

Automation Technology and Interface Electronic

Supplementary Catalog to Full Line Catalogs, Volumes 3/4/6

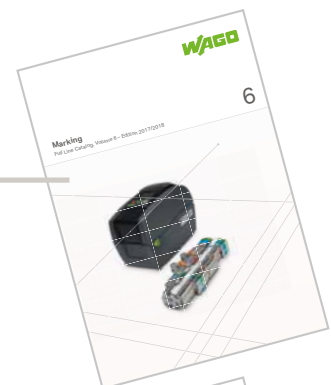
Edition 2017/1



The new items in this catalog
supplement products found in
the following main catalogs

N 3/4/6

Volume 6
Marking



Volume 4
Interface Electronic



Volume 3
Automation Technology



Supplementary Catalog AUTOMATION 1/2017

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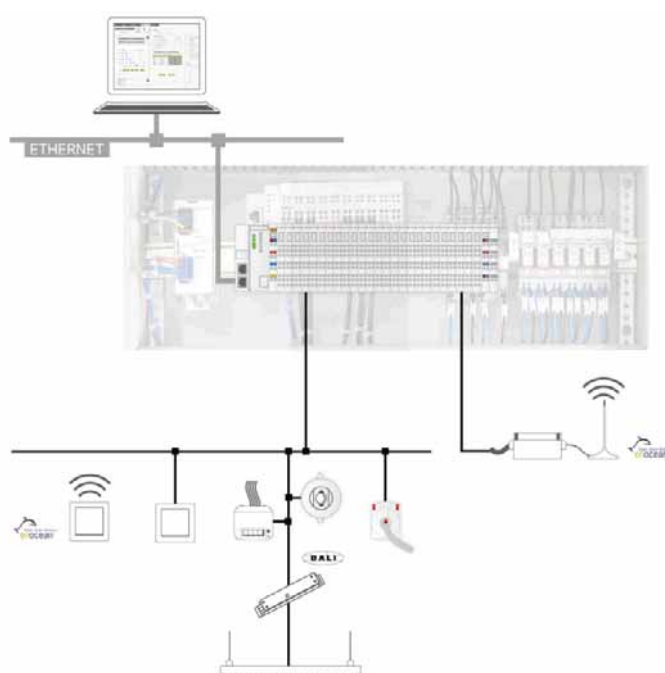
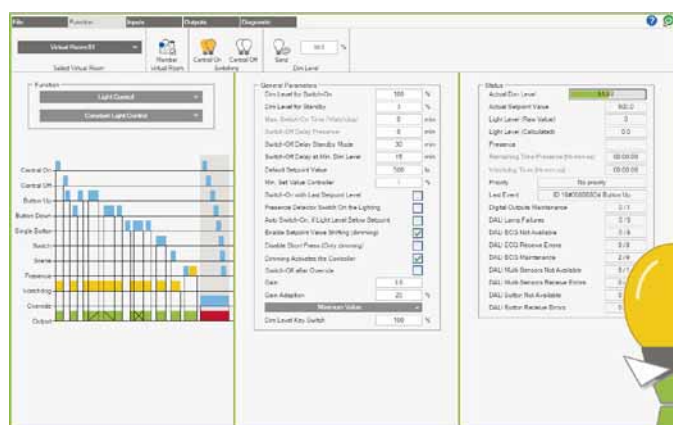


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WAGO Lighting Management



WAGO Lighting Management is a proven concept based on predefined hardware and preconfigured software, which greatly simplifies planning, commissioning and operation.

The basic idea: WAGO Lighting Management is based on different lighting requirements in warehouses and production facilities.

For example, a production facility is divided into virtual rooms in which the light can be flexibly adapted. Each virtual room receives signals from the sensors and actuators in order to automatically set the appropriate light intensity. By using the virtual rooms, conversions and room remodeling can be implemented quickly and simply via Web configuration.

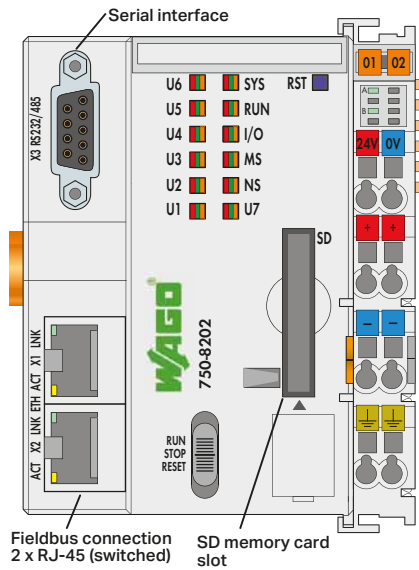
WAGO Lighting Management			
	Components	Item No.	Note
Base unit	Lighting Management – Controller	750-8202/000-012	The controllers can communicate with each other.
	Lighting Management – Software	Free of charge	Download: wago.com/applicationcontroller
	DALI Multi-Master	753-647	In addition to 64 DALI actuators (ECGs), a DALI-Multi Master supports up to 16 DALI-Multi sensors (max. 64 sensor addresses); max. 10 DALI modules per base package.
	End Module	750-600	An end module must be snapped onto the assembly at the end of a fieldbus node.
	Power Supply to I/O Node	787-1012	24 VDC supply voltage for controllers and additional modules
	Power Supply for DALI Multi-Master	787-1007	Power supply for max. 5 DALI Multi Masters
Extension for inputs/push-buttons	16-Channel Digital Input; 24 VDC; 3 ms	750-1405	For 1 ... 16 light push-buttons/switch inputs; max. 4 extensions per base package
Extension for outputs/Actuators	16-Channel Digital Output; 24 VDC; 0.5 A	750-1504	For 1 ... 16 actuators/lamps/relays/ECG control; max. 2 extensions per base package
	Socket with ALZ Relay; 1 changeover contact each (1 u); 24 VDC	788-354	Light switching via relay
Extension for EnOcean radio	RS-232/-485 Serial Interface	750-652	Serial interface for connecting the EnOcean radio transmitter/receiver STC65-RS485-EVC for 1 ... 64 switch jacks
	EnOcean Receiver/Transmitter	2852-7101	EnOcean radio signal recording and transmission to the I/O node
	EnOcean Repeater	2852-7102	Transmission range extension, further information on planning on the EnOcean website
	Radio Transmitter; EnOcean easyfit PTM 250; 2-channel lighting control	758-940/001-000	1 ... 2 or 1 ... 4 signals, range of 30 meters in buildings to the radio receiver
	Radio Transmitter; EnOcean easyfit PTM 250; 4-channel lighting control	758-940/003-000	
Extension for external time request	Real-Time Clock module	750-640	Time synchronization module, if no time server connection is possible
	GPS DCF Converter	2852-7901	Converter/external receiver for time synchronization
Extension for energy data measurement	3-Phase Power Measurement; 690 VAC 1 A	750-495/xxx-xxx	Pre-assembled terminal block assemblies for easy connection and short-circuiting of current transformers (current transformers, see Full Line Catalog Volume 4)
	Connections for current and voltage	2007-8874, 2007-8877	
Extension for sensors	DALI Multi-Sensor Kit	2851-8201	Brightness measurement and motion sensor: Set for connection to a DALI bus system
	DALI Sensor Coupler	2851-8202	Sensor coupler for connecting MULTI-3-CI sensors to DALI Max. 16 DALI sensor couplers per DALI Multi Master (753-647)
	DALI HIGHBAY ADAPTER + HIGH BAY	2852-7207, 2852-7201	Brightness measurement and motion sensor for large installation heights (3 ... 13 meters)
	DALI HIGHBAY ADAPTER + VISION	2852-7207, 2852-7202	Motion sensor for large areas, large rooms, corridors or storage rooms
	DALI LS/PD LI	2852-7203	Motion sensor for office lighting (1 ... 5 meters)
	DALI Sensor Coupler HF LS LI + Radar Sensor HF LS LI	2852-7205, 2852-7206	Light and recessed ceiling sensor: combined daylight and motion detection, motion detection via radar
	DALI XC	2852-7301	Push-button coupler for connecting 4 conventional push-buttons to DALI
	DALI Sensor Coupler E	2852-7204	Sensor coupler for connecting standard sensors to DALI

Controller PFC200



Figure: 750-8202

FG2; 2 x ETHERNET; RS-232/-485

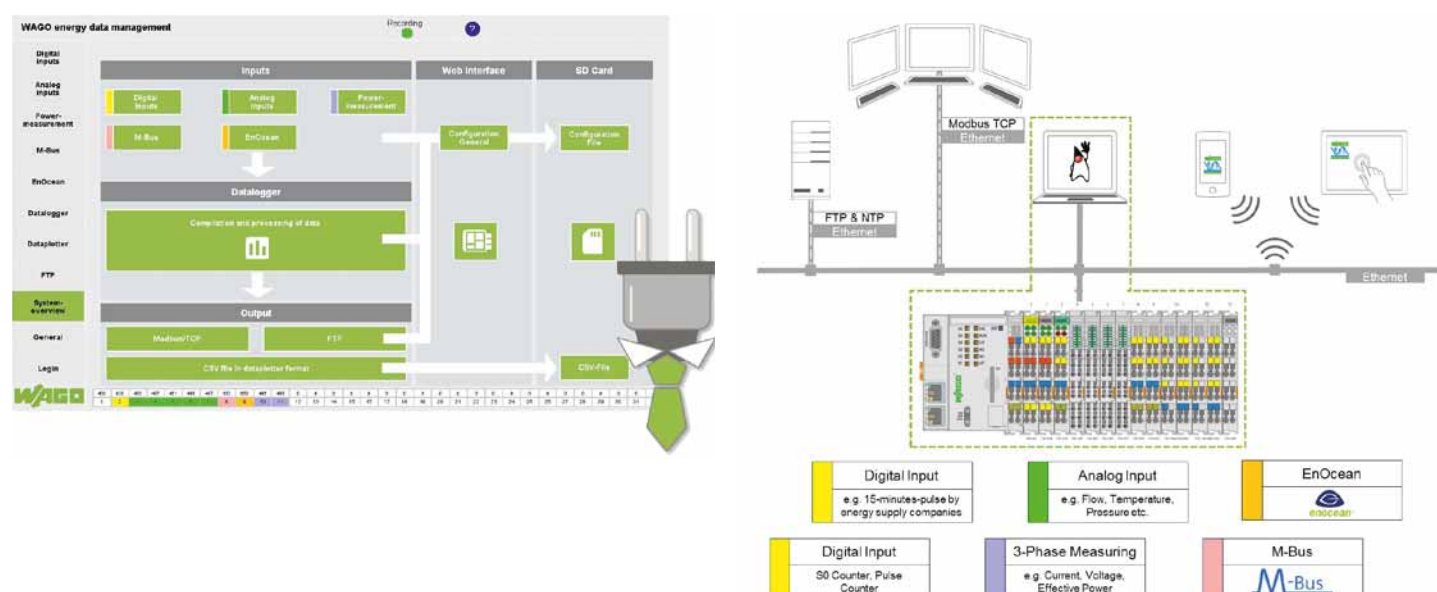


Item Description	PFC200
Version	FG2 2ETH RS
Item No.	750-8202/000-012
Technical Data	
Fieldbus	Modbus TCP
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)
Communication	RS-232/-485 serial interface (switchable)
Visualization	Web-Visu, Webserver
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS 2.3), e!COCKPIT (based on CODESYS 3)
CPU	Cortex A8, 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB
Program memory/data memory/non-volatile memory (software)	CODESYS 2: 16 MB / 64 MB / 128 kB e!RUNTIME: 60 MB* / 60 MB* / 128 kB
Number of I/O modules per node (max.)	250
Input and output process image (internal) max.	1000 words
Input and output process image (MODBUS) max.	CODESYS 2: 1000 words e!RUNTIME: 32,000 words
Supply voltage (system)	24 VDC (–25 ... +30 %)
Total current for system supply	1700 mA
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	78.6 x 71.9 x 100 mm
Approvals	CE, UL 508, ANSI/ISA, ATEX/IECEX
Data sheet and further information, see:	wago.com/750-8202/000-012
Accessories	
SD memory card, 2 GB	Item No. 758-879/000-001
WAGO communication cable	750-923

*Program and data memory (dynamically distributed)

-  e!COCKPIT, WAGO-I/O-PRO Software V2.3
see Full Line Catalog, Volume 3
-  Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

WAGO Energy Data Management



The WAGO Energy Data Management system easily records, visualizes and manages energy data without any programming and can be upgraded at any time.

The energy data management system provides energy flow monitoring via user-friendly Web visualization. The connected I/O modules (see table) are automatically detected and can be configured via user interface. In addition to energy-specific values like electrical currents or voltages, the WAGO Controller can record other measurement variables relevant for industrial and process technologies or building applications – for example, gas, heat, water, compressed air and temperature.

With the integrated visualization tool, collected data are readily displayed and evaluated in various forms.

The data are transferred to higher level energy management software via Modbus TCP/IP or as a CSV file via FTPS. In addition, it is possible to store the history on the SD card integrated in the controller. Because it is so easy to integrate the versatile new WAGO solution into existing systems, increasing measurement point depth is also a simple matter.

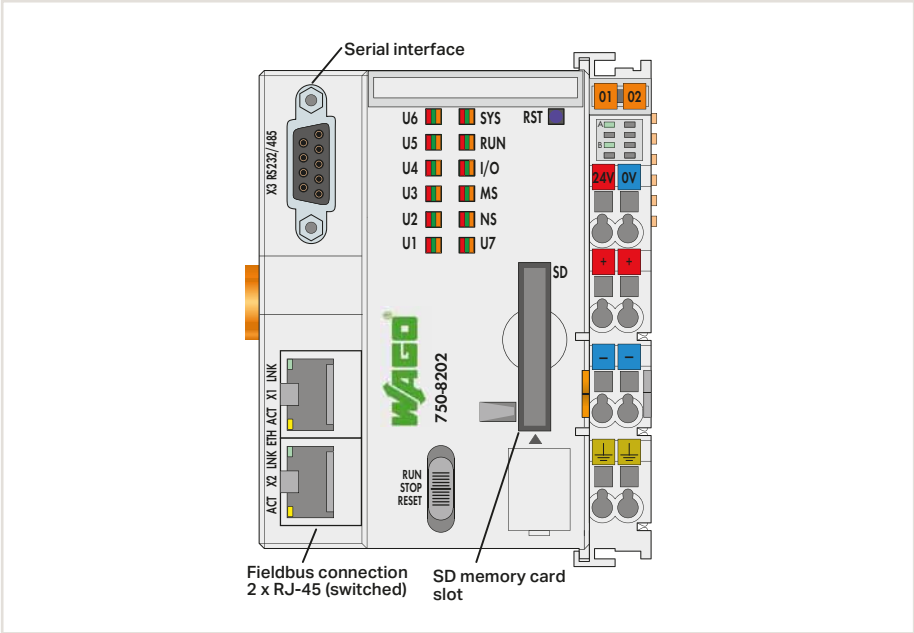
WAGO Energy Data Management			
	Components	Item No.	Number of Modules (max.)
Base unit	Energy Data Management – Controller	750-8202/000-022	1
	Energy Data Management – Software	Download: wago.com/applicationcontroller	1
	End Module	750-600	1
	Power Supply to I/O Node, 230 VAC/24 VDC; 2.5 A	787-1012	1
	Power Supply to I/O Node, 230 VAC/24 VDC; 2 A	787-1606	1
Recording real power pulse EVU	4-Channel Digital Input; 24 VDC; 3 ms	750-402	1
Recording S0 and pulse counter	2 Up/Down Counters, 24 VDC, 16 bits, 500 Hz	750-638	4
3-Phase Power Measurement	3-Phase Power Measurement; 690 VAC 1 A	750-495	total: 18
	3-Phase Power Measurement; 690 VAC 5 A	750-495/000-001	
	3-Phase Power Measurement; 690 VAC Rogowski Coils	750-495/000-002	
Temperature, pressure, flow meters and other analog signals	2-Channel Analog Input; 0 ... 20 mA; Differential Input	750-452	1
	8-Channel Analog Input; 0/4 ... 20 mA; Single-Ended	750-496	2
	8-Channel Analog Input; 0 ... 10 VDC/±10 V, Single-Ended	750-497	2
Resistance sensors	8-Channel Analog Input; Resistance Measurement; Adjustable	750-451	2
Extension for connecting the M-Bus level converter	RS-232/485 Serial Interface	750-652	1
	M-Bus Level Converter	upon request	1
Extension for connecting the EnOcean gateway	RS-232/485 Serial Interface	750-652	1
	EnOcean Receiver/Transmitter with RS-485 EVC Interface	2852-7101	1

Controller PFC200



Figure: 750-8202

Energy Data Management Application; 2 x ETHERNET, RS-232/-485



Item Description	PFC200
Version	FGE 2ETH RS
Item No.	750-8202/000-022
Technical Data	
Fieldbus	Modbus TCP
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)
Communication	RS-232/-485 serial interface (switchable)
Visualization	Web-Visu, Webserver
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS 2.3), e!COCKPIT (based on CODESYS 3)
CPU	Cortex A8, 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB
Program memory/data memory/non-volatile memory (software)	CODESYS 2: 16 MB / 64 MB / 128 kB e!RUNTIME: 60 MB* / 60 MB* / 128 kB
Number of I/O modules per node (max.)	250
Input and output process image (internal) max.	1000 words
Input and output process image (MODBUS) max.	CODESYS 2: 1000 words e!RUNTIME: 32,000 words
Supply voltage (system)	24 VDC (–25 ... +30 %)
Total current for system supply	1700 mA
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	78.6 x 71.9 x 100 mm
Approvals	CE, UL 508, ANSI/ISA, ATEX/IECEX
Data sheet and further information, see:	wago.com/750-8202/000-022
Accessories	
SD memory card, 2 GB	Item No. 758-879/000-001
WAGO communication cable	750-923

*Program and data memory (dynamically distributed)

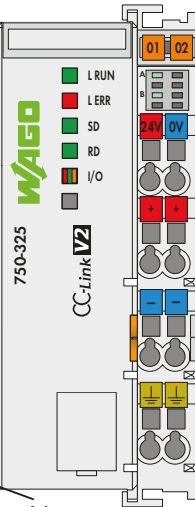
- e!COCKPIT, WAGO-I/O-PRO Software V2.3
see Full Line Catalog, Volume 3
- Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

CC-Link Fieldbus Coupler; 156 kBaud ... 10 Mbaud



Fieldbus connection
231 Series (MCS)

Operation mode, cyclic
setting, occupied stations,
baud rate



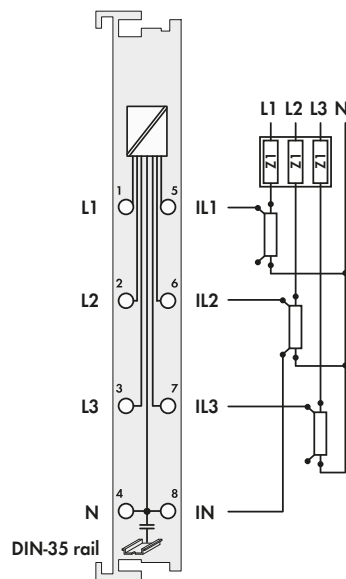
Item Description	FC CC-Link
Item No.	750-325
Technical Data	
Fieldbus	CC-Link
Connection technology: Fieldbus input/output	MCS connector included
Number of fieldbus nodes on master max.	64
Baud rate	156 kBd ... 10 MBd
Transmission medium	Shielded Cu cable 2 / 3 x 0.5 mm ²
Number of I/O modules per node max.	64
Operation mode	CC-Link V2.0 (default setting)/V1.1
Occupied Stations	1 ... 4 / 4 (default setting)
Extended cyclic setting	1, 2, 4 (default setting), 8 cycles
Input process image (internal) max.	RX (digital inputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and per 16-bit system area; RWr (analog inputs): V1.1: 4, 8, 12, 16 words (16 bit); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles)
Output process image (internal) max.	RY (digital outputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and per 16-bit system area; RWw (analog outputs): V1.1: 4, 8, 12, 16 words (16 bit); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles)
System supply voltage	24 VDC (-25 ... +30 %)
Input current typ. at rated load (24 V)	500 mA
Current consumption, system supply	200 mA
Total current for system supply	1800 mA
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm
Approvals	CE
Data sheet and further information, see:	wago.com/750-325

Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

DIN rails and tool
see Full Line Catalog, Volume 3

Power Measurement

Power measurement; 277 VAC/DC;
external shunts



Item Description	POM
Version	277VAC/DC Shunt
Item No.	750-494/000-005
Technical Data	
Signal type	Power Measurement
Measured variables	Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD
Number of measurement inputs	6 (3 voltage measurement inputs*; 3 current measurement inputs*); *Only 2 voltage/current measurement inputs can be used for DC measurement!
Rated voltage	ULN = 277 VAC/VDC, ULL = 480 VAC
Input resistance voltage path (typ.)	1072 kΩ
Measuring current (max.)	1 ... 20,000 A via ext. shunts (DIN 43703, DIN EN 60051 (50 ... 300 mV)
Input resistance, current path (typ.)	Approx. 15 kΩ
Resolution	24 bits
Measuring error for current and voltage	AC: 0.5 % (max.); DC: 1.0 % (of the upper-range value)
Frequency range, mains frequency	45 ... 65 Hz
Frequency range, harmonics analysis	0 ... 3300 Hz
Limit frequency	15.9 kHz
Supply voltage (system)	5 VDC via data contacts
Current consumption (system supply)	100 mA
Data width	2 x 128-bit data; 2 x 64-bit control/status
Isolation	4 kV system/field
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, Marine
Data sheet and further information, see:	wago.com/750-494/000-005
Accessories	Item No.
Split-core and plug-in current transformers	See Full Line Catalog Volume 4

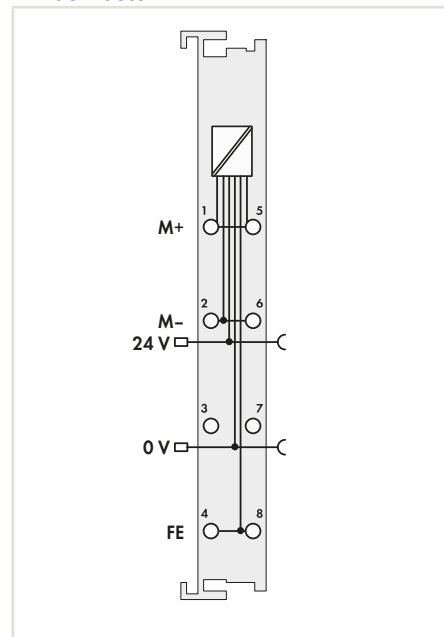
 Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

 DIN rails and tool
see Full Line Catalog, Volume 3

M-Bus Master



M-Bus Master



Item Description	M-Bus Master
Item No.	753-649
Technical Data	
Transmission channels	1, bidirectional
Baud rate	9600 baud (up to 500 m); 2400 baud (up to 2000 m); 300 baud (up to 6000 m)
M-Bus loads (max.)	40 pcs (1.5 mA each)
Topology	Star, tree and line topology
Supply voltage (field)	24 VDC ($\pm 5\%$), via power jumper contacts
Current consumption, field supply (module with no external load)	130 mA
Supply voltage (system)	5 VDC via data contacts
Current consumption (system supply)	29 mA
Isolation	500 V system/field
Cable type	2-line, shielded or unshielded
Data width	24 bytes (mailbox 2.0 with 22-byte length)
Startup and configuration	WAGO-I/O-PRO V2.3, e!COCKPIT
Approvals	CE
Data sheet and further information, see:	wago.com/753-649
Accessories	
Pluggable connector	(included)
Coding keys	753-150

Expected availability: May 2017

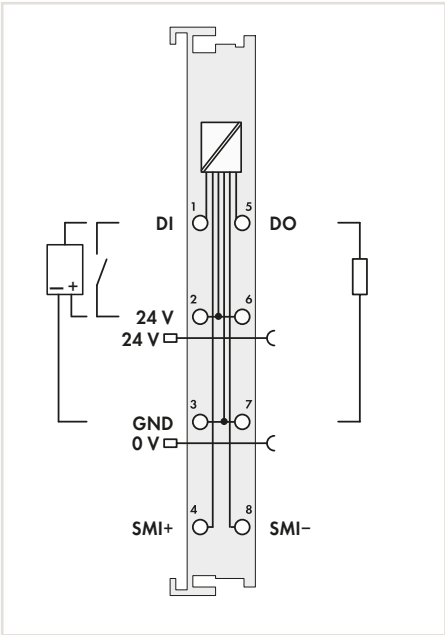
SMI Master



Figure: 753-1630

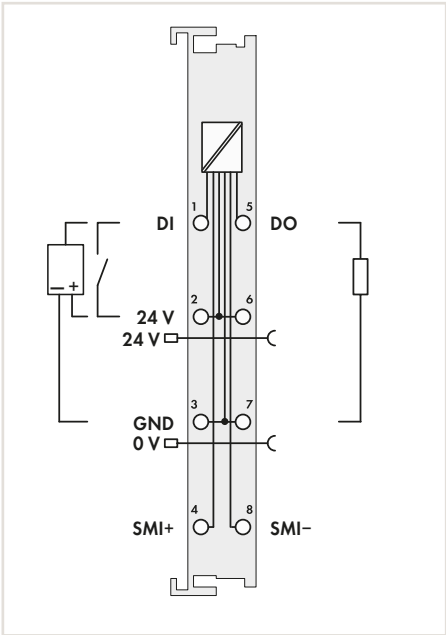
Item Description	
Version	
Item No.	
Technical Data	
Number of channels	
Interface specification	
Number of digital inputs	
Input characteristic	
Input voltage (max.)	
Number of digital outputs	
Output current per channel	
Supply voltage (field)	
Current consumption, field supply (module with no external load)	
Supply voltage (system)	
Current consumption (system supply)	
Isolation	
Cable type	
Cable length	
Data width	
Startup and configuration	
Approvals	
Data sheet and further information, see:	
Accessories	
Pluggable connector	
Coding keys	

SMI Master; 230 VAC



SMI Master
230 VAC
753-1630
Expected availability: May 2017
1 x SMI (1 ... 16 SMI slaves per channel)
SMI Master Interface per SMI specification
1
Type 1
31.2 VDC
1
0.5 ADC, short-circuit protected
24 VDC (–25 ... +30 %), via power jumper contacts
11.8 mA
5 VDC via data contacts
33 ... 42 mA
3 kVAC RMS, 4 kV surge (system/SMI); 1.5 kVAC RMS, 2.5 kV surge (system/field)
2-line, unshielded
350 m
12-byte data
Via WAGO SMI Configurator and IEC libraries
CE
wago.com/753-1630
Item No.
(included)
753-150

SMI Master LoVo; 24 VDC



SMI Master LoVo
24 VDC
753-1631
Expected availability: May 2017
1 x SMI (1 ... 16 SMI slaves per channel)
SMI Master Interface per SMI specification
1
Type 1
31.2 VDC
1
0.5 ADC, short-circuit protected
24 VDC (–25 ... +30 %), via power jumper contacts
11.8 mA
5 VDC via data contacts
33 ... 42 mA
3 kVAC RMS, 4 kV surge (system/SMI); 1.5 kVAC RMS, 2.5 kV surge (system/field)
2-line, unshielded
350 m
12-byte data
Via WAGO SMI Configurator and IEC libraries
CE
wago.com/753-1631
Item No.
(included)
753-150



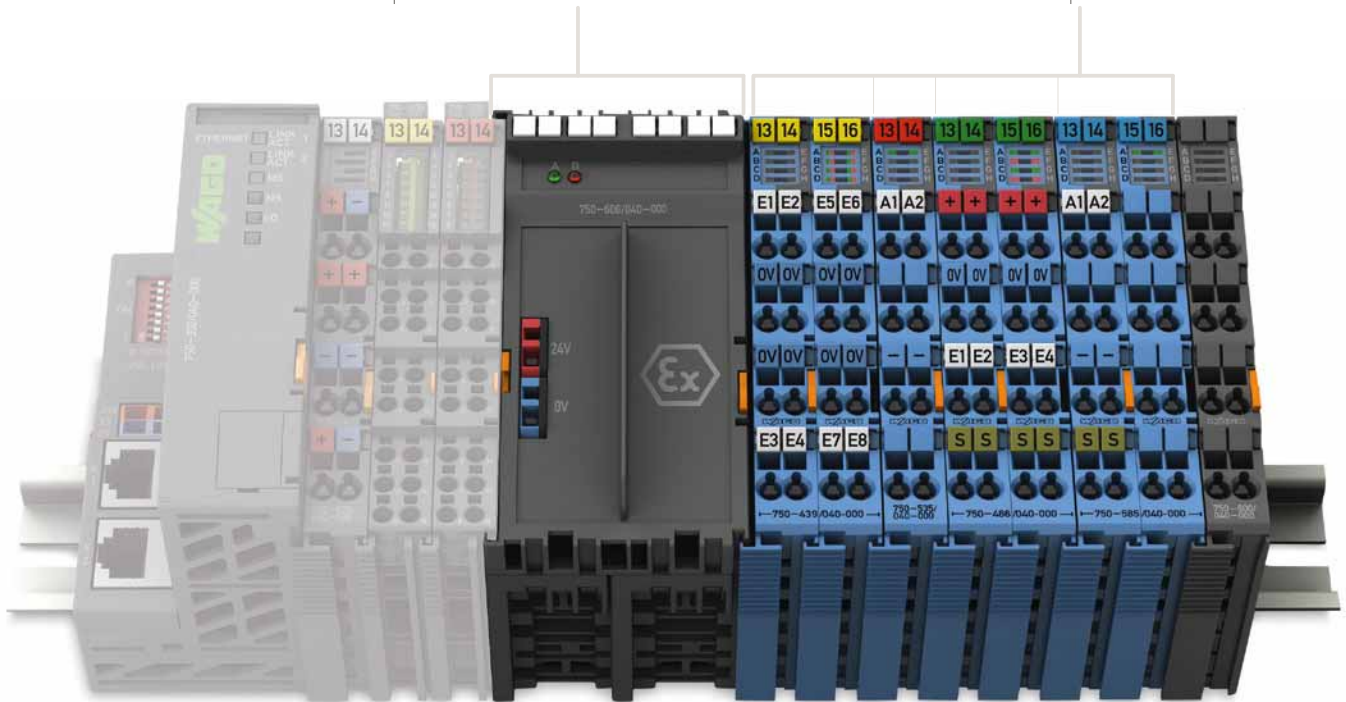
Intrinsically Safe XTR Modules

Specialty Housing

Dimensions W x H x D	48 x 70.9 x 100
Height from upper-edge of DIN-rail	63.7 mm
Connection technology	CAGE CLAMP®
Conductor range	0.25 ... 1.5 mm² / 24 ... 14 AWG
Strip length	5 ... 6 mm / 0.22 inch

750 Series Housing Design

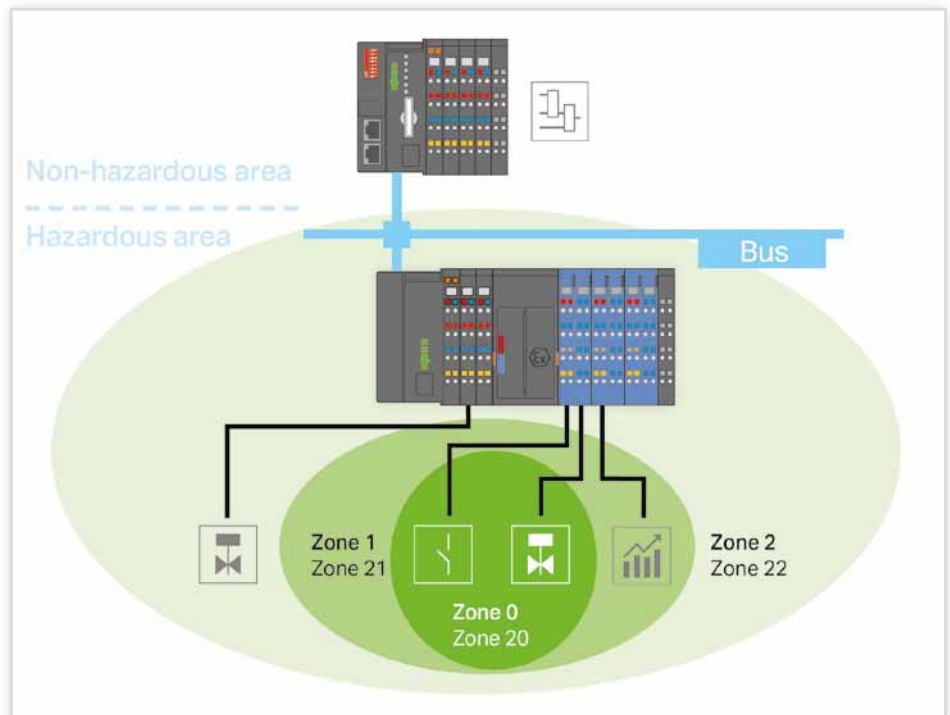
Dimensions W x H x D	12 or 24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm
Connection technology	CAGE CLAMP®
Conductor range	0.25 ... 2.5 mm² / 24 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



Use in Hazardous Locations in eXTReMe Environments

In many plants across the oil and gas industry, along with those in the chemical and petrochemical industries and the process automation sector, installations are operated that process explosive gas- or dust-air mixtures under extreme conditions. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to facilities.

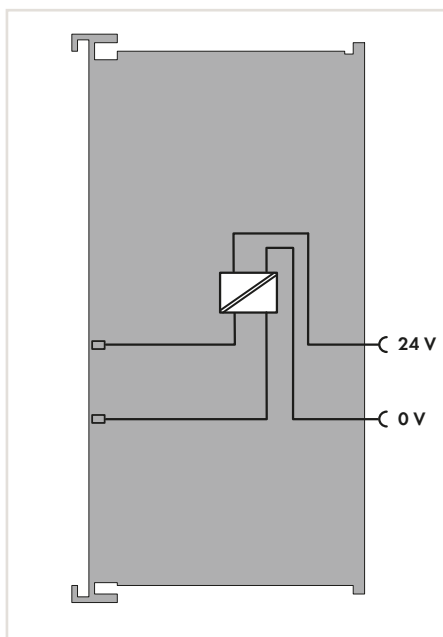
When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 XTR offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. Ambient temperatures from -40 to +70°C are permissible, as well as increased vibration loads up to 5g. The "blue" Ex i XTR modules, developed for this purpose, form an intrinsically safe section that can be integrated into a standard 750 Series XTR node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO-I/O-SYSTEM 750 XTR is also approved for mining applications.



I/O-System – 750 XTR Series, Intrinsically Safe Standards and Rated Conditions

General Specifications	
Supply voltage (system)	24 VDC, via power jumper contacts (provided via XTR Ex i supply UO = max. 26.8 V)
Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Relative humidity	Max. 95 %, short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Dielectric strength	Per (EN 60870-2-1) • 510 VAC/775 VDC Isolation: rated surge voltage (EN 60079-11) • 1 kV; 1.5 kV between intrinsically safe and non-intrinsically safe circuits Surge: • 1 kV (L - L) / 2 kV (L - E)
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5 g), EN 60870-2-2, IEC 60721-3-1, -3
Shock resistance	Per IEC 60068-2-27 (15 g/11 ms/half-sine/1,000 shocks; 25 g/6 ms/1,000 shocks), EN 61373
EMC immunity to interference	Per EN 61000-6-1, -2, EN 61131-2, marine applications, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	Per EN 61000-6-3, -4, EN 61131-2 EN 60255-26, marine applications EN 60870-2-1 (industrial and residential areas) EN 61850-3 (industrial and residential areas)
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	DIN-35 rail mounting
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor range; strip length	0.25 ... 2.5 mm ² /24 ... 14 AWG; 8 ... 9 mm / 0.31 ... 0.35 inch
Standard modules: Supply module:	
Current carrying capacity (power jumper contacts)	1 A

Supply Module; 24 VDC; Extreme, for Intrinsically Safe XTR Modules



Item Description	Power Supply
Version	24 VDC XTR for Ex i XTR Modules
Item No.	750-606/040-000

Expected availability: July 2017

Technical Data	
Current consumption (system supply)	7.5 mA
Supply voltage (field)	24 VDC, via power jumper contacts
Current carrying capacity (power jumper contacts)	1 ADC
Input voltage	24 VDC (–25 ... +30 %), via PELV/SELV power supply units. Specified values for ambient temperatures under laboratory conditions: +15 °C ... +35 °C Derating for –40 ... +55 °C: 24 V (–25 ... +20 %)* Derating for +55 ... +70 °C: 24 V (–25 ... +10 %)*
Fuse	Electronic
Data width	2 bits (input voltage failure, fuse triggered)
Ambient temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Explosion protection	
Power supply (input)	$U_n = 24 \text{ VDC}$; $P_{\text{max}} = 29 \text{ W}$; $U_m = 253 \text{ V}$
Power supply (output)	$U_o = 26.8 \text{ V}$ (intrinsically safe output voltage per protection level ia); $I_n = 1 \text{ A}$
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEx
Marking	ATEX: II 3G Ex ec IIC T4 Gc IECEx: Ex ec IIC T4 Gc
Data sheet and further information, see:	wago.com/750-606/040-000

*including 15 % residual ripple (lower limit –27.5 %)

The supply modules monitor the voltage supply of the downstream Ex-i segment and separate the intrinsically safe from the non-intrinsically safe section of the I/O-System. Input and output sides are electrically isolated from each other.

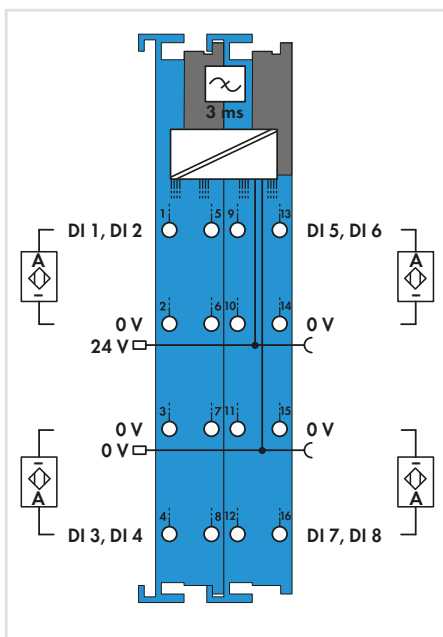
Note: If, due to load conditions, more than one supply module is required per station, four separation modules (750-616/040-000) must be placed between the intrinsically safe sections.

General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 XTR manuals!

 Mini-WSB Quick Marking System, see Full Line Catalog, Volume 6

 DIN rails and tool see Full Line Catalog, Volume 3

8-Channel Digital Input; NAMUR; Intrinsically Safe; Extreme

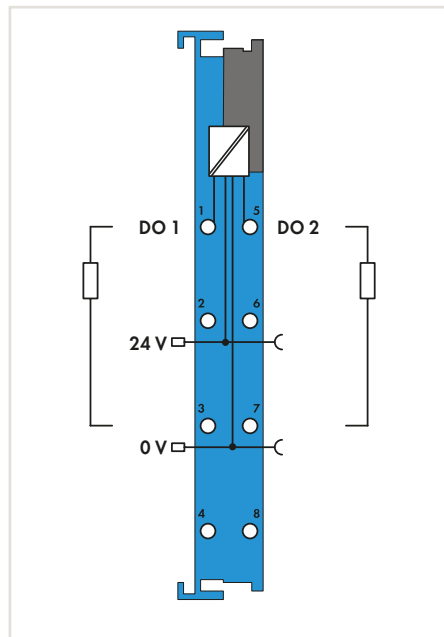


Item Description	8DI
Version	NAMUR Ex i XTR
Item No.	750-439/040-000

Expected availability: July 2017

Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2 conductors
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	Short circuit, wire break
Supply voltage (sensor)	8.2 VDC, short-circuit-protected, isolated channels
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply $U_i = \max. 26.8 \text{ V}$)
Current consumption (system supply)	56 mA
Data width (internal)	16 bits
Isolation	$U_m = 375 \text{ V system/supply}$
Ambient temperature (operation)	$-40 \dots +70 \text{ }^\circ\text{C}$
Dimensions W x H x D	12 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	$U_o = 11.76 \text{ V}; I_o = 12.5 \text{ mA}; P_o = 36.7 \text{ mW};$ linear characteristic curve
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	see data sheet and manual
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEX
Marking	ATEX: II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Dc IECEX: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-439/040-000

2-Channel Digital Output; 24 VDC; Intrinsically Safe; Extreme



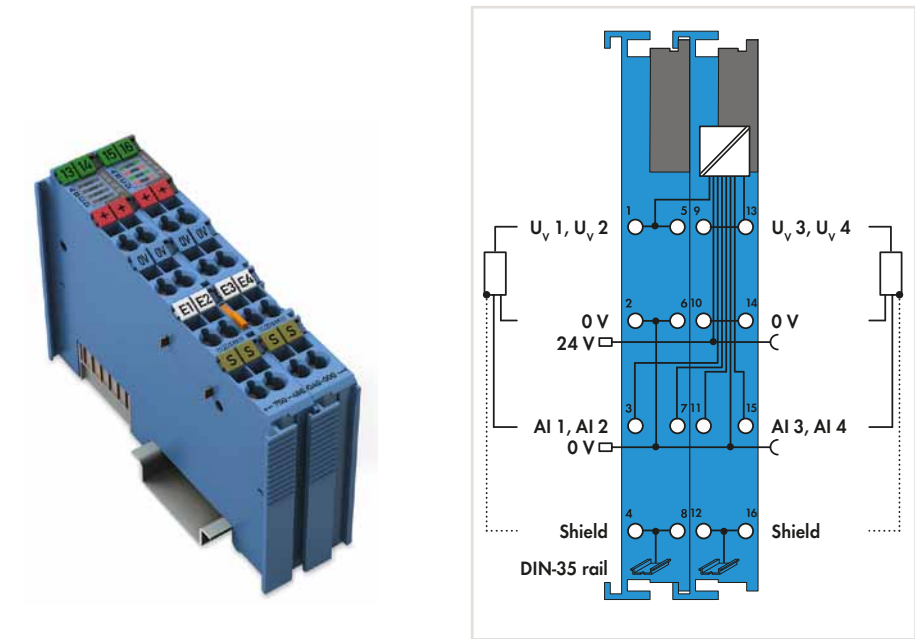
Item Description	2DO
Version	24 VDC Ex i XTR
Item No.	750-535/040-000
Technical Data	
Number of digital outputs	2
Signal type	24 VDC
Output characteristic	High-side switching
Load type	Resistive, inductive, lamps
Actuator connection	2 conductors
Switching frequency (max.)	1 kHz
Actuator supply voltage	24 VDC
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply $U_i = \text{max. } 26.8 \text{ V}$)
Current consumption (system supply)	7 mA
Data width (internal)	2 bits
Isolation	$U_m = 375 \text{ V system/supply}$
Ambient temperature (operation)	$-40 \dots +70 \text{ }^\circ\text{C}$
Dimensions W x H x D	12 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	$U_o = 26.8 \text{ V}; I_o = 100 \text{ mA}; P_o = 670 \text{ mW};$ linear characteristic curve see data sheet and manual
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEx
Marking	ATEX: $\text{II } 3(1) \text{ G Ex ec [ia Ga] IIC T4 Gc}$ $\text{II } (1) \text{ D [Ex ia Da] IIIC}$ $\text{I (M1) [Ex ia Ma] I Dc}$ IECEx: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-535/040-000

Expected availability: July 2017

 Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

 DIN rails and tool
see Full Line Catalog, Volume 3

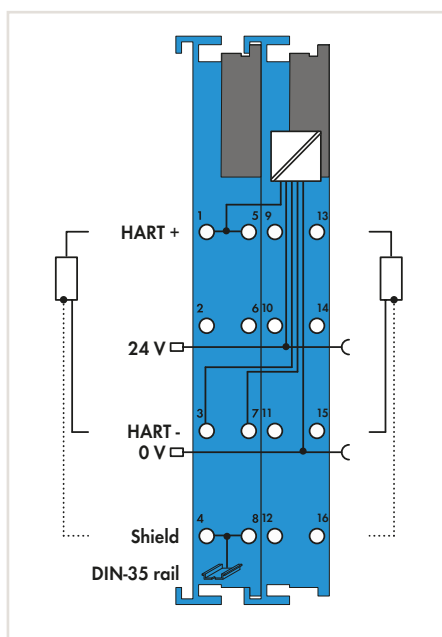
4-Channel Analog Input; 0/4 ... 20 mA; Intrinsically Safe; Extreme



Item Description	4AI
Version	0/4-20mA Ex i XTR
Item No.	750-486/040-000
Technical Data	
Number of analog inputs	4
Signal type	0 mA ... 20 mA, 4 mA ... 20 mA
Signal characteristic	Single-ended
Input resistance	< 200 Ω
Resolution	12 bits + sign bit
Conversion time	< 10 ms
Measurement/output error (25 °C)	< ± 0.1 % of the largest measurement/output area
Temperature coefficient	< ± 0.01 %/K of the largest measurement/output area
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply U _i = max. 26.8 V)
Current consumption (system supply)	45 mA
Transmitter supply	U _v = 15 V at 20 mA
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	U _m = 375 V system/supply
Ambient temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U _o = 26.8 V; I _o = 92.7 mA; P _o = 621 mW; linear characteristic curve see data sheet and manual
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEX
Marking	ATEX: II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Dc IECEX: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-486/040-000

Expected availability: July 2017

2-Channel Analog Input; 4 ... 20 mA HART; Intrinsically Safe; Extreme



Item Description	2AI
Version	4-20mA HART Ex i XTR
Item No.	750-484/040-000

Expected availability: July 2017

Technical Data

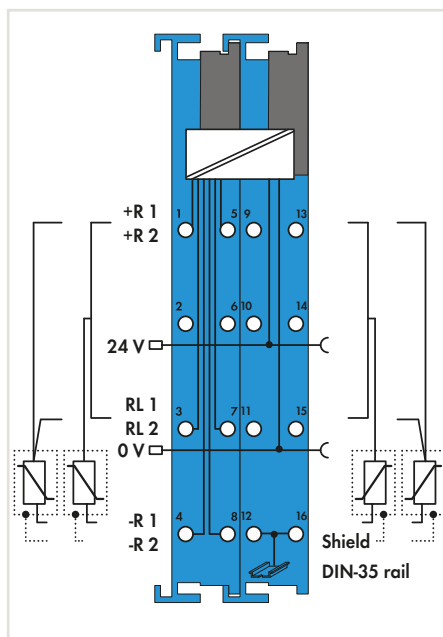
Number of analog inputs	2
Signal type	4 ... 20 mA
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	10 ms
Measurement/output error (25 °C)	0.2 % of the largest measurement/output area
Temperature coefficient	$< \pm 0.01 \text{ \%}/\text{K}$ of the largest measurement/output area
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply $U_i = \text{max. } 26.8 \text{ V}$)
Current consumption (system supply)	25 mA
Transmitter supply	$U_v = 16.5 \text{ V}$ at 20 mA
Data width	2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox
Isolation	$U_m = 375 \text{ V}$ system/supply
Ambient temperature (operation)	$-40 \dots +70 \text{ }^\circ\text{C}$
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	$U_o = 26.8 \text{ V}$; $I_o = 90 \text{ mA}$; $P_o = 604 \text{ mW}$; linear characteristic curve
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	see data sheet and manual
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEx
Marking	ATEX: $\text{II } 3(1) \text{ G Ex ec [ia Ga] IIC T4 Gc}$ $\text{II } (1) \text{ D [Ex ia Da] IIIC}$ $\text{I (M1) [Ex ia Ma] I Dc}$ IECEx: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-484/040-000

In addition to the analog signal processing, this product offers the option of HART communication for parameterizing or recording side variables.

Mini-WSB Quick Marking System, see Full Line Catalog, Volume 6

DIN rails and tool see Full Line Catalog, Volume 3

2-Channel Analog Input; Resistance Measurement; Intrinsically Safe; Extreme



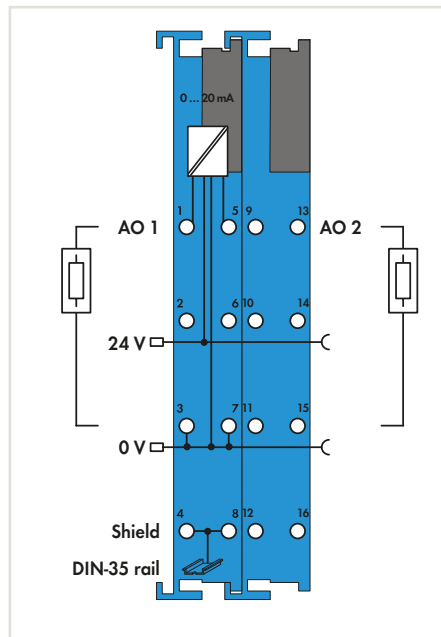
Item Description	2AI
Version	RTD Ex i XTR
Item No.	750-481/040-000
Technical Data	
Number of analog inputs	2
Signal type	Resistance thermometers: Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000; Resistors: 1.2 kΩ, 5 kΩ; Potentiometer setting: 0 ... 100 % (1.2 kΩ, 5 kΩ)
Sensor connection	2 conductors, 3 conductors
Temperature range	-200 ... + 850 °C (Pt), -60 ... +250 °C (Ni), -80 ... +320 °C (Ni 120)
Resolution	0.1 °C, 0.1 Ω, 0.0049 %
Conversion time	150 ... 500 ms (per channel)
Measurement/output error (25 °C)	< ± 0.2 % of the largest measurement/output area
Temperature coefficient	< ± 0.01 %/K of the largest measurement/output area
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply U_i = max. 26.8 V)
Current consumption (system supply)	25 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Isolation	U_m = 375 V system/supply
Ambient temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U_o = 7.2 V; I_o = 5.8 mA; P_o = 10.5 mW; linear characteristic curve
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	see data sheet and manual
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEx
Marking	ATEX: II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Dc IECEx: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-481/003-000

Expected availability: July 2017

2-Channel Analog Output; 0 ... 20 mA; Intrinsically Safe; Extreme



Figure: 750-585/040-000



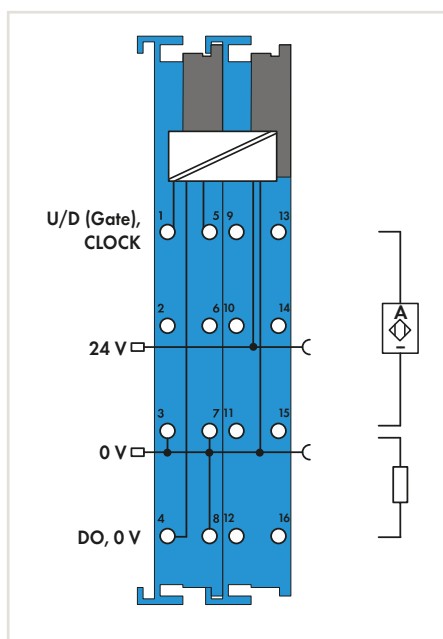
Item Description	2AO
Version	0-20mA Ex i XTR
Item No.	750-585/040-000
Technical Data	
Number of analog outputs	2
Signal type	0 ... 20 mA
Signal characteristic	Single-ended
Load impedance	< 500 Ω
Resolution	12 bits
Conversion time	< 2 ms
Measurement/output error (25 °C)	< ± 0.2 % of the largest measurement/output area
Temperature coefficient	< ± 0.01 %/K of the largest measurement/output area
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply U_i = max. 26.8 V)
Current consumption (system supply)	21 mA
Data width	2 x 16-bit data
Isolation	U_m = 375 V system/supply
Ambient temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U_o = 26.8 V; I_o = 56.4 mA; P_o = 378 mW; linear characteristic curve
Reactances Ex ia IIC Reactances Ex ia IIB Reactances Ex ia IIA Reactances Ex ia I	see data sheet and manual
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEx
Marking	ATEX: II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Dc IECEx: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-585/040-000

Expected availability: July 2017

Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

DIN rails and tool
see Full Line Catalog, Volume 3

Up/Down Counter; Intrinsically Safe; Extreme



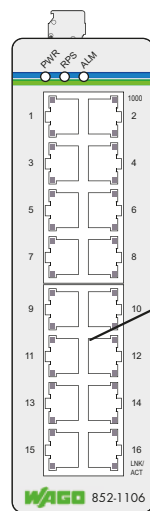
Item Description	Up/Down Counter
Version	Ex i XTR
Item No.	750-633/040-000

Expected availability: July 2017

Technical Data	
Number of counters	1
Number of outputs	1
Sensor supply UV	8.2 VDC
Input filter	10 µs
Switching frequency	20 Hz ... 50 kHz
Counter depth	32 bits
Output voltage	24 VDC
Supply voltage (field)	24 VDC, via power jumper contacts (provided via XTR Ex i supply U_i = max. 26.8 V)
Current consumption (system supply)	25 mA
Data width	1 x 32-bit data, 1 x 8-bit status/diagnostics
Isolation	U_m = 375 V system/supply
Ambient temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety data – input	U_o = 12 V; I_o = 13.3 mA; P_o = 40.4 mW; linear characteristic curve see data sheet and manual
Input reactances Ex ia IIC Input reactances Ex ia IIB Input reactances Ex ia IIA Input reactances Ex ia I	
Safety data – output	U_o = 26.8 V; I_o = 97 mA; P_o = 648 mW; linear characteristic curve see data sheet and manual
Output reactances Ex ia IIC Output reactances Ex ia IIB Output reactances Ex ia IIA Output reactances Ex ia I	
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE, ATEX/IECEX
Marking	ATEX: II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I Dc IECEX: Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-633/040-000

Industrial Switches

16-port 1000Base-T



T-Ports 1000 Mbps

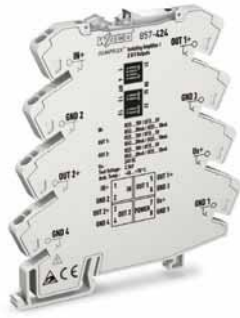
Item Description	Switch
Version	16Port Gb
Item no.	852-1106
Technical Data	
Switching mode	Store-and-Forward, non-blocking
No. of ports, copper	16 x 10/100/1000Base-T
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/FX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.1p Class of Service Profinet CC-A
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	8000 addresses
Jumbo frame size	10 kB
Supply voltage	12 ... 60 VDC
Power consumption	12 W
Connection technology: Communication	16 x RJ-45
Ambient temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 162 mm
Approvals	CE, UL 508*
Data sheet and further information, see:	wago.com/852-1106

*pending

JUMPFLEX® Signal Conditioners

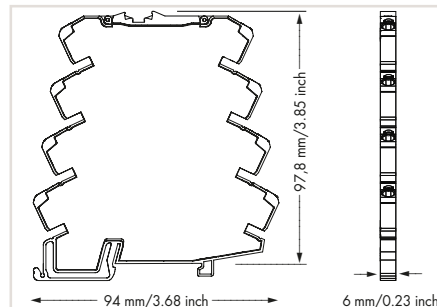
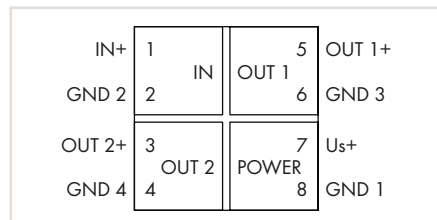
Signal Splitter with 2 Configurable Voltage and Current Outputs

857 Series



JUMPFLEX® Isolation Amplifier, current and voltage input signal, 2 x current and voltage output signal, configuration via DIP switch, 24 VDC supply voltage, 6 mm wide

Item No.	Pack. Unit
857-424	1



Short description:

The 857-424 Signal Splitter converts, amplifies, filters and electrically isolates analog standard signals. In addition, the input signal is split into two separate outputs.

Features:

- Two configurable voltage/current outputs
- Switchable limiting frequency
- Safe 4-way isolation with 3 kV test voltage per EN 61010-1

Configuration via:



Overview of icons, see page 56

Technical Data	
Configuration	
Configuration	DIP switch
Input	
Input signal	0 ... 10 mA, 2 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V
Max. input signal	12 V, 24 mA
Overload capacity	30 V, 50 mA
Input resistance	< 50 Ω (I input) > 100 kΩ (U input)
Output	
Output signal	0 ... 10 V, 2 ... 10 V (calibrated configurable signals), 0 ... 20 mA, 4 ... 20 mA (calibrated configurable signals), max. 12 V, 24 mA
Load impedance	≤ 600 Ω (I output) ≥ 2 kΩ (U output)
General Specifications	
Nominal supply voltage U_s	24 VDC
Supply voltage range	U_s -30 ... +30 %
Current input at 24 VDC	≤ 35 mA
Limiting frequency	100 Hz / > 1 kHz (configurable via DIP switch)
Response time (T_{10-90})	< 3.5 ms / < 300 μs
Transmission error	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Conformity marking	CE
Standards/Approvals	EN 61010-1, EN 61326-1
Environmental Requirements	
Ambient operating temperature	-40 ... +70 °C
Storage temperature	-40 ... +85 °C
Safety and Protection	
Test voltage (input/output/supply)	3 kV (AC), 50 Hz, 1 min
Protection type	IP20
Connection and Mounting Type	
Connection technology	Push-in CAGE CLAMP®
Conductor range	
Solid	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Dimensions and Weight	
Dimensions (mm) W x H x D	6 x 97.8 x 94, height from upper-edge of DIN-rail
Weight	37.9 g

857-424

DIP Switch Adjustability

● = ON

Input Signal				Max. Operating Frequency	
1	2	3		4	
●			0 ... 20 mA		> 1 kHz
●		●	4 ... 20 mA	●	100 Hz
●	●		0 ... 10 mA		
●	●	●	2 ... 10 mA		
			0 ... 10 V		
		●	2 ... 10 V		
	●		0 ... 5 V		
	●	●	1 ... 5 V		

Output Signal 1		
1	2	
		0 ... 10 V
●		2 ... 10 V
	●	0 ... 20 mA
●	●	4 ... 20 mA

Output Signal 2		
1	2	
		0 ... 10 V
●		2 ... 10 V
	●	0 ... 20 mA
●	●	4 ... 20 mA

Default Settings	
Input	0 ... 20 mA
Output Signal 1	0 ... 10 V
Output Signal 2	0 ... 10 V
Max. Operating Frequency	> 1 kHz

JUMPFLEX® Signal Conditioners

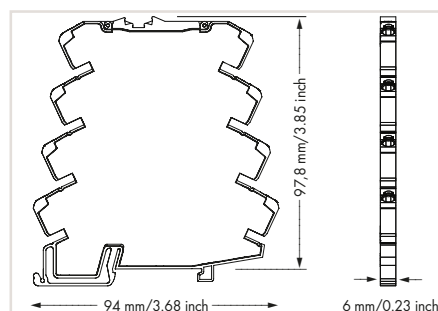
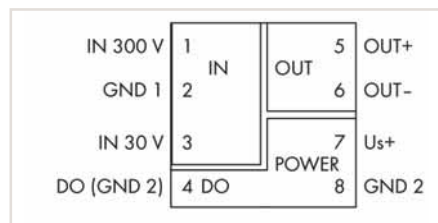
Voltage Signal Conditioner

857 Series



JUMPFLEX® Voltage Signal Conditioner, current input signal for AC and DC voltages, current and voltage output signal, digital output, configuration via software/DIP switch, 24 VDC supply voltage, 6 mm wide

Item No.	Pack. Unit
857-560	1



Short description:

The 857-560 Voltage Signal Conditioner measures AC and DC voltages up to 300 V AC/DC and converts the input signal into an analog standard signal at the output.

Features:

- Two isolated measurement inputs for 30 V and 300 V AC/DC
- True RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (switching ON/OFF delay and threshold value switch function configurable with up to two threshold values)
- Switchable filter function
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

Specialty functions:



Configuration via:



Overview of icons, see page 56

Technical Data

Configuration

Configuration

DIP switch, interface configuration software, interface configuration app

Input

Input signal

300 or 30 VAC/DC

Response threshold

IN 1: 300 mV, IN 2: 30 mV

Input resistance

> 300 kΩ

Frequency range

10 ... 100 Hz (AC)

Overload capacity

IN 1: 600 V; IN 2: 60 V (permanent)

Resolution

IN 1: 30 mV, IN 2: 3 mV

Output

Output signal

± 0 ... 20 mA, 4 ... 20 mA,
± 0 ... 10 mA, 2 ... 10 mA
± 0 ... 10 V, 2 ... 10 V,
± 0 ... 5 V, 1 ... 5 V

Load impedance

≤ 600 Ω (I output);
≥ 1 kΩ (U output)

Output – Digital

Max. switching voltage

Supply voltage applied

Max. continuous current

100 mA

General Specifications

Nominal supply voltage U_s

24 VDC

Supply voltage range

U_s -30 ... +30 %

Current input at 24 VDC

46 mA + I_{DO}

Measuring procedure

Effective value (RMS) or arithmetic mean value

Limiting frequency

2 kHz

Response time (typ.), signal cycle duration

+ 1 ms

Response time (T_{10-90})

60 ms

Temperature coefficient

≤ 0.01 %/K

Linearity error

≤ 0.1 %

Measurement error

< 0.5 %

Conformity marking

CE

Standards/Approvals

EN 61010-1, EN 61326-1

Environmental Requirements

Ambient operating temperature

-40 ... +70 °C

Storage temperature

-40 ... +85 °C

Safety and Protection

Test voltage

(input/output/supply)

3 kV (AC), 50 Hz, 1 min

Protection type

IP20

Connection and Mounting Type

Connection technology

Push-in CAGE CLAMP®

Conductor range

0.08 ... 2.5 mm² / 28 ... 14 AWG

Fine-stranded

0.34 ... 2.5 mm² / 22 ... 14 AWG

Strip length

9 ... 10 mm / 0.35 ... 0.39 inch

Dimensions and Weight

Dimensions (mm) W x H x D

6 x 97.8 x 94, height from upper-edge of DIN-rail

Weight

55 g

857-560

DIP Switch Adjustability

● = ON

DIP Switch S1						
1	2	Input	3	Measuring Method	4	Filter
		300 V		RMS		Off
	●	150 V	●	Arithmetic mean value	●	Active
●		30 V				
●	●	15 V				

DIP Switch S1				Output Signal Range
				(+/-) 0 ... 20 mA
	●			4 ... 20 mA
●				(+/-) 0 ... 10 V
●	●			2 ... 10 V
		●		(+/-) 0 ... 10 mA
	●	●		2 ... 10 mA
●		●		(+/-) 0 ... 5 V
●	●	●		1 ... 5 V

DIP Switch S1					Digit Output DO/ Signaling
8	9	Measuring Range Underflow	Measuring Range Overflow	10	
		Lower limit of measuring range -5 %*	Upper limit of measuring range +2.5 %*		DO U _S + switching
●		Lower limit of measuring range	Upper limit of measuring range +2.5 %	●	DO GND switching
	●	Lower limit of measuring range	Upper limit of measuring range		
●	●	Lower limit of measuring range	Upper limit of measuring range		

*per NAMUR NE 43

Filter
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows:
24 V → 0 V/0 V → 24 V

Default Setting	
All DIP switches are in "OFF" position for delivery.	
Input	
Input	300 V
Measuring Method	RMS
Filter	Off
Output	
Output Signal	0 ... 20 mA
Measuring Range Underflow	0 mA
Measuring Range Overflow	20.5 mA
Overcurrent	21 mA
Digital Output DO	U _S + switching

JUMPFLEX® Signal Conditioners

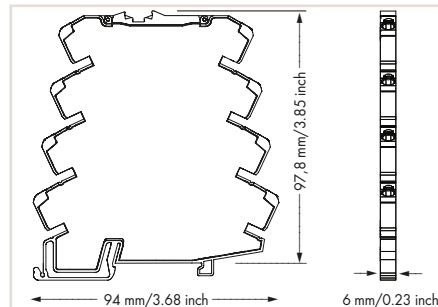
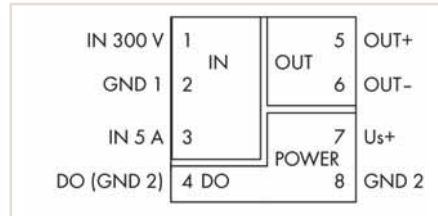
Power Signal Conditioner

857 Series



JUMPFLEX® Power Signal Conditioner, current and voltage input signal, current and voltage output signal, digital output, configuration via software/DIP switch, 24 VDC supply voltage, 6 mm wide

Item No.	Pack. Unit
857-569	1



Short description:

The 857-569 Power Signal Conditioner measures both AC/DC voltages and currents, converting the input signal into an analog standard signal at the output. Measured value processing can be switched between effective, apparent or reactive power, and phase angle.

Features:

- Two isolated measurement inputs for AC and DC voltages and AC and DC currents
- RMS measurement
- A digital signal output reacts to configured measurement range limits (switching ON/OFF delay and threshold value switch function configurable with up to two threshold values)
- Switchable filter function
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

Specialty functions:



Configuration via:



Overview of icons, see page 56

Technical Data

Configuration	
Configuration	DIP switch, interface configuration software, interface configuration app
Input	
Input signal	IN 1: 300 V AC/DC, IN 2: 5 A AC/DC
Response threshold	IN 1: 300 mV IN 2: 10 mA
Resolution	IN 1: 30 mV IN 2: 1 mA
Input resistance	≤ 10 mΩ (I input); > 300 kΩ (U output)
Frequency range	15 ... 70 Hz (AC)
Overload capacity	10 A AC/DC (permanent)
Output	
Output signal	0 ... 10 mA, 2 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V (can be inverted, also bipolar)
Load impedance	≤ 600 Ω (I output); ≥ 1 kΩ (U output)
Output – Digital	
Max. switching voltage	Supply voltage applied
Max. continuous current	100 mA
General Specifications	
Nominal supply voltage U_s	24 VDC
Supply voltage range	U_s -30 ... +30 %
Current input at 24 VDC	≤ 46 mA
Measuring procedure	RMS measurement
Measured variables	Effective/apparent/reactive power, power factor
Limiting frequency	2 kHz
Response time (typ.), signal cycle duration	+1 ms
Response time (T_{10-90})	100 ms
Temperature coefficient	≤ 0.01 %/K
Linearity error	≤ 0.1 %
Measurement error (relative to measurement range upper limit)	Voltage: < 0.5 % Current: < 0.5 % Phase angle: < 0.5 %
Conformity marking	CE
Standards/Approvals	EN 61010-1, EN 61326-1
Environmental Requirements	
Ambient operating temperature	-40 ... +70 °C
Storage temperature	-40 ... +85 °C
Safety and Protection	
Test voltage	
(input/output/supply)	3 kV (AC), 50 Hz, 1 min.
Protection type	IP20
Connection and Mounting Type	
Connection technology	Push-in CAGE CLAMP®
Conductor range	
Solid	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Dimensions and Weight	
Dimensions (mm) W x H x D	6 x 97.8 x 94, height from upper-edge of DIN-rail
Weight	55 g

857-569 DIP Switch Adjustability

● = ON

DIP Switch S1

1	2	Input	3	4	Filter
		Active power			Off
	●	Apparent power	●		Active
●		Reactive power			
●	●	Power factor			

DIP Switch S1

5	6	7	Output Signal Range
			0 ... 20 mA
	●		4 ... 20 mA
●			0 ... 10 V
●	●		2 ... 10 V
		●	0 ... 10 mA
	●	●	2 ... 10 mA
●		●	0 ... 5 V
●	●	●	1 ... 5 V

DIP Switch S1

8	9	Measuring Range Underflow	Measuring Range Overflow	10	Digit Output DO/ Signaling
		Lower limit of measuring range -5 %*	Upper limit of measuring range +2.5 %*		DO U _S + switching
●		Lower limit of measuring range	Upper limit of measuring range +2.5 %	●	DO GND switching
	●	Lower limit of measuring range	Upper limit of measuring range	*per NAMUR NE 43	
●	●	Lower limit of measuring range	Upper limit of measuring range		

Filter

The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling

The digital output (DO) signals error messages and can be configured as follows:

24 V → 0 V/0 V → 24 V

Default Setting

All DIP switches are in "OFF" position for delivery.

Input	
Input	Power
Measuring Method	Active power
Filter	Off
Output	
Output	Current
Output Signal Range	0 ... 20 mA
Measuring Range Underflow	0 mA
Measuring Range Overflow	20.5 mA
Overcurrent	21 mA
Digital Output DO	U _S + switching

JUMPFLEX® Signal Conditioners

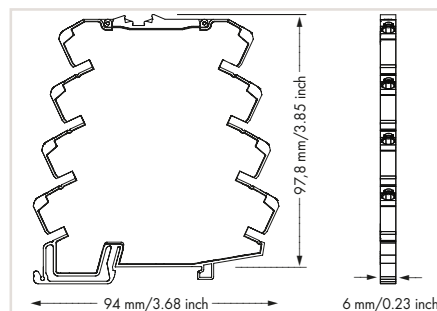
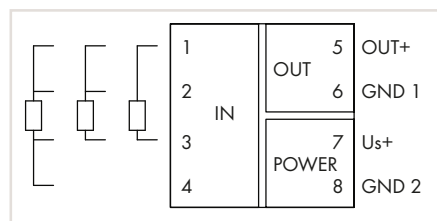
Loop-Powered RTD Temperature Signal Conditioner

857 Series



JUMPFLEX® Loop-Powered RTD Temperature Signal Conditioner for Pt Sensors, current output signal, configuration via DIP switch, power via output, 6 mm wide

Item No.	Pack. Unit
857-815	1



Short description:

The 857-815 Loop-Powered RTD Temperature Signal Conditioner records Pt100, Pt200, Pt500 and Pt1000 sensors and resistors up to 4.5 k Ω , converting the temperature signal into an analog standard signal on the output side.

Features:

- No additional supply voltage required
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 k Ω
- 2-, 3-, and 4-wire connection technology
- Switching between measurement ranges is calibrated
- Detects sensor wire break/short circuit
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

Configuration via:



Overview of icons, see page 56

Technical Data

Configuration	
Configuration	DIP switch
Input	
Input signal	Pt sensors and resistors
Sensor types	Pt100, Pt200, Pt500, Pt1000
Sensor connection	2-wire, 3-wire, 4-wire (configurable)
Temperature range	-200 ... +850 °C
Sensor power supply	< 0.5 mA
Resistor input	0 ... 1 k Ω , 0 ... 4.5 k Ω
Output	
Output signal	4 ... 20 mA, 20 ... 4 mA
Load impedance	$\leq 600 \Omega$ (I output)
Refresh cycle	< 1 s (per NAMUR NE 89)
General Specifications	
Nominal supply voltage U_s	8 ... 30 V (power derived from the output circuit)
Min. measuring span	50 K
Transmission error	$\leq 0.1 \%$ at full measuring span
Transmission error of the preset measuring span	$((40 \text{ K} / \text{preset measuring span [K]} + 0.1) \%)$
Temperature coefficient	$\leq 0.02 \%/K$
Conformity marking	CE
Standards/Approvals	EN 61010-1, EN 61326-1
Environmental Requirements	
Ambient operating temperature	-25 ... +70 °C
Storage temperature	-40 ... +85 °C
Safety and Protection	
Test voltage	
(input/output/supply)	3 kV (AC), 50 Hz, 1 min
Protection type	IP20
Connection and Mounting Type	
Connection technology	Push-in CAGE CLAMP®
Conductor range	
Solid	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Dimensions and Weight	
Dimensions (mm) W x H x D	6 x 97.8 x 94, height from upper-edge of DIN-rail
Weight	39 g

857-815

DIP Switch Adjustability

● = ON

DIP Switch S1

Sensor Connection		Sensor Type			Output Signal		N. C.				Measuring Range Underflow	Measuring Range Overflow	Wire Break	Short Circuit
1	2	3	4	5	6		7	8	9	10				
	2-wire				Pt100	4 ... 20 mA					Lower limit of output range -5 % *	Upper limit of output range +2.5 % *	Upper limit of output range +5 % *	Lower limit of output range -12.5 % *
●	3-wire	●			Pt200	● 20 ... 4 mA								
	4-wire		●		Pt500						Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range
●	2-wire	●	●		Pt1000				●					
				●	1 kΩ					●	Lower limit of output range	Upper limit of output range	Upper limit of output range +5 %	Upper limit of output range +5 %
			●	●	4.5 kΩ									
									●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range

*per NAMUR NE 43

DIP Switch S2

Output Signal Start Temperature						Output Signal End Temperature																															
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95					●	●	130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●				●	●	140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●			●	●	150	302		●			●	●	325	617		●	●		●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●			●	●	160	320	●	●			●	●	350	662	●	●			●	●	750	1382
		●	●	-30	-22			●	●			55	131				●	●	●	170	338				●	●	●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●	●	180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●	●	190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●	●	200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

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

Default Settings

All DIP switches are in "OFF" position for delivery.	
Sensor connection	2-wire
Sensor type	Pt100
Start temperature	0 °C
End temperature	100 °C
Output signal	4 ... 20 mA
Measuring range underflow	3.8 mA
Measuring range overflow	20.5 mA
Wire break	21 mA
Short circuit	3.5 mA

Plug-In Current Transformers with CAGE CLAMP® Connection 855 Series



Short description:

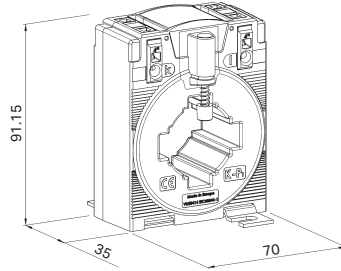
The 855 Series Plug-In Current Transformers are inductive, single-conductor current transformers, that function according to the transformer principle. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.

Features:

- Screwless CAGE CLAMP® connection technology
- Several mounting options available
- Vibration- and shock-resistant
- High mechanical retention forces
- High current-carrying capacity
- Continuous overload of 120 % the nominal primary current
- Low-voltage current transformer for operating voltages up to 1.2 kV
- Can be used in 690 V power networks
- UL recognized components

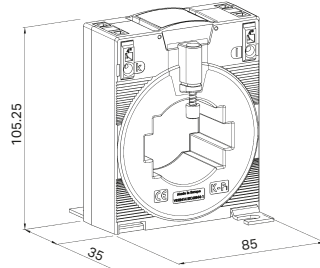
Technical Data

Input	
Rated continuous thermal current I_{cth}	$1.2 \times I_N$
Rated short-time thermal current I_{th}	$60 \times I_N$ (max. 100 kA), 1 s
Max. operating voltage U_m	1.2 kV _{rms}
Rated frequency	50 ... 60 Hz
Overcurrent limiting factor	FS5 or FS10 (type dependent, see type plate inscription)
General Specifications	
Conformity marking	CE
Standards/Approvals	EN 61869-1; EN 61869-2
UL (Recognized Components)	E356480
Environmental Requirements	
Ambient operating temperature	-5 ... +50 °C
Storage temperature	-25 ... +70 °C
Max. operating altitude	1000 m
Safety and Protection	
Test voltage	6 kV _{rms} AC / 50 Hz / 1 min
Insulation class	E
Connection	
Connection technology	CAGE CLAMP®
Conductor range	0.08 ... 4 mm² / 28 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch



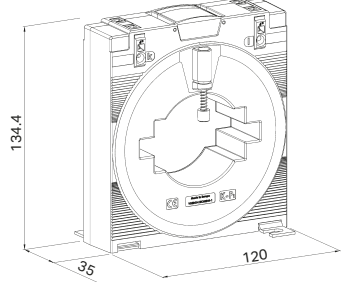
855-4xx/xxxx-xxxx
 Busbar 1: 40 x 10 mm
 Busbar 2: 30 x 15 mm
 Round cable: 32 mm

Plug-In Current Transformer	Primary Rated Current	Secondary Rated current	Rated Power	Accuracy Class	Item No.	Pack. Unit
	250 A	1 A	5 VA	1	855-401/250-501	1



855-5xx/xxxx-xxxx
 Busbar 1: 50 x 12 mm
 Busbar 2: 40 x 30 mm
 Round cable: 44 mm

Plug-In Current Transformer	Primary Rated Current	Secondary Rated current	Rated Power	Accuracy Class	Item No.	Pack. Unit
	400 A	1 A	10 VA	1	855-501/400-1001	1
	600 A	1 A	10 VA	1	855-501/600-1001	1
	800 A	1 A	10 VA	1	855-501/800-1001	1



855-8xx/xxxx-xxxx
 Busbar 1: 80 x 10 mm
 Busbar 2: 60 x 30 mm
 Round cable: 55 mm

Plug-In Current Transformer	Primary Rated Current	Secondary Rated current	Rated Power	Accuracy Class	Item No.	Pack. Unit
	1000 A	1 A	10 VA	1	855-801/1000-1001	1

Current and Voltage Tap for 95 mm² High-Current Through Terminal Block (285-195) 855 Series



Current and voltage tap for 95 mm² high-current through terminal block (285-195)

Item No.	Pack. Unit
855-951/250-000	1

Short description:

The 855-951/250-000 Current and Voltage Tap for 95 mm² high-current through terminal block provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, the 855-951 can quickly and easily be inserted into the jumper slot of the 95 mm² high-current through terminal block (285-195).

An integrated fuse provides protection for energy measurement devices connected in the downstream circuit. An integrated current transformer (conversion ratio: 250 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).

The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 5-pole configuration (2 x S1 and 3 x S2) provides the following advantages:

- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.

Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:

- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 95 mm² high-current through terminal block (285-195)
- Integrated 250 A/1 A current transformer
- Accuracy class: 0.5
- Fuse-protected voltage path

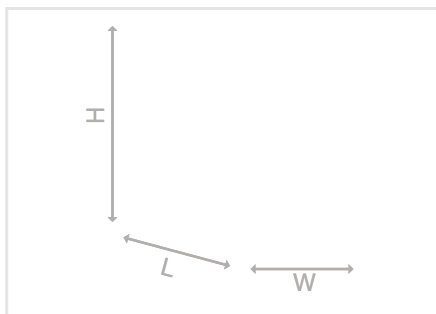
Technical Data

Input (current transformer)	
Primary rated current I_{pr}	250 A
Rated continuous thermal current I_{cth}	250 A
Rated short-time thermal current I_{th}	15 kA / 1 s
Rated surge current I_{dyn}	37.5 kA
Rated frequency f_r	50 ... 60 Hz
Highest voltage for equipment U_m	0.72 kV
Rated insulation level	3 kV
Output (current transformer)	
Secondary Rated Current I_{sr}	1 A
Accuracy class	0.5
Rated power S_r	0.2 VA
Output (voltage tap)	
Nominal voltage	690 VAC
Fuse (voltage path)	2 A, 450 V, F, 70 kA, 5 x 25 mm, (SIBA Art. No. 7008913.2)
Safety and Protection	
Protection type	IP20
Connection and Mounting Type	
Feedthrough for measurement conductor	16 mm Ø (max.)
Connection technology	Current output: WAGO 250 Series Voltage output: WAGO 2624 Series
Conductor range	Current output: 0.2 ... 1.5 mm ² / 24 ... 10 AWG Voltage output: 0.2 ... 4 mm ² / 24 ... 14 AWG
Strip length	Current output: 8 ... 9 mm / 0.31 ... 0.35 inch Voltage output: 10 ... 12 mm / 0.39 ... 0.47 inch
Mounting type	via jumper slot of the 2-conductor high-current through terminal block (285-195)
Dimensions and Weight	
Dimensions (mm) W x H x D	25 x 73 x 94
Weight	
General Specifications	
Conformity marking	CE
Standards/Approvals	EN 61869-2

Switched-Mode Power Supply, 3-Phase

EPSITRON® ECO Power

787 Series

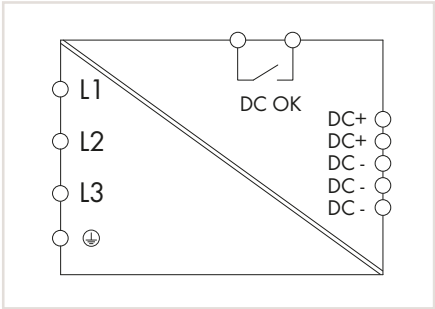
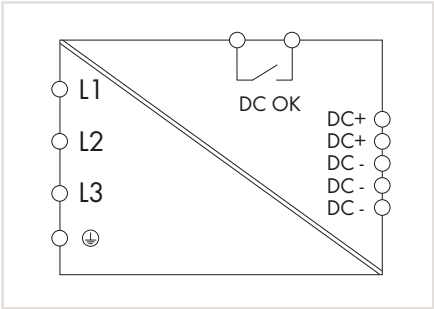


Features:

- Economical power supply for standard applications
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated terminals with push-in connection technology
- DC OK contact
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204-1

Technical Data

Input	
Nominal input voltage $U_{i, nom}$	400 ... 480 VAC
Input voltage range	325 ... 575 VAC, 560 ... 700 VDC
Frequency	47 ... 63 Hz
Input peak current	< 30 A (at 400 VAC)
Discharge current	< 3.5 mA
Power factor	≥ 0.7 (at 400 VAC)
Mains failure hold-up time	> 10 ms (at 400 VAC and nominal load)
Output	
Nominal output voltage $U_{o, nom}$	24 VDC (default), SELV
Output voltage range	24 ... 28 VDC adjustable
Adjustment accuracy	$\pm 1\%$
Residual ripple	< 150 mVpp
Overload behavior	Constant power (in overload range: 1.05 ... 1.4 x Io); shutdown and automatic restart in the event of a short circuit
Fuse Protection	
Recommended backup fuse	power circuit breakers ≥ 10 A; B, C characteristics
Overvoltage protection	Via varistor at primary circuit
Environmental Requirements	
Ambient temperature	-25 ... +70 °C
Storage temperature	-40 ... +85 °C
Relative humidity	10 ... 95 %
Climatic category	3K3 (per EN 60721)
Derating	-2 %/K (> +45 °C)
Pollution degree	2
Overvoltage category	III
Temperature coefficient	$\pm 0.03\%$ /K (at 0 ... +50 °C)
MTBF	> 200,000 h
Safety and Protection	
Protection class	I
Protection type	IP20 per EN 60529
Short-circuit-protection	Yes
Open-circuit proof	Yes
Feedback voltage	30 V (max.)
Parallel operation	Yes
Series operation	Yes, max. 2 power supplies
Vibration resistance	1g (per EN 60068-2-6)
Shock resistance	15g (per EN 60068-2-27)
Isolation voltage	1.5 kVAC for input side and ground; 3.0 kVAC for input and output side; 0.5 kVAC for output side and ground; 0.5 kVAC for output side and DC OK contact per EN 60950-1
SELV	
Connection and Mounting Type	
Connection technology	CAGE CLAMP® (input/output); picoMAX® (signaling)
Conductor range	Input/output: 0.5 ... 6 mm² / 20 ... 10 AWG Signaling: 0.2 ... 1.5 mm² / 24 ... 14 AWG
Strip length	Input/output: 11 ... 12 mm / 0.43 ... 0.47 inch Signaling: 8 ... 9 mm / 0.31 ... 0.35 inch
Standards/Approvals	
Standards/Approvals	CE; EN 60950-1; EN 61204-3; UL 60950*; UL 508* (*pending)



EPSITRON® Switched-Mode Power Supply, ECO Power, 3-phase, output: 24 VDC/20 A		
	Item No.	Pack. Unit
	787-2742	1

EPSITRON® Switched-Mode Power Supply; ECO Power, 3-phase, output: 24 VDC/40 A		
	Item No.	Pack. Unit
	787-2744	1

Specific Electrical Data

Input current I_i	3 x 1.2 A (at 400 VAC)
Nominal output P_{out}	480 W
Output current I_o	20 A (at 24 VDC)
Efficiency	≥ 90.5 % (400 VAC / 24 VDC / 20 A)
Power loss P_v	45 W typ. (at 400 VAC, 24 VDC, 20 A)
Internal fuse	3.15 A, slow, 500 VAC
Dimensions (mm) W x H x L	80 x 130 x 170, length from upper-edge of DIN-rail
Weight	1710 g

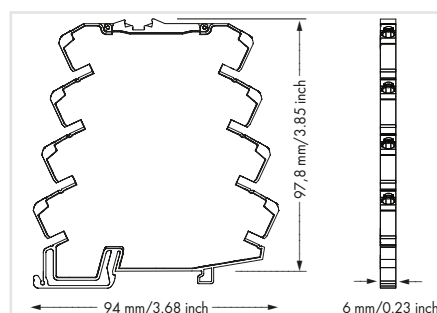
Input current I_i	3 x 2.5 A (at 400 VAC)
Nominal output P_{out}	960 W
Output current I_o	40 A (at 24 VDC)
Efficiency	≥ 91.5 % (400 VAC / 24 VDC / 40 A)
Power loss P_v	89 W typ. (at 400 VAC, 24 VDC, 40 A)
Internal fuse	6.3 A, slow, 500 VAC
Dimensions (mm) W x H x L	140 x 130 x 170, length from upper-edge of DIN-rail
Weight	2630 g

Input current I_i	3 x 2.5 A (at 400 VAC)
Nominal output P_{out}	960 W
Output current I_o	40 A (at 24 VDC)
Efficiency	≥ 91.5 % (400 VAC / 24 VDC / 40 A)
Power loss P_v	89 W typ. (at 400 VAC, 24 VDC, 40 A)
Internal fuse	6.3 A, slow, 500 VAC
Dimensions (mm) W x H x L	140 x 130 x 170, length from upper-edge of DIN-rail
Weight	2630 g

Electronic Circuit Breakers (ECBs)

EPSITRON®

787 Series



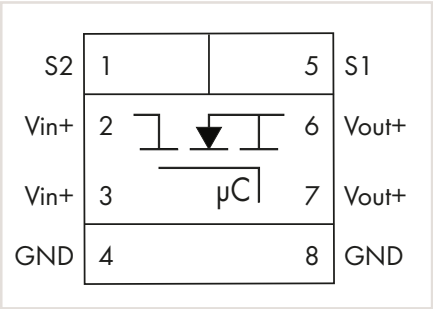
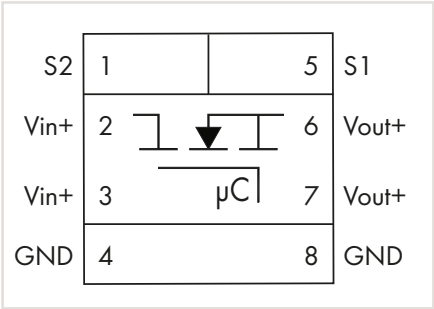
Features:

- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 μ F
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total in-rush current thanks to time-delayed switching on in interconnected operation

Technical Data

Input	
Nominal input voltage $U_{I,nom}$	24 VDC
Input voltage range	18 ... 30 VDC
Output	
Nominal output voltage $U_{O,nom}$	$U_{O,nom}$ – voltage drop
Trip time	Load-dependent (4 ms ... 100 s)
Switch-on capacity	> 50000 μ F per channel
Switch-on behavior	Time-delayed channel switching (load-dependent min. 2 ms/max. 200 ms)
Active current limitation	No
Status indication	LED (green/red/orange)
Remote input	18 ... 30 VDC signal, switches on/off and resets the channel
Fuse Protection	
Internal fuse	15 AT
Environmental Requirements	
Storage temperature	-40 ... +85 °C
Relative humidity	10 ... 95 % (no condensation permissible)
Derating	No derating
Safety and Protection	
Test voltage	500 VDC (bus modules to housing)
Protection class	III
Reverse voltage protection	No
Protection type	IP20 per EN 60529
Overvoltage protection	Via 33 V suppressor diode at input
Series connection of several devices	Not permitted
Parallel operation of single channels	Not permitted
Connection and Mounting Type	
Connection technology	Push-in CAGE CLAMP® (WAGO 857 Series)
Conductor range	Solid: 0.08 ... 2.5 mm ² / 28 ... 14 AWG Fine-stranded: 0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 15 mm / 0.35 ... 0.39 inch
Mounting type	DIN-rail mount (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x D	6 x 97.8 x 94, height from upper-edge of DIN-rail
Weight	40 g
General Specifications	
Standards/Approvals	EN 61000-6-2, EN 61000-6-3, UL 61010-1*, UL 2367*, GL* (*pending)

PUSH-IN CAGE CLAMP®



EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 1 A; communication capability		
	Item No.	Pack. Unit
	787-2861/100-000	1

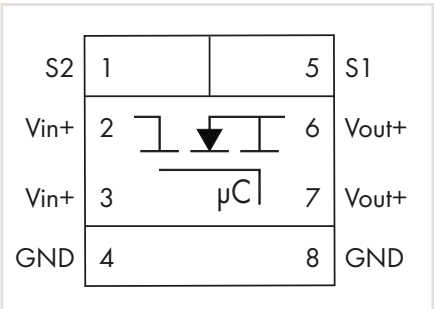
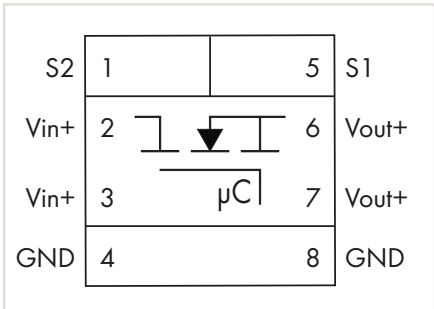
EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 2 A; communication capability		
	Item No.	Pack. Unit
	787-2861/200-000	1

Specific Electrical Data

Nominal current	1 ADC (fixed setting)
Voltage drop	20 mV at 1 A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices
MTBF	1,263,074 h (per MIL-HDBK-217F2)
Efficiency	99 % typ.
Power loss P _V	0.5 W (nominal load)
Ambient temperature	-25 ... +70 °C

Nominal current	2 ADC (fixed setting)
Voltage drop	40 mV at 2 A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Efficiency	99 % typ.
Power loss P _V	0.5 W (nominal load)
Ambient temperature	-25 ... +70 °C

Nominal current	2 ADC (fixed setting)
Voltage drop	40 mV at 2 A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Efficiency	99 % typ.
Power loss P _V	0.5 W (nominal load)
Ambient temperature	-25 ... +70 °C



EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 4 A; communication capability		
	Item No.	Pack. Unit
	787-2861/400-000	1

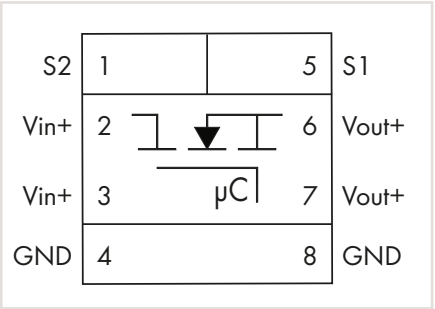
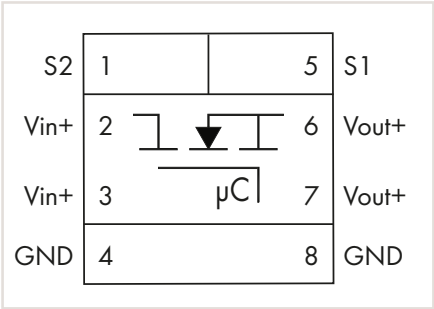
EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 6 A; communication capability		
	Item No.	Pack. Unit
	787-2861/600-000	1

Specific Electrical Data

Nominal current
Voltage drop
Signaling
MTBF
Efficiency
Power loss P _V
Ambient temperature

4 ADC (fixed setting)
80 mV at 1 A
Status output, high-side switching, can also be combined as a group output for up to 30 devices
1,258,733 h (per MIL-HDBK-217F2)
99 % typ.
0.5 W (nominal load)
–25 ... +70 °C

6 ADC (fixed setting)
120 mV at 6 A
Status output, high-side switching, can also be combined as a group output for up to 30 devices
1,253,313 h (per MIL-HDBK-217F2)
99 % typ.
0.5 W (nominal load)
–25 ... +60 °C



EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 8 A; communication capability		
	Item No.	Pack. Unit
	787-2861/800-000	1

EPSITRON® Electronic Circuit Breaker, 1-channel; 24 VDC; 1 ... 8 A; communication capability		
	Item No.	Pack. Unit
	787-2861/108-020	1

Specific Electrical Data

Nominal current	8 ADC (fixed setting)
Voltage drop	160 mV at 8 A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices
MTBF	1,245,816 h (per MIL-HDBK-217F2)
Efficiency	99 % typ.
Power loss P _V	0.5 W (nominal load)
Ambient temperature	-25 ... +35 °C (module assembly) -25 ... +65 °C (module distance: 6 mm)

Nominal current	1 ... 8 ADC (adjustable)
Voltage drop	Nominal current 1 ... 2 A: < 50 mV/A Nominal current ≥ 4 A: 20 mV/A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices, adjustable
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Efficiency	98 % typ.
Power loss P _V	0.3 W (nominal load)
Ambient temperature	-25 ... +70 °C (at 8 A and a module distance of 6 mm: -25 ... +65 °C)

Nominal current	1 ... 8 ADC (adjustable)
Voltage drop	Nominal current 1 ... 2 A: < 50 mV/A Nominal current ≥ 4 A: 20 mV/A
Signaling	Status output, high-side switching, can also be combined as a group output for up to 30 devices, adjustable
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Efficiency	98 % typ.
Power loss P _V	0.3 W (nominal load)
Ambient temperature	-25 ... +70 °C (at 8 A and a module distance of 6 mm: -25 ... +65 °C)

Power Supply for Fan Control

EPSITRON®

787 Series



Power Supply for Fan Control;
EPSITRON® Fan Control Power

	Item No.	Pack. Unit
	787-914	1

Features:

- Power supply for small loads that operate at a variable input voltage
- The output voltage can be adjusted linearly by hand or via an analog voltage signal (0 ... 10 V) in the range from 12 ... 22 V, e.g., for automatically controlling fan speed in control cabinets.
- Flat design allows installation in confined spaces.
- Variable mounting options for space-saving installation, e.g., in recesses

Technical Data

Input	
Nominal input voltage $U_{i,nom}$	100 ... 240 VAC
Input voltage range	90 ... 264 VAC, 130 ... 373 VDC
Frequency	47 ... 63 Hz
Input current I_i	< 0.6 A
Power factor	> 0.45
Discharge current	< 1 mA
Inrush current	< 18 A
Mains failure hold-up time	≥ 15 ms
Output	
Nominal output voltage $U_{o,nom}$	22 VDC ±2.5 %
Output voltage range	12 ... 22 VDC (adjustable by hand or via signal input)
Factory preset	22 VDC
Output current I_o	0.8 A (1 A at 110 V < U_i < 240 VAC)
Adjustment accuracy	< 1 %
Deviation, dynamic load change 10 ... 90 %	< 1 %
Residual ripple	< 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 ... 1.7 x I_o); Hiccup in the event of a short circuit or permanent overload
Status indication	Green LED (U_o)
Signal Input	
Input signal	0 ... 10 VDC
Input impedance	≥ 10 kΩ
Reverse voltage protection, input	Yes
Overvoltage protection	Yes
Efficiency/Power Losses	
Efficiency	> 84 % (230 VAC); > 80 % (110 VAC)
Power loss P_v	< 0.8 W (no load)
Power loss P_v (max.)	< 4 W
Fuse Protection	
Internal fuse	1 A / 250 V
Recommended backup fuse	Circuit breaker B6, C4 or higher
Environmental Requirements	
Ambient temperature	-20 ... +60 °C
Storage temperature	-25 ... +75 °C
Relative humidity	20 ... 90 % (no condensation permissible)
Derating	-2.47 %/K (> 45 °C)
Pollution degree	2 (per EN 50178)
Climatic category	3K3 (per EN 60721, except for low air pressure)
Safety and Protection	
Test voltage (pri.-sec.)	3 kV AC
Protection class	II
Protection type	IP20 (per EN 60529)
Overvoltage protection	< 31 VDC (in the event of a fault)
Short-circuit-protection	Yes
Open-circuit proof	Yes
Feedback voltage	31 VDC (max.)
Parallel operation	Yes
Series operation	Yes
MTBF	> 500,000 h at 25 °C per IEC 61709
Connection and Mounting Type	
Connection technology	CAGE CLAMP® (WAGO 236 Series)
Conductor range	0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip lengths	5 ... 6 mm / 0.2 ... 0.24 inch
Mounting type	DIN-rail mount (EN 60715) or screw mount
Dimensions and Weight	
Dimensions (mm) W x H x D	45 x 138 x 35
Weight	300 g
Standards and Specifications	
Standards and specifications	CE; UL 60950*; EN 60950; EN 61204-3; EN 61000-6-3 (*pending)

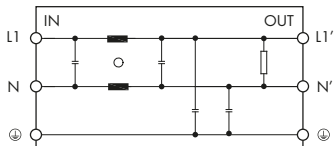
Radio Interference Suppression Filter, 1-Phase

EPSITRON®

787 Series



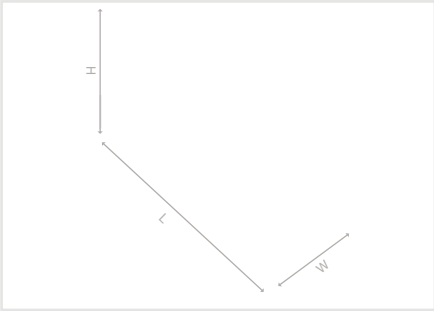
Radio interference suppression filter, 250 VAC, 10 A		
	Item No.	Pack. Unit
	787-980	1



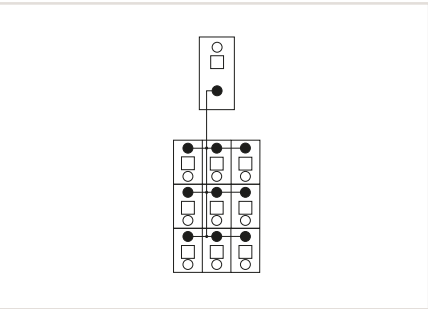
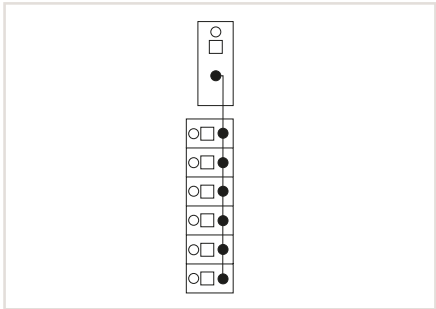
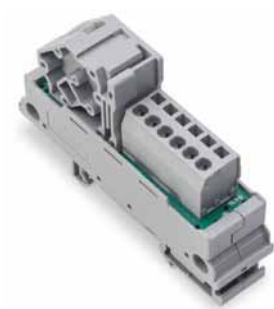
- Features:**
- Suppresses interference generated on the mains side of power supplies and electronic devices
 - Fulfills general requirements
 - Provides a single-stage filter solution
 - Efficiently filters out line-bound interference emissions
 - Increases the interference immunity of connected loads

Technical Data	
Input/Output	
Nominal input voltage $U_{I\text{ nom}}$	250 VAC
Input voltage range	0 ... 250 VAC
Frequency	50 ... 60 Hz
Input current I_I	10 A
Overload capacity	150 %, shortly
Discharge current	8 mA
Efficiency/Power Losses	
Power loss P_I	4.0 W
Environmental Requirements	
Ambient operating temperature	–25 ... +70 °C, device starts at –40 °C, type-tested
Derating	–2.5 %/K (> 45 °C)
Climatic category	25/085/21 (per EN 60068-1)
Safety and Protection	
Housing	Metal housing
Test voltage	1700 VDC (L1–N); 2700 VDC (I1–PE)
Protection class	I
Protection type	IP20 per EN 60529
Connection and Mounting Type	
Connection technology	L1, N: WAGO 741 Series Ground: 6.3 x 0.8 mm tab connector
Conductor range	L1, N: 0.08 ... 2.5 mm² / 28 ... 12 AWG Ground: –
Mounting type	DIN-rail mount (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x D	50 x 85 x 100, depth from upper-edge of DIN-rail
Weight	340 g
General Specifications	
Standards/Approvals	DIN EN 60939-2

Potential Distribution Modules
830 Series



Technical Data	
Input/Output	
Operating voltage	250 VAC/VDC
Environmental Requirements	
Ambient operating temperature	-20 ... +60 °C
Relative humidity	95 % (no condensation permissible)
Connection and Mounting Type	
Connection technology	Input: CAGE CLAMP® (WAGO 745 Series) Output: CAGE CLAMP® (WAGO 739 Series)
General Specifications	
Standards/Approvals	cULus 61010-2-201



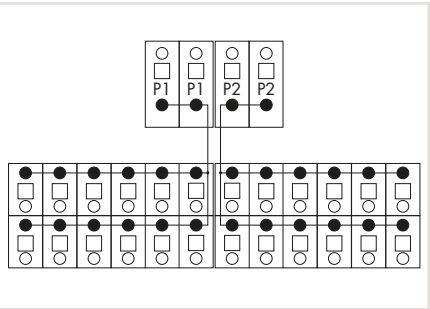
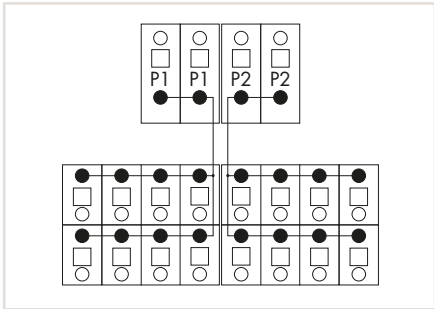
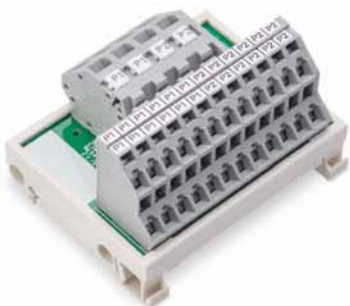
Potential distribution module, 1 potential, with 1 input clamping point, conductor cross-section up to 16 mm², with 6 output clamp- ing points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-302	10
blue	830-800/000-302/ 000-006	10

Potential distribution module, 1 potential, with 1 input clamping point, conductor cross-section up to 16 mm², with 9 output clamp- ing points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-303	10

Specific Technical Data	
Max. total current	65 A
Max. current per connection	12 A
Conductor range	Input: 0.2 ... 16 mm² / 24 ... 6 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 8 ... 9 mm / 0.31 ... 0.35 inch
Dimensions (mm) W x H x D	21 x 49 x 85, height from upper-edge of DIN-rail
Weight	51 g

65 A
12 A
Input: 0.2 ... 16 mm² / 24 ... 6 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 8 ... 9 mm / 0.31 ... 0.35 inch
21 x 49 x 85, height from upper-edge of DIN-rail
51 g

65 A
10 A
Input: 0.2 ... 16 mm² / 24 ... 6 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
21 x 62 x 85, height from upper-edge of DIN-rail
57



Potential distribution module,
2 potentials, with 2 input clamping points, con-
ductor cross-section up to 6 mm², each with 8
output clamping points, conductor cross-section
up to 2.5 mm²

Color	Item No.	Pack. Unit
gray	830-800/000-305	6

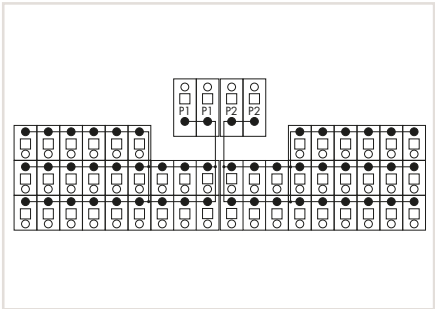
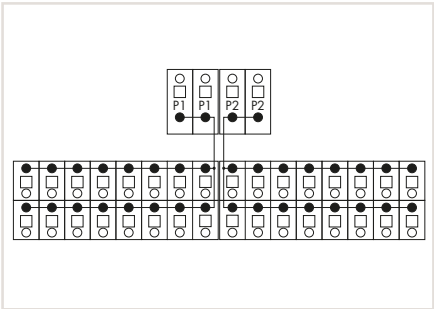
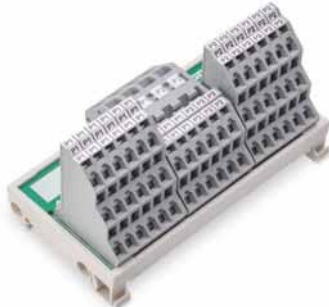
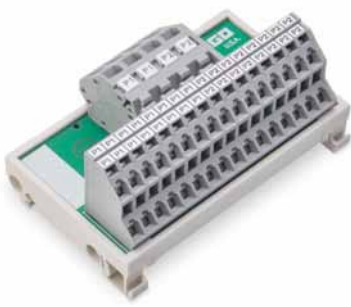
Potential distribution module,
2 potentials, with 2 input clamping points, con-
ductor cross-section up to 6 mm², each with 12
output clamping points, conductor cross-section
up to 2.5 mm²

Color	Item No.	Pack. Unit
gray	830-800/000-306	6

Specific Technical Data

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.2 ... 6 mm ² / 24 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	49 x 38 x 55, height from upper-edge of DIN-rail
Weight	75 g

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.2 ... 6 mm ² / 24 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	69 x 38 x 55, height from upper-edge of DIN-rail
Weight	91



Potential distribution module,
2 potentials, with 2 input clamping points, con-
ductor cross-section up to 6 mm², each with 16
output clamping points, conductor cross-section
up to 2.5 mm²

Color	Item No.	Pack. Unit
gray	830-800/000-307	6

Potential distribution module,
2 potentials, with 2 input clamping points, con-
ductor cross-section up to 6 mm², each with 24
output clamping points, conductor cross-section
up to 2.5 mm²

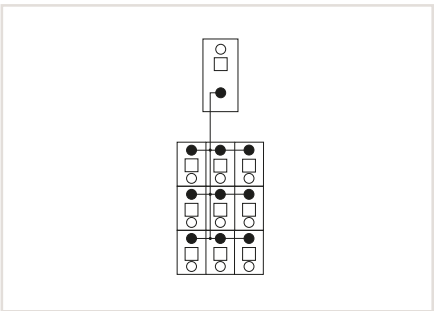
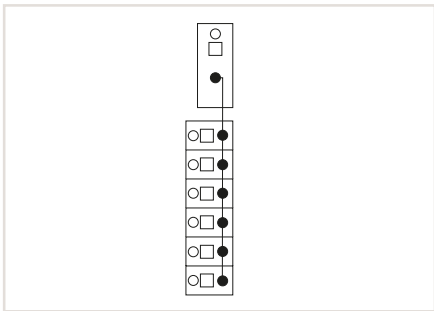
Color	Item No.	Pack. Unit
gray	830-800/000-308	6

Specific Technical Data

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.2 ... 6 mm ² / 24 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	89 x 38 x 55, height from upper-edge of DIN-rail
Weight	112 g

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.2 ... 6 mm ² / 24 ... 6 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	102 x 38 x 55, height from upper-edge of DIN-rail
Weight	141

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.2 ... 6 mm ² / 24 ... 6 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	102 x 38 x 55, height from upper-edge of DIN-rail
Weight	141



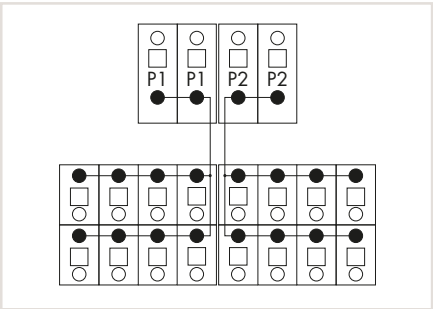
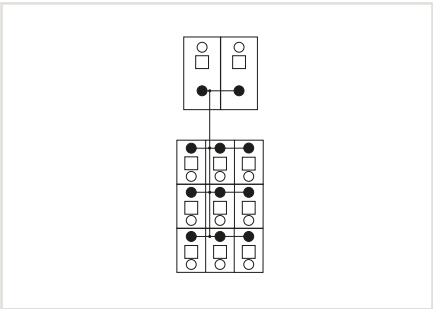
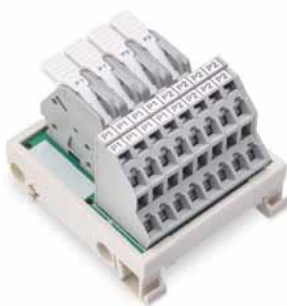
Potential distribution module, 1 potential, with 1 input clamping point, conductor cross-section up to 16 mm², with lever, with 6 output clamping points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-312	10
blue	830-800/000-312/ 000-006	10

Potential distribution module, 1 potential, with 1 input clamping point, conductor cross-section up to 16 mm², with lever, with 9 output clamping points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-313	10

Specific Technical Data

Max. total current	65 A
Max. current per connection	12 A
Conductor range	Input: 1.5 ... 16 mm² / 16 ... 6 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 12 ... 13 mm / 0.47 ... 0.51 inch Output: 8 ... 9 mm / 0.31 ... 0.35 inch
Dimensions (mm) W x H x D	21 x 49 x 85, height from upper-edge of DIN-rail
Weight	51 g

Max. total current	65 A
Max. current per connection	10 A
Conductor range	Input: 1.5 ... 16 mm² / 16 ... 6 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 12 ... 13 mm / 0.47 ... 0.51 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	21 x 62 x 85, height from upper-edge of DIN-rail
Weight	57



Potential distribution module, 1 potential, with 2 input clamping points, conduc- tor cross-section up to 6 mm², with levers, with 9 output clamping points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-314	10

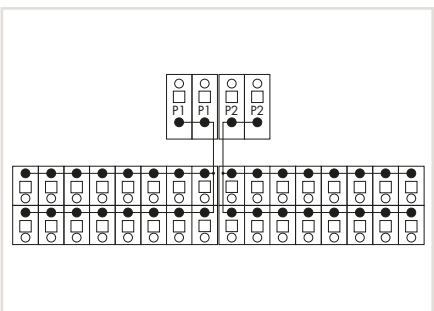
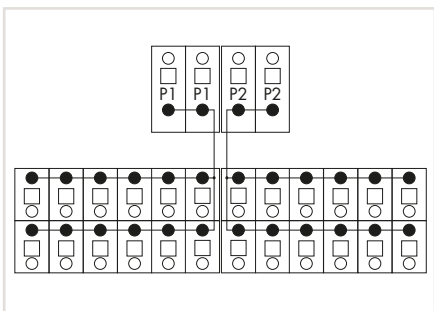
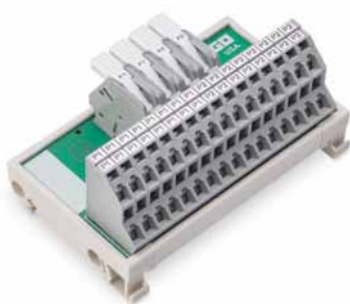
Potential distribution module, 2 potentials, with 2 input clamping points, conduc- tor cross-section up to 6 mm², with levers, each with 8 output clamping points, conductor cross-section up to 2.5 mm²		
Color	Item No.	Pack. Unit
gray	830-800/000-315	10

Specific Technical Data

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 11 mm / 0.43 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	21 x 62 x 85, height from upper-edge of DIN-rail
Weight	56 g

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	49 x 38 x 55, height from upper-edge of DIN-rail
Weight	76

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	49 x 38 x 55, height from upper-edge of DIN-rail
Weight	76



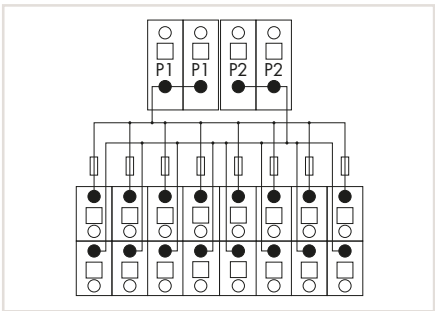
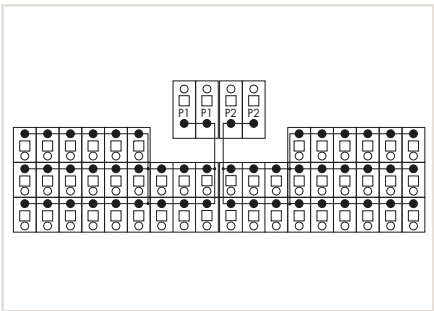
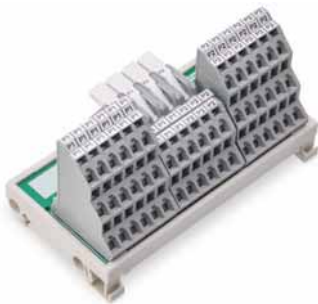
Potential distribution module, 2 potentials, with 2 input clamping points, con- ductor cross-section up to 6 mm ² , with levers, each with 12 output clamping points, conductor cross-section up to 2.5 mm ²		
Color	Item No.	Pack. Unit
gray	830-800/000-316	6

Potential distribution module, 2 potentials, with 2 input clamping points, con- ductor cross-section up to 6 mm ² , with levers, each with 16 output clamping points, conductor cross-section up to 2.5 mm ²		
Color	Item No.	Pack. Unit
gray	830-800/000-317	6

Specific Technical Data

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm ² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	69 x 38 x 55, height from upper-edge of DIN-rail
Weight	97 g

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm ² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	89 x 38 x 55, height from upper-edge of DIN-rail
Weight	108



Potential distribution module, 2 potentials, with 2 input clamping points, con- ductor cross-section up to 6 mm ² , with levers, each with 24 output clamping points, conductor cross-section up to 2.5 mm ²		
Color	Item No.	Pack. Unit
gray	830-800/000-318	3

Potential distribution module, 2 potentials, with 2 input clamping points, con- ductor cross-section up to 6 mm ² , with levers, each with 8 output clamping points, conductor cross-section up to 2.5 mm ² , with fuse		
Color	Item No.	Pack. Unit
gray	830-800/000-319	3

Specific Technical Data

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm ² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	102 x 53 x 55, height from upper-edge of DIN-rail
Weight	145 g

Max. total current	30 A
Max. current per connection	10 A
Conductor range	Input: 0.5 ... 6 mm ² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	102 x 53 x 55, height from upper-edge of DIN-rail
Weight	145 g

Max. total current	30 A
Max. current per connection	6.3 A
Conductor range	Input: 0.5 ... 6 mm ² / 20 ... 10 AWG Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input: 11 ... 12 mm / 0.43 ... 0.47 inch Output: 5 ... 6 mm / 0.2 ... 0.24 inch
Dimensions (mm) W x H x D	98 x 48 x 106, height from upper-edge of DIN-rail
Weight	163

Micro-WSB Inline Markers



Micro-WSB Inline markers, plain, 2,000 markers (4 mm) per reel, not stretchable

for:	Color	Item No.	Pack. Unit
Modular Empty Housing, 2857 Series	○ white	2009-141	1



Micro-WSB Inline markers are compatible with 2857 Series Modular Empty Housings.

Circuit ID Labels



Circuit ID labels, self-adhesive, plain, 750 labels per roll, single-row		
Color	Item No.	Pack. Unit
☐ white	210-813	1

JUMPFLEX® Signs and Symbols

Signal Conditioners and Isolation Amplifiers



Isolation amplifier



Temperature signal conditioner



Threshold value switch



Frequency signal conditioner



Potentiometer signal conditioner



Resistance signal conditioner



Current signal conditioner



Voltage signal conditioner

Specialty Functions



Zero/span adjustment



Clipping function



Digital output (DO)



Relay, 1 changeover contact



Relay, 1 make contact

Configuration



DIP switch



Interface configuration software



Interface configuration app



Interface configuration display



Push/slide switch

General



Temperature sensors



Connection technology



Supply voltage

Input Signals



Frequencies



Potentiometer



Resistors



Current



Voltage

Bipolar signals
(current and voltage)

Output Signals



Current



Voltage

Bipolar signals
(current and voltage)

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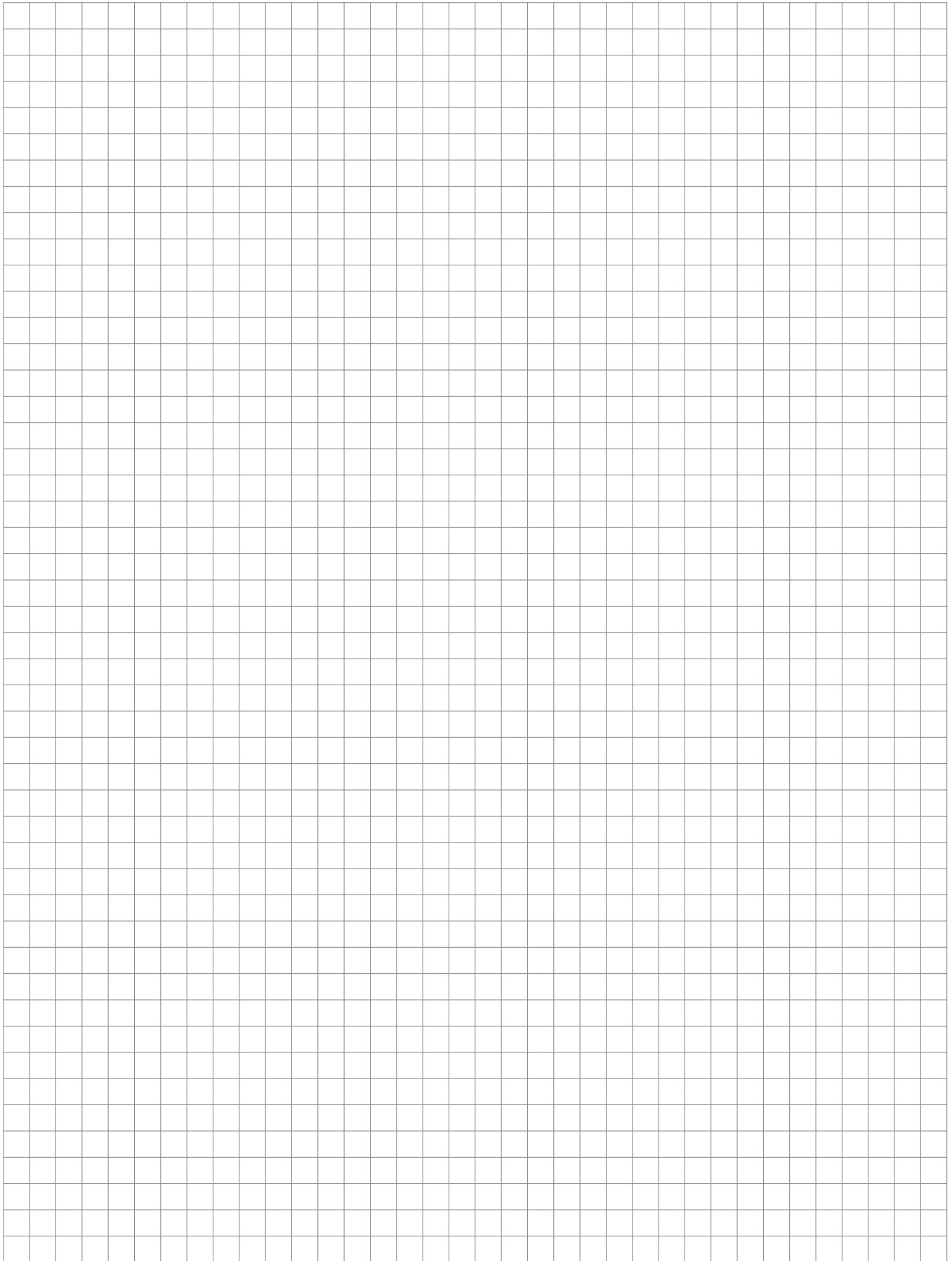
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