OP-301

RS232 Optical Probe (D-Sub 9-pin female)

Overview

The OP-301 Optical Probe with RS-232 output is an interface that uses infrared waves to communicate with peripheral devices, including electricity meters, water meters, heat meters, gas meters, or any other device equipped with an optical port. Despite its sturdy construction, featuring ABS and Polycarbonate filter material, it remains lightweight due to its compact housing design. This product is compatible with all devices conforming to the European standard IEC 62056-21 (IEC 1107).

OP-301 features a D-Sub 9-pin female connector that is ideal for reading consumption data using a peripheral device, like a handheld device, that supports the RS232 port. The device receives power through the RS232 port, rendering the need for an external battery pack or AC adapter unnecessary. Additionally, OP-301 enjoys a high-strength magnet for a secure attachment of the optical probe to the meter, and it is resistant to external light interference, except for 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 RS232 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 24mm
- Cable: Length 2m, Diameter 4.5mm, four-wire cable LAPP GERMANY
- Connector: D-Sub 9-pin female
- Infrared filter: Against external light influences
- Weight: Complete assembly weighs a maximum of 82gr
- Casing material: Probe Head ABS, Infrared filter Polycarbonate

Electrical Specifications

- Signal Specifications: Signals are in the range of +3 to +15V or −3 to −15V
- Compatibility: IEC 62056-21 (1107) standard
- Signal level: Compatible with RS232 (EIA-232)
- Power supply: +5 V DC (optional, power supplied from RS-232 interface)
- Power consumption: approx. 5 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 a numbers of tests including those for Thermal Shock, Humidity, Water Resistance, RF Susceptibility, ESD, Drop, Random Vibration, Solar Radiation, Salt, Fog and Low Pressure.

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