

**Datalogger**

# **DL.OCS/N/RS485**



## **Customer benefits**

- Multi-parameter probe: pressure, temperature and conductivity
- High-precision digital data logger with user-friendly software
- Thanks to the huge memory (1.5 Mio. values per channel) and the long battery lifetime (up to 10 years) the cost of ownership can be reduced to a minimum
- For varying conditions of use, 16 measuring series can be set up parallel
- Stainless steel and titanium version for use in acidic or otherwise aggressive media

**Version: 12.05.2016**

# Technical Specifications

## Pressure measuring range (mH<sub>2</sub>O)

	2 ... 5	> 5 ... 20	> 20 ... 250
<b>Overpressure</b>	≥ 3 bar	≥ 3 x FS (≥ 3 bar)	≥ 3 x FS
<b>Burst pressure, (1)</b>	> 200 bar	> 200 bar	> 200 bar
<b>Accuracy, (± % FS)</b>	≤ 0.15	≤ 0.05	≤ 0.03
<b>Total Error, (2), (3), (± % FS)</b>			
-5 ... 50°C, (typ. / max.)	≤ ± 0.20 / 0.40	≤ ± 0.10 / 0.20 ≤ ± 0.5 / 1.0 cmH <sub>2</sub> O	≤ ± 0.05 / 0.10
-5 ... 80°C, (typ. / max.)	≤ ± 0.50 / 1.00	≤ ± 0.10 / 0.20 ≤ ± 1.0 / 2.0 cmH <sub>2</sub> O	≤ ± 0.10 / 0.20
<b>Long term stability, (4)</b>	< 0.5 % FS / < 4 mbar	< 0.2 % FS / < 4 mbar	< 0.1 % FS / < 0.2 % FS

(1) Transducer

(2) Total error including accuracy, hysteresis, repeatability and temperature influences

(3) The error values are valid within the corresponding temperature range

(4) 1 year (typ. / max.)

## Temperature measuring range, (1) (°C)

	-5 ... 50	-5 ... 80
<b>Accuracy (2)</b>	≤ ± 0.5 °C	≤ ± 1.5 °C
<b>Response time, (3), (4)</b>		
T 0.50	9 s	9 s
T 0.63	15 s	15 s
T 0.90	27 s	27 s

(1) Temperature measurement included

(2) Accuracy of the equipment ± 2 °C

(3) Time in seconds that the sensor needs to carry out eg 63% of a temperature change

(4) Time of measurement for liquid medium

## Conductivity measuring range

<b>Standard</b>	0 ... 200 mS / cm
<b>Accuracy</b>	
0 ... 200 μS / cm	≤ ± 2.5 % FS
0 ... 2 mS / cm	≤ ± 1.5 % FS
0 ... 20 mS / cm	≤ ± 1.5 % FS
0 ... 200 mS / cm	≤ ± 1.5 % FS

## Temperature range

<b>Operating temperature, (1)</b>	-5 ... 50°C / -5 ... 80°C
<b>Process temperature, (1)</b>	-5 ... 50°C / -5 ... 80°C
<b>Storage temperature</b>	-40 ... 85°C

(1) Depending on cable type, pressure range, seal, measuring medium

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## Electrical specifications

<b>Resolution</b>	
Pressure	14 Bit
Temperature	14 Bit
Conductivity	14 Bit
<b>Output</b>	
Interface	RS485
Protocol	STS Layer 8
Baudrate	38'400 bps
<b>Power supply (1)</b>	Lithium Batterie SAFT LS 14500, 3.6V AA 2250 mAh
<b>Standby current</b>	6 uA / 15 uA (typ./max.)
<b>Operating current</b>	< 25 mA
<b>Battery life, (2)</b>	> 10 years
<b>Max. cable length</b>	300 m

(1) External power supply (9...30VDC) on request

(2) Lifetime at 1 measurement / hour, 0...40°C

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## Functions

<b>Data format</b>	Data are stored in ASCII format
<b>Data memory</b>	Up to 1.5 Mio measurement values per channel, data remains in memory even without battery, each measurement value is correlated with time and date
<b>Data transfer</b>	Read out data per measurement series, Read out all stored data, Read out data for a defined time-period
<b>Real-time clock</b>	Quartz-precision clock with date, Start-time of datalogging configurable
<b>Identification</b>	Each datalogger has a unique serial number, as well as a user-definable description
<b>Battery indicator</b>	Battery level indicator, calculated by considering the ambient temperature and the battery properties
<b>Configuration</b>	Sample rate, threshold values, Identification (f.e. measuring series), Taring of measurement value, Density of the measuring medium, Measurement units

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## System Requirements

<b>PC / Notebook</b>	Min. 1.6 GHz Dual Core x86, Memory: Min. 10 GB, RAM: Min. 2 GB
<b>Tablet PC</b>	Please contact STS
<b>Operating System, (1)</b>	Windows XP SP3, 7, 8, 8.1, 8 Pro (32-/ 64-Bit)

(1) Not compatible with Windows 8 RT

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## Qualifications

	Description	Level	Typical interferences
<b>EN 61000-4-2 EN 61326-1</b>	Electrostatic discharge	8 kV contact 15 kV air	
<b>EN 61000-4-4 EN 61326-1</b>	Transients (burst)	4 kV	Motors, valves
<b>EN 61000-4-5 EN 61326-1</b>	Surge	2 kV	Overvoltage
<b>EN 61000-4-6 EN 61326-1</b>	Conducted RF	10 V (0.15 ... 80 MHz)	Frequency converters
<b>IEC 60068-2-6</b>	Vibration	2g (5...2000Hz)	

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## Physical specifications

<b>Materials</b>	
Transducer	Stainless steel (316L / 1.4435), titanium (Gr. 2)
Housing level transmitter	Stainless steel (316L / 1.4435), titanium (Gr. 2)
Housing suspension	Stainless steel (316L / 1.4435), titanium (Gr.2)
Seals	Viton (standard), EPDM, Kalrez, NBR
Cable	PUR, FEP, PE
<b>Weight (1)</b>	150 g

(1) Specification for a DL.OCS/N/RS485, closed, cable

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## Cable specifications

	Pressure	Temperature
<b>PUR</b>	≤ 25 bar	-5 ... 50°C
<b>FEP</b>	≤ 25 bar	-5 ... 80°C
<b>PE</b>	≤ 25 bar	-5 ... 80°C

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## Accessories

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### Overview

<b>10.00.0091</b>	Accessories overview
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### Software / Firmware

<b>114209</b>	DL.OCS PC Application Software
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## Additional documents

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### Operating and safety instructions

	Article number
10.88.0397	DMM033

## Ordering information

		X	XX	XX	XX	XX	XX
<b>Type</b>	DL.OCS/N/RS485						
<b>Pressure type</b>	Gauge	1					
	Absolute (vacuum)	2					
<b>Pressure measuring range (1)</b>	0 ... 2 mH <sub>2</sub> O and 0 ... 250 mH <sub>2</sub> O	XX					
	Offset, special adjustment	99					
<b>Model</b>	With connection housing (Fig. 1)	1					
	With connection housing (for ext. power supply) (Fig. 1)	3					
	Without connection housing (Fig.3)	0					
<b>Cable</b>	PUR cable, IP 68, black (2)	0					
	PE cable, IP 68, black (2)	1					
	FEP cable, IP 68, black (2)	2					
	PUR cable, black, IP 68, plug-in (Fig. 7), (2)	4					
	PVC cable, blue (ACS certified) (2)	5					
	Without cable(Fig.3)	3					
<b>Process connection</b>	Closed (Fig. 4)			57			
	Open (Fig. 5)			58			
	Closed, 1.4435 (Fig. 4) (4)			59			
	G 1/4 M (Fig.2)			11			
	G 1/2 M			13			
<b>Transmitter housing material</b>	316L Stainless steel 1.4435			0			
	Titanium CP Grade 2			1			
	Titanium CP Grade 2 (absolute type)			1			
<b>Connector housing material</b>	316L Stainless steel 1.4435			0			
	Titanium CP Grade 2			1			
	without connection housing (Fig.3)			2			
<b>Seal material</b>	Viton (Standard)				0		
	EPDM				1		
	Kalrez				2		
	NBR (ACS) (4) (5)				3		
<b>Temperature range</b>	-5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)					4	
	-5 ... 80°C compensated (allowed process temperature: -5 ... 80°C) (3)					5	
<b>Option</b>	Conductivity (316L Stainless steel 1.4435) (Fig. 6)						D
	Conductivity (Titanium CP Grade 2) (Fig. 6)						P
	Ballast weight 316L Stainless steel 1.4435						B
	Flooding protection 316L Stainless steel 1.4435						I

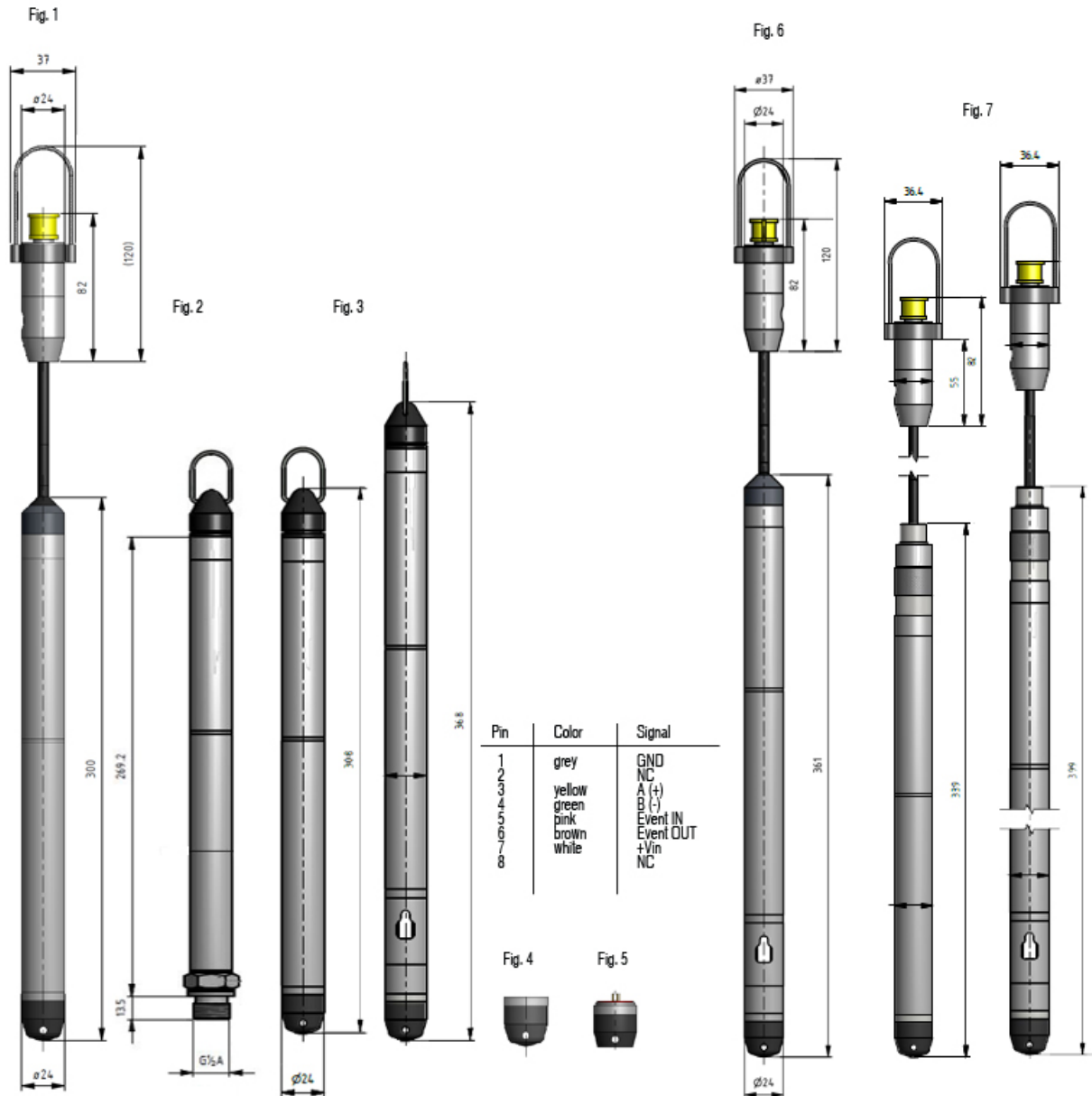
(1) Other pressure ranges on request

(2) Please specify the required cable length

- (3) Cable type PE & FEP, pressure range < 10 bar
- (4) For ACS Certification
- (5) For ACS Certification only without conductivity

# Technical drawings

## Dimensions



Specifications may change without notice.

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