

ECL202: New Eddy Current System



- **Linearity 0,2%**
- **Resolution 0,008%**
- **Excellent Noise immunity**
- **Very high stability**



Best performing inductive measuring system

New Eddy Current System ECL202

Our top performing inductive sensor system

The electronics of the ECL202 are based on the latest FPGA digital Technology, giving you:

- Excellent Noise immunity
- Very high stability
- Analogue signal output (0 - 10 Volt)
- TEDS compliant
- User-Selectable Bandwidth/Resolution 100Hz, 1kHz, 10kHz, 15kHz



Description

The Lion Precision ECL202 Eddy-Current Displacement Sensor provides high-resolution, noncontact measurement of position changes of a conductive target. The system consists of the driver electronics and a probe calibrated for a specific material and range. The calibration information is detailed on a calibration certificate which is shipped with the system.

The ECL202 provides a linear analog voltage proportional to changes in the target position and a digital (*switched*) output with a user programmed switching threshold.

Front Panel Controls and Indicators

LED Range Indicator

The Range Indicator monitors and displays the probe's position within its calibrated range.

The graphic below shows the indicator condition at various points within the calibrated range indicated by percent of calibrated range. This indicator is independent of the output voltage. Shifting the output voltage by using the Zero button may allow an apparently valid output voltage to exist while the probe is out of range.

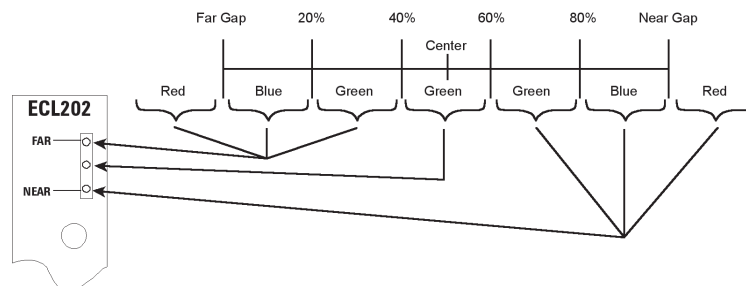
When the Near or Far LED is red, the probe is out of range and the output voltage is not a reliable indication of the probe position.

Features

- Pushbutton Offset
- Pushbutton Switch Threshold (*Setpoint*)
- Range Indicating LEDs
- Remote Offset and Threshold Activation
- User-Selectable Bandwidth/Resolution 100Hz, 1kHz, 10kHz, 15kHz
- Plug&Play Sensor (TEDS) for use with LabView™

Performance

- Nonlinearity: $\pm 0.2\%$
- Resolution: 0.008-0.1%FS @ 10kHz
(probe dependent, see table on the right page)
- Bandwidth: to 15kHz
- 0-10VDC Output



Specifications

Typical specifications for standard targets and probes.

Actual values depend on probe, target, and calibration.

ECL202			
Resolution		See range Table below for resolution details	
Linearity		±0,2% of range	
Bandwidth		User selectable, 15 kHz maximum	
Driver Temperature Drift	nonferrous	U5 Probe	± 0.08% F.S./°C
		U8 Probe	± 0.02% F.S./°C
		U12 Probe	± 0.03% F.S./°C
	ferrous	U5 Probe	± 0.18% F.S./°C
		U8 Probe	± 0.04% F.S./°C
		U12 Probe	± 0.04% F.S./°C
Probe Temperature Drift	nonferrous	U5 Probe	± 0.04% F.S./°C
		U8 Probe	± 0.01% F.S./°C
		U12 Probe	± 0.02% F.S./°C
	ferrous	U5 Probe	± 0.10% F.S./°C
		U8 Probe	± 0.04% F.S./°C
		U12 Probe	± 0.06% F.S./°C
Analog output		0 - 10VDC (typical), 0Ω	
Input power		15 - 28 VDC / 2.5W	
Driver Operating Temperature		4°C - 50°C	
Probe Operating Temperatures		Standard Probes: -25°C + 125°C High Temperature Probes: -25°C + 200°C	

Ranges

A specific range and resolution will require a particular probe size/ model. Range/Resolution may also be affected by the target material. Probes are identified by their diameter in mm.

A U5 probe has a 5mm diameter. Larger ranges require larger probes. Custom ranges are always available.

Listed specifications are for standard target materials (aluminium, steel 4140 and 304 stainless steel)

Range Chart ECL202							
Range mm	Near Gap mm	Probe	Target type	Resolution (RMS)			
				100HZ	1kHz	10kHz	15kHz
0,50	0,05	U3		TBD			
1,25	0,25	U5	nonferrous	50	70	95	100
			ferrous	90	120	160	170
2,00	0,35	U8	nonferrous	50	70	95	100
			ferrous	70	100	130	140
3,50	0,60	U12	nonferrous	70	110	160	170
			ferrous	120	170	230	250
5,00	0,75	U18	nonferrous	100	160	240	250
			ferrous	120	190	280	300
8,00	1,25	U25	nonferrous	190	310	460	480
			ferrous	190	310	460	480
12,5	1,50	U38		TBD			
15,0	2,00	U50		TBD			

