

# Topstek Current Transducers TN40A .. TN800A

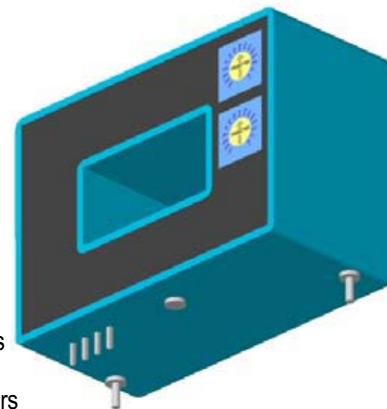
## TN 40A~800A

### Features

- ◆ Highly reliable 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 (12 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 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 e.g. electric trains
- ◆ Other automatic control systems



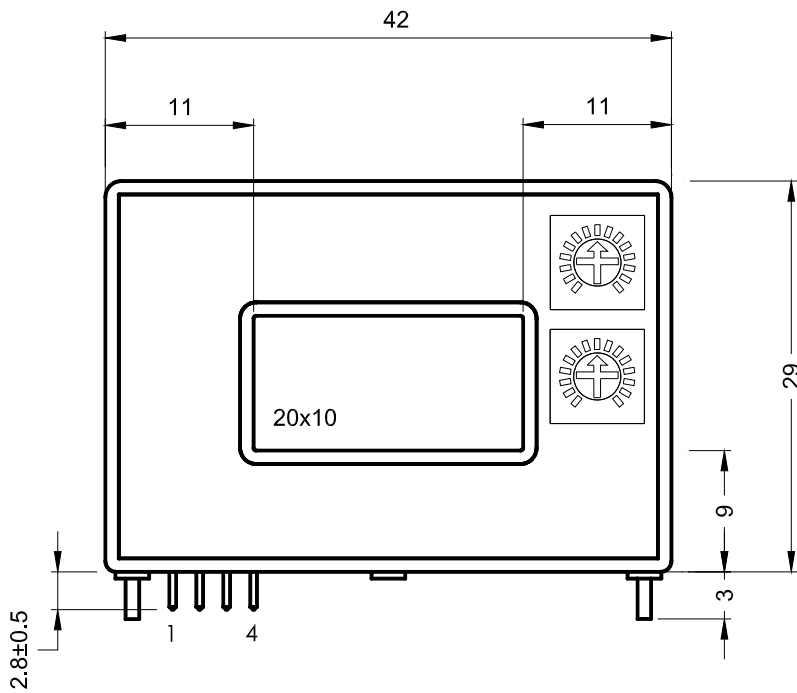
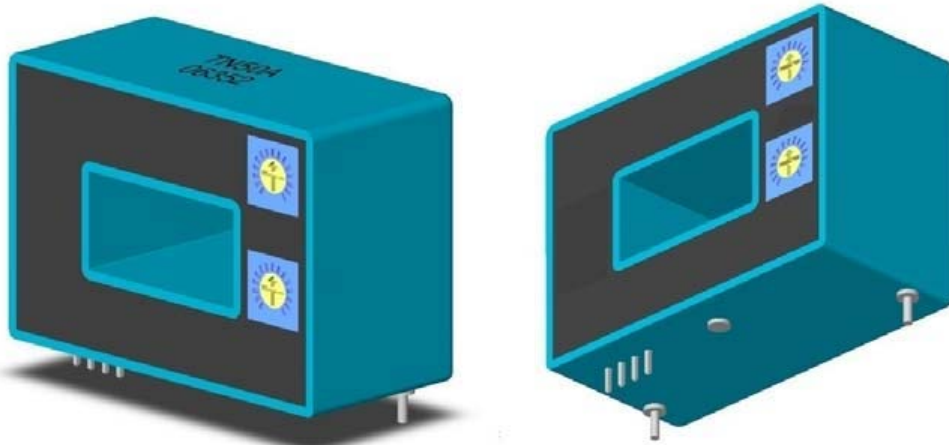
### Specifications

Parameter	Symbol	Unit	TN 40A	TN 50A	TN 75A	TN 100A	TN 150A	TN 200A	TN 300A	TN 400A	TN 600A	TN 800A
Nominal Input Current	$I_{fn}$	A DC	40	50	75	100	150	200	300	400	600	800
Linear Range	$I_{fs}$	A DC	±120	±150	±225	±300	±450	±600	±900	±900	±1000	±1000
Nominal Output Voltage	$V_{fn}$	V	4 V ±1% at $I_f=I_{fn}$ ( $R_L=10k\Omega$ )									
Offset Voltage	$V_{os}$	mV	Within ±35 mV @ $I_f=0$ , $T_a=25^\circ\text{C}$									
Output Resistance	$R_{OUT}$	$\Omega$	<100 $\Omega$									
Hysteresis Error	$V_{oh}$	mV	Within ±30 mV @ $I_f=I_{fn} \rightarrow 0$									
Supply Voltage	$V_{CC}/V_{EE}$	V	±15V ±5%									
Linearity (0 -- ± $I_{fn}$ )	$\rho$	%	Within ±1% of $I_{fn}$									
Consumption Current	$I_{CC}$	mA	±15 mA max									
Response Time (90% $V_{fn}$ )	$T_r$	$\mu\text{sec}$	7 $\mu\text{sec}$ max. @ $d I_f / dt = I_{fn} / \mu\text{sec}$									
Frequency bandwidth (-3dB)	$f_{BW}$	Hz	DC to 50kHz									
Thermal Drift of Output	-	%/ $^\circ\text{C}$	Within ±0.1 %/ $^\circ\text{C}$ @ $I_{fn}$									
Thermal Drift of Zero Current Offset	-	mV/ $^\circ\text{C}$	< ±2.5 mV/ $^\circ\text{C}$	< ±1.5 mV/ $^\circ\text{C}$	< ±1.0 mV/ $^\circ\text{C}$							
Dielectric Strength	-	V	AC2.5KV X 60 sec									
Isolation Resistance @ 1000 VDC	$R_{IS}$	M $\Omega$	>1000 M $\Omega$									
Operating Temperature	$T_a$	$^\circ\text{C}$	-15 $^\circ\text{C}$ to 85 $^\circ\text{C}$									
Storage Temperature	$T_s$	$^\circ\text{C}$	-20 $^\circ\text{C}$ to 85 $^\circ\text{C}$									
Mass	W	g	66g									

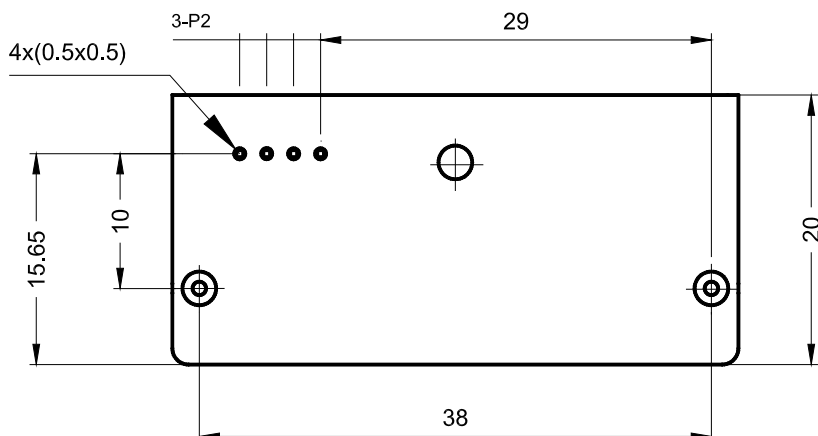
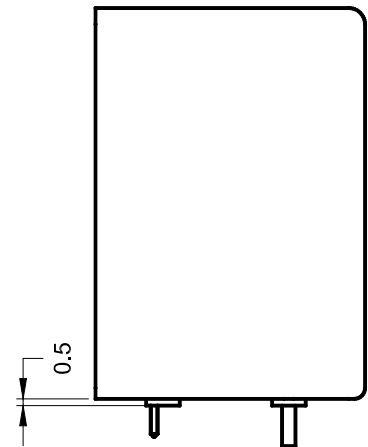
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## Appearance, dimensions and pin identification

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



← Positive current flow direction



Pin Assignment	
1	+15V
2	-15V
3	V <sub>OUT</sub>
4	0V