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FUNCTIONAL PURPOSE OF THE DEVICE

This probe has been designed to measure low turbidity values according to the nephelometric method (ISO 7027 – EN 27027).

The measuring system consists of:

- infrared light source;
- 90 degree scattered light detector;
- clean lens status detector;
- temperature sensor;
- built-in 2-wire 4-20 mA transmitter;
- RS 485 output with B&C (ASCII) and Modbus RTU protocols for data transmission, calibration and configuration procedures.

The probe can operate in analog or digital mode.

CE MARKING

The CE marking is placed on the packaging and on the S/N label of the instrument.
This instrument is manufactured according to the European Community directives and it is suitable to be installed in an industrial electromagnetic environment.

SAFETY WARNINGS

Any operation on the instrument must be performed by authorized and trained staff after reading the complete instruction manual.

Electronic instruments are subject to accidental failure. It is important to take all necessary precautions to avoid damages caused by malfunctions.

The use of this instrument must comply with the parameters described below, in order to avoid potential damages and a reduction of its operating life.

SPECIAL WARNINGS

In order to ensure a reliable operation and to prevent irreversible damage, it is important to avoid all of the following:

- prolonged exposure to direct sunlight;
- cleaning too frequently and excessive air pressure;
- leaving the compressed air input device open if not used;
- unscrewing or loosening the cable gland or the probe body.

DISPOSAL

In case of disposal of the instrument, apply the terms of the law provided for the disposal of electronic devices.

For any further information please see the complete instruction manual.

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SPECIFICATIONS

Storage temperature	-5 ÷ 50 °C
Operating temperature	-5 ÷ 50 °C
Operating pressure	0 ÷ 6 bar at 25°C | 0 ÷ 3 bar at 50°C
Connector	7 pin
Body	PVC
Diameter	38.50 mm
Length	137 mm
Weight	body 160 g
Thread	G 1 ¼''
Connector	7 pin
Protection	IP 68
Immunity performance loss	< 1 % full scale
EMC/RFI conformity	EN61326

CONNECTION IN DIGITAL MODE TO B&C INSTRUMENTS

In digital mode is possible to connect the turbidity probe to instruments MC 7687 of B&C Electronics.
Connect the sensor to the controller as follows:

Wire color	MC 7687
Green	40
White	37
Yellow	39
Grey	38

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MAINTENANCE

The two optical lenses at the bottom of the probe should be inspected and cleaned periodically.
Cleaning is recommended before zero and sensitivity calibration.
Remove any deposit on the optical lens by using a soft, damp cloth or paper towel without pushing on the surface to avoid scratching it.
If necessary, use a soft detergent or a very dilute acid if the deposits are of limestone type.
The frequency of cleaning depends on the type of use, the nature and the concentration of the measuring sample.
Contact our sales department for more information.

CALIBRATION

The probe is supplied with a factory calibration of the zero and sensitivity done with known standard solutions.
Checking and periodic calibration of the probe is always necessary to ensure the accuracy of the measure.
The optical components can have small drifts during the life.
The cleanliness of the optical lens is an important element to check before making a new calibration. If necessary, clean them with a soft cloth.
Is suggested to run the zero calibration before the sensitivity calibration.
The check signal calibration must be performed with the probe immersed in the liquid without the presence of air bubbles on the surfaces of the optical lens.

Zero calibration

The zero calibration must be performed in the zero standard solution or in water with known turbidity value next to zero.
Calibration is performed on all the scales following the procedures described in the complete manual.

Sensitivity calibration

It is done in formazine solution or in a known turbidity value solution following the procedure described in the complete manual.
We recommend values not lower than 2 NTU.

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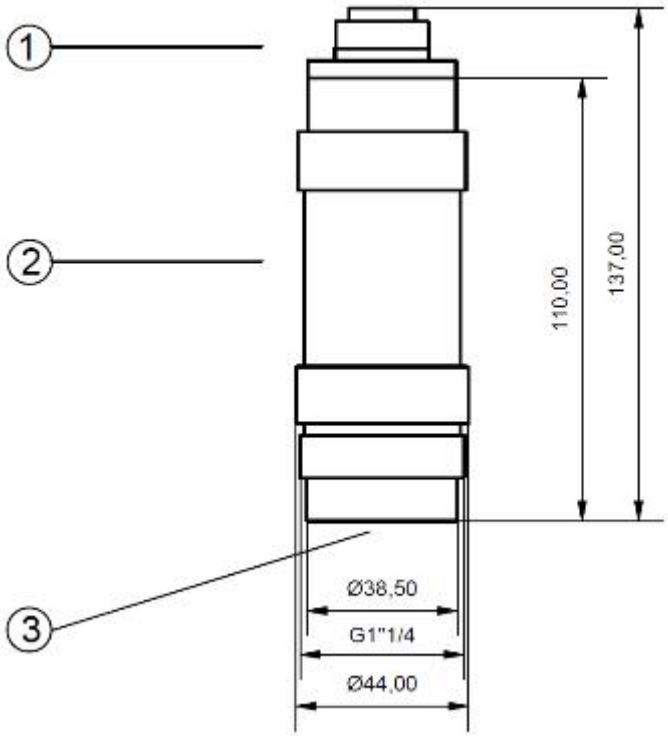
DIMENSIONS



Description

1 - Cable
2 - Body
3 - Optical lens

Connections

Shield	not connected
Yellow	RS485 A (+)
Grey	RS485 B (-)
Brown	not connected
Green	+ current loop
White	- current loop / COM RS485