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PERIMETER

FIBRE OPTIC PROTECTION **FIPRO**

FIPRO

fibre optic perimeter system

FIPRO is a protection system that uses **fibre optic** and **Artificial Intelligence** to protect long distances such as gas pipelines, cable ducts, borders and airports, or to protect large perimeters such as ports, airports, and power plants.
FIPRO uses fibre optic as a distributed sensor over distances of up to 100 km and multiples thereof, and can also leverage existing fibers used for data communication: the system measures acoustic disturbances along the fibre, and these signals are sent to the Artificial Intelligence, installed on a local server, which processes them by accessing a data set of over 130.000 data points.

OPERATION

The operation of the system is based on the analyser detecting the differences between the signal sent by the laser and the backscattered signals from the impurities normally present along the fibre optic cable.
These reflected laser pulses are measured by the FIPRO analyser using COTDR technology.
When the system is running, the wavelength of the reflection remains the same as that of the original pulses, changing only due to an external disturbance such as an intrusion, trespassing or sabotage.
The fibre optic is the sensitive part of the system and functions as a distributed acoustic sensor (DAS) because it is particularly sensitive to the acoustic stresses produced during intrusion or sabotage attempts. In fact, such effects alter the scattering of the light waves along the fiber-optic cable.
This technology sends thousands of pulses per second and the variations (acoustic or vibrational) are measured instantly by the FIPRO analyser thanks to the Artificial Intelligence built into it.
FIPRO can also use already existing fibre optic cables, such as FO communication cables, Ethernet networks, etc.

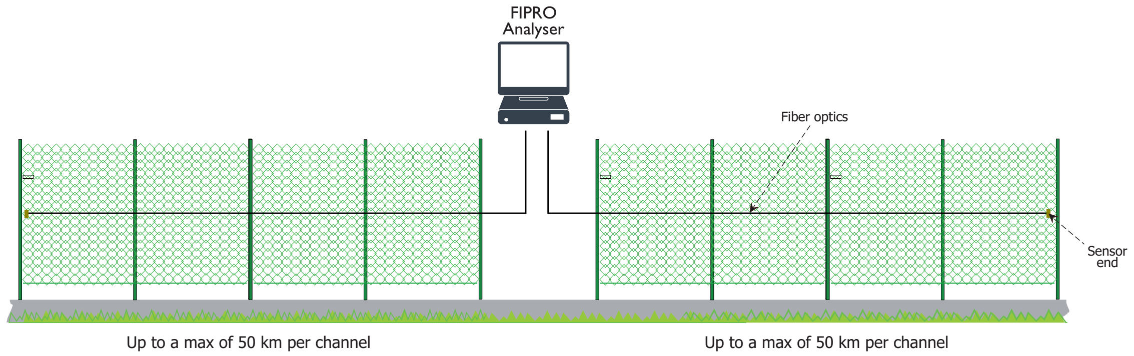
PLUS

•It can be installed on fences and buried for perimeter protection, as well as placed alongside pipelines for their protection.
•The use of **Artificial Intelligence** allows the classification of numerous simultaneous events along the entire length of the fibre, discriminating false alarms or background noise (such as meteorological precipitation) from real alarms.
•It does not require power supply in the field.
•**Immune** to atmospheric agents and electromagnetic interferenc.
•Can be **integrated** with CCTV systems.
•Up to 100 km with a single analyser.
•**Cross Point technology** with an alarm point approximation of 4 m (for applications up to 30 km) and 10 m (for applications up to 100 km)

VERSIONS

FIPRO is available in four versions:
10km single-channel fibre
50km single-channel fibre
30km dual-channel fibre
50km dual-channel fibre

The sensitive fibre optic cable, installed along the fence, detects the mechanical stresses generated by attempts to climb over, cut or by abnormal vibrations, transmitting the information with extreme accuracy.



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