

# Topstek Current Transducer TKDD3A .. TKDD40A

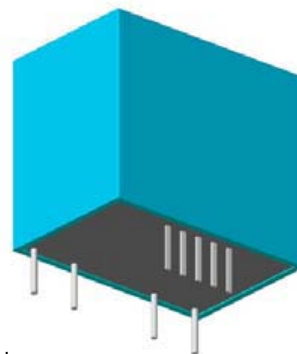
## TKDD 3A~40A

### 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 (20 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



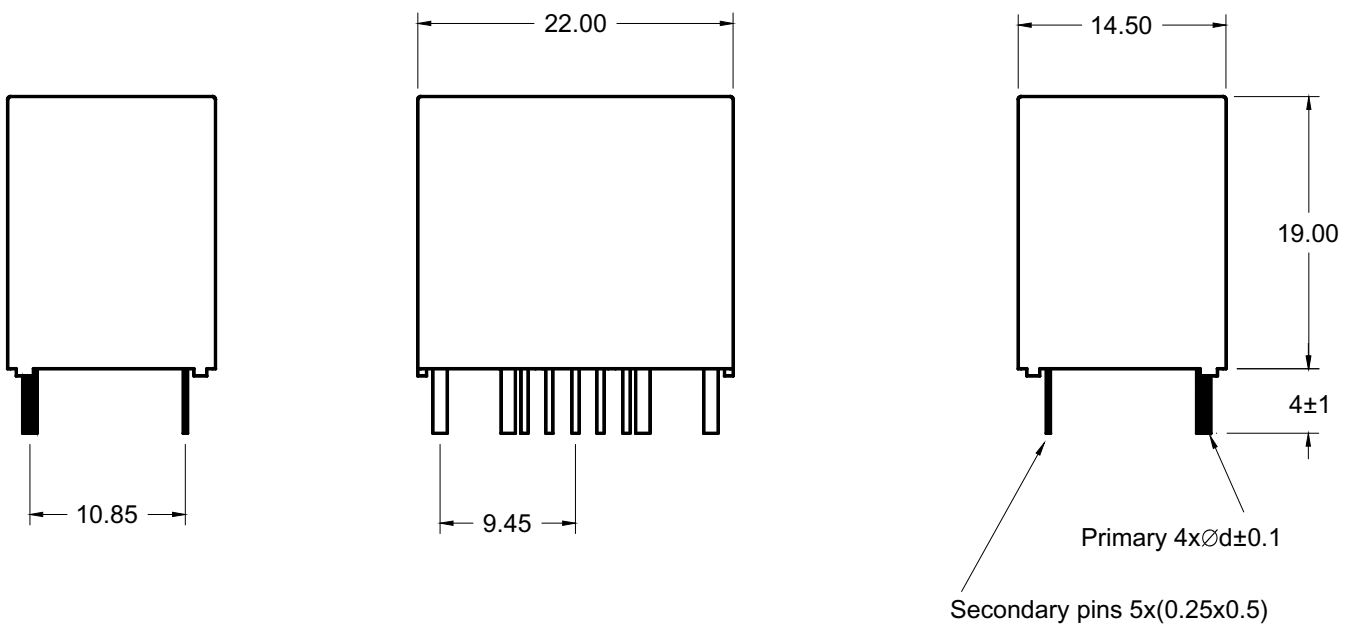
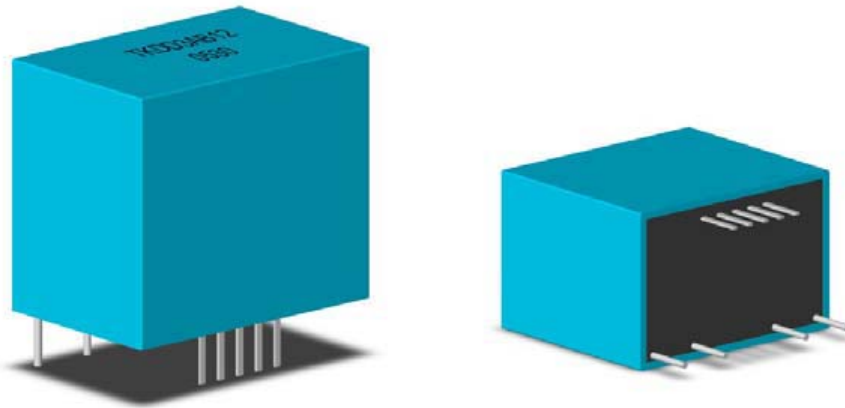
### Specifications

Parameter	Symbol	Unit	TKDD3A-B12 .. TKDD40A-B12	TKDD3A .. TKDD40A
Nominal Input Current	$I_{fn}$	A DC	3 .. 40	
Linear Range	$I_{fs}$	A DC	$\pm 7.2 .. \pm 96 = 2.4 \times I_{fn}$	$\pm 9 .. \pm 120 = 3 \times I_{fn}$
Nominal Output Voltage	$V_{hn}$	V	4 V $\pm 1\%$ at $I_f = I_{fn}$ ( $R_L = 10k\Omega$ )	
Offset Voltage	$V_{os}$	mV	Within $\pm 40$ mV @ $I_f = 0$ , $T_a = 25^\circ\text{C}$	
Output Resistance	$R_{OUT}$	$\Omega$	<100 $\Omega$	
Hysteresis Error	$V_{oh}$	mV	Within $\pm 25$ mV @ $I_f = I_{fn} \rightarrow 0$	
Supply Voltage	$V_{CC}/V_{EE}$	V	$\pm 12\text{V} \pm 5\%$	$\pm 15\text{V} \pm 5\%$
Linearity	$\rho$	%	Within $\pm 1\%$ of $I_{fn}$	
Consumption Current	$I_{CC}$	mA	$\pm 20$ mA nominal, $\pm 30$ mA max	
Response Time (90% $V_{hn}$ )	$T_r$	$\mu\text{sec}$	5 $\mu\text{sec}$ 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 $\pm 0.1 \%$ $^\circ\text{C}$ @ $I_{fn}$	
Thermal Drift of Zero Current Offset	-	$\text{mV} / ^\circ\text{C}$	Within $\pm 1.5$ $\text{mV} / ^\circ\text{C}$ @ $I_{fn}$	
Dielectric Strength	-	V	AC2.5KV X 60 sec	
Isolation Resistance @ 1000 VDC	$R_{IS}$	$\text{M}\Omega$	>1000 $\text{M}\Omega$	
Operating Temperature	$T_a$	$^\circ\text{C}$	-15 $^\circ\text{C}$ to 80 $^\circ\text{C}$	
Storage Temperature	$T_s$	$^\circ\text{C}$	-20 $^\circ\text{C}$ to 85 $^\circ\text{C}$	
Mass	W	g	15 g	

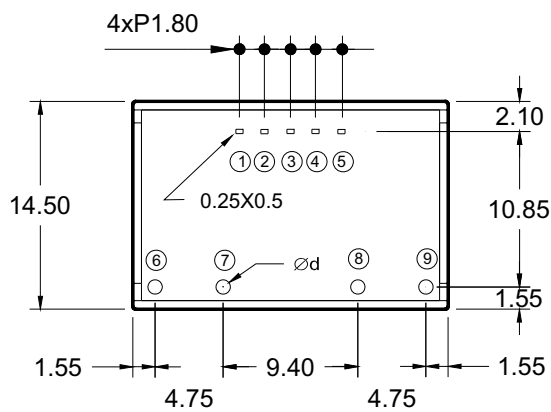
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## Appearance, dimensions and pin identification

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



Pin Assignment	
①	+V <sub>CC</sub>
②	-V <sub>EE</sub>
③	Output 1
④	Output 2
⑤	GND
⑥	+ Input 1
⑦	- Input 1
⑧	+ Input 2
⑨	- Input 2



Bottom View

Primary Current Input Pin Diameter	1-3A	4-8A	9-15A	16-40A
d(mm)	0.6	0.8	1.2	1.4