

The following symbols in the Operating Instructions indicate safety precautions which must be strictly observed:



The instruments must only be disposed of in the correct way!

Subject to change without notice

## Operating Instructions

## Temperature Transmitter SINEAX V610



Camille Bauer LTD  
Aargauerstrasse 7  
CH-5610 Wohlen/Switzerland  
Phone +41 56 618 21 11  
Fax +41 56 618 35 35  
e-mail: info@camillebauer.com  
http://www.camillebauer.com



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### 1. Read first and then ...



The proper and safe operation of the device assumes that the Operating Instructions are **read** and the safety warnings given in the various Sections

#### 5. Mounting

#### 6. Electrical connections

#### 7. Commissioning

are **observed**.

The device should only be handled by appropriately trained personnel who are familiar with it and authorised to work in electrical installations.

Unauthorized repair or alteration of the unit invalidates the warranty!

### 2. Scope of supply (Figs. 1 and 2)

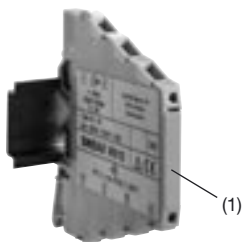


Fig. 1



Fig. 2

#### Transmitter (1)

**1 Operating Instructions** (2) each in German, French and English

### 3. Brief description

The **SINEAX V 610** is a two-wire transmitter.

It is used for measuring temperature in conjunction with a resistance thermometer. Thermocouple non-linearities are automatically compensated. The output signal is a current in the range 4 ... 20 mA.

The sensor circuit is monitored for open and short-circuits and the output responds in a defined manner if one is detected.

The power supply of 12...30 V DC is connected together with the signal by the two leads connected to the measurement output (loop powered).

### 4. Technical data

#### Measuring input

Input variable and measuring range

Input variables	Measuring ranges	Order No.
Temperatures with resistance thermometers for <b>three-wire</b> connection Pt 100, IEC 60 751	0 ... 100 °C	154 823
	0 ... 150 °C	154 831
	0 ... 200 °C	154 849
	-30 ... + 70 °C	154 857
	-50 ... + 150 °C	154 865

#### Measuring output

(output/powering circuit)

Output signal IA:

Impressed DC current, **linear with temperature**

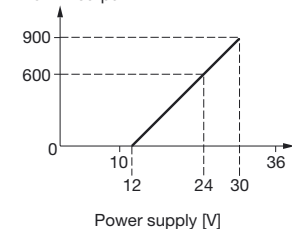
Standard range:

4...20 mA, 2-wire technique

External resistance (load):

$$R_{\text{ext max.}} = \frac{\text{Power supply [V]} - 12 \text{ V}}{\text{Max. output current [mA]}}$$

Load max. [Ω] with 20 mA output



#### Open and short-circuit sensor circuit supervision

Signalling mode:

Output signal at open and short-circuit sensor circuit on 21.6 mA

## Power supply

DC voltage: Supply 12 ... 30 V DC  
max. residual ripple 1% p.p.  
(supply must not fall below 12 V)  
Protected against wrong polarity

## Accuracy data

Reference value: Measuring span  
Basic accuracy: Error limits  $\leq \pm 0.2\%$  at reference conditions  
Linearity:  $\leq 0.1\%$

## Reference conditions

Ambient temperature: 23 °C  
Power supply: 18 V DC  
Output burden: 250  $\Omega$

## Additional errors (additive)

Low measuring ranges:  
Resistance thermometer  $\pm 0.3$  K at measuring spans  $< 400$  °C

## Standards

Electromagnetic compatibility: The standards EN 50 081-2 and EN 50 082-2 are observed  
Protection acc. to IEC 529 resp. EN 60 529: Housing IP 40  
Terminals IP 20  
Electrical standards: Acc. to IEC 1010 resp. EN 61 010

## Environmental conditions

Operating temperature:  $-25$  to  $+55$  °C  
Storage temperature:  $-40$  to  $+80$  °C  
Humidity relative:  $\leq 75\%$ , no moisture condensation  
Altitude: 2000 m max.  
Indoor use statement

## 5. Mounting

The SINEAX V 610 can be mounted on a top-hat rail or on a rail «G».



When deciding where to install the transmitter (measuring location), take care that the **limits** of the operating temperature **are kept**:  
 **$-25$  and  $+55$  °C**

Simply clip the device onto the top-hat rail (EN 50 022) (see Fig. 3).

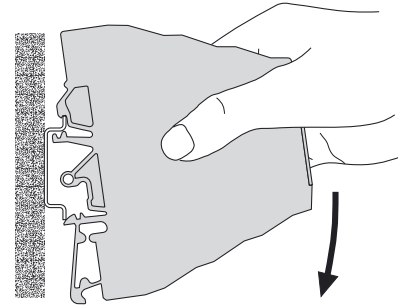


Fig. 3. Mounting onto top-hat rails  $35 \times 15$  or  $35 \times 7.5$  mm.

Simply clip the device onto the rail «G» EN 50 035-G32 (see Fig. 4).

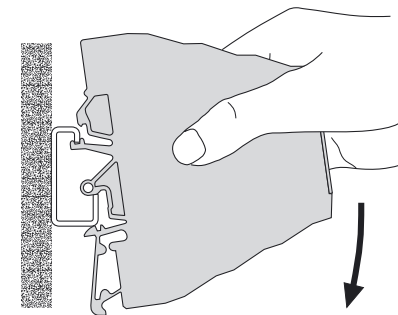


Fig. 4. Mounting onto rail «G».

## 6. Electrical connections

The leads are connected to the screw terminals for max. 0 to  $4\text{mm}^2$  (single wire) and 0 to  $2.5\text{mm}^2$  (fine wire) on the front of the transmitter. The applicable enclosure Protection Class for the terminals is IP 20 according to EN 60 529.



Also note that, ...

- ... the data required to carry out the prescribed measurement must correspond to those marked on the nameplate (Fig. 7) of SINEAX V 610.
- ... the total loop resistance connected to the output (receiver plus leads) **does not** exceed the maximum permissible value  $R_{\text{ext}}$ , see "**Measuring output**" in Section "4. Technical data"!
- ... the measurement input and output cables should be twisted pairs and run as far as possible away from heavy current cables!

In all other respects, observe all local regulations when selecting the type of electrical cable and installing them!

### 6.1 Alternative measurement connections

Connect the measuring leads (Fig. 5).

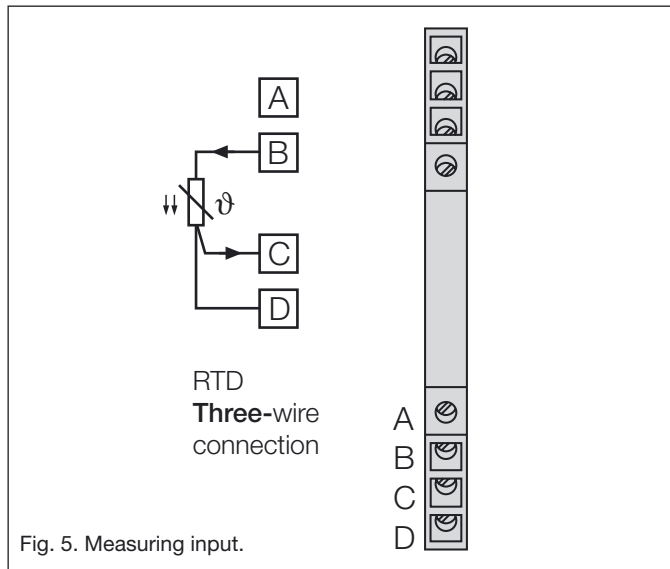


Fig. 5. Measuring input.

Notes:

Pay attention to correct connection according to nameplate on transmitter!

It is not necessary to compensate the leads, providing the three leads have identical resistances. The lead resistance must not be greater than 30 Ω per lead.

### 6.2 Measuring output leads (output/powering circuit)

Connect the measuring output leads (analogue output and power supply) to terminals + and – acc. to Fig. 6.

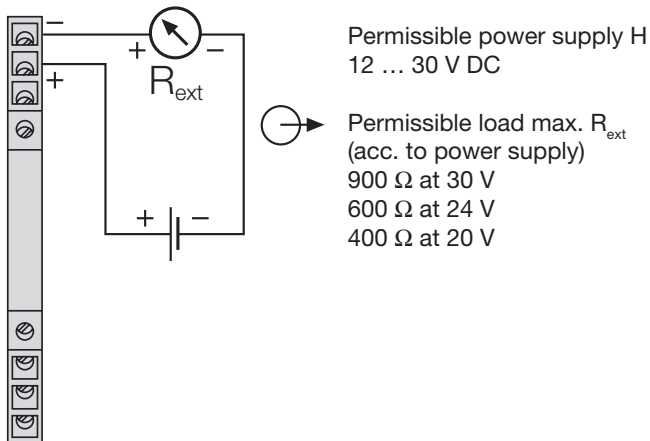


Fig. 6. Measuring output.

Note that twisted leads must be used for the output signal.

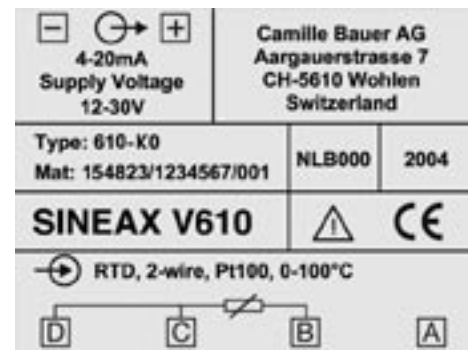


Fig. 7. Example of a nameplate.

## 7. Commissioning



Switch on the measuring input and the power supply. The ambient temperature must be between – 25 and + 55 °C.

## 8. Maintenance

No maintenance is required.

## 9. Releasing the transmitter

Release the transmitter from a top-hat rail as shown in Fig. 8.

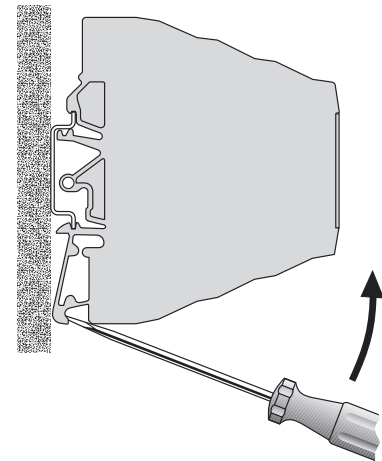


Fig. 8

Release the transmitter from a rail “G” as shown in Fig. 9.

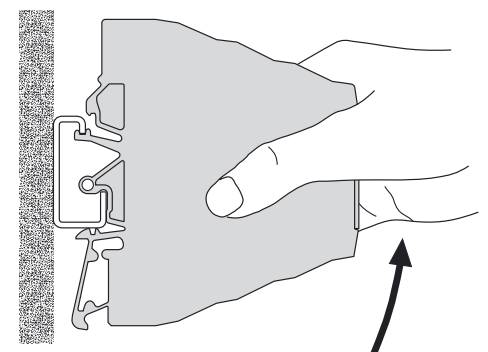


Fig. 9

## 10. Dimensional drawings

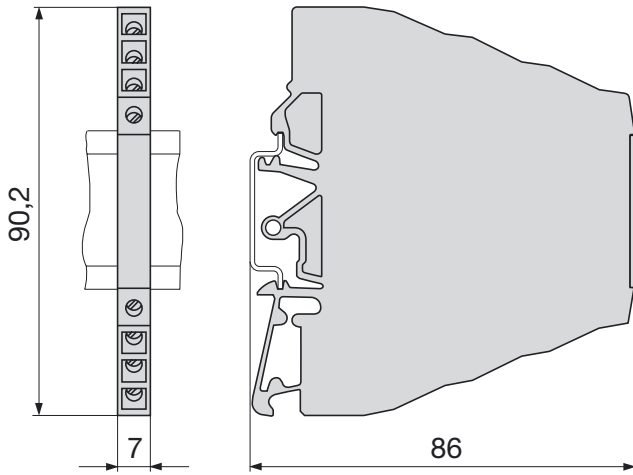


Fig. 10. SINEAX V 610 in carrying rail housing, clipped onto a top-hat rail EN 50 022 - 35 x 7.5.

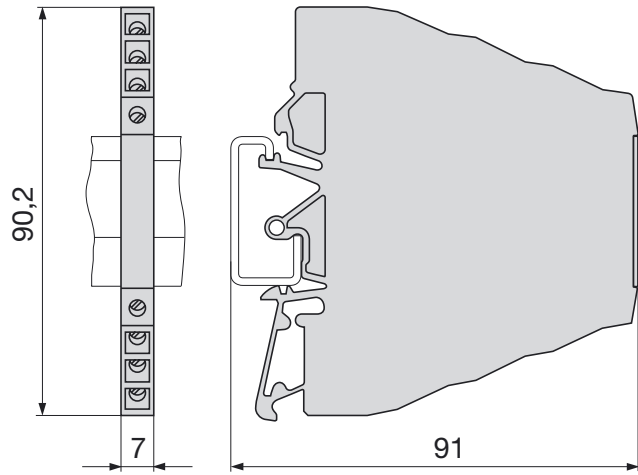


Fig. 11. SINEAX V 610 in carrying rail housing, clipped onto a rail "G" EN 50 035 - G32.

## 11. Declaration of conformity



### EG - KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY



Dokument-Nr. /  
Document.No.: V610.DOC

Hersteller/  
Manufacturer: **Camille Bauer AG**  
Switzerland

Anschrift /  
Address: **Aargauerstrasse 7**  
**CH-5610 Wohlen**

Produktbezeichnung/  
Product name: **Temperatur-Messumformer**  
temperatur transmitter

Typ / Type: **SINEAX V610**

Das bezeichnete Produkt stimmt mit den Vorschriften folgender Europäischer Richtlinien überein, nachgewiesen durch die Einhaltung folgender Normen:

The above mentioned product has been manufactured according to the regulations of the following European directives proven through compliance with the following standards:

Nr. / No.	Richtlinie / Directive	Messverfahren / Measurement methods
89/336/EWG 89/336/EEC	Elektromagnetische Verträglichkeit - EMV - Richtlinie Electromagnetic compatibility -EMC directive	
EMV / EMC	Fachgrundnorm / Generic Standard	
Störaussendung / Emission	EN 50 081-2 : 1993	EN 55011 : 1998 + A1 : 1999
Störfestigkeit / Immunity	EN 61000-6-2 : 2001	IEC 61000-4-2 : 1995+A1:1998+A2:2000 IEC 61000-4-3 : 1995+A1:1998+A2:2000 IEC 61000-4-4 : 1995+A1:2000 IEC 61000-4-6 : 1996+A1:2000

Nr. / No.	Richtlinie / Directive
73/23/EWG	Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen - Niederspannungsrichtlinie - CE-Kennzeichnung : 95
73/23/EEC	Electrical equipment for use within certain voltage limits - Low Voltage Directive - Attachment of CE mark : 95

EN/Norm/Standard	IEC/Norm/Standard
EN 61 010-1 : 1993	IEC 1010-1 : 1990 + A1 : 1992

Ort, Datum /  
Place, date:

Wohlen, den 23. November 2001

Unterschrift /

M.Ulrich

Signature:

Leiter Entwicklung

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, beinhaltet jedoch keine Zusicherung von Eigenschaften. Die Sicherheitshinweise der mitgelieferten Produktdokumentationen sind zu beachten.

This declaration certifies compliance with the above mentioned directives but does not include a property assurance. The safety notes given in the product documentations, which are part of the supply, must be observed.