XENIT
by ATEX

MADE IN ITALY

HELP

Patented system for detecting the presence of copper and aluminium cables on the backbones of **photovoltaic systems.**

XENIT.IT

Xenit is a division of ATEX INDUSTRIES for Photovoltaic and Security.

Made in Italy technology
for an efficient monitoring

Patented system for detecting the presence of copper and aluminium cables on electric lines of photovoltaic backbones in DC or not yet connected. It protects the wells of the cable ducts and the access to the technical rooms.

During the day
it measures the flow of current
generated by the photovoltaic modules

During the night
it generates a series of pulses on the cables

Energy transfer
Through the TAHELP-TX device, the **energy is transferred by electromagnetic induction** to the cable, arriving **at the field box** where the DC LOOP device is present, which closes the circuit.

Transformation and detection
The **impulse** then **retraces the return cable** until it reaches the TAHELP-RX device. Here, again by electromagnetic induction, it is **transformed into a current pulse** and detected by HELP, which measures it and **compares its values** with those memorized during installation.

Signalling with alarm
HELP signals, with an alarm through the **programmable relay** or the **RS485 port with ModBus protocol**, if there are differences between the control signal and the value stored during the calibration phase, and allows you to alert **the security personnel or the Police**.

HELP

Why photovoltaic systems should be monitored

Protecting the photovoltaic backbones

Photovoltaic systems, especially medium and large ones, are **subject to copper theft**.
The most targeted parts are the photovoltaic backbones that connect the field switchboards to the inverters. In these sections, cables are used which can reach a **diameter of 300mm²**.

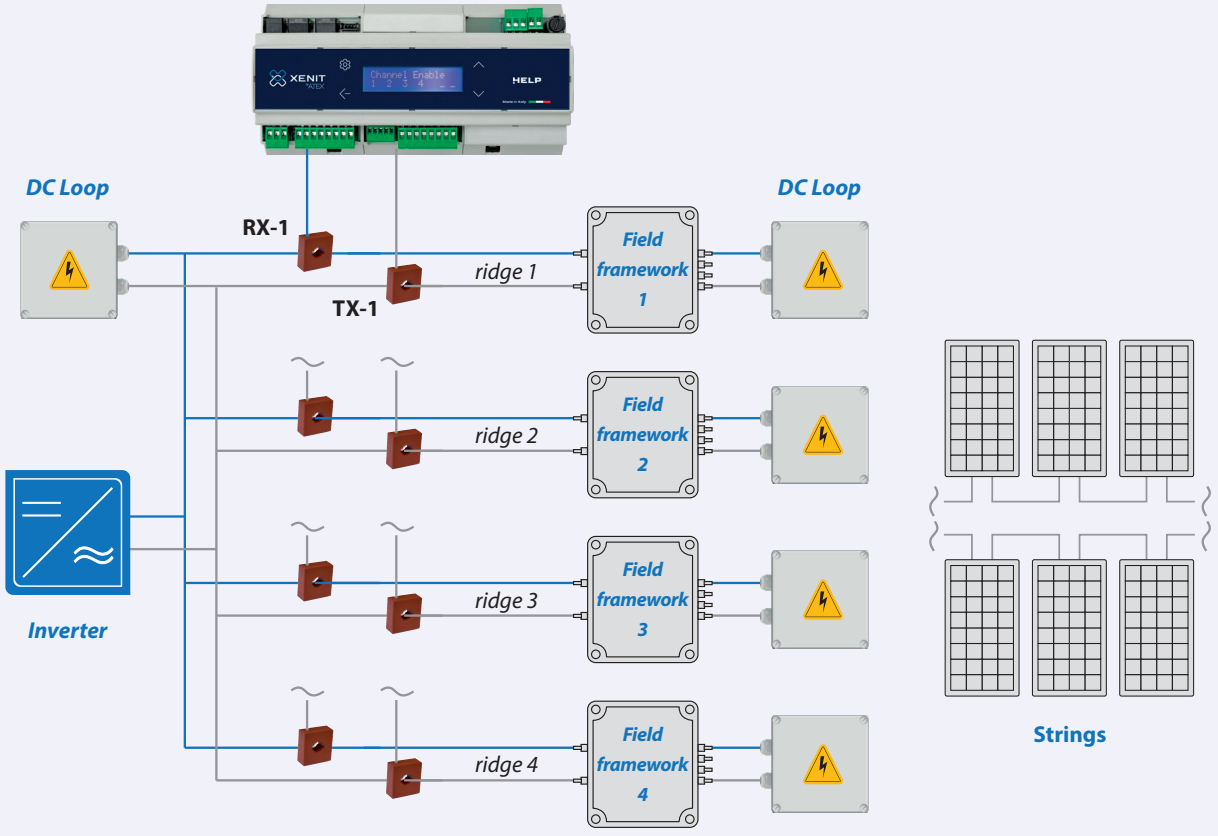
In the evening when the PV inverter shuts down, if these wires are removed, it cannot be detected. The **HELP device allows these lines to be protected without the need for an electrical contact**, as the control signal is injected by electromagnetic induction using a patented system.

Easy installation

both on new and existing plants, in a few minutes

HELP

Example of connecting HELP to a PV system with 4 backbones



Who it is for

Protect power lines from theft and anomalies

Green electricity production companies	Protection and monitoring of power lines
Investment Funds	Protection of assets and guarantee of expected ROI
Plant owners	Protection of the plant and its profitability
Financial Institutions	Credit Protection
Asset Manager	Strategic management of the photovoltaic investment
Insurance	Protection of the guarantee given
EPC	Guaranteeing the client the design and maintenance of a profitable and safe plant
Design studies	Designing systems that are intrinsically protected against the risk of copper theft
Photovoltaic installers	Generating new and exclusive business opportunities
Technical consultants	Offering clients technologically advanced solutions

Functionality and advantages

It reports tampering

HELP goes into alarm if:

- even just one of the **cables of the four backbones is cut**
- **the length** of even just one of the two backbone cables **changes**
- the **wells of the cable ducts** or **access to the technical rooms** are violated
- HELP is **tampered with**
- **a short circuit** occurs
- the **DC LOOP circuit breaker is removed**

It offers total protection

HELP offers you total protection, because it reports if:

- the 4 pairs of cables of each control unit are tampered with
- access to the cable duct wells or technical rooms takes place, thanks to 2 dedicated lines.

No electrical contact

Thanks to an innovative patented system, **it checks for the presence of cables in two ways**, without using any electrical contact with the line to be protected.

It checks for the presence of cables in two ways

During installation with **self-calibration**, **it adapts** to the lengths and characteristics of your system (**power and frequency of each channel**), to the **aging of the system** or to any **sudden changes in temperature and humidity**.

	HELP
POWER SUPPLY	230VAC
NOMINAL ABSORPTION	Max 5W in normal operation and 12W in calibration
CONTROL CHANNELS	4 TAHELP-TX sensor outputs and 4 TAHELP-RX sensor inputs
ISOLATION VOLTAGE	4 kV between TAHELP-TX, TAHELP-RX and trunk cable
DISPLAY	LCD 16x2 backlit with the possibility of a second remote external display
RELAY OUTPUT	NC and NO contacts, 1A capacity, normally powered in the absence of alarms
RS485 PORT	Opto isolated, with MODBUS-RTU SLAVE protocol for remote supervision
INPUTS/OUTPUTS	2 analog/digital 0-10V, Buzzer
OPERATING TEMPERATURE	-20° + 70°
AUTOMATIC ALARM RESET	Programmable at preset time intervals
WEIGHT	536 g
TRACK CONTAINER	DIN
DIMENSIONS (L X H X D)	213 x 62 x 110 mm

	TAHELP-TX	TAHELP-RX
TYPE	Transmitter	Receiver
CABLE TYPE	FG7OR/4	
CABLE LENGTH	1.90 m extendable up to 10 m	
HOLE DIAMETER	Standard 26 mm suitable for cable with section up to 150 mm^2 Special versions for cables up to 300 mm^2	
DEGREE OF PROTECTION	IP65	
OPERATING TEMPERATURE	-20° + 85°	
ISOLATION VOLTAGE	4 kV, tested on 100% of the production, according to EN60742, EN60950	
WEIGHT	460g	587g
CONTAINER	Self-extinguishing plastic UL94-HB	
DIMENSIONI (L X H X P)	30 x 76 x 70 mm	

	DC LOOP
TYPE	Circuit breaker
PROTECTION	Fuse 1000VDC 10A gL
CONNECTION TYPE	Multicontact or other types on request
CABLE TYPE	Solar cable 4mm^2 - length 90cm
DIMENSIONS (L X H X D)	55 x 105 x 105 mm
DEGREE OF PROTECTION	IP55
OPERATING TEMPERATURE	-25° +40°
MAX OPERATING VOLTAGE	1100VDC
WEIGHT	

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