

Sense300 Series Water Quality Probes

Water Level · Dissolved Oxygen · pH · Conductivity



Probes for Pressure, Temperature & Water Quality

Analogue and Digital Transmitters

The devices come with analogue, digital or switching output, and can be outfitted for absolute pressure or gauge pressure measurements.

Analogue output options include voltage outputs ranging from 0...1V to 0...10V as well as current output signals 0...20mA and 4...20mA in two- or three-wire technology.

Optional Temperature Measurements

All water level probes can optionally be outfitted with the necessary electronics for temperature measurements. In this case the P-Sense320 probe provides a second analogue output. Probes for pH, conductivity and dissolved oxygen measure temperature by default in order to deliver compensated readings.

Sense300 probes have very compact dimensions and their entire circuitry is integrated into the stainless steel or POM housing which is completely submersible or can be attached to process fittings.

All three water quality models allow for user calibration and the replacement of their respective electrodes.

Submersible Probe
P-Sense320

P-Sense320-AG
1/8 Inch Screw-In Thread

The P-Sense transducers for pressure and temperature can be used both in air and in water or other fluids.

Potential fields of application are water level monitoring or fluid level measurements, e. g. in bodies of water or storage tanks.

PH/Temperature **pH-Sense330**
Conductivity/Temperature **µS-Sense340**

Diss. Oxygen/Temperature **O2-Sense355**

Features

- Robust housing made of stainless steel (pH-Sense & µS-Sense) and POM (O2-Sense)
- Piezo-resistive, media separated sensor for pressure + optional temperature sensor
- High accuracy due to 20bit analogue-to-digital conversion
- ASCII stream für computerized measuring systems and data loggers
- Low power demand (suitable for use with data loggers)
- Supply voltage (3...30 VDC)
- Polarity protection, lightning protection

Optional Relay Output

The probes can optionally be equipped with a switching output. You can either order your model with a preconfigured switching value or use the InfraLog for Windows software for configuration of the switching value and hysteresis.

RS485/RS232 Interface

Sense300 probes can be fitted with an RS485 interface (other options on request) instead of an analogue output which can be connected to a computer using a RS232 adapter. Connection and data transfer to a PC/notebook can be established with a terminal application.

Alternatively, we offer the InfraLog for Windows software with online graphs, capture tool and export options (e. g. to Excel).

Download of measurements can be done with pulled operations or automatically within regular intervals (2s...24hrs).

CTD-Sense 300



3 Parameter Probe CTD-Sense300

The CTD-Sense300 is a multi-parameter probe for measuring water level, temperature and also conductivity at the same time.

It can be ordered as one of two models: either with a built-in sensor for absolute pressure (option -A) or with a built-in sensor for relative pressure (option -R).

For conductivity and depth the CTD-Sense300 uses the same sensors as the μ S-Log3040 and P-Log3020. Hence its measuring range, accuracy and resolution are the same. Also, the conductivity electrode can be replaced by the user.

Features

3 parameters (CTD) simultaneously
Low power consumption for maintenance-free long-term operation
Small diameter for use in 2" wells

Specifications

Mechanics

Dimensions:	d= 36mm, l= 380mm
Weight:	ca. 800g
Housing:	POM, V4A optional

Electrics

Measuring range & Accuracy:	see specs for pressure and conductivity on the next page
Power supply:	3 ... 30 VDC (voltage outputs) minimum 10V for current signals

Current drain:	< 1 mA (with 0...1V output) < 2 mA (other voltage outputs) < 20 mA (current output)
Analogue output:	0...20mA, 4...20mA (three-wire) 0...1V, 0...5V, 0...10V
Max. load:	500 Ohm (max.)
Standard cable:	PUR cable, 10m, 20m, 50m, 150m, custom lengths on request
Petrol resistance:	Optional

CTD-Sense 300 Order Code

CTD-Sense300-MA-MBP-MBC-A-KL

MA = Model	A	= Absolute pressure
	R	= Relative pressure
MBP = Meas. range (pressure)	06	= 600 mbar
	10	= 1 bar
	20	= 2 bar
	60	= 6 bar
	100	= 10 bar
MBC = Meas. range (conductivity)	001	= 0...1 000 μ S
	005	= 0...5 000 μ S
	100	= 0...100 000 μ S
	200	= 0...200 000 μ S
	XXX	= Custom range in mS
A = Output	232	= RS232 output
	485	= RS485 output
	CMOS	= CMOS-UART output
	10	= 0...10V*
	420D	= 4...20mA* three-wire
KL = Cable length	6	= 6m
	10	= 10m
	20	= 20m
	50	= 50m
	X	= Custom length in metres

* = 2 analogue outputs for depth and conductivity. Temperature measurements are for compensation purposes.

Specifications

Electrics

Power supply: 3...30 VDC (for voltage outputs)
min. 10V for current outputs

Current drain: <1 mA (with 0...1V output)
<2 mA (other voltage outputs)
<20mA (current output)

Analogue output: 0...20mA, 4...20mA (three-wire), 0...1V,
0...5V, 0...10V, 4...20mA (two-wire)

Max load: 500 Ohm (max)

Standard cable: PUR cable, 10m, 20m, 50m, 150m
custom lengths upon request

Petrol resistance: Optional

Housing material: V4A stainless steel (P-/μS-/pH-Sense)
POM (O2-/CTD-Sense)

Dimensions:

P-Sense: d = 25mm, l = 220mm

μS-Sense: d = 25mm, l = 340mm (incl. PG gland)

pH-Sense: d = 25mm, l = 405mm

O2-Sense: d1= 36mm, l = 285mm (front piece, sensor head)

d2= 50mm, l = 262mm (end piece)

l = 547mm (entire probe)

Temperature

Measuring range: 0...70°C

Accuracy: ±0.2°C

Resolution: better than 0.01°C

Pressure

Measuring range: 0...600mbar,
0...1bar, 0...2bar, 0...5bar, 0...16bar
(Custom measuring ranges and scalings
available without extra charge on request)

Accuracy: ±0.5% of range (±0.1% optional)

Resolution: better than 0.002% of range

Long-term stability: <0.1% of range

Overpressure: min. 2 x FS

PH

Sensor: Strong glass electrode
(replaceable by user)

Measuring range: 0...14 pH

Resolution: 0.01 pH

Accuracy: ± 0.02 pH

Operating depth: up to 100m

Conductivity

Sensor: Conductometric two-electrode
measuring cell (replaceable by user)

Measuring range: 0...1 000 μS/cm

0...5 000 μS/cm

0...100 000 μS/cm

0...200 000 μS/cm

Resolution: 0.2%

Accuracy: 2% of full-scale range

Operating depth: up to 100m

Dissolved Oxygen

Sensor: Optical O2 sensor

Measuring range: 0...30mg/l dissolved oxygen
(0...100% dissolved oxygen in
local air concentraion)

Resolution: 0.05%

Accuracy: ±1% of reading + 8ppb

Temperature

compensation: disabled by default, activatable

Operating depth: up to 60m

Life expectancy: DO electrode approx. 12 Months
(replaceable by user)

Pressure / Water Level Probe Order Code P-Sense320-O1-O2-A-MB-MA-KL-O3-O4-KAL-O5

O1 = Option1 P = Pressure only
PT = Pressure and temperature

O2 = Option2 S = Accuracy 0.5%
V = Accuracy 0.1%

A = Ausgang 420Z = 4...20 mA two-wire*
420D = 4...20 mA three-wire
020 = 0...20mA
01 = 0...1 V
025 = 0...2.5V
05 = 0...5 V
10 = 0...10 V
485 = RS485 output
232 = RS232 output
CMOS = CMOS-UART output

MB = Measuring range 06 = 600mbar
10 = 1 bar
20 = 2 bar
50 = 5 bar
160 = 16 bar

MA = Measuring mode A = Absolute pressure
R = Relative pressure

KL = Cable length 6 = 6m
10 = 10m
20 = 20m
50 = 50m
X = Custom length in metres

O3 = Option3 R = With relay output
O = Without relay output

O4 = Option4 STD = Water level model
AG = Connection thread model
(G 1/8 Inch)

KAL = Calibration STD = Calibrated for the specified
range (MB)
XXX = Custom calibration
Specify as follows
0/500 for 0...500mbar

O5 = Cable STD = Standard PUR cable
20 = Petrol-resistant cable

* = With two-wire current loop only 1 output is available.

Water Quality Probe Order Code

PH-Sense330-A-KL-O1

μS-Sense340-MB-A-KL-O1

O2-Sense355-A-KL-O1

MB = Measuring range 001 = 0...1000 μS/cm
(only μS-Sense 340) 005 = 0...5000 μS/cm
100 = 0...100 000 μS/cm
200 = 0...200 000 μS/cm
XXX = Custom range in μS/cm

A = Output 420D = 4...20 mA three-wire
020 = 0...20mA
01 = 0...1 V
05 = 0...5 V
10 = 0...10 V
485 = RS485 output
232 = RS232 output
CMOS = CMOS-UART output

KL = Cable length 6 = 6m
10 = 10m
20 = 20m
50 = 50m
X = Custom length in metres

O1 = Option1 R = with relay output
O = without relay output



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