

# Universal-Relay Type TR800Web

## 8 Inputs, Operation with Browser via TCP/IP

### TR800Web



### Web-IO Universal Relay with 8 Inputs for Temperature-Sensors and other analog Signals.

The TR800Web can be connected to the internet or an intranet and operated via TCP/IP from a normal PC with a suitable browser (tested with MS IE 7). No special software and no special instruction is necessary.

The Universal-Relay TR800Web monitors and logs signals from up to 8 inputs. Up to 8 limits (one per input) can be programmed for each of the 4 output-relays. Thus e.g. alarm 1 can be activated when the temperature at a sensor (e.g. Pt100) at input 1 exceeds

a limit or when the signal of a transmitter for pressure (e.g. 4-20 mA) at input 5 falls below a limit. It can also send an email when a limit is exceeded and/or when the signals falls short of the limit again. A day/night switchover allows to vary limits depending on daytime.

In addition the device has an interface RS485 with the protocols Modbus and ZIEHL-standard.

### Applications:

The TR800Web is used where one or more of the following features a required:

- measuring of up to 8 analog signals and transmit the data via TCP/IP
- reading of measured values and teleservice via internet/intranet
- signalling of alarms via email when limits are exceeded
- logging of measured values and remote inquiry e.g. for monitoring temperatures at engines and in plants

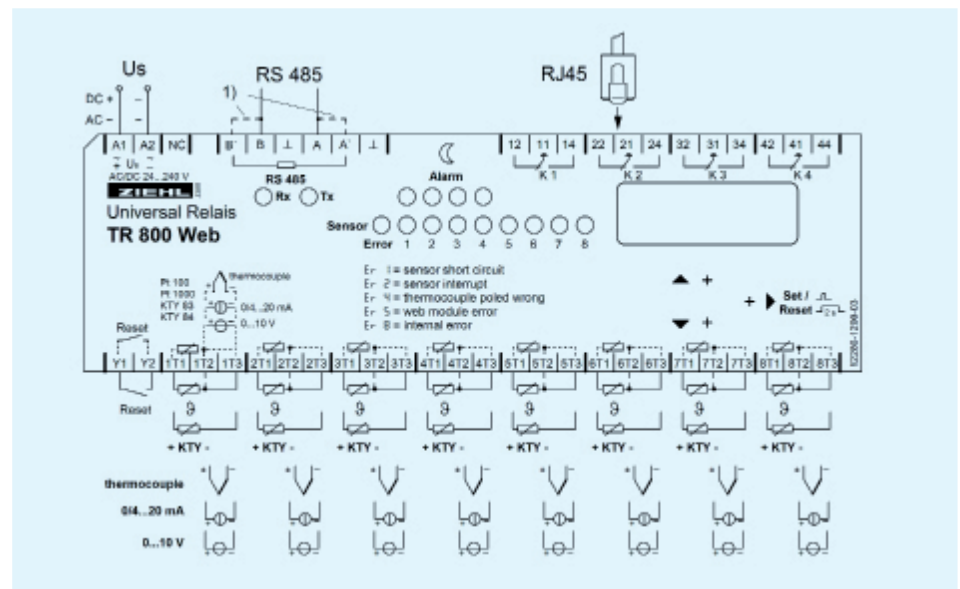
### Features

#### 8 Measuring Inputs (each programmable):

- Pt100 (RTD), Pt1000 in 2- or 3-wire
- KTY83 or KTY84
- thermocouples types B, E, J, K, L, N, R, S, T
- DC 0-10 V, DC 0/4-20 mA, display can be scaled
- resistance 0-500 Ohm, 0-30 kOhm

#### 4 Alarms

- 4 relays, potential-free change-over contacts
- for every alarm separately programmable
  - one limit per input (limit and switching-back-value)
  - second set of values switchable day/night with week-program
  - switching-delay and switching-back delay
  - function of relay (on or off)
  - interlocked switching
  - alarm at functional error
  - email to any adresses with freely selectable subject and text



### Connected via internet in web-browser

- display of measured values, min- and max-values with date/ time-stamp
- simulation of measured values
- state of alarms
- configuration of inputs (name, compensation, scaling and measuring-unit)
- configuration of alarms (limits, function of relays, ...)
- time-dependent day/night changing of limits
- logging of up to 150.000 values per input, alarms with date/ time-stamp
- logging-interval adjustable 2 seconds to 24 hours
- configuration of network
- settings of system
- administration of users and code-protection
- real-time clock with synchronizing with time-server, reserve 7 days

### Interfaces:

- Ethernet interface (http, https, UDP and Modbus)
  - http (port can be selected and switched off) and https
  - ftp-upload for automatic (interval adjustable) storage of logged data on ftp-server
  - UDP- and Modbus protocol to read data (port can be selected)
  - AJAX for data-readout in html
  - SNMP
- RS485 interface to readout data with modbus and ZIEHL-protocol

### Displays and Operating Elements

- 8 LEDs for inputs
- 4 LEDs for alarms, 4 LEDs for state of relays
- 4 digit display for measuring values
- 3 buttons for reading measured values at the device and for setting of IP-adress
- switch IP 10.10.10 / user
- reset-button
- LEDs for activity of interfaces

**Order-number: T224164**



Operating and Programming with Web-Browser:

The screenshot displays the ZIEHL TR800 Web Interface in a Mozilla Firefox browser. The page title is "TR800\_Temperatur" and the URL is "http://192.168.10.10/". The interface includes a navigation menu with tabs for "Messwerte", "Sensoren", "Zeitsteuerung", "Protokollierung", "Netzwerk", "System", and "Benutzer". The "Sensoren" tab is active, showing a table of sensor settings.

**Sensor-Einstellungen**

Nr.	Sensor-Name	aktueller Messwert	Sensortyp	Leitungs-Kompensation	Skalierung				Einheit
					ein	Nullpunkt	Fullscale	Dez. Punkt	
1	Aussentemperatur	7.7 °C	Pt 100	3-Leiter	<input type="checkbox"/>	0	1000	10000	°C
2	Raumtemperatur	25.3 °C	Thermo K	3-Leiter	<input type="checkbox"/>	0	1000	10000	°C
3	Wicklungstemperatur L1	60.7 °C	Pt 100	0.0 Ω	<input type="checkbox"/>	0	1000	10000	°C
4	Wicklungstemperatur L2	66.3 °C	Pt 100	0.0 Ω	<input type="checkbox"/>	0	1000	10000	°C
5	Wicklungstemperatur L3	58.8 °C	Pt 100	0.0 Ω	<input type="checkbox"/>	0	1000	10000	°C
6	Feuchte	82%	4.20 mA	3-Leiter	<input checked="" type="checkbox"/>	0	120	10000	%
7	Sensor 7	nc	nc	3-Leiter	<input type="checkbox"/>	0	1000	10000	
8	Sensor 8	26.7 °C	KTY 84	3-Leiter	<input type="checkbox"/>	0	1000	10000	°C

**Alarm-Einstellungen**

Tag  Nacht  **Aktuell Aktiv: Tag**

Alarmname	Alarm 1 / Relais K1	Alarm 2 / Relais K2	Alarm 3 / Relais K3	Alarm 4 / Relais K4
Vorwarnung	Abschaltung			
Verzögerung [s]	ein <input type="checkbox"/> 0 aus <input type="checkbox"/> 0	ein <input type="checkbox"/> 0 aus <input type="checkbox"/> 0	ein <input type="checkbox"/> 0 aus <input type="checkbox"/> 999	ein <input type="checkbox"/> 10 aus <input type="checkbox"/> 10
Relais bei Alarm	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input checked="" type="checkbox"/> aus <input type="checkbox"/>	ein <input checked="" type="checkbox"/> aus <input type="checkbox"/>
Alarm bei Fehler	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>
Alarm verriegelt	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>	ein <input type="checkbox"/> aus <input checked="" type="checkbox"/>
Sensor Nr.	aktiv Alarm EIN Alarm AUS	aktiv Alarm EIN Alarm AUS	aktiv Alarm EIN Alarm AUS	aktiv Alarm EIN Alarm AUS
1.	<input checked="" type="checkbox"/> 10.0 <input type="checkbox"/> 20.0	<input checked="" type="checkbox"/> 12.2 <input type="checkbox"/> 12.3	<input checked="" type="checkbox"/> 13.3 <input type="checkbox"/> 13.4	<input checked="" type="checkbox"/> 14.4 <input type="checkbox"/> 14.5
2.	<input checked="" type="checkbox"/> 10.0 <input type="checkbox"/> 20.0	<input checked="" type="checkbox"/> 12.2 <input type="checkbox"/> 12.3	<input checked="" type="checkbox"/> 13.3 <input type="checkbox"/> 13.4	<input checked="" type="checkbox"/> 14.4 <input type="checkbox"/> 14.5
3.	<input checked="" type="checkbox"/> 65.0 <input checked="" type="checkbox"/> 60.0	<input checked="" type="checkbox"/> 60.0 <input type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 68.0 <input type="checkbox"/> 67.0	<input checked="" type="checkbox"/> 14.4 <input type="checkbox"/> 14.5
4.	<input checked="" type="checkbox"/> 65.0 <input checked="" type="checkbox"/> 60.0	<input checked="" type="checkbox"/> 60.0 <input type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 68.0 <input type="checkbox"/> 67.0	<input checked="" type="checkbox"/> 14.4 <input type="checkbox"/> 14.5
5.	<input checked="" type="checkbox"/> 65.0 <input type="checkbox"/> 60.0	<input checked="" type="checkbox"/> 60.0 <input type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 68.0 <input checked="" type="checkbox"/> 67.0	<input checked="" type="checkbox"/> 14.4 <input type="checkbox"/> 14.5
6.	<input type="checkbox"/> 100 <input type="checkbox"/> 200	<input type="checkbox"/> 122 <input type="checkbox"/> 123	<input type="checkbox"/> 133 <input type="checkbox"/> 134	<input type="checkbox"/> 144 <input type="checkbox"/> 145
7.	<input type="checkbox"/> nc <input type="checkbox"/> nc	<input type="checkbox"/> nc <input type="checkbox"/> nc	<input type="checkbox"/> nc <input type="checkbox"/> nc	<input type="checkbox"/> nc <input type="checkbox"/> nc
8.	<input type="checkbox"/> 10.0 <input type="checkbox"/> 20.0	<input type="checkbox"/> 12.2 <input type="checkbox"/> 12.3	<input type="checkbox"/> 13.3 <input type="checkbox"/> 13.4	<input type="checkbox"/> 14.4 <input type="checkbox"/> 14.5

kein Alarm 
  Verzögerung Alarm ein 
  Alarm 
  Verzögerung Alarm aus 
  Verriegelter Alarm (locked)

**Alarm-E-Mail**

Alarm 1 / Relais K1 Vorwarnung

E-Mail bei "Alarm EIN"	Empfänger: maier@maier.de	Hinzufügen
	Betreff: Vorwarnung	
	Text: Vorwarntemperatur überschritten	
E-Mail bei "Alarm AUS"	Empfänger: maier@maier.de	Hinzufügen
	Betreff: Vorwarnung beendet	
	Text: Vorwarntemperatur unterschritten	

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Fertig

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## Technical Data TR800Web

Rated supply voltage  $U_s$  Tolerance AC/DC 24-240 V, 0/50/60 Hz < 4 W < 13 VA  
DC 20,4...297 V, AC 20...264 V

Relay output Type of contact 4 x 1 change-over contact (CO)Typ 2  
type 2 (see "general technical informations")

Testing conditions see "general technical informations"

Network-connection 10/100 MBit Auto-MDIX

Inputs Measuring cycle/measuring time < 3 s

Pt100, Pt1000 according to EN 60 751

	Measuring range °C		Short-circuit Ohm	Interruption Ohm	Resistance sensor + resistance line Ohm
Sensor	min	max	<	>	max
Pt100	-199	860	15	400	500
Pt1000	-199	860	150	4000	4100
KTY83	-55	175	150	4000	4100
KTY84	-40	150	150	4000	4100

Accuracy < ± 0,5 % of measured value ± 0,5 K (KTY ±5K)  
Sensor-current ≤ ± 0,6 mA  
Thermal drift < 0,04 °C/K

Thermocouples according to EN 60 584, DIN 43710

Typ	Measuring range °C		Accuracy	
	Min	Max		
B	0	1820	≤ ± 2 °C	T > 300 °C
E	-270	1000	≤ ± 1 °C	
J	-210	1200	≤ ± 1 °C	
K	-200	1372	≤ ± 2 °C	
L	-200	900	≤ ± 1 °C	
N	-270	1300	≤ ± 2 °C	
R	-50	1770	≤ ± 2 °C	
S	-50	1770	≤ ± 2 °C	
T	-270	400	≤ ± 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 of input	max. Inputsignal	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:

Accuracy 0,0...500,0 Ω < 0,2 % of measured value ± 0,5 Ω  
Accuracy 0...30,00 kΩ < 0,5 % measured value ± 2 Ω  
Measuring current ≤ 0,6 mA

Housing dimensions (w x h x d) design V8, switchgear-mount  
protection housing/terminals attachment 140 x 90 x 58 mm, mounting height 55 mm  
IP 30/ IP 20  
DIN-rail 35 mm according to EN 60715 oder screws M4  
(with 2 extra bars)  
weight app. 370 g