Technical Specifications

REDDY SURFACE ECA AND MFL

Portable electromagnetic NDT system for rapid crack and corrosion assessment

When you combine Reddy's portability with Eddyfi standard ECA, tangential ECA (TECA™), MFL and/or custom probes, you unlock the power of the first true standard system for surface inspection.

Packaged with the latest technology, Reddy® and its embedded data analysis software offer the most intuitive user experience, which includes real-time C-scans, a modern, rugged, and large multi-touch interface, as well as many other features that enable fast, high-PoD surface inspections.

THE POWER OF EDDY CURRENT ARRAY

Reddy's state-of-the-art electronics offer up to 128 built-in SmartMUX™ channels, making high-resolution, single-pass scans with wider coverage possible. Surface ECA with Reddy means a high probability of detection and significantly faster inspections.

DESIGNED FOR FIELD USE

Reddy is sealed and it is designed for IP65. The magnesium alloy housing is tough, water and dust resistant, and cools down without any need for external air exchange. The adjustable stand, top handle, and four corner anchor points make Reddy practical for on-site inspections.

INTUITIVE REAL-TIME C-SCAN IMAGING

High-quality C-scans convey a wealth of information. Analyzing signals is much more intuitive thanks to Reddy's on-the-fly 2D imaging.

MASSIVE MULTI-TOUCH DISPLAY

Reddy's premium-quality 26.4 cm (10.4 in) LCD display is optically bonded, non-reflective, and comes with 3 mm (1/8 in) strengthened glass. The instrument has been designed to be used on-site, with gloves under any lighting condition. The multitouch capabilities enable easily zooming and rotating views.

THE POWER OF MAGNETIC FLUX LEAKAGE

Rapid far side corrosion assessment in magnetic materials with all the benefits of array technology - wide coverage, high POD and visual intuitive data display.

MODERN COMPUTING PERFORMANCE

Reddy benefits from a robust, 100 GB internal solid-state disk (SSD) drive for secure inspection data. It runs an embedded Microsoft® Windows® PC, which provides standard, connectanywhere capabilities and advanced productivity tools that optimize field testing.

OPTIMIZED INSPECTION TIME

Automated acquisition sequences are a huge time saver, because they minimize the number of required operations to perform a complete inspection, such as starting and stopping the acquisition, recording data, and using foot pedals. Magnifi® GO also allows you to create tube lists, and features a dedicated setup wizard, automated data recording sequences, and a unique reporting format further enhancing productivity.

INTUITIVE REAL-TIME C-SCAN IMAGING

High-quality C-scans convey a wealth of information. Analyzing signals is much more intuitive thanks to Reddy's on-the-fly 2D imaging.

Figure 2: Detecting and sizing cracks in carbon steel welds using the Sharck™ paired with Reddy.

Figure 1: Annotated breakdown of Reddy showing its key features.

EMBEDDED SOFTWARE

Reddy runs Magnifi® GO, our powerful, yet easy-to-use acquisition and analysis software. It's especially tailored for surface inspections and relies on well-designed wizards to create setups. Furthermore, Magnifi GO makes collecting and reporting data incredibly intuitive.

DESKTOP DATA ANALYSIS

Magnifi GO is compatible with its full-fledged big brother Magnifi CPN. With it, configure inspection setups for Reddy and analyze in-spection data in depth directly on your computer, with full 3D C-scan capabilities.

THE RIGHT PROBE FOR THE RIGHT APPLICATION

Eddyfi standard surface array probes are all engineered for ferrous and non-ferrous materials, as well as a variety of applications in the oil & gas, power generation, and aerospace industries.

APPLICATION	FERROUS	NON-FERROUS
Welds	✓ (ECA, TECA)	✓ (ECA)
Far-side corrosion	✓ (MFL)	✓ (ECA)
Surface-breaking defects	✓ (ECA, TECA)	✓ (ECA)
Near-surface defects		✓ (ECA)

If these standard probes don't meet your specific requirements, you can still leverage the full might of Reddy—Eddyfi Technologies experts can design custom probes to suit your exact needs.

Figure 4: Ditch pipeline inspection using Sypne™ paired with Reddy.

Figure 5: Detecting and assessing stress corrosion cracking in base metal using I-Flex™ paired with Reddy.

Figure 3: Annotated breakdown of Reddy showing its key features.

SPECIFICATIONS

GENERAL

Dimensions (W×H×D)		355 × 288 × 127mm (14.0 × 11.3 × 5.0in)
Weight	With batteries	6.6kg (14.5lb)
	Without batteries	5.7kg (12.5lb)
Volume		13 L (791 in3)
Power requirements		100–240 VAC, 50–60 Hz
Power supply		Direct VAC or onboard batteries
Batteries	Type	Li-ion, rechargeable, DOT compliant
	Typical life	6–8 hours
Display		26.4cm (10.4in)
Video output		HDMI
Storage		SSD, 100 GB
Cooling		Sealed and fanless
Encoders		2 axes, quadrature
Connectivity		Gigabit Ethernet, Wi-Fi, Dual Mode Bluetooth® 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE), USB 2.0 (×3)
Probe recognition and setup		Automatic

ECA/ECT

Channels	ECA: SmartMUX 32, 64, or 128 ECT: 4 MFL: 32, 64 or 128
Frequency range (ECA, ECT)	5 Hz–10 MHz
Frequencies	ECA: 2 simultaneous ECT: 4 simultaneous
Array Connector	160-pin
ECT connector	19-pin Fischer
I/O connector	12-pin Fischer
Generator output / Coil drive	Up to 20 Vpp
Injection modes	Multiplexed, simultaneous, continuous
Receiver gain	41 dB range, 23–64 dB
Data resolution	16 bits
Acquisition / Sampling rate	Up to 50 000 samples/s

ENVIRONMENTAL

IP rating	Designed for IP65
Operating temperature	0–40 °C (32–104 °F)
Operating humidity	95%, non-condensing
Compliance	ASME, EN 61010-1, CE, WEEE, FCC Part 15B, ICES-003, AS/NZS CISPR 22, RoHS

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