



Fig. 13/113 7XV5662-8AD10 RTD-box TR1200 IP (Ethernet)

Description

The RTD-box TR1200 IP has 12 sensor inputs which allow measurement of up to 12 temperatures by Pt100 sensors.

Three conductor sensors are supported. For two conductor operation compensation of the measured conductor resistance is possible via a corresponding setting.

All settings on the TR1200 IP can be done through 3 keys on the front of the device or in a Web browser (e.g. Internet Explorer).

If Ni100 or Ni120 sensors are applied, the measured values have to be adapted in the protection device. The 7SK80 supports this with its integrated RTD functionality.

The measured-value output to the protection device is done via Ethernet network with RJ45 connectors.

Note: The SIPROTEC 4 system interface with EN100 module does not support the temperature detection of the RTD-box TR1200 IP.

Function overview

- 3-digit digital display for the temperature of up to max. 12 measuring points
- 12 sensor inputs; 1 to 12 sensors can be connected
- PT100 in 2- or 3-conductor technology, when connecting Ni100 or Ni120, conversion to the correct temperature in the evaluation unit is required, SIPROTEC devices (e.g. 7SK80) support this function. The EN100 module in the SIPROTEC 4 units does not support the TR1200 IP
- 1 alarm relay (1 changeover contact)
- Electric 10 MBit/s Ethernet interface (RTD IP protocol from ZIEHL, or MODBUS IP protocol)
- Read-out display, configuration, simulation and firmware update via Web browser
- Tested with Mozilla Firefox 3.5 and Microsoft Internet Explorer 8.0
- LEDs for measurement allocation, error, relay status and Ethernet interface
- Code protection against manipulation of the setpoint values
- Wide-range power supply AC/DC 24 to 240 V
- Distributor housing for panel mounting 8 TE, front-to-back size 55 mm
- Mounting on 35 mm DIN EN 60715 standard rail.

Application

Measurement of up to 12 measured values with a TR1200 IP

To get up to 12 measured values one RTD-box TR1200 IP is connected via a double screened CAT5 patch cable (1:1 or crossed-over) directly to the protection device (e.g. 7SK80x/Port A).

The protection device is set using DIGSI 4 program running on a Notebook via the USB-front interface.

The RTD-box TR1200 IP is set either through the front keys or by using a Web browser running on the Notebook via the Ethernet interface. For this purpose the patch cable must be unplugged from the protection device and then re-plugged into the Notebook.

Tip: If during commissioning a common switch is temporarily inserted using three patch cables, the protection device can be set from a PC using DIGSI 4 in parallel with the TR1200 IP.

For detailed information please visit:
www.siemens.com/siprotec

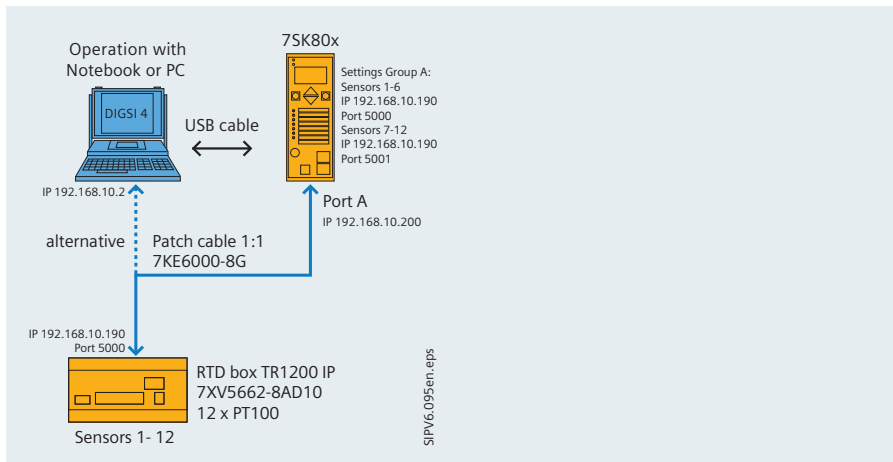


Fig. 13/114 Connection of a device via Ethernet

Technical data

Rated auxiliary voltage

Control voltage V_S	AC/DC 24 – 240 V, 0/45 – 65 Hz < 5 VA DC 20.4 – 297 V, AC 20 – 264 V
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Relay output

Number	1 changeover contact (CO)	
Switching voltage	Max. AC 415 V	
Switching current	Max. 5 A	
Breaking capacity	Max. 2000 VA (resistive load) Max. 120 W at DC 24 V	
Reduction factor at $\cos \varphi = 0.7$	0.5	
U_L electrical ratings:	AC 250 V, 3 A general use AC 240 V 1/4 hp. 2.9 FLA AC 120 V 1/10 hp. 3.0 FLA C 300 D300 1 A AC 240 V	
Rated operating current I_E	AC 15	$I_E = 1$ A $V_E = 400$ V
		$I_E = 2$ A $V_E = 250$ V
	DC 13	$I_E = 2$ A $V_E = 24$ V
		$I_E = 0.2$ A $V_E = 125$ V $I_E = 0.1$ A $V_E = 250$ V
Recommended series fuse	T 3.5 A (gL)	
Contact service life, mech.	1 x 10 ⁷ switching operations	
Contact service life, electr.	1 x 10 ⁵ switching operations at AC 250 V / 5 A	
	2 x 10 ⁵ switching operations at AC 250 V / 3 A	
	6 x 10 ⁵ switching operations at AC 250 V / 1 A	

<i>Temperature measurement</i>					
Measurement time sensor	0.25 to 3 s (dependent on the number of sensors)				
Measurement time sensor	0.25 to 30 s (for measurement cycle of one sensor)				
Measurement range	-199 °C to 850 °C				
Resolution	1 °C				
<i>Sensor connection</i>					
12 x PT100 acc. to EN 60751, connection of Ni100 and Ni120 sensors possible. Conversion of the measured values must be performed in the evaluation unit.					
	Measured range °C		Short circuit Ohm	Interruption Ohm	Sensor resistance + circuit resistance Ohm
Sensor	min.	max.	<	>	> max.
Pt 100	-199	860	15	400	500
Tolerance	± 0.5 % of measurement ± 1 K				
Sensor current	≤ 0.8 mA				
Temperature drift	< 0.04 °C/K				
<i>Ethernet interface</i>					
Transmission speed	10 MBit/s				
IP adress	Standard: 192.182.1.100, adjustable				
Subnetwork mask	Standard: 255.255.255.0, adjustable				
UDP port	Standard: 5000 (5001), adjustable				
Max. cable length	20 m when using CAT 5 patch cable				
Max. response time RTD/MODBUS	< 700 µs				
<i>Test conditions</i>					
Acc. to	EN 61010				
Rated impulse withstand voltage	4000 V				
Surge category	III				
Pollution level	2				
Rated insulation voltage V_i	300 V				
Operating time	100 %				
Permissible ambient temperature during operation	- 20 °C to + 65 °C EN 60068-2-2 dry heat				
EMC – noise immunity	EN 61000-6-2				
EMC – noise emission	EN 61000-6-4				
Galvanic insulation					
Control voltage – measurement input	DC 3820 V				
Ethernet – control voltage – measurement input	DC 500 V				
<i>Housing</i>					
Housing type	V8, distribution panel mounting				
Dimensions (W × H × D)	140 x 90 x 58 mm				
Front-to-back size/Width 55 mm / 8 TE					
Wiring connection single strand	Each 1 x 1.5 mm ²				
Finely stranded with wire end ferrule	Each 1 x 1.0 mm ²				
Starting torque of the terminal screw	0.5 Nm (3.6 lb.in)				
Protection class housing/terminals	IP30 / IP20				
Mounting position	Arbitrary				
Mounting	Snap-on mounting onto standard rail 35 mm acc. to EN 60715 or screw mounting (with 2 additional bars)				
Weight	Approx. 350 g				

Accessories/7XV5662

Selection and ordering data

Description	Order No.
Resistance temperature detector (RTD-box) TR1200 IP (Ethernet) Distributed input-box for 12 RTD-connections Pt100 Rail mounting plastic Protection class IP21 1 Ethernet interface for communication with SIPROTEC devices for measurement and fault reports. Wide-range power supply AC/DC 24 to 240 V	7XV5662 - 8AD10