

signatrol



SL965 SERIES

TEMPERATURE, PRESSURE AND CONDUCTIVITY DATA LOGGER

The SL965 is a multi-parametered pressure, temperature and conductivity probe. Thanks to the huge memory (1.5 Mio. values per channel) and long battery life (up to 10 years) of this product, the cost of the ownership is reduced to a minimum. It is a high precision, submersive digital data logger, with user-friendly software.

info@signatrol.com • 01684 299 399 • signatrol.com

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	≤ ± 0.10 / 0.20 ≤ ± 0.5 / 1.0 cmH2O	≤ ± 0.05 / 0.10
-5 ... 80°C, (TYP. / MAX.)	≤ ± 0.50 / 1.00	≤ ± 0.10 / 0.20 ≤ ± 1.0 / 2.0 cmH2O	≤ ± 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 (2)	≤ ± 0.5 °C	≤ ± 1.5 °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 MEASURING RANGE, (1) (°C)

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

SYSTEM REQUIREMENTS

PC / NOTEBOOK	Min. 1.6 GHz Dual Core x86, Memory: Min. 10 GB, RAM: Min. 2 GB
TABLET PC	Please contact STS
OPERATING SYSTEM (1)	Windows XP SP3, 7, 8, 8.1, 8 Pro (32-/ 64-Bit), 10

(1) Not compatible with Windows 8 RT

ELECTRICAL SPECIFICATIONS

RESOLUTION	
PRESSURE	14 Bit
TEMPERATURE	14 Bit
CONDUCTIVITY	14 Bit
OUTPUT	
INTERFACE	RS485
PROTOCOL	STS Layer 8
BAUDRATE	38'400 bps
POWER SUPPLY (1)	Lithium Batterie SAFT LS 14500, 3.6V AA 2250 mAh
STANDBY CURRENT	6 uA / 15 uA (typ./max.)
OPERATING CURRENT	< 25 mA
BATTERY LIFE, (2)	> 10 years
MAX. CABLE LENGTH	300 m

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

(2) Lifetime at 1 measurement / 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

QUALIFICATIONS

	DESCRIPTION	LEVEL	TYPICAL INTERFERENCES
EN 61000-4-2 EN 61326-1	Electrostatic discharge	8 kV contact / 15 kV air	
EN 61000-4-4 EN 61326-1	Transients (burst)	4 kV Motors, valves	
EN 61000-4-5 EN 61326-1	Surge	2 kV Overvoltage	
EN 61000-4-6 EN 61326-1	Conducted RF	10 V (0.15 ... 80 MHz)	Frequency converters
IEC 60068-2-6	Vibration	2 G (5...2000Hz)	

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
WEIGHT (1)	150 g

(1) Specification for a DL.OCS/N/RS485, closed, without cable

CABLE SPECIFICATIONS

	PRESSURE	TEMPERATURE
PUR	≤ 25 bar	-5 ... 50°C
FEP	≤ 25 bar	-5 ... 80°C
PE	≤ 25 bar	-5 ... 80°C

TEMPERATURE, PRESSURE AND CONDUCTIVITY DATA LOGGER ACCESSORIES

OVERVIEW

10.00.0091

Accessories overview

SOFTWARE / FIRMWARE

114209

DL.OCS PC Application Software

TEMPERATURE, PRESSURE AND CONDUCTIVITY DATA LOGGER ADDITIONAL DOCUMENTS

OPERATING AND SAFETY INSTRUCTIONS

10.88.0397

Article number - DMM033

TEMPERATURE, PRESSURE AND CONDUCTIVITY DATA LOGGER 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			
	With connection housing (for ext. power supply) (Fig. 1)		3			
	Without connection housing (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			
	PUR cable, black, IP 68, plug-in (Fig. 8), (2)		4			
	PVC cable, blue, (2), (7)		5			
	Without cable (Fig.3)		3			
PROCESS CONNECTION	Closed (Fig. 4)			57		
	Open (Fig. 5)			58		
	Closed, 1.4435 (7) (8), (Fig. 4)			59		
	G 1/4 A			11		
	G 1/2 A			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 (7)				3	
TEMPERATURE RANGE	-5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)					4
	-5 ... 80°C compensated (allowed process temperature: -5 ... 80°C), (3)					5
OPTION	Conductivity (316L Stainless steel 1.4435) (Fig. 7)					D
	Conductivity (Titanium CP Grade 2) (Fig. 7)					P
	Ballast weight 316L Stainless steel 1.4435)					B

(1) Other pressure ranges on request

(2) Please specify the required cable length

(3) Cable type PE & FEP, pressure range < 10 bar

(7) Recommended for drinking water applications

(8) With stainless steel cap

TEMPERATURE, PRESSURE AND CONDUCTIVITY DATA LOGGER TECHNICAL DRAWINGS

