CLA

Temperature converter with 4 … 20mA output

Version 1.0 — 15/02/2013 **User Manual**

Solutions For Automation & Robotics

Manufactured for

aspar

Thank you for choosing our product.

This manual will help you with proper support and proper operation of the device.

The information contained in this manual have been prepared with utmost care by our professionals and serve as a description of the product without incurring any liability for the purposes of commercial law.

This information does not release you from the obligation of own judgement and verification.

We reserve the right to change product specifications without notice.

Please read the instructions carefully and follow the recommendations contained therein.

WARNING!

Failure to follow instructions can result in equipment damage or impede the use of the hardware or software.

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1. Safety rules

- Before first use, refer to this manual
- Before first use, make sure that all cables are connected properly
- Please ensure proper working conditions, according to the device specifications (eg: supply voltage, temperature, maximum power consumption)
- Before making any modifications to wiring connections, turn off the power supply

2. General description

CLA series converter has one measurement input which is linearised based on processing array. Measurement after processing with scale selected by user is converted to passive output current 4-20mA.

The manufacturer provides the following versions of the devices:

Symbol	Sensor type	Temperature range	
		From	To
CLA-PT-S1	Pt100	-50°C	150°C
CLA-PT-S2	Pt100	0°C	400°C
CLA-TC-J	J Thermocouple	0°C	400°C
CLA-TC-K	K Thermocouple	0°C	400°C

On request, the device can be configured for any range of temperatures as well as the customer can choose one of the following types of sensors: Pt100, Pt500, Pt1000, Ni100, KTY81-110 and thermocouples: J, K, T, N, S, R, B.

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3. Technical Specifications

Power Supply		10 … **24** … 36V DC
Supply / output current		3 … 21mA
Load resistance (max)		(Power Supply Voltage – 10V) / 21mA [Ω]
No of inputs		1
Input type (Converter CLA-PT-Sx)		Pt100
Input type (Converter CLA-TC-J)		J Thermocouple
Input type (Converter CLA-TC-K)		K Thermocouple
Measurement current		~250µA
Measurement error CLA-PT-Sx (25°C)		± 0,2°C
Measurement error CLA-TC-x (25°C)		± 2°C
Response time		100ms
Temperature stability		± 0,01% processing range / °C
Work temperature (CLA-PT-xx)		-20 °C - +50°C
Work temperature (CLA-TC-x)		0 °C - +50°C
Storage temperature		-40 °C - +85°C
Relative humidity		0 – 90% (no condensation)
Supply / output connector		3 pins
Input connector		3 pins
Size	**Height**	90 mm
	Length	65 mm
	Width	17 mm
Ingress protection		IP20
Electromagnetic compatibility (EMC) according to standards		PE-EN 55022:2011 PE-EN 55024:2011 PE-EN 61000-6-1:2004 PE-EN 61000-6-2:2004 PE-EN 61000-6-3:2004 PE-EN 61000-6-4:2004

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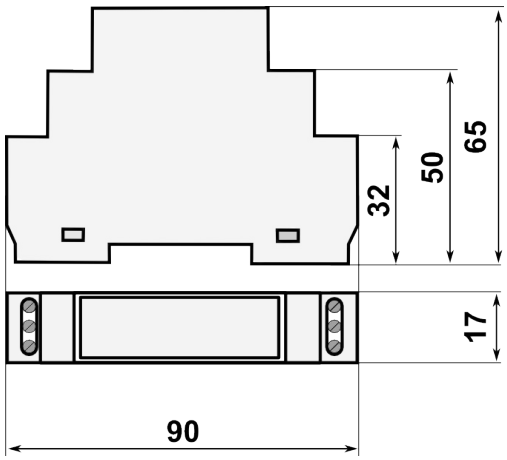
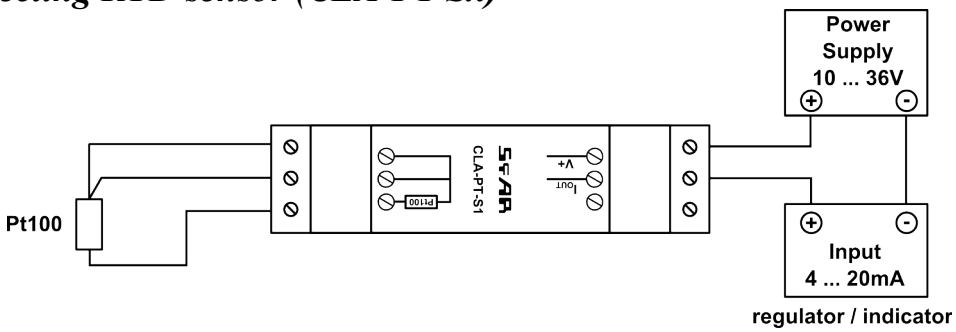
4. Dimensions of the product

Look and dimensions of the module are shown below. The module is mounted directly to the rail in the DIN industry standard.

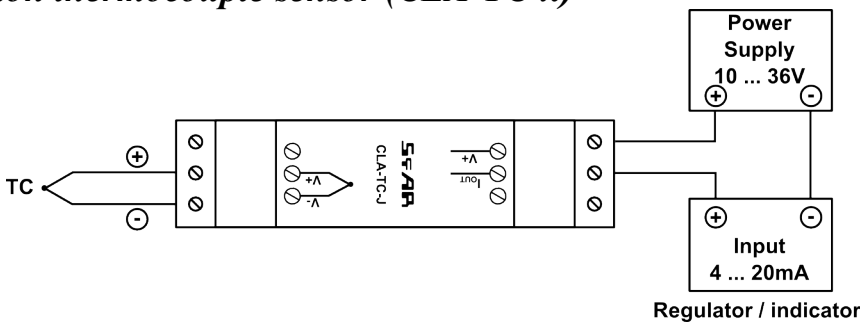


5. How to connect the device

5.1. Connecting RTD sensor (CLA-PT-Sx)



5.2. Connection thermocouple sensor (CLA-TC-x)



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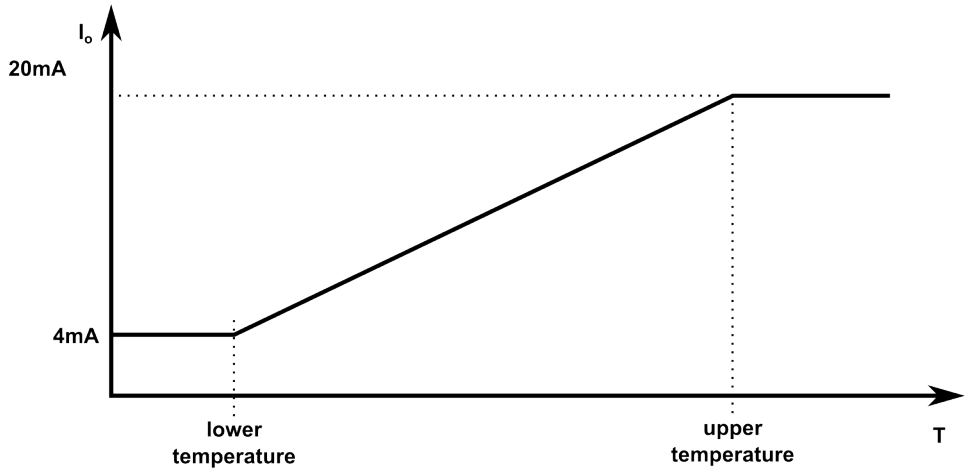
6. Signalling of errors

6.1. Overrange

Exceeding the device range sets the output current in one of the extreme values (4 or 20 mA), depending on which side of the range has been exceeded.



6.2. No sensor or short measuring inputs

In the absence of the sensor output current reaches 21 mA.

In the case of short-circuit measurement input in module CLA-PT-Sx, output current reaches a value of 3mA

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