

Datalogger

DL.OCS/N/RS485



Version: 15.10.2014

Technical Specifications

Pressure measuring range (mH₂O)

	2 ... 5	> 5 ... 20	> 20 ... 250
Overpressure	≥ 3 bar	≥ 3 x FS (≥ 3 bar)	≥ 3 x FS
Burst pressure, (1)	> 200 bar	> 200 bar	> 200 bar
Accuracy, (± % FS)	≤ 0.15	≤ 0.05	≤ 0.03
Total Error, (2), (3), (± % FS)			
-5...50 °C, (typ. / max.)	≤ ± 0.20 / 0.40 ≤ ± 1.0 / 2.0 cmH ₂ O	≤ ± 0.10 / 0.20 ≤ ± 0.5 / 1.0 cmH ₂ O	≤ ± 0.05 / 0.10
-5...80 °C, (typ. / max.)	≤ ± 0.50 / 1.00 ≤ ± 2.0 / 4.0 cmH ₂ O	≤ ± 0.10 / 0.20 ≤ ± 1.0 / 2.0 cmH ₂ O	≤ ± 0.10 / 0.20
Long term stability, (4)	< 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
Accuracy, with conductivity (2)	≤ ± 0.15 °C	≤ ± 0.15 °C
Accuracy, without conductivity (2)	≤ ± 0.5 °C	≤ ± 1.0 °C
Response time, (3), (4)		
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

Standard	0 ...200 mS / cm
Accuracy	
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

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

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

Electrical specifications

Resolution	
Pressure	21 Bit
Temperature	21 Bit
Conductivity	14 Bit
Output	
Interface	RS485
Protocol	Modbus RTU
Baudrate	9600 bps
Battery, (1)	LS14500 (Saft), Lithium, 3.6 V, 2.6 Ah, AA
Standby current, (typ. / max.)	6 uA / 15 uA
Operating current	< 25 mA
Battery life, (2)	> 10 years
Cable length, (max.)	300 m

(1) Battery can be changed on-site

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

Functions

Data format	Data are stored in ASCII format
Data memory	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
Data transfer	Read out data per measurement series, Read out all stored data, Read out data for a defined time-period
Real-time clock	Quartz-precision clock with date, Start-time of datalogging configurable
Identification	Each datalogger has a unique serial number, as well as a user-definable description
Battery indicator	Battery level indicator, calculated by considering the ambient temperature and the battery properties
Configuration	Sample rate, threshold values, Identification (f.e. measuring series), Taring of measurement value, Density of the measuring medium, Measurement units

System Requirements

PC / Notebook	Min. 1.6 GHz Dual Core x86, Memory: Min. 10 GB, RAM: Min. 1 GB
Tablet PC	Please contact STS
Operating System, (1)	Windows XP, Vista, 7, 8
Browser	Internet Explorer, Firefox, Google Chrome, Safari

(1) Not compatible with Windows 8 RT

Qualifications

	Description	Level	Typical interferences
EN 60068-2-6	Vibration	4g (4...100 Hz / $\pm$ 3.2 mmpp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
EN 55011 EN 55022	Emission, class B	< 40 dB μ V/m @ 3m (0.03...1 GHz)	
EN 61000-4-2 EN 61326-1	Electrostatic discharge	8 kV contact 15 kV air	
EN 61000-4-3 EN 61326-1	Radiated Immunity	10 V/m (0.08...2.7 GHz, 2s)	Radio sets, wireless phones
EN 61000-4-4 EN 61326-1	Transients (burst)	4 kV	Motors, valves
EN 61000-4-5 EN 61326-1	Surge	2 kV	Lightning
EN 61000-4-6 EN 61326-1	Conducted RF	10 V (0.15...80 MHz, 2s)	Frequency converters

Physical specifications

Materials	
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

Cable specifications

	Pressure	Temperature
PUR	$\leq$ 25 bar	-5...50 °C
FEP	$\leq$ 25 bar	-5...80 °C
PE	$\leq$ 25 bar	-5...80 °C

Accessories

Overview

10.00.0091	Accessories overview

Software / Firmware

114209	Noesis OCS SW

Additional documents

Operating and safety instructions

	Article number
10.88.0397	DMM033

Ordering information

		X. XX XX. XX XX. XX. XXX			
Type	DL.OCS/N/RS485				
Pressure type					
	Gauge	1			
	Absolute (vacuum)	2			
Pressure measuring range (1)					
	0...2 mH2O and 0...250 mH2O	XX			
	Offset, special adjustment	99			
Model					
	with connection housing (Fig. 1)	1			
	absolute type (Fig.3)	0			
Cable					
	PUR cable, IP 68, black (2)	0			
	PE cable, IP 68, black (2)	1			
	FEP cable, IP 68, black (2)	2			
	without (Fig.3)	3			
Process connection					
	Closed (Fig. 4)		57		
	Open (Fig. 5)		58		
	Closed, 1.4435 (Fig. 4) (4)		59		
	G 1/4 M		11		
	G 1/2 M		13		
Transmitter housing material					
	316L Stainless steel 1.4435		0		
	Titanium CP Grade 2		1		
	Titanium CP Grade 2 (absolute type)		1		
Connector housing material					
	316L Stainless steel 1.4435		0		
	Titanium CP Grade 2		1		
	without connection housing (Fig.3)		2		
Seal material					
	Viton (Standard)			0	
	EPDM			1	
	Kalrez			2	
	NBR (ACS) (4) (5)			3	
Temperature range					
	-5...50 °C (allowed process temperature: -5...50 °C)			4	
	-5...80 °C (allowed process temperature: -5...80 °C) (3)			5	
Option					
	Conductivity (316L Stainless steel 1.4435) (Fig. 6)				D
	Conductivity (Titanium CP Grade 2) (Fig. 6)				P
	External power supply				A
	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 required

(5) For ACS certification without option conductivity only

Technical drawings

Dimensions

Fig. 1



Fig. 2



Fig. 3



Pin	Color	Signal
1	grey	GND
2		NC
3	yellow	A (+)
4	green	B (-)
5	pink	Event IN
6	brown	Event OUT
7		+Vin
8	white	NC

Fig. 4



Fig. 5



Fig. 6



Specifications may change without notice.

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