ETHER NDE

EMBEDEC RANGE

EMBEDDED EDDY CURRENT SOLUTIONS

- ✓ Single Channel.
- ✓ Displayless (requires PC with available USB Port).
- ✓ Available as a “Printed Circuit Board” or in an enclosure with USB connector and analogue outputs.
- ✓ EmbedEC+ adds 5 configurable Digital Input Output connections for use with alarms or encoders.
- ✓ Small footprint.
- ✓ USB or SPI control.
- ✓ Dual Analogue Outputs on PC Card Version.
- ✓ Data streaming over SPI/USB.
- ✓ Powered by 5v DC or USB for easy integration with an industrial control system.
- ✓ DLL available to facilitate software integration.

Why Eddy Current NDT?

Eddy Current is ideally suited to Inspection Automation due to:

- Non-contacting
- Instant coupling
- No couplant required
- High Speed potentially up to 200ms-1
- Good for surface defect detection
- No effluent produced
- Wide variety & geometry of probes
- Cost effective
- Ideal for rotationally symmetrical components e.g. bearings, gudgeon pins, cylinder liners etc.

Why choose the EmbedEC?

EmbedEC is ideal to integrate Eddy Current into automated inspection systems, for varied applications e.g.:

- Surface breaking defects detection
- Sub-surface defects detection in non-ferrous materials
- Heat Treatment/Material property verification
- Sensing applications for verifying geometry such as the presence of threads, butt-weld detection etc.

The EmbedEC has been designed with the needs of the engineer in mind featuring analogue outputs, SPI and USB remote control/data streaming for Control System Integration. It's possible to stream real time data and a DLL is available to permit software integration by the end user.

EmBed EC: Three Variants

PC Board	Part No.IEMEB001
USB Instrument without I/O	Part No IEMEI001
USB Instrument with I/O EmbedEC	Part No IEMEI002

Probe Cables

Probe Cable Bridge USB Instrument	Part No. ALL07-L04-015B
Probe Cable Reflection USB Instrument	Part No. ALL07-L04-015R

Probe	Connector	1 off 6 Way (50 ohm Bridge or Reflection only)
Frequency	Single Frequency	50Hz to 5MHZ
Gain	Overall	0 to +82dB
	Main Gain	0 to +76dB, 0.1dB steps
	Input	12dB
	Drive	0dB or 6dB (0dB reference 1mW into 50ohm)
	Max X/Y Ratio	0dB to 76dB independent
Phase	Range	0.0 - 359.9°, 0.1° steps.
Filters	High Pass	DC to 2kHz Low Pass Filter in 1Hz steps
	Low Pass	3Hz to 4kHz in 1Hz steps
Connectivity	PC Board Version	SPI with PC remote control slave mode Outputs of X and Y range -1 to +1v (Board version only)
	USB Version	Virtual Com Port remote control plus Real Time data streaming.
	EmBedEC+	5 Digital Input/Output lines may be configured for up to 2 Encoders, up to 2 Alarm/Out or I2C connection.
Verification Level	The system includes, on delivery, a 2 year validity Verification Level 2, detailed function check and calibration as per ISO 15548-1:2013.	
Power	External	5 v DC or over USB 125mA
Physical	PC Board Version	Weight 75g/2.5 ounces
		Dimensions 60 x 100mm/2.25 x 4.0 inches.
	USB Version No. I/O	Weight 275g/10 ounces
		Dimensions 125 x 80 x 45mm/4.0 x 3.2 x 1.8 inches.
	USB Version with I/O EmBed EC+	Weight 225g/8 ounces
		Dimensions 125 x 80 x 32mm/5 x 3.2 x 1.25 inches.
	Operating Temp.	-40 to +85°C
	Storage Temp.	Storage for up to 12 months -20 to +35°C (nominal 20°C)
	IP Rating	None

ETHER NDE

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