TU 8325 – TU 8525

Turbidity probes.
4/20 mA and RS 485 output.

These unique probes have been designed to measure turbidity based on nephelometric method (ISO 7027 – EN 27027).
The probes are available for submersible and in-pipe installations.

The measuring system consists of:
- Infrared light source,
- 90 degree scattered light detector,
- Detector of the clean lens status,
- 2-wire 4/20 mA analog output,
- RS 485 digital output
- Nozzle for the autoclean by external pressured air (TU 8325).

Through commands from the Personal Computer hyperterminal, the serial interface allows the measuring and check signals transmission, the scale selection, the analog or digital operating mode selection, the zero and sensitivity calibration.

Thanks to its 4/20 mA isolated output, the probe can be directly connected to a PLC or data logger, and configured in NTU, g/l, % or other.

The probe can be connected to B&C Electronics controller BC 7335, BC 7635, BC 7635.010, BC 7687 or BC 6587, which provide the power, the measuring readout, 2 set-points, the alarm relay and the holding function for an external cleaning cycle.

The most common applications of this probe include: water quality monitoring, municipal and industrial water treatment and aquaculture.

Principle of operation

The turbidity follows the back nephelometric method (ISO 7027 – EN 27027).
A light beam is sent to the sample through an optical lens.

The 90 degree scattered light by suspended particle is collected by the probe through a second lens and it is converted in an electric signal proportional to the turbidity of the sample.

The probe uses an infrared light and the measuring is not affected by the color of the sample.

TU 8325

TU 8525

Technical specifications

Scale: 0/4,000 – 0/40,00 – 0/400,0 NTU
Sensitivity NTU: 70/130 %
Zero NTU: ± 0,400 NTU all scales
Power supply: 9/36 Vdc
Analog output: 4/20 mA isolated current Loop
Load: 600 Ω max. at 24 Vdc
Digital output: RS 485
Room temperature: -5/50 °C
Max. pressure: 1 bar at 25 °C (TU 8325); 6 bar at 25 °C (TU 8525)
Autoclean: by pressure air 3 bar max (TU 8325)
Dimensions TU 8325: L=165 mm total, D= 60 mm
Dimensions TU 8525: L=143 mm total, D= 40 mm
Body: PVC
Cable: 10 m (100 m max.)
Protection: IP 68

The technical specifications may be changed without notice

Accessories

BC 8701 RS485/USB converter for power supply though PC connection

Accessories for TU 8325

0012.450043 Extension pipe adapter
0012.000624 Swivel mounting + 0012.450043
0012.440040 33 m PVC tubing for pressured air

Accessories for TU 8525

TU 910 Overflow cell
YAT75M0021 FlowTee assembly for in-pipe installation

OD 8325 – OD 8525

Optical dissolve oxygen probes. 4/20 mA and RS 485 output.

These unique probes have been designed to measure dissolved oxygen based on fluorescent technology.
The probes are available for submersible and in-pipe installations.

The measuring system consists of:

- optical device complete of fluorescent material,
- d.oxygen and temperature measuring circuit,
- 2-wire 4/20 mA analog output,
- RS 485 digital output,
- nozzle for the autoclean by external pressure air (OD 8325).

The measuring is provided in ppm or % of air with automatic temperature compensation.
Through commands from the Personal Computer hyperterminal, the serial interface allows the d.oxygen and temperature data transmission, the ppm or % of air scale selection, the configuration of pressure, salinity and R.H compensation, the zero and sensitivity calibration.

Thanks to its 4/20 mA isolated output, the probe can be directly connected to a PLC or data logger.

The probe can be connected to B&C Electronics controller BC 7335, BC 7635, BC 7635.010, BC 7687 or BC 6587, which provide the power, the measuring readout, 2 set-points, alarm relay and the holding function for an external cleaning cycle.

The most common applications of this probe include: water quality monitoring, municipal and industrial water treatment and aquaculture.

Principle of operation

A light beam of a specific wavelength is sent to a special fluorescent layer in contact with the sample.
The absorbed light energy is partially released as a light pulse with an higher wavelength.
This phenomenon is called fluorescence.
If oxygen molecules are in contact with the sensing layer, the fluorescing is reduced (quenching).
By measuring the amount of quenching it is possible to determine the oxygen concentration.
The advantages of this measuring method are the absence of electrolyte and membrane, the possibility to measure the oxygen concentration in water or in air, and a good sensitivity in a low oxygen concentration.

OD 8325

OD 8525

Technical specifications

Scale:	0/20 ppm - 0/200 % air
Sensitivity:	± 0,5 % of the scale
Response time:	95% in < 60 seconds
Power supply:	9/36 Vdc
Analog output:	4/20 mA isolated current Loop
Load:	600 Ω max. at 24 Vdc
Digital output:	RS 485
Temperature compensation:	automatic
Secondary parameters:	pressure, salinity, RH
Room temperature:	-5/50 °C
Max. pressure:	1 bar at 25 °C (OD 8325); 6 bar at 25 °C (OD 8525)
Autoclean:	by pressure air 3 bar max (OD 8325)
Dimensions OD 8325:	L=165 mm total, D= 60 mm
Dimensions OD 8525:	L=143 mm total, D= 40 mm
Body:	PVC
Cable:	10 m (100 m max.)
Protection:	IP 68

The technical specifications may be changed without notice

Accessories

BC 8701	RS485/USB converter for power supply though PC connection
OD 8391	Optical sensing element replacement kit

Accessories for OD 8325

0012.450043	Extension pipe adapter
0012.000624	Swivel mounting + 0012.450043
0012.440040	33 m PVC tubing for pressured air

Accessories for OD 8525

TU 910	Overflow cell
YAT75M0021	FlowTee assembly for in-pipe installation

TU 8355 – TU 8555

High turbidity and suspended solids probes. 4/20 mA and RS 485 output.

These unique probes have been designed to measure to measure high turbidity and suspended solids based on back scattering technology.
The probes are available for submersible and in-pipe installations.

The measuring system consists of:
- Infrared light source,
- Detector of scattered light by suspended particles,
- Detector of the clean lens status,
- 2-wire 4/20 mA analog output,
- RS 485 digital output
- Nozzle for the autoclean by external pressured air (TU 8355).

Through commands from the Personal Computer hyperterminal, the serial interface allows the measuring and check signals transmission, the scale selection, the analog or digital operating mode selection, the zero and sensitivity calibration.

Thanks to its 4/20 mA isolated output, the probe can be directly connected to a PLC or data logger, and configured in FTU, g/l, % or other.

The probe can be connected to B&C Electronics controller BC7335, BC 7635, BC 7635.010, BC 7687 or BC 6587, which provide the power, the measuring readout, 2 set-points, the alarm relay and the holding function for an external cleaning cycle.

The most common applications of this probe include: water quality monitoring, municipal and industrial water treatment and aquaculture.

Principle of operation

The turbidity and suspended solid measurement follows the back scattering method.
A light beam is sent in the sample through an optical lens.

The back scattered light by suspended particle is collected by the probe through a second lens, detected and converted in an electric signal proportional to the turbidity of the sample.

TU 8355

TU 8555

Technical Specifications

Scale: 0/100 – 0/1000 – 0/10000 FTU
Sensitivity FTU: 70/130 %
Zero FTU: ± 10 FTU all scales
Power supply: 9/36 Vdc
Analog output: 4/20 mA isolated current Loop
Load: 600 Ω max. at 24 Vdc
Digital output: RS 485
Room temperature: -5/50 °C
Max. pressure: 1 bar at 25 °C (TU 8355); 6 bar at 25 °C (TU 8555)
Autoclean: by pressure air 3 bar max (TU 8355)
Dimensions TU 8355: L=165 mm total, D= 60 mm
Dimensions TU 8555: L=143 mm total, D= 40 mm
Body: PVC
Cable: 10 m (100 m max.)
Protection: IP 68

The technical specifications may be changed without notice

Accessories

BC 8701 RS485/USB converter for power supply though PC connection

Accessories for TU 8355

0012.450043 Extension pipe adapter
0012.000624 Swivel mounting + 0012.450043
0012.440040 33 m PVC tubing for pressured air

Accessories for TU 8555

TU 910 Overflow cell
YAT75M0021 FlowTee assembly for in-pipe installation