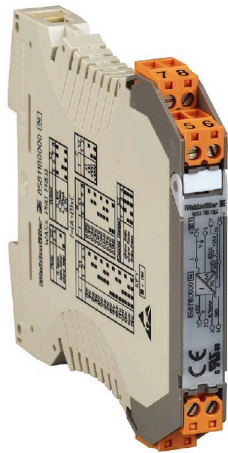


WAS4 PRO FREQ

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

www.weidmueller.com

Product is no longer available, Data sheet for information only



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 items
Delivery status	Discontinued
Available until	2022-12-31T00:00:00+01:00
Alternative product	ACT20P-PRO-FI-AO-DO-S

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Technical data

Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate no. (cULus) E141197

Certificate no. (cULusEX) E223527

Dimensions and weights

Depth	112.4 mm	Depth (inches)	4.4252 inch
Width	12.5 mm	Width (inches)	0.4921 inch
Length	92.4 mm	Length (inches)	3.6378 inch
Net weight	118.7 g		

Temperatures

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

SIL in compliance with IEC 61508	None	MTTF	458 a
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Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	b25f3b7c-b874-4a4e-a8b2-4f423a7e2a65

Input

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

Output

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

General data

Accuracy	< 0.2% of output range	Protection degree	IP20
Status indicator	Green LED	Supply voltage	24 V DC ± 25 %

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Technical data

Step response time	360 ms + 2 times the period time of input frequency	Mounting rail	TS 35
Power consumption	max. 1.6 W at IOUT = 20 mA	Temperature coefficient	max. 200 ppm/K of output range
Nominal power consumption	0.5 VA	Configuration	DIP switch (measurement range 0...15900 Hz), Frequency generator (measurement range 0...100 kHz)

Insulation coordination

Impulse withstand voltage	6 kV	EMC standards	EN 55011, EN 61000-6, EN 61326
Surge voltage category	III	Pollution severity	2
Galvanic isolation	3-way isolator	Insulation voltage input or output/rail	4 kVeff / 1 min.
Insulation voltage input or output/supply	4 kVeff / 5 s	Insulation voltage	4 kVeff / 5 s
Rated voltage	300 V		

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		

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.
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Classifications

ETIM 8.0	EC002918	ETIM 9.0	EC002918
ETIM 10.0	EC002918	ECLASS 14.0	27-21-01-28
ECLASS 15.0	27-21-01-28		

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	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.
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WAS4 PRO FREQ**Weidmüller Interface GmbH & Co. KG**Klingenbergstraße 26
D-32758 Detmold
Germany**Technical data**www.weidmueller.com

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
against auxiliary power
Rated
voltage
300 V AC/DC at
overvoltage category III
and pollution degree 2
Approvals cULus, cULusEX
Type
WAS4 PRO Freq

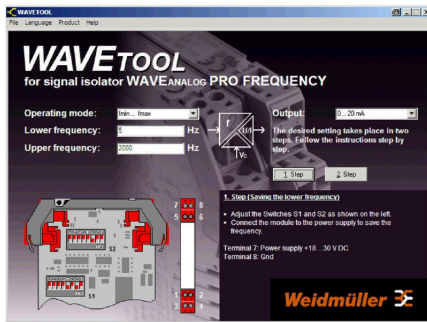
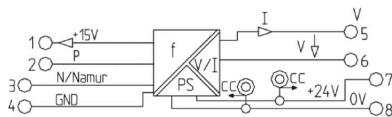
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Drawings

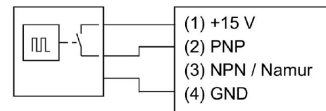
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Connection diagram

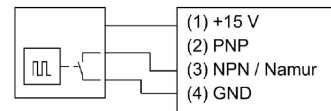


Screenshot example, Wave tool software

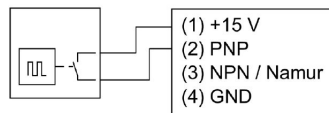
3-wire initiator with PNP-Output



3-wire initiator with NPN-Output

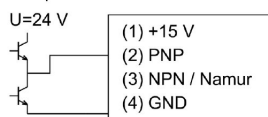


2-wire initiator

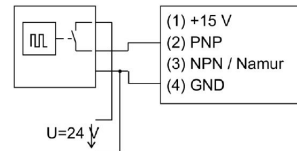


(residual current < 1 mA)

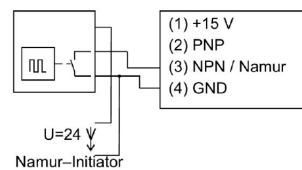
Push pull output cascade

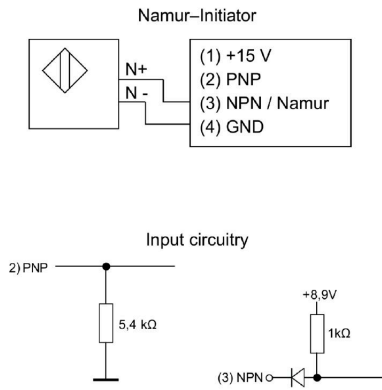


3-wire initiator with PNP output and external supply



3-wire initiator with NPN output and external supply





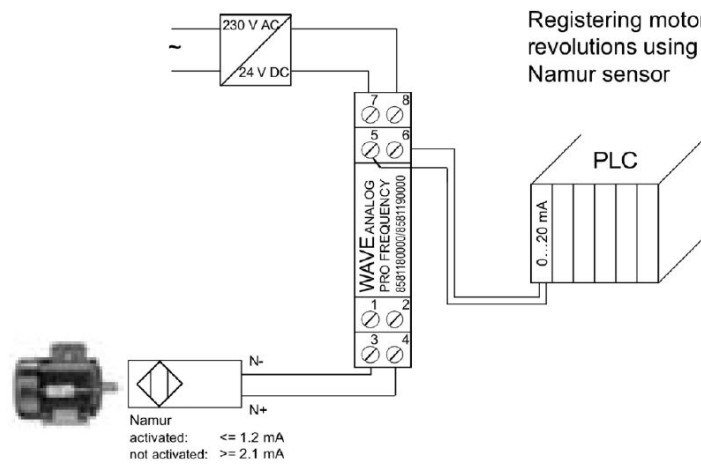
Selecting the operating mode		Switch 2		
Operating mode	3	4		
0 ... fmax	<input type="checkbox"/>	<input type="checkbox"/>		
fmin ... fmax	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
save fmin	<input type="checkbox"/>	<input type="checkbox"/>		
F= (A+B) x C				
Selecting the frequency				
Switch 1				
A	1	2	3	4
0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selecting the frequency				
Switch 2				
C	1	2		
x1	<input type="checkbox"/>	<input type="checkbox"/>		
x10	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
x100	<input type="checkbox"/>	<input type="checkbox"/>		
x1000	<input type="checkbox"/>	<input checked="" 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



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Accessories

Cross-connections

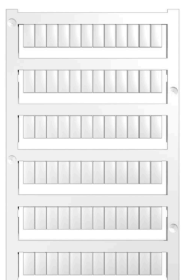


The distribution or multiplication of a potential to adjoining terminal blocks is realized via a cross-connection. Additional wiring effort can be easily avoided. Even if the poles are broken out, contact reliability in the terminal blocks is still ensured. Our portfolio offers pluggable and screwable cross-connection systems for modular terminal blocks.

General ordering data

Type	ZQV 2.5N/2 GE	Version
Order No.	1693800000	W-Series, Cross-connector, 24 A
GTIN (EAN)	40081908883621	
Qty.	60 ST	
Type	ZQV 2.5N/2 RT	Version
Order No.	1717900000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349288	
Qty.	60 ST	
Type	ZQV 2.5N/2 BL	Version
Order No.	1717990000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349295	
Qty.	60 ST	
Type	ZQV 2.5N/2 SW	Version
Order No.	1718080000	W-Series, Cross-connector, 24 A
GTIN (EAN)	4008190349301	
Qty.	60 ST	

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 ST	