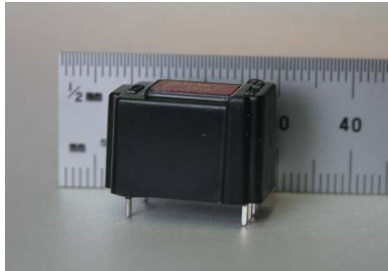


800 mA current transducer RAZ3-801A range



This new Hall Effect Current Transducer retains the excellent linearity and low hysteresis of our 2nd Generation parts, but adds laser-trimmed calibration accuracy and a convenient machine-insertable package.

RAZ3 parts can replace closed-loop current sensors in many applications.

Features –

- Small-footprint UL94-V0 rated package
- Line voltage isolated
- High measuring circuit dv/dt rejection – suitable for PWM controllers
- Gains compatible with 12 bit ADC (1 lsb = 1mA) or Analog (1.00mV/mA)
- Highly accurate null-trimming for current-control applications
- 5% gain accuracy

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

Parameter	Symbol	Value	Unit
Operating Temperature	T_A	-40 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +170	$^\circ\text{C}$
Supply Voltage	V_S	8	V
Maximum measuring-circuit current	I_{max}	1.0	A

Characteristics (TA = 25°C, except where stated)

Parameter	Symbol	Lower Limit	Typical	Upper Limit	Unit	
Measured current range (-40 to +85 °C)	I _P		±800		mA	
Measuring Circuit insertion resistance (excluding PCB tracks)	R _p		460		mΩ	
Measuring Circuit insertion inductance (excluding PCB tracks)	L _p		375		μH	
Resolution (Gain code <i>A or B</i>) with 5.0V (user supplied) 12-bit ADC (lsb magnitude)	δI		1.0		mA	
Supply Current	I _s		6.6	9	mA	
Supply Voltage	V _s	4.5	5.0	5.5	V	
Null Output (V _s = 5.00V)	V _o	Tolerance code F 2.496	2.5	2.504	V	
		Tolerance code G 2.492		2.508		
		Tolerance code J 2.484		2.516		
Transfer Function (V _s = 5.00V, Gain Code <i>A or B</i>)	Tolerance Code F = 1% Tolerance Code G = 2% Tolerance Code J = 5%	ΔV/I	1.209 1.196 1.160	1.221*	1.233 1.246 1.282	mV/mA
<i>Transfer Function (V_s = 5.00V, Gain Code <i>C or D</i>)</i>	<i>Tolerance Code F = 1% Tolerance Code G = 2% Tolerance Code J = 5%</i>	<i>ΔV/I</i>	<i>0.99 0.98 0.95</i>	<i>1.00</i>	<i>1.01 1.02 1.05</i>	<i>mV/mA</i>
Non-linearity (±800mA, -40 to +85 °C)			1	1.5	%	
Hysteresis (0 to 5.0A)	Hys		0.1	0.25	%	
Null drift due to temperature change (as equivalent current)	Continuous Cal. [†] Pulsed Calibration	TC _{ΔI/ΔT}		±0.05 ±0.2	±0.2 ±0.5	mA/K
Gain Change due to temperature change		TC _G		±0.05		%/K
Risetime 0 to 200mA (constant current source)	Tr		15		μs	

Standards

EN50178 (1997)

* = 5.00V/4096 x 1000, based on least-significant bit of 12-bit ADC corresponding to 1.00mA measurement.

† Continuously calibrated recommended for most applications, Pulse Calibrated for battery powered applications.

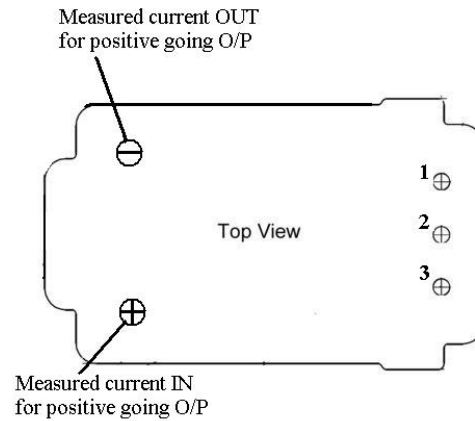
Characteristics (TA = 25°C) Continued

Parameter	Symbol	Lower Limit	Typical	Upper Limit	Unit
Output Resistance – Gain Codes B or D (Buffered) Gain Codes A or C	R _o	100	150	350 20	Ω
Effect of primary dv/dt (Equivalent measured Ampères/(Primary Volts/second) – for PWM applications) Gain Codes B or D (Buffered) Gain Codes A or C			10 ⁻⁷ 10 ⁻⁸		mAV ⁻¹ s
Noise	E _{nrms}			2.5	mV rms
Creepage/Clearance Distance		14			mm
Mass			6.5		g
Fire Resistance rating			UL94-V0		

Standards

EN50178 (1997)

Connections –



Footprint looking onto mounting surface

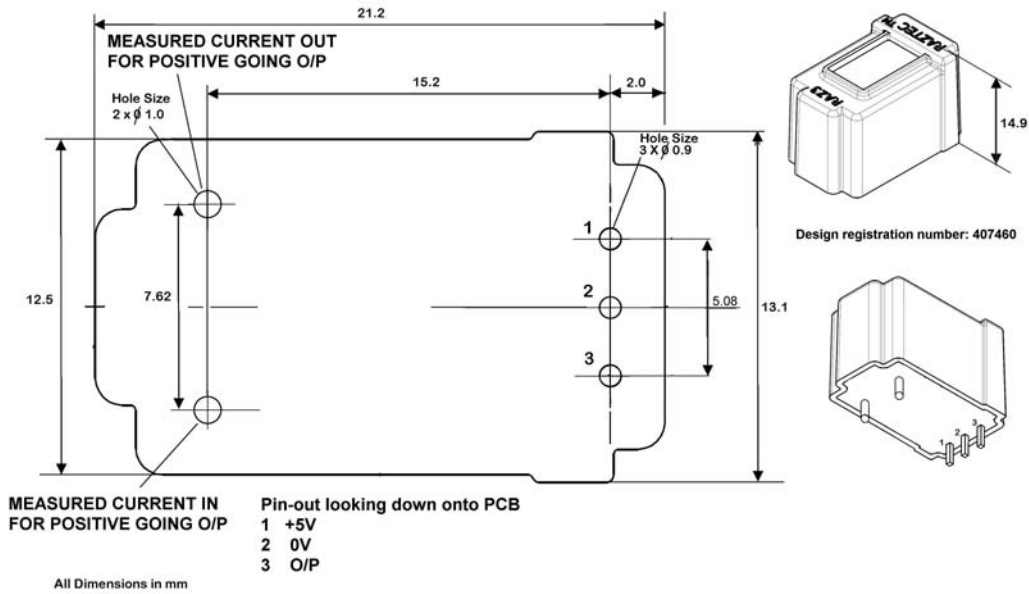
Secondary Pins -

- 1 +5V supply
- 2 0V common
- 3 Output

Options

- Fast settling versions for pulsed 5V supply (e.g. Battery supplied applications)

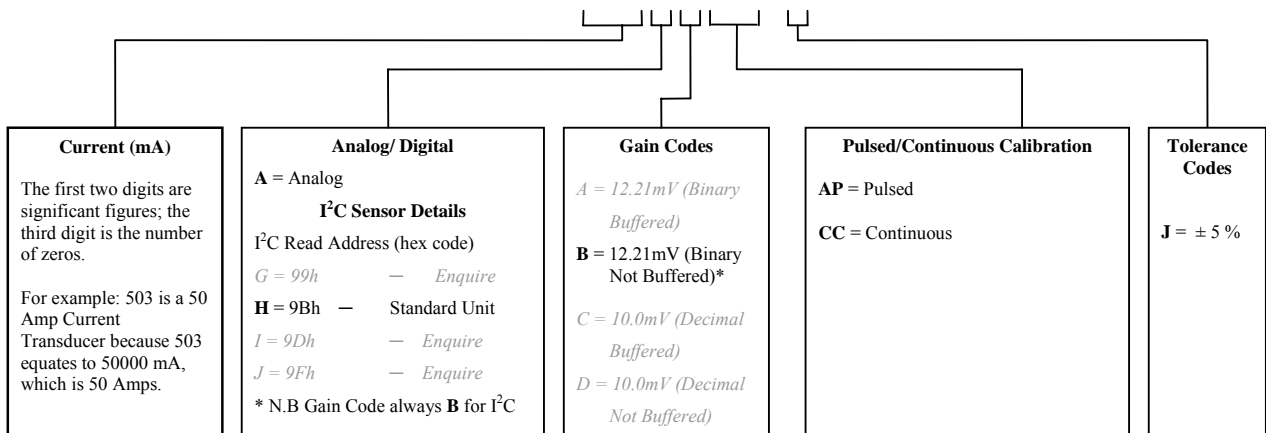
Mechanical



Footprint looking onto mounting surface – dimensions in mm

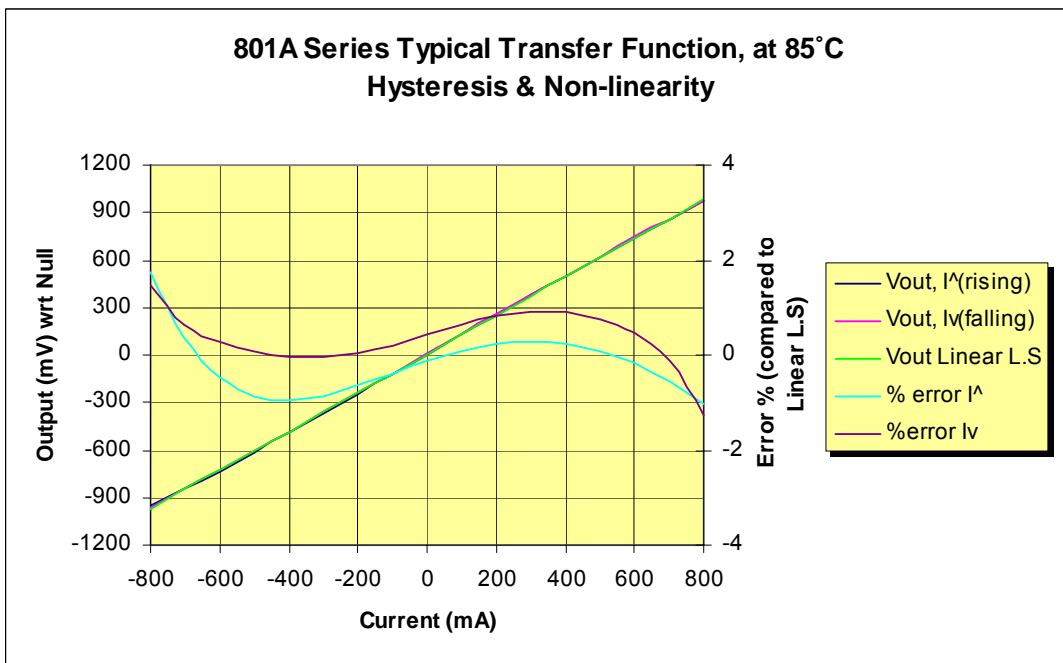
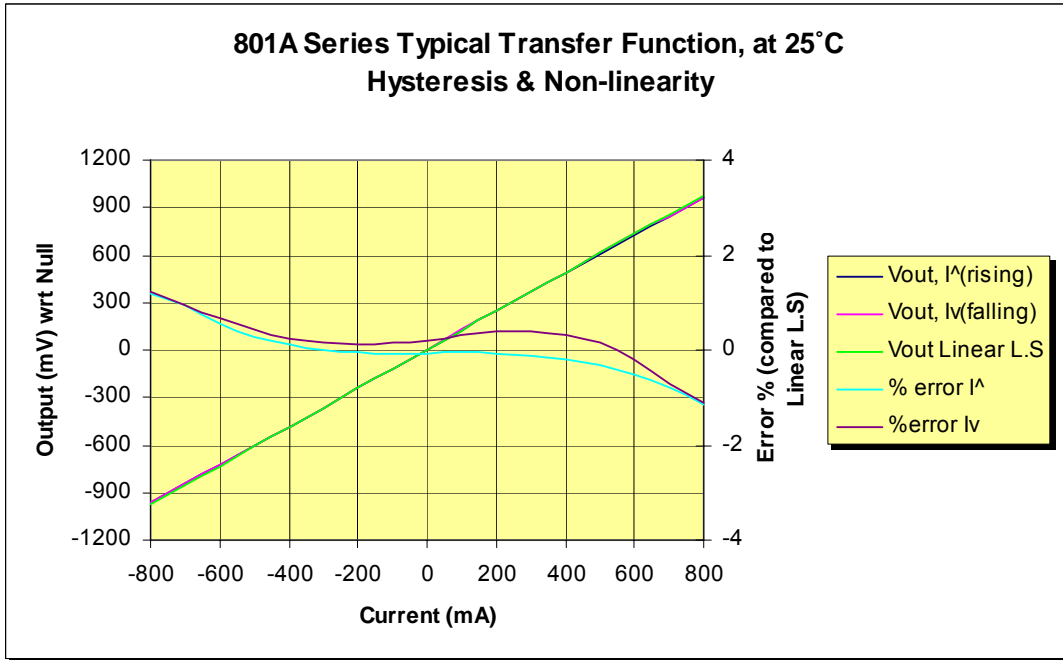
Part Numbering System

RAZ3-803ABEC-G



Options – enquire with factory prior to order

Performance characteristics



Raztec (NZ) Ltd operate 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