

WATER LEVEL MONITORING SYSTEM

AQUA LOGGER HS COMPACT



Aqua Logger HS Compact is a device dedicated to water level monitoring in natural environment as well as in difficult conditions like in sewage wells or sewage pumping station. Measurement is made with the use of a hydrostatic probe calibrated with the data logger. The measurement of water level is made by calculating the hydrostatic pressure of the liquid column on the probe placed by the bottom of a water basin. All measured data is sent to data server via GSM network.

Data logger and GSM modem are integrated with a set of lithium batteries in a solid compact size housing (220x120x90mm). Such size enables easy installation in tight locations with limited access. Additionally, there are three protection levels available: IP67, IP68 and IP67 ATEX.

MAIN FEATURES

Ultra-low power consumption

Compact housing with integrated lithium batteries

Three protection levels available:
IP67, IP68 and IP67 ATEX.

Built-in GSM/GPRS data transmission

Full remote configuration

Data accessed through every web browser

Possible data transfer directly to user's server

Text and email notifications

Increase of measurement and data transfer intervals
when threshold values are exceeded

Ultra-low power consumption of the station marks it out among similar devices used for water level measurement.

With typical measurement and GSM transmission settings, device is ready to work continuously for more than 10 years on one battery set. For example, if the measurement is made every 10 minutes and data is updated every 3 hours, the station will work for 10 years minimum including battery self-discharging and wearing out. Such long working time on one battery set provides uninterrupted operation time of the device.

Online access to measuring and transmission intervals configuration is one of the crucial features of Aqua Logger HS Compact. It allows effective management of the station by increasing the frequency of measurement in crisis situations when quick access to data is extremely important. In order to maintain full control over Aqua Logger, immediately after a threshold value is exceeded the user receives a text message or an email.

EXEMPLARY DAILY POWER CONSUMPTION FOR CHOSEN SETTINGS

Data transmission interval	Measurement Interval	Approx. daily power consumption*	Approx. operation time with battery set**
1/24h (once a day)	24/24h (every 60 minutes)	0,011Wh	>65 years
1/24h (once a day)	144/24h (every 10min)	0,016Wh	>45 years
6/24h (every 4 hours)	144/24h (every 10min)	0,036Wh	>20 years
24/24h (every 60min)	144/24h (every 10min)	0,108Wh	>6 years
144/24h (every 10min)	144/24h (every 10min)	0,587Wh	460 days
144/24h (every 10min)	1440/24h (every 1minute)	0,637Wh	420 days

* Calculation for good GSM signal and low network usage conditions. When weak GSM signal or BTS overload, the given values will be higher.

** Approximate time assuming the use of full nominal capacity of the battery set. In reality, energetic efficiency of lithium batteries is lower than the nominal capacity given by manufacturer. It depends on working temperature, self-discharging and process of wearing out. Together with level measurement, the logger always measures power supply voltage. It allows live monitoring and replacement of the batteries before discharging.

SPECIFICATION

Measurement range	0 ... 4m; 0 8m or 0 ... 20m		
Probe type	Ceramics, Al ₂ O ₃ (96%)		
Sensor output signal	4 ... 20mA		
Accuracy at 250C)	± 0,3% of measuring range		
Probe working temperature	-10°....+70°C		
Long-term stability (1 year)	± 0,2%		
Probe's housing	Stainless steel 1.4404 (AISI316L), IP 68 (2.0 bar; 20 m), dimensions 96 x Ø 25mm		
Probe's wiring material	PUR		
Data transfer type	GSM / GPRS		
Data logger working temperature	-40°....+60°C		
Power supply	built-in packet of lithium batteries with rated voltage 14,4V, 19Ah capacity		
Standby power consumption	<250µW		
GPRS transfer power consumption	~360mW		
Measurement power consumption	~100mW		
Single measurement time	<2s		
Average data transfer modem activity time	18 ... 22s typically		
Approx. working time without battery replacement	data update – 60min, data sampling – 10min	>5 years	
	data update – 10min, data sampling – 10min	>2 years	
Data transfer interval	in range: (1min)...(24h)		
Measurement interval	in range: (1min)...(24h)		
Internal memory	50 000 records		
Registered technical parameters	Electronics' temperature, power supply voltage, GSM signal, modem activity during last data transfer, cabinet door open		
Text alarms	For medium level and chosen technical parameters		
Tightness levels available	IP67, IP68 and IP67ATEX		
Data logger housing	Polyester 220x120x90mm		
Housing versions	IP67, IP68 and IP67ATEX Additionally, each version has following options: - internal antenna /external wired antenna - lid opening alert		