

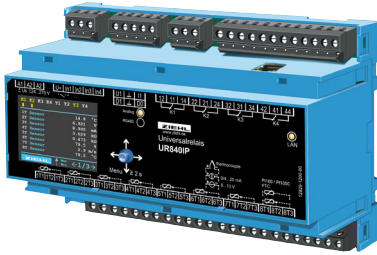
Universal-Relay Type UR840IP

Monitoring Relay for Temperatures and analog Signals

4 Limits, IP-interface, built-in Webserver

Available 3rd quarter of 2023

UR840IP



Part numbers:

UR840IP **T224353**

ER8  **T224388**

Web-IO universal limit value relay with Ethernet interface, built-in web server and 8 inputs for temperature sensors or other analog signals.

The UR840IP can be connected to the internet or an intranet and operated via TCP/IP from a normal PC with a suitable browser. The device can simultaneously evaluate and monitor up to 8 different input signals. Each of the 4 output relays can be assigned up to 8 limit values, one per input. If a limit value is reached, an alarm is triggered and a relay switches.

Example: Alarm 1 is activated when a temperature is exceeded at sensor input 3 (e.g. Pt 100) or the signal from a pressure transmitter (e.g. 4-20 mA) at input 5 falls below a limit value. The device also has an RS485 interface (Modbus RTU) and analogue outputs 0/2-10 V or 0/4-20 mA.

Applications:

- The UR840IP is used to advantage wherever the following features are required
- monitor up to 8 different analogue measured values and transfer them to the Internet
- Measured value query and remote maintenance via intranet/internet

Displays and controls:

- LCD display and joystick for querying measured values and operation

8 Measuring inputs (every input individually programmable):

- Pt 100 (RTD), Pt 1000 in 2- or 3-wire connection
- PTC-sensors (thermistors)
- Thermocouples type B, E, J, K, L, N, R, S, T
- DC 0-10 V, DC 0/4-20 mA
- Resistance 500 Ohm, resistance 30 kOhm
- Virtual sensors: linking of measured values (difference, MIN/MAX)
- 4 digital inputs with programmable functions

4 Alarms/Output Relays

- 4 relays (potential-free change-over contacts)
- Remote switching command for relays via Ethernet
- individually programmable for each alarm:
 - one limit value per measurement input/virtual sensor (switching and reset value)
 - switching and switch-back delay
 - Remote control of the relays (on/off) via browser
 - 2 out of x, alarm only if limit value is reached in 2 sensors

Interfaces:

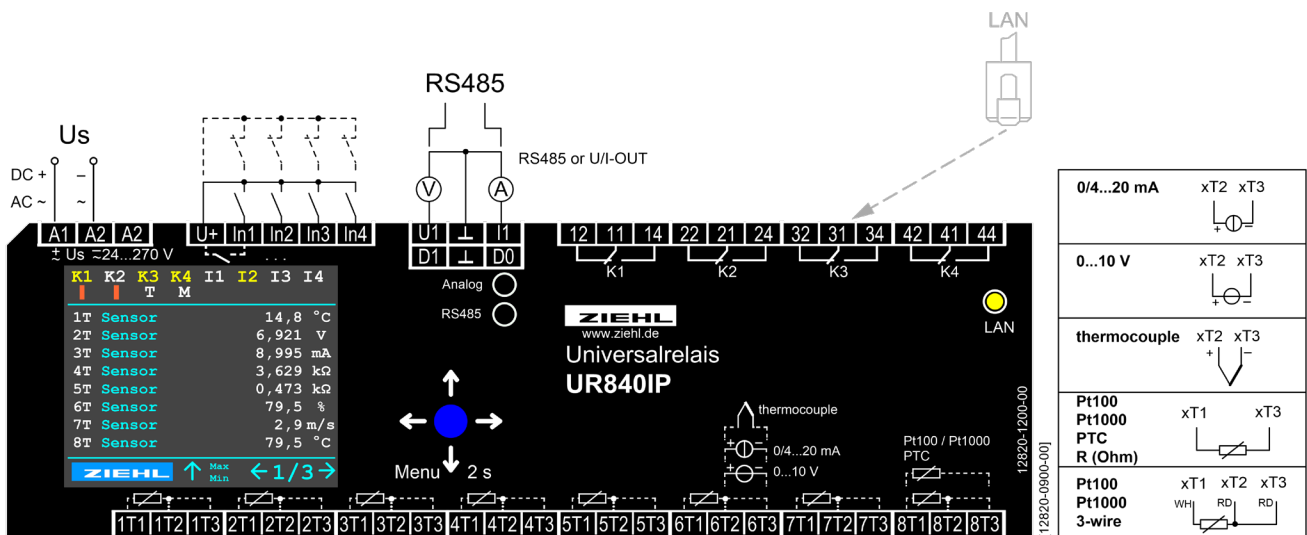
- Ethernet interface (http and modbus)
 - Modbus TCP protocol for reading data (port adjustable)

- RS485 interface for reading data with Modbus (RTU)
- 2 analogue outputs 0/2-10V/0/4-20 mA, configurable (optionally instead of RS485)

Connected to internet via web browser

- Measured values, min/max values with date/time stamp
- Simulation of measured values
- status of the alarms
- Configuration of the inputs (name, type, compensation, scaling and unit)
- Configuration of alarms (limit values, relay function, ...)
- Data logging of measured values for each input, with time stamp
- Logging interval adjustable from 10 seconds to 30 minutes.
- alarm logging
- network configuration and system settings
- User management and password protection
- Real-time clock with time server synchronization, power reserve 7 days

Accessory: [Installation frame ER8 for panel mount](#)



Technical Data UR840IP

Rated supply voltage U_s		AC/DC 24-240 V, 0/50/60 Hz < 4 W < 12VA
	Tolerance	DC 20,4...297 V AC 20...264 V
Relay outputs		4 x 1 change over contact (CO)
	Switching voltage	max. AC 300 V, DC 300 V
	Type of contact	Typ 2 (see "general technical information")
Digital inputs		approx. DC 18 V / 3,5 mA

Sensor inputs

Pt 100, Pt 1000 according to EN 60 751:

Sensor	Measuring range °C		short-circuit Ohm	Interruption Ohm	Resistance sensor + resistance line Ohm
	min	max	<	>	max
Pt 100	-199,9	800,0	15	400	500
Pt 1000	-199,9	800,0	150	4000	4100
PTC		20	20000		

Accuracy $\pm 0,5\%$ of measured value $\pm 1\text{ K}$
 Sensor current $\leq 1\text{ mA}$
 Measuring cycle / measuring time / tM < 1 s depending on number and type of connected sensors

Thermocouples according to EN 60 584, DIN 43 710

Type Sensor	Measuring range °C		Accuracy	
	Min	Max		
B	0,0	1820,0	$\leq \pm 2\text{ °C}$ T > 300 °C	
E	-270,0	1000,0	$\leq \pm 1\text{ °C}$	
J	-210,0	1200,0	$\leq \pm 1\text{ °C}$	
K	-200,0	1372,0	$\leq \pm 2\text{ °C}$	
L	-200,0	900,0	$\leq \pm 1\text{ °C}$	
N	-270,0	1300,0	$\leq \pm 2\text{ °C}$	
R	-50,0	1770,0	$\leq \pm 2\text{ °C}$	
S	-50,0	1770,0	$\leq \pm 2\text{ °C}$	
T	-270,0	400,0	$\leq \pm 1\text{ °C}$	

Thermal drift < 0,01 % / K
 Measuring error of sensor line + 0,25 $\mu\text{V} / \Omega$
 Accuracy of summing point < $\pm 5\text{ °C}$

Inputs for voltage and current

	Resistance Input Ohm	Input signal max.	Accuracy from Full Scale
0 - 10 V	12 k Ω 27 V	< 0,1 %	
0/4...20 mA	18 Ω 100 mA	< 0,5 %	
Thermal drift	< 0,02 % / K		

Measuring of resistance PTC, 500 Ω , 30 k Ω :

Accuracy 0,0...500,0 Ω < 0,2 % of measured value $\pm 0,5\text{ }\Omega$
 Accuracy 0,000...30,000 k Ω < 0,5 % of measured value $\pm 2\text{ }\Omega$
 Measuring current $\leq 0,6\text{ mA}$

Housing

Housing / Installation Frame	Design V8 / Front mounting kit ER8, 8 TE
Dimensions (w x h x d)	140 x 90 x 58 mm, mounting height 55 mm
Protection housing/terminals	IP 30/ IP 20
Attachment	DIN-rail 35 mm according to EN 60715 or screws M4 (with 2 extra bars)
Weight	approx. 370 g