

## WAVESERIES WAS4 PRO FREQ

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
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 Germany  
 Fon: +49 5231 14-0  
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Universal, electrically-isolated signal converters for measuring frequencies with auxiliary power supply and optional limit-value monitoring. Similar frequency signals from 2-/3-wire PNP/NPN- or Namur initiators can be processed on the input side. Frequency converters can be used to measure speeds for drives and motors. They can also be used for counting and checking the flow of incoming goods in industrial shipping and handling applications.

### General ordering data

Delivery status	<b>This article will no longer be available in the future.</b>
Available until	2020-03-31
Type	WAS4 PRO FREQ
Order No.	<a href="#">8581180000</a>
Version	Frequency signal isolating transformer, Screw connection
GTIN (EAN)	4032248234486
Qty.	1 pc(s).
Alternative product	<a href="#">2447940000</a>

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**Technical data**
**Dimensions and weights**

Length	92.4 mm	Length (inches)	3.638 inch
Width	12.5 mm	Width (inches)	0.492 inch
Depth	112.4 mm	Depth (inches)	4.425 inch
Net weight	118.7 g		

**Temperatures**

Operating temperature, max.	55 °C	Operating temperature, min.	0 °C
Storage temperature, max.	85 °C	Storage temperature, min.	-20 °C
Operating temperature	0 °C...55 °C	Storage temperature	-20 °C...85 °C

**Probability of failure**

MTTF	458 Jahre
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**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
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**Input**

Number of inputs	1	Sensor	2-, 3-wire PNP/NPN, Namur initiator, push-pull step, Frequency
Sensor supply	16 V DC @ max. 15 mA	Rated input level	Threshold/hysteresis: Namur: approx. 1.7 mA/ approx. 0.2 mA; NPN: approx. 6.5 V/approx. 0.2 V; PNP: approx. 6.7 V/ approx. 0.5 V
Input frequency	0...100kHz, adjustable		

**Output**

Number of outputs	1	Output voltage, note	0...5 V, 0...10 V, Adjustable
Output current	0...20 mA, 4...20 mA, Adjustable	load impedance voltage	≥ 1 kΩ
load impedance current	≤ 600 Ω	Offset voltage	max. 0.05 V
Offset current	max. 100 μA	Status indicator	Green LED

**General data**

Accuracy	< 0.2% of output range	Configuration	DIP switch (measurement range 0...15900 Hz), Frequency generator (measurement range 0...100 kHz)
Current-carrying capacity of cross-connect.	≤ 2 A	Galvanic isolation	3-way isolator
Input/Output	configurable	Power consumption	max. 1.6 W at I <sub>OUT</sub> = 20 mA
Rail	TS 35	Step response time	360 ms + 2 times the period time of input frequency
Temperature coefficient	max. 200 ppm/K of output range	Voltage supply	24 V DC ± 25 %

Creation date October 9, 2019 5:39:40 PM CEST

Catalogue status 27.09.2019 / We reserve the right to make technical changes.

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**Technical data****Insulation coordination**

Clearance & creepage distances	≥ 5.5 mm	EMC standards	EN 55011, EN 61000-6, EN 61326
Galvanic isolation	3-way isolator	Impulse withstand voltage	6 kV
Insulation voltage	4 kV <sub>eff</sub> / 5 s	Insulation voltage input or output/rail	4 kV <sub>eff</sub> / 1 min.
Insulation voltage input or output/supply	4 kV <sub>eff</sub> / 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 <sup>2</sup>	Clamping range, min.	0.5 mm <sup>2</sup>
Clamping range, max.	2.5 mm <sup>2</sup>		

**Classifications**

ETIM 6.0	EC002918	ETIM 7.0	EC002918
eClass 9.0	27-21-01-28	eClass 9.1	27-21-01-28
eClass 10.0	27-21-01-28		

**Product information**

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

**Downloads**

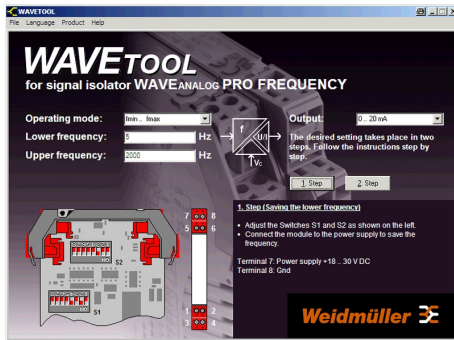
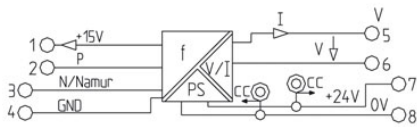
Approval/Certificate/Document of Conformity	<a href="#">Declaration of Conformity</a>
Brochure/Catalogue	<a href="#">CAT 4.1 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Software	<a href="#">WaveTool.zip</a>
User Documentation	<a href="#">Instruction sheet</a>

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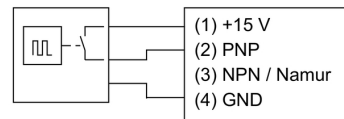
**Drawings**

**Connection diagram**

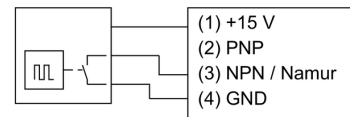


Screenshot example, Wave tool software

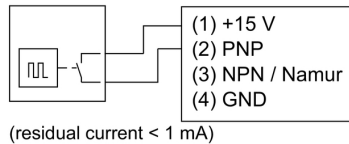
3-wire initiator with PNP-Output



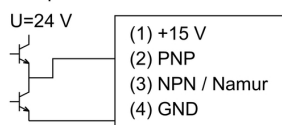
3-wire initiator with NPN-Output



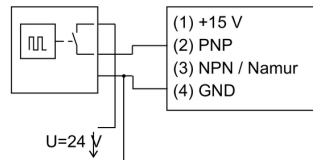
2-wire initiator



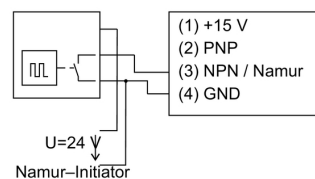
Push pull output cascade



3-wire initiator with PNP output and external supply



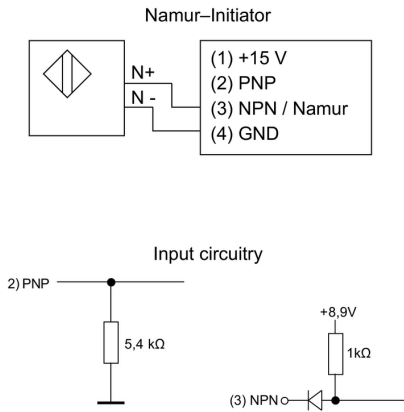
3-wire initiator with NPN output and external supply



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**Drawings**



Selecting the operating mode		Switch 2	
Operating mode	3	4	
0 ... fmax	<input type="checkbox"/>	<input type="checkbox"/>	
fmin ... fmax	<input type="checkbox"/>	<input type="checkbox"/>	
saving fmin	<input type="checkbox"/>	<input type="checkbox"/>	

F= (A+B) x C				Selecting the fr frequency				Switch 1					
A	1	2	3	4	B	5	6	7	8	C	1	2	
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x1	<input type="checkbox"/>	<input type="checkbox"/>	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x10	<input type="checkbox"/>	<input type="checkbox"/>	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x100	<input type="checkbox"/>	<input type="checkbox"/>	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x1000	<input type="checkbox"/>	<input type="checkbox"/>	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									

Selecting the output				
Output	Switch 2			
	5	6	7	8
0...10 V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
0...20 mA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4...20 mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0...5 V	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Special range (frequency generator is required)				
Function	Switch 2			
	1	2	3	4
save min. frequency	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
save max. frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
select special range	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

= on  
 = off

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**Drawings**

**Application**

