signatrol

SL966 SERIES

HYDROSTATIC LEVEL LOGGER AND WATER MANAGEMENT DATA LOGGER

The SL966 is a multi-parametered pressure and temperature probe which enables you to manage and monitor your water data logging any time and anywhere. This flexible and cost effective product is compatible with our web software which configures the data via the intrenet and allows you accessibility at any time.

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DATA TRANSMISSION

VERSION WITH GSM/GPRS ENGINE	Quadband
GPRS FREQUENCY BANDS	GPRS 850 MHz, GPRS 900 MHz, GPRS 1800 MHz, GPRS 1900 MHz
TRANSMISSION POWER	Class 4 (2 W) at GPRS, class 1 (1W) at GPRS 1800 and GPRS 1900
SIM CARD	Supports 3 V SIM cards
ANTENNA	1/4λstub antenna: 900 / 1800 MHz or 1900 MHz (Gain 0 / 0 dB), planar antenna: 900 / 1800 MHz (0 / 0 dB)
TRANSMISSION	m2m (machine to machine) protocol

DATALOGGER

HOUSING	Stainless steel (316L / 1.4404) / Murytal C
ANTENNA CONNECTOR	FME (male)
INTERFACE	Radio 433 MHz
POWER SUPPLY	2 x 3.6 V lithium / size D, (battery can be changed on-site)
OPERATING TEMPERATURE	
DATALOGGER	-40 ... 85°C
MODEM	-30 ... 85°C
HUMIDITY	0...100% relative H, protection class IP68 (1 m/24 h)
MEASURANDS	Pressure and temperature
RESOLUTION	
PRESSURE	0.01% FS
TEMPERATURE	0.05 °C
DATA MEMORY	Up to 500'000 measurement values, non- volatile, data remain in memory even without battery, each measurement value is correlated with time and date
IDENTIFICATION	Each datalogger has a unique serial number, as well as a user-definable description
SERVER AUTOMATION	Database administration, online data overview
DATABASE	PostgreSQL, MySQL
STATUS MONITOR	Humidity and temperature in the housing, battery voltage, signal strength, memory allocation, latest data transfer, GPS position

DATALOGGER contd..

APPLICATION INTERFACE	WISKI, HydroPro, CSV, Excel
DATA QUERY	Automatic data query and administration of datalogger
ACCESS SECURITY	1 level with password protection
ALARM FUNCTION	Transmission of several alarms via SMS and E-Mail
DATA TRANSMISSION	GPRS / m2m (machine to machine) protocol
CONFIGURATION	Sample- and storage rate, Identification (f.e. measuring site), Tare; the datalogger stores the height of the air column, and not the pressure at the sensor, Taring of measurement value; define threshold values, Alarm threshold value; Storage of the measurement data within the defined range, Density of the measuring medium; Set the density of the measuring medium, which is automatically calculated in as well
DATA FORMAT	Data are stored in ASCII or CSV format and can be read with all common programs such as Excel, Lotus, etc.

SYSTEM REQUIREMENTS

PC	Processor: Min. 200 MHz Memory: Min. 50 MB RAM: Min. 64 MB
OPERATING SYSTEM	Windows 2000 (Service Pack 4) / XP (Service Pack 3/32-Bit) / Vista (32-Bit) / 7(32-Bit)

QUALIFICATIONS

	DESCRIPTION	LEVEL	TYPICAL INTERFERENCES
EN 61000-4-2	Electrostatic discharge	4 kV contact / 8 kV air	
EN 61000-4-4	Transients (burst)	2 kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/42 Ω Line-Earth: 1 kV/42 Ω	Lightning

TEMPERATURE MEASURING RANGE

STANDARD	-25...85 °C
ACCURACY, (1)	≤ ± 0.3 / ≤ ± 0.5 °C›

(1) -5...50 °C, typ. / max.

PRESSURE MEASURING RANGE (MH20)

	> 5 ... 20	> 20 ... 250
OVERPRESSURE	3 x FS (≥ 3 bar)	3 x FS
BURST PRESSURE	> 200 bar	> 200 bar
ACCURACY, (1), (± %FS)	≤ 0.1	≤ 0.1
THERMAL ERROR (± % FS/°C)		
-5 ... 50°C COMPENSATED	0.045	0.03
THERMAL SHIFT, (± % FS/°C)		
ZERO POINT -5...50°C	≤ 0.03	≤ 0.015
SPAN -5...50°C	≤ 0.015	≤ 0.015
LONG TERM STABILITY, (2)	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature

(2) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

TEMPERATURE RANGE

OPERATING TEMPERATURE	-5 ... 80 °C (1)
PROCESS TEMPERATURE	-5 ... 80 °C (1)
STORAGE TEMPERATURE	-10 ... 80 °C

(1) For operating temperature > 50°C, PE or FEP cable must be used

PHYSICAL SPECIFICATIONS

MATERIALS	
TRANSDUCER	Stainless steel (316L / 1.4435), titanium (Gr. 2), (1)
HOUSING	Stainless steel (316L / 1.4404), titanium (Gr. 2)
SEALS	Viton (Standard), EPDM, Kalrez
CABLE	PUR, FEP, PE
WEIGHT (1)	200 g

(1) Specification for a PTM/N/SDI-12, closed, cable

PRESSURE MEASURING RANGE (MH2O)

	DESCRIPTION	LEVEL	TYPICAL INTERFERENCES
EN 60068-2-6	Vibration	4 G (4 ... 100Hz / ± 3.2 mmpp)	
EN 60068-2-27	Shock	100 G (impulse duration 6 ms)	
EN 55022	Emission, class B§	< 30 dBµV/m (0.03...1 GHz)	
EN 61000-4-2	Electrostatic discharge	4 kV contact / 8 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08...1 GHz)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	4 kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/2 Ω, Line- Earth: 1 kV/12 Ω	Lightning
EN 61000-4-6	Conducted RF	10 V (0.15...230 MHz, 3 s)	Frequency converters

HYDROSTATIC LEVEL LOGGER AND WATER MANAGEMENT DATA LOGGER ORDERING INFORMATION

		X.	XXXX.	XXXX.	XX.	XXX
TYPE						
	DL.WMS/GPRS/R/SDI-12 XX					
PRESSURE TYPE						
	Gauge	1				
	Absolute (vacuum)	2				
PRESSURE MEASURING RANGE						
	500 mbar ... 25 bar		XX			
	Offset, special adjustment		99			
PROCESS CONNECTION						
	Closed (Fig. 1)		55			
	Open (Fig. 2)		56			
ELECTRICAL CONNECTION						
	PE cable, black, IP 68 (1), (2)			13		
	PUR cable, black, IP 68 (1), (3)			15		
	FEP cable, black, IP 68 (1)			21		
OUTPUT SIGNAL						
	Stub antenna 900/1800 MHz			00		
	Connector for external antenna (4)			01		
	Planar antenna 900/1800 MHz, attached loose			02		
	Planar antenna 900/1800 MHz, installed in 2" cap			03		
	Planar antenna 900/1800 MHz, installed in 4" cap			04		
ACCURACY						
	≤ ± 0.1 % FS				2	
TEMPERATURE RANGE						
	-5 ... 50°C compensated				4	
	(allowed process temperature: -5 ... 50°C)					
	-5 ... 80°C compensated (3)				5	
	(allowed process temperature: -5 ... 80°C)					
OPTION 1						
	Special oil filling: Anderol Food (for food applications)					G
OPTION 2						
OPTION 3						
	Ballast weight 1.4435					B
	Version titanium (without ballast weight) (5)					K
	Seals: Viton (standard)					U
	Seals: EPDM					S
	Seals: Kalrez (Level)					T
	Lithium battery					L
	Conductivity on request					D

(1) Please specify the required cable length and medium

(2) Suitable for drinking water (food approved)

(3) For operating temperature > 50°C, PE or FEP cable must be used (4) IP 65 of the logger

(5) Only level transmitter

HYDROSTATIC LEVEL LOGGER AND WATER MANAGEMENT DATA LOGGER TECHNICAL DRAWINGS

LEVEL TRANSMITTER

Fig. 1: Closed version

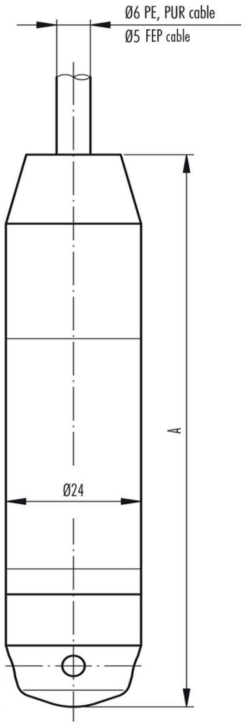
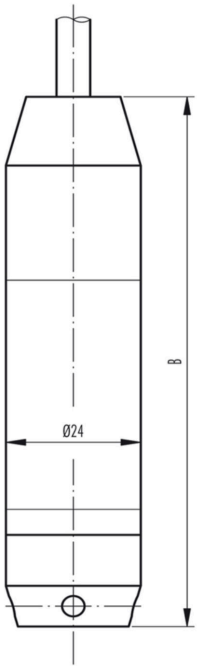


Fig. 2: Open version



Standard

A [mm]	B [mm]	Weight [g]
157	153	approx. 200

DATA LOGGER