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

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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	118.7 g		

Temperatures

Storage temperature	-20 °C...85 °C	Operating temperature	0 °C...55 °C

Probability of failure

SIL in compliance with IEC 61508	None	MTTF	458 a

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

Output (analogue)

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

General data

Accuracy	< 0.2% of output range	Configuration	DIP switch (measurement range 0...15900 Hz), Frequency generator (measurement range 0...100 kHz)
Galvanic isolation	3-way isolator	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 %

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Insulation coordination

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 mm²	Clamping range, min.	0.5 mm²
Clamping range, max.	2.5 mm²		

Classifications

ETIM 6.0	EC002918	ETIM 7.0	EC002918
ETIM 8.0	EC002918	ETIM 9.0	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	ECLASS 13.0	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 mm^2 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 against auxiliary power Rated voltage 300 V AC/DC at overvoltage category III and pollution degree 2	**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**

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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	Application notes – Declaration of Conformity
Engineering Data	CAD data – STEP
Software	Software – WaveTool.zip
User Documentation	Device description – Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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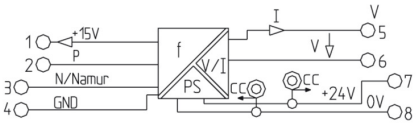
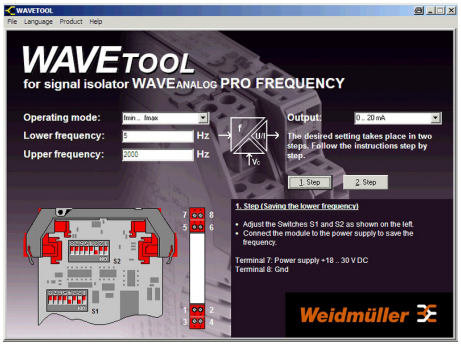
Drawings

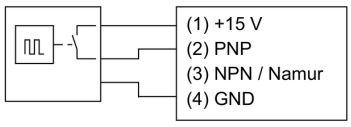
Connection diagram



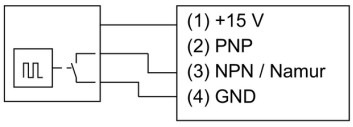


Screenshot example, Wave tool software

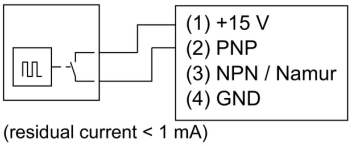
3-wire initiator with PNP–Output



3-wire initiator with NPN–Output

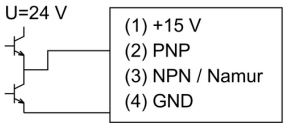


2-wire initiator

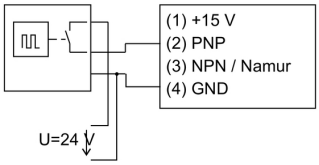


(residual current < 1 mA)

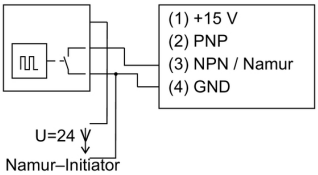
Push pull output cascade



3-wire initiator with PNP output and external supply



3-wire initiator with NPN output and external supply



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Accessories

Blank

WS markers are the perfect match for the W-series connectors. Thanks to their system compatibility, the WS tags can also be used with the I-series and the Z-series. The large marking surfaces do not only permit long character strings but also multi-line text.
WS markers are ideal for labels with long, customised character strings. Thanks to the proven MultiCard format, printing with PrintJet CONNECT oder/or Plotter is possible.
- Can be fitted in strips or individually
- Markers in proven MultiCard format

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	WS 10/5 MC NE WS	Version
Order No.	1635000000	WS, Terminal marker, 10 x 5 mm, Pitch in mm (P): 5.00 Weidmueller,
GTIN (EAN)	4008190261948	Allen-Bradley, white
Qty.	720 pc(s).	

2.5 mm²

The plug-in cross-connections feature easy handling and quick installation. This saves a great deal of time during installation in comparison with screwed solutions.

General ordering data

Type	ZQV 2.5N/2 GE	Version
Order No.	1693800000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190883621	
Qty.	60 pc(s).	

Type	ZQV 2.5N/2 SW	Version
Order No.	1718080000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349301	
Qty.	60 pc(s).	

Type	ZQV 2.5N/2 RT	Version
Order No.	1717900000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349288	
Qty.	60 pc(s).	

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Accessories

Type	ZQV 2.5N/2 BL	Version
Order No.	1717990000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349295	
Qty.	60 pc(s).	

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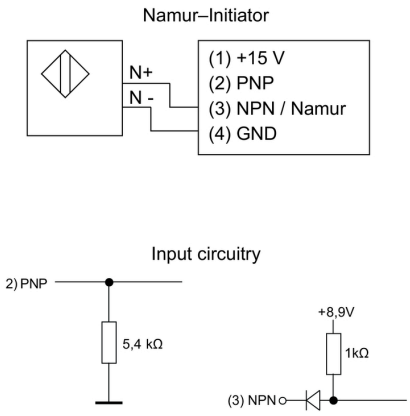

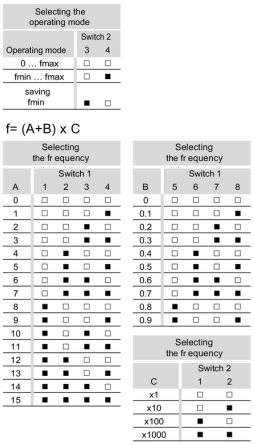

Selecting the output				
	Switch 2			
Output	5	6	7	8
0...10 V	■	□	■	■
0...20 mA	□	□	□	□
4...20 mA	□	■	□	□
0…5 V	■	■	■	■

Special range (frequency generator is required)				
	Switch 2			
Function	1	2	3	4
save min. frequency	□	■	■	■
save max. frequency	■	□	■	■
select special range	■	■	■	■

■ = on
□ = off

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Application