GRAPHTEC

INSTRUMENT PRODUCT LINE-UP

Data Logger, Data Acquisition

Your Expert Partner in Sensors & Controls

althen.de

ALTHEN
SENSORS & CONTROLS

ABOUT ALTHEN SENSORS & CONTROLS

Althen Sensors & Controls stands for pioneering measurement and sensor solutions. We accept every measurement challenge. We are constantly looking for innovation and are only satisfied when we have found the perfect solution four your measurement task. We develop customer-specific solutions in our in-house production facilities. Althen is partner to many recognized universities and leading organizations. We find ourselves in an intensive knowledge transfer, developing future technologies. Althen is one of the first companies in its branch with a certification by the German technical inspection association in Hessen (TÜV PROFICERT) in accordance with DIN EN ISO 9001:2015.

OUR SERVICE FOR YOU

Are you facing a metrological challenge or do you need a suitable spare part for your application? Our specialists will advise you - in detail and professionally. We keep an eye on your costs and develop customer-specific special solutions if required. Benefit from our many years of experience in the field of measurement technology and sensor technology:

- **High-quality Production**
- **Measurement and Rental**
- **Special Custom Calibration**
- **Training & Consulting**

OEM Sensors

T&M Sensors

IIoT Sensor Solutions

INSTRUMENT PRODUCT LINE-UP

DATA LOGGER, DATA ACQUISITION

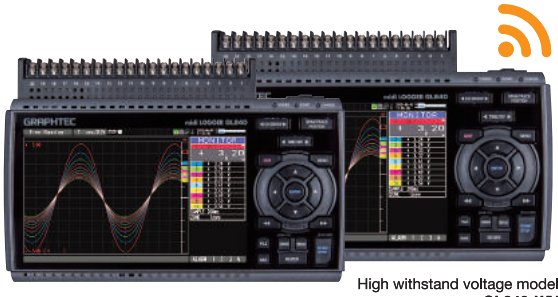
GRAPHTEC

We offer compact data loggers with USB or Ethernet interface. The measured data are written to the built-in memory, SD card, SSD or USB stick. All devices have their own display, which immediately delivers optical results. The measuring range can be set between +/-20 mV and +/-1000 V. The recorded measurement data can be evaluated via the supplied PC software. An export of the measured values is also possible. All devices can be easily and quickly configured on site via the integrated, ergonomic keyboard and display. Complex configurations can be stored in memory and loaded as required.

KEY FEATURES

- Portability and versatility for onsite-testing needs
- Multifunction inputs for multiple signal recordings
- Channel-to-channel isolation for enhanced safety
- Quick solution for real-time Excel recording and reporting
- Field-ready instrument with large format display and ruggedness
- Differential inputs for all channels
- German-language user interface
- Extensive accessoires

midi LOGGER GL840series
Isolated input, multi-channel logger



Multi-input model
GL840-M

High withstand voltage model
GL840-WV

WLAN*1

GS sensor

GL100 up to 5 units as remote sensor

Max. 10ms sampling | Σ△ type A/D converter | Temp. Humidity, Voltage, Pulse/Logic | Up to 200 channels | LAN USB SDcard

- Multifunction analog inputs
  - Voltage: 20 mV to 100 V
  - Temp.: TC: R, S, B, K, E, T, J, N, W (WRe5-26) RTD: Pt100, Pt1000 (IEC750), JPt100 (JIS)
  - Humidity: 0 to 100% (the B-530 option is required)
- Pulse/Logic inputs
  - Pulse: 4ch (Accumulating, Instant, or Rotation)*2
  - Logic: 4ch*2

- Flexible input system for wide array of applications
- WLAN (option) capable for remote monitoring
- Maximum sampling rate up to 10 ms*3
- Extended memory capacity using SD memory card
- Combining GL100 and GL840 by using WLAN

midi LOGGER GL240
10 channel handy type logger

WLAN*1

GL100 1 unit as remote sensor

Max. 10ms sampling | Σ△ type A/D converter | Temp. Humidity, Voltage, Pulse/Logic | 10 channels | USB SDcard

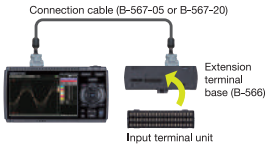
- Multifunction analog inputs
  - Voltage: 20 mV to 100 V
  - Temp.: TC: R, S, B, K, E, T, J, N, W (WRe5-26)
  - Humidity: 0 to 100% (the B-530 option is required)
- Pulse/Logic inputs
  - Pulse: 4ch (Accumulating, Instant, or Rotation)*2
  - Logic: 4ch*2

- Multifunction input in 10 isolated channels
- Maximum sampling rate up to 10 ms*3
- Extended memory capacity using SD memory card
- WLAN (option) capable for remote monitoring
- Combining GL100 and GL240 by using WLAN

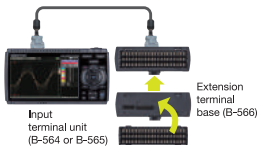
*1: WLAN is available in limited regions. *2: Select ether Pulse or Logic input, and use the optional input/output cable (B-513). *3: Sampling rate is limited by the number of channels to be used.

Expandable up to 200 channels in GL840

Input terminal unit is removed from the mair body of the GL840.

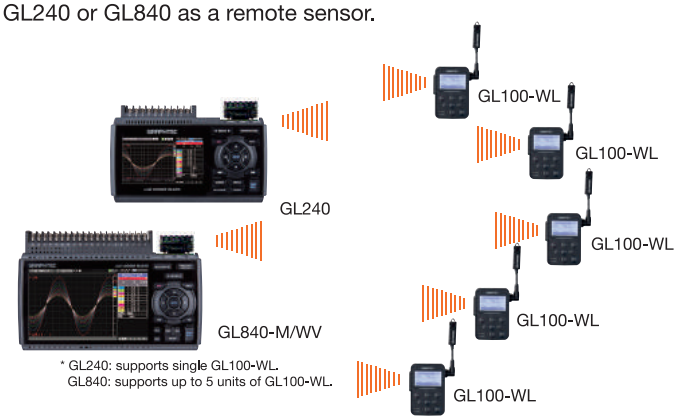


Extension terminal base connects to the GL840 using connection cable. Then input terminal unit snaps on to the extension terminal base.



The combined extension terminal base and input terminal unit are daisy chained together.

Combining GL100-WL and GL240/GL840
GL100-WL can now be connected to the GL240 or GL840 as a remote sensor.



* GL240: supports single GL100-WL.
GL840: supports up to 5 units of GL100-WL.

Support the GS sensors in GL840
Temperature, acceleration, and others are able to measure using the GL sensors.

PetitLOGGER GL100series

- Supports a wide array measurement by exchanging the sensor
- Connecting to the PC or smart device via a WLAN
- Driving by a battery or USB bus power

WLAN*4

GS sensor

GL100-WL
(with wireless LAN)

GS sensor

GL100-N
(without wireless LAN)

Wireless LAN GL100-WL | USB Interface | microSD memory card | Sensor, input terminal, adapter 7types | PC | Smart device GL100-WL

*4: WLAN is available in limited regions.

GS sensors

The sensor is connected to the GS sensor port of the GL840 and GL100.

midi LOGGER HV GL2000

High-speed High-Voltage Isolated 4 channel Data Logge

NEW

Simultaneous sampling (Isolated) | CAT III | Max. 1MS/s (1µs) | USB SDcard

Voltage (Temp., Humidity, Pulse/Logic) | Built-in RAM 4MS/ch | Built-in Flash memory 4GB

- Multifunction analog inputs
  - Voltage: 20 mV to 1000 V DC, 1-5 V DC, 10 mV to 1000 V rms
  - Temp.: TC: K, J, E, T, R, S, B, N, W (WRe5-26)
  - Humidity: 0 to 100% (the B-530 option is required)
- Pulse/Logic inputs
  - Pulse: 4 channels (*5) Accumulating, instant or RPM
  - Logic: 4 channels (*5)

- 4ch High Speed Simultaneous Sampling
- CAT III 600V Compatible
- Measure AC 600 V Measurement with True-rms
- Built-in High-capacity RAM (4 M sampling/ch) and Flash memory (4 GB)
- Large Easy-to-read 7-inch LCD

midi LOGGER HV GL980

Isolated simultaneous 8 channel data logger

NEW

Simultaneous sampling (Isolated) | Max. 1MS/s (1µs) | Voltage (Temp., Humidity, Pulse/Logic)

Built-in RAM 4MS/ch | Built-in Flash memory 4GB | USB SDcard

- Multifunction analog inputs
  - Voltage: 20 mV to 500 V DC, 1-5 V DC, 10 mV to 250 V rms
  - Temp.: TC: K, J, E, T, R, S, B, N, W (WRe5-26)
  - Humidity: 0 to 100% (the B-530 option is required)
- Pulse/Logic inputs
  - Pulse: 4 channels (*5) Accumulating, instant or RPM
  - Logic: 4 channels (*5)

- 8ch High speed simultaneous sampling
- Includes 500 V measurement with 16-bit A/D converter
- Equipped with true-rms measurement
- Large built-in RAM (4 M sampling/ch) and built-in Flash memory (4 GB)
- Large easy-to-read 7-inch LCD

DATA PLATFORM GL7000

Modular Type Data Acquisition Unit

Hi-speed 1MS/s | Multi-channels max.112ch | High voltage 1000 V | Huge memory capacity 128GB SSD

Supports the GL-Connection software
Allows to use with other units of GL series

* Example, the option of 6 modules and the display are installed.

Voltage Module

GL7-V

Voltage 10ch/unit | Max. 1kS/s (1ms) | Simultaneous sampling (Isolated)

Voltage/Temperature Module

GL7-M

Voltage, Temp. 10ch/unit | Max. 100S/s (10ms) | ΣΔ type A/D converter (Isolated)

High speed Voltage Module

GL7-HSV

High speed 4ch/unit | Max. 1MS/s (1µs) | Simultaneous sampling (Isolated)

High Voltage Module

GL7-HV

Voltage 2ch/unit | Max. input voltage 1000V | Max. 1MS/s (1µs) (Isolated)

DC Strain Module

GL7-DCB

Strain, Voltage 4ch/unit | Strain gauge, Sensor | Max. 100kS/s (10µs) (Isolated)

Charge Module

GL7-CHA

Charge, Voltage 4ch/unit | Charge, IEPE Sensor (TEDS) | Max. 100kS/s (10µs) (Isolated)

Voltage Output Module

GL7-DCO

Output voltage 8ch/unit | Max. 100kS/s (10µs) | Captured data, Arbitrary waveform

Logic/Pulse Module

GL7-L/P

Logic/Pulse 16ch/unit | Max. 1MS/s (1µs) | Simultaneous sampling

SSD Module

GL7-SSD

128 GB storage

Display Module

GL7-DISP

* Optional input or output cable is required.

Options and Accessories

Model	Item	GL240	GL840 series	GL2000/980	GL7000 series
B-513	Input/Output cable for GL series	Yes	Yes	Yes	Yes
B-514	DC drive cable	Yes	Yes	Yes	N/A
B-530	Humidity sensor	Yes	Yes	Yes	Yes
B-564	Input terminal (M type)	N/A	Yes	N/A	N/A
B-565	Input terminal (WV type)	N/A	Yes	N/A	N/A
B-566	Base of input terminal	N/A	Yes	N/A	N/A
B-567-05,-20	Connection cable	N/A	Yes	N/A	N/A
B-568	Wireless LAN unit	Yes	Yes	N/A	N/A
B-569	Battery pack	Yes	Yes	Yes	N/A
ACADP-20	AC power adapter	Yes	Yes	N/A	N/A
RIC-10	Probe set for Logic input	N/A	N/A	N/A	Yes
RIC-141A	Input cable, Safe probe - BNC	N/A	N/A	Yes	Yes
RIC-142	Input cable, BNC - BNC	N/A	N/A	Yes	Yes
RIC-143	Input cable, Banana - BNC	N/A	N/A	Yes	Yes
RIC-144A	Clip, Alligator (small size) for RIC-143,147	N/A	N/A	Yes	Yes
RIC-145	Clip, Alligator (middle size) for RIC-143,147	N/A	N/A	Yes	Yes
RIC-146	Clip, Grabber for RIC-143,147	N/A	N/A	Yes	Yes
RIC-147	Input cable, Banana - BNC (High voltage)	N/A	N/A	Yes	Yes

B-513 Input / Output cable

B-514 DC drive cable

B-530 Humidity sensor

B-564 Input terminal (M type)

B-565 Input terminal (WV type)

B-566 Base of input terminal

B-567-05 or -20 Connection cable

B-568 Wireless LAN unit

B-569 Battery pack

ACADP-20 AC power adapter

RIC-10 Probe set for Logic input

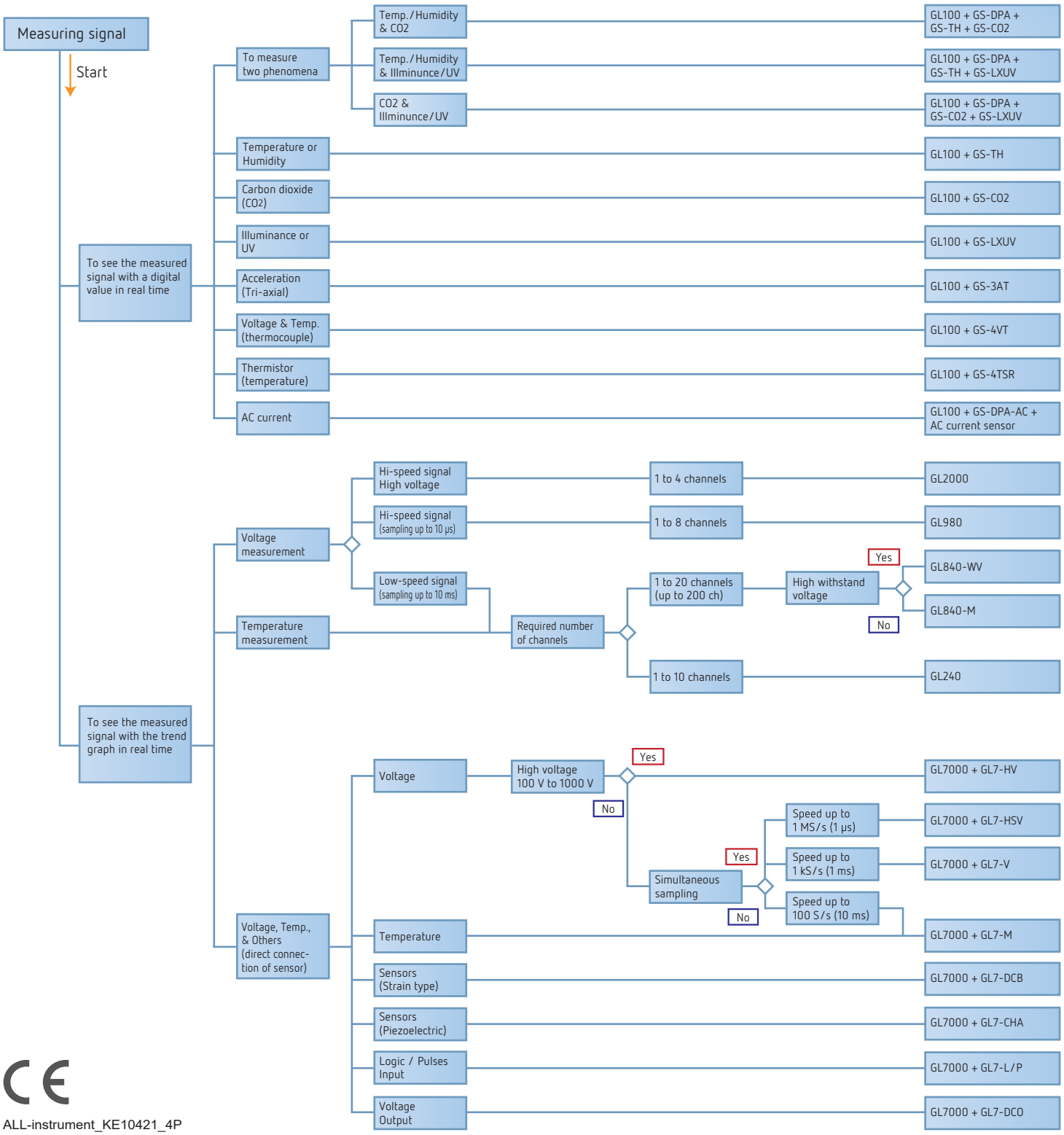
RIC-141A Input cable, Safe probe - BNC

RIC-142 Input cable

RIC-143, -144A, -145, -146, -147 Input cable, Clip

There is a wide variety of measurement as faster signal in the vehicle and equipment test, or slower signal like the temperature in the environment test. The device to capture the signal needs to be selected to fit the required application.

*Please refer to the inside page of this document for details on each product



CE

ALL-instrument_KE10421_4P

- Due to the possibility of equipment or PC failure, the data files on the Instrument will not be guaranteed to be held on the memory. Please make a backup of data whenever possible to avoid data loss.
- Brand names and product names listed in this brochure are the trademarks or registered trademarks of their respective owners.
- Specifications are subject to change without notice. For more information about product, please check the web site or contact your local representative.

⚠ For using equipment in correctly and safely

- Before using it, please read the user manual and then please use it properly in accordance with the description.
- To avoid malfunction or an electric shock by current leakage or voltage, please ensure a ground connection and use according to the specification.

Product Image	Product Specification

GLET SERIES ACCESSORY FOR DATA LOGGER SERIES GL2XX / GL8XX IN MODULAR ENCLOSURE

GLET-IU-BA2-BA4
Passive modular enclosure for conversion of (0)4 ... 20 mA to (0)1 ... 5 V

- Connection via jacks
- Supply voltage: ---
- Dimensions: 45 x 115 x 90 mm

Passive modular enclosure for the conversion of up to 4 measuring signals 0(4) ... 20 mA into a precise 0(1) ... 5 V signal, in connection with a datalogger

- Input signal: IIN = 0 ... 20 mA or 4 ... 20 mA (UMAX = 30 V)
- Output signal: UOUT= 0 ... 5 V or 1 ... 5 V
- High-precision resistance 250 Ohm (0.1 %)
- Electrical connection measuring signal: 4 mm jack
- Electrical connection analog output to datalogger: 2 mm jack
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-B513-KA-BA4
Passive modular enclosure for trigger inputs, logic inputs and alarm outputs as open collector.

- Connection via jacks
- Supply voltage: ---
- Dimensions: 45 x 115 x 90 mm

Passive modular enclosure for trigger inputs, logic inputs and alarm outputs of a datalogger.

- Alarm outputs: open collector (see specification datalogger)
- Integrated jack: 4 mm jack
- Connection to datalogger: cable B-513
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-B513-KA-BA4-REL
Active modular enclosure for 1 trigger, 2 logic inputs and 3 alarm outputs via relay contacts.

- Connection via jacks
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for 1 trigger, 2 logic inputs and 3 alarm outputs via relay contacts.

- Alarm output via relay contacts (2x closing contact, 1x opening contact)
- Rating: max. 30 V, 0.5 A
- Integrated jack: 4 mm jack
- Connection to datalogger: cable B-513
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-SU-BA2/B514-BI5 - (1 channel version)
GLET-SU2K-BA2/B514-BI5 - (2 channel version)
Active modular enclosure for active transducers / sensors with voltage output.

- Connection via connector and jack
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for wiring of one or two active transducers / sensors with voltage output in 3-wire technology in connection with a datalogger.

- Transducer excitation: 18 VDC (max. 50 mA)
- Input signal: 0 ... 5/10 V 3-wire
- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- Analog output signal: 0 ... 5/10 V
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-SI-BA2/B514-BI5 - (1 channel version)
GLET-SI2K-BA2/B514-BI5 - (2 channel version)
Active modular enclosure for active transducers / sensors with current signal

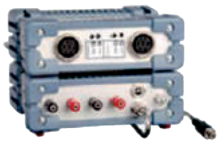
- Connection via connector and jack
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for wiring of on or two active transducers / sensors with current signal in 2- or 3-wire technology in connection with a datalogger.

- Transducer excitation: 18 VDC (max. 30 mA)
- Input signal: 0(4) ... 20 mA 2- or 3-wire
- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- High-precision resistance 250 Ohm (0.1 %)
- Analog output signal: 0(1) ... 5 V
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

Product Image	Product Specification

GLET SERIES ACCESSORY FOR DATA LOGGER SERIES GL2XX / GL8XX IN MODULAR ENCLOSURE



GLET-SG2K-BA2-BI7
Active modular enclosure with 2 channel strain gauge amplifier
- Connection via BNC and jack
- Supply voltage: 24 VDC ±5 %
- Dimension: 45 x 115 x 90 mm

Active modular enclosure for the connection of passive strain gauge transducers / sensors (bridge resistance more than 350 Ohm) in connection with a datalogger.

- Number of measuring channels: 2 Potentiometers for zero and span adjustment
- Strain gauge excitation: 5 VDC (max. 15 mA/channel)
- Input sensitivity: 1 €¦ 3 mV/V
- Limit frequency: 1 kHz
- Connector for transducer: 7-pin connector (Binder, supplied with mating
- Analog output signal: 0 €¦ 10 V, ±10 V
- Analog output rating: max. 1 mA
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connectors (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-8B4K-BA2-BI5
Active modular enclosure with base rack for up to 4 8B-mo-dule amplifiers
- Connection via connector and jack
- Supply voltage: 24 VDC ±5 %
- Dimension: 74 x 115 x 175 mm

Active modular enclosure with base rack for up to 4 8B-module amplifiers

- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 74 x 115 x 175 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50°

GLET SERIES ACCESSORY FOR DATA LOGGER SERIES GL9XX / GL2000 IN MODULAR ENCLOSURE

GLET-IU-BNC-BA4
Passive modular enclosure for conversion of (0)4 ... 20 mA to (0)1 ... 5 V
- Connection via jacks and BNC
- Supply voltage: ---
- Dimensions: 45 x 115 x 90 mm

Passive modular enclosure for the conversion of up to 4 measuring signals 0(4) ... 20 mA into a precise 0(1) ... 5 V signal, in connection with a datalogger

- Input signal: IIN = 0 ... 20 mA or 4 ... 20 mA (UMAX = 30 V)
- Output signal: UOUT= 0 ... 5 V or 1 ... 5 V
- High-precision resistance 250 Ohm (0.1 %)
- Electrical connection measuring signal: 4 mm jack
- Electrical connection analog output to datalogger: BNC
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-B513-KA-BA4
Passive modular enclosure for trigger inputs, logic inputs and alarm outputs as open collector.
- Connection via jacks
- Supply voltage: ---
- Dimensions: 45 x 115 x 90 mm

Passive modular enclosure for trigger inputs, logic inputs and alarm outputs of datalogger

- Alarm outputs: open collector (see specification datalogger)
- Integrated jack: 4 mm jack
- Connection to datalogger: cable B-513
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-B513-KA-BA4-REL
Active modular enclosure for 1 trigger, 2 logic inputs and 3 alarm outputs via relay contacts.
- Connection via jacks
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for 1 trigger, 2 logic inputs and 3 alarm outputs via relay contacts.

- Alarm output via relay contacts (2x closing contact, 1x opening contact)
- Rating: max. 30 V, 0.5 A
- Integrated jack: 4 mm jack
- Connection to datalogger: cable B-513
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimensions without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

Product Image	Product Specification

GLET SERIES ACCESSORY FOR DATA LOGGER SERIES GL9XX / GL2000 IN MODULAR ENCLOSURE

GLET-SU-BA2/B514-BI5 (1 channel)
GLET-SU2K-BA2/B514-BI5 (2 channels)

Active modular enclosure for active transducers / sensors with voltage output.

- Connection via connector and jack
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for wiring of one or two active transducers / sensors with voltage output in 3-wire techno-logy in connection with a datalogger.

- Transducer excitation: 18 VDC (max. 50 mA)
- Input signal: 0 ... 5/10 V 3-wire
- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- Analog output signal: 0 ... 5/10 V
- Electrical connection analog output to datalogger: BNC
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

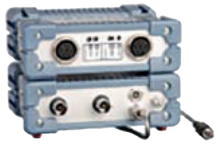
GGLET-SI-BA2/B514-BI5 (1 channel)
GLET-SI2K-BA2/B514-BI5 (2 channels)

Active modular enclosure for active transdu-cers/sensors with current signal

- Connection via connector and BNC
- Supply voltage: 24 VDC ±5 %
- Dimensions: 45 x 115 x 90 mm

Active modular enclosure for wiring of on or two active transducers / sensors with current signal in 2- or 3-wire technology in connection with a datalogger.

- Transducer excitation: 18 VDC (max. 30 mA)
- Input signal: 0(4) ... 20 mA 2- or 3-wire
- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- High-precision resistance 250 Ohm (0.1 %)
- Analog output signal: 0(1) ... 5 V
- Electrical connection analog output to datalogger: BNC
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C



GLET-SG2K-BNC-BI7

Active modular enclosure with 2 channel strain gauge amplifier

- Connection via BNC and jack
- Supply voltage: 24 VDC ±5 %
- Dimension: 45 x 115 x 90 mm

Active modular enclosure for the connection of passive strain gauge transducers / sensors (bridge resistance more than 350 Ohm) in con-nection with a datalogger.

- Number of measuring channels: 2 Potentiometers for zero and span adjustment
- Strain gauge excitation: 5 VDC (max. 15 mA/channel)
- Input sensitivity: 1 ... 3 mV/V
- Limit frequency: 1 kHz
- Connector for transducer: 7-pin connector (Binder, supplied with mating
- Analog output signal: 0 ... 10 V, ±10 V
- Analog output rating: max. 1 mA
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connectors (WxHxD): approx. 45 x 115 x 90 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50 °C

GLET-8B4K-BNC-BI5

Active modular enclosure with base rack for up to 4 8B-mo-dule amplifiers

- Connection via connector and jack
- Supply voltage: 24 VDC ±5 %
- Dimension: 74 x 115 x 175 mm

Active modular enclosure with base rack for up to 4 8B-module amplifiers

- Connector for transducer: 5-pin connector (Binder, supplied with mating connector)
- Electrical connection analog output to datalogger: 2 mm jack
- Supply voltage: 24 VDC ±5 % *)
- Enclosure: desktop
- Dimension without connections (WxHxD): approx. 74 x 115 x 175 mm
- Environmental sealing: IP20
- Operating temperature range: 0 ... +50°

RECOMMENDED ACCESSORY

KA-BNC-iso-sw-0.5m BNC safety connection cable with 2 straight BNC connectors

- Material: PVC
- Rating: 1000 V, CAT II (600 V CAT III)
- Cable length: 0.5 m
- Colour: black

ADAPKLS4

Set of 2 clamping connectors for direct connection of dismantled leads.

- Connector type: 4 mm connector
- Wire cross section: 0.12 ... 2.5 mm ²
- Colour: red and black
- Configured for voltages up to max. 30 V

The Ocean Cleanup required Althen to set up a force monitoring system capable of measuring the forces occurring between the tug and the floating tube structure.

HIGH-SPEED DATA LOGGER FOR VOLTAGE AND TEMPERATURE MEASUREMENTS

DATA LOGGER GL 980

JUNCTION BOX FOR CONNECTION OF UP TO 10 TEMPERATURE/HUMIDITY PROBES

GLET CONNECTION BOX

Product Image	Product Specification

RECOMMENDED ACCESSORY

8-B Measuring Amplifier Modules

Please see detailed specification for the 8B-module amplifiers in their respective datasheets.
General specification:
- 1500 Vrms isolation
- 240 Vrms input protection
- -40 ... +85 °C operating temperature range

DI-8B-32 / DI-8B-42 Current input modules

- input 4 ... 20 mA
- sensor excitation 15 VDC (DI-8B-42 only)
- output +1 ... +5 V or +2 ...+10 V
- common mode rejection 100 dB
- accuracy ±0.05 %
- linearity ±0.02 %
- bandwidth 100 Hz
- supply voltage +5 V

8B-34 Linearized 2- or 3-wire RTD modules

- PT100 sensor input 2-,.3-wire
- output 0 ... 5 V
- common mode rejection 120 dB
- accuracy ±0.05 %
- linearity ±0.02 %
- bandwidth 3 Hz
- input resistance <30 Ohm
- supply voltage +5 V

8B-35 Linearized 4-wire RTD modules

- interface to 100 Ohm platinum resistance thermometer, 4-wire
- output 0 ... 5 V
- common mode rejection 120 dB
- accuracy ±0.20 °C
- bandwidth 4 Hz
- input resistance 50 MOhm
- supply voltage +5 V

DI-8B-36 Potentiometer input module

- interface to 100 Ohm platinum resistance thermometer, 4-wire
- output 0 ... 5 V
- common mode rejection 120 dB
- accuracy ±0.20 °C
- bandwidth 4 Hz
- input resistance 50 MOhm
- supply voltage +5 V

DI-8B-38 Strain gauge input module

- interface to full or half bridges
- bridge excitation 3.33 V or 10.00 V
- bridge resistance 100 ... 20000 Ohm or 300 ... 20000 Ohm
- output ±5 V
- isolation 1500 Vrms
- input protection 240 Vrms
- common mode rejection 100 dB
- accuracy ±0.05 %
- linearity 0.02 %
- bandwidth 3 kHz
- input resistance 50 MOhm
- supply voltage +5 V

DI-8B-45 Frequency input module

- input 0 ... 500 Hz to 0 ... 100 kHz
- output 0 ... 5 V
- common mode rejection 100 dB
- accuracy ±0.10 %
- linearity ±0.05 %
- supply voltage +5 V

Preview – further GLET Accessories

- GLET-B514-KA-bat: Additional battery block for a longer power-supply-independent operation (GL2/8/900)
- GLET-TCmini-TMEBx-KA: Interface box with mini connector for thermo-couples (GL2/8/900)
- GLET-SU... : Version with bi-directional supply ±15 VDC

Customised versions available on request.

*) For voltage supply the datalogger's AC-adapter can be used. The unit provides a jack for AC-adapter connection, as well as a datalogger supply cable (comparable to B-514). For use with multiple GLET units an additional AC-adapter is required.
Due to continual product development, ALTHEN and partners reserve the right to vary the fore-going details without prior notice.

GLET CONNECTION BOX

GLET-AB-10K-BA2-BA4

10-Channel connection box for wiring up to 10 differential measurement signals via 4mm connector

Signal input: via integrated 4 mm jacks
Signal output: 2mm sockets
Housing: Aluminium table housing (IP20)
The connection box is designed for measurement signals up to max. 60VDC bzw. 25VAC.

GLET-10xB530AH(T)-Bi12-Bi5

Connection box with connecting cables and power supply unit for connection of up to 10 pcs. temperature / humidity probes type B530A-H (T) for GRAPHTEC data logger

- Supply voltage: 24 VDC
- Sensor supply: 18 VDC

The connection box GLET-10xB530AH (T) -Bi12-Bi5 enables the connection of up to 10 temperature / humidity sensors of type B530A-H (T) for a GRAPHTEC data logger. The connecting cables to the data logger included in the scope of supply considerably simplify the wiring effort and simultaneously improve electromagnetic compatibility. The connected sensors are supplied with an internally regulated voltage via the enclosed power supply unit. The system is installed in an aluminum table top housing (IP20).

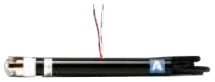
Product Image	Product Specification

GLET CONNECTION BOX

	GLET-IU10K-Bi12-Bi5 Passive Connection Box with connecting cables for the connection of up to 10 standard measuring signals (0 ... 20mA or 4 ... 20mA) for GRAPHTEC data logger • Input signal: 0 ... 20 mA / 4 ... 20 mA • Analogue output: 0 ... 5 V / 1 ... 5 V	The passive connection box GLET-IU10K-Bi12-Bi5 enables the connection of up to 10 standard measuring signals (0 ... 20mA or 4 ... 20mA) for a GRAPHTEC data logger. The connection cables to the data logger included in the scope of supply considerably simplify the wiring effort and simultaneously improve electromagnetic compatibility. The system is installed in an aluminum table top housing (IP20).
	GLET-SI10K-3L-Bi12-Bi5 Connection Box with connecting cable and power supply unit for wiring up to 10 active sensors with current output 4 ... 20mA in 3-wire technology for GRAPHTEC data logger • Supply voltage: 24 VDC • Sensor supply: 18 VDC • Input signal: 4 ... 20 mA • Internal shunt resistor: 250 Ohm • Analogue output: 1 ... 5 V	The connection box GLET-SI10K-3L-Bi12-Bi5 enables the connection of up to 10 active sensors with current output 4 ... 20mA in 3-wire technology for a GRAPHTEC data logger. The connecting cables to the data logger included in the scope of supply considerably simplify the wiring effort and simultaneously improve electromagnetic compatibility. The connected sensors are supplied with an internally regulated reference voltage via the enclosed power supply unit. The system is installed in an aluminum table top housing (IP20).
	GLET-SU10K-3L-Bi12-Bi5 Connection Box with connecting cable and power supply unit for wiring up to 10 active sensors with voltage output in 3-wire technology for GRAPHTEC data logger • Supply voltage: 24 VDC • Sensor supply: 18 VDC • Input signal: 0 ... 5 V / 0 ... 10 V • Analogue output: 0 ... 5 V / 0 ... 10 V	The Connection Box GLET-SU10K-3L-Bi12-Bi5 enables the connection of up to 10 active sensors with voltage output in 3-wire technology for a GRAPHTEC data logger. The connecting cables to the data logger included in the scope of supply considerably simplify the wiring effort and simultaneously improve electromagnetic compatibility. The connected sensors are supplied with an internally regulated reference voltage via the enclosed power supply unit. The system is installed in an aluminum table top housing (IP20).
	GLET-SU10K-4L-Bi12-Bi5 Connection Box with connecting cable and power supply unit for wiring up to 10 active sensors with voltage output in 4-wire technology for GRAPHTEC data logger • Supply voltage: 24 VDC • Sensor supply: 18 VDC • Input signal: 0 ... 5 V / 0 ... 10 V • Analogue output: 0 ... 5 V / 0 ... 10 V	The Connection Box GLET-SU10K-4L-Bi12-Bi5 enables the connection of up to 10 active sensors with voltage output in 4-wire technology for a GRAPHTEC data logger. The connecting cables to the data logger included in the scope of supply considerably simplify the wiring effort and simultaneously improve electromagnetic compatibility. The connected sensors are supplied with an internally regulated reference voltage via the enclosed power supply unit. The system is installed in an aluminum table top housing (IP20).

PT100 RESISTANCE TEMPERATURE SENSORS Accessories for Data Loggers

	PT100-514140-1E Resistance Temperature Sensor These robust temperature sensors have a rigid protection tube welded at the tip and made of heat-resistant stainless steel. The silicone-insulated connecting cable is firmly crimped to the thermowell.	• Pt100 measuring resistor according to DIN EN 60751:1996 Tolerance class B • Temperature range: -50 ... +200 °C • Protection tube: stainless steel, material no. 1.4435, Ø 6 mm x 30 mm • 3-wire technology • Connection cable: 2 m long, stranded wire, conductor cross-section 0.22 mm², PTFE-insulated cores with silicone-insulated outer sheath. Colour coding of the cores: red, red, white
	PT100-515680-1E - Resistance temperature sensor, self-adhesive Self-adhesive Pt100 resistance temperature sensor with short response times for measuring straight and curved surfaces.	• Pt100 flat film resistor according to DIN EN DIN EN 60751:1996 Class B • Temperature range: -50 ... +150 °C • Dimensions of the silicone bag: 40 x 14 mm x 7 mm max. thickness • 4-wire circuit, can also be operated in 3-wire circuit • Filler pocketmade of silicone rubber with self-adhesive underside • 2 m connecting cable with PTFE-Insulating sheath and stainless steel braiding

Product Image	Product Specification	
THERMOCOUPLE Accessories for Data Loggers		
	TCK-401301-5E – Thermocouple Simple thermocouple type K for fast response times; free conductor ends; length 2 m. Ideal for low temperature applications.	• Thermocouple Type K • Temperature range: -75 ... +250 °C • Stranded thermocouple wires, 0.2 mm diameter with PTFE insulating sheath • Cable length: 2 m
	TCK-401140-5E – Thermocouple Typ K with adhesive pad Ideally suited for application to flat or curved surfaces using a self-adhesive plaster. Thermocouple made of thermocouple wires bonded with a self-adhesive glass fibre plaster with PTFE impregnation.	• ThermocoupleType K • Temperature range: -50 ... +250 °C • Pavement size: 25 mm x 20 mm • Stranded thermal wires (wire diameter: Ø 0.2 mm) • PTFE insulating sleeve • Cable length: 2 m
	TCT-401304-5E - Thermocouple Type T Simple thermocouple type T for fast response times; free conductor ends; length 2 m. Ideal for low temperature applications.	• Thermocouple Type T • Temperature range: -75 ... +250 °C • Stranded thermocouple wires, 0.2 mm diameter with PTFE insulating sheath • Cable length: 2 m
	TCJ-401307-5E - Thermocouple Type J Simple thermocouple type J for fast response times; free conductor ends; length 25 m. Ideal for low temperature applications.	• Thermocouple Type J • Temperature range: -75 ... +250 °C • Stranded thermocouple wires, 0.2 mm diameter with PTFE insulating sheath • Cable length: 2 m
	TCJ-401310-5E - Thermocouple Type N Simple thermocouple type J for fast response times; free conductor ends; length 2 m. Ideal for low temperature applications.	• Thermocouple Type N • Temperature range: -75 ... +250 °C • Stranded thermocouple wires, 0.2 mm diameter with PTFE insulating sheath • Cable length: 2 m
	RIC-410 - Rod Thermocouple Type K	• Thermocouple Type K • Temperature range: -100 ... +300 °C • Accuracy: Class 1 (±1.5 °C) • Cable length 1.1 m • For liquids as well as viscous and semi-solid materialstions.
	**RIC-420 - Thermocouple Type K**	• Thermocouple Type K • Temperature range: -30 ... +400 °C • Accuracy: Class 2 (±2.5 °C) • Cable length 1.1 m • For solid surfaces
	RIC-430 - L-Shaped Thermocouple Type K	• Thermocouple Type K • Temperature range: -30 ... +600 °C • Accuracy: Class 2 (±2.5 °C) • Cable length 1.1 m • For solid surfaces
AIR HUMIDITY SENSORS Accessories for Data Loggers		
	B-530 – AIR HUMIDITY SENSORS	• Humidity: 0 ... 100 % r.h. • Cable length 3 m • Power supply to data logger
	B-530A - Digital miniature sensor for humidity and temperature The B-530A miniature humidity and temperature sensor offers excellent performance in terms of accuracy and linearity thanks to microprocessor technology with multi-point calibration. The miniature sensor in 12 mm format has two linear analog outputs for temperature and relative humidity, dew point or absolute humidity.	• Measuring range humidity 0 ... 100 % r.h., ±2 % • Measuring range temperature -20 ... +80 °C, ±0.2 °C • Output signal 0 ... 1 V • Supply voltage 4.5 ... 35 VDC • Required external power Supply

Product Image	Product Specification	
CABLES, PLUGS AND OTHER Accessories for Data Loggers		
	GL220-HB-DIN **GL240-HB-DIN**	Accessory for wall mount or DIN-rail mounting of data logger GL220/GL240 (DIN rail is not included)
	GL820-HB-DIN **GL840-HB-DIN** **GL980/2000-HB-DIN**	Accessory for wall mount or DIN-rail mounting of data logger GL820/ GL840/GL980/GL2000 (DIN rail is not included)
	TK-midi-4 High-Impact ABS Plastic Carrying Case	Shatterproof, waterproof (up to 5m depth) and dustproof case with accurately fitting partition; for use with series GL7000; space for additional accessories; document pouch in top cover; carrying strap.
	TK-midi-6 Water- and Dust-Proof Carrying Case	Black plastic; IP67; accurately fitting partition suited to protect series GL240, GL840, GL980, GL2000 for dust, water and impact; enough space for additional accessories; document pouch in top cover.
	ADAPXM-BB4	Contact protected adapter BNC to 4 mm banana jack, recommended accessory for data logger GL900
	ADAPAK2B-SB4	Set of two clamps (red/black), with protection against contact, 4 mm banana jack, for wires up to 9.5 mm, recommended accessory for cable KA-BNC-BA4, price per set
	B-513	Logic / alarm cable (2 m)
	B-514	DC power cable (2 m)
	B-577 / B-578 / B-579	Rubber protector cover for model GL240 / GL840 / GL980 / GL2000
	KA-BA2-FE	Connecting cable from GLET-box with 2 mm banana jack to data logger GL220/820, length: approx. 300 mm, set of 2 cables, price per set
	KA-BNC-BA4	Connecting cable with 1 BNC connector (isolated) and 2 banana plugs 4 mm (not isolated) for safety extra-low voltage, length 1.6 m, 1000V, CAT II (600 V, CAT III)
	KA-BNC-iso-sw-... Cable length 2m / Cable length 0.5m	BNC safety connection cable with 2 BNC connectors, material: PVC, rating: 1000 V, CAT II (600 V CAT III), color black
	KA-USB-1.5m	USB cable type A/B (1.5 m)
	RIC-10A	Probe Set: logic IC cable; alligator clip cable, IC clip cable for module GL7-L/P
	RIC-112	BNC-BNC cable (1.5 m), replaced by model KA-BNC-iso-sw
	RIC-113	BNC banana plug cable (1.5 m), replaced by model KA-BNC-BA4
	RIC-114	BNC alligator clip cable (1.5 m), replaced by model KA-BNC-BA4 with ADAPAK2B-SB4
	RIC-141A	Safe probe acc. to IEC/EN61010 (BNC safety type) 1:1, 42 pF, 1.2 m
	B-562	SMA-BNC connection cable for module GL7-DCO

THE RIGHT SOLUTION FOR YOUR REQUIREMENTS

Due to our decades of experience, we at Althen can supply our customers with developments ranging from standard and customer-specific sensors to complete measuring systems.

All physical parameters are represented in our product range, using different technologies so that you always get the best solution for your measurement requirements. Thanks to our many years of experience, our technical know-how, our strong team of engineers with different professional backgrounds and our broad product range, we can offer the most efficient solutions for almost all applications in all branches of industry.

Our team will be happy to advise you. You can reach us by phone at **+49 6195 70060** or by e-mail to **sales@althen.de**

OUR PRODUCT SCOPE

bar	Pressure	mm	Displacement	g	Acceleration		Amplifier
N	Force	α	Rotation	m/s^2	Vibration	1010	Data Logger
Nm	Torque		Joystick	°/s	Angular Rate		Automation
ε	Strain		Inclination	°C	Temperature	A	Measurement Solutions

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2019-06-0001

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