

INSTRUMENTS

AMIGO2



U31



PACE®



APPLICATIONS	Topside weld inspection through coatings, drill threads, bridges, infrastructure, spheres, tanks	Subsea weld inspection, splash zone, jackets and subsea structures, pipelines, damage assessment	Rope access, cranes, towers, offshore/onshore structures, single-person operation, through coatings
DIMENSIONS	355×288×127 mm (14.0×11.3×5.0 in)	260×142 mm (10.2×5.6 in)	295×198×75 mm (11.6×7.8×3.0 in)
WEIGHT	6.6 kg (14.5 lb)	7.6 kg (16.8 lb) in air 4.3 kg (9.6 lb) in water	2.5 kg (5.5 lb)
TYPICAL BATTERY AUTONOMY	Over 6–8 hours	Over 10 hours w/ standard probe Over 5 hours w/ array probe	Over eight hours
RECHARGE TIME	5 h (from depleted)		3.5 h (from depleted) Desktop and in-vehicle charger
SUPPORTED INSPECTION TECHNOLOGIES	ACFM, array probe technology	ACFM, array probe technology	ACFM
OPERATING TEMPERATURE RANGE	0–40 °C (32–104 °F)	–20–40 °C (–4–104 °F)	–20–50 °C (–4–122 °F)
PROBE CABLE LENGTH	Up to 50 m (164 ft)	5 m (16.4 ft)	15 m (49 ft)
UMBILICAL CABLE		150 m (492 ft)	
ARRAY SUPPORT	Yes	U31D: No U31R ROV: Yes	None
ENVIRONMENTAL PROTECTION	IP65 rated	IP54 rated	IP65 rated
ACFM SOFTWARE	Onboard and desktop Assist software	Desktop Assistu	Onboard Pace software
ACCOMPANYING HARDWARE	Optional Toughbook	Toughbook	None necessary
MAX. OPERATING DEPTH		300 m (984 ft) U31D/ROV deployment: 3 km (1.9 mi)	
ROV COMPATIBILITY		U31D upgrade for ROV available	

THE BEST ACFM SOLUTIONS FOR ALL ENVIRONMENTS

The TSC product line uses alternating current field measurement (ACFM®) technology to detect and size surface-breaking cracks, dramatically improving the reliability of underwater inspections, reducing operator dependence, and providing auditable inspection records.

ACFM has become widely recognized and accepted as one of the most reliable methods of detecting surface-breaking cracks in steel structures and metallic components.

TSC PRODUCT LINE

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ACFM[®] PROBES

STANDARD

	Weld Probe	Mini-Pencil	Micro-Pencil	Long / Angled Nose
COMPATIBLE INSTRUMENTS	Amigo2	Amigo2	Amigo2	Amigo2
SURFACE-BREAKING DEFECTS	✓	✓	✓	✓
THROUGH COATING	✓	✓	✓	✓
WELD INSPECTION	✓	✓	✓	✓
APPLICATIONS	Rough welds, heavy pitting, corrosion	Restricted areas, rat holes, plate edges	High sensitivity for shallow defects (<1 mm)	Extended/Angled nose for difficult to access areas
FREQUENCY/HF OPTION	Fixed at 5 kHz 50 kHz HF option	Fixed at 5 kHz	Fixed at 5 kHz 50 kHz HF option	Fixed at 5 kHz 50 kHz HF option
NOSE CONFIGURATION		Straight, right angle, transverse	Straight, right angle, transverse	Extended or angled

UNDER WATER

	Weld	Ground Weld	Tight Access	Mini-Pencil	Micro-Pencil
COMPATIBLE INSTRUMENTS	Amigo2, U31D	Amigo2, U31D	Amigo2, U31D	Amigo2, U31D	Amigo2, U31D
OPERABLE DEPTH	Amigo2: 50 m (164 ft) U31D: 300 m (984 ft)	Amigo2: 50 m (164 ft) U31D: 300 m (984 ft)	Amigo2: 50 m (164 ft) U31D: 300 m (984 ft)	Amigo2: 50 m (164 ft) U31D: 300 m (984 ft)	Amigo2: 50 m (164 ft) U31D: 300 m (984 ft)
SURFACE-BREAKING DEFECTS	✓	✓	✓	✓	✓
THROUGH COATING	✓	✓	✓	✓	✓
WELD INSPECTION	✓	✓	✓	✓	✓
APPLICATIONS	Welds, plates, tubulars	Weld repair grind inspection, long nose	Tubular welded connections, tight geometry	Restricted areas, rat holes, plate edges	High sensitivity for shallow defects (<1 mm)
FREQUENCY	Fixed at 5 kHz	Fixed at 5 kHz	Fixed at 5 kHz	Fixed at 5 kHz	Fixed at 5 kHz
NOSE CONFIGURATION		Straight, right angle, transverse	Straight, right angle, transverse	Straight, right angle, transverse	Straight, right angle, transverse

SENSU

	Pace
COMPATIBLE INSTRUMENTS	Pace
SURFACE-BREAKING DEFECTS	✓
THROUGH COATING	✓
WELD INSPECTION	✓
APPLICATIONS	Single-operator rope access, cranes, bridges, topside welds
FREQUENCY/HF OPTION	Fixed at 5 kHz 50 kHz HF option
NOSE CONFIGURATION	Straight, right angle, transverse right angle

ARRAY

	Weld Probe	Compliant Array	Flat-Bottom Array
COMPATIBLE INSTRUMENTS	Amigo2	Amigo2	Amigo2
APPLICATIONS	Defect sizing and location	Butt and lap welds	Flat/Gently curved plates, flush or low profile welds
SCAN WIDTH	30 mm (1.18 in)	45 mm (1.77 in)	45 mm (1.77 in)
POSITION ENCODER	✓	✓	✓
START/STOP BUTTONS	✓	✓	✓
STATUS LIGHTS	✓	✓	✓
NO. OF ROWS/CHANNELS	3/10	8/16	8/16
FIELDS/SENSORS	x/y	x	x/y

SUBSEA ARRAY

	Scanned Array 542	Scanned Array 543	Scanned Array 493	Pick & Place Array 497	Low-Profile Mini 549
COMPATIBLE INSTRUMENTS	U31R / Engineered solutions, e.g., Magcrawler, Nodescanner, etc.				
OPERABLE DEPTH	1 km (0.5 mi)	1 km (0.5 mi)	1 km (0.5 mi)	1 km (0.5 mi)	1 km (0.5 mi)
APPLICATIONS	Flat surfaces	Flat surfaces	Tight access	Low-dexterity deployment	Low-overhang areas
SCAN WIDTH	50 mm (1.97 in)	26 mm bottom 10 mm each side (1.02×0.40 in)	8 mm bottom 35 mm each side (0.31×1.38 in)	80 mm long 20 mm wide (3.15×0.79 in)	40 mm (1.57 in)
POSITION ENCODER	Optional	Optional			
NO. OF ROWS/CHANNELS	8/32	7/28	15/30	2/32	6/24
FIELDS/SENSORS	x/y	x/y	x	x	x/y

THREAD ARRAY

	3.5 TPI	4 TPI	5 TPI
COMPATIBLE INSTRUMENTS	Amigo2	Amigo2	Amigo2
FREQUENCY	5 kHz (420) 50 kHz (520)	5 kHz (377) 50 kHz (369)	5 kHz (378) 50 kHz (370)
APPLICATIONS	Drill pips, threaded connections, including under high load		
SCAN WIDTH	8 threads (3.5 threads/in)	12 threads (4 threads/in)	12 threads (5 threads/in)
POSITION ENCODER	✓	✓	✓
START/STOP BUTTONS	✓	✓	✓
NO. OF ROWS/CHANNELS	8/16	12/24	12/24
FIELDS/SENSORS	x	x	x