

Eddyfi Technologies
Beyond current

Technical Specifications

U41

Detection and sizing of subsea surface-breaking cracks.

Bringing high-quality True ACFM® inspection data to the surface.

MODERNIZING SUBSEA ACFM

For the last 30 years, Alternating Current Field Measurement (ACFM) technology has been used globally as the method of choice for the detection and sizing of subsea surface-breaking cracks.

True ACFM is recognized and approved by many certification bodies, including DNV, ABS and Lloyds, the technique has been used successfully against traditional uncomputerized and more user dependent methods, such as MPI.

WHY ACFM?

- Crack detection with accurate length and depth sizing
- Inspect corroded surfaces or through coatings and paint several millimetres thick
- Reduced cleaning, no need to clean to bare metal
- Auditable inspection data with advanced analysis and reporting software

WHAT IS TRUE ACFM?

- No on-site calibration required
- A uniform field inducer
- A constant current drive
- Orthogonal sensors
- Discrete phase sampling

Who else but Eddyfi Technologies to redefine and modernize subsea surface crack inspection with U41™.



APPLICATIONS

- Structural node welds on jackets
- Caisson inspection
- Pipeline damage
- Spudcans
- Welded plate structures
- Mooring systems including chains

FASTER INSPECTIONS

- Connect 3 probes simultaneously to avoid frequent returns to the surface, thus saving time
- 10 × faster acquisition electronics, improving scanning capabilities and inspection integrity
- Diver mini-array probe reduces the number of scans and allows for faster recognition and characterization of defects
- Capable of inspecting corroded surfaces or through nonconducting coatings several millimeters thick

EASIER TO USE

- Umbilical reel dramatically reduced in size: 1/3 less weight and 1/3 less storage. Up to 3 umbilicals can be connected for total length of 450m (1476ft)
- Global network of service centers

IMPROVED DATA QUALITY

- Increased ACFM signal quality with 14 × increase in data resolution, improving the accuracy of data acquisition with the better ability to zoom on acquired signals
- Lower noise increases the signal-to-noise ratio, inspect through coatings twice as thick compared to previous model
- Probe calibration files are saved on the probe instead of a remote PC. This removes the potential for incorrect probe calibration being used

ASSIST3 REPORTING SOFTWARE

- New Assist3 reporting software version with continuous evolution
- Simpler and more modern interface

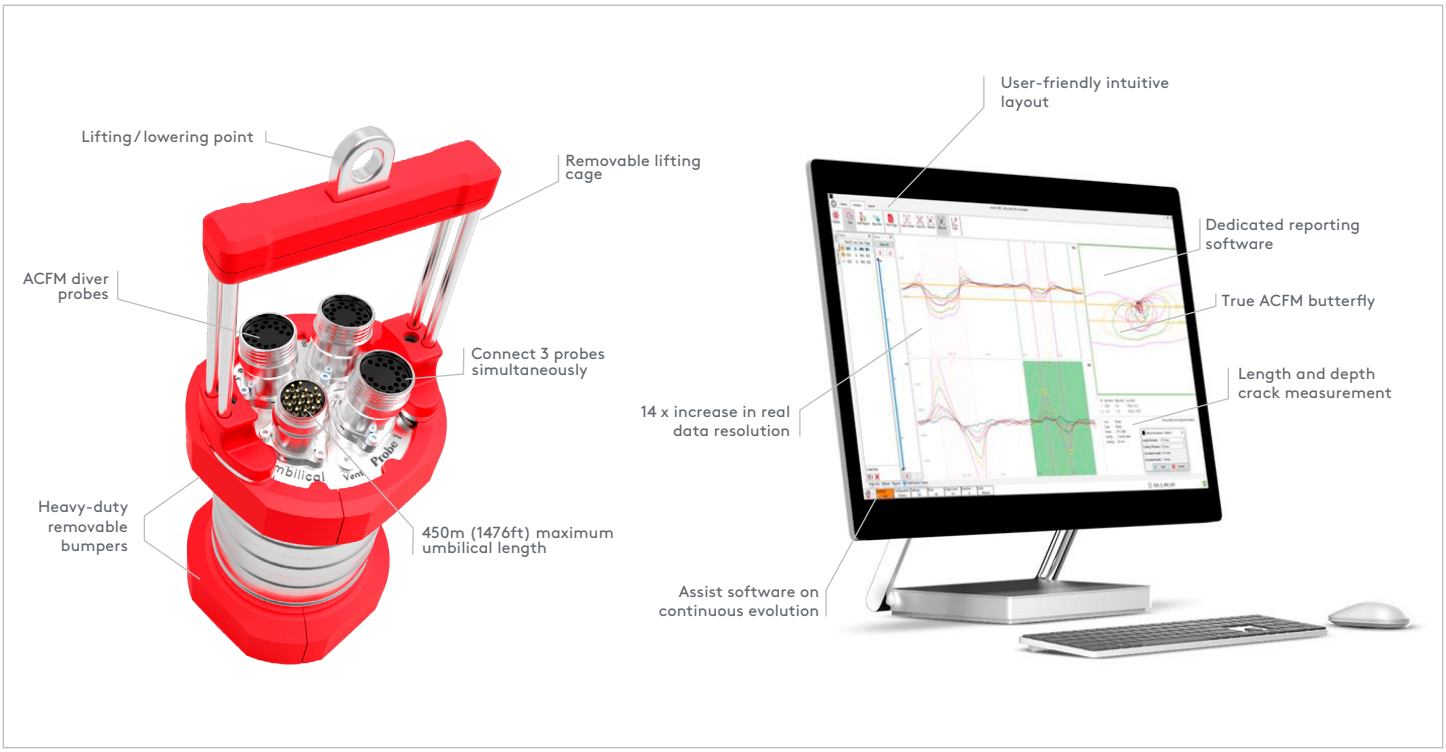

Figure 1: Annotated breakdown of U41 and the Assist3 reporting software.

SPECIFICATIONS

MODELS		U41D	U41DA
Connectors		3 × SENSU2 UW	
Max umbilical length		450m (1476ft)	450m (1476ft)
Array		No	4 × rows mini
Communications		Extended Ethernet only	Extended Ethernet only
Depth rating		300m (98ft)	300m (98ft)
Topside units type		Topside unit D	Topside unit D
Bottle dimension	with lifting cage	156 × 156 × 430mm (6 x 6 x 17in)	156 × 156 × 430mm (6 x 6 x 17in)
	without lifting cage	156 × 156 × 292mm (6 x 6 x 11.5in)	156 × 156 × 292 mm (6 x 6 x 11.5in)
Bottle weight (in air)		9.2 kg (20.3lb)	9.2 kg (20.3lb)
Frequency		Single	Dual

GENERAL	
Operating temperature range	0–45°C (32–113°F)
Environmental protection (topside unit)	IP64
Probe cable length	5m (16ft)
Umbilical cable length	20m (65ft) topside integration cable 150m (492ft) umbilical extension (Up to 3 can be used in series) (Max total length topside unit to bottle = 470m (1542ft))
Serial communications cable length	5m (16ft) Ethernet cable to PC (supplied) Longer, off-the-shelf, Ethernet cables also can be used
Power requirements	110 V AC / 400 mA

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