

Temperature signal conditioner for RTD sensors; Current and voltage output signal;
Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width; light gray



Diagram illustrating a 3-phase motor connection using a star-delta switch. The motor has 8 terminals. The star connection is formed by connecting terminals 1, 2, and 3 to a common point, with terminal 4 as the neutral. The delta connection is formed by connecting terminals 5, 6, and 7 in a loop, with terminal 8 as the neutral. The switch can connect the motor in either configuration.

857-800

DIP Switch Assembly

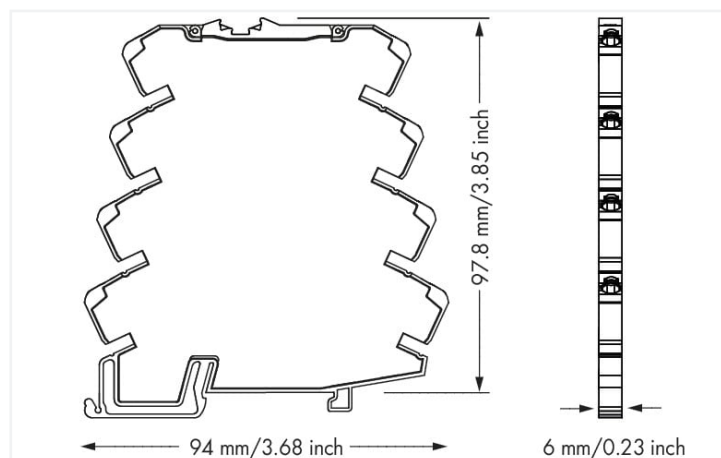
● = ON

Default

DIP Switch S1

Wire Connection		Sensor Type		Output Signal		Measurement Range Underflow				Measurement Range Overflow				Wire Break				Short Circuit																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																		
2-Leader		P1100		0...20 mA		Lower limit of output range = 5 % *				Upper limit of output range + 2.5 % *				Lower limit of output range + 5 % *				Lower limit of output range -12.5 % *																			
●	3-Leader	P1200		4...20 mA																																	
●	4-Leader	P1500		0...10 mA		Lower limit of output range				Upper limit of output range + 2.5 %				Upper limit of output range + 5 %				Lower limit of output range																			
●	P1510		2...10 mA																																		
●	1A-D		0...10 V		Lower limit of output range				Upper limit of output range + 5 %				Upper limit of output range + 5 %				Upper limit of output range -5 %																				
●	P4000		2...10 V																																		
●			0...5 V		Lower limit of output range				Upper limit of output range				Lower limit of output range				Lower limit of output range																				
●			1...5 V																																		
* acc. to NAMUR IE 43																																					
DIP Switch S2																																					
Start Temperature										End Temperature																											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																		
		°C		°F				100		212																											
●	-200...-328						0		32				75		167		210		475																		
●	-175...-263						5		41				90		176		220		496																		
●	-150...-238						10		50				85		185		230		446																		
●	-125...-193						15		59				95		203		240		464																		
●	-100...-148						20		68				100		212		250		482																		
●	-75...-110						25		77				110		230		260		500																		
●	-50...-112						30		86				120		249		280		536																		
●	-25...-70						35		95				130		268		290		554																		
●	0...-50						40		104				140		284		300		572																		
●	-25...-58						45		113				150		302		325		617																		
●	-10...-40						50		122				160		320		350		662																		
●	-10...-22						55		131				170		338		375		707																		
●	-20...-4						60		140				180		356		400		752																		
●	-10...-14						65		149				190		374		425		787																		
●	0...32						70		158				200		392		450		842																		

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees for the Celsius (°C) scale or 122K degrees on the Fahrenheit (°F) scale.



Short description:

WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:

- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
 - 2-, 3- and 4-wire connection technology
 - Calibrated measurement range switching
 - Detects a sensor wire break/short circuit
 - Detects measurement range underflow/overflow
 - Clipping capability
- for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Technical data

Configuration

Configuration options	DIP switch
Power-on self-test (POST)	Switch 1
BIOS setup password	Switch 2
Hard disk boot priority	Switch 3
Memory refresh rate	Switch 4
Cache size	Switch 5
Cache type	Switch 6
Cache mode	Switch 7
Cache bank	Switch 8
Cache controller	Switch 9
Cache configuration	Switch 10
Cache status	Switch 11
Cache error handling	Switch 12
Cache test results	Switch 13
Cache test status	Switch 14
Cache test results	Switch 15
Cache test status	Switch 16
Cache test results	Switch 17
Cache test status	Switch 18
Cache test results	Switch 19
Cache test status	Switch 20
Cache test results	Switch 21
Cache test status	Switch 22
Cache test results	Switch 23
Cache test status	Switch 24
Cache test results	Switch 25
Cache test status	Switch 26
Cache test results	Switch 27
Cache test status	Switch 28
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Cache test status	Switch 96
Cache test results	Switch 97
Cache test status	Switch 98
Cache test results	Switch 99
Cache test status	Switch 100

Input

Input signal type	Pt sensors Resistance
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Input – RTD sensors	
Sensor types (RTD)	Pt100 Pt200 Pt500 Pt1000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 ... 850°C

Input – resistors	
Input range (resistor)	0 ... 1 kΩ; 0 ... 4.5 kΩ

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	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K

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 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 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	
Color	light gray
Fire load	0.405 MJ
Weight	35.3 g

Environmental requirements	
Ambient temperature (operation at U _N)	-25 ... +70 °C
Surrounding air 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	DNV

Commercial data	
Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-20-02-06
ETIM 8.0	EC002919
ETIM 7.0	EC002919
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4045454470128
Customs tariff number	85437090300

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungs- stelle	TP TC 020/2011	EAC_Certificate_RU_C- DE.AM02.B.00115_19
UL UL International Nether- lands B.V. (ORDINARY LO- CATIONS)	UL 508	E175199 Sec.4

Approvals for marine applications



Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1
PRS Polski Rejestr Statków	-	TE/2186/880590/18



Approvals for hazardous areas

PTB 0102 Ex ATEX Ex IECEx UL		
Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X (II 3 G Ex nA IIC T4 Gc)
CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
EAC Brjansker Zertifizierungs- stelle	TP TC 012/2011	EAC RU C-DE.AM02. B.00144/19 (2 Ex nA IIC T4 Gc X)
IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0030_X
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 857-800	↓

Documentation

Bid Text				Instruction Leaflet			
857-800	19.02.2019	xml 5.96 KB	↓	Messumformer und Trennverstärker	pdf 2194.14 KB	↓	
857-800	20.02.2019	docx 16.85 KB	↓				

CAD/CAE-Data

CAD data		CAE data	
2D/3D Models 857-800	↓	EPLAN Data Portal 857-800	↓
		WSCAD Universe 857-800	↓
		ZUKEN Portal 857-800	↓

1 Compatible Products

1.1 Optional Accessories

1.1.1 Installation



1.1.1.1 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

1.1.2 Interface module

1.1.2.1 Interface adapters



Item No.: 857-980
Interface adapter; 16-pole; analog

1.1.3 Jumper

1.1.3.1 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



1.1.3.1 Jumper



Item No.: 859-409/000-029
Jumper; for jumper slot; 9-way; insulated; yellow

1.1.4 Marking

1.1.4.1 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

1.1.4.2 Marking strip



Item No.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.5 Power supply

1.1.5.1 Power supply unit



Item No.: 787-2852
Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

1.1.6 Terminal blocks

1.1.6.1 Supply module



Item No.: 857-979
Supply and through module

1.1.6.2 Through terminal block



Item No.: 857-979
Supply and through module

1.1.7 Tool

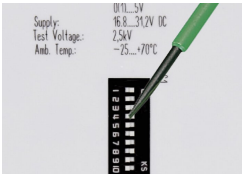
1.1.7.1 Operating tool



Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

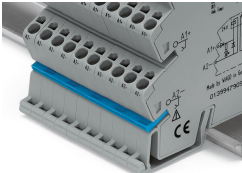
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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