

GLÖTZL Baumeßtechnik

DATALOGGER 1–4 measuring channels

For stationary installation in and at constructions



- Measurements in impassable areas
- Compact model with 1-4 measuring channels
- Up to 10 years operating time with lithium-batteries, dependent on data quantity
- Meas. intervals from 1 minute up to 99 hours
- Small construction diameter with 35 mm
- Application/ installation from 1.5" tubes onwards
- Water levelling without datalogger extension
- Approved and successfully used system
- Battery, sensor and datalogger in housing of stainless steel, material 1.4571

Type: FAG 1-4
Art. No. 53.20..

Description

The datalogger FAG1-4 is constructed for max. 4 measuring channels, e.g. allocated by pressure sensor, temperature, battery voltage. Optionally extendable with conductivity sensor, pH probes or barometric pressure sensor.

The datalogger FAG1-4 has been developed for recording of measuring values in areas where these values have permanently to be recorded under difficult conditions.

One application example is the installation of several dataloggers in a pressure water line for a pumped-storage station with an operating pressure of approx. 50 bars. The downloading of measured values is only possible once a year during a tube inspection.

The transfer of measured values is done with a standard notebook or palmtop in commercially approved version. For data recording, a program is available which can be operated with Windows, with which the data can be read, the datalogger be programmed and the measured values be exported, for example in Excel or the Glötzl evaluation program GLA.

Technical data, type FAG 1- 4

Housing of stainless steel 1.4571	Ø 35 x 390 mm
Current supply	Li cell 3.6 V / 5.5 Ah
Operating time, dependent on recording frequency	up to 10 years
Sensors	1 x Internal battery voltage up to 3 further sensors
Sensor supply	+/-5 V DC / 1 mA
Meas. value resolution	18 Bit
Meas. value output	+/-131.000
Measuring interval	1 min. up to 99 hrs.
Meas. value memory, permanent	57.000 meas. values
Controller	similar to 8051
Temperature application range	-20 up to +60 °C

Application

The main field of application of the datalogger FAG 1-4 is the recording of measuring data in impassable areas where a continuous local inspection is impossible, however the measured values have to be recorded with a high security and data quantity.

Besides water level measurements in level tubes, open-cast mining, high-water areas, mountain ranges specially in winter time and permanently changing, temporary measuring points without possible cable installation are further application fields.

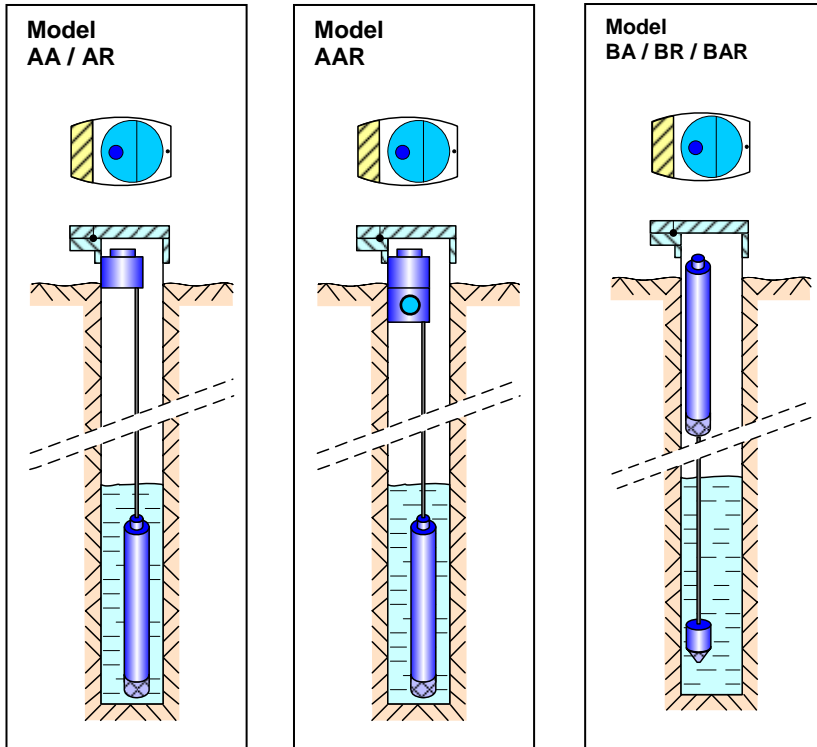
As measuring sensors, all commercially approved units can be recorded, as for example:

- Water pressure cells
- Barometric pressure sensors
- Temperature sensors
- pH-Probes
- Conductivity sensors
- Earth pressure cells
- Pore water pressure cells
- Fissuremeter/displacement transducer
- Strain transducer
- Load cell
- Settlement meas. instruments

Figure left:

Datalogger FAG 1-4 in pressure-tight stainless steel housing up to 70 bars with integrated water level sensor, temperature sensor, controller and 2 Li-batteries for permanent use under water

Installation and construction of datalogger systems



Model AA – with absolute pressure sensor **No. 53.20.01**

The pressure sensor is installed in a housing with batteries and controller. Connection to the suspension consists of a high-tensile cable with Kevlar supporting core.

Model AR – with relative sensor **No. 53.20.02**

Model like A, however the cable is additionally equipped with an air tube for compensation of the barometric pressure at the sensor.

Model AAR – with absolute and barom. pressure sensor **No. 53.20.03**

Additionally to model A, a barometric pressure sensor is installed in the connecting part for compensation.

Model BA – with absolute pressure sensor **No. 53.20.04**

The datalogger system is installed in the upper part of stand pipe and only the sensor/sensors are connected to the logger system and its holding device by a high-tensile cable.

Model BR – with relative pressure sensor **No. 53.20.05**

Model like BA, however the cable is equipped with an additional air tube for compensation of barometric pressure.

Model BAR – with absolute and barometric pressure sensor **No. 53.20.06**

Additionally to model BA, a barometric pressure sensor is installed in the controller part for compensation.

Measuring cable:

Connection of the sensor logger components or sensors at the logger is done by a high-tensile cable PE/PUR with Teflar supporting core. The connection parts are sealed pressure-watertight, Ø 10 mm.

Type A XX = 01 – 03

Type B XX = 04 – 06

Measuring sensors for water level:

Art. No.: Type A absolute	53.20.XX. 01	02	03	04	05	06
Art. No.: Type B relative	53.20.XX. 11	12	13	14	not available	
Measuring ranges [m]	0-1	5	10	20	50	100
Accuracy	Standard 0.1 % f.s., can be calibrated up to 0.05 % f.s.					

Barometric pressure sensor:

Measuring range 800 up to 1200 mbars, accuracy 0.05 % f.s.

Temperature sensor: -20 up to +60 °C, resolution 0.05 °C

Conductivity: Measuring ranges on clients' request

pH-Probes 1–10 pH, accuracy 3% f.s.

Evaluation example:

Downloading (terminal operation)



Evaluation GLA7

