ISOTEST-RF

Radio Frequency Insulation Tester

PRODUCT DESCRIPTION

The ISOTEST-RF is a next-generation portable instrument designed to verify insulation effectiveness in pipeline joints. Measurement results are unaffected by DC or AC potential differences. It features automatic self-calibration on startup and a rechargeable Li-ion battery with USB charging that provides up to 1,600 measurements per charge. The instrument's high sensitivity enables reliable detection of short-circuited studs or bolts, including conduction via fluid flow. In addition, it includes an audible indicator whose signal frequency increases as the insulation percentage decreases.

KEY BENEFITS

- ✓ UI with LEDs and OLED display
- ✓ Precise detection of short-circuited bolts
- ✓ Immune to AC and DC potentials
- ✓ Automatic self-calibration at every power-up
- ✓ Up to 1,600 tests on a single charge
- ✓ Percentage mode (0–100%) / "OK / FAIL" mode
- ✓ Detection of errors in probes
- ✓ Automatic shut-off after 7 minutes
- ✓ Battery charge status indicator

POWER MANAGEMENT

Parameter	Value
Battery	Li-ion 18650 (1500 mAh)
Charging port	USB (5 V / 1 A)
Battery indicator	Charging animation with percentage
Battery autonomy	Up to 1,600 readings

Verify the insulation effectiveness of dielectric and monolithic joints, with immediate and easy-to-interpret results.

TECHNICAL SPECIFICATIONS

Parameter	Value
Detection range	0–100 % (5 % Resolution)
Display	OLED 1.3"
Dimensions	120 × 90 × 40 mm
Weight	260 g
Operating temperature	–20 °C to +55 °C
Protection rating	IP54
Housing material	ABS

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OPERATING PRINCIPLE

The instrument applies a highly sensitive radio-frequency signal. Variations in the returned signal make it possible to detect partial or complete short-circuits in the insulation without disconnecting the Cathodic Protection System or applying high voltages. This avoids errors typically associated with conventional DC methods. In addition, the instrument's high input impedance prevents DC current flow caused by potential differences across joints under cathodic protection.

COMPARISON WITH MARKET ALTERNATIVES

Function	ISOTEST-RF	Alternative A	Alternative B
Auto-calibration at startup	✓	x	x
Power supply	Li-ion	Battery 9 V	2 × AA
Digital readout 0–100%	✓	✓	x
Simplified mode	✓	x	✓
Front Panel LED: OK / Fail	✓	x	✓
Probe fault indication	✓	✓	x
Auto power-off	✓	✓	x
High input impedance	✓	✓	x
Immune to AC and DC potentials	✓	✓	x
Display OLED 1.3"	✓	x	x
Digital signal processing	✓	x	✓
Battery level and charging indicator	✓	x	x
Audible alarm with variable frequency tone	✓	✓	x

KIT CONTENT

- ISOTEST-RF unit
- 2.1 mm Plug ↔ USB-A cable
- User manual
- Carrying case
- Probe tip protectors

ISOTEST-RF VERIFICATION BOARD (Optional)

Enables quick and easy functional verification of the ISOTEST-RF.

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