

IRON PROBE REVERSE

New solid-state surface potential probe reference electrode



Cu/CuSO₄ Reference electrode

Cathodic Protection patented solid-state Copper Sulphate Blend reference electrode, with integrated probes for Eirfree measurement (accordingly to EN ISO 15589-1, ISO 22426).

Registered European trademark and patent no. 202022000002267

TECHNICAL FEATURES

Case	RECYCLED POLY OXYETHYLENE
Sizes	180x110 mm (HxØ)
Weight	5 kg
Electrode	Copper, 99% purity
Electrolite-Porous plug	Solid-state Cu/CuSO ₄ and ceramic mixture with high hygroscopicity and conductivity, featuring a 12.5 cm² contact surface area.
Carbon Steel Coupon	DC measure: 10 cm ² - AC measure: 1 cm ²
Distance Coupon / Porous plug	8 mm
Cable	MI. 5 FG16OR16 0.6/1kV, 3x2,5mm ²



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	Coupons	IRON PROBE REVERSE	Reference Value	Max deviation
T 24h CSE-AAC stability	Not connected	min -120 mV max -115 mV,	- 120mV	+/- 5 mV
	Connected	min -130 mV max -110 mV	- 120 mV	+/- 20 mV
IR Drop	Measured Potential value E _{on} : -1,22 V		Real E _{irfree} value: -1,12V	-0,10 V
Ambient conditions	Natural grounds also with high resistivity with low chlorides content (<200 ppm)			
Temperature	-5°C ÷ +40°C			
Lifetime	>25 years			
Minimum input resistance of connected devices	10 Mega OHM			

The reference electrode in copper with Solid-state with n. 2 polarization coupon is used to evaluate the real cathodic potential in the absence of ohmic drops of the E_{irfree} electrolyte. Thanks to the very reduced distance between coupons and porous plug, the new IRON PROBE REVERSE[®] delivers an extremely precise measure, with a minimal deviation.

The electrolyte impregnated into the 12.5 cm² porous surface area—composed of a Cu-CuSO₄ ceramic mixture with high conductivity and hygroscopic properties—ensures long-term measurement stability over smaller surface areas, even in high-resistivity soils.

The electrode integrates two steel carbon coupons: 1 cm² for AC measure and 10 cm² for DC measures .

STORING PROCEDURES

Store in a proper dry location, avoiding humidity, low temperatures (freezing) and the direct exposition to sun light. If properly stored, IRON PROBE shelf life is **unlimited**.

In presence of moisture the external surface of the coupon can oxidize; in case of extended storing time it is preferable to protect the probe surface with mineral oil which, however, **must be accurately removed before the installation. A careful cleaning of the surface with metal brush or sand paper is highly recommended.**

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