

GEKKO

Battery-powered data logger with modem

GEKKO data logger is designed in a robust industrial design. GEKKO can be supplied using the 2 pcs. lithium batteries or external voltage supply 12-30V DC.

GEKKO is a Danish developed and produced product, which complies with all specifications for electronics components that are placed in harsh environments.



GEKKO is equipped with 2 pcs. analog inputs which are 0/4-20mA or with 4 digital inputs, 2 of which can be configured as 0-10V inputs or as pulse inputs for counter. In addition, RS485 MODBUS communication with external devices is possible..

GEKKO is designed for use in wastewater and water supply applications and can collect data and log signals of several different types with the help of external equipment, e.g. used for H2S detection, level measurement, stormflow registrations and for registration of precipitation events.

GEKKO data logger can communicate via standard MODBUS TCP/IP or SMS commands. Communication takes place via 4G modem (2G, 3G and 4G) or Sigfox modem – both are mounted on their own print. Thus, communication can be changed to future form of communication without changing the entire data logger.

Communication to SCADA is done through the program AcowaCore, which i.a. enables handling of an event-based logging function typically used in overflow registration.

GEKKO has a USB interface for programming GEKKO or for downloading logs in data loggers. GEKKO is not EX-classified and must therefore not be installed in EX areas.

Applications

• Measurements in pumping stations
• Measurements at treatment plants
• Stormflow registration with event log.
• Hydrogen sulphide Measurement
• Level measurement in rivers and streams
• Collection of precipitation data
• Level measurement in reservoirs and tanks
• Groundwater monitoring
• Pressure measurement on water pipes
• Measurements at waterworks

Products

Item number	Description
1772-2204000	GEKKO 4G.
1772-2204100	GEKKO SIGFOX.
UHR-13Ah	Lithium SAFT 3,6V battery
1717-0B24-C884G	Quad band antenna (2G, 3G, 4G) w angle connector
Sigfox-U	5 year SigFox subscription incl. creation on Sigfox back-end as well as invoice handling.

Technical specifications

Dimensions	L=186mm, W=156mm, H=60mm
Weight	620g without batteries
Wire connection	0.5–2,5 mm ²
Vibration (sinusoidal)	10-500Hz, 1G
Free fall drop	30 cm
Enclosure class	IP67
Power supply	12V DC – 30V DC
Batteries	2 x Lithium SAFT

Environment

Humidity	Humidity 10% - 95% non-condensing air
Operating temperature	-20°C to +50°C
Storage temperature	-20°C to +60°C
Functional height	Max. 2000m above sea level
Start-up time total	20-120 sec. (depending on GSM network)

Built-in power supply

Output voltage	15V DC
Output current	Max. 100mA
Tolerance	+/- 20%

Analog inputs

Number of analog mA inputs	2
Electrically insulated	No
Measuring range	0/4–20mA
Input impedance	Approx.100Ω
Measurement accuracy	Better than 0,5% of FS
Signal range	0-24mA / 0–30V DC
Cable/signal length	Max. 100m

Digital inputs / AI 0-10V

Number of digital inputs	4
Electrically insulated	No
Digital signal	Low < 5V / < 1mA High > 12V / > 4mA
Analog signal measuring range	0–10V DC
Analog signal impedance	Approx. 20KΩ
Measurement accuracy	Better than 1% of FS
Signal range (min/max.)	0–30V DC
Cable/signal length	Max. 100m

Data collection

AcowaCore

AcowaCore is a data processing program that can communicate directly with both FIREFLY and GEKKO units, as well as convert existing historical data from the user's own SCADA system and convert these into valid flow calculations at all pumping stations and overflow structures.

Visualization

AcowaDash

AcowaDash is a visualization platform for AcowaCore. AcowaDash enables a custom user interface that is intuitive and easy to understand and it gathers all information about all pump wells, both capacity calculations and inlet flow, precipitation data, hydrogen sulphide information and overflow events as well as calculations and visualizes these on a custom design.

AcowaDash also enables easy reporting of e.g. overflow events and non revenue water detection as all data easily can be extracted as CSV files from the system.

Installation

