

# Topstek Current Transducers TPH25A .. TPH250A

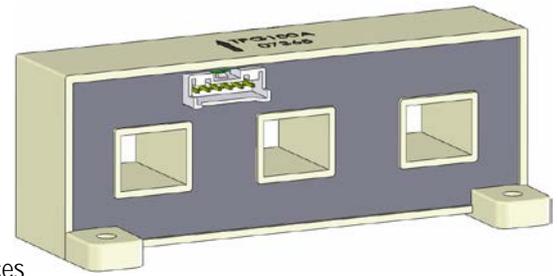
## TPH 25A~250A

### Features

- ◆ Highly reliable Hall Effect device
- ◆ Compact and light weight. **Three sensors** in one package
- ◆ Fast response time
- ◆ Excellent linearity of the output voltage over a wide input range
- ◆ Excellent frequency response (> 50 kHz)
- ◆ Low power consumption (33 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



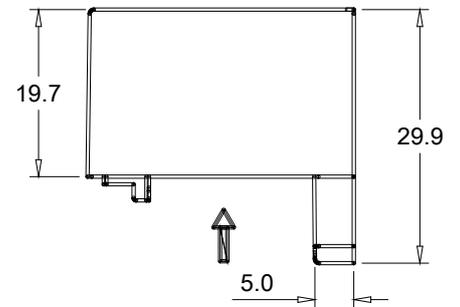
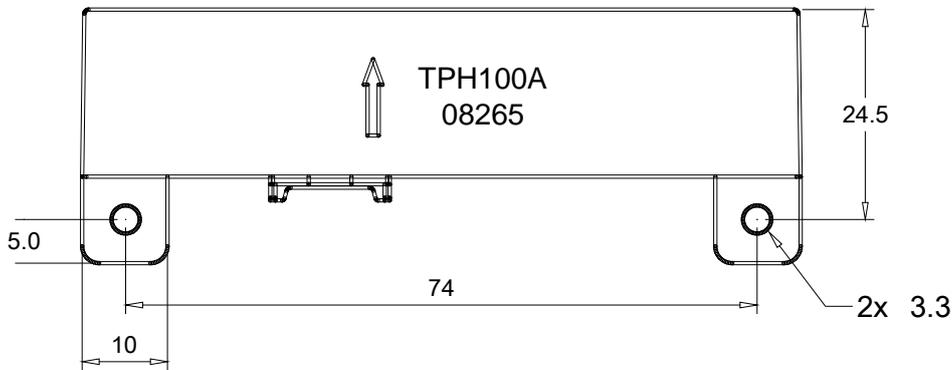
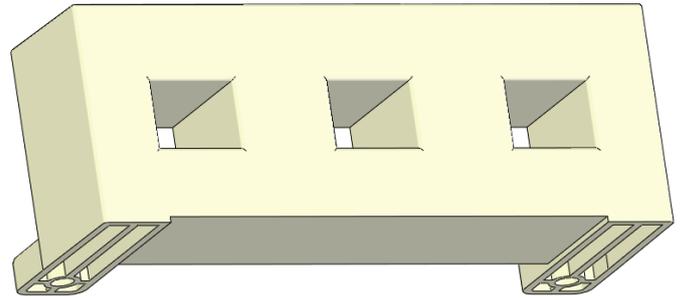
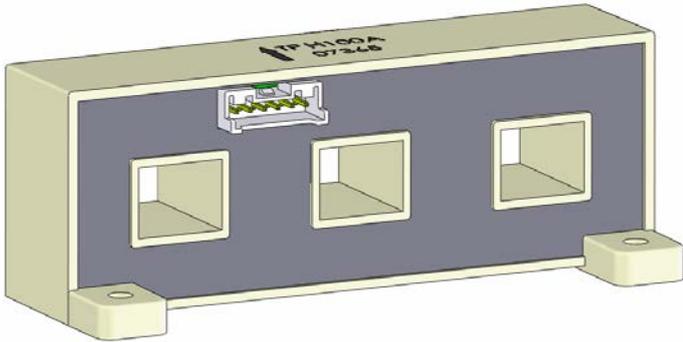
### Specifications

Parameter	Symbol	Unit	TPH 25A	TPH 37.5A	TPH 50A	TPH 75A	TPH 100A	TPH 125A	TPH 150A	TPH 175A	TPH 200A	TPH 250A		
Nominal Input Current	$I_{fn}$	A DC	25	37.5	50	75	100	125	150	175	200	250		
Saturation Current	$I_{fs}$	A DC	±75	±112.5	±150	±225	±300	±375	±450	±525	±600	±600		
Linear Range	$I_{fs}$	A DC	±75	±112.5	±150	±225	±300	±375	±450	±525	±600	±600		
Nominal Output Voltage	$V_{hn}$	V	4 V ±1% @ $I_f = I_{fn}$ ( $R_L = 10k\Omega$ )											
Offset Voltage	$V_{os}$	mV	Within ±40 mV @ $I_f = 0$ , $T_a = 25^\circ C$											
Output Resistance	$R_{OUT}$	$\Omega$	<100 $\Omega$ (50 $\Omega$ nominal)											
Hysteresis Error	$V_{oh}$	mV	Within ±35 mV @ $I_f = I_{fn} \rightarrow 0$											
Supply Voltage	$V_{CC}/V_{EE}$	V	±15V ±5%											
Linearity	$\rho$	%	Within ±1% of $I_{fn}$											
Consumption Current	$I_{CC}$	mA	±33 mA nominal, ±45 mA max											
Response Time (90% $V_{hn}$ )	$T_r$	$\mu$ sec	10 $\mu$ sec max. @ $dI_f/dt = I_{fn}/\mu$ sec											
Response Performance	-	%	10% Overshoot max.											
Frequency bandwidth (-3dB)	$f_{BW}$	Hz	DC to 50kHz											
Thermal Drift of Output	-	%/ $^\circ C$	Within ±0.1 %/ $^\circ C$ @ $I_{fn}$											
Thermal Drift of Zero Current Offset	-	mV/ $^\circ C$	< ±3 mV/ $^\circ C$					< ±2 mV/ $^\circ C$						
Dielectric Strength	-	V	AC2.5KV X 60 sec											
Isolation Resistance @ 1000 VDC	$R_{IS}$	M $\Omega$	>1000 M $\Omega$											
Operating Temperature	$T_a$	$^\circ C$	-15 $^\circ C$ to 80 $^\circ C$											
Storage Temperature	$T_s$	$^\circ C$	-20 $^\circ C$ to 85 $^\circ C$											
Mass	W	g	90 g											

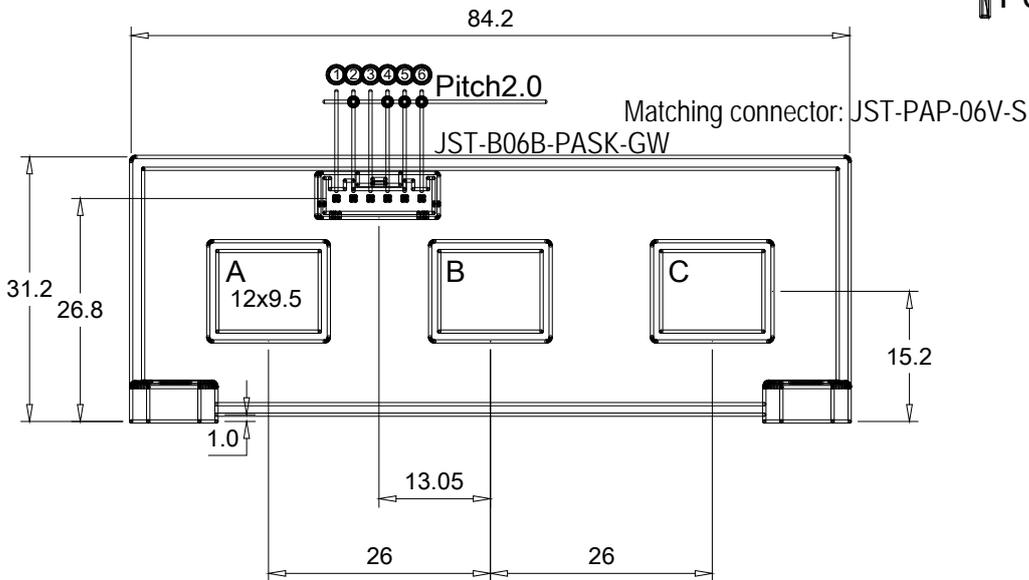
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## Appearance, dimensions and pin identification

All dimensions in mm  $\pm 0.5$ , holes  $-0, +0.2$  except otherwise noted.



↑ Positive current flow direction



Pin Assignment	
①	+15V
②	GND
③	-15V
④	Output A
⑤	Output B
⑥	Output C