

AMC

INSTRUMENTS

The Lifting KnowHow 

**ROPE
WATCHER**

MAGNETO
-INDUCTIVE
DEVICES
DEVELOPMENT

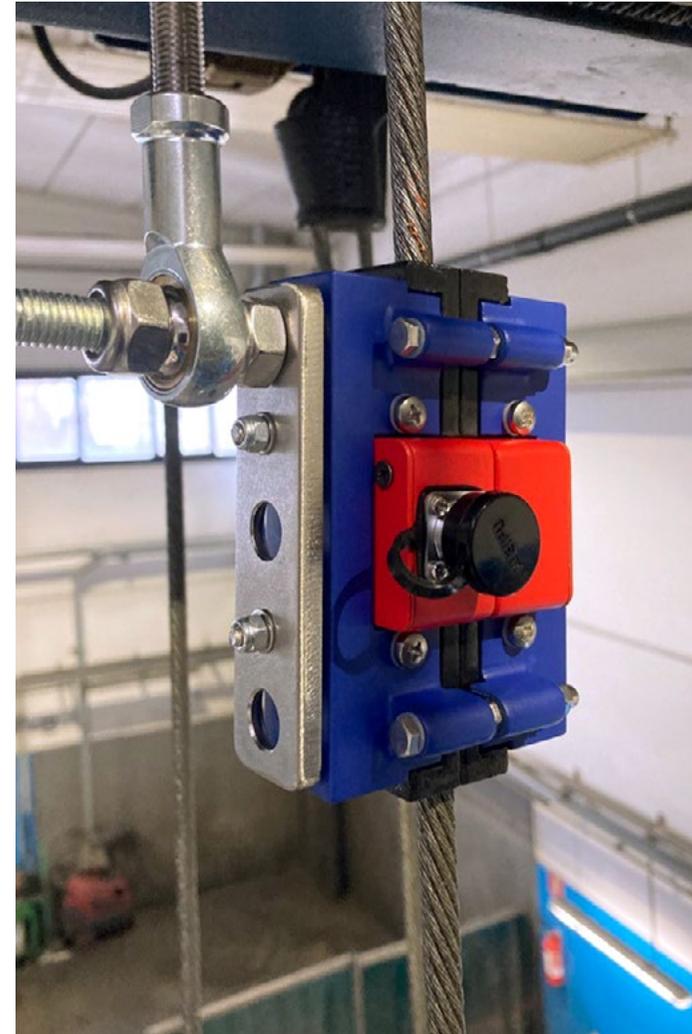
Description

Rope Watcher is a permanent device that keeps the rope under constant control and provides indications about its wearing status.

It detects internal and external faults on the rope by means of the magneto-inductive method (MRT), which is nationally and internationally regulated.

This cutting-edge product allows:

- 24/7 remote rope monitoring;
- real time rope scanning;
- scheduled and on-demand replacement of the rope;
- safety and operational continuity's boost;
- alert in case of excessive wear.



Technical functioning

The pictures show how the magnetic field behaves inside the rope. It is forced by the permanent magnets of the magneto-inductive device. When the rope is fine, the magnetic flux flows without significant leakages → FIGURE A.

In case of faults, such as broken wires, it behaves differently. A portion flows out of the rope, literally leaping the fault, and this is why it's called *leakage flux* → FIGURE B.

The flux is displayed in a graph → FIGURE C, where the peaks represent the faults that have been detected (broken wires).

FIGURE A

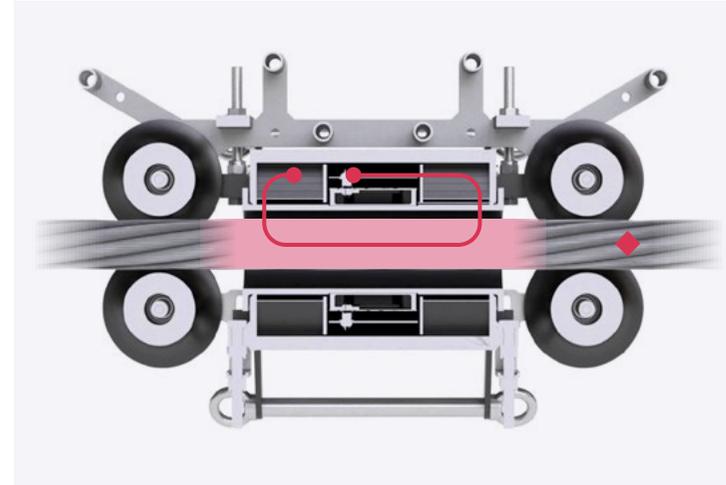


FIGURE B

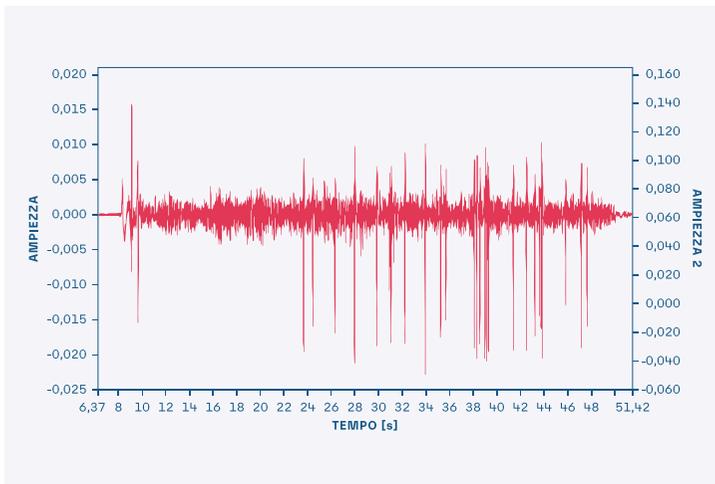
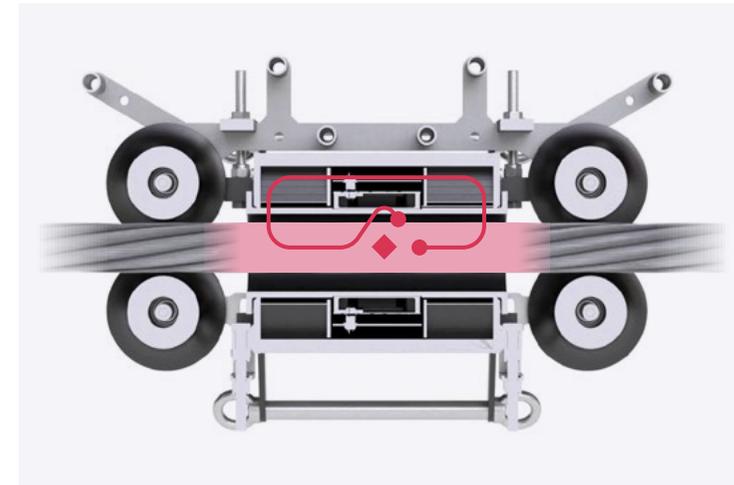


FIGURE C

Alert mode

AMC Rope Watcher is an alert system that warns the user in case the rope is in danger, by means of a simple indicator - FIGURE D.

If the condition required further analyses (yellow or red area), it will be necessary to perform a deeper inspection, in order to verify the actual conditions of the rope.

This alert functioning requires a calibration procedure so that the system can interpret data correctly, and it is available online logging in on the AMC Instruments webpage - FIGURE E.

FIGURE D

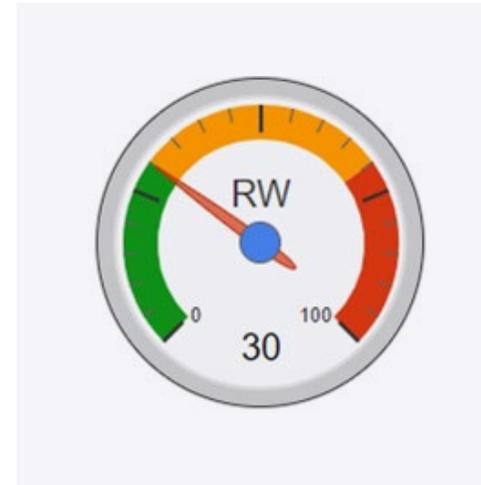
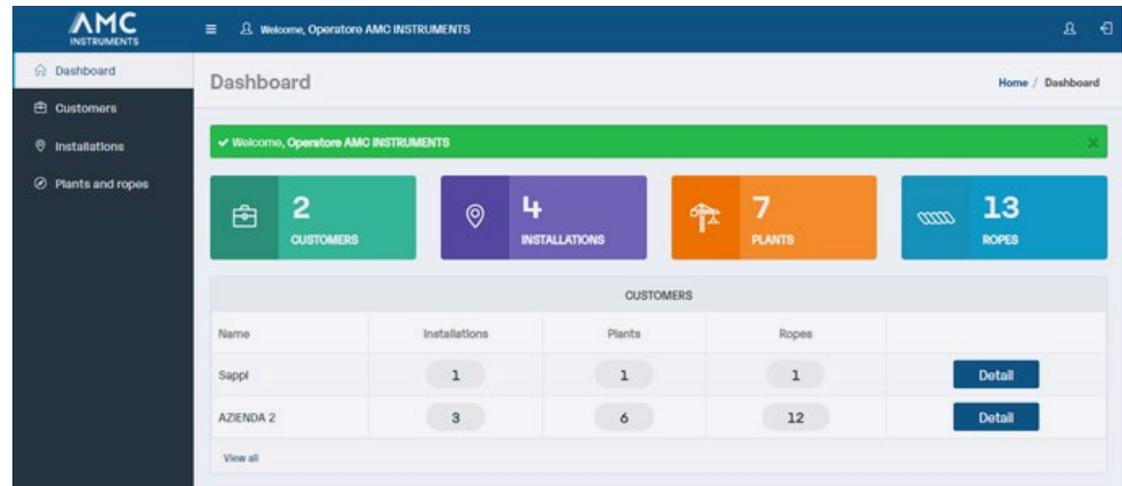


FIGURE E



Nonetheless, the history of the warnings is saved, in order to build a useful trend for predictive maintenance.

Thanks to the alert mode, it's easy and intuitive to see the health status of the ropes → FIGURES F-G.

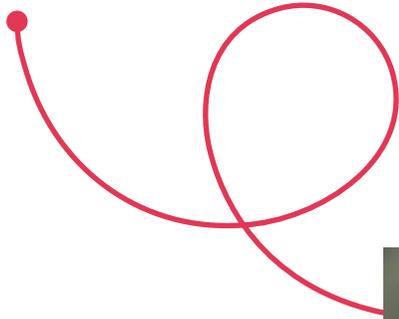


FIGURE F

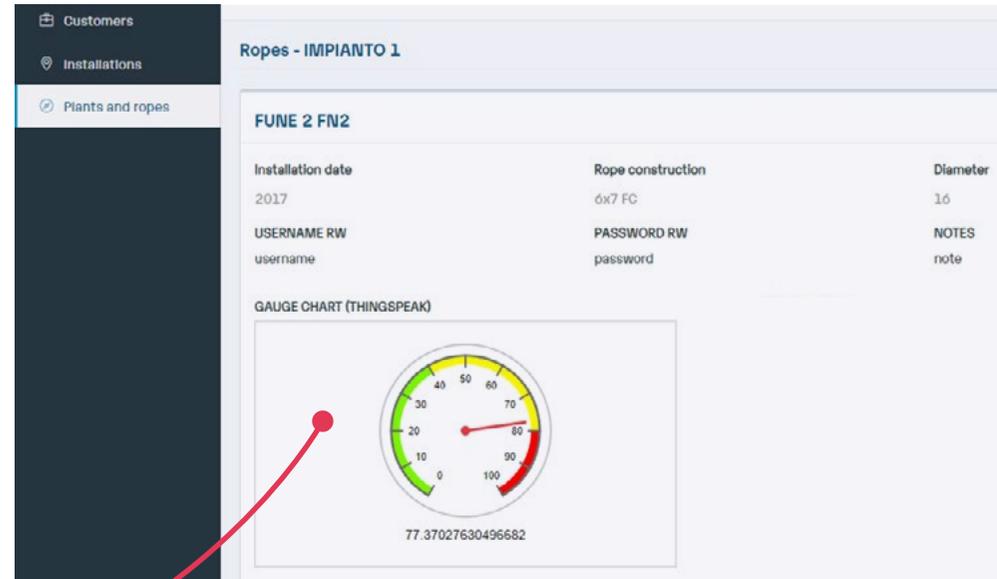


FIGURE G

MRT mode

Rope Watcher works as a permanent-connected MRT system, allowing on demand acquisitions, tracks saving and remote file transfer.

Internet connection is required in order to enter the system, log in with personal credentials and operate through the simple GUI → FIGURE H.

This way, without leaving the office, it is possible to perform a deep analysis of the rope, acquiring diagrams, downloading them on the PC and building actual reports.

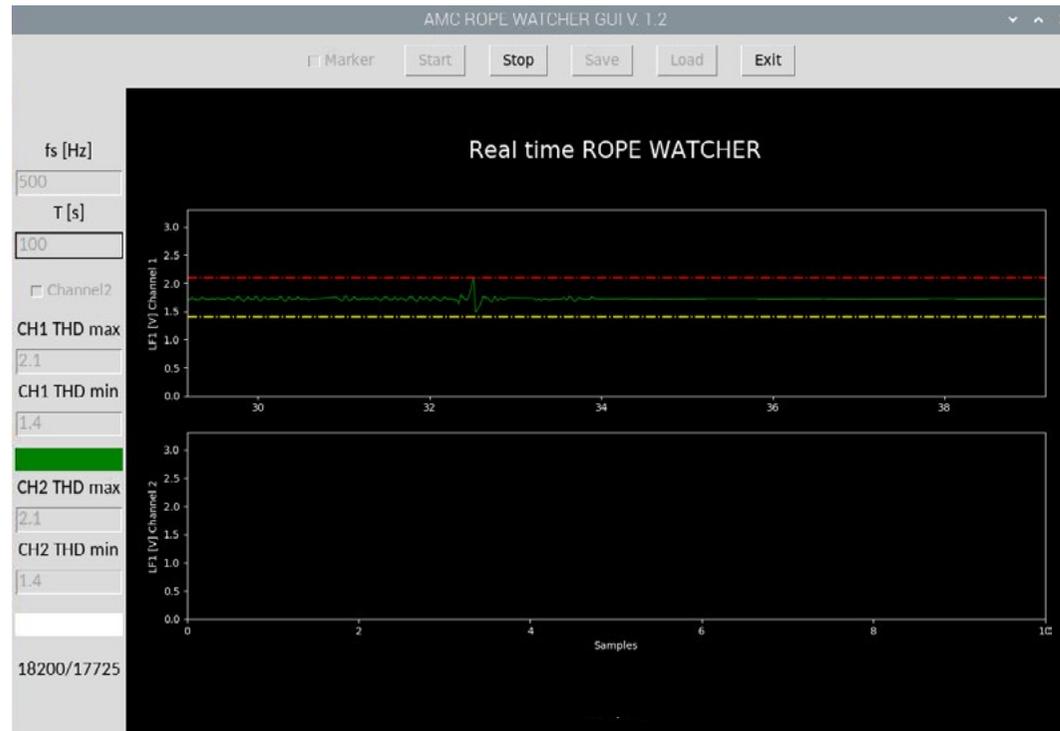


FIGURA H

We trust in technology.
We trust in safety.



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