sauermann C 310 Temperature Measuring Instrument User Guide

Contents

1 Sauermann® C 310 Temperature Measuring Instrument User Guide
1.1 General Features
1.2 Features of the Housing
1.3 Symbols Used
1.4 Connections
1.5 Electrical Connections as per NFC15-100 Standard
1.6 Configuration
1.7 Mounting
1.8 Accessories
2 Documents / Resources
2.1 References
3 Related Posts

Sauermann® C 310 Temperature Measuring Instrument User Guide

sauermann®

CE

C 310

Multifunction transmitter

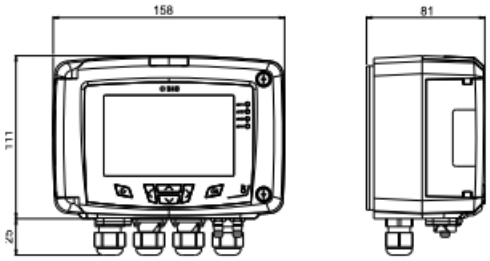
- **2 inputs for interchangeable probes plus internal pressure sensor**
- **Up to 4 analogue outputs (4 wires) 0/5-10 V or 0/4-20 mA**
- **4 visual (dual-color LEDs) and audible alarms**
- **Modbus interface (via RS485 or Ethernet connection)**

General Features

Power supply	24 Vac / Vdc ±10% or 100-240 Vac, 50-60 Hz Warning: risk of electric shock
Outputs	2 x 0/4-20 mA or 2 x 0-5/10 V (4 wires) Optional additional outputs: 2 x 0/4-20 mA or 2 x 0-5/10 V (additional consumption for 24 V model: 1 VA / for 110-240 V model: 2 VA) Common mode voltage <30 VAC / Maximum load: 500 Ohms (0/4-20 mA) Minimum load: 1 K Ohms (0-5/10 V)
Galvanic isolation	Inputs (power supply) and outputs (on 110 Vac/240 Vac models) Device fully protected by DOUBLE ISOLATION or REINFORCED ISOLATION Outputs (on 24 Vac/Vdc models)
Consumption with probe and without option	C310-BO and C310-BN: 6 VA C310-HO and C310-HN: 8 VA (CO_2 probe additional consumption for 24 V and 110-240 V models: 2 VA)
Electrical connections	Screw terminal block for cables from 0.05 to 2.5 mm2 or from 30 to 14 AWG Carried out according to the code of good practice
Relays (optional)	4 RCR relays. NO: 5A / NC: 3A / 240 Vac (additional consumption for 24 V model: 5 VA / for 110-240 V model: 8 VA)
Communication RS485 (option)	Digital: Modbus RTU protocol, configurable communication speed from 2400 to 115200 Bauds
Communication Ethernet (option)	Ethernet communication module allowing transmission, monitoring and maintenance of transmitters via an Ethernet network in 10 BASE-T and 100 BASE-TX LAN/WAN supporting TCP/IP protocol (additional consumption for 24 V and 110-240 V models: 1 VA)
Audible alarm	Buzzer (70 dB at 10 cm)
Environment and type of fluid	Air and neutral gases
Conditions of use (°C/%RH/m)	From -10 to +50°C. In non-condensing condition. From 0 to 2000 m
Storage temperature	From -10 to +70°C
Security	Protection class 2; Pollution degree 2; Overvoltage category 2
European directives	2014/30/EU EMC; 2014/35/EU Low Voltage; 2011/65/EU RoHS II; 2012/19/EU WEEE

Features of the Housing

Material	ABS V0 as per UL94
Protection	IP65
Display	Graphic from 1 to 4 lines, 240 x 128 px; Size: 86 x 51 mm, Backlit Height of digits: Values: 10 mm; Units: 5 mm
Cable gland	In polyamide for cables Ø9 mm maximum
Weight	700 g



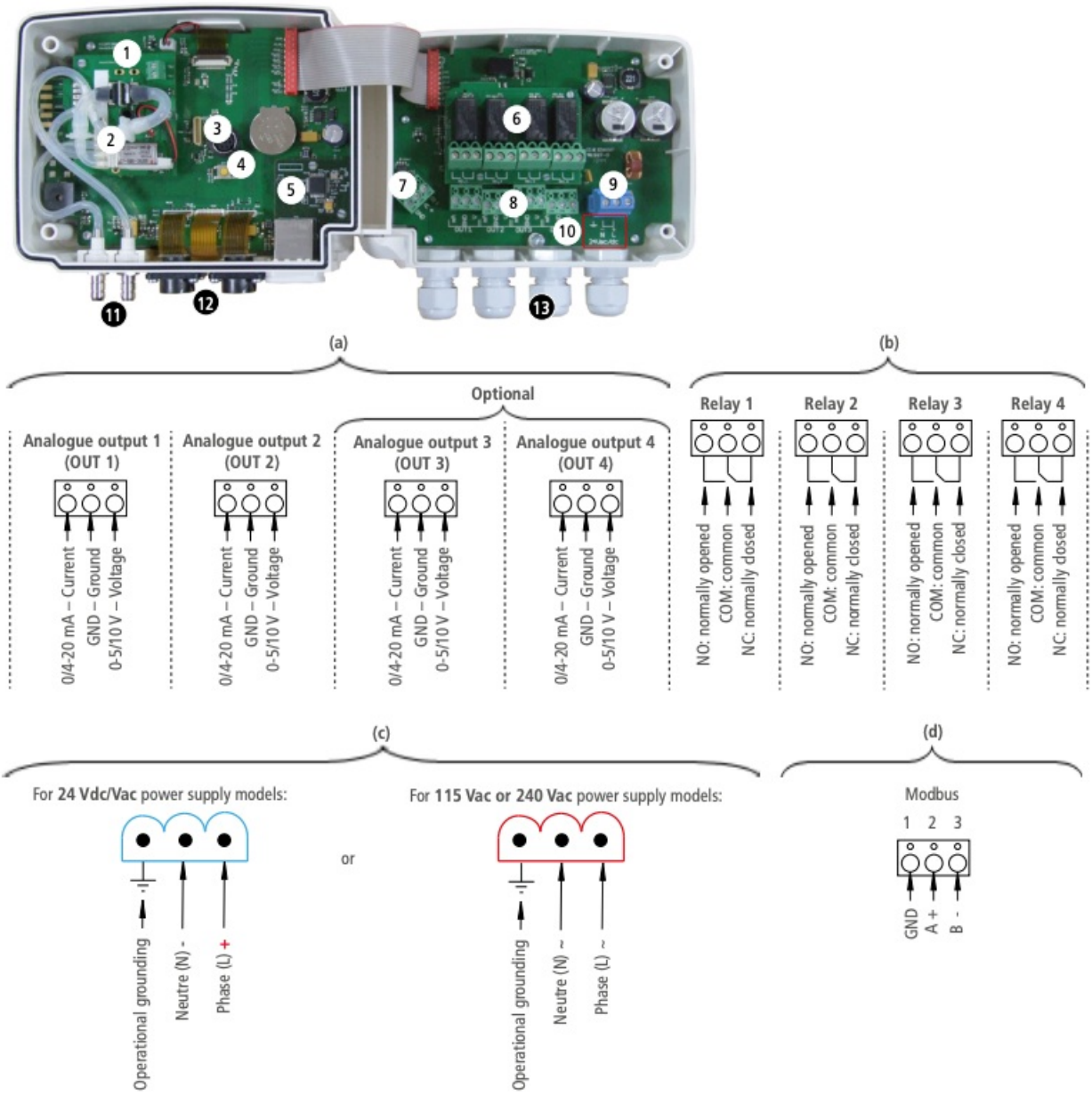
All dimensions are in millimeters.

Symbols Used

For your safety and in order to avoid any damage of the device, please follow the procedure described in this document and read carefully the notes preceded by the following symbol:

The following symbol will also be used in this document, please read carefully the information notes indicated after this symbol:

Connections

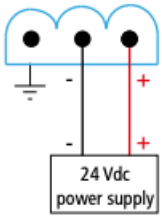


1. SPI-2 board (optional)
2. Solenoid valve
3. LCC-S software connection
4. Autozero
5. Ethernet board (optional)
6. Relays board (b) (optional)
7. RS 485 connection (d) (optional)
8. Analogue outputs (a) (OUT3 and OUT4 are optional)
9. Power supply terminal block (c)
10. Type of power supply of the transmitter
11. Pressure connection (optional)
12. Probes connection
13. Cable glands

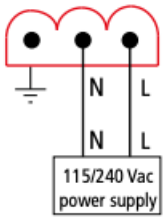
Electrical Connections as per NFC15-100 Standard

This connection must be made by a formed and qualified technician. Whilst making the connection, the transmitter must not be energized. The presence of a switch or a circuit breaker upstream the device is compulsory.

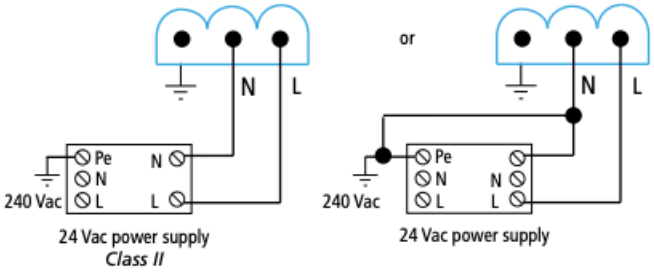
- For 24 Vac/Vdc models:



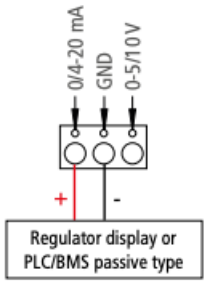
- For 110/240 Vac models:



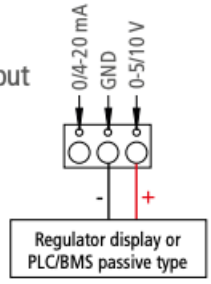
- For 24 Vac/24 Vdc models using power supply converters:



- 0/4-20 mA current output connection:



- 0-5/10 V voltage output connection:



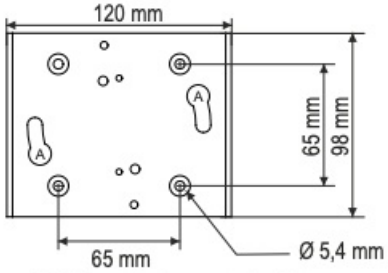
Configuration

Class 310 transmitters allows you to set all the parameters managed by the transmitter: units, measuring ranges, alarms, outputs, channels… via the different methods shown below:

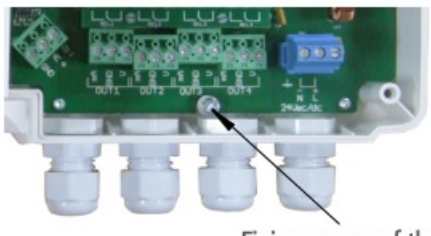
- **Via keypad, only on models with display.** A code-locking system for keypad guarantees the security of the installation. See configuration manual.
- **Via software (optional):** simple and user-friendly. See LCC-S user manual.
- **Via Modbus (optional):** configuration of all parameters from your PC.
- **Via Ethernet (optional):** configuration of all parameters from your PC.

Mounting

To install the transmitter on a wall, fix the stainless steel plate to the wall (drilling: Ø8 mm, screws and wall-plugs supplied). Insert the transmitter on the plate (see A on the drawing below) by aligning it at 30°. Rotate the housing in clockwise direction until you heard a “click” which confirms that the transmitter is correctly installed. Open the housing, lock the clamping system of the housing on the plate with the screw (see photo below). To remove the transmitter from the fixing plate, do not forget to remove this screw.



316 L stainless steel plate


Fixing screw of the housing

Accessories

Please refer to the data sheet to get more information about available accessories.

Maintenance: please avoid any aggressive solvents. Please protect the transmitter and its probes from any cleaning product containing formalin, that may be used for cleaning rooms or ducts.

Precautions for use: please always use the device in accordance with its intended use and within parameters described in the technical features in order not to compromise the protection ensured by the device.

Download the LCC-S software user manual

Download the C 310 data sheet

Customer service portal

Use our Customer service portal to contact us

https://sauermann-en.custhelp.com/

www.sauermanngroup.com

QSG – C310 – 09/03/2022 – Non-contractual document – We reserve the right to modify the characteristics of our products without prior notice

Documents / Resources

	sauermann C 310 Temperature Measuring Instrument [pdf] User Guide C 310, Temperature Measuring Instrument

References

- Manufacturer of Condensate Pumps and Measuring Instruments | Sauermann group
- Services - Homepage