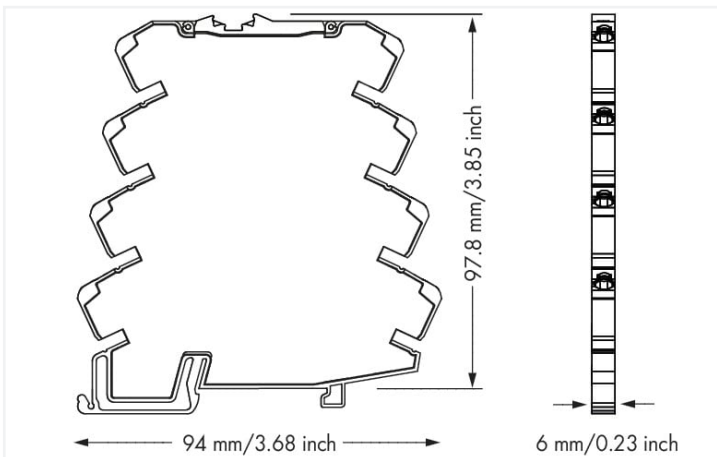
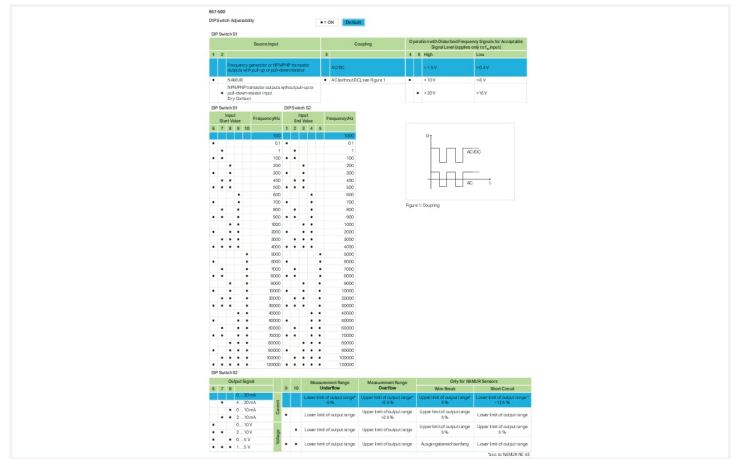
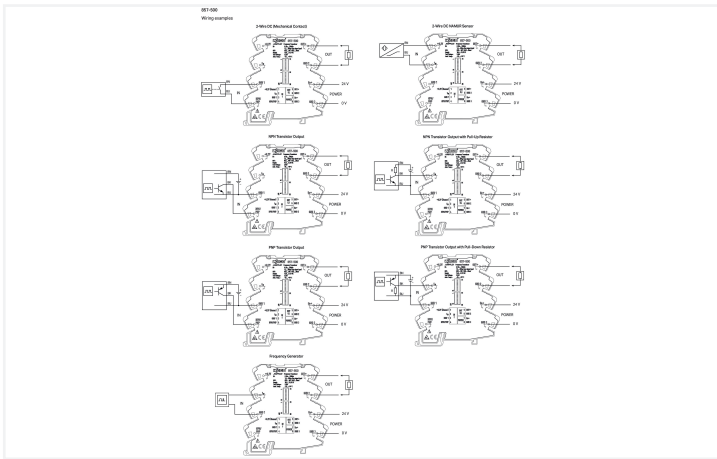
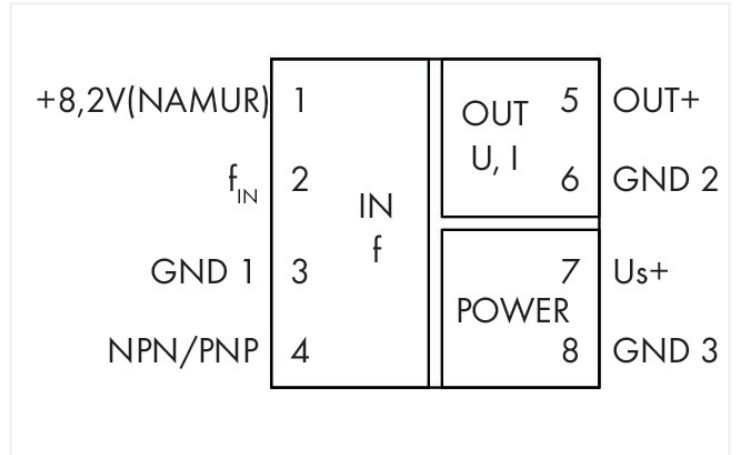
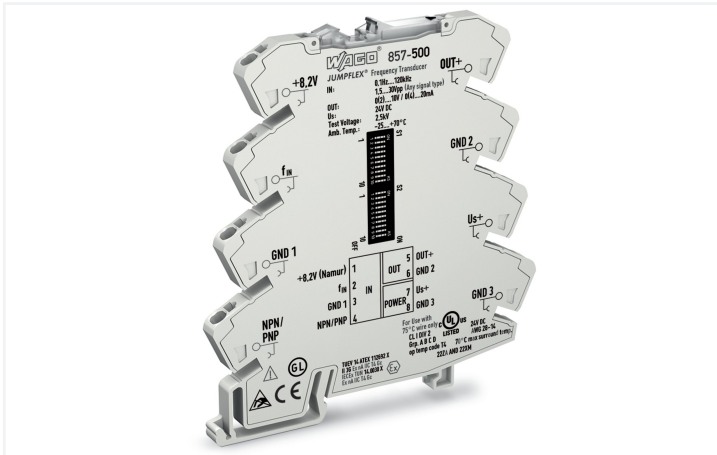


Data Sheet | Item Number: 857-500

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>



Dimensions in mm

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
-----------------------	---

Input

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

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 μs + $T_{Cycle duration}$
-----------------	---

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

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
---------------	-------------

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

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081	EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS)	UL 508	E175199 Sec.4	UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for hazardous areas

Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc)
CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
IECEX TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-500



Documentation

Manual

WAGO Signal Conditioners with Special Functions



Bid Text

857-500

09.01.2019

docx

18.77 KB



Instruction Leaflet

CCC Ex (Additional information)

26.04.2023

pdf

140.99 KB



Messumformer und Trennverstärker

pdf

2640.84 KB



CAD/CAE-Data

CAD data

2D/3D Models 857-500



CAE data

EPLAN Data Portal 857-500



WSCAD Universe 857-500



ZUKEN Portal 857-500



Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 FULL

1.00.10.01
20.01.2022

exe

112213.07 KB



WAGO Interface Configuration Software G2 SMALL

1.00.10.01
20.01.2022

exe

30238.22 KB



1 Compatible Products

1.1 Optional Accessories

1.1.1 Cables and connectors

1.1.1.1 Communication cable



[Item No.: 750-923/000-001](#)

Configuration cable; USB connector;
Length: 5 m

1.1.2 Communication

1.1.2.1 Bluetooth



[Item No.: 750-921](#)

Bluetooth® Adapter

1.1.2.2 Communication cable



[Item No.: 750-923](#)

Configuration cable; USB connector;
Length: 2.5 m

1.1.3 Installation

1.1.3.1 Mounting accessories



[Item No.: 249-117](#)

Screwless end stop; 10 mm wide; for DIN-
rail 35 x 15 and 35 x 7.5; gray



[Item No.: 249-197](#)

Screwless end stop; 14 mm wide; for DIN-
rail 35 x 15 and 35 x 7.5; gray



[Item No.: 249-116](#)

Screwless end stop; 6 mm wide; for DIN-
rail 35 x 15 and 35 x 7.5; gray

1.1.4 Interface module

1.1.4.1 Interface adapters



[Item No.: 857-980](#)

Interface adapter; 16-pole; analog

1.1.5 Jumper

1.1.5.1 Jumper



[Item No.: 281-482](#)

Jumper; 2-way; insulated; gray

[Item No.: 859-410/000-006](#)

Jumper; for jumper slot; 10-way; insulated; blue

[Item No.: 859-410](#)

Jumper; for jumper slot; 10-way; insulated; light gray

[Item No.: 859-410/000-005](#)

Jumper; for jumper slot; 10-way; insulated; red



[Item No.: 859-410/000-029](#)

Jumper; for jumper slot; 10-way; insulated; yellow



[Item No.: 859-402/000-006](#)

Jumper; for jumper slot; 2-way; insulated; blue

[Item No.: 859-402](#)

Jumper; for jumper slot; 2-way; insulated; light gray

[Item No.: 859-402/000-005](#)

Jumper; for jumper slot; 2-way; insulated; red



[Item No.: 859-402/000-029](#)

Jumper; for jumper slot; 2-way; insulated; yellow



[Item No.: 859-403/000-006](#)

Jumper; for jumper slot; 3-way; insulated; blue

[Item No.: 859-403](#)

Jumper; for jumper slot; 3-way; insulated; light gray

[Item No.: 859-403/000-005](#)

Jumper; for jumper slot; 3-way; insulated; red



[Item No.: 859-403/000-029](#)

Jumper; for jumper slot; 3-way; insulated; yellow



[Item No.: 859-404/000-006](#)

Jumper; for jumper slot; 4-way; insulated; blue

[Item No.: 859-404](#)

Jumper; for jumper slot; 4-way; insulated; light gray

[Item No.: 859-404/000-005](#)

Jumper; for jumper slot; 4-way; insulated; red



[Item No.: 859-404/000-029](#)

Jumper; for jumper slot; 4-way; insulated; yellow



[Item No.: 859-405/000-006](#)

Jumper; for jumper slot; 5-way; insulated; blue

[Item No.: 859-405](#)

Jumper; for jumper slot; 5-way; insulated; light gray

[Item No.: 859-405/000-005](#)

Jumper; for jumper slot; 5-way; insulated; red



[Item No.: 859-405/000-029](#)

Jumper; for jumper slot; 5-way; insulated; yellow



[Item No.: 859-406/000-006](#)

Jumper; for jumper slot; 6-way; insulated; blue

[Item No.: 859-406](#)

Jumper; for jumper slot; 6-way; insulated; light gray

[Item No.: 859-406/000-005](#)

Jumper; for jumper slot; 6-way; insulated; red



[Item No.: 859-406/000-029](#)

Jumper; for jumper slot; 6-way; insulated; signal yellow



[Item No.: 859-407/000-006](#)

Jumper; for jumper slot; 7-way; insulated; blue

[Item No.: 859-407](#)

Jumper; for jumper slot; 7-way; insulated; light gray

[Item No.: 859-407/000-005](#)

Jumper; for jumper slot; 7-way; insulated; red



[Item No.: 859-407/000-029](#)

Jumper; for jumper slot; 7-way; insulated; yellow



[Item No.: 859-408/000-006](#)

Jumper; for jumper slot; 8-way; insulated; blue

[Item No.: 859-408](#)

Jumper; for jumper slot; 8-way; insulated; light gray

[Item No.: 859-408/000-005](#)

Jumper; for jumper slot; 8-way; insulated; red



[Item No.: 859-408/000-029](#)

Jumper; for jumper slot; 8-way; insulated; yellow



[Item No.: 859-409/000-006](#)

Jumper; for jumper slot; 9-way; insulated; blue

[Item No.: 859-409](#)

Jumper; for jumper slot; 9-way; insulated; light gray

[Item No.: 859-409/000-005](#)

Jumper; for jumper slot; 9-way; insulated; red



[Item No.: 859-409/000-029](#)

Jumper; for jumper slot; 9-way; insulated; yellow

1.1.6 Marking

1.1.6.1 Marker

Item No.: 793-5501

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white

Item No.: 793-502

WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-566

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-503

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-504

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-505

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-506

WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white

Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.6.2 Marking strip

Item No.: 2009-110

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.7 Power supply

1.1.7.1 Power supply

Item No.: 787-2852

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

1.1.8 Terminal blocks

1.1.8.1 Supply module

Item No.: 857-979

Supply and through module

1.1.8.2 Through terminal block

Item No.: 857-979

Supply and through module

1.1.9 Tool

1.1.9.1 Operating tool

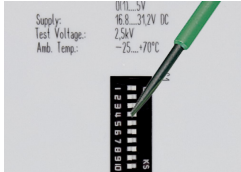


Item No.: 210-720

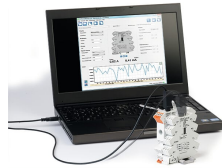
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

Configuring



Configuration via DIP switch

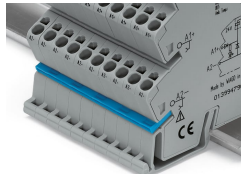


Configuration via WAGO Interface Configuration Software



Configuration via WAGO Interface Configuration App

Commoning



Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.