WATERMANAGER SOLUTION

DL.WMS/GPRS/R

CE

Features

- Compact and robust version
- Installation in 2" / piezo tube or 4" wall-/mast installation
- Quadband GSM/GPRS engine
- Radio interface 433 MHz
- Online programming
- Sending of SMS and E-Mail
- Measuring interval adjustable from 2s to 12h
- Data memory for up to 250'000 measurement values
- Battery can be replaced on-site

Typical applications

Transmission of level and temperature in applications:

- Wells
- Bore holes
- Groundwater
- Lakes, rivers

Specifications DL.WMS (Datalogger)

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	1/4λ stub 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 1.4435 / Murytal C
Communications connection	FME (male connector)
Interface	Radio 433 MHz
Power Supply	2 x 1.5V alkali or 1 x 3.6V lithium / size D, (battery can be changed on-site)
Temperature range	-25...85°C
Humidity	0...100% relative H, protection class IP68 (1m/24h) with closed protection cap and connected sensor

Measurands	Pressure and temperature
Resolution	Pressure < 0.01% FS
Data memory	Up to 250'000 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
PC requirements	PC or laptop computer, processor performance min. 200 MHz, hard disk memory min. 50 MB, working memory min. 64 MB
Operating system	Windows 2000 / XP and Internet Explorer as of version 6.0
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
Application interface	WISKI, HydroPro, CSV, Excel
Data query of datalogger	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 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 Internal data recording as a function threshold value
Data format	Data are stored in ASCII or CSV format and can be read with all common programs such as Excel, Lotus, etc.

Qualification

Standard		Level	Typical interferences
Mechanical charges:			
EN 60068-2-6	Vibration	10g (4...2000 Hz, deflection ± 10 mmpp)	
EN 60068-2-27	Shock	100g (impulse duration 6 ms)	
Immunity:			
EN 61000-6-2	Generic immunity		
EN 61000-4-2	Electrostatic discharge	4 kV contact, 8 kV air	
EN 61000-4-4	Fast transients (burst)	2kV	Motors, valves
EN 61000-4-5	Surge	Line - Line: 0.5kV / 42 Ω Line - Earth: 1kV / 42 Ω	

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Specifications ATM.WMS (Level transmitter)

Pressure range [bar]		0.1 … 0.5	> 0.5 … 2	> 2 … 25
Overpressure		3 bar	3 x FS (min. 3 bar)	3 x FS
Burst pressure	[bar]	≥ 200	≥ 200	≥ 200
Total Error Band (TEB)[1)]	[± % FS]			
(typ./max.)	-5...50°C	0.8/1.0	0.3/0.5	0.3/0.5
(typ./max.)	-5...80°C	1.3/1.5	0.75/1.0	0.75/1.0
Accuracy [2)]	[± % FS]	≤ 0.25 (optional ≤ 0.1)	≤ 0.25 (optional ≤ 0.1)	≤ 0.25 (optional ≤ 0.1)
Medium temperature	-5...80°C			
Storage temperature	-10...80°C			
Long term stability (typ./max.) [3)]		< 0.5 %FS / < 4 mbar	< 0.2 %FS / < 4 mbar	< 0.1 %FS / < 0.2 %FS

Measuring range temperature sensor		
Accuracy	(-5...50°C)	typ ± 0.3°C / max. ± 0.5°C
	(-5...80°C)	typ ± 0.5°C / max. ± 1.0°C
Resolution		< ± 0.05°C

Materials	
Process connection, diaphragm, housing	Stainless steel 1.4435 or titanium (option)
Seals	Viton (other materials see ordering information)

[1)] Total Error Band incl. accuracy, temperature influences, temperature error zero and span, hysteresis and repeatability by max. signal span (2V)
[2)] Zero based non-conformity according to DIN16086, including hysteresis and repeatability by ambient temperature
[3)] The long term stability can be improved by aging (burn-in) of the sensor

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Dimensions

Level transmitter

Fig. 1 Closed version

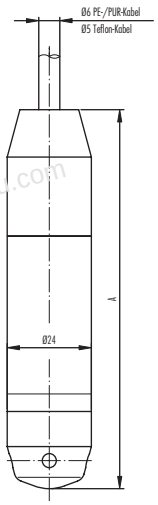
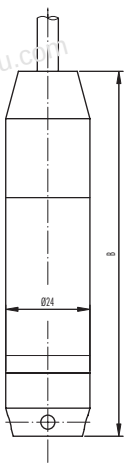
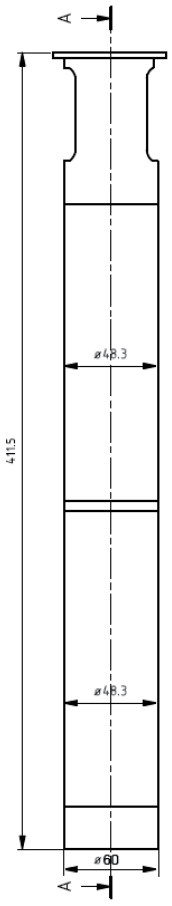


Fig. 2 Open version



	A [mm]	B [mm]	Weight [g]
without ballast weight	88	84	ca. 145
with ballast weight	175	171	ca. 405

Datalogger



Ordering information

DL.WMS/GPRS/R **X . XXXX . XXXX . XX . XXX**

Type	DL.WMS/GPRS/R							
Pressure type	Gauge			1				
	Absolute (vacuum)			2				
Pressure range	Any pressure ranges between 0...1mH2O and 0...250mH2O available [4]				XX			
Version	Closed	(Fig. 1)			55			
	Open	(Fig. 2)			56			
Electrical connection	PE cable [1) 3)]		IP 68			13		
	PUR cable [1) 2)]		IP 68			15		
	Teflon cable [1)]		IP 68			21		
Communication interface	Stub antenna 900/1800 MHz					00		
	Connector for external antenna					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	≤ ± 0.25 % FS						1	
	≤ ± 0.1 % FS						2	
Temperature range	-5...50°C compensated (allowed medium temperature -5...50°C)						4	
	-5...80°C compensated (allowed medium temperature -5...80°C)						5	
Options	Version titanium [5)]							K
	Ballast weight							B
	Special oil filling in the TD:	ASEOL Food						G
		Halocarbon						H
	Seals: Viton (standard)							U
	EPDM							S
	Kalrez							T
	Lithium battery							L

[1)] Please specify the required cable length
[2)] For medium temperature > 50°C a PE or teflon cable must be used (max. pressure 10 bar)
[3)] Food approved
[4)] 0...0.5 mH2O on request
[5)] Only level transmitter

Specifications may change without notice. 10.00.0352.A 01/2010

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