

WAS5 PRO RTD

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Do not use product for new developments



RTD temperature signal converters for connecting resistance temperature sensors and analogue DC current or voltage outputs.

A variety of resistance thermometers (e.g., PT100) are used to measure temperature in an industrial environment. These are used with 2-, 3-, or 4-wire technology.

We distinguish here between PTC and NTC thermistors. For an exact temperature measurement, the resistance value must be logged, linearised and converted into an analogue signal proportional to the temperature. Signal isolating converters carry out these important functions. They isolate signals between the harsh industrial environments and the downstream electronics. Furthermore, they compensate for potential differences caused by long cable lengths.

Sensor-related inadequacies such as cold joints and linearity errors are also minimised.

General ordering data

Version	RTD isolating transformer, Input : Temperature, PT100, Output : 0(4)-20 mA, 0-10 V
Order No.	8560700000
Type	WAS5 PRO RTD
GTIN (EAN)	4032248207312
Qty.	1 pc(s).
Delivery status	This article will no longer be available in the future.
Available until	2021-03-31
Alternative product	2448100000

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Technical data

Dimensions and weights

Depth	112.4 mm	Depth (inches)	4.425 inch
Length	92.4 mm	Length (inches)	3.638 inch
Net weight	138 g	Width	17.5 mm
Width (inches)	0.689 inch		

Temperatures

Storage temperature	-20 °C...85 °C	Operating temperature	0 °C...55 °C
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Probability of failure

MTTF	270 Jahre
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Input

Line resistance in measuring circuit	50 Ω for 3- and 4-conductor	Number of inputs	1
Sensor	PT100/2-/3-/4-wire, Ni100/2-/3-/4-wire, potentiometer: min. 100 Ω, max. 100 kΩ, resistance: 0-450 Ω	Temperature input range	Configurable, PT100: -200°C...850 °C, NI100: -60°C...+250 °C

Output

Fine adjustment	$\geq \pm 5\%$, Version 1 and later: $\geq 12.5\%$ / potentiometer: 12.5%...25%	Load impedance current	$\leq 600\ \Omega$
Number of outputs	1	Offset current	max. 100 μ A
Offset voltage	max. 0.05 V	Output current	0...20 mA, 4...20 mA
Output voltage, note	0...10 V	Status indicator	Module active: LED on/ wire breakage: LED flashing/Error: LED off
Wire break detection	LED flashing (output value: > 20 mA, >10 V)	load impedance voltage	$\geq 1\ k\Omega$

General data

Accuracy	< 0.3 % of measured value	Configuration	DIP switch, Potentiometer
Current-carrying capacity of cross-connect.	$\leq 2\ A$	Galvanic isolation	3-way isolator
Input/Output	configurable	Linearity	Yes
Power consumption	830...880...980 mW at $I_{OUT} = 20\ mA$	Rail	TS 35
Step response time	fast/slow: 2-/3-/4-conductor: 1.2 s/2.2 s; potentiometer: 0.5 s/1.1 s	Temperature coefficient	Measuring range $\geq 200\ K$: $\leq 200\ ppm/K$ 100 K $\leq$ measuring range < 200 K: $\leq 250\ ppm/K$ 40 K $\leq$ measuring range < 100 K: $\leq 400\ ppm/K$
Type of connection	Screw connection		

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Technical data**Insulation coordination**

Clearance & creepage distances	≥ 3 mm	EMC standards	EN 55011, EN 61000-6
Galvanic isolation	3-way isolator	Impulse withstand voltage	4 kV
Insulation voltage	2 kV _{eff} / 5 s	Insulation voltage input or output/rail	4 kV _{eff} / 1 min.
Insulation voltage input or output/supply	2 kV _{eff} / 5 s	Pollution severity	2
Rated voltage	300 V	Surge voltage category	III

Connection data

Type of connection	Screw connection	Stripping length, rated connection	7 mm
Tightening torque, min.	0.4 Nm	Tightening torque, max.	0.5 Nm
Clamping range, rated connection	2.5 mm ²	Clamping range, min.	0.5 mm ²
Clamping range, max.	2.5 mm ²		

Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ECLASS 9.0	27-21-01-29	ECLASS 9.1	27-21-01-29
ECLASS 10.0	27-21-01-29	ECLASS 11.0	27-21-01-29

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Technical data

Tender specification sheets

Long specification

RTD measurement
isolating transformer;
configured with DIP
switches
RTD measurement
isolating transformer
in 17.5 mm width with
external power supply,
for transmitting and
isolating PT100 and
Ni100 2-/3-/4-wire
signals, resistors and
potentiometer signals.
Analogue DC signals
0(4) to 20 mA / 0 to 10
V are available on the
output side.
Zero/span
compensation with
potentiometer.
Add-on housing for
TS35 rail mounting
Dimensions: L/W/H
92.4/ 17.5/ 112.4 mm
Screw connection /
Nominal cross-section
2.5 mm²
Protection degree: IP
20
Input PT100,
Ni100 2-/3-/4-wire

Resistance
0...450 Ohm/
Potentiometer100
Ohm...100
kOhm
Output
0/4...20 mA

0...10 V
Load resistance
< 600 Ohm/ Strom/> 1
kOhm/ voltage
Transmission
error < 0,8 % v. E.
(RTD)

typ.

200 ppm / °C
Auxiliary
power
24 VDC +/- 25 %
Power loss approx. 0.9
W
Ambient
temperature range
0°C...+55 °C

Isolation
EN 50178, 3-way
isolation up to 4 kV
AC/DC of all circuits
against each other
Test
voltage 4
kV input against output
5720 Pa Max. Over
Rated
voltage
300 V AC/DC at
overvoltage category III

Short specification

RTD measurement
isolating transformer;
configured with DIP
switches
RTD measurement
isolating transformer
in 17.5 mm width with
external power supply,
for transmitting and
isolating PT100 and
Ni100 2-/3-/4-wire
signals, resistors and
potentiometer signals 4
Analogue DC signals

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www.weidmueller.com**Technical data****Important note**

Product information

This product will soon be replaced by a new product.

Please do not use with new systems. Please contact our technical support.

Approvals

Approvals



ROHS	Conform
UL File Number Search	E141197

Downloads

Approval/Certificate/Document of Conformity	DNV GL Certificate Declaration of Conformity
Engineering Data	EPLAN, WSCAD
Software	WaveTool.zip
User Documentation	Instruction sheet

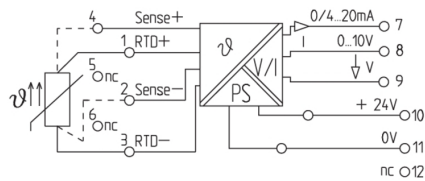
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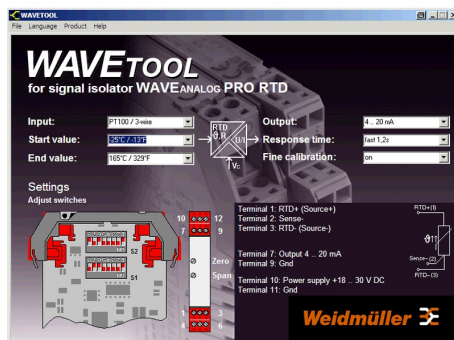
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Drawings

Electric symbol



Similar to illustration



Screenshot example, Wave tool software