

WAZ4 PRO FREQ**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



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

Version	Signal converter/insulator, Input : Frequency, Output : I / U
Order No.	8581190000
Type	WAZ4 PRO FREQ
GTIN (EAN)	4032248234493
Qty.	1 pc(s).
Delivery status	
Available until	2022-06-30
Alternative product	2447950000

Creation date September 10, 2021 10:49:07 AM CEST

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Technical data

Dimensions and weights

Depth	112.4 mm	Depth (inches)	4.425 inch
Width	12.5 mm	Width (inches)	0.492 inch
Length	92.4 mm	Length (inches)	3.638 inch
Net weight	127 g		

Temperatures

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

MTTF	458 Jahre
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Input

Input frequency	0...100kHz, adjustable	Number of inputs	1
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	Sensor	2-, 3-wire PNP/NPN, Namur initiator, push-pull step, Frequency
Sensor supply	16 V DC @ max. 15 mA		

Output

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

General data

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

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Insulation coordination

Clearance & creepage distances	$\geq 5.5 \text{ mm}$	EMC standards	EN 55011, EN 61000-6, EN 61326
Galvanic isolation	3-way isolator	Impulse withstand voltage	6 kV
Insulation voltage	4 kV _{eff} / 5 s	Insulation voltage input or output/rail	4 kV _{eff} / 1 min.
Insulation voltage input or output/supply	4 kV _{eff} / 5 s	Pollution severity	2
Rated voltage	300 V	Surge voltage category	III

Connection data

Type of connection	Tension-clamp connection	Stripping length, rated connection	7 mm
Clamping range, rated connection	1.5 mm ²	Clamping range, min.	0.5 mm ²
Clamping range, max.	2.5 mm ²		

Classifications

ETIM 6.0	EC002918	ETIM 7.0	EC002918
ETIM 8.0	EC002918	ECLASS 9.0	27-21-01-28
ECLASS 9.1	27-21-01-28	ECLASS 10.0	27-21-01-28
ECLASS 11.0	27-21-01-28		

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Technical data

Tender specification sheets

Long specification

Measurement isolating transformer for frequency signals, configured with DIP switches

f/DC measurement isolating transformer in 12.5 mm width, with external power supply: for transmitting, converting and isolating frequencies up to 100 kHz. Namur or 3-wire NPN/PNP sensors can be connected on the input side.

Standard DC signals 0(4) to 20 mA/ 0 to 10 V are available on the output side.

Internal potentiometer is used for zero and span calibrations.

Add-on housing for TS35 rail mounting

Dimensions: L/W/H 92.4/ 12.5/ 112.4 mm

Tension-clamp connection / Nominal cross-section 1.5 mm² Protection degree: IP 20

Input 2-, 3-wire PNP/ NPN, Namur initiators, push-pull

up to 100 kHz

Output 0/4...20 mA

0...10 V

Load resistance < 600 Ohm/ Strom/> 1 kOhm/ voltage

Transmission error <0.2 % of input

Auxiliary power 24

VDC +/- 25 %

Power loss approx. 1.6 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 2

kV input against output

Rated voltage 300 V AC/DC

overvoltage category III

pollution degree 2

Short specification

Measurement isolating transformer for frequency signals, configured with DIP switches f/DC measurement isolating transformer in 12.5 mm width, with external power supply: for transmitting, converting and isolating frequencies up to 100 kHz. Namur or 3-wire NPN/PNP sensors can be connected on the input side

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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

DownloadsApproval/Certificate/Document of
Conformity[Declaration of Conformity](#)

Engineering Data

[STEP](#)

Engineering Data

[EPLAN, WSCAD](#)

Software

[WaveTool.zip](#)

User Documentation

[Instruction sheet](#)

Catalogues

[Catalogues in PDF-format](#)

Brochures

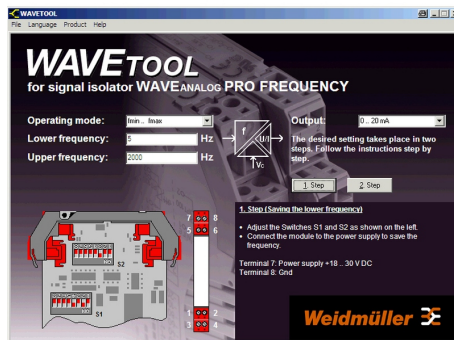
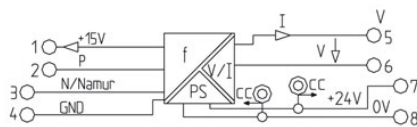
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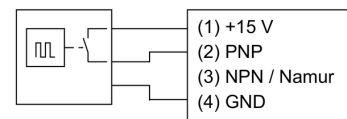
Drawings

Connection diagram

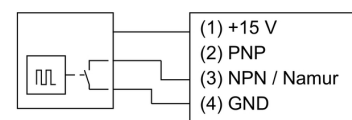


Screenshot example, Wave tool software

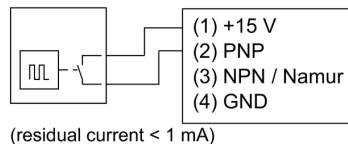
3-wire initiator with PNP-Output



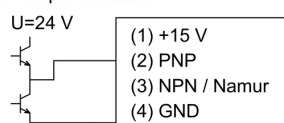
3-wire initiator with NPN-Output



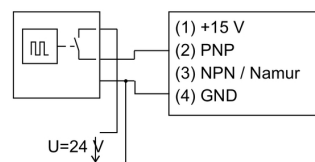
2-wire initiator



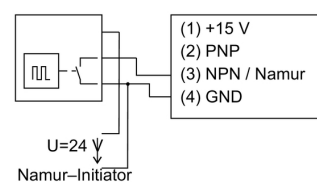
Push pull output cascade



3-wire initiator with PNP output and external supply



3-wire initiator with NPN output and external supply

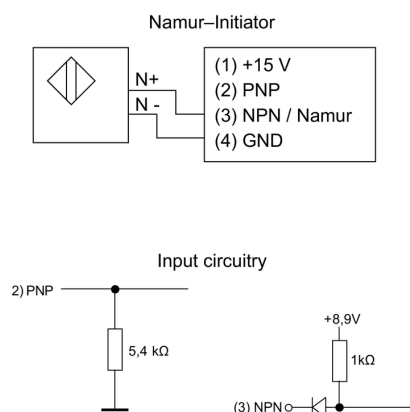


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Drawings



Selecting the operating mode			
Switch 2			
Operating mode	3	4	
0 ... fmax	☐	☐	
fmin ... fmax	☐	☐	
saving fmin	☐	☐	

$$f = (A+B) \times C$$

Selecting the frequency			
Switch 1			
A	1	2	3
0	☐	☐	☐
1	☐	☐	☐
2	☐	☐	☐
3	☐	☐	☐
4	☐	☐	☐
5	☐	☐	☐
6	☐	☐	☐
7	☐	☐	☐
8	☐	☐	☐
9	☐	☐	☐
10	☐	☐	☐
11	☐	☐	☐
12	☐	☐	☐
13	☐	☐	☐
14	☐	☐	☐
15	☐	☐	☐

Selecting the frequency			
Switch 1			
B	5	6	7
0	☐	☐	☐
1	☐	☐	☐
2	☐	☐	☐
3	☐	☐	☐
4	☐	☐	☐
5	☐	☐	☐
6	☐	☐	☐
7	☐	☐	☐
8	☐	☐	☐
9	☐	☐	☐
10	☐	☐	☐
11	☐	☐	☐
12	☐	☐	☐
13	☐	☐	☐
14	☐	☐	☐
15	☐	☐	☐

Selecting the frequency			
Switch 2			
C	1	2	
x1	☐	☐	
x10	☐	☐	
x100	☐	☐	
x1000	☐	☐	

Selecting the output

Output	Switch 2			
	5	6	7	8
0...10 V	☒	☐	☒	☒
0...20 mA	☐	☐	☐	☐
4...20 mA	☐	☒	☐	☐
0...5 V	☒	☒	☒	☒

Special range (frequency generator is required)

Function	Switch 2			
	1	2	3	4
save min. frequency	☐	☒	☒	☒
save max. frequency	☒	☐	☒	☒
select special range	☒	☒	☒	☒

☒ = on

☐ = off

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