

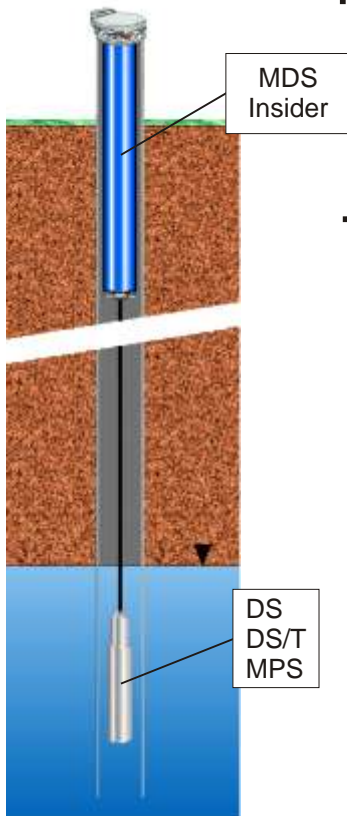
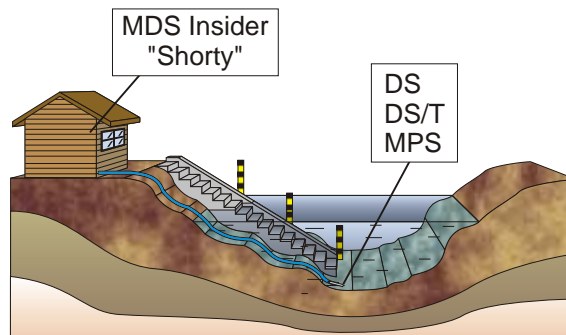


MDS Insider 2" data logger

flood protected

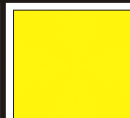
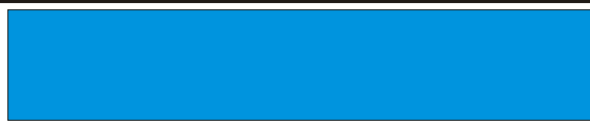


QZV We are certified
ISO 9001
certificate no. 01110505
Quality Is Our Standard



Monitoring of water level and water quality in

- groundwater
 - long-term observation
 - pumping tests
 - land fill sites
 - construction areas
- surface water



Description

The 2"-Logger MDS-INSIDER is an advanced, robust, yet cost effective system for registration of water level. Due to the compact design the MDS INSIDER can be installed directly within two inch boreholes.

Care has been taken to allow for ease of operation and reliability. The system can be installed directly under the well top piece without modifications to the casing, therefore offering protection from damage and theft. An integral display shows simple control functions.

Measuring sensors using either a high accuracy pressure transducer or a float driven potentiometer system can be utilised down the boreholes for water level measurement. Water temperature, conductivity or pH sensors can be provided as dual options.

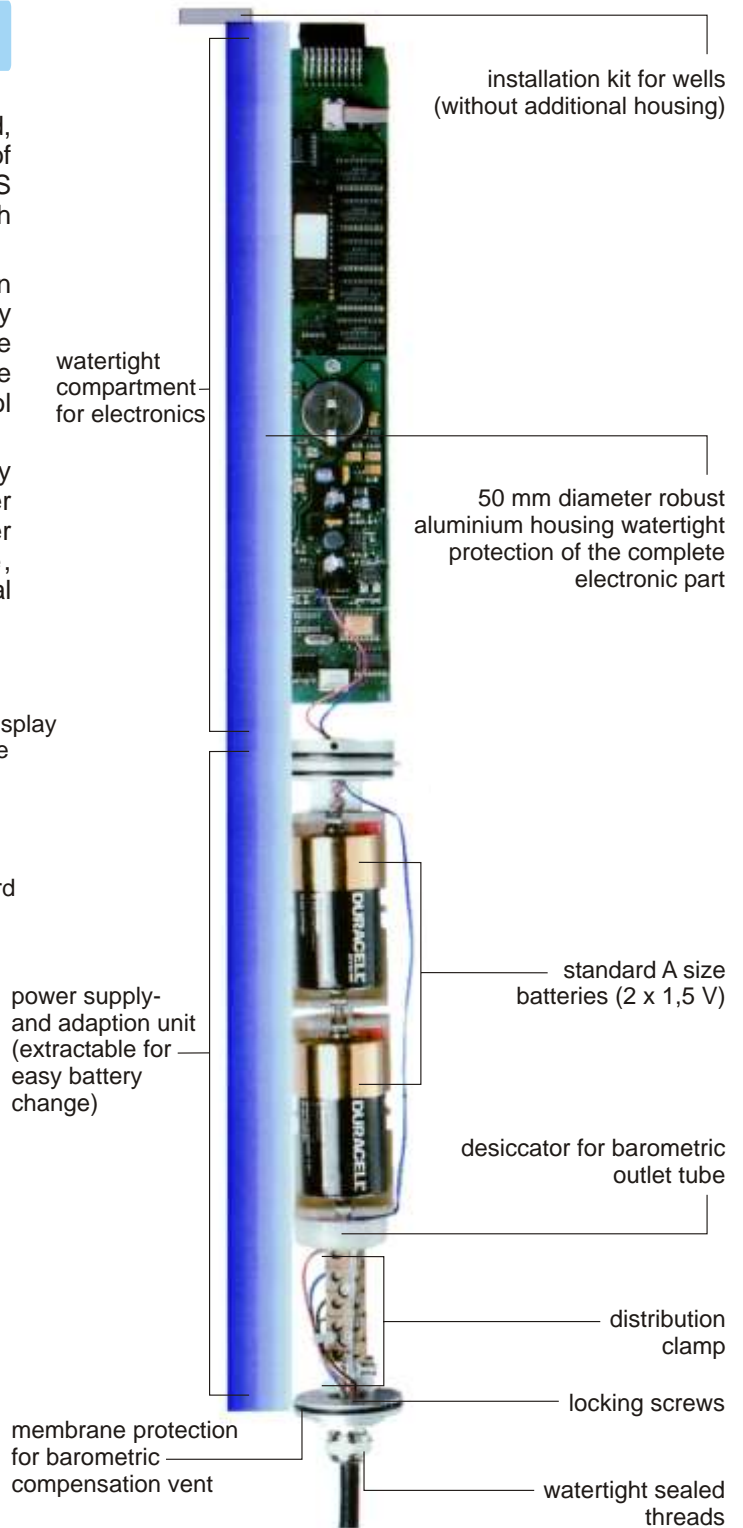


multi-function-display for control at site
2" top piece
operation and control key board

protected RS 232 interface port



Insider "Shorty"
technical data see standard Insider



Parameters

<p>water level: With pressure transducer for Ø 2" or larger tubes. Robust, high accuracy pressure transducer with excellent long-term stability. High grade stainless steel casing. Special transducer cable with barometric pressure vent.</p>	<p>water temperature: Combined sensor DS/T with pressure and temperature sensor.</p>	<p>water quality: Multiparameter sensor MPS (for Ø 2" or larger tubes). For measuring of:</p> <ul style="list-style-type: none"> • water level • water temperature • conductivity • salinity • pH-value / redox-potential • dissolved oxygen
--	---	---

Operation

PDA Type CF-p1 the handheld which withstands a lot!

Robust PDA for the rough field operation as alternative to a notebook. Vibration, impact, dust and water resistant magnesium housing acc. to IP54 for operation between 20°C up to +50°C. Long durability up to 24 hours.

Simple operation resp. input of parameters (i.e. of control values) via TFT-colour-LCD-touchscreen or pin.

Included in the delivery:

- Operation software **WbedienCE** for simple programming, adjustment and operation of SEBA Data Loggers (i.e. MDS-Dipper II), as well as for transmission of the stored measuring values to PC.
- Evaluation software **MGMS/MLMDSCE** for plausibility check of stored measuring data in form of curves and lists.

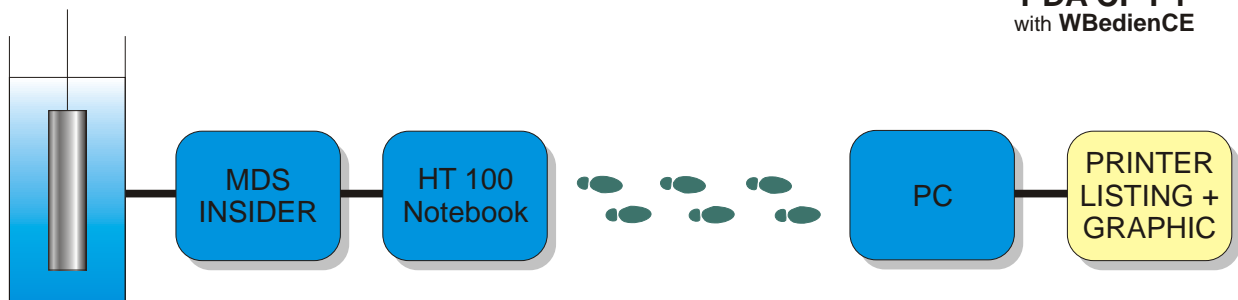
MLMDS CE
for presentation of lists



MGMS CE
for presentation of graphs



PDA CF-P1
with **WBedienCE**



Of course, the data logger MDS INSIDER can be connected directly to a PC (i.e. Laptop) or to a data transmission modem, due to serial interface RS 232.

Evaluation of measured values

For the evaluation of data, programmed routines are available - and so easy operation is guaranteed.

Evaluation (Software MGMS / MLMDS)

Listing

- single measured values with date and time
- daily middle- and extreme values
- conversion of measured values with mathematic

Graphic

- parameter lines with zoom and fade-cross functions
- hard-copy routines
- multi parameter graph

Read-out software (software Operate)

- change to ASCII-format for use with standard software for graphic and table-calculations
- special routine for data transmission to UNIX systems



Technical details

Datalogger (MDS Insider)

- SMD-technic with auto-testing routine
- processor mPD 70320 L
- 64 kByte C-MOS-RAM memory for approx. 30.000 measured values (option: 128 kByte for approx. 60.000 measured values)
- seriell RS 232 interface-communication-port
- real-time-clockwork
- 4-digit indication with single-key-operation for display/control at site without additional operation instrument
- 2 analog inputs (e.g. water level and temperature) or seriell input for MPS-sensor (e.g. water level, temperature, conductivity, pH-value, redox-potential and dissolved oxygen)
- power supply with battery (2x 1,5 V A-size or 4x 1,5V A-size(MPS) batteries) sufficient for min. 1 year with a measuring interval of 5 minutes
- operation temperature range: -40...+70°C
- mean-value calculation
- 12 bit resolution @ 0,025%
- compressed data-structure for optimal capacity-utilization
- observation function (storage of control moment!)
- storage of control values (with HT 100!)
- measuring interval: 1 sec. up to 1 day (Optional: 0,1 sec.)

Storage of measured values:

- storage of measuring values at real-time

Housing:

- pressure-watertight compartment of the electronic part
- supply- and adaption unit with integrated desiccator and micro-hole for the pressure compensation (only for use with pressure transducers)
- material: anodized aluminium, 50 mm diameter, 530 mm length, 1500 g weight
- installation device in top-pieces (for diameter of 2" and bigger)

Handterminal PDA CF-P1

- CPU: Intel StrongARM SA-1110 Microprocessor 206MHz
- Memory (RAM/ROM): 32 MB / 32 MB (Flash)
- Operation Temperature: -20°C...+ 50°C
- Housing: Magnesium, IP54
- Dimensions: 173x98x41 mm (HxWxD)
- Weight: 480g
- Display: 3.5" type (Reflective color TFT)
- Pointing Device: Touchscreen, Cursor control
- Interface: Serial Communication Port RS232
- Power supply: Battery Pack Li-Ion 7,4V, 1,4Ah
- Sub-Battery: Lithium Rechargeable Backup Battery
- Operating Time: Approx. 8...24hpours
- Operating System: Microsoft® Windows®CE 3.0

included in delivery:

- battery-charging station
- software WBedien CE
- MGDMS/MLMDS CE for presentation of lists and graphs

Sensors

Pressure transducer for water level measurement:

- high accurate, robust, long-term stable pressure transducer with high-grade steel housing
- accuracy: better than 0,1 % = better than 1 cm at 10 m measuring range
- long-term stability: better than 0,1 % / year
- temperature stability: better than 0,01 % / °K
- measuring ranges: 2,5 / 5,0 / 10,0 m
- special cable for pressure transducers with integral pressure compensation tube (for lengths up to 300 m)

Combined sensor DS/T :

for water level and water temperature measuring

Multiparameter sensor MPS:

for water quality measuring of:

- water level
- water temperature
- conductivity
- salinity
- pH-value / redox-potential
- dissolved oxygen

Temperature sensor:

- high accurate semi-conductor sensor integrated in the pressure transducer housing or in a separate high-grade steel housing
- temperature range: standard: 0 - 25°C option: on request
- accuracy: 0,1 °C

The right is reserved to change or amend the foregoing technical specification without prior notice.



SEBA Hydrometrie GmbH
 Gewerbestr. 61a • D-87600 Kaufbeuren
 Tel.: +49 (0)8341 / 9648-0
 Fax: +49 (0)8341 / 9648-48
 E-Mail: info@seba.de
 Internet: www.seba.de

represented by: