

WAVEANALOG PRO RTD



Analogue Signal Isolators
WAVESERIES
WAVEANALOGUE PRO RTD

MODEL

Screw terminal connection
WAS5 PRO RTD
Tension clamp connection
WAZ5 PRO RTD

Order Number

8560700000
8560710000

Please read these instructions before using the product and retain for future information.

1. General instructions

Warning! The analogue signal isolators of the WAVEANALOGUE PRO series may only be installed by qualified personnel. Be sure not to connect the unit to power supply before appropriate installation. Do not select ranges during operation, because live parts are exposed during this process. Only use a screwdriver which is properly insulated against the voltage applied to the input when fine adjusting the potentiometers on the front. Be sure to observe the national regulations for installation and selection of cables.



Appropriate safety measures against electrostatic discharge (ESD) should be taken during assembly and adjustment work on the WAVEANALOGUE PRO.

2. Application

Analogue signal isolators are used for galvanic isolation and conversion of temperature, resistance and potentiometer signals. Input and output signals are factory set according to type or can be calibrated/switched via DIP switches. It is **not** necessary to adjust the measurement range. A +/- 5% variation can be achieved in the respective range by connecting potentiometers for zero and span. The transmitted measurement signal is linear to the measured temperature.

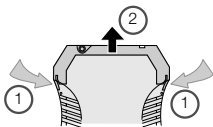
3. Configuration

3.1 Equipment

A screwdriver with a width of 2.5 mm is required to adjust the unit and to connect the wires to the terminals.

3.2 Opening the unit

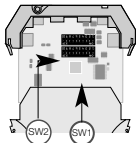
Disconnect the plugs. Disengage the top part of the housing by carefully pressing the latches on both sides (1). Pull out the top part of the housing and the electronics section until they lock (2).



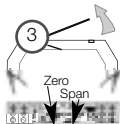
3.3 Settings

Set input and output ranges, minimum input values and measuring span via the DIP switches SW1 and SW2 according to the following tables.

When activating variable setting SW 1/8 of the span or offset, it is possible to make additional adjustments via front potentiometers span and offset, accessible below cover (3).



Caution! Only use a screwdriver which is properly insulated against the voltage applied to the input when fine adjusting the potentiometers on the front.



Selecting the inputs

Input	SW1		
	1	2	3
PT100 2-wire	1	1	1
PT100 3-wire	0	1	1
PT100 4-wire	1	0	1
R 2-wire	0	0	1
NI100 2-wire	1	1	0
NI100 3-wire	0	1	0
NI100 4-wire	1	0	0
Potentiometer	0	0	0

Selecting the minimum input value

ϑ min	Rmin	Potimin	SW1			
			4	5	6	7
0° C	0 Ω	0%	1	1	1	1
-10° C	10 Ω	10%	1	1	1	0
-20° C	20 Ω	20%	1	1	0	1
-25° C	25 Ω	25%	1	1	0	0
-30° C	30 Ω	30%	1	0	1	1
-40° C	40 Ω	40%	1	0	1	0
-50° C	50 Ω	50%	1	0	0	1
-60° C	60 Ω	60%	1	0	0	0
-70° C	70 Ω	70%	0	1	1	1
-80° C	80 Ω	80%	0	1	1	0
-90° C	90 Ω		0	1	0	1

ϑ_{\min}	R_{\min}	Potimin	SW1			
			4	5	6	7
-100 °C	100 Ω		0	1	0	0
-150 °C	150 Ω		0	0	1	1
-200 °C	200 Ω		0	0	1	0
	Special range		0	0	0	0

Activating the manual fine adjustment

manual calibration	SW1 8
off	0
on	1

1 = on

0 = off

Selecting the measuring range

T	R	Poti	SW2				
			1	2	3	4	5
40K	20 Ω	20%	1	1	1	1	1
50K	25 Ω	25%	1	1	1	1	0
60K	30 Ω	30%	1	1	1	0	1
70K	35 Ω	35%	1	1	1	0	0
80K	40 Ω	40%	1	1	0	1	1
90K	45 Ω	45%	1	1	0	1	0
100K	50 Ω	50%	1	1	0	0	1
110K	55 Ω	55%	1	1	0	0	0
120K	60 Ω	60%	1	0	1	1	1
125K	62,5 Ω	62,5%	1	0	1	1	0
130K	65 Ω	65%	1	0	1	0	1
140K	70 Ω	70%	1	0	1	0	0
150K	75 Ω	75%	1	0	0	1	1
160K	80 Ω	80%	1	0	0	1	0
170K	85 Ω	85%	1	0	0	0	1
180K	90 Ω	90%	1	0	0	0	0
190K	95 Ω	95%	0	1	1	1	1
200K	100 Ω	100%	0	1	1	1	0
250K	125 Ω	-	0	1	1	0	1
300K	150 Ω	-	0	1	1	0	0
350K	175 Ω	-	0	1	0	1	1
400K	200 Ω	-	0	1	0	1	0
450K	225 Ω	-	0	1	0	0	1
500K	250 Ω	-	0	1	0	0	0
550K	275 Ω	-	0	0	1	1	1

T	R	Poti	SW2				
			1	2	3	4	5
550K	275 Ω	-	0	0	1	1	1
600K	300 Ω	-	0	0	1	1	0
650 K	325 Ω	-	0	0	1	0	1
700K	350 Ω	-	0	0	1	0	0
750K	375 Ω	-	0	0	0	1	1
800K	400 Ω	-	0	0	0	1	0
850K	425 Ω	-	0	0	0	0	1
900K	450 Ω	-	0	0	0	0	0

Selecting the output

Output	SW2	
	6	7
0...10 V	1	0
0...20 mA	0	0
4...20 mA	0	1

1 = on

0 = off

Selecting the step response time

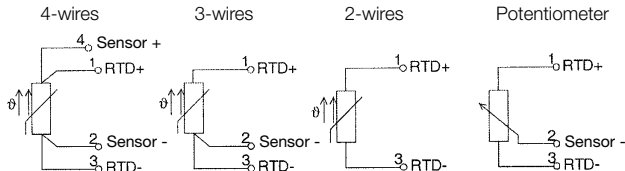
Step response	SW2 8
slow	1
fast	0

1 = on

0 = off

3.4 Terminal assignment of the sensors

Terminal assignment for 2-, 3-, 4-wires and potentiometers.



4. Mounting

The analogue signal isolators are mounted on standard TS 35 rails.

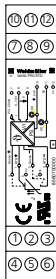
5. Electrical connection

Terminal assignments

- 1 Input RTD +
- 2 Input Sensor -
- 3 Input RTD -
- 4 Input Sensor +
- 5 not assigned
- 6 not assigned
- 7 Output 0/4...20 mA
- 8 Output 0...10 V
- 9 Output GND
- 10 Power supply + 24 Vdc (cross connected)
- 11 Power supply 0 V (cross connected)
- 12 not assigned

Wire cross-section max. 2.5 mm²

Multi-wire connection max. 1 mm²
(two wires with same cross-section)



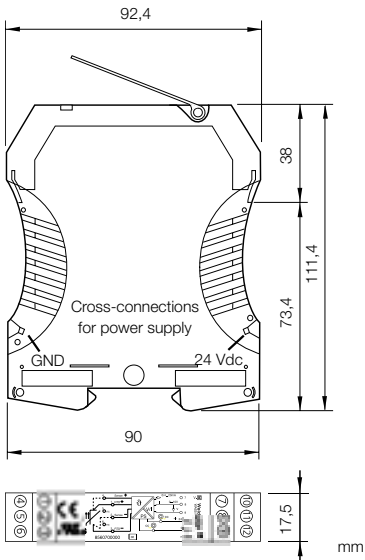
Warning! For applications with high isolation voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent devices!

5.1 Power supply

18...30 Vdc/approx. 1 W

Voltage supply via cross-connections
(see Cat. No. point 7)

6. Dimensions



7. Accessories (cross-connection)

Designation	Cat. No.
ZQV 2,5 N/2 yellow	169380
ZQV 2,5 N/2 red	171790
ZQV 2,5 N/2 blue	171799
ZQV 2,5 N/2 black	171808

Connection markers

Designation	Cat. No.
WS 10/5 Multicard for plotter marking	163501
WS 10/5 Neutral	106086

8. Notes on CE marking

The WAS5/WAZ5 RTD analog signal isolators are marked CE in accordance with the EU directives 89/336/EEC "Electromagnetic Compatibility" and 73/23/EEC (low-voltage directive) detailing the Harmonized European Standards (EN).

The declarations of conformity are held, according the above mentioned EU directive, article 10, for the authorizing body by:

Weidmüller Interface GmbH & Co.
Postfach 30 30
D-32720 Detmold
Tel. (05231) 14-0
Fax (05231) 14-2083



Weidmüller Interface GmbH & Co.
Postfach 30 30
D-32720 Detmold
Tel. (0 52 31) 14-0
Fax (0 52 31) 14-20 83