



Compact Current Transducer Rev 2.3

This coreless high current Hall Effect Current Transducer is distinctive for its small size compared to its high current capability, very high speed, excellent linearity through zero current and ability to operate with supplies between 3V and 5.5V. Despite being coreless, its design allows excellent immunity to stray magnetic fields. It also exhibits excellent linearity through zero current and high thermal stability. Its high speed makes this product very suitable for the very fast detection of overload currents in a high di/dt environment.

Maximum Ratings ($T_A = 25^\circ\text{C}$)

Rev. P2

Parameter	Symbol	Value	Unit
Operating temperature	T_A	-40 to +100	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +125	$^\circ\text{C}$
Supply voltage	V_s	6	V
Output sinking current	I_o	1.2	mA
Measured current	I_m	Limited only by conductor	A



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RAZNC-305XUNF

Characteristics

($T_A = 25^\circ\text{C}$, $V_S = 5\text{V}$ (3.3V))

Parameter	Symbol	Lower Limit	Typical	Upper Limit	Unit
Supply current (no load)	I_S			100	mA
Supply voltage	V_S	3.0	5.0	5.5	V
Supply Voltage Slew rate	SR_S	15		100000	V/s
Current range for $\pm 1\%$ error (-25 to $+85^\circ\text{C}$)	I_m	$\pm 3000^*$			A
Null output (WRT Ref)	V_o	2.45 (1.09)	2.5 (1.65)	2.55 (1.68)	V
Transfer function (per turn 25 to $+85^\circ\text{C}$)	$\Delta V/I$	0.74* (0.489)	0.75* (0.495)	0.76* (0.502)	mV/A
Combined non-linearity and hysteresis error ($\pm 3000\text{A}$, -25 to $+85^\circ\text{C}$)				0.2	%
Null drift due to temperature change	$TC \Delta V_o/V_o$		± 0.07		mV/K
Gain change due to temperature change	TC_G	-0.01		0.01	%/K
Risetime (0 to 1000A)	t_r			1	μs
Frequency response	f-3dB		210		kHz
Output resistance	R_o		1		Ω
Cross-talk (parallel conductor at 50mm pitch)				1	%
Weight	M		60		g
Effect of primary dV/dt (Equivalent measured Amperes / (Primary Volts/second) for PWM applications)			10^{-8}		$AV^{-1}s$
Environmental		IP65			
Housing Flammability		UL94 V0			

* The sensor may be configured for maximum currents from 500A to 3000A.
For best accuracy, the primary conductor should be centred in the aperture.

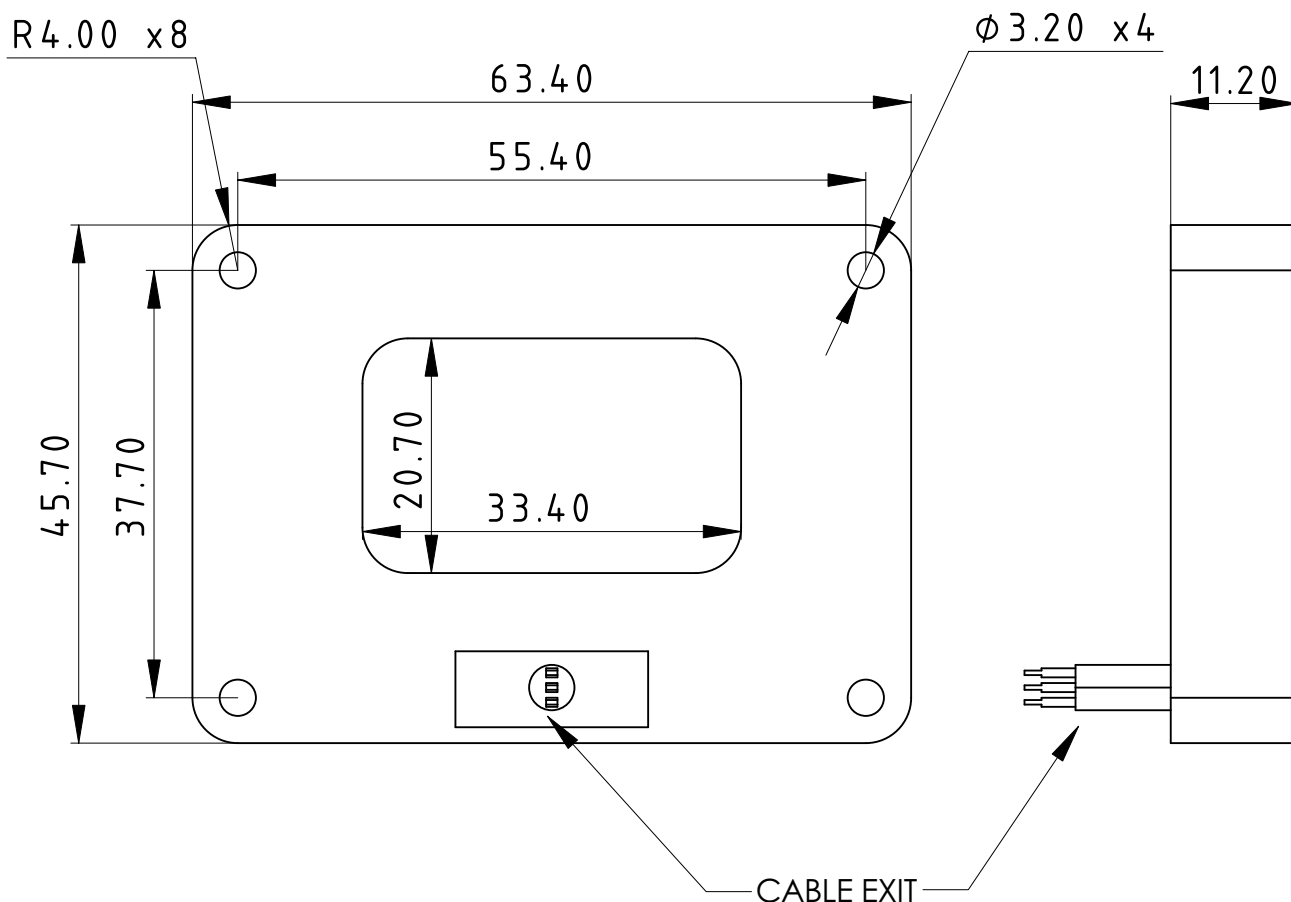
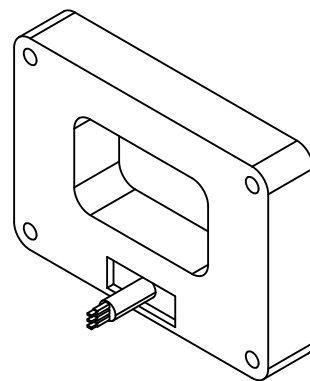
Note: The cable has no voltage rating so must be routed away from the primary conductor or any other uninsulated conductor.



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CABLE COLOUR	PINOUT
WHITE	OUTPUT
RED	+5V
SCREEN	GND

CABLE LENGTH IS FITTED
TO CUSTOMER REQUIREMENTS
A CONNECTOR OF ANY
CHOICE MAY BE FITTED



TOLERANCE UNLESS OTHERWISE SPECIFIED $\pm 0.20\text{mm}$

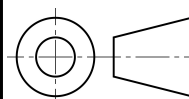
DRAWN: TG

SIZE: A4

APPROVED: WP

DATE: 29/08/23

RAZNC-305XUNF



SCALE: 1.5

REVISION: R4

Raztec Sensors was formed in 1992 and since then have been designing, manufacturing and supplying Hall Effect current transducers to some of the world's most critical and demanding users.

Over the past twenty-plus years many millions of our current transducers have been designed into failure intolerant applications where Raztec's refusal to accept anything other than the very highest standard of manufacturing excellence (ISO9001:2015 approved) has resulted in a reputation that is the envy of companies significantly larger and perhaps better known.

Who are our customers?

Raztec Sensors are recognized by many of our customers for our ability to provide top-quality performance at a very effective market price. Working with clients such as Dunkermotoren/AMETEK, Siemens, Wrightspeed, Komatsu, Panasonic Electric Works, Marinco, Techna-Tool, Metropolitan Pumps, Dynamic Controls, has provided us the opportunity to engineer solutions that are specific to our clients' application. This has resulted in a current transducer that provides exactly the output required for perfect control of the customer's specific application - at the most competitive price possible.

Need a custom solution?

Raztec are specialists in designing customised Hall Effect current sensors to suit almost any type of application. A large proportion of the products we sell are customised towards our customer's needs. If you have a particular need that an off-the-shelf sensor just can't meet, then contact us about designing a current sensor to meet your requirements.



Raztec New Zealand Ltd operates a continuous product improvement program, therefore information contained in our datasheets may not reflect all current features. For clarification please contact sales@raztec.co.nz



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Custom Current Sensing Solutions