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USER GUIDE

PTL

Produal

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PRODUAL

PART OF BEMSIQ GROUP

PTL pressure transmitter for liquids

USER GUIDE

Made in Finland

5 years warranty

MANAGEMENT SYSTEM CERTIFICATION DNV ISO 9001 · ISO 14001 Finland

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1 Introduction

The PTL transmitters measure liquid pressure in heating and cooling systems. They are designed for extreme conditions where condensation is a common problem. These transmitters have a two-layer protection for electronics to protect electronics from condensation problems. These transmitters are also suitable for refrigerants and non-aggressive gases.

The PTL transmitters have an analogue output signal for pressure measurement. The -V models have a voltage output (0...10 Vdc) and the -A models have a current output (4...20 mA).

The PTL liquid pressure transmitters are typically used in building automation systems for:

- district heating
- liquid heat exchangers
- heating subtraction
- air compressor systems
- district cooling
- fan coil units
- chilled beams

1.1 About this user guide

This user guide contains important information about the installation, wiring, configuration and use of the product. Read this guide carefully before you install the product, connect the wires, or operate the product. Make sure that you fully understand all instructions before you start work. If you are not sure what the instructions mean, contact the seller or the manufacturer.

Follow all instructions in this user guide carefully. Always obey the applicable local rules and regulations.

The original instructions were written in English. If there are differences between the English instructions and the translations, refer to the English instructions.

If you find a mistake in the English instructions or in the translations, please send the details to the manufacturer.

1.2 Intended use

The PTL water pressure transmitters are intended to be used for measuring water/glycol pressure in heating and cooling systems.

These transmitters are intended to be connected to building automation systems in the HVAC/R industry.

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2 Safety precautions

The product is developed, manufactured and tested according to high quality standards. However, instructions for safe use must be followed when installing, using or disposing the product or parts of product.

Read this user guide carefully before you commission, use or service this device. To avoid any kind of damage to people or property, follow the instructions carefully. is not liable for any hazards, injury to people, or damage to property caused by incorrect installation or misuse of the device.

To avoid electrical shock or damage to equipment, disconnect power before you install or service the product. Use only proper wiring that is rated for the full operating voltage and maximum current in the system. The wiring must also withstand fault conditions.

To avoid fire and/or explosion, do not use the product in potentially flammable or explosive atmosphere.

Make sure that the product is not damaged before installation. Do not drop the product or use excessive force during installation. Do not use the product if you can see any damages.

After installation, the product will be part of a system whose specifications and performance characteristics are not designed or controlled by . Refer to national and local authorities to ensure that the installation is functional and safe.

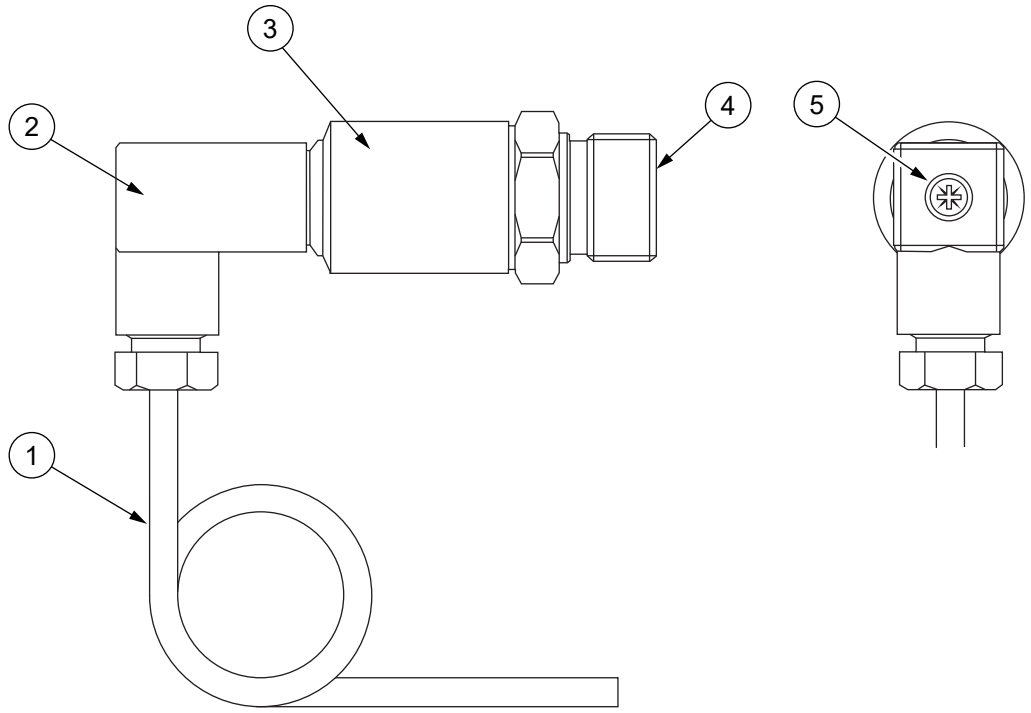
The product should only be used in professionally designed applications. Unauthorised modifications are not allowed. The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or property.

In this document, there are different warnings and notes. The warning and note types are defined in the following table.

Sign	Description
WARNING:	The warning symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION:	The caution symbol indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
Important:	The important symbol indicates a potentially hazardous situation which, if not avoided, could result in damage to the device or property.
Note:	The note symbol indicates a useful tip or a recommended way to complete a task. These notes also provide information that is useful but not critical to the user.

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3 Main components



1	Cable	2	Connector
3	Sensor	4	Mounting thread
5	Connector locking screw		

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4 Commissioning

4.1 Mounting the transmitter

WARNING: Handle the product with care. Dropping the product may cause internal damage and unwanted functions in the connected system.

WARNING: Do not install this product near a life support apparatus.

Important: The product may only be installed in a location where the ambient conditions meet the operating condition requirements.

Operating conditions

Medium temperature	-40...125 °C
Ambient temperature	-20...100 °C

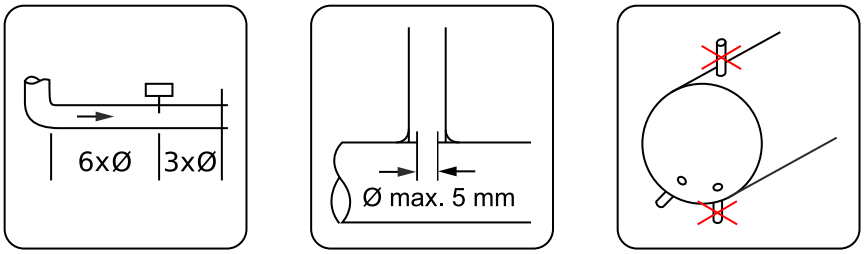
1. Select the mounting position.

   Mount the device to a water pipe measuring point.

   If possible, eliminate all the error factors that can affect the measurement. Typical measurement error factors include:

   - Ambient temperature is too high or too low.
   - The device is exposed to vibration.
   - The device is adjacent to a source of heat.
   - Mounting location is too close to liquid mixing point.
   - Mounting location is too tight. Install the device in a location where it is easy to service.
   - There are air bubbles in the liquid.
   - Measurement point is not sealed.

   All changes in the geometry of the pipe cause interference to the flow. You can determine the safe distance around the measuring point by the diameter of the duct. See the following figure about the safe distances and measurement point locations.



2. Open the connector locking screw and disconnect the connector.
3. Mount the transmitter to the measurement point.

   Important: Do not install the device against fluid and closed valve. The overpressure can damage the sensor.

   Use a suitable sealing method to ensure correct and safe measurement.
4. Reconnect the connector and tighten the connector locking screw.

4.2 Wiring

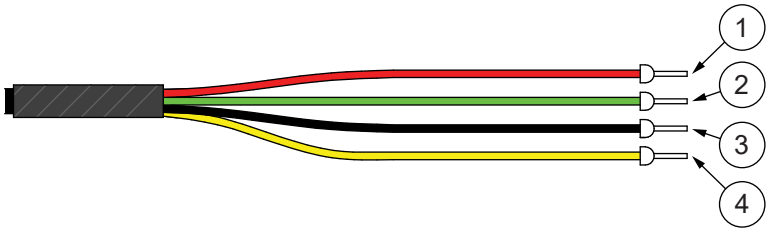
WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (separated extra low voltage) electricity network.

WARNING: Add an external fuse for supply voltage. The fuse rating depends on the connected devices in the SELV (safety extra low voltage) electricity network.

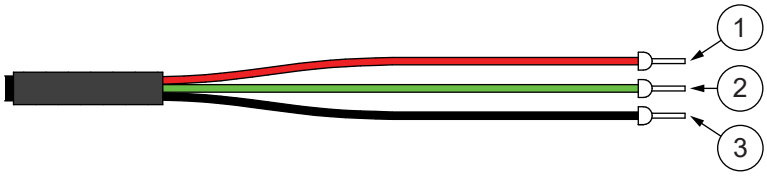
Important: This product cannot detect an abnormal condition of output port. External supervising (automated/human) can be necessary depending on the application where this product is used.

- In PTL-V models, connect the wires according to the following table:



1	Red	Power supply, 15...24 Vdc / 24 Vac
2	Green	Output, 0...10 Vdc
3	Black	GND
4	Yellow	Cable shield

- In PTL-A models, connect the wires according to the following table:



1	Red	Power supply, 10...30 Vdc
2	Green	Output, 4...20 mA
3	Black	Cable shield

Make sure that all device functions operate correctly after the wiring is complete and power supply is turned on.

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5 Disposal

This device is considered as electrical and electronic equipment for disposal in terms of the applicable European Directive. At the end of life, the product must enter the recycling system at an appropriate collection point.

- The device must be disposed through channels provided for this purpose.
- The disposal must be completed according to the local and currently applicable laws and regulations.

Generally all metals can be recycled as material. Plastics and cardboard packaging material can be used in energy recovery. Printed circuit boards need selective treatment according to IEC 62635 guidelines. To aid recycling, plastic parts are marked with an appropriate identification code. Contact your local distributor for further information on environmental aspects and recycling instructions for professional recyclers.



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