

Current Converter

(Voltage or current input, +/- 10 to +/- 310 mA output)
IC-DR Series



Description: The Current Converter accepts a 24VDC power supply (nominal) and 4-20mA input signal (-10 to +10VDC, -5 to +5 VDC input signals available) converting it to several user selectable output ranges from +/-10 mA to +/-310 mA (in 10 mA steps). Span and zero are user adjustable. Diagnostic LEDs indicate operational status. The load should be floating, isolated from ground. The unit is conformal coated and available in a DIN rail mount housing.

Technical Specifications: Typical at nominal input voltage and 25 degrees C unless otherwise specified.

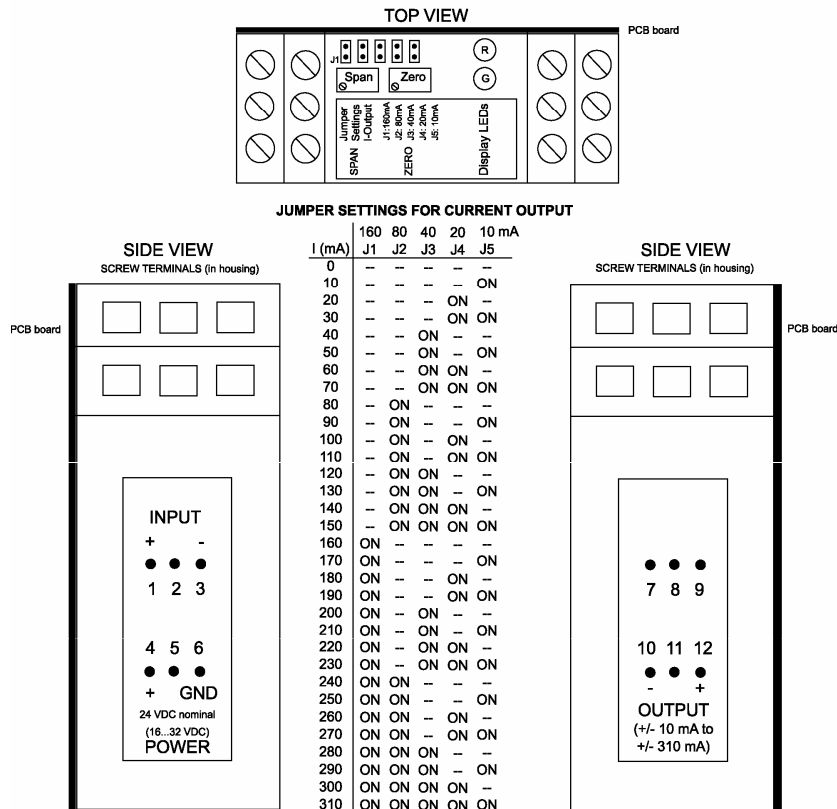
Ordering Part Number:	IC-DR-13	IC-DR-16	IC-DR-19
Input Specifications:			
<i>Input</i>	4-20 mA	-10 to +10 VDC	+5 to -5VDC
<i>Input Current Limit</i>	Approx. 25 mA	Not applicable	
<i>Compliance Voltage</i>	3.5 V maximum	Not applicable	
<i>Open Loop Detection</i>	Provided	Not applicable	
<i>Input Resistance</i>	Contact manufacturer	125 KOhm	
Output Specifications:			
<i>Bipolar Output</i>	Provided		
<i>Current Output Settings</i>	+/-10 mA up to +/-310 mA (in 10 mA steps) User selectable by jumper (refer to connections diagram) Factory setting: +/- 60 mA		
<i>Load Connection</i>	Ungrounded, Floating		
<i>Compliance Voltage</i>	12V max.		
<i>Output Shut-down</i>	@I-IN < 3.2 mA or @ I-IN > 22 mA	@V-IN < -11V or @V-IN >+11V	@V-IN < -5.5V or @V-IN >+5.5V
<i>Short Circuit Protection</i>	All ways		
<i>Response Time</i>	<5 mSec.		
<i>Non-linearity</i>	<0.1% without adjustments performed		
Power Supply:			
<i>Power Supply</i>	24VDC nominal (16-32VDC operating range) Transient protection is provided up to 36V.		
<i>Reverse Polarity Protection</i>	Provided		
<i>Internal Output Voltages</i>	+12.5V/0.5A max. -12.5V/10ma max.		

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General Specifications:		
<i>Power Consumption</i>	<7 Watts @ 24VDC, 310 mA	
	<i>Axiomatic P/N: IC-DR-13</i>	<i>Axiomatic P/N: IC-DR-16, IC-DR-19</i>
<i>Zero and Span Adjustment</i>	+/-10% of full scale	
<i>LED Indication</i>	Red and green LED indication of: Normal operation, Power OK – Both LEDs ON 5% below 4 mA – Green LED slow flash, Red LED ON 5% above 20 mA – Green LED ON, Red LED slow flash 10% below 4 mA – Both Green and Red LEDs slow flash 10% above 20 mA – Both Green and Red LEDs fast flash NB. When both Green and Red LEDs are flashing the output is shutdown to 0 mA.	Red and green LED indication of: Normal operation, Power OK – Both LEDs ON 5% below – max. VDC – Green LED slow flash, Red LED ON 5% above +max. VDC – Green LED ON, Red LED slow flash 10% below – max. VDC – Both Green and Red LEDs slow flash 10% above +max. VDC – Both Green and Red LEDs fast flash NB. When both Green and Red LEDs are flashing the output is shutdown to 0 mA.
<i>Operating Conditions</i>	-40 to 85 degrees C (-40 to 185 degrees F)	
<i>Electrical connection</i>	Screw terminals accept 14-24 AWG wire	
<i>Packaging and Dimensions (W x H x D)</i>	PCB conformal coated DIN rail mount (75 x 98.5 x 22.5 mm or 2.95 x 3.87 x 0.88 inches) for high profile DIN rail (35 mm)	

CONNECTIONS, SETTINGS AND ADJUSTMENTS



Adjustments:	<i>Multi-turn trim pots (10 turns)</i>	
	<i>Axiomatic P/N: IC-DR-13</i>	<i>Axiomatic P/N: IC-DR-16, IC-DR-19</i>
<i>Zero</i>	Apply 12mA input current and use the ZERO trimpot to adjust current output to 0 mA.	Apply 0V input and use the ZERO trimpot to adjust current output to 0 mA.
<i>Span</i>	<p>STEP 1 - Apply 20mA input current and use the SPAN trimpot to adjust current output to match the positive full scale value selected by the jumpers.</p> <p>STEP 2 - Apply 4mA input current and use the ZERO trimpot to adjust current output to match the negative full scale value selected by the jumpers. STEP 3 - Repeat steps 1 and 2 if necessary.</p> <p>STEP 4 - Apply 12 mA input current and confirm the output current is 0 mA.</p>	<p>STEP 1 - Apply +maximum VDC input voltage and use the SPAN trimpot to adjust current output to match the positive full scale value selected by the jumpers.</p> <p>STEP 2 - Apply –maximum VDC input voltage and use the ZERO trimpot to adjust current output to match the negative full scale value selected by the jumpers. STEP 3 - Repeat steps 1 and 2 if necessary.</p> <p>STEP 4 - Apply 0V input and confirm the output current is 0 mA.</p>

Specifications are subject to update without notice.

Form: TD2303AX-02/20/07