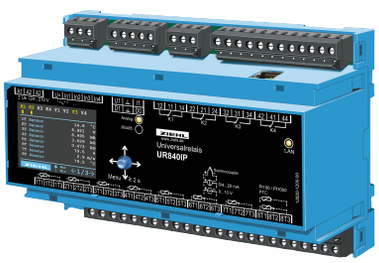
Universal Relay Type UR840IP

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), or analogue outputs 0/2-10 V or 0/4-20 mA.

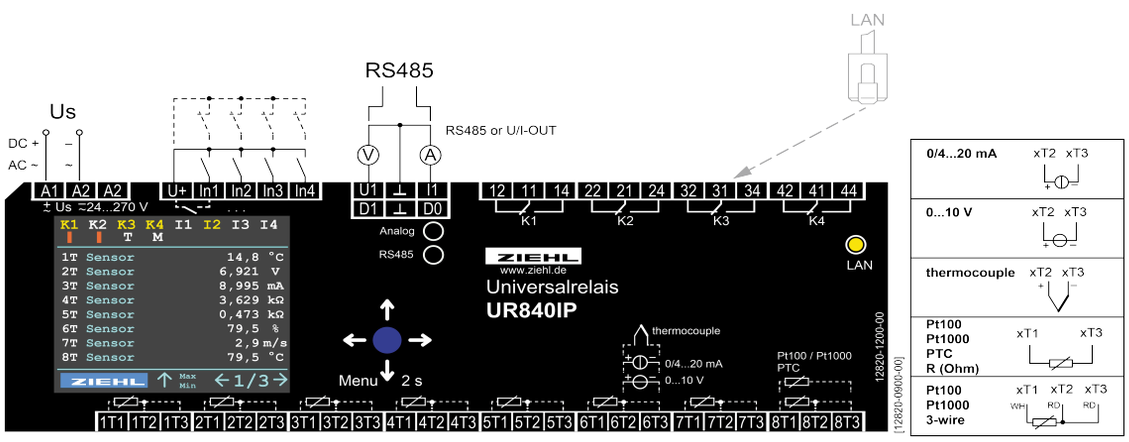
Applications:
The UR840IP is used to advantage wherever the following features are required
- monitor up to 8 different analogue measured values and transfer them to the Internet
- Measured value query and remote maintenance via intranet/internet

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 0/2-10 V, DC 0/4-20 mA, display scalable
- Resistance 0-500 Ohm, resistance 0-30 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)
- 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
- New firmware features:
  - Data visualization in the web interface
  - Current measurement with the modbus sensor STWA4MH for finest resolution up to 60 A AC.
  - Modbus write access



Technical Data

Rated supply voltage Us:	**AC/DC 24 … 270 V, 0/50/60 Hz**
Tolerance	AC 20 … 297 V DC 20,4 … 297 V
Relay outputs K1 … K2 (Alarm 1 …2)	**Changeover contact**
Switching voltage	max. AC 300 V; DC 300 V
Conventional thermal current I_{th}	max. 5 A
Digital inputs	**ca. DC 18 V / 3,5 mA**

Sensor inputs

Pt100, Pt1000 according to EN60751

	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	20,000*	

*if no value between 3,800 and 20,000 ohms was previously measured

Tolerance	±0,5% of measured value ±1K
Sensor current	≤ 1 mA

Thermocouples according to EN60584

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

Temperature drift	< 0,01 % / K
Mesurement error of the sensor cable	+ 0,25 µV / Ω
Temperature error of the reference junction	<± 5 °C

Voltage / current input

	Input resistance	Max. permissible signal	Measurement error input signal
0/2 ... 10 V	12 k Ω	27 V	< 0,1 %
0/4...20 mA	18 Ω	100 mA	< 0,5 %

Temperature drift	< 0,02 % / K

Resistance measurement(PTC, 500Ω, 30kΩ)

Resistance measurement (PTC, 500Ω, 30kΩ)	< 0.2 % of the measured value ± 0.5 Ω
Measuring error 0.000 ... 30,000 kΩ	< 0.5 % of the measured value ± 2 Ω
Sensor current	≤ 1 mA

Housing	**V8 design, distributor installation**
Installation depth	55 mm
Width	8 TE
Dimensions (W x H x D)	140 x 90 x 58 mm
Protection class housing / terminals	IP 30 / IP20
Fastening	Snap-on mounting on mounting rail 35 mm according to EN 60 715 or screw mounting M 4 (additional bolt not included)
Weight	approx. 370 g

The technical data listed on this data sheet is only an excerpt; please refer to the operating manual for the complete technical data, which we strongly recommend you observe.

Subject to technical changes