SCAIME

DATALOGGER FOR LEVEL MEASUREMENT WITH CONDUCTIVITY MODULE DL/N

CE

Features

- Any measuring range between 0...1 m and 0...250 mH20 available
- Conductivity module (20 µS/cm...20 mS/cm) with integrated temperature measurement (option)
- Temperature measurement (option)
- Measuring interval adjustable from 0.5 s to 24 h
- Data memory for up to 500'000 measurement values
- Recording of measured values as a function of time or threshold value (option)
- Battery can be replaced on-site

Typical applications

Recording of level and water quality:

- Ground water
- Wells
- Boreholes
- Lakes, rivers

Technical specifications

Pressure ranges [mH2O]	1 … 5	> 5 … 20	> 20 … 250
Overload	3 bar	3 x FS (minimum 3 bar)	3 x FS
Deviation in characteristics [1] [± % FS]	≤ 0.25	≤ 0.1	≤ 0.1
Temperature error [± % FS/°C]			
Zero -5…50°C	≤ 0.06 [2]	≤ 0.03	≤ 0.015
Span -5…50°C	≤ 0.015	≤ 0.015	≤ 0.015
Temperature range [3]		-5…50°C	
Long-term stability (1 year) - (typ./max)	≤ 0.5% FS/< 4mbar	≤ 0.2% FS/< 4mbar	≤ 0.1% FS/< 0.2% FS

Measuring range		Resolution	Accuracy
Temperature measurement with conductivity	-5...50°C	0.1°C	± 0.25°C
Temperature measurement without conductivity	-5...50°C	0.1°C	± 1°C
Conductivity	20 µS/cm...20 mS/cm	1 µS/cm	20 µS/cm...500 µS/cm = ± 2% ±4 digits on the measured value 500 µS/cm...20 mS/cm = ± 2% on the measured value

Datalogger

Measurands	Pressure (Temperature measurement as an option), pressure and conductivity incl. temperature
Resolution	Pressure < 0.01% FS
Real-time clock	Quartz-precision clock with date; Start-time of datalogging configurable
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
Interface	RS485
Identification	Each datalogger has a unique serial number, as well as a user-definable description
Power supply	Lithium battery 3.6 V / type AA (battery can be changed on-site) 1 battery for a cable length of ≤ 100m, 2 batteries for a cable length of > 100m (max. 300m)

Data readout and configuration

PC program for measurement-data readout and datalogger configuration:	
System requirements	IBM-compatible PC or Notebook with 200 MHz processor or faster; Min. 50 MB hard-disk space, 64 MB RAM or higher Free serial interface (9-pin or 25-pin with adapter) or USB with adapter Windows 98 / 98 SE / ME Operating System NT from Version 4 (min. Service Pack 6 and Internet Explorer from Version 6.0) / 2000 / XP
Data transfer [4]	Read out data per measurement series, Read out all stored data, Read out data for a defined time-period
Configuration	Sample- and storage rate Recording of data in a defined time-window 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; the current pressure can be set to the actual value Threshold value (option); Storage of the measurement data within the defined range Density of the measuring medium (option); Set the density of the measuring medium, which is automatically calculated in as well Data recording as a function of time or threshold value (option)
Data format	Data are stored in ASCII or XML format and can be read with all common programs such as Excel, Lotus, etc.

Electromagnetic compatibility

Standard		Level	Typical sources of interference
Emissions:			
EN 61000-6-3	Generic emission standard		
EN 55022	Emission, class B		
Immunity:			
EN 61000-6-2	Generic immunity standard		
EN 61000-4-2	Electrostatic discharge	4 kV contact, 8 kV air	
EN 61000-4-3	Radiated electromagnetic field	10V/m, 80-1000 MHz, 80% AM 1kHz	Radio sets, wireless phones
EN 61000-4-3	Radiated electromagnetic field (GSM)	10V/m, 950 MHz, 200 Hz on/off	digital portable phone
EN 61000-4-4	Fast transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Line-conducted electromagnetic interference	10 V, 0.15-80 MHz, 80% AM 1 kHz	Radio sets, wireless phones

[1] Deviation in characteristics according to DIN 16086 initial-point setting, including hysteresis and repeatability

[2] 0.5 – 0.99 mH2O: ≤ 0.12

[3] Other temperature range on request

[4] Order data-transfer cable/interface converter and PC software separately:

Data-transfer cable (2m): VART333
Interface converter: VART336
PC software: VART332
USB converter cable: VART381

Ordering Information

			70	X	.	XXXX	.	XXXX	.	XX	.	XXX
Type	DL/N		70									
Pressure type	Relative pressure			1								
	Absolute pressure (vacuum)			2								
Pressure range [1]	Any pressure ranges from 0...1 mH20 to 0...250 mH20 available					XX						
Model	Battery in transmitter housing (absolute model)	(Fig. 1)		2		0						
	with battery housing [2]	(Fig. 2)				1						
	without battery housing [3]	(Fig. 2c only)				3						
Cabel	PUR cable [4]						0					
	PE cable [4] [5]						1					
	Teflon cable [4]	(Fig. 4)					2					
	PUR cable connectable at the transmitterhousing [4]						4					
Pressure connection	open							58				
	closed							57				
	G 1/4 A							11				
	G 1/2 A							13				
Transmitter-housing material	Stainless steel 1.4435 (316L)							0				
	Titanium grade 2							1				
Battery-housing material	Stainless steel 1.4435 (316L)								0			
	Titanium grade 2								1			
Seal material	Viton (standard)									0		
	EPDM									1		
	Kalrez									2		
Medium-temperature range	-5…50°C									4		
Options	Conductivity 20 µS/cm...20 mS/cm, incl. temp measurement -5…50°C											D
	Temperature measurement [6]											E
	Flooding protection	(Fig. 5)										I

[1] Any measurement units (e.g. bar, mWS, etc.) available
[2] Specify size of thrust ring when ordering
[3] for external connection box
[4] State desired cable length (max. 300 m) and medium when ordering
[5] Drinking-water approved (KTW)
[6] If conductivity option not selected

Dimensions

Fig. 1

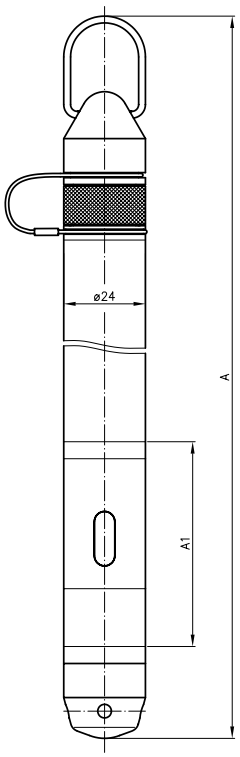


Fig. 2

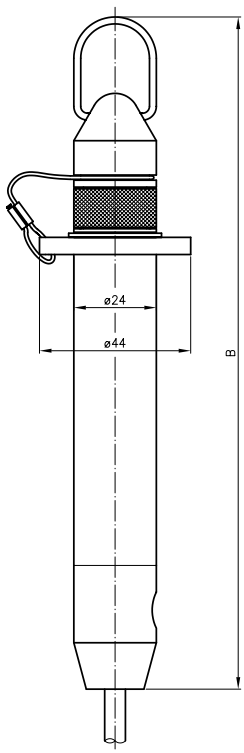


Fig. 3

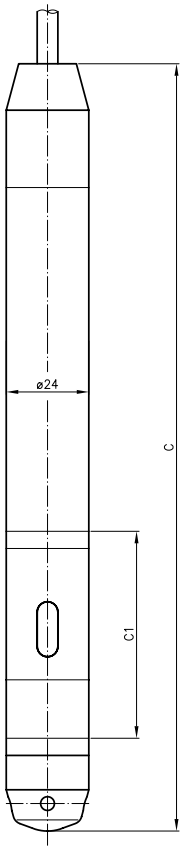


Fig. 1b/2b/
3b/4b

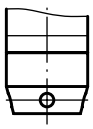
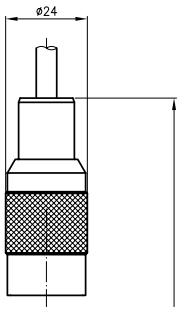
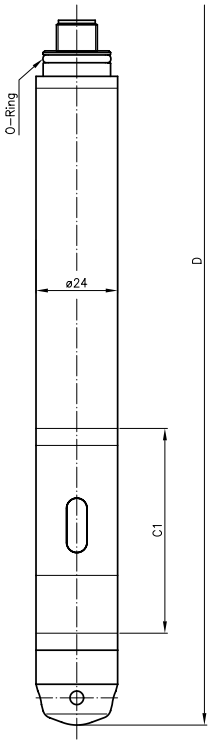


Fig. 4

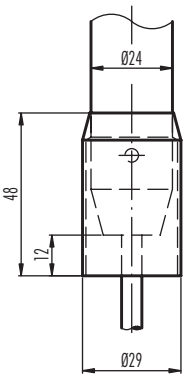




Version	Model	Fig.	Length	Weight[4] [g]	Length[3]	Weight[3] [g]	Conductivity
absolute	closed	1a	A=291	365			A1=60
	open	1b	A=287	365			A1=60
relative	1 battery[1]	2a	B=196	270			
	2 batteries[2]	2a	B=266	320			
	closed	3a	C=225	300	310	560	C1=60
	open	3b	C=221	300	306	560	C1=60
connect.	closed	4a	D=249	340			C1=60
	open	4b	D=245	340			C1=60

[1] Cable length ≤ 100m
[2] Cable length > 100m
[3] with weight extension
[4] without cable

Fig. 5



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