



ergolines
INNOVATION PARTNER

IRM – INSTRUMENT FOR MEASURING THE INSULATION RESISTANCE OF THE ELECTROMAGNETIC STIRRERS.

Thanks to the know how acquired during years of testing, ergolines has developed a portable and extremely sturdy instrument that enables to measure the insulation resistance of any type and brand of stirrer.

The instrument is a useful tool for maintenance technicians and quality control staff because it permits to monitor the insulation performance curve of the EMS windings.

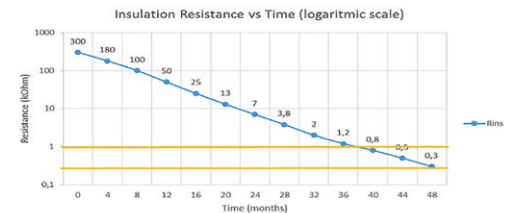
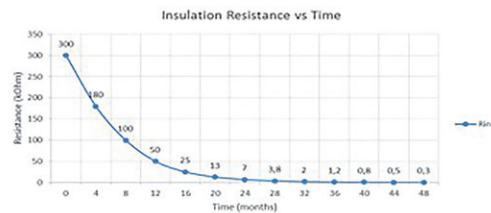


MAIN FEATURES

IRM allows to schedule a preventive maintenance of the stirrer when reaching the first insulation threshold value, namely it starts getting damaged.

An early intervention permits to have the EMS perfectly working before the insulation resistance decreases down to the second threshold, requiring the total revamping.

The preventive maintenance scheduling that can be implemented using this instrument helps avoiding any risks to be forced to cast without the stirrers necessarily requested for quality steel.



	Insulation resistance (Rins) (*)	Description	Activities
	Rins > 1000 Ω (*)	EMS in good conditions	Monthly measurements of Rins
First threshold value	300 ≤ Ω Rins ≤ 1000 (*)	EMS with low Rins	Weekly measurements of Rins
Second threshold value	Rins < 300 (*)	EMS requires coils revamping	Stirrer needs maintenance

(*) Warning and fault thresholds are illustrative and Ergolines will specify them for each type of EMS.

HOW IT WORKS

IRM is able to measure low insulation resistance values, typical of all stirrers' application (wet or dry).

Its resolution of 0.1 kΩ (in the range 0.2 – 100 kΩ) allows to be fully aware of the stirrer conditions.

The use is very simple and the insulation can be measured in different ways, directly at the terminal box on the stirrer, or at the in-field Junction Box.

It can also be used to measure the insulation resistance while the system is in operation.

Plant technical/maintenance personnel will be able to:

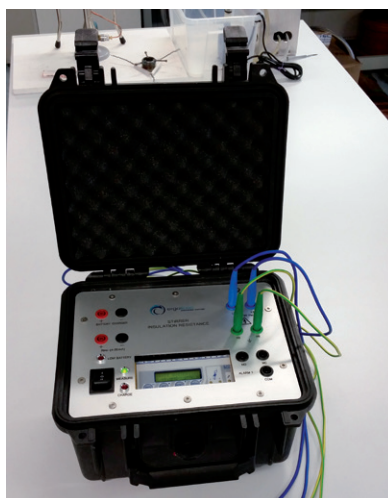
- › verify the proper operation of the stirrer and the supply system;
- › have indications on when to proceed with a preventive maintenance.

After start up, the instrument continuously measures the insulation resistance displaying its value on the monitor.

INSTALLATION

The instrument has four connections (2 cables to be connected to 2 different phases of the stirrer and 2 cables to be connected to ground). It can be used in the workshop or on the line.

The instrument is equipped also with an analog indication of the insulation resistance value (4-20 mA) and a digital output for alarm (alarms threshold can be set from panel).



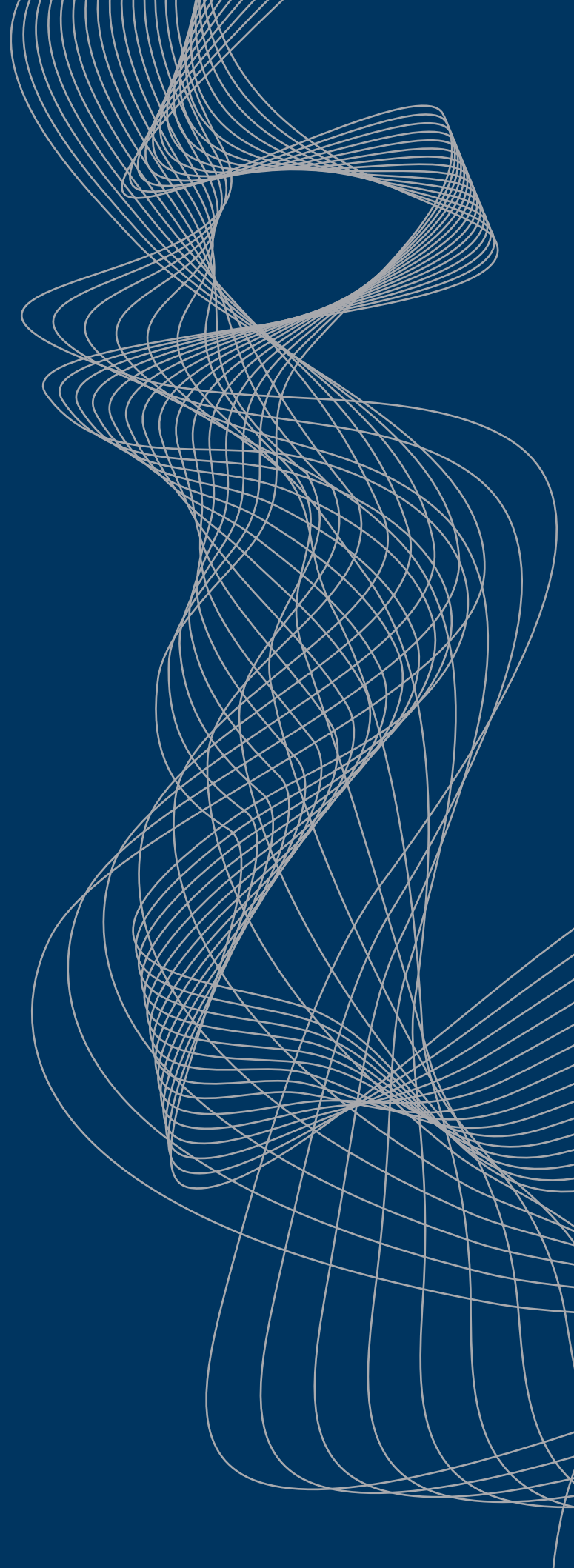
SYSTEM COMPONENTS

The instrument is made up of the following parts:

- › instrument in its IP54 shock resistant and dustproof transportation case;
- › four connection cables with crocodile clamps;
- › battery charger;
- › user's manual.

TECHNICAL DATA

Resistance measurement range	0.2 kΩ to 1 MΩ
Frequency measurement range	From DC up to 60 Hz
Dimensions	270x175x247 mm
Weight	5.1 Kg
Degree of protection	IP54
Operating / storage temperature	0 ÷ 50 °C / -20 ÷ 60 °C



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