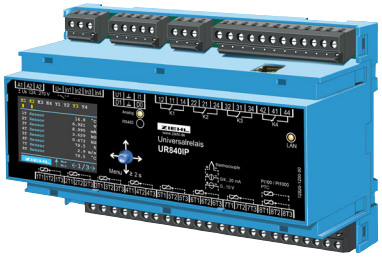
Universal-Relay Type UR840IP

Monitoring Relay for Temperatures and analog Signals
4 Limits, IP-interface, built-in Webserver

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

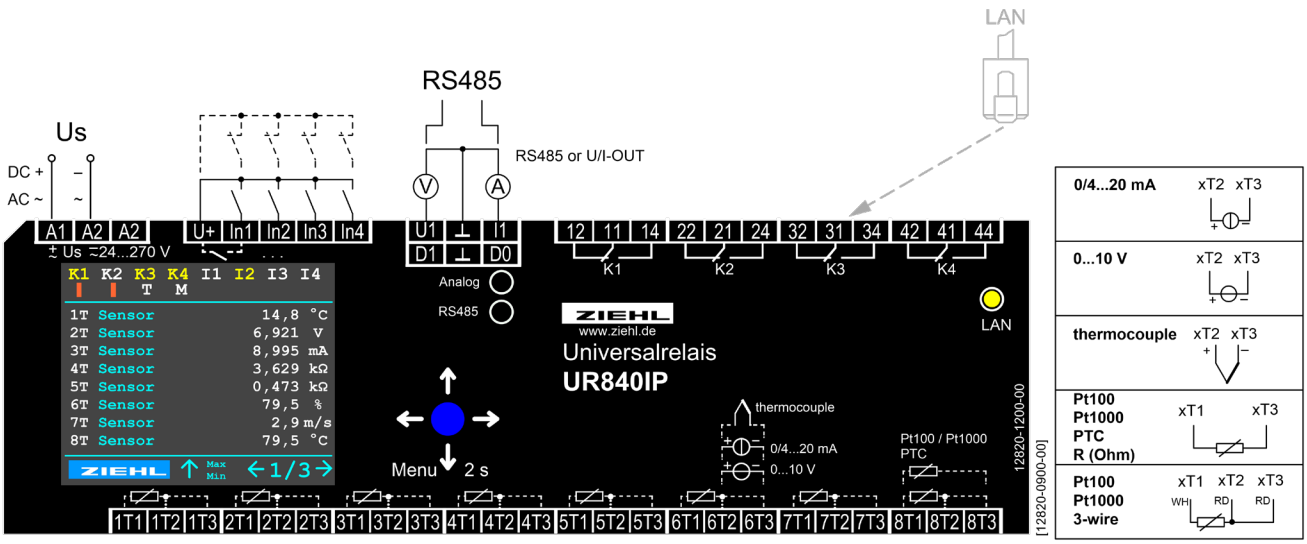
8 Measuring inputs (every input individually programmable):
- Pt 100 (RTD), Pt 1000 in 2- or 3-wire connection
- PTC-sensors (thermistors)
- Thermocouples type B, E, J, K, L, N, R, S, T
- DC 0-10 V, DC 0/4-20 mA
- Resistance 500 Ohm, resistance 30 kOhm
- Virtual sensors: linking of measured values (difference,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

4 Alarms/Output Relays
- 4 relays (potential-free changeover 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 0/2-10 V / 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 Us

Tolerance: AC/DC 24-240 V, 0/50/60 Hz < 4 W < 11VA
DC 20,4...297 V AC 20...264 V

Relay outputs

Switching voltage: 4 x 1 change over contact (CO)
Type of contact: max. AC 300 V, DC 300 V
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:

	Measuring range °C		short-circuit Ohm	Interruption Ohm	Resistance sensor + resistance line Ohm
Sensor	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 ± 0,5 % of measured value ± 1 K
Sensor current ≤ 1 mA
Measuring cicle / measuring time / tM < 1 s depending on number and type jof connected sensors

Thermocouples according to EN 60 584, DIN 43 710

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

Thermal drift < 0,01 % /K
Measuring error of sensor line + 0,25 µV / Ω
Accuracy of summing point < ± 5 °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 kΩ :

Accuracy 0,0...500,0 Ω < 0,2 % of measured value ± 0,5 Ω
Accuracy 0,000...30,000 kΩ < 0,5 % of measured value ± 2 Ω
Measuring current ≤ 0,6 mA

Housing

Housing / Installation Frame: Design V8 / Front mounting kit ER8, 8 TE
Dimensions (w x h x d): 90 x 140 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