The Model U31™ Underwater ACFM® Crack Microgauge represents the latest in Alternating Current Field Measurement (ACFM®) subsea inspection technology.

The U31D™ instrument offers all the advantages of ACFM® inspection in a small, light package designed specifically for ease of diver deployment.

Probes

The range of probes available allows inspection of all common underwater structural weld details, including repair ground areas. In addition to structural inspection, ACFM® is also used for inspection of pipelines, vessels and marine components, including thrusters and propellers.

The U31D™ provides:

- Rapid scanning using a hand-held probe.

- Reliable crack detection and sizing (length and depth).

- Reduced cleaning requirements with no need to clean to bare metal.

- Capable of inspecting corroded surfaces, or through non-conducting coatings several millimetres thick.

- Microsoft Windows® software for ease of operation and compatibility with other Windows® applications.

- Full data storage for back-up, off-line view and audit purposes.

- Access to a wide range of geometries using TSC's range of active subsea probes.

- Probes with embedded serial numbers to simplify operation and reduce likelihood of operator error.

- Capable of operating at water depths up to 300m.

System Specification

Subsea Unit Weight:	7.6kg in air 4.3kg in water
Subsea Unit Size:	142mm diameter x 260mm
Probe Cable Length:	5 metres standard, up to 50m by special request.
Serial Communications Cable:	5 metres as standard up to 30 metres if required.
Operating Temperature:	-20º + 40ºC
Maximum Operating Depth:	300m as standard 2000m for ROV deployment (See Technical Info for U31R™)
Power Requirements:	110v AC. 200mA

ROV USE: The U31D™ can be upgraded for ROV deployment, where the ROV provides power and comms. Systems are available for operation in water depths to 2000m.

Software

The AMIGO™ operates with TSC's ASSIST™ suite of software thus providing a common operating environment with other ACFM® products. This avoids the need for operator retraining.

The ASSIST™ software contains the following features:

- Operates in Microsoft Windows® 2000, XP, and Windows 7 environments, support for simultaneous running of word processor / spreadsheet package etc, and interface to all common printers.

- Graphics display of processed data for crack detection.

- Automated clock markings to indicate position on scan.

- Variable speed time base to suit application.

- Multiple screen facility for comparing consecutive scans.

- Screen marker to identify special features.

- Replay facility to review data.

- Real time adjustment of trace position on screen.

- Moveable cursors for use during data review.

- ACFM crack depth calculation and crack size data shown on screen.

- Free format text input associated with each file.

- Multiple page facility in a single file.

- Automated backup of data onto diskette and hard disk.

- Full system status reports for checking hardware.

- Graphical print out of data screens.

- Data transfer into standard spreadsheets.

- Automated set-up of probe-dependent instrument settings.

- Allows off-line review and analysis of data as originally collected.

- Crack depth sizing over a wide range of coating thicknesses.

- Operating procedures and software user manuals available in on-line Windows help files.

Operator Training

SNT-TC-1A, PCN or CSWIP Accredited Operator training courses are held at various centres in the United Kingdom or overseas.

Specialist in-house training, Level 3 services (procedure development or data review), or assistance with on-site inspection can be provided by TSC.

Details for operator training programmes are available from TSC upon request.

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