PROBARE P10

EnOcean Field Tester

- Intuitive operation, no detailed knowledge of EnOcean radio protocol needed.
- Indication of field strength level and usability of location.
- Possibility to filter on a specific EnOcean ID to monitor signals from a specific device only.
- EnOcean Repeater for testing of radio coverage from a specific location.
- EnOcean Radio Link Test together with another suitable device.
- Handy, small, ruggedized.

1. **Application**

The PROBARE P10 is a hand-held tester, which shows the signal strength of received 868MHz EnOcean telegrams. In addition to that it may be used temporarily as an EnOcean-repeater. The P10 is the ideal tool to define the places where to install EnOcean transmitters, receivers, repeaters and to verify the transmitter function of any EnOcean device.

2. User interface

Built-in **antenna**, don´t touch this area while checking the field strength!

SIGNAL
Display of signal strength and filter mode

MODE
Display and change of operation modes

ON / OFF
Switch on / off PROBARE P10

3. Getting started

1. Open the battery case at the back of the P10 and insert two new dry cells AA/LR06. Check polarity carefully – see „+" symbols in battery case – to avoid damage of the P10! Close battery case again.

2. Switch on the P10 by holding the **ON / OFF** button for at least 1.5 seconds. Blinking of the LED **All** confirms the detection of the action. As soon as the LED **All** lights continuously the device is on.

3. Transmit an EnOcean telegram, e. g. by pressing of an EnOcean switch (PTM 200/210).

4. The signal strength will be indicated traffic light style, see section *Signal strength display* further down.

5. In case you don´t need the P10 any more, please switch it off by pressing the **ON / OFF** button for at least 1.5 seconds. Blinking of the LED corresponding to the last selected mode confirms the detection of the action. As soon as the LED does not light any more, the device is off.

Advice:

Low battery will be indicated by a slow blinking of the MODE LED and afterwards the P10 switches off automatically. Please replace the batteries as described in section 1! Never leave discharged batteries in the P10 to avoid damage of the P10 by the acid of the battery.

4. Signal strength display

The signal strength of the received EnOcean telegrams will be shown traffic light style. Please make sure, that you are receiving telegrams from the transmitter you want to test. It may be useful to use the **Filter** mode further details see section **Filter** mode below.
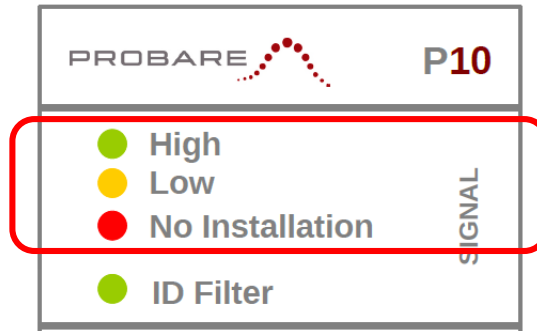
- SIGNAL **High** displays that a very strong EnOcean telegram was received. Even EnOcean devices with a built-in antenna could be installed at this location.

- SIGNAL **Low** displays reception of a not so strong EnOcean telegram. From this location devices with an external antenna should be used. Devices installed in walls, floors or ceilings with an internal antenna may not be used.

- SIGNAL **No Installation** displays reception of a rather weak EnOcean telegram. In order to provide a proper radio coverage a repeater shall be installed.

Remarks:

The P10 always shows the maximum field strength of a received EnOcean telegram, regardless of the reception directly from the transmitter or via a repeater.

5. Modes of operation

The P10 offers four different modes of operation, which are selected by taping on the **MODE** button:

- **All**
  The signal strength of all received EnOcean telegrams will be shown.

- **Filter**
  Activate the filter function in order to display only the signal strength of a specific EnOcean device.

- **Repeater**
  Before installing a fixed repeater you may test the location by operating the P10 in **Repeater Mode** (level 1 repeater) from the chosen location.

- **Radio Link Test**
  Offers the possibility to do an EnOcean radio link test together with another suitable device or for periodic transmissions of EnOcean telegrams.

Which mode is activated is indicated by the MODE LED.

**Description of modes of operation and use cases**:

When mode **All** is active the P10 displays the reception of any valid EnOcean telegram for approximately 0.5 seconds. In this mode the whole EnOcean radio traffic from any device (e.g. switches, sensors, gateways) within the radio range at this specific location will be shown. All EnOcean telegrams are indicated regardless of the EEP or the received data.
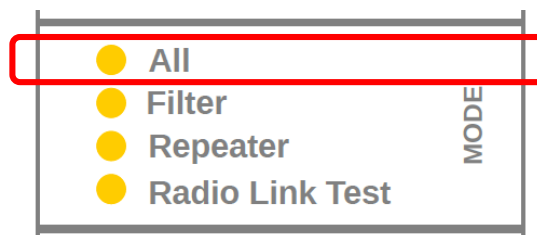
Use case:

Electrician 1 operates an EnOcean switch on the planned place of installation while electrician 2 monitors and evaluates the signal strength on the planned place of installation of the corresponding EnOcean receiver.

Mode **Filter** offers the possibility to set a filter on a specific EnOcean device. When this mode is activated only telegrams from this device will be indicated. This mode is used to determine the signal strength of a specific EnOcean transmitter.
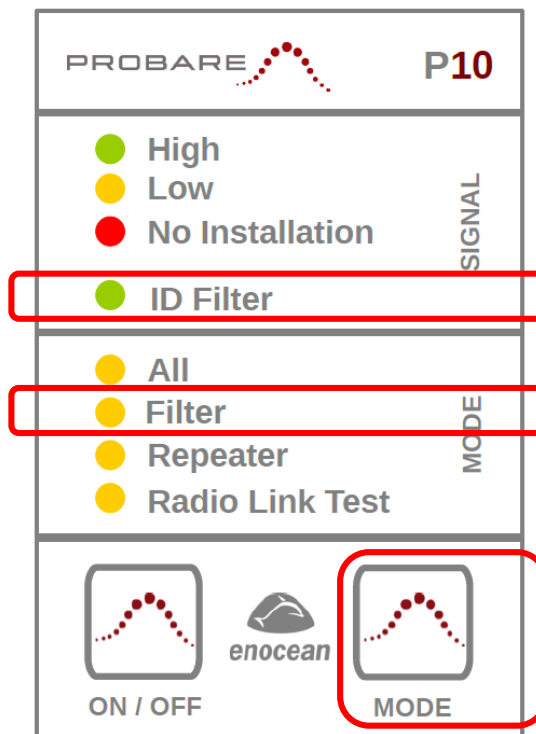
Use case:

The electrician switches the P10 in **Filter** mode. Than he activates an EnOcean switch very close to the P10 (less than 1m). While the signal is displayed on the P10 – the green SIGNAL LED is lighting – the button **MODE** is activated until the green LED **ID Filter** is lighting.

From now on the P10 only indicates telegrams from this selected device. The last received signal will be evaluated and the signal strength displayed until the next telegram from the same device is received. Using this function the radio range can be determined by a single person.

To deactivate the filter the **MODE** button has to be pushed until the green LED **ID Filter** switches off.

Changing the mode does not deactivate the filter function. The ID is stored and the filter will be active again when the **Filter** mode is reactivated. The LED **ID Filter** lights immediately after activation of the **Filter** mode and the signal strength of the selected EnOcean device will be displayed after reception of the first telegram from this device.

The mode **Repeater** helps to select the best mounting position of an EnOcean 1-Level repeater before installation.

A 1-Level repeater increases the radio coverage by retransmitting any received telegram which is not an already repeated telegram.
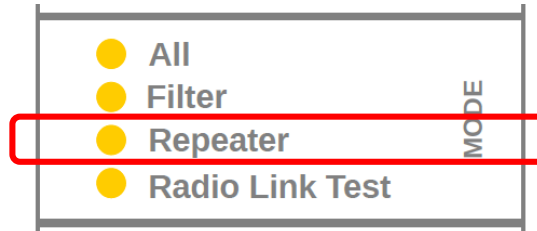
Use case:

The distance between two EnOcean devices – e.g. a switch and an actuator – is so big, that the transmitted signal is received at level **No Installation** or is not received any more.

One P10 is placed between the two devices where a repeater could be permanently installed and switched in **Repeater** mode.

A second P10 is operated in mode **All** or **Filter** and displays the signal strength of the received telegrams from the repeater.

If the received signal strength is much stronger – ideally **High** - then the selected mounting position is suitable for the permanent installation of a repeater.

Remarks:

Instead of a second P10 a PROBARE P30 may be used which offers a very comfortable radio network analysis. The P30 is the top-class EnOcean field testing device with a graphic display. All telegrams may be stored for documentation and/or later detailed analysis.

Radio Link Test is used to perform an automatic radio coverage test as specified by the EnOcean Alliance. This can only be done with a suitable second device. The P10 operates as „Radio Link Test Slave". It transmits EnOcean telegrams every two seconds. To indicate this to the user the LED **ID Filter** lights while transmitting.
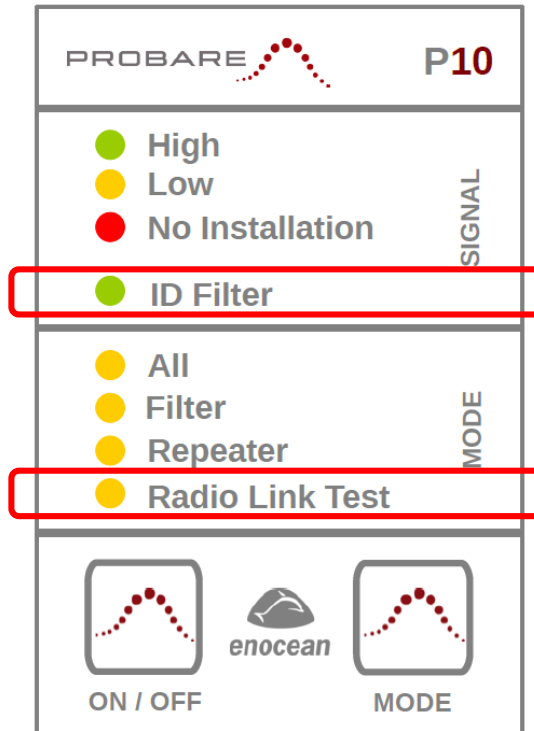
Using two P10:

The first P10 is placed at the location where an EnOcean actuator or sensor shall be installed. Mode **Radio Link Test** is activated.

The second P10 is switched in mode **All** or **Filter.** Now it shows the signal strength of the EnOcean telegrams received from the first P10 which can be evaluated by the user.

Using one P10 and a P30:

The P10 is placed at the location where an EnOcean actuator or sensor shall be installed. Mode **Radio Link Test** has to be activated.

The PROBARE P30 is located at the place of the EnOcean Receiver. Mode **Radio Link Test** has to be activated also. The P30 operates as „Radio Link Test Master" and performs an automatic test together with the P10. The complete results of this test are shown in detail on the graphic display of the P30.

Remarks:

The P10 **Radio Link Test** is fully compliant with the standardized EEP A5-3F-00 (EnOcean Equipment Profile) and operates as RLT-slave.

Technical Data:

	PROBARE P10 – 868MHz ASK
EnOcean Radio	ISO/IEC 14543-3-10 868,3 MHz ASK
Size	117mm x 73mm x 24mm (H x W x D)
Weight	140g including batteries
Operating Conditions	-10°C ... +45°C 10%rH ... 95%rH (non condensing)
Storage Conditions	-15°C ... +65°C 10%rH ... 95%rH (non condensing)
Marking	CE, EnOcean Ingredient Logo
Scope of Supply	P10 868MHz ASK Quick Start Guide DE / EN
Power Supply	2 dry cells or batteries AA type (LR06 1,5V /1,25V) (rechargable batteries may not be used)
Operating Time	up to 60 hours operating up to 500 days standby

WEEE Directive 2002/96/EC: Waste Electric and Electronic Equipment

Waste electric and electronic equipment requires professional recycling and by no means it may be disposed to non-recyclable waste.

As the P10 is a B2B product it is sold to business users only and, if not otherwise agreed upon with ViCOS, at the end of the P10 life cycle such business users have to take care for a professional recycling conforming to applicable laws.

GERMANY only: According to „Elektro und Elektronikgeräte Gesetz (ElektroG)" the return of a P10 to any public recycling center is not allowed.

P10 868 MHz: CE Conformity

Radio type approval and EMC according to R&TTE Directive 1999/5/EC
Electronics compliant RoHS Directive 2002/95/EC

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