OP-740

Bluetooth Optical Probe with Android Library

Overview

The OP-740 Optical Probe is an interface that communicates via infrared waves with a peripheral device such as an electricity meter, water meter, heat meter, gas meter or any other device that has an optical port on it. It incorporates a small housing design that makes it rugged with its Aluminum and Polycarbonate filter material. All devices that support the European standard IEC62056-21 (IEC 1107) Mode E & C and IEC62056-31 will work with this product. In addition, it has the capability to send settings for data transmission with all types of IEC meters in transparent mode.

OP-740 has a Bluetooth connection interface, which is suitable for tablets and mobile phones and all devices with a Bluetooth connection availability. In addition, it includes an Android Library file for programmers and developers. By implementing this library file in the meter reading application, programmers will be able to easily establish a connection between the Bluetooth optical probe and their application. OP-740 benefits from a very strong magnet that firmly attaches the optical probe to the meter and also has resistance to external light influences other than the infrared wavelength. Installation and configuration instructions are included with the probe.

Advantages

- Ergonomic & User-friendly Housing Design
- Android Library for developers
- Powerful Magnet
- IEC 62056-21 (1107) Mode E & C Standard Compliant
- IEC62056-31 Standard Compliant
- Smart baudrate change in mode E and C
- Transparent mode with selective frame and baudrate
- High-capacity built-in rechargeable battery
- Utilizing latest technology USB type C port for communication with PC and charging
- LED indicator lights
- Windows and Android support

Ergonomic & User-friendly Housing Design

The housing is designed to be fit in the hand of the user easily and the material used makes it strong and also light weight. It is resistant against surface wear off in long term usages that is caused by using the optical head on the meters and devices with optical port installed on them.
Good material not always brings good hardness. The housing shape can have tremendous effect on the hardness of the probe. We have designed the optical probes to withstand falling from one meter height, in case it slips from user's hand.

Powerful Magnet

The head contains a powerful magnet on under the surface in which the probe is attached to the optical port, that causes the probe to stick to the optical port and not easily removed, in order to secure connection to the device and let the user work without needing to hold the probe in position with one hand.

⚠ *Warning: due to strong magnetic force of the magnet used in the probe, please do not store it beside electronic equipment, because it can damage these devices in long time storage. It also causes malfunction in any storage device like hard drives, solid-state memories (flash memories, SSD drives and etc.), RAM storages and etc.*

Optical Filter

In order to be able to communicate between the two devices through optical port, certain wavelength must be used. The wavelength used must be in the range of 880 nm infrared light that is not visible to the human eye. The light filter used in this optical probe filters all ambient light, preventing any disruption to probe communication, thus providing stable and efficient communication between two devices.

Mechanical specifications

- Dimensions: Diameter 32mm, Height 64.5mm
- Connector: USB standard "C" plug
- Infrared filter: Against external light influences
- ON/OFF switch
- Weight: Complete assembly weighs a maximum of 87gr
- Casing material: Aluminum, Infrared filter Polycarbonate

Environmental Specifications

- Operating Temperature: -10°C to +65°C
- Best Storage Temperature: +10°C to +20°C
- Rugged: Meets the requirements of a numbers of tests including those for Thermal Shock, Humidity, RF Susceptibility, ESD, Drop, Random Vibration, Solar Radiation, Salt, Fog and Low Pressure.

Electrical Specifications

- Compatibility: IEC 62056-21 (1107) Mode C & E standard
- Compatibility: IEC62056-31 standard
- DLMS/Cosem Auto Detection
- Data Rate: from 300 to 19200 bit/s
- Communication: Half duplex
- Optical: 880nm bi-directional IR interface
- Echo filter: Yes

Android Meter Data Collection Library

- Implementation capability in projects with API21 and above
- Communication with various meters having IEC, DLMS, Command Line, EURIDIS standards
- Full Collection of public tariffs
- Standard output in JSON format for all meters
- Instantaneous voltage collection
- Instantaneous current collection of meters
- Collection of errors recorded in the meter
- Encrypted definition the password of all meters
- Ability to set the date and time of meters that have this feature
- Return all errors that occurred during the meter reading operation
- Upgrade and support all meters in future
- With a complete guide for programmers and Sample Project

Features

- Ability to update Firmware via USB
- Display battery charge level with 3 LEDs
- Display pair status/send and receive data with a 3-color LED
- USB port for: Charging, Communicating, Firmware updating

Bluetooth Specifications

- Bluetooth 3.0 + EDR, Class 1 (Typical 7.5 dBm)
- Bluetooth Maximum range: 10 m

Battery and Power Supply

- Built-in battery: Li-ion 3.7 V, 650 mAh
- Internal current (idle): 18mA
- Maximum current: 30mA
- Standby (idle): 30 Hours
- Continues working time: 18 Hours
- Charging: 5 VDC, via USB port

Accessories

- Wristband

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