



The AMIGO™ Instrument contains and includes all the advantages of TSC's Alternating Current Field Measurement (ACFM®) technology that's available on other TSC instruments. In addition, it has the added benefits of a long battery life and support for array probes which make the AMIGO™ Instrument the best solution for topsides inspection crack detection.

Probes

The ACFM® probes for use with the AMIGO™ contain the following features

- Standard probes contain concentric, or adjacent, sensors to measure Bx and Bz fields simultaneously and a tangential field inducer giving a locally uniform input field.
- Array probes contain up to 32 sensors and up to two orthogonal field inducers.
- Contain electronics providing signal filtering and pre-amplification, a pic containing a unique serial number, and firmware to support optional switches and LEDs.

The AMIGO™ provides:

- Rapid scanning using a hand-held probe.
- Reliable crack detection and sizing (length and depth).
- Dual frequency option 5kHz (for optimum performance on ferritic steel).
- 50kHz (for improved sensitivity on nonmagnetic materials).
- Rugged site unit, IP54 rated.
- At least 5 hour operation on one fully-charged battery pack, and easy exchange of battery packs in the field.
- Mains-powered battery charger for use with 110 to 240V AC (50 or 60 Hz).
- Reduced cleaning requirements with no need to clean to bare metal.
- Capable of inspection through thin metallic coatings, or through non-conducting coatings several millimetres thick.
- ASSIST™ software running under Microsoft Windows® 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 topside probes.
- Buttons for RUN / STOP and MARKERS on the instrument and larger probes to allow one man operation in difficult access areas.
- Probes with embedded serial numbers to simplify operation.

System Specification

Unit Weight:	4.5kg
Unit Size:	206 x 292 x 127 mm
Probe Cable Length:	5 metres standard, up to 50m by special request
Serial Communications Cable up to:	30 metres
Operating Temperature:	-20° + 40°C
Environment Protection:	IP54 rated
Battery Life:	>5 hours continuous operation with array probe >10 hours with a single probe
Recharge Time:	4 hours
Array Support:	32 channels standard (i.e. 16 sensor pairs) + position encoder More channels by special request

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 operating system or later. Support for simultaneous running of word processor / spreadsheet package etc, and interface to all common printers.
- Support for USB-RS232 converters and external encoders.
- Graphical display of processed data for crack detection (timebase Bx and Bz, plus butterfly plot for standard probes, plus colour contour C-scan plots for array probes).
- Ability to plot data against distance as well as time, if an encoder is used.
- Automated clock markings to indicate position on scan.
- Variable speed time base to suit application.
- Scrolling data view for long scans.
- Automatic fit to screen width of data, with ability to zoom in at any scale.
- Screen marker to identify special features.
- Pause feature to allow temporary pausing of data.
- 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 page of data, with programmable buttons for quick insertion of commonly-used text.
- Multiple page facility in a single file.
- Automated back up of data onto hard disk.
- Full system status reports for checking hardware.
- Graphical print out of data screens, including data plots, notes, defect results, all instrument settings and alert if any settings are different to factory-set ones.
- Support for merging together pages of data from pick-and-place array probes.
- Support for displaying data from multiple array probes.
- Data transfer into standard spreadsheets, using csv format.
- 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. Details available on request.



TSC Inspection Systems
info@tscis.com
www.tscis.com

Milton Keynes: +44 (0)1908 317444
Aberdeen: +44 (0)1224 725136
Singapore: +65 62 674781

As part of its continuing programme of product improvement, TSC reserve the right to alter specifications without prior notice.

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