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