

Data Sheet | Item Number: 857-500

Frequency signal conditioner; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

<https://www.wago.com/857-500>



Short description:

WAGO's frequency signal conditioner collects 0.1 ... 120 kHz signals from NAMUR, NPN or PNP sensors and converts them into a standard analog signal.

Features:

- PC configuration interface
- Signal acquisition from NAMUR, NPN or PNP sensors
- Calibrated measurement range switching
- 3-way electrical isolation with 2.5 kV test voltage

Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software WAGO Interface Configuration App
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Input

Input signal type	Frequency generators NAMUR sensors NPN/PNP transistor outputs Mechanical contact (dry contact)
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Input (sensor type 1)

Sensor type 1	Frequency generator NPN/PNP transistor output with pull-up or pull-down resistor
Measurement range (frequency) 1	0.1 Hz ... 120 kHz
Pulse length 1	≥ 1 μs
Measurement span 1 (min.)	10 Hz
Signal level	1.5 V; 10 V; 20 V (switchable)
Input voltage (max.)	± DC 31.2 V
Signal form	any
Coupling	AC/DC (adjustable; AC above 10 Hz)
Input resistance	10 kΩ

Input (sensor type 2)

Sensor type 2	NAMUR sensor per DIN EN 50227
Measurement range (frequency) 2	0.1 Hz ... 1 kHz
Pulse length 2	≥ 500 μs
Measurement span 2 (min.)	10 Hz
Sensor supply	DC 8.2 V
Signal current (0)	≤ 1.2 mA
Signal current (1)	≥ 2.1 mA
Hysteresis	0.45 mA
Short-circuit current (max.)	14 mA
Short circuit monitoring	≥ 4.7 mA
Wire break monitoring	≤ 0.2 mA
Input resistance 2	≤ 600 Ω

Input (sensor type 3)

Sensor type 3	NPN/PNP transistor output without pull-up or pull-down resistor Mechanical contact (dry contact)
Measurement range (frequency) 3	0.1 Hz ... 20 kHz
Pulse length 3	≥ 25 μs
Measurement span 3 (min.)	100 Hz
Open-circuit voltage	DC 5 V
NPN residual voltage	≤ 1.5 V
PNP switching voltage	≥ 7.5 V (+ residual voltage $U_{CE sat}$)

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	0 ... 5 V 1 ... 5 V 0 ... 10 V 2 ... 10 V
Output signal (current)	0 ... 10 mA 2 ... 10 mA 0 ... 20 mA 4 ... 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal processing

Conversion time	Peak-time measurement method (> 400 Hz): < 20 ms; Pulse time measurement method (< 400 Hz): < 200 μ s + T _{Cycle duration}
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Measurement error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power supply

Power supply type	24 VDC
Nominal supply voltage U _S	DC 24 V
Supply voltage range	± 30 %
Current consumption at nominal supply voltage	≤ 40 mA

Safety and protection

Protection type	IP20
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Test voltage

Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
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Connection data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail
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Material data

Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.418 MJ
Weight	27.2 g

Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	EN 61373

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-21-01-28
eCl@ss 9.0	27-21-01-28
ETIM 9.0	EC002918
ETIM 8.0	EC002918
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4066966279931
Customs tariff number	85437090300

Environmental Product Compliance

CAS-No.	7439-92-1 79-94-7 80-05-7 1303-86-2 1317-36-8
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	6d73a011-84c6-4de8-9203-d6ba0a4a08c8
SCIP notification number (Belgium)	6cd3b3c9-9745-4390-aa1a-ac93ba1da332
SCIP notification number (Bulgaria)	b01c1302-d9c2-438c-9217-730bfdfae0f7
SCIP notification number (Czech Republic)	e8fd4d44-e267-4bd8-b97b-1fcb8247f4fd
SCIP notification number (Denmark)	4da2ee18-6d67-44d0-9743-ad112597583e
SCIP notification number (Finland)	d0fa661d-f8f9-44c9-878c-daf953ee7c3a
SCIP notification number (France)	b6021de5-253c-45e8-9fd6-fea69eda5701
SCIP notification number (Germany)	07e3e21f-4fb2-4986-8866-7a14b9699500
SCIP notification number (Hungary)	0606f24e-06bf-4ebc-a260-31eab59b8e88
SCIP notification number (Italy)	6fc50000-c684-468e-973f-e70a3fb7bf3b
SCIP notification number (Netherlands)	0de14568-55e9-47a7-877e-b1bb752ffa03
SCIP notification number (Poland)	37c59afc-3304-41ef-b57e-b4af0981cd37
SCIP notification number (Romania)	b23ce25d-4008-47ae-b458-9cacfbfae760
SCIP notification number (Sweden)	721e6b08-10d7-4ada-96af-c2849dd874af

Subject to changes. Please also observe the further product documentation!

Current addresses can be found at: www.wago.com