



## Junction Box GLET-SI/SU-xxx



GLET-SU10K  
GLET-SI10K

## Content

■ 1 General Information.....	3
■ 1.1 Safety Instructions.....	3
■ 1.2 Qualified Personnel.....	3
■ 1.3 Intended Use.....	3
■ 2 Technical description.....	4
■ 2.1 Terminal Assignment.....	4
■ 2.1.1 Solder points.....	5
■ 3 Datasheet.....	6
■ 4 Maintenance.....	7
■ 5 Old appliances disposal.....	7

## ■ 1 General Information

To ensure reliable and safe operation, the measuring amplifier must be operated in compliance with the specifications according to this technical description only. These regulations must also be observed if accessories, that have been ordered from Althen Mess- & Sensortechnik GmbH together with the measuring amplifier being used.

**Notice:** Every person who is in charge for the start-up or service of this measuring amplifier must have read this technical manual and must have understood the safety instructions in particular.

### ■ 1.1 Safety Instructions

When using the amplifier, the legal- and safety regulations for each case of application must be observed. To avoid risks for the system or the operator the following points are to be considered.

- If any visual damage or malfunctions are noticed, the measuring system must be switched off and marked appropriately.
- Disconnect the supply voltage before opening the device.
- The complete measuring unit must be protected against contact and influence of unauthorized persons.
- In the case of a safety-relevant application, where a potential malfunction could cause damage to property or persons, it is imperative that an additional, independent monitor is provided.
- In combination with sensors, the maximum loads / pressures etc. must never be exceeded.

If you have reasons to assume that safe operation is no longer possible, immediately take the device out of operation and secure it against unintentional operation.

### ■ 1.2 Qualified Personnel

This measuring system must be operated by qualified personnel and in compliance with the relevant technical specifications only. Qualified personnel include such persons who are conversant with the setting up, mounting and starting up of the measuring system and who have qualifications that are appropriate for the tasks they're about to perform.

### ■ 1.3 Intended Use

Amplifiers and junction boxes from Althen Mess- & Sensortechnik GmbH serve to measure the intended measurand and the evaluation thereof in combination with one or more sensors. Any other use over and above that is regarded as non-intended use.

## ■ 2 Technical description

The described active junction box serves to connect up to 10 active transducers/sensors with an analogue current output in 3-, or 4-wire (version -SI-), resp. an analogue voltage output in 3-, or 4-wire connection in combination with a datalogger of the GL-series. Above that it is possible to modify channel 5 and/or 10 to be able to connect a Pt100/Pt1000 resistance thermometer. A green LED on front indicates the supply voltage.

**Notice:** To avoid possible potential equalization currents over the shield of the cable to the following evaluation unit, this shield should be connected over a suitable capacitor (10nF/200V). Overall the shield connections must be done properly to EMC-standards (as short as possible with large wire cross-section) and connected to a central point (star grounding).

### ■ 2.1 Terminal Assignment

5 pin connectors:

PIN	3-wire	4-wire	Pt100/Pt1000*
1	+ Supply	+Supply	do not connect
2	+ Signal	+ Signal	+ Signal
3	n/c**	- Signal	- Signal
4	n/c	n/c	Sense
5	GND	GND	do not connect

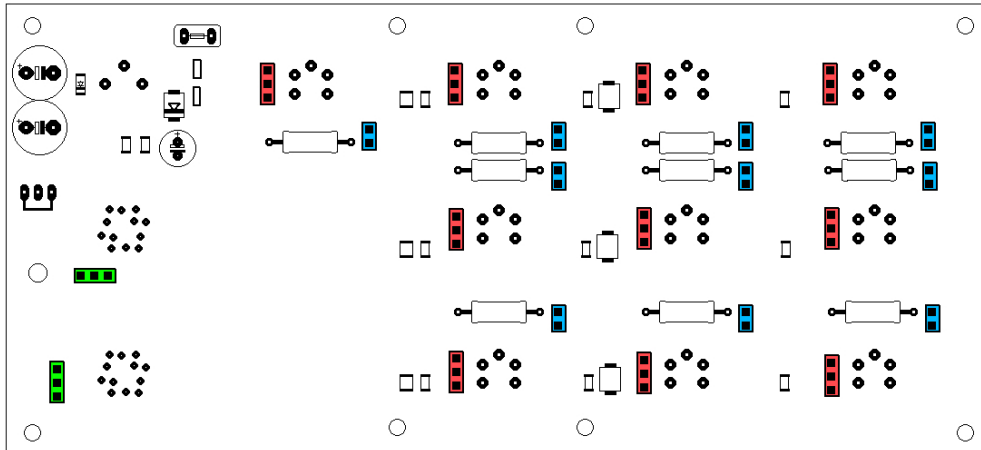
\*Pt100/Pt1000 channel 5 and 10 only.

\*\* Output -(minus)Signals are connected to GND internally – external wiring not necessary.

**Notice:** In case EMC-connectors are being used, the cable screen is to be connected to the plug's housings.

## ■ 2.1.1 Solder points

In order use the channels either as "SI", current output, or "SU", voltage output, or to be able to use said channels in 3-, or 4-wire, internal solder points have to be changed. The box has been modified accordingly to the quote and its designation. If any changes will be made, said designation is obsolete, at least partly.



4-wire



3-wire



Shunt active (4 ... 20 mA to 1 ... 5 V)



Pt100/Pt1000 Sense



Pin 11: GND

12 pin connectors:

Connector 1

Connector 2

PIN	Color	Channel	Description	PIN	Color	Channel	Description
A	white	1	+ Signal	A	white	6	+ Signal
B	brown	1	- Signal	B	brown	6	- Signal
C	green	2	+ Signal	C	green	7	+ Signal
D	yellow	2	- Signal	D	yellow	7	- Signal
E	grey	3	+ Signal	E	grey	8	+ Signal
F	pink	3	- Signal	F	pink	8	- Signal
G	blue	4	+ Signal	G	blue	9	+ Signal
H	red	4	- Signal	H	red	9	- Signal
J	black	5	+ Signal	I	black	10	+ Signal
K	violet	5	- Signal	J	violet	10	- Signal
L	grey/pink		Sense CH5 /GND	K	grey/pink		Sense CH10 /GND
M	red/blue		GND	L	red/blue		GND

### ■ 3 Datasheet

Supply Voltage	12 / 24 VDC (max. 500 mA)	Electronics protected against voltage reversal
Fuse	1,1 A slow	self-healing
Number of Channels:	10	more channels on request
Input Signals:	0(4) ... 20 mA 3-wire or 4-wire 0...5/10 V 3-wire or 4-wire	
Connectors for Sensors:	5-pin connector (Binder, matching connectors not included – please order separately)	
Connectors for Datalogger	12 pin Binder	
Shunt resistor	250 Ohm	± 0,1 %
Housing:	Desk Housing	
Dimensions (W x H x D):	115 x 45 x 90 mm	
Analogue Output Signals:	0(1) ... 5 V                      Version -SI- 0 ... 5/10 V                      Version -SU-	
Protection Class:	IP-20	
Operation Temperature Range:	0 °C ... +50 °C	
Weight	630 g	

## ■ 4 Maintenance

The flawless function and calibration of the whole measuring system is to be checked regularly. This inspection is also necessary after every repair or change of any component of the measurement system.

## ■ 5 Old appliances disposal



According to European and German law, it is prohibited to dispose of old electronic devices by household waste, but must be collected and disposed of separately.

Amplifiers and measurement units manufactured and sold by Althen Mess- & Sensortechnik GmbH serve B2B purposes only. Therefore, those old appliances must not be given to the communal disposer, but must be given back to the seller or disposed of properly. If you need any further information, please contact your local authorities.

These measures serve to protect the environment and allow recycling and recovery of valuable materials. Furthermore, do electronic devices contain substances that may cause damage to the environment if burned or dumped with normal household waste.

Subject to modifications.

All information describes our products in general form.