| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | **ZIEHL** |
|---|---|---|---|
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## RS 485 Ziehl protocol TR 800 – send data without request

Unit RS 485 Address = 0; Mode 0 will be send every 3 s.
Unit RS 485 Address = 91; Mode 1 will be send every 3 s.
Unit RS 485 Address = 92; Mode 2 will be send every 3 s.
Unit RS 485 Address = 93; Mode 3 will be send every 3 s.
Unit RS 485 Address = 94; Mode 0 will be send every 0.17 s. With Address 0.
Unit RS 485 Address = 95; Mode 1 will be send every 0.17 s.
Unit RS 485 Address = 96; Mode 2 will be send every 0.17 s.

## RS 485 Ziehl protocol TR 800 - master requests data

| **Start of message** | s | | |
|---|---|---|---|
| | Or S | | |
| | Or <STX> (= 0x02 Hex) | 1 Byte | ASCII |
| **Address of unit** | 00 .. 99 | 2 Byte | ASCII |
| **Command** | r (read) | | |
| | R (read) | 1 Byte | ASCII |
| **Mode \*)** | 0 .. 9 | 1 Byte | ASCII |
| **Block check (BCC)** | EXOR of all transmitted bytes | 3 Byte | ASCII |
| **Carriage Return (CR)** | <CR> | 1 Byte | |
| **Line Feed (LF)** | <LF> | 1 Byte | |
| | | | |
| | Sum: | 10 Byte | |
| | | | |
| | | | |
| **\*)** | | | |
| | | | |

**\*)**
0 = protocol compatible with TR 600                    -> ASCII-data
1 = TR 800 (data and alarm)                            -> ASCII-data
2 = TR 800 (data and alarm)                            -> binary data
3 = TR 800 (configuration)                             -> binary data

Timeout = 2s. If within 2s no character is received, the internal receive buffer is deleted.

## RS 485 Ziehl protocol TR 800 – answer mode 0  (compatible with TR 600 )

Only 6 sensors und 4 alarms are transmitted.

| Start of message | s<br>S<br><STX> (= 0x02 Hex) | ( = Start of message from request)<br><br>1 Byte     ASCII |
|---|---|---|
| Name of unit | TR600 | 5 Byte     ASCII (+ 1 Byte Delimiter ";") |
| Address of unit | 00 .. 99 | 2 Byte     ASCII (+ 1 Byte Delimiter ";") |
| Mode | 0 | 1 Byte     ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 1 | \*) | 4 Byte     ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 2 | \*) | 4 Byte     ASCII (+ 1 Byte Delimiter ";") |

| Name: **TR 800 Web** | Type: **Universal Relais** | | ZIEHL |
|---|---|---|---|
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| Current value sensor 3 | *) | 4 Byte | ASCII (+ 1 Byte Delimiter ";") |
|---|---|---|---|
| Current value sensor 4 | *) | 4 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 5 | *) | 4 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 6 | *) | 4 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 1 | 0 .. 1 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 2 | 0 .. 1 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 3 | 0 .. 1 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 4 | 0 .. 1 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 5 no function | 0 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 6 no function | 0 | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Alarm 7 at error | = Alarm 4  (0 .. 1) | 1 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Error code | 00 .. 99 | 2 Byte | ASCII (+ 1 Byte Delimiter ";") |
| Block check | EXOR of all transmitted bytes | 3 Byte | |
| Carriage Return (CR) | <CR> | 1 Byte | |
| Line Feed (LF) | <LF> | 1 Byte | |

= 64 Byte

---

**\*)**

| | |
|---|---|
| Sensor nc: | +980 |
| Sensor short-circuit: | −999 |
| Sensor break: | +999 |
| temperature sensor*²) | |
| range (thermocouple): | −199 .. +950 |
| Current input *³) | |
| range: | +000 .. +240 |
| Voltage input *³) | |
| range: | +000 .. +120 |
| Resistor input *³) | |
| range: | +000 .. +500 |
| | +000 .. +300 |
| Sensor scaling *³) | |
| range: | −998 .. +950 |
| difference sensor *³) | |
| range: | −998 .. +950 |

*²) depending on sensor type
*³) output without decimal point

| Name: **TR 800 Web** | Type: **Universal Relais** | | ZIEHL |
|---|---|---|---|
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## RS 485 Ziehl protocol TR 800 - answer mode 1

| Start of message | s<br>S<br><STX> (= 0x02 Hex) | ( = Start of message from request)<br><br>1 Byte    ASCII |
|---|---|---|
| Name of unit | TR800 | 5 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Address of unit | 00 .. 99 | 2 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Mode | 1 | 1 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 1 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 2 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 3 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 4 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 5 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 6 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 7 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Current value sensor 8 | *) | 7 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Alarm 1 | 0 .. 1 | 1 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Alarm 2 | 0 .. 1 | 1 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Alarm 3 | 0 .. 1 | 1 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Alarm 4 | 0 .. 1 | 1 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Error code | 00 .. 99 | 2 Byte    ASCII (+ 1 Byte Delimiter ";") |
| Block check | EXOR of all transmitted bytes | 3 Byte |
| Carriage Return (CR) | <CR> | 1 Byte |
| Line Feed (LF) | <LF> | 1 Byte |

= 92 Byte

| Current value sensor  *) | |
|---|---|
| Sensor short-circuit: | +32767 |
| Sensor break: | +32766 |
| Thermocouple poled wrong: | +32765 |
| Overflow: | +32750 |
| Underflow: | +32749 |
| Sensor nc: | +32748 |
| | |
| temperature sensor | |
| range (℃): | -0270.0 .. +1800.0 |
| range (℉): | -000454 .. +003272 |
| | |
| Current input | |
| range: | +000.00 .. +024.00 |
| | |
| Voltage input | |
| range: | +000.00 .. +012.00 |
| | |
| Resistor input | |
| range: | +0000.0 .. +0500.0 |
| | +00.000 .. +30.000 |
| | |
| Sensor scaling | |
| range: | -01.999 .. +09.999 |
| | -019.99 .. +099.99 |
| | -0199.9 .. +0999.9 |
| | -001999 .. +009999 |

| Name: <br> **TR 800 Web** | Type: <br> **Universal Relais** | ZIEHL |
|---|---|---|
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## RS 485 Ziehl protocol TR 800 - answer mode 2

| | | | | |
|---|---|---|---|---|
| Start of message | s <br> S <br> <STX> | <br> <br> 1 Byte | ( = Start of message from request) | (ASCII) <br> (ASCII) <br> = 0x02 Hex |
| Name of unit | TR800 | 5 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Address of unit | 00 .. 99 | 2 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Mode | 2 | 1 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Number of the next data bytes (without block check) | 28 | 2 Byte | Unsigned Int16 | low / high Byte |
| Current value sensor 1 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 1 | | 1 Byte | Unsigned Char | |
| Current value sensor 2 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 2 | | 1 Byte | Unsigned Char | |
| Current value sensor 3 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 3 | | 1 Byte | Unsigned Char | |
| Current value sensor 4 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 4 | | 1 Byte | Unsigned Char | |
| Current value sensor 5 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 5 | | 1 Byte | Unsigned Char | |
| Current value sensor 6 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 6 | | 1 Byte | Unsigned Char | |
| Current value sensor 7 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 7 | | 1 Byte | Unsigned Char | |
| Current value sensor 8 | | 2 Byte | Signed Int16 | low / high Byte |
| Decimal point Sensor 8 | | 1 Byte | Unsigned Char | |
| Alarm status | | 1 Byte | Unsigned Char | |
| Alarm from sensor | | 2 Byte | Unsigned Char | low / high Byte |
| Error code | | 1 Byte | Unsigned Char | |
| Block check | CRC16 | 2 Byte | Unsigned Int16 | low / high Byte |

CRC16 Modbus (Polynomial 0xA001)          44 Byte

| **Current value sensor:** | | |
|---|---|---|
| Sensor short-circuit: | 32767 (0x7FFF Hex) | |
| Sensor break: | 32766 (0x7FFE Hex) | |
| Thermocouple poled wrong: | 32765 (0x7FFD Hex) | |
| | | |
| Overflow: | 32750 (0x7FEE Hex) | |
| Underflow: | 32749 (0x7FED Hex) | |
| Sensor nc: | 32748 (0x7FEC Hex) | |
| | | |
| temperature sensor | | |
| range ($°C$): | -2700 .. 18000 | 0xF574 .. 0x4560 |
| range ($°F$): | -454 .. 3272 | 0xFE3A .. 0x0CC8 |
| | | |
| Current input | | |
| range: | 0 .. 2400 | 0x000 .. 0x0960 |
| | | |
| Voltage input | | |
| range: | 0 .. 1200 | 0x000 .. 0x04B0 |

| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | ZIEHL |
|---|---|---|---|
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Resistor input
range:

| 0 .. 5000 | 0x000 .. 0x1388 |
|---|---|
| 0 .. 30000 | 0x000 .. 0x7530 |

Sensor scaling
range:

| -1999 .. 9999 | 0xF831 .. 0x270F |
|---|---|

| **Decimal point:** | | |
|---|---|---|
| xxxx | 0 | |
| xxx.x | 1 | |
| xx.xx | 2 | |
| x.xxx | 3 | |

| **Alarm status:** | | | |
|---|---|---|---|
| Alarm 1 | bit 0 | = 1 if Alarm |
| Alarm 2 | bit 1 | = 1 if Alarm |
| Alarm 3 | bit 2 | = 1 if Alarm |
| Alarm 4 | bit 3 | = 1 if Alarm |

| **Alarm from sensor:** | | | = 1 if the sensor triggers an alarm |
|---|---|---|---|
| Senor 1 | bit 0 | |
| Senor 2 | bit 1 | |
| Senor 3 | bit 2 | |
| Senor 4 | bit 3 | |
| Senor 5 | bit 4 | |
| Senor 6 | bit 5 | |
| Senor 7 | bit 6 | |
| Senor 8 | bit 7 | |

| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | | **ZIEHL** |
|---|---|---|---|---|
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## RS 485 Ziehl Protocol TR 800 - answer Mode 3

| | | | | |
|---|---|---|---|---|
| Start of message | s<br>S<br><STX> | ( = Start of message from request)<br><br>1 Byte | (ASCII)<br>(ASCII)<br>= 0x02 Hex | |
| Name of unit | TR800 | 5 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Address of unit | 00 .. 99 | 2 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Mode | 3 | 1 Byte | (+ 1 Byte Delimiter ";") | (ASCII) |
| Number of the next data bytes<br>(without block check) | 560 (0x0230 Hex) | 2 Byte | Unsigned Int16 | low / high Byte |
| | | | | |
| Sensor Type | Sensor 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Wire compensation | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Unit | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Scaling active | Sensor 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Scaling zero point | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Scaling full-scale | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Scaling decimal point | Sensor 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Alarm 1 active | Sensor 1 - Alarm1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Value - Alarm 1 ON | Sensor 1 - Alarm1 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 1 OFF | Sensor 1 - Alarm1 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 1 ON (Night) | Sensor 1 - Alarm1 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 1 OFF (Night) | Sensor 1 - Alarm1 | 2 Byte | Signed Int16 | low / high Byte |
| Alarm 2 active | Sensor 1 - Alarm2 | 2 Byte | Unsigned Int16 | low / high Byte |
| Value - Alarm 2 ON | Sensor 1 - Alarm2 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 2 OFF | Sensor 1 - Alarm2 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 2 ON (Night) | Sensor 1 - Alarm2 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 2 OFF (Night) | Sensor 1 - Alarm2 | 2 Byte | Signed Int16 | low / high Byte |
| Alarm 3 active | Sensor 1 - Alarm3 | 2 Byte | Unsigned Int16 | low / high Byte |
| Value - Alarm 3 ON | Sensor 1 - Alarm3 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 3 OFF | Sensor 1 - Alarm3 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 3 ON (Night) | Sensor 1 - Alarm3 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 3 OFF (Night) | Sensor 1 - Alarm3 | 2 Byte | Signed Int16 | low / high Byte |
| Alarm 4 active | Sensor 1 - Alarm4 | 2 Byte | Unsigned Int16 | low / high Byte |
| Value - Alarm 4 ON | Sensor 1 - Alarm4 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 4 OFF | Sensor 1 - Alarm4 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 4 ON (Night) | Sensor 1 - Alarm4 | 2 Byte | Signed Int16 | low / high Byte |
| Value - Alarm 4 OFF (Night) | Sensor 1 - Alarm4 | 2 Byte | Signed Int16 | low / high Byte |
| | | | | |
| | : | | | |
| | Sensor 2 | 54 Byte | | |
| | Sensor 3 | 54 Byte | | |
| | Sensor 4 | 54 Byte | | |
| | Sensor 5 | 54 Byte | | |
| | Sensor 6 | 54 Byte | | |
| | Sensor 7 | 54 Byte | | |
| | Sensor 8 | 54 Byte | | |
| | | | | |
| delay Alarm on | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| delay Alarm off | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| alarm on error | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |

| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | ZIEHL |
|---|---|---|---|
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| | | | | |
|---|---|---|---|---|
| alarm locked | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| relay on alarm | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| | : | | | |
| | Alarm 2 | 10 Byte | | |
| | Alarm 3 | 10 Byte | | |
| | Alarm 4 | 10 Byte | | |
| | | | | |
| Data (scaled value) | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Data (not scaled value) | Sensor 1 | 2 Byte | Signed Int16 | low / high Byte |
| Sensor error | Sensor 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| | : | | | |
| | Sensor 2 | 6 Byte | | |
| | Sensor 3 | 6 Byte | | |
| | Sensor 4 | 6 Byte | | |
| | Sensor 5 | 6 Byte | | |
| | Sensor 6 | 6 Byte | | |
| | Sensor 7 | 6 Byte | | |
| | Sensor 8 | 6 Byte | | |
| | | | | |
| simulated sensor | | 2 Byte | Unsigned Int16 | low / high Byte |
| | | | | |
| Status  alarm | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Status  delay alarm on | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Status delay alarm off | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| Status locked alarm | Alarm 1 | 2 Byte | Unsigned Int16 | low / high Byte |
| | : | | | |
| | Alarm 2 | 8 Byte | | |
| | Alarm 3 | 8 Byte | | |
| | Alarm 4 | 8 Byte | | |
| | | | | |
| Status relays | | 2 Byte | Unsigned Int16 | low / high Byte |
| Error code | | 2 Byte | Unsigned Int16 | low / high Byte |
| Data- counter | | 2 Byte | Unsigned Int16 | low / high Byte |
| | | | | |
| Block check | CRC16 | 2 Byte | Unsigned Int16 | low / high Byte |
| CRC16  Modbus (Polynomial 0xA001) | | | | |
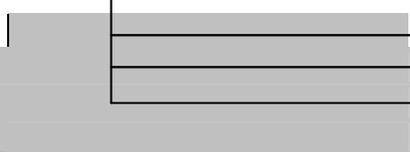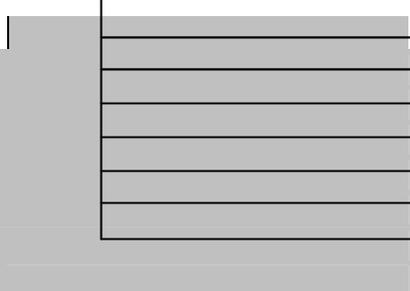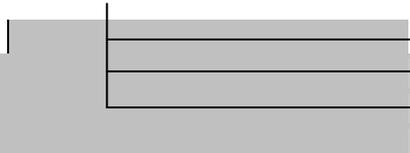
573 Byte
+ 3 Byte    (Delimiter)
576 Byte

| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | ZIEHL |
|---|---|---|---|
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## Values of the register

| Sensor Type | |
|---|---|
| Value | meaning |
| 0 | nc |
| 1 | Pt 100 |
| 2 | Pt 1000 |
| 3 | KTY 83 |
| 4 | KTY 84 |
| 5 | Thermocouple B |
| 6 | Thermocouple E |
| 7 | Thermocouple J |
| 8 | Thermocouple K |
| 9 | Thermocouple L |
| 10 | Thermocouple N |
| 11 | Thermocouple R |
| 12 | Thermocouple S |
| 13 | Thermocouple T |
| 14 | Voltage 0 .. 10V |
| 15 | Current 0 .. 20mA |
| 16 | Current 4 .. 20mA |
| 17 | Resistor 500 Ohm |
| 18 | Resistor 30 kOhm |
| 19 | Difference of two inputs |

| Wire compensation | |
|---|---|
| Value | meaning |
| -1 | 3-wire |
| 0 | 0 Ohm |
| 1 | 0,1 Ohm |
| : | : |
| 1000 | 100,0 Ohm |

| Unit | |
|---|---|
| Value | meaning |
| 0 | °C |
| 1 | °F |
| 2 | V |
| 3 | mA |
| 4 | Ohm |
| 5 | kOhm |
| 6 | % |
| 7 | User |

| Scaling on | |
|---|---|
| Value | meaning |
| 0 | inactive |
| 1 | active |

| Scaling zero point | |
|---|---|
| **Scaling full-scale** | |
| Value | meaning |
| -1999 | |
| : | |
| 9999 | |

| Scaling Decimal point | |
|---|---|
| Value | meaning |
| 0 | xxxx |
| 1 | xxx.x |
| 2 | xx.xx |
| 3 | x.xxx |

| Alarm active | |
|---|---|
| Value | meaning |
| 0 | off |
| 1 | on |

| Alarm value - | |
|---|---|
| | Alarm x on |
| | Alarm x off |
| | Alarm x on (night) |
| | Alarm x off (night) |
| -9999 | |
| : | |
| 30000 | |

| delay alarm on | |
|---|---|
| **delay alarm off** | |
| Value | meaning |
| 0 | [s] |
| : | : |
| 9999 | [s] |

| Alarm on error | |
|---|---|
| Value | meaning |
| 0 | off |
| 1 | on |

| Alarm locked | |
|---|---|
| Value | meaning |
| 0 | off |
| 1 | on |

| Relay on alarm | |
|---|---|
| Value | meaning |
| 0 | de-energized |
| 1 | energized |

| Name: **TR 800 Web** | Type: **Universal Relais** | | ZIEHL |
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### Data- Sensor 1 .. 8

| Data (scaled value) Data (not scaled value) | |
|---|---|
| Value | meaning |
| -9999 : 30000 | |
| 32767 | Sensor short-circuit: |
| 32766 | Sensor break: |
| 32765 | Thermocouple poled wrong: |
| 32750 | Overflow: |
| 32749 | Underflow: |
| 32748 | Sensor nc: |

| Sensor error | |
|---|---|
| Value | meaning |
| 0 | OK |
| 1 | Sensor short-circuit |
| 2 | Sensor break: |
| 3 | |
| 4 | Thermocouple connected wrong: |

### Sensor Simulation

| Simulated sensor | |
|---|---|
| Value | meaning |
| bit 0 | Sensor 1 |
| : | : |
| bit 7 | Sensor 8 |

### Status

| Status alarm on Status delay alarm on Status delay alarm off Status locked alarm | |
|---|---|
| Value | meaning |
| 0 | off |
| bit0 | Alarm Sensor 1 |
| bit1 | Alarm Sensor 2 |
| bit2 | Alarm Sensor 3 |
| bit3 | Alarm Sensor 4 |
| bit4 | Alarm Sensor 5 |
| bit5 | Alarm Sensor 6 |
| bit6 | Alarm Sensor 7 |
| bit7 | Alarm Sensor 8 |
| bit8 | Device error |

| Name:<br>**TR 800 Web** | Type:<br>**Universal Relais** | | ![ZIEHL] **ZIEHL** |
|---|---|---|---|
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**Other**

| Status relays | |
|---|---|
| Value | meaning |
| bit 0 | Relays K1 |
| : | |
| bit 3 | Relays K4 |

| Error code | |
|---|---|
| Value | meaning |
| 0 | No error |
| bit 0 | AD-error (Er 8) |
| bit 1 | Internal communication error (Er 5) |
| bit 2 | Internal communication error (Er 6) |
| bit 3 | EEPROM error (Er 9) |

| Data- counter | |
|---|---|
| Value | meaning |
| 0<br>:<br>65535 | is incremented at each measurement |

## Connection diagram RS 485
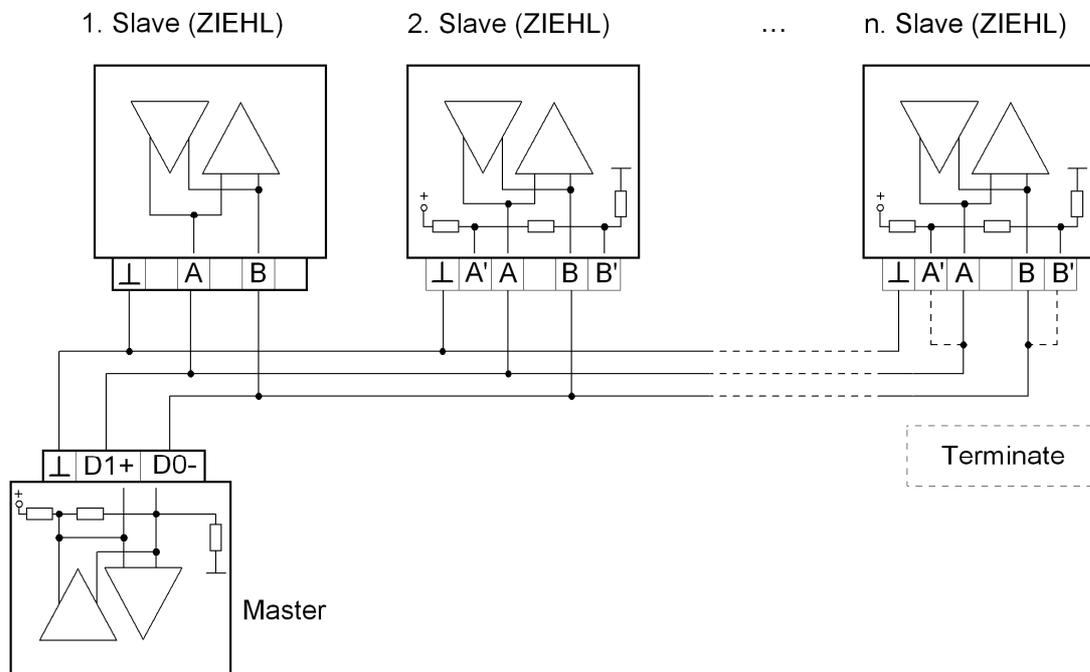


| Connection name | Modbus | Ziehl | EIA/TIA-485 |
|---|---|---|---|
| - wire | D0 | B  (B') | A |
| + wire | D1 | A  (A') | B |