 **SG-TG-USB-3P / SG-TG-USB-4P**
1 channel strain gauge amplifier

The described 1-channel strain gauge amplifier in an aluminium desktop housing enables the supply and signal amplification of up to 3 (or 4) strain gauge transducers connected in parallel.



 **TECHNICAL DESCRIPTION**

The described 1-channel strain gauge measuring amplifier in an aluminium desktop housing enables the supply and signal amplification of up to 3 (or 4) strain gauge transducers connected in parallel with normalised measuring signal/sensitivity. Any strain gauge transducer with strain gauge full bridges greater than or equal to 300 ohms can be connected to the measuring amplifier. The transducers are wired using 4-wire technology. A USB interface and suitable software are available for evaluation. The sampling rate can be adjusted via the supplied software.

PINOUT

The measuring amplifier is connected via the connectors on the front of the device.

Sensor connector (7-pin): Sensor 1, Sensor 2, Sensor 3, (optional: Sensor 4)

Note: The order in which the 3 (4) sensors are connected is not relevant for a meaningful measurement result due to the summation.

PIN	Designation
1	+Strain gauge supply voltage measuring sensor
2	not assigned
3	+DMS signal
4	-DMS signal
5	not assigned
6	-Strain gauge supply voltage measuring sensor
7	shield

Plug (3-pin): measuring ground USB-B socket system interface

PIN	Designation	Notes
1	not assigned	1 USB-B Female
2	PE_Mess	2 max. 5m connection cable
3	PE_Mess	3 Power is supplied via USB <100 mA
		(No external power supply required)



USB INTERFACE

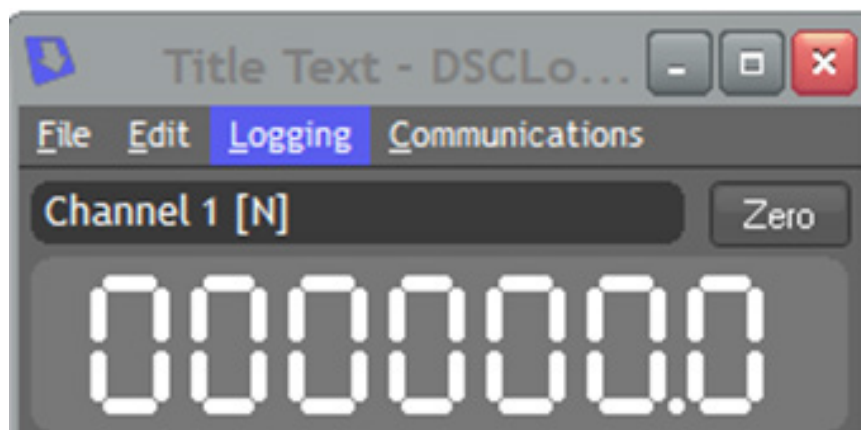
Via the USB-B interface, the current measured values can be read out via a USB-B-A cable up to 5m long on a computer/laptop. To do this, the required software must first be installed (see chapter Software Installation).

By default, the interface works with:

- 115200 baudrate
- 8 data bits
- 1 stop bit
- No parity

■ DISPLAY OF THE CURRENT MEASURED VALUE

The measured value can be displayed in the supplied software by a digital display of up to 7 digits, in which the corresponding physical quantity (pressure/force, etc.) is displayed unitlessly. However, the unit can be noted by the user in the channel description.



■ READING OUT A MEASURED VALUE USING A COMMAND SET

With the help of the command set, a customer's own software can be connected to the SG-TG-USB-3P and measured values can be read out. The communication is ASCII-based.

-> Connect the software to the COM port used by the device

- 115200 baudrate
- 8 data bits
- 1 stop bit
- No parity

-> With the command listed here, a measured value can be queried from the system

!001:SYS?<CR>

Read a Parameter

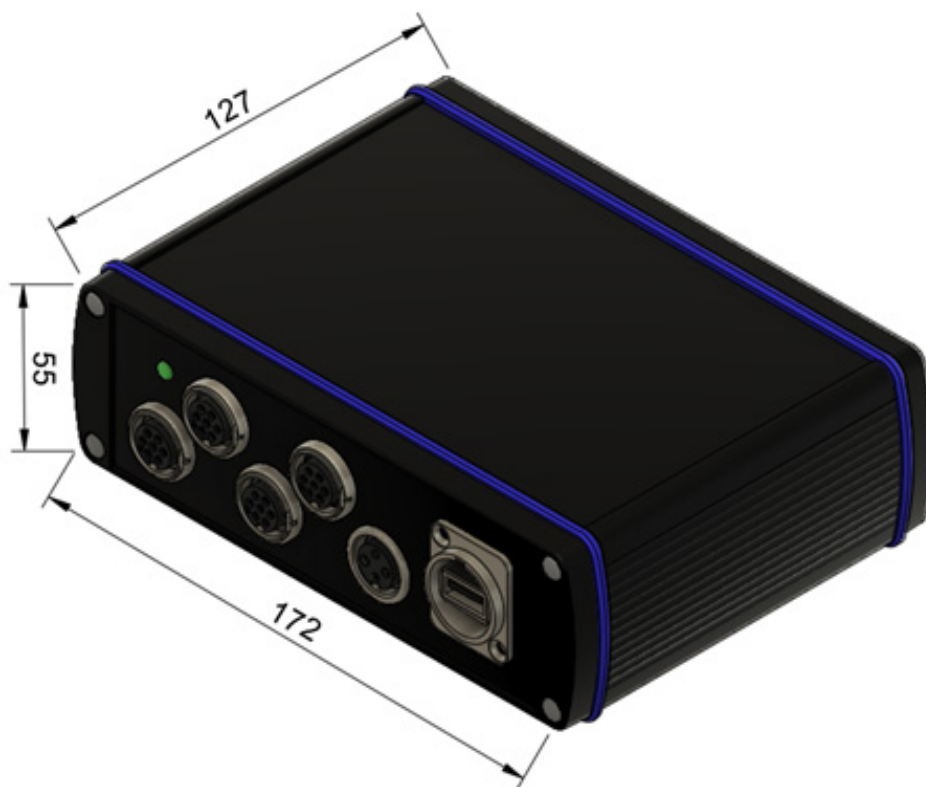
Framing Character	Station Address	Separator	Command Identifier	Access Code	End of frame
!	001	:	SYS	?	<CR>



TECHNICAL SPECIFICATIONS

Number of measurement channels:	1 (SG full bridge >300 Ω)	For up to 3(4) SG transducers with standardized signal
Supply voltage:	4.75 ... 5.25 VDC (USB)	
Data rate:	115,200 kbps	(max. USB cable length 5m)
Insulation withstand voltage between input and output:	200 V	(Higher insulation withstand voltage possible on request)
Power consumption:	0.5 W / max. 1W	
Strain gauge supply voltage:	5 VDC	
Sampling rate:	max. 100 Hz	
Max. input sensitivity:	3 mV/V at 5 VDC strain gage supply voltage	
Electrical connection:	plug connector	
Housing:	aluminum desktop housing IP50 (also available in IP65)	
Dimensions (W x H x D):	approx 172 x 55 x 127 mm including connections, without mating connector	
Weight:	about 800 g	
Storage temperature range:	-40 °C ... +85 °C	
Operating temperature range:	-20 °C ... +60 °C	

HOUSING DIMENSIONS



Note: Illustration USB port differs.



■ SCOPE OF DELIVERY

The scope of delivery of the SG-TG-USB-... already includes the presetting (item A-DMS-1K) according to the nominal pickup sensitivity. In addition, the 3 or 4 plug connectors for ALTHEN force transducers are also assembled when delivered from the factory.

■ OPTIONAL TRANSPORT CASE

A case for transporting the measuring system is available for the system on request.
(example see below)

