

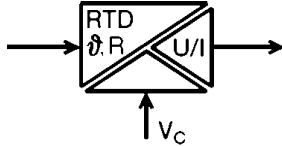
WAVEANALOG PRO RTD

- Measurement from PT 100, Ni 100, R, potentiometer
- Universally adjustable via DIP switch
- 3-way-isolation
- Status LED
- Linearization
- Cross-connectable voltage supply via cross-connectors

Approvals:



Block diagram



Ordering data

Screw connection	WAS5 PRO RTD	8560700000
Tension clamp connection	WAZ5 PRO RTD	8560710000
Input/output	configurable	

Technical data*

Input (adjustable)

PT100/2-/3-/4-wire: -200°C...+850°C
Ni100 : -60°C...+250°C
Potentiometer: min: 0...100Ω/max:0...100kΩ
Resistance: 0...450Ω

Output (adjustable)

Output voltage	0...10 V
Offset voltage	max. 0.05 V
Load resistance	≥ 1 kΩ
Output current	0/4...20 mA
Offset current	max. 100 μA
Load resistance	≤ 600 Ω
Accuracy, slow/fast step response	PT 100, Ni 100: 0.3% of measurement range 0.8%, Measurement range < 100 K/0.3 K/0.8 K Potentiometer: 0.2% of FS/0.3% Resistance: 0.2% of FS/0.3%

Step response (switchable via DIP switch)

RTD, R	typ.	fast	slow
Potentiometer		< 1.2 s	< 2.2 s

Temperature coefficient	measurement range ≥ 200 K	≤ 200 ppm/°C
	100 K ≤ measurement range < 200 K	≤ 250 ppm/°C
	40 K ≤ measurement range < 100 K	≤ 400 ppm/°C

Max. wire resistance: 50 Ω for 3- and 4-wire

Influence of wire resistances: max. + 0.25°C at 50 Ω wire resistance

Open circuit recognition: Output signal > 10 V or > 20 mA, LED blinks

Range of man. fine adjustment: ± 5%, from ver. 1: ±12.5%, potentiometer ≥ 12.5%...25%

Status LED: Module active: LED lit/open circuit: LED blinks
Error: LED off

General

Supply voltage	18 VDC...24 VDC...30 VDC
Power consumption	830 mW...880 mW...980 mW @ I _{out} = 20 mA
Current carrying capacity of cross-connection	≤ 2 A
Operating temperature	0°C...+55°C
Storage temperature	-20...+85°C
Factory setting	PT 100/3 0...100°C/4...20 mA No manual fine adjustment; slow step response

Dimensions W/L/H	mm (in.)	17.5/92.4/112.5 (.69/3.64/4.43)
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Weight: approx. 100 g

Approvals: CE, UL, GL

Coordination of insulation according to DIN EN 50178, 04/98

Rated voltage	300 V	
Surge voltage	4 kV	
Overvoltage category	III	
Contamination class	2	
Clearance and creepage distance	mm (in.)	3 (.12)
Test voltage	2 kV _{eff}	
Standards/specifications	EN 50178, IEC751	
EMC standards	EN 50081, EN50082, EN55011	
Dimensions and accessories see	Page 356 + 366	

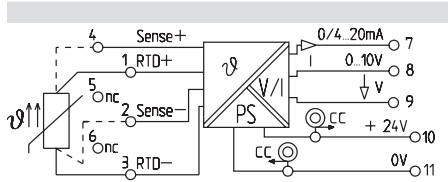
* T_U = 23°C single module

PRO RTD



Adjustment help

WAVEtool
This service tool enables quick and uncomplicated configuration of WAVEANALOG PRO. Download from Internet: <http://www.weidmuller.com>
⇨ Products ⇨ Downloads (see page 257)



Type

WAS5 PRO RTD	8560700000
WAZ5 PRO RTD	8560710000
configurable	

PT100/2-/3-/4-wire: -200°C...+850°C
Ni100 : -60°C...+250°C
Potentiometer: min: 0...100Ω/max:0...100kΩ
Resistance: 0...450Ω

0...10 V		
max. 0.05 V		
≥ 1 kΩ		
0/4...20 mA		
max. 100 μA		
≤ 600 Ω		
PT 100, Ni 100: 0.3% of measurement range 0.8%, Measurement range < 100 K/0.3 K/0.8 K Potentiometer: 0.2% of FS/0.3% Resistance: 0.2% of FS/0.3%		
typ.	fast	slow
	< 1.2 s	< 2.2 s
	< 500 ms	< 1.1 s

≤ 200 ppm/°C

≤ 250 ppm/°C

≤ 400 ppm/°C

50 Ω for 3- and 4-wire

max. + 0.25°C at 50 Ω wire resistance

Output signal > 10 V or > 20 mA, LED blinks

± 5%, from ver. 1: ±12.5%, potentiometer ≥ 12.5%...25%

Module active: LED lit/open circuit: LED blinks

Error: LED off

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* T_U = 23°C single module

Input	Switch 1		
	1	2	3
PT100 2-wire	■	■	■
PT100 3-wire		■	■
PT100 4-wire	■		■
R 2-wire			■
Ni100 2-wire	■	■	
Ni100 3-wire		■	
Ni100 4-wire	■		
Potentiometer			

■ = on
□ = off

q _{min}	R _{min}	Pot.min	Switch 1			
			4	5	6	7
0°C	0 Ω	0%				
-10°C	10 Ω	10%	■	■	■	
-20°C	20 Ω	20%	■	■	■	
-25°C	20 Ω	25%	■	■	■	
-30°C	30 Ω	30%	■	■	■	■
-40°C	40 Ω	40%	■	■	■	
-50°C	50 Ω	50%	■	■	■	
-60°C	60 Ω	60%	■	■	■	
-70°C	70 Ω	70%	■	■	■	■
-80°C	80 Ω	80%	■	■	■	
-90°C	90 Ω		■	■	■	
-100°C	100 Ω		■	■	■	
-150°C	150 Ω				■	■
-200°C	200 Ω				■	

Special range

T	R	pot.	Switch 2				
			1	2	3	4	5
40K	20Ω	20%	■	■	■	■	■
50K	25Ω	25%	■	■	■	■	■
60K	30Ω	30%	■	■	■	■	■
70K	35Ω	35%	■	■	■	■	■
80K	40Ω	40%	■	■	■	■	■
90K	45Ω	45%	■	■	■	■	■
100K	50Ω	50%	■	■	■	■	■
110K	55Ω	55%	■	■	■	■	■
120K	60Ω	60%	■	■	■	■	■
125K	62.5Ω	62.5%	■	■	■	■	■
130K	65Ω	65%	■	■	■	■	■
140K	70Ω	70%	■	■	■	■	■
150K	75Ω	75%	■	■	■	■	■
160K	80Ω	80%	■	■	■	■	■
170K	85Ω	85%	■	■	■	■	■
180K	90Ω	90%	■	■	■	■	■
190K	95Ω	95%	■	■	■	■	■
200K	100Ω	100%	■	■	■	■	■
250K	125Ω	---	■	■	■	■	■
300K	150Ω	---	■	■	■	■	■
350K	175Ω	---	■	■	■	■	■
400K	200Ω	---	■	■	■	■	■
450K	225Ω	---	■	■	■	■	■
500K	250Ω	---	■	■	■	■	■
550K	275Ω	---	■	■	■	■	■
600K	300Ω	---	■	■	■	■	■
650K	325Ω	---	■	■	■	■	■
700K	350Ω	---	■	■	■	■	■
750K	375Ω	---	■	■	■	■	■
800K	400Ω	---	■	■	■	■	■
850K	425Ω	---	■	■	■	■	■
900K	450Ω	---	■	■	■	■	■

Output	Switch 2		Switching on the manual fine adjustment	
	6	7	man. adj.	S.1
0...10V	■			8
0...20mA			off	
4...20mA	■		on	■

Time of step response	S.2	
	8	
slow	■	
fast		■