ECL202 High-Resolution

FPGA-Based digital system for easy setup and high performance

High Performance

- Nonlinearity: 0.2%
- Resolution, Typical: Nonferrous: 15 kHz - 0.007%; 100 Hz - 0.002%
- Bandwidth: 100 Hz, 1 kHz, 10 kHz, 15 kHz (user selectable);

Easy Operation:

- Pushbutton Offset and Setpoint (Front Panel and Remote)
- Range Indicating LEDs
- Sync Multiple Units (factory shipped as single system)
- 0-10 VDC Output & Setpoint Switch Contacts

Export Limitations

Because of high resolutions, export of the ECL202 to some countries requires an export license. The ECL202e has different resolution specifications and can ship without an export license.

CE

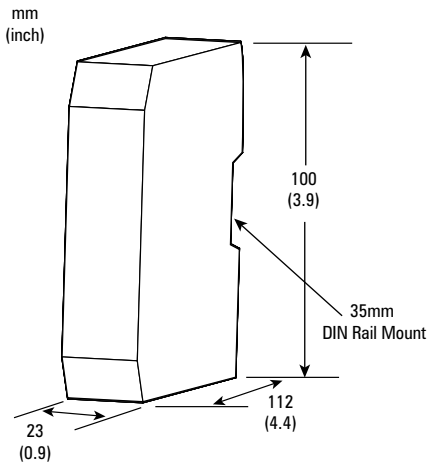
Function Descriptions

Pushbutton Offset: Shifts the DC level of the output voltage to 5 VDC (midscale) to establish repeatable reference point. Only functions when the probe is in the center 20% of its calibrated range.

Pushbutton Setpoint: Sets the setpoint voltage at which a contact closure output activates.

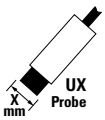
Specifications

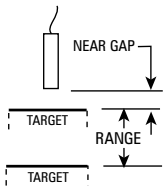
Analog Output	0-10 VDC, 0 Ω, 15 mA max 15 µs update rate
Setpoint Switched Output	30 VAC/60 VDC; 100 mA
Input Power	12-24 VDC, 2.5 W
Remote Offset and Setpoint Inputs	12-24 VDC to activate, 3-7 mA
Driver Operating Environment	4°C to 50°C, IP40



Range, Resolution, Thermal Drift

Specifications based on standard 3 m cable, target size 3 times probe diameter.





Probe Model	Range Type	Range mm inch	Near Gap mm inch	Material Type	Nonferrous: Aluminum 6061 Ferrous: Steel 4140 Resolution[1] @ Bandwidth ECL202 100 Hz nm µinch	1 kHz nm µinch	10 kHz nm µinch	15 kHz nm µinch	[3]ECL202e 15 kHz nm µinch	Thermal Drift[2] %F.S./°C Probe	Driver
U3	Fine	0.25 0.010	0.05 0.002	Nonferrous	10 0.4	15 0.6	25 1.0	30 1.2	—	0.04	0.04
				Ferrous	15 0.6	25 1.0	40 1.6	50 2.0	—	0.06	0.10
	Standard	0.50 0.020	0.05 0.002	Nonferrous	25 1.0	30 1.2	60 2.4	65 2.6	400 16	0.04	0.04
				Ferrous	30 1.2	40 1.6	100 4.0	110 4.4	400 16	0.08	0.08
U5	Fine	0.625 0.025	0.25 0.010	Nonferrous	30 1.2	35 1.4	70 2.8	75 3.0	—	0.04	0.04
				Ferrous	40 1.6	50 2.0	75 3.0	80 3.2	—	0.08	0.04
	Standard	1.25 0.050	0.25 0.010	Nonferrous	45 1.8	65 2.6	140 5.6	150 6.0	400 16	0.04	0.1
				Ferrous	80 3.2	120 4.8	240 9.6	260 10.4	400 16	0.1	0.1
U8	Fine	1.00 0.040	0.35 0.015	Nonferrous	20 0.8	30 1.2	50 2.0	60 2.4	—	0.02	0.04
				Ferrous	50 2.0	60 2.4	100 4.0	110 4.3	—	0.04	0.04
	Standard	2.00 0.080	0.35 0.015	Nonferrous	40 1.6	60 2.4	135 5.4	145 5.8	400 16	0.02	0.04
				Ferrous	70 2.8	80 3.2	180 7.2	200 8.0	400 16	0.04	0.04
U12	Fine	1.60 0.065	0.60 0.025	Nonferrous	40 1.6	50 2.0	100 4.0	110 4.4	—	0.01	0.01
				Ferrous	50 2.0	70 2.8	120 4.8	130 5.1	—	0.02	0.02
	Standard	3.50 0.140	0.60 0.025	Nonferrous	60 2.4	90 3.6	210 8.4	240 9.6	400 16	0.02	0.01
				Ferrous	100 4.0	170 6.8	250 10	300 12	400 16	0.03	0.01
U18	Standard	5.00 0.200	0.75 0.030	Nonferrous	80 3.2	130 5.2	300 12	340 14	400 16	0.01	0.01
				Ferrous	130 5.2	200 8.0	390 16	450 18	500 20	0.01	0.01
U25	Standard	8.00 0.320	1.25 0.050	Nonferrous	180 7.2	250 10	500 20	600 24	600 24	0.01	0.01
				Ferrous	180 7.2	250 10	500 20	600 24	600 24	0.01	0.01
U38	Standard	12.5 0.500	1.50 0.060	Nonferrous	200 8.0	350 14	700 28	800 32	800 32	0.01	0.01
				Ferrous	200 8.0	350 14	700 28	800 32	800 32	0.02	0.01
U50	Standard	15.0 0.600	2.00 0.080	Nonferrous	300 12	400 16	800 32	900 36	900 36	0.01	0.01
				Ferrous	300 12	450 18	900 36	1000 40	1000 40	0.01	0.01

[1]Peak-to-Peak resolution is 8-10 times RMS resolution; in high EMI environments (10 V/m), output noise levels could rise to 30 mV RMS (0.3% resolution)
[2]Thermal Drift specified at: Probe: 15°C - 65°C; Driver: 15°C - 50°C except where noted
[3] The ECL202e does not require an export license