OP-410

RS485 Optical Probe (RJ-10)

Overview

The OP-410 Optical Probe with RS-485 output is an interface that communicates using infrared waves with peripheral devices, including electricity meters, water meters, heat meters, gas meters or any other device containing an optical port. It boasts a small, lightweight housing design, but remains sturdy thanks to its ABS and Polycarbonate filter material. This product is compatible with any device that complies with the European standard IEC 62056-21 (IEC 1107).

OP-410 features an RJ-10 connector that is ideal for extracting consumption data via a peripheral device, such as a handheld device, that supports the RS485 port. Since it derives power from the RS485 port, it does not require any external battery pack or AC adapter. OP-410 includes a robust magnet that securely attaches the optical probe to the meter as well as providing resistance to external light sources, aside from those of the infrared wavelength.

Advantages

- Ergonomic & User-friendly Housing Design

- Powerful Magnet

- Optical Filter

- High-quality Cable

- Compliant with IEC 62056-21 (1107) Standard (Physical)

- Powered by RS485 Port

* Installation and configuration instructions are provided with the probe.

Ergonomic & User-friendly Housing Design

The housing is designed with ergonomics in mind for comfortable handling. The material of construction ensures both robustness and lightness. It provides substantial resistance against surface wear due to its prolonged usage with optical port devices and meters.

It's worth noting that good material alone doesn't guarantee high hardness. The housing shape significantly impacts probe hardness. We have developed optical probes to endure a drop from a distance of one meter in case it slips from the user's grip.

Powerful Magnet

The head of the device boasts a powerful magnet hidden below the surface, allowing the probe to attach securely to the optical port. This eliminates the need for constant manual checking and ensures a secure connection to the device.

⚠ *Caution: Due to the strong magnetic force of the probe's magnet, please do not store it near electronic equipment as it may cause damage if stored for long periods. It can also result in malfunctions in any storage device, including hard drives, solid-state memories (such as flash memory and SSDs), RAM storage, and similar.*

Optical Filter

To establish communication between two devices through an optical port, a specific wavelength is necessary. The wavelength employed should be within the range of 880 nm infrared light, which remains invisible to the human eye. The light filter integrated into this optical probe effectively screens all ambient light, negating any possible interference to ensure uninterrupted and efficient communication between both the devices.

High Quality Cable

When using wired products, the cable is susceptible to detachment due to bending and stretching. Nonetheless, our wired optical probes are equipped with a robust and superior quality cable, ensuring prolonged and effective use.

Mechanical specifications

- Dimensions: Diameter 32mm, Height 26mm
- Cable: Length 2m, Diameter 4.5mm, four-wire cable LAPP GERMANY
- Connector: RJ-10
- Infrared filter: Against external light influences
- Weight: Complete assembly weighs a maximum of 95gr
- Casing material: Probe Head ABS, Infrared filter Polycarbonate

Electrical Specifications

- Signal Specifications: Signals are in the range of -7 to +12V
- Compatibility: IEC 62056-21 (1107) standard
- Signal level: Compatible with RS485
- Power Requirements: Powered by RS485 port
- Power consumption: approx. 15 mA (Maximum)
- Data Rate: from 300 to 19200 bit/s
- Communication: Half duplex
- Optical: 880nm bi-directional IR interface
- Echo filter: Yes

Environmental Specifications

- Operating Temperature: -30°C to +60°C
- Storage Temperature: -40°C to +85°C
- Rugged: Meets the requirements of several tests, including those for thermal shock, humidity, water resistance, RF susceptibility, ESD, drop, random vibration, solar radiation, salt, fog, and low pressure.