

WAS4 PRO FREQ

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany

www.weidmueller.com

**Do not use product for
 new developments, Only
 remaining stock available**



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	Frequency signal isolating transformer, Input : Frequency, Output : I / U
Order No.	8581180000
Type	WAS4 PRO FREQ
GTIN (EAN)	4032248234486
Qty.	1 Stück
Delivery status	This article will no longer be available in the future.
Available until	2022-12-31
Alternative product	2447940000

Erstellungs-Datum June 1, 2023 11:41:33 AM CEST

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Technische Daten

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	118.7 g		

Temperatures

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

Probability of failure

SIL in compliance with IEC 61508	None	MTTF	458 Jahre
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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
load impedance voltage	≥ 1 kΩ		

Output (digital)

Status indicator	Green LED
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Output (analogue)

Output current	0...20 mA, 4...20 mA, Adjustable
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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	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 %

Insulation coordination

Clearance and 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 _{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	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	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	ECLASS 12.0	27-21-01-28

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Tender specification sheets

Long specification

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.
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
Screw connection / Nominal cross-section 2.5 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 24 VDC
overvoltage category III

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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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	b25f3b7c-b874-4a4e-a8b2-4f423a7e2a65

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

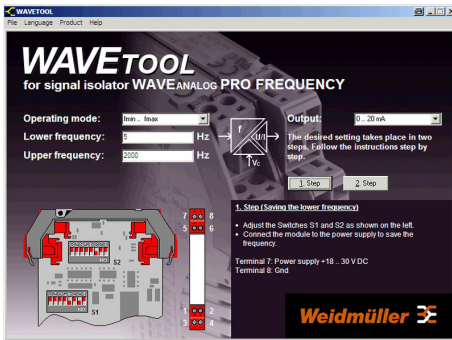
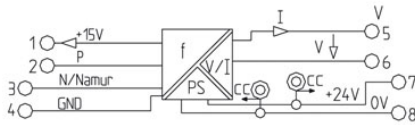


ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E141197
Certificate no. (cULusEX)	E223527

Downloads

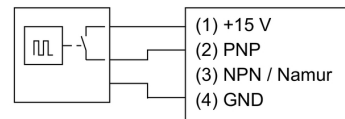
Approval/Certificate/Document of Conformity	Declaration of Conformity
Engineering Data	CAD data – STEP
Engineering Data	WSCAD, EPLAN
Software	Runtime Software – WaveTool.zip
User Documentation	Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

Connection diagram

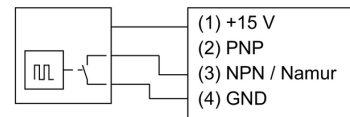


Screenshot example, Wave tool software

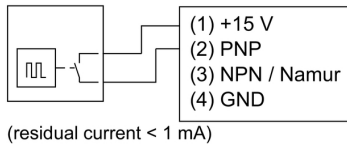
3-wire initiator with PNP-Output



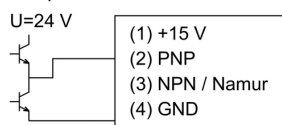
3-wire initiator with NPN-Output



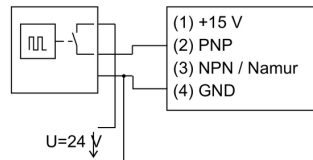
2-wire initiator



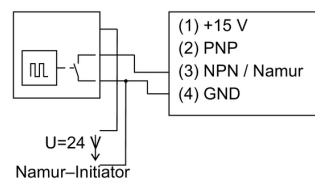
Push pull output cascade



3-wire initiator with PNP output and external supply



3-wire initiator with NPN output and external supply

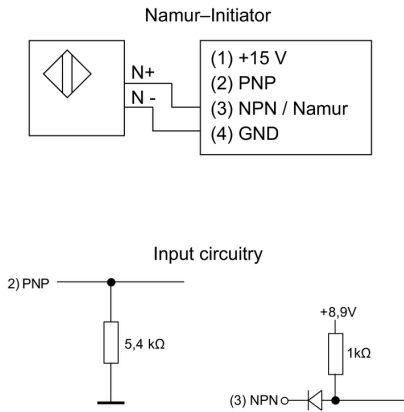


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Zeichnungen



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				Selecting the fr frequency				
Switch 1		Switch 1		Switch 1		Switch 1		Switch 2		Switch 2		
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

Application

