

AN205 – How to Calibrate Current Converters

Introduction

This application note provides a general guide on how to calibrate Current converters with Part numbers of the form (IC-DR-XX), where XX is the optional output.

Connections

Connect:

- the 24Vdc Power +/-.
- the Input Signal +/-.
- An Ammeter to the Output +/- connections.

Then, short the Enable terminals.

Calibration

Step 1: Turn the power supply on.

Step 2: Apply a 20mA signal to the input.

- If the measured output is $> I_{max}$, turn the Span pot counter-clockwise until the output is $= I_{max}$.
- If the measured output is $< I_{max}$, turn the Span pot clockwise until the output is $= I_{max}$.

Step 2: Apply a 4mA signal to the input.

- If the measured output is $> I_{min}$ then turn the Zero pot counter-clockwise until the output is $= I_{min}$.
- If the measured output is $< I_{min}$ then turn the Span pot clockwise until the output is $= I_{min}$.

Step 3: Repeat Steps 1 and 2. This is a required step because the adjustment of the Zero pot may affect the I_{max} accuracy.

Factory Output Settings

Each unit has a different output current range with a different default I_{min} and I_{max} . See page 2 of the datasheet: products.axiomatic.com/Asset/current-converter.pdf or refer to the table below for more information.

LED

The LED output increases in brightness in proportion with the input signal applied.

Default Current Outputs and Adjustment Ranges:

MODELS	IOUT MIN RANGE		IOUT MAX RANGE		DEFAULT	
	MIN [mA]	MAX [mA]	MIN [mA]	MAX [mA]	MIN [±2 mA]	MAX [±2 mA]
P/N						
IC-DR-11	0	25	155	220	0	200
IC-DR-12	6	29	116	171	20	160
IC-DR-14	0	5	38	63	0	50
IC-DR-18	0.14	43.46	143	172	40	160
IC-DR-20	0	12	69	105	0	100
IC-DR-24	0.14	43.46	143	172	0	160
IC-DR-25	0	25	155	220	20	200
AX130300	0	25	155	220	15	195

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1.00	June 9, 2021	Lawrence Durham/ Sue Thomas / Kiril Mojsov	Initial Release
1.01	July 6, 2023	Kiril Mojsov	Legacy Updates & Marketing Review