

OPERATING MANUAL

TC125

Temperature Measuring Transducer



umn_tc125ex_vs1.01_en

06/2025



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1 Intended use (areas of application)

Note

Refer to the chapter [2 Product description](#) for detailed specifications for the area of application. The operational safety of the device is only assured when used as intended in accordance with the specifications in the operating manual. Intervention beyond the actions described in the operating manual may only be carried out by personnel authorised by the manufacturer for safety and warranty reasons.

Conversions or modifications made on one's own authority are expressly prohibited.



Caution!

Application-specific dangers can emanate from this device when used improperly or not as intended. The device is not suitable for use in explosion-prone areas.



Danger!

Only the device versions TC125L-Ex and TC125LP -Ex are approved for use as associated equipment for connecting intrinsically safe sensors, mounted in zones 0 or 1, or 20 or 21. The safety-related characteristics must be observed.



Danger!

All intrinsically safe equipment lose their approval if they were previously connected to non-intrinsically safe circuits, because compliance with the safety-related characteristics does not have to be 100% guaranteed there. For this reason, a safety test must be carried out by the manufacturer before it can be used later as intrinsically safe equipment.



Danger!

TC125L and TC125LP may be installed in accordance with type of protection "ec" as well as all versions of the TC **** - Ex series in accordance with type of protection "ic" in Zone 2 at risk of explosion under the following operating conditions:

- ▶ Installation in a grounded, conductive housing (control cabinet) with a degree of protection of at least IP54 in Compliance with EN60079-0.
- ▶ In the interior of the housing (cabinet) must not exceed the contamination level 2, according to IEC60991-1.
- ▶ Standard basis: EN 60079-0 and EN 60079-7.

General safety instructions, use

This operating manual must be kept in a location such that qualified personnel can refer to it at all times. Any processes described in this operating manual may only be carried out by trained, qualified personnel who are authorised by the owner and wearing protective clothing. All rights reserved.

1.1 Safety signs and symbols

Warning notices are identified in this document as described below:



Danger!

This symbol warns of imminent danger which can result in death, severe bodily injury, or severe property damage in case of non-observance.



Caution!

This symbol warns of potential dangers or harmful situations which can cause damage to the device or to the environment in case of non-observance.



In front of an area in which explosive atmospheres can occur.

This only applies to devices with an ATEX approval.

Note

Blue underlining indicates processes which can have a direct influence on operation or can trigger an unforeseen reaction in case of non-observance.

1.2 Safety instructions



Danger!

Read the product description before commissioning the device. Ensure that there are no limitations for use of the product for the relevant applications. The owner is responsible for ensuring the fault-free operation of the device. The owner is obligated to ensure compliance and to observe the required work and safety measures of the current applicable regulations for the entire duration of use.

1.3 Product liability and warranty

Exclusion of liability:

The contents of the operating manual have been checked to ensure conformity with the described device. However, deviations cannot be entirely ruled out. Therefore, we cannot assume any guarantee for complete conformity. The specifications in this document are checked regularly and any necessary corrections are incorporated into subsequent versions. This document is subject to technical changes. In addition, all claims are based on the valid 'Standard Terms for the Supply of Products and Services of the Electrical Industry'.

Note

Senseca Germany cannot inspect or repair any devices without the required form having been filled in completely (see **Fehler! Verweisquelle konnte nicht gefunden werden.** Fehler! Verweisquelle konnte nicht gefunden werden.).

2 Product description

The TC125 temperature transducers convert temperature-dependent resistances (Pt100 / Pt1000) and thermocouples (J, K, S) into standard signals (0/4... 20 mA or 0/2... 10 V).

Applications with signals from the Ex area or requirements with higher interference immunity require galvanic isolation. This is also necessary for temperature sensors with a grounded sensor.

The TC125 has a galvanic 3-way isolation between input, output and auxiliary voltage. For PT100, Pt1000 and thermocouples, 8 preconfigured measuring ranges are available, which can be adjusted with rotary potentiometers with regard to zero point and span.

When using thermocouples, internal temperature compensation can be activated or deactivated by measuring the terminal temperature. An intrinsically safe input enables connection to devices from the Ex area (Zone 0).

2.1 Scope of Delivery

- TC125, according to ordering code
- Power Rail DIN rail adapter (available for LP version, only)
- This operating manual and any other documents.

2.2 Principle of operation

Depending on the selected measuring range, an analogue actual value output is controlled with 0 / 4...20mA or 0/2... 20V. The temperature measuring ranges are linearized. The device is configured using DIP switches. In the TC125M device version, the auxiliary voltage supply can be provided either via an internal wide-range power supply unit (20..125V DC / 85..250V AC) or in the TC125L / TC125LP device version via a DC power supply unit with 24V DC. In the case of the DC power supply unit, the auxiliary voltage can be fed in via the plug-in device terminals or alternatively via a mounting rail bus (PowerRail) on the device, depending on the device type.

Current and voltage outputs are brought out to separate terminals and can also be used in parallel.

The zero point and end value of the outputs can be corrected using the trim potentiometer on the front

Measuring ranges

Temperature Sensor	Factory measuring range	Detection area*)
Pt100	-50 .. 50 °C 0 .. 50 °C 0 .. 100 °C 0 .. 150 °C 0 .. 200 °C 0 .. 300 °C 0 .. 500 °C 0 .. 850 °C	70 .. 55 °C -70 .. 55 °C -70 .. 105 °C -70 .. 310 °C -70 .. 310 °C -70 .. 310 °C -70 .. 870 °C -70 .. 870 °C
Pt1000	-50 .. 50 °C -30 .. 70 °C -20 .. 40 °C 0 .. 50 °C 0 .. 100 °C 0 .. 150 °C 0 .. 200 °C 0 .. 250 °C	-70 .. 55 °C -70 .. 105 °C -70 .. 55 °C -70 .. 55 °C -70 .. 105 °C -70 .. 260 °C -70 .. 260 °C -70 .. 260 °C
Thermocouple	FeCuNi 0..250 °C FeCuNi 0..500 °C NiCrNi -50..250 °C NiCrNi 0..500 °C NiCrNi 0..750 °C NiCrNi 0..1000 °C NiCrNi 0..1250 °C PtRhPt 0..1500 °C	-70 .. 360 °C -70.. 650 °C -100 .. 420 °C -100 .. 650 °C -100.. 1250 °C -100.. 1250 °C -100.. 1250 °C 0 .. 1800 °C

Table 1 Measuring ranges

*) The zero point and the end value can be adjusted within the respective detection area.

2.3 Customer specific measuring ranges

One or more special measuring areas can also be ordered within the respective detection areas. The measuring accuracy is then reduced by the factor of the detection measuring range span / custom measuring range span. The custom measuring range span must be at least 30% of the detection measuring range span.

Custom measuring ranges are adjusted directly in the device microprocessor, i.e. the setting range of the trim potentiometer does not change as a result.

2.4 Block diagram

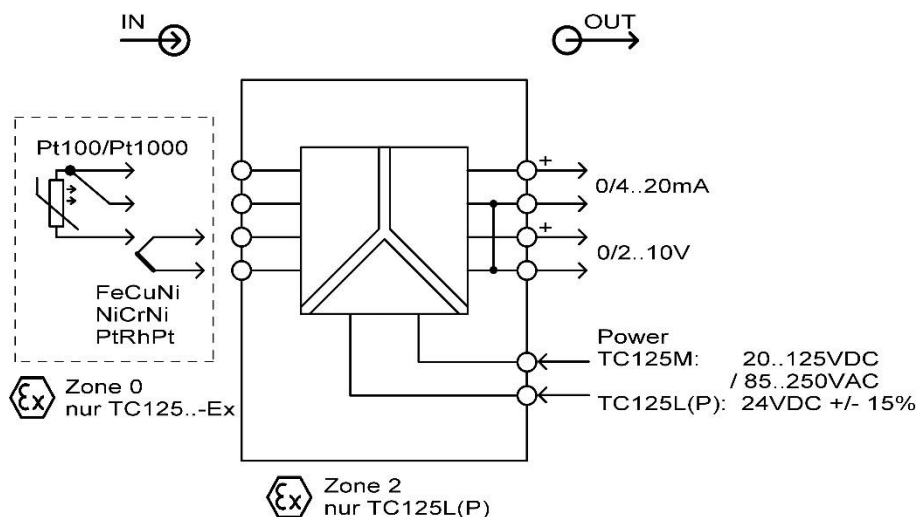


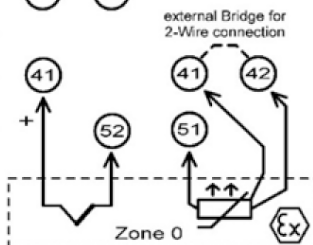
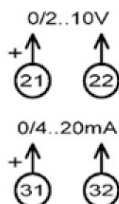
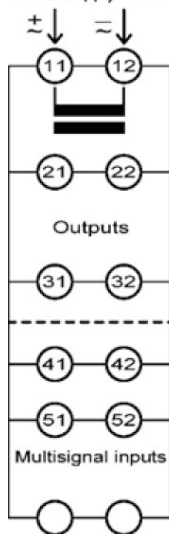
Figure 1 Block diagram

2.5 Type Label

The type plate contains the most important identification data:

- Connection diagram
- Distributor
- Type and article description
- Ex marking
- Technical specifications
- Serial number / barcode

Power supply: 20...125VDC / 85...250VAC



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Made in
Germany



**Isolating
Temperature Transmitter**

TC125M-Ex-00

CE 0158

Protection : BVS < Nr. >
II (1)G [Ex ia Ga] IIC
II (1)D [Ex ia Da] IIIC

Ambient temp. -10°C...60°C

SN: 2350-71641

La



U₀ = 2,2 V
I₀ = 4,2mA
P₀ = 2,4mW



Figure 2 Type Plate

2.6 Power Rail

The supply of multiple devices can be combined and simplified via a bus system in the carrier rail (TH35). A corresponding version is available for the entire LP series of rail devices in a housing with 12.5 mm width.

A bus adapter compatible with series connection is clamped on the carrier rail before installation of the device to be supplied with power.

An adapter is required for each device. The bus power supply is provided via a plug-type terminal strip.

The power supply terminals 11 and 12 on the upper device side are omitted in device version TC125LP designed for this purpose.

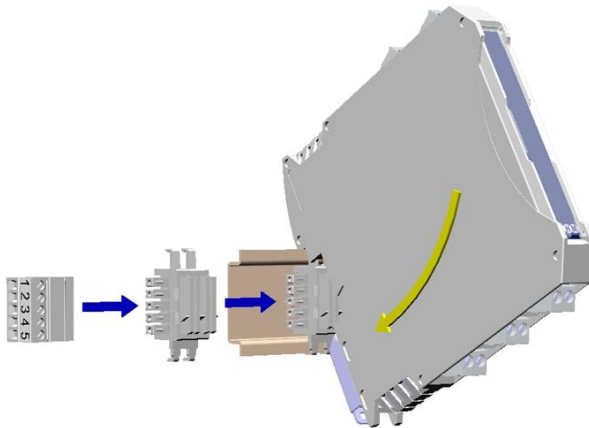


Figure 3 Example: TC125LP with DIN rail connector and supply terminal PRVK (optional accessories)

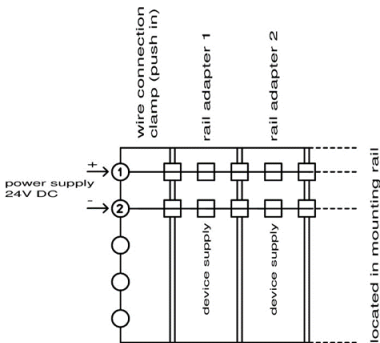


Figure 4 Terminal Assignment PRVK

3 Assembly and installation

3.1 Mechanical assembly

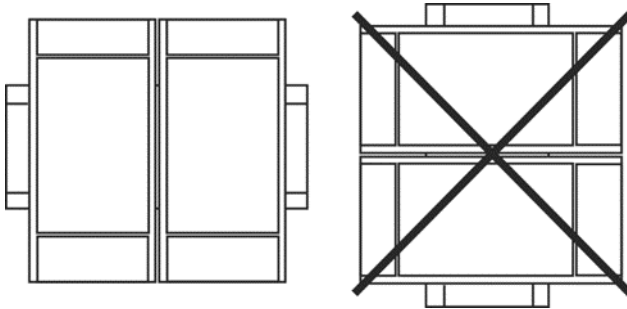


Figure 5 DIN rail mounting TH35

The installation of multiple devices without spacing is only permitted with a horizontally mounted DIN rail.

The devices may be installed in Ex-area Zone 2 within an earthed, conductive housing (control cabinet) with degree of protection IP54.

3.2 Electrical Installation



Danger!

The device may only be installed by a qualified electrician. The national and international regulations for the installation of electrical systems of the respective operator country apply.

Power supply according to EN 60664-1.

- The auxiliary voltage is connected to connections 11 and 12 of the plug-in terminal strip.
- Resistance sensors are connected via terminals 41, 42 and 51 (3-wire connection). A bridge 41, 42 must be provided when using temperature sensors with 2 connection lines.
- Thermocouples are applied to terminals 41 (+) and 52.
- The active current output is brought out to terminals 31 (+) and 32.
- The active voltage output is at terminals 21 (+) and 22.
- There are 6 DIP switches on the front panel for configuring the input measuring, the output range and for deactivating the internal temperature compensation.
- Using the two potentiometers on the front, the start value and the end value of the measuring range can be adjusted.

Electrical Connections

Terminal	Assignment	
11	Supply voltage ~/+	
12	Supply voltage ~/-	
21	Analogue output +, 0/2...10 V	
22	Analogue output -, 0/2...10 V	
31	Analogue output +, 0/4...20 mA	
32	Analogue output -, 0/4...20 mA	
	PT100 / PT1000	Thermocouple J /K /S
41	Red	+ Black / Green / Orange
42	Red	-
51	White	-
52	-	-White / White / White

Table 2 Electrical Connections

4 Connection Diagram

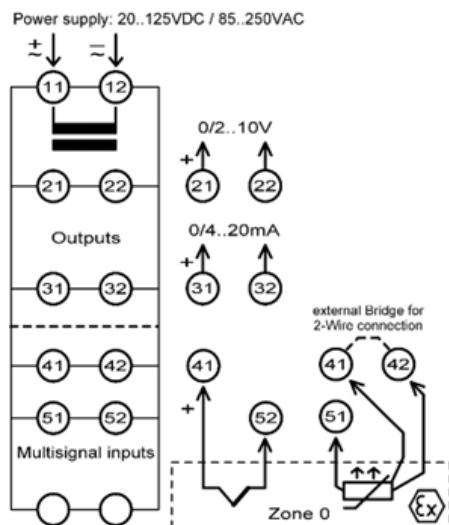


Figure 6 Connection Diagram

5 Operating steps, functional description, output

5.1 Control elements, functional description

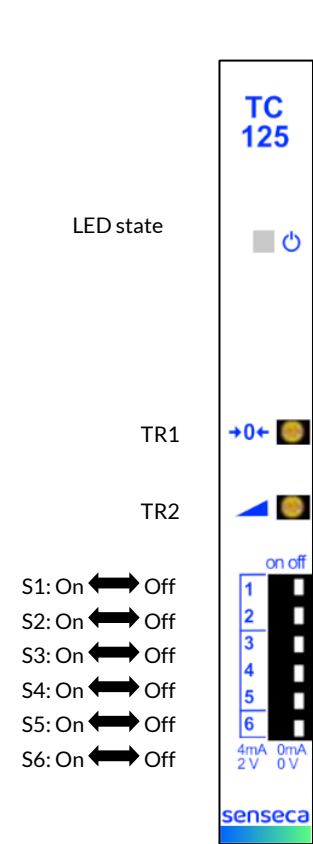


Figure 7 Control Elements

LED state	Description
	Green LED lighted: Device ready for use
	Red LED flashing: Break of sensor, or short circuit
	Green LED flashing: Underrange or over-range of the analog outputs <0mA, <0V or> 21.4 mA,> 10.6V
	Red LED lighted: Device starting up or device failure

Table 3 Signalling (see chapter 7 Error and System Messages)

Trimmer	Adjustment
TR1	Zero point, Start-Value
TR2	End-Value
DIP-Switch	
Input configuration	
S1 – S5	See DIP-Switch Configuration
Output configurations (living zero point)	
S6	On Off
	4...20 mA / 2...10 0...20 mA / 0...10 V

Table 4 Control Elements, DIP-Switches

DIP- Switch Configuration

Pt100 [°C]:

Switch	-50...50	0...50	0...100	0...150	0...200	0...300	0...500	0...850
1	ON	ON	ON	ON	ON	ON	ON	ON
2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Table 5 Pt100 configuration

Pt1000 [°C]:

Switch	-50...50	-30...70	-20...40	0...50	0...100	0...150	0...200	0...250
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	ON	ON	ON	ON	ON	ON	ON	ON
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Table 6 Pt1000 configuration

Thermocouple with temperature compensation (CJC) [°C]:

Switch	FeCuNi (J)		NiCrNi (K)					PtRhPt (S)
	0...250	0...500	-50...250	0...500	0...750	0...1000	0...1250	0...1500
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Table 7 Thermocouple configuration with CJC

Thermocouple without temperature compensation (CJC) [°C]:

Switch	FeCuNi (J)		NiCrNi (K)					PtRhPt (S)
	0...250	0...500	-50...250	0...500	0...750	0...1000	0...1250	0...1500
1	ON	ON	ON	ON	ON	ON	ON	ON
2	ON	ON	ON	ON	ON	ON	ON	ON
3	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
5	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Table 8 Thermocouple configuration without CJC

5.2 Trim-Potentiometer

Via the 12-turn trim potentiometer, the measuring span and zero point can be adjusted



Measuring span (End-Value) adjustable +/-15%

If the measuring span is reduced, the measuring accuracy may decrease.



Zero point (Start-Value), adjustable *)

+/- 8 Ohm with Pt100 and +/-80 Ohm with Pt1000 (appx. +/-20°C)

+/- 10% of factory set end value with thermocouples

*) The set zero point must be within the detection range (see Table 2 Measuring ranges).

**Danger!**

The trim potentiometers can be used during operation.

Snap points are defined in the middle of the potentiometer setting range:

- If the output value does not change during a ½ turn of the potentiometer, then the factory settings are set.
- The zero point change in Pt100 / Pt1000 measuring ranges is primarily used to compensate for line resistances, e.g. with 2-wire connection. It is therefore used before linearization.
- The change in measuring span takes effect after the linearization.
- With thermocouples, both the change in the zero point and the change in the measuring span act on the linearized measured value.
- The adjustment range can vary slightly for manufacturing reasons.

- Note that functions of downstream assemblies (e.g. control, limit value processing, registration, etc.) can be influenced directly.

5.3 Output Configuration

The output signal is set via DIP switch 6 between 0..20mA / 0..10V and 4..20mA / 2..10V.

5.4 Break of Sensor and Short Circuit

In the measuring ranges for Pt100 and Pt1000 sensors, there is also monitoring for sensor breaks and short circuits.

With thermocouples there is only monitoring for sensor breakage.

Behaviour with standard devices

In the event of an error, the analogue outputs go to 0mA, 0V.

Behaviour of devices with option 02

In the event of an error, the analogue outputs go to a maximum of > 21mA, > 10.5V.

6 Commissioning, Maintenance and Service

6.1 Installation

- 1 Make sure that the connection assignment has been carried out according to the connection diagram and that the auxiliary voltage corresponds.
- 2 When connecting equipment from potentially explosive areas, make sure that the device version has the appropriate approval.
- 3 When installing the isolation amplifier in Zone 2, the device must be installed in a control cabinet with degree of protection IP54.
- 4 Make sure that the clamps are screwed tight.
- 5 Check the correct configuration after switching on the power supply.

Note

After applying the auxiliary voltage, the device function is checked.

The device is ready for use after appx. 5 seconds.

6.2 Maintenance

Housing

When used as intended, no cleaning or maintenance is required.

6.3 Service

Note

Service of the device is only possible in the factory.

7 Error and System Messages

Error	Root Cause	Elimination
LED not lighted	• Auxiliary voltage not connected • or too small • or device defective	▶ Check connection or ▶ Have the device checked at the factory!
LED green lighted	• Device ready for use	
LED red flashing	• Break of sensor or • Sensor short circuit	▶ Check connection and ▶ measuring range setting ▶ Standard: outputs 0mA, 0V ▶ Option 02: outputs > 21mA, > 10.5V
LED green flashing	• The measured temperature combined with the setting of the trimming potentiometer overrides or underides the analog outputs	▶ Change measuring range or ▶ Keep the measuring temperature within the selected measuring range and / or set the trimming potentiometer so that the conversion of the measuring temperature to the analog outputs always results in a result in the range 0..21.4mA or 0..10.6V supplies
LED red lighted	• After switching on for appx. 5 seconds. • Outputs 0mA, 0V	▶ If the red light stays on, the device must be checked in the factory.
Current or voltage output does not work correctly	• Incorrect measuring range setting • With 2-wire connection PT100 / Pt1000 • Output overloaded • Device defective	▶ Check measuring range settings ▶ Set a bridge, terminals 41 – 42 ▶ Check output connection ▶ Have the device checked in the factory.

Table 9 Error and System Messages

8 Technical Data

Supply Voltage	
Supply Voltage TC125L / TC125LP TC125M	24V DC +/-15% 20...125 V DC or 85...250 V AC (47...63Hz)
Power consumption Wide.range power supply TC125M DC and Power Rail, TC125L / TC125LP	< 1,5W, < 3VA < 1,5W
Combined Data	
Rated Voltage Um	250V AC Degree of contamination ² , overvoltage category II, reinforced insulation)
With Ex-ia operation	250V AC /125V DC
Test Voltage	3kV AC between power supply / Input / Output
Working Temperature	-10...+60°C
Storage Temperature	-20...+80°C
Air Humidity	10...90% (no condensation)
Conformity	CE
Explosion protection intrinsically safe inputs zone 0/1	
Marking TC125L-Ex / TC125LP-Ex / TC125M-Ex Certificate BVS 20 ATEX E 064	Gas : II (1) G [Ex ia Ga] IIC Dust : II (1) D [Ex ia Da] IIIC
TC125L-Ex / TC125LP-Ex Manufacturer Certificate	Protection type „ic“ II 3 G Ex ec [ic] IIB T4 Gc For installation in Zone 2, see conditions of use: <u>1 Intended use (areas of application)</u>

Explosion protection without intrinsically safe inputs.			
Marking TC125L-00 / TC125LP-00		Protection type „ec“ II 3 G Ex ec IIB T4 Gc For installation in Zone 2, see conditions of use: <u>1 Intended use (areas of application)</u>	
Measuring Inputs			
ATEX – Limit Values (valid between all intrinsically safe terminals 41..52, acc. connection diagram)		Uo = 2,2V; Io = 4,2mA; Po = 2,4mW Ci = 33nF; Li ≈ 0mH Co = 10,9uF with Lo= 50mH (Zone 0, protection type ia)	
Resistance thermometer			
Detection range (see measuring ranges) Measuring current		Pt100 -70...+850°C ca. 1 mA	Pt1000 -70...+260°C ca. 100 µA
Circuit type		3-wire compensation (2-wire circuit via bridge)	
Line resistance		Max. 100 Ohm (direct grinding in of safety barriers possible)	
Compensation error with 3-wire circuit Pt100 0..50°C 0..100°C 0..>200°C Pt1000		< 0,008% / Ohm line resistance < 0,004% / Ohm line resistance < 0,002% / Ohm line resistance 0,002% / Ohm line resistance	
(Requirement symmetrical resistance of the lines and terminals)			
Thermocouple			
Type Detection range (see measuring ranges)	J, Fe-CuNi -70..+900 °C	K, NiCr-Ni -100..+1250 °C	S, PtRh-Pt90/10 0..1800°C
Internal cold junction compensation		Yes, can be deactivated	
Analog outputs (simultaneous operation of the voltage and current output possible)			
Voltage		0/2...10V DC, selectable, load < 5mA, short circuit proof	
Current		0/4...20mA DC, selectable, burden < 600Ohm	

Trim potentiometer	
Design	2 x 12-turn trimming potentiometer, on the front
Zero Point adjustment *)	
- Pt100	appx. +/- 8 Ohm (ca. +/-20°C)
- Pt1000	appx. +/-80 Ohm (ca. +/-20°C)
- Thermocouple	appx. +/-10%, based on factory end value
End-Value adjustment *)	
All Sensors	appx. +/-15%, based on factory end value
Monitoring functions	
Sensor break monitoring	Yes
Short circuit monitoring	Yes (Pt100 and Pt1000, only)
Behaviour in the event of an error	Outputs: Standard 0mA, 0V / Option 02: >21 mA, >10,5V
Accuracy **)	
Standard error	0,2 %
Linearity error	0,05 %
Temperature error	0,01 %/K
Current / Voltage Output	0,1%
Transmission path	
Step response T90	< 800 msec
Casing	
Dimensions (WxDxH)	12,5 x 114 x 108 mm
Material	PA6.6, light grey, Flammability class V0 (UL94)
Weight	120 g
Protection rating	IP20
Screw Terminals	0,2..2,5 mm ² , AWG 24..14, removable, coded
Push-In Terminals (spring-type terminals)	0,5..1,5 mm ² , AWG 25..16, removable, coded
Power Rail (TC125LP)	8A over the entire bus system (power supply via removable terminals 0.2..2.5 mm ² , AWG 24..14)

*) The evaluable measured values must be within the detection range (see Table 2 Measuring ranges).

) **Please note:

The specified accuracy values relate to a line and terminal point connection with theoretically the same resistance using 3-wire technology.

An accuracy deviation of 0.2% in the 0..50 ° C measuring range only corresponds to a change in resistance of $39 \cdot 10^{-3} \text{ Ohm}$ (39 mΩ) at a Pt100 sensor, i.e. the line and connection resistance has a very large influence on the measurement accuracy.

For thermocouples, the accuracy value refers to a measurement without internal comparison point compensation.

With cold junction compensation, the accuracy of the internal temperature sensor of 2K must be included.

8.1 Safety-related key figures FMEDA

TC125M

λ_{SD}	279 FIT
λ_{SU}	197 FIT
λ_{DD}	74 FIT
λ_{DU}	44 FIT
DC	62,8%
SFF	92,6%
PFDavg	1 year 5 years 10 years
	1,92E-4 9,62E-4 1,92E-3

Table 12 FMEDA TC125M

TC125L

λ_{SD}	248 FIT
λ_{SU}	181 FIT
λ_{DD}	71 FIT
λ_{DU}	43 FIT
DC	62,0%
SFF	92,0%
PFDavg	1 year 5 years 10 years
	1,90E-4 9,49E-4 1,90E-3

Table 13 FMEDA TC125L

MTBF- calculation according to SN29500

8.2 Mechanical design / dimensions

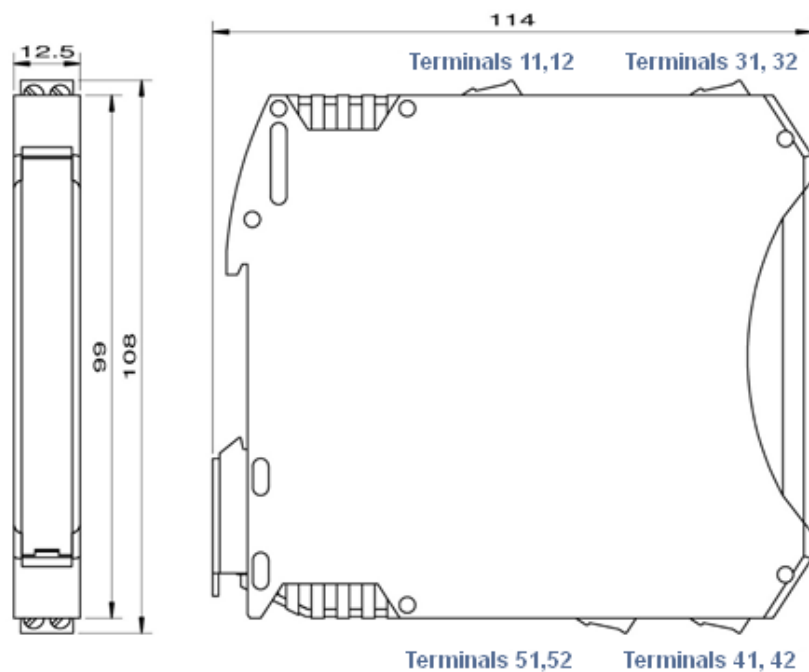


Figure 8 Dimensions

9 Order Code

1.		2.		3.	
	-		-		-

1.	Device Version	
	TC125L	Supply Voltage 24V DC +/- 15%
	TC125LP	Supply Voltage 24V DC +/- 15% Incl. DIN Rail bus connector
	TC125M	Wide-range power supply 20..125VDC / 85..250V AC
2.	Explosion protection	
	00*	Installation of the device TC125 in zone 2 allowed, according to ATEX type of protection "ec"
	Ex**	When installing the devices outside of the Ex area: Intrinsically safe inputs according to ATEX type of protection "ia" for zones 0 and 20 The devices TC125L / TC125LP may be installed into Zone 2 according to ATEX type of protection "ic"
3.	Options	
	00	No Options
	01	Push-in terminals (plug-in)
	02	Upscaling in the event of a fault: outputs > 21mA, > 10.5V (Standard=downscaling: outputs 0mA, 0V)

*) TC125L / LP-00 may be installed in Zone 2 according to ATEX type of protection "ec". This requires installation in a clean environment in a conductive, earthed housing (control cabinet) with a minimum of IP54 protection. (Conditions of use: [1 Intended use \(areas of application\)](#))

**) Type of protection permitted when installing the devices outside the Ex area. TC125L / LP-Ex may be installed in Zone 2 according to ATEX type of protection "ic".

10 Device transport and storage

Gentle and tension-free packaging of the housing must be ensured for transport (no machine wrapping of the package). The device must be stored in the environmental conditions specified in the technical data.

11 Returns



The legal regulations for environmental protection and our personnel require that devices which are sent back which have come into contact with liquid are handled without risk to people or the environment.

If you send a device back to us for inspection or repair, we must request that you strictly observe the following requirements.

On the Senseca-Germany a return shipment form can be downloaded.

The repair can be performed quickly and without call-back questions if:

- 1 a filled-in form is provided for each device,
- 2 the device has been cleaned and packaging which prevents damage to the device is used.

12 Disposal



Separation by material and recycling of device components and packaging must take place when the device is disposed of. The valid legal regulations and directives applicable at the time must be observed.

The device may not be disposed of with household waste. If the device should be disposed of, return it to us with the return shipment form filled in under section 8. We will then arrange for the proper disposal.

13 EU-Declaration of conformity


EU-KONFORMITÄTSERKLÄRUNG
EU-DECLARATION OF CONFORMITY
Senseca | Senseca Germany GmbH | Tenter Weg 2-8 | 42897 Remscheid | GERMANY

Dokument-Nr. / Monat.Jahr: **2119 / 01.2024**
Document-No. / Month. Year:

Wir erklären hiermit unter alleiniger Verantwortung, dass die folgenden Produkte konform sind mit den Schutzziele der Richtlinie des Europäischen Parlaments:
We declare herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:

Produktbezeichnung: **TC125L-00 / TC125LP-00 / TC125M-00**
Product identifier:

Produktbeschreibung: **Temperaturmessumformer**
Product description: **Temperature transmitter**

Die Produkte entsprechen den folgenden Europäischen Richtlinien:
The products conforms to following European directives:

Richtlinien / Directives	
2014/30/EU	EMV-Richtlinie / <i>EMC directive</i>
2014/35/EU	Niederspannungsrichtlinie / <i>Low Voltage Directive</i>
2011/65/EU	RoHS / <i>RoHS</i>

Angewandte harmonisierte Normen oder angeführte technische Normen:
Applied harmonized standards or mentioned technical specifications:

Harmonisierte Normen / <i>harmonized standards</i>	
EN 61326-1:2013	Allgemeine EMV-Anforderungen / <i>General EMC requirements</i>
EN 61010-1:2010+A1:2019+A1:2019/AC:2019	Allgemeine Isolationsanforderungen / <i>General isolating requirements</i>
EN IEC 63000:2018	Beschränkung der gefährlichen Stoffe / <i>Restriction of hazardous substances</i>

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch:
The manufacturer is responsible for the declaration released by:

Walter Vogelsberger
Senior Director Research & Development

Remscheid, 02. Januar 2024

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Harmonisierungsrechtsvorschriften, beinhaltet jedoch keine Zusicherung von Eigenschaften
This declaration certifies the agreement with the harmonization legislation mentioned, contained however no warranty of characteristics.



EU-KONFORMITÄTSERKLÄRUNG EU-DECLARATION OF CONFORMITY

Senseca | Senseca Germany GmbH | Tenter Weg 2-8 | 42897 Remscheid | GERMANY

Dokument-Nr. / Monat.Jahr: **2118 / 01.2024**
Document-No. / Month.Year:

Wir erklären hiermit unter alleiniger Verantwortung, dass die folgenden Produkte konform sind mit den Schutzziele der Richtlinie des Europäischen Parlaments:

We declare herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:

Produktbezeichnung: **TC125L-Ex, TC125LP-Ex, TC125M-Ex**
Product identifier:

Produktbeschreibung: **Temperaturmessumformer**
Product description: **Temperature transmitter**

Die Produkte entsprechen den folgenden Europäischen Richtlinien:

The products conforms to following European directives:

Richtlinien / Directives	
2014/30/EU	EMV-Richtlinie / EMC directive
2014/34/EU	ATEX-Richtlinie / ATEX Directive
2014/35/EU	Niederspannungsrichtlinie / Low Voltage Directive
2011/65/EU	RoHS / RoHS

Angewandte harmonisierte Normen oder angeführte technische Normen:

Applied harmonized standards or mentioned technical specifications:

Harmonisierte Normen / harmonized standards	
EN 61326-1:2013	Allgemeine EMV-Anforderungen / General EMC requirements
EN IEC 60079-0:2018	Allgemeine Anforderungen / General requirements
EN 60079-7:2015	Geräteschutz durch erhöhte Sicherheit / Protection by increased safety
EN 60079-11:2012	Geräteschutz durch Eigensicherheit / Protection by intrinsic safety
EN 61010-1:2010+ A1: 2019+A1:2019/AC:2019	Allgemeine Isolationsanforderungen / General isolating requirements
EN IEC 63000:2018	Beschränkung der gefährlichen Stoffe / Restriction of hazardous substances

EU-Baumusterprüfbescheinigung / ausgestellt von: **BVS 20 ATEX E 064** / DEKRA Testing and Certification GmbH (Reg.No. 0158)
EC Type Examination Certificate / issued by:
Qualitätssicherung / *quality assurance:* DEKRA Testing and Certification GmbH (Reg.No. 0158)

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch:

The manufacturer is responsible for the declaration released by:

Walter Vogelsberger
Senior Director Research & Development

Remscheid, 02. Januar 2024

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