

TP-RF-ANSI-x Wireless Optical Probe v3.900.4

Introduction TP-RF-ANSI-x is a new series of TesPro wireless optical probe, which supports 900MHz series RF communication with PC, NB, and other devices.

Versions

- TP-RF-ANSI-N:** Compliant with ANSI C12.18 specifications and support meters such as GE, Elster and Vision.
- TP-RF-ANSI-S:** Compliant with ANSI C12.18-2006 type2 specifications and support meters such as Siemens.



Fig.1 RF optical probe

Functions

- Can be used as an RF communication device for electric energy meter reading and writing
- With one LED (green) indicating power on and the energy reserved in battery. The same LED becomes red indicating the battery in charging.
- With other blue LED twinkling indicates RF communication and data transfer.
- By connecting USB cable the RF probe can be used as an USB probe, the same function as TP-USB-ANSI-x.

Specifications

- **Rated Voltage** 3.65V
- **Battery** 550mAh re-chargeable lithium ion battery
- **Frequency Range¹** 902.00 – 928.00MHz
- **Default Frequency** 915MHz
- **Modulation** GFSK
- **Effective Distance** 175M (without obstacles)
80M (in building)
- **Default baud rate** 9600 bps fixed
- **Baud rate change** Not available during communication

- **Power of transmitting**
Read Head - 0.059 mW
Adapter - 0.366 mW
- **Size of RF probe** L54xW38xH35(mm)
- **Weight of RF probe** 200(g)

Notes:

Frequency: Frequencies of probe and USB adapter must be identical. This frequency should be sole in the area around to prevent interference from each other.

Power: The firmware of both the adapter and read head is permanently set to level 3. This setting yields approximately 85dBuV/m for the read head and 93 dBuV/m for the adapter as measured by UL certification laboratory.

Antenna: Before the antenna is attached to both sides (read head & adapter), Loctite 272 high strength thread locker is applied. This firmly secures the antennas to both sides of the product.

Description

1 RF optical probe:

RF probe can be attached to a meter by magnetic force according to ANSI C12.18-1996.

Parts of the structure are described as below:

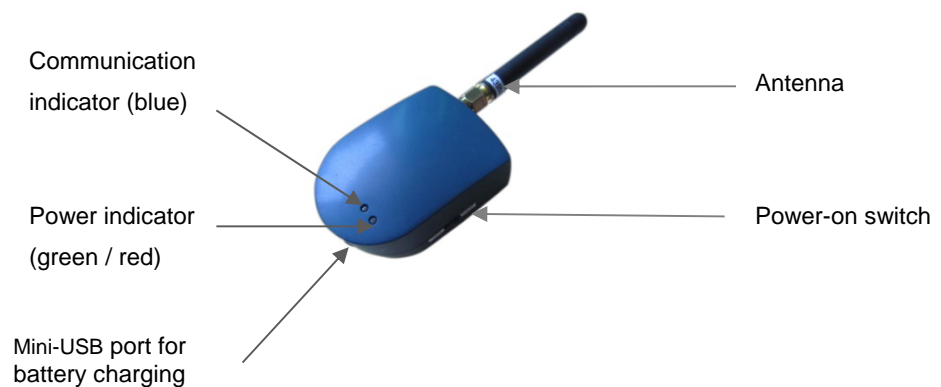


Fig.2 Descriptions of RF optical probe

Descriptions of Switch:

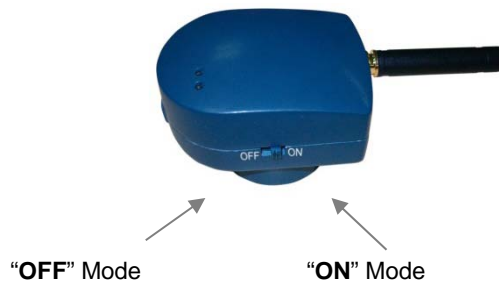


Fig.3 Switch on RF optical probe

“ON”: Turn-on power and into working condition, the green LED lights on. The blue-LED twinkles during data exchanging with host device.

“OFF”: probe is powered-off and no LED lights on. When not used the switch should be in “OFF” position for battery energy saving.

In “Off” position the probe can be used as an USB optical probe when the USB-cable plugged in.

Green LED will dim down when battery energy used up or exhausted.

2 RF-Adapter

RF-adapter provides RF interface to host device, and parts of which are described as below:

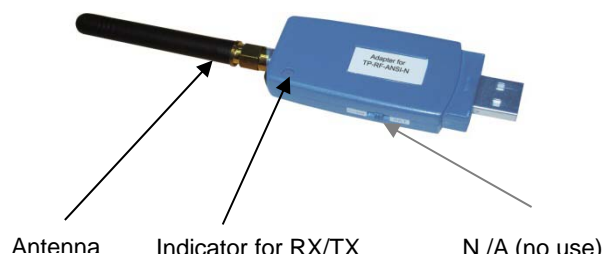


Fig.4 Descriptions for RF-adapter

- As a USB device **RF-adapter** must be installed by the driver when connected to PC or NB for the first time.
- After successful installation you may find its mapping port Com-x from the host computer. Installation may be done automatically just like all normal USB devices.

- The blue indicator of RF-adapter will twinkle during data access.
- Straight antenna is default, and angel antenna is available as an option for any, or both of the RF probe and the adapter.

3 Battery charger

Power charger for the battery is shown as below. However you may use any of other chargers with USB port and 5VDC output available.

Charging process is under control and monitoring by a power management chip assembled in RF optical probe.



Fig.5 Power charger

- The red indicator on power charger is for power-on and the green one for charging process.
- Red-LED lights up when power is on, and the green is on during charging. Green-LED turns down when the charging is complete.
- Connect the probe to the power charger by the USB-cable
- Plug the power charger to AC outlet within voltage range 85~230VAC and the red LED on immediately.

Operations

- 1 Switch on the power of the probe, blue-LED and red-LED lights up (constantly)
- 2 Start the RF adapter Its blue-LED lights up constantly.
- 3 During communication both the blue-LEDs of the probe and the one on the adapter twinkle.
- 4 Switch off for battery-power saving when not in using.

Note:

When the green-LED is very dim or dark it means the battery exhausted to the low limit and needs re-charging.

Configuration items

- 1 **One optical probe** with antenna
- 2 **RF-Adapter** with USB port and antenna
- 3 **One cable** with USB-A and USB-mini connectors
- 4 **One power adapter** with 85~230 ACV in and 5DCV regulated out for battery charging
- 5 **A CDROM** for USB driver

