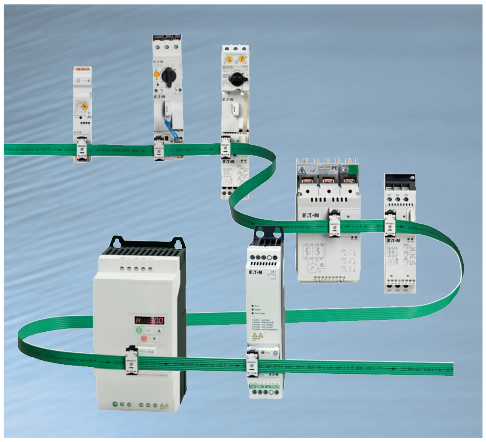
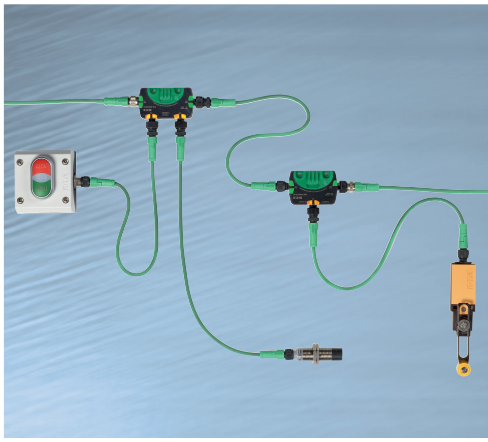
SmartWire-DT®

www.eaton.eu

Product Range Catalog

Connect Switchgear intelligently with SmartWire-DT®
Operate Machines and Systems efficiently





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- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
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With 2014 sales of $22.6 billion, Eaton has approximately 100,000 employees around the world and sells products in more than 175 countries.

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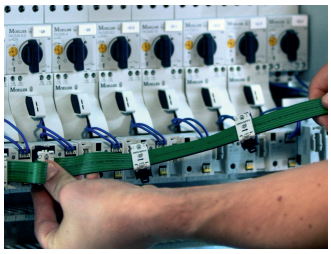
SmartWire-DT®: The key to planning and building cost-effectively…

With SmartWire-DT, Eaton offers a forward-looking technology that makes it possible to plan, design, configure, wire, test, and commission electrical equipment much faster.

Efficient engineering

The advantages of SmartWire-DT start from the planning stage. For starters, the system eliminates the need for traditionally required PLC inputs/outputs, eliminating a time-consuming step in initial project phases. This also means that the space that this I/O would normally take is freed up, making the use of smaller control panels possible. The result is not only added flexibility, but also the elimination of additional costs. Moreover, the use of fewer components reduces the number of orders that need to be placed, while also keeping the electrical design work involved more manageable.



SmartWire-DT in control panels … *Eliminate* mistakes by connecting instead of wiring

With SmartWire-DT, conventional control circuit wiring is replaced with one single continuous ribbon cable. This completely eliminates wiring mistakes, as switchgear can be easily plugged into the ribbon cable. The guaranteed result is safe and error-free switchgear installations combined with significantly shorter commissioning times.

SmartWire-DT in the field: Directly connect individual sensors and actuators

SmartWire-DT can also be used to directly connect sensors and actuators in the field. To do so, each individual sensor is connected directly to the SmartWire-DT communication system using T-connectors. This eliminates the need to route sensor cables to control panels or to junction boxes set up in the field. In addition, it also makes it easy to connect new sensors where required at any time.

Engineering

Build/Wire/ Install

…running equipment efficiently and reliably

Safe and reliable operation

Using SmartWire-DT not only provides advantages during the planning, configuration, and installation stages, but also during operation. For example, the communication system not only makes it possible to transmit traditionally accessible process data, but also details concerning the availability and state of connected switchgear. This information provides unparalleled data transparency that makes it possible to avoid errors and optimize operation. The end result – improved machine performance and availability.

Reliable motor protection

The basis for proper motor protection is correctly setting the overload current on the corresponding circuit-breaker. This is why PKE electronic motor-protective circuit-breakers transmit the value of the currently set overload current via SmartWire-DT so that it can be compared with the corresponding setpoint in order to ensure that proper motor protection is being provided. This also means that changes during operation can be monitored and logged.

Increased availability

When used together with PKE electronic motor-protective circuit-breakers, SmartWire-DT provides PLCs with continuous information on the load conditions of the motor being used. This means that motor overloads can be detected early on, enabling operators to take action and prevent the motor from being switched off. The result is improved machine and system availability.

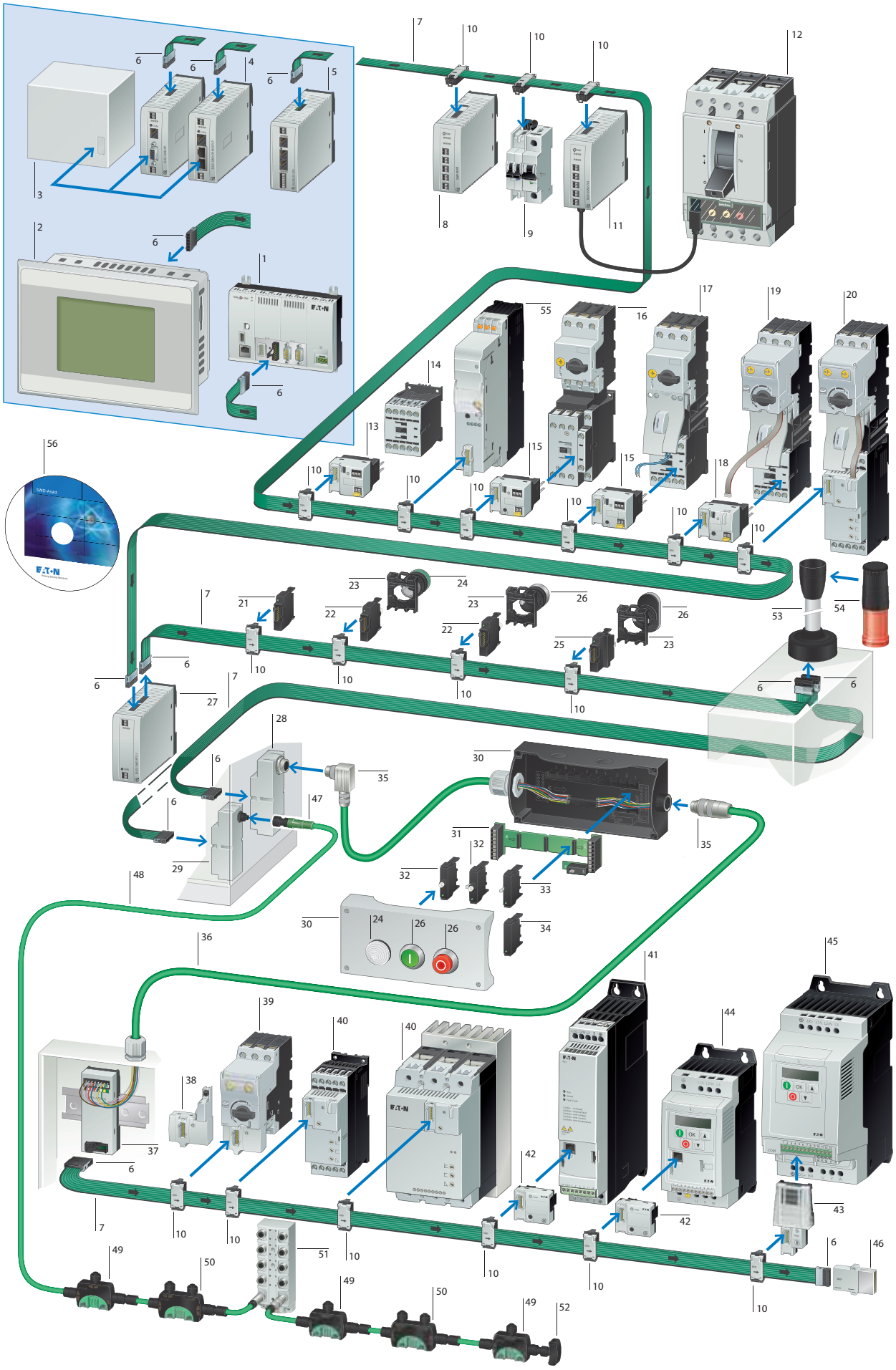
Easy expansion

SmartWire-DT makes it easy to add expansions during operation. New SmartWire-DT modules simply need to be connected to the ribbon cable inside the control panel, while field components only need to be connected to a new T-connector. To put it simply: Connect your sensor and you're done!

Operation

Extend

System overview



1 Compact PLC
2 Touch panel
3 PLC with field bus interface
4 Gateways
5 Control relays
6 SWD blade terminal, 8 pole
7 SWD ribbon cable, 8 pole
8 SWD I/O module
9 SWD module for miniature circuit-breakers and residual current circuit-breakers
10 SWD external device plug, 8 pole
11 SWD connection for NZM
12 NZM circuit-breaker
13 SWD contactor module
14 DILM contactor
15 SWD contactor module with manual 0 automatic switch
16 Motor-protective circuit-breakers
17 Motor starter MSC
18 SWD-PKE module (motor starter)
19 Motor starter with PKE electronic motor protection
20 Soft starter DS7 with electronic motor protection from PKE
21 SWD universal module, front mount
22 SWD LED element, front mounted
23 RMQ-Titan mounting clamp for flush mounting plates
24 RMQ-Titan indicator light
25 SWD function elements for front mount
26 SWD operating elements
27 SWD power feeder module
28 SWD control panel bushing ribbon cable to 8 pole round cable, M20
29 SWD control panel bushing ribbon cable to 5 pole round cable, M12
30 Surface mounting enclosure RMQ-Titan
31 SWD card for function elements, base fixing
32 SWD LED elements for base fixing
33 SWD function elements for base fixing
34 SWD universal modules, base fixing
35 SWD plug-in connection, 8 pole
36 SWD round cable, 8 pole
37 SWD adapter for flat/round cable for top-hat rail mounting
38 SWD PKE module (motor-protective circuit-breaker)
39 PKE motor-protective circuit-breakers
40 DS7 soft starters
41 DE1 Variable speed starter
42 SWD function element for DC1 variable frequency drive, DE1 variable speed starter
43 SWD function element for DA1 variable frequency drive
44 DC1 variable frequency drive
45 DA1 variable frequency drives
46 SWD bus termination resistor for 8 pole flat band conductor
47 M12 plug connector, 5 pole
48 Round cable, 5 pole
49 SWD I/O module IP67, 2 I/O
50 SWD I/O module IP67, 4 I/O
51 SWD I/O module IP67, max. 16 I/O
52 SWD bus termination resistor IP67 for 5 pole round cable, M12
53 Base module signal tower SL4/SL7
54 Signal towers SL4 /SL7
55 Electronic motor starter EMS
56 SmartWire-DT planning and ordering aid (SWD-Assist)

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Features

SmartWire-DT coordinators
Touch panel
with SWD master switch and PLC function
3.5“ , 5.7“, 7“ or 10“ TFT-LCD screen, additional field bus interfaces, Ethernet, WEB server

Compact controller
with SWD master switch
additional fieldbus interfaces, Ethernet, WEB server

Control relay
with SWD master switch

Gateways
Connection of SmartWire-DT to fieldbus (e.g. CANopen, Profibus, Profinet …)
Supply voltage for the SmartWire-DT modules
Feeder unit for the control voltage for the motor starter or contactor
Support of up to 99 SmartWire-DT modules

SWD modules

I/O modules to connect digital and analog input/output signals in protection class IP20, IP67

DS7 soft starter with integrated connection

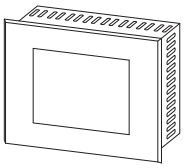
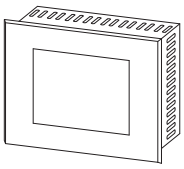
Function element to connect to:
- HMI devices RMQ-Titan
- SL4/7 signal tower
- Contactor DILM
- Motor-protective circuit-breaker PKZ/PKE
- PKE32,65 circuit-breakers
- NZM2,3,4 circuit-breakers
- Miniature circuit-breaker (MCB)
- DE1 Variable speed starter
- DC1, DA1 variable frequency drives

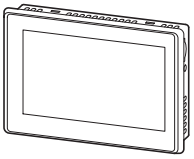
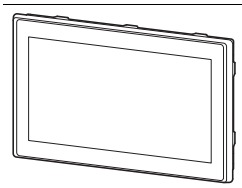
SmartWire-DT-Assist (SWD-Assist)

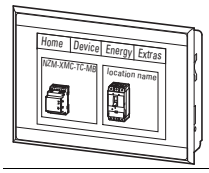
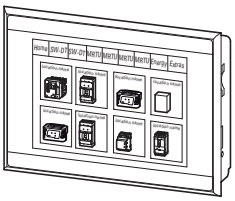
Easily create SmartWire-DT networks integrated validity check
Generate order lists.
Online functions:
- Configuration check and comparison
- Display of all input/output data, setting outputs
- Display of parameters and diagnostics

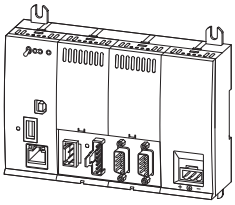
Free download at www.eaton.eu/swd

Ordering

	Screen diagonal Inch	Resolution Pixel	Built-in interfaces: 1 x Ethernet 100base-4TX/10base-T	1 x RS485	1 x USB host	1 x USB device	1 x CAN	1 x PROFIBUS/MPI	1 x SmartWire-DT	Part no.	Article no.	Std. pack UL, CSA
Touch display with integrated controller												
XV100 Slots for SD card: 1 Resistive touch with TFT display, 64 k colors Standard front with standard membrane (fully enclosed)												
Insulating enclosure and front plate												
	3.5	QVGA 320 x 240	✓	-	-	✓	-	-	✓	**XV-102-BE-35TQRC-10**	153524	1 off
	5.7	VGA 640 x 480	✓	✓	✓	✓	✓	-	✓	**XV-102-E6-57TVRC-10**	153525	
			✓	✓	✓	✓	-	✓	✓	**XV-102-E8-57TVRC-10**	153526	
	7	WVGA 800 x 480	✓	✓	✓	✓	✓	-	✓	**XV-102-E6-70TWRC-10**	153527	
			✓	✓	✓	✓	-	✓	✓	**XV-102-E8-70TWRC-10**	153528	
XV150 Metal enclosure and front plate												
	5.7	VGA 640 x 480	✓	✓	✓	✓	✓	-	✓	**XV-152-E6-57TVRC-10**	166700	1 off
			✓	✓	✓	✓	-	✓	✓	**XV-152-E8-57TVRC-10**	166701	
	8.4		✓	✓	✓	✓	✓	-	✓	**XV-152-E6-84TVRC-10**	166702	
			✓	✓	✓	✓	-	✓	✓	**XV-152-E8-84TVRC-10**	166703	
	10.4		✓	✓	✓	✓	✓	-	✓	**XV-152-E6-10TVRC-10**	166704	
			✓	✓	✓	✓	-	✓	✓	**XV-152-E8-10TVRC-10**	166705	

	Built-in interfaces: 1 x Ethernet 10/100 Mbps	2 x Ethernet 10/100 Mbps	1 x RS232	1 x RS485	1 x USB host 2.0	1 x USB device	1 x CAN	1 x PROFIBUS	1 x SmartWire-DT	Part no.	Article no.	Std. pack UL, CSA
XV300												
Windows Embedded Compact 7 Pro, Approvals: in preparation: cUL 61010-2-201 Slots for SD card: 1 Resolution: WSVGA 1024 x 600 Pixel PLC licence inclusive Capacitive multi-touch technology (PCT), Number of colours: 16 mil. Model: Plastic enclosure and glass panel in plastic frame												
XV300 7"												
	✓	-	✓	✓	✓	✓	✓	-	✓	**XV-303-70-BE0-A00-1C**	179655	1 off
	-	✓	✓	✓	✓	✓	✓	-	✓	**XV-303-70-CE0-A00-1C**	179656	
	✓	-	✓	✓	✓	✓	✓	✓	✓	**XV-303-70-BE2-A00-1C**	179657	
	-	✓	✓	✓	✓	✓	✓	✓	✓	**XV-303-70-CE2-A00-1C**	179658	
XV300 10.1"												
	✓	-	✓	✓	✓	✓	✓	-	✓	**XV-303-10-BE0-A00-1C**	179667	1 off
	-	✓	✓	✓	✓	✓	✓	-	✓	**XV-303-10-CE0-A00-1C**	179668	
	✓	-	✓	✓	✓	✓	✓	✓	✓	**XV-303-10-BE2-A00-1C**	179669	
	-	✓	✓	✓	✓	✓	✓	✓	✓	**XV-303-10-CE2-A00-1C**	179670	

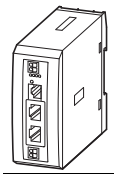
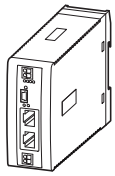
	Description	Part no.	Article no.	Std. pack UL, CSA
	Pre-programmed solution			
	Touch display with integrated controller BreakerVisu (HMI-PLC)			
	Visualize and log circuit-breaker and/or measuring device data Read diagnostic memories Create energy logs Connect NZM using NZM-XSWD-704 Connect all NZM…-XMC-MB… measuring modules and NZM-XMC-TC-MB Connection of IZMX16/40 using IZMX-MCAM Connect IZM26… using IZM-MMINT Connect PKE with XTUA or XTUWA using PKE-SWD-SP Connect PKE with XTUACP or XTUWACP using PKE-SWD-CP Connect RCCBs, MCBs, RCBOs using MCB-HK-SWD Ethernet connection for display on web browsers FTP connection for data transfers Gateway function for forwarding data Non-Eaton devices can be connected			
	Max. 8 devices via SmartWire-DT 3.5 Inch Color display, TFT	**NZM-XMC-MDISP35-SWD**	172765	1 off
	Max. 32 devices via MODBUS RTU and/or max. 16 devices via SmartWire-DT 7 Inch Color display, TFT	**NZM-XMC-MDISP70**	172766	1 off

	Built-in interfaces							Part no.	Article no.	Std. pack UL, CSA
	Ethernet 100Base-TX/10Base-T	USB Host	RS232	RS485	CANopen®/easyNet	PROFIBUS/MPI	SmartWire-DT			
XC compact PLCs										
24 V DC power supply Lot for memory card RUN/STOP switch and LED displays OPC Server Integrated Web server cULus approval Application/marker/retain data 64 MB/4 KB/32 KB KByte Cycle time for 1 k of instructions (Bit, Byte) 0.04 ms										
	✓	✓	✓	-	-	-	✓	**XC-152-E3-11**	167850	1 off
	✓	✓	-	✓	✓	-	✓	**XC-152-E6-11**	167851	
	✓	✓	-	✓	-	✓	✓	**XC-152-E8-11**	167852	

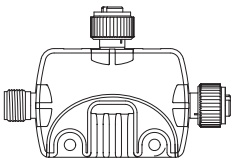
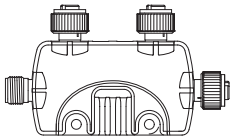
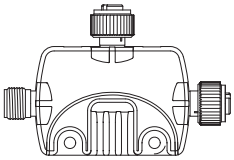
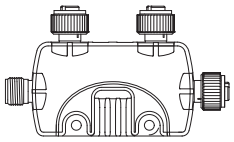
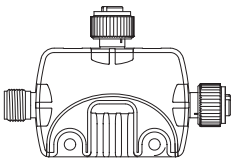
	Inputs			Outputs		Real time clock	Part no.	Article no.	Std. pack UL, CSA
	Digital	Of which can be used as outputs	SmartWire-DT	Transistor	SmartWire-DT				
easy800 control relay									
Combines the functionality of an easy800 with direct connection to SmartWire-DT communication system Up to 99 SmartWire-DT modules with a total of up to 166 digital inputs/outputs and/or up to 128 analog inputs/outputs can be connected via a SmartWire-DT line Supply voltage 24 V DC									
	-	-	83	-	83	✓	**EASY802-DC-SWD**	152901	1 off
	4	2	83	2	83	✓	**EASY806-DC-SWD**	152902	1 off

Gateways

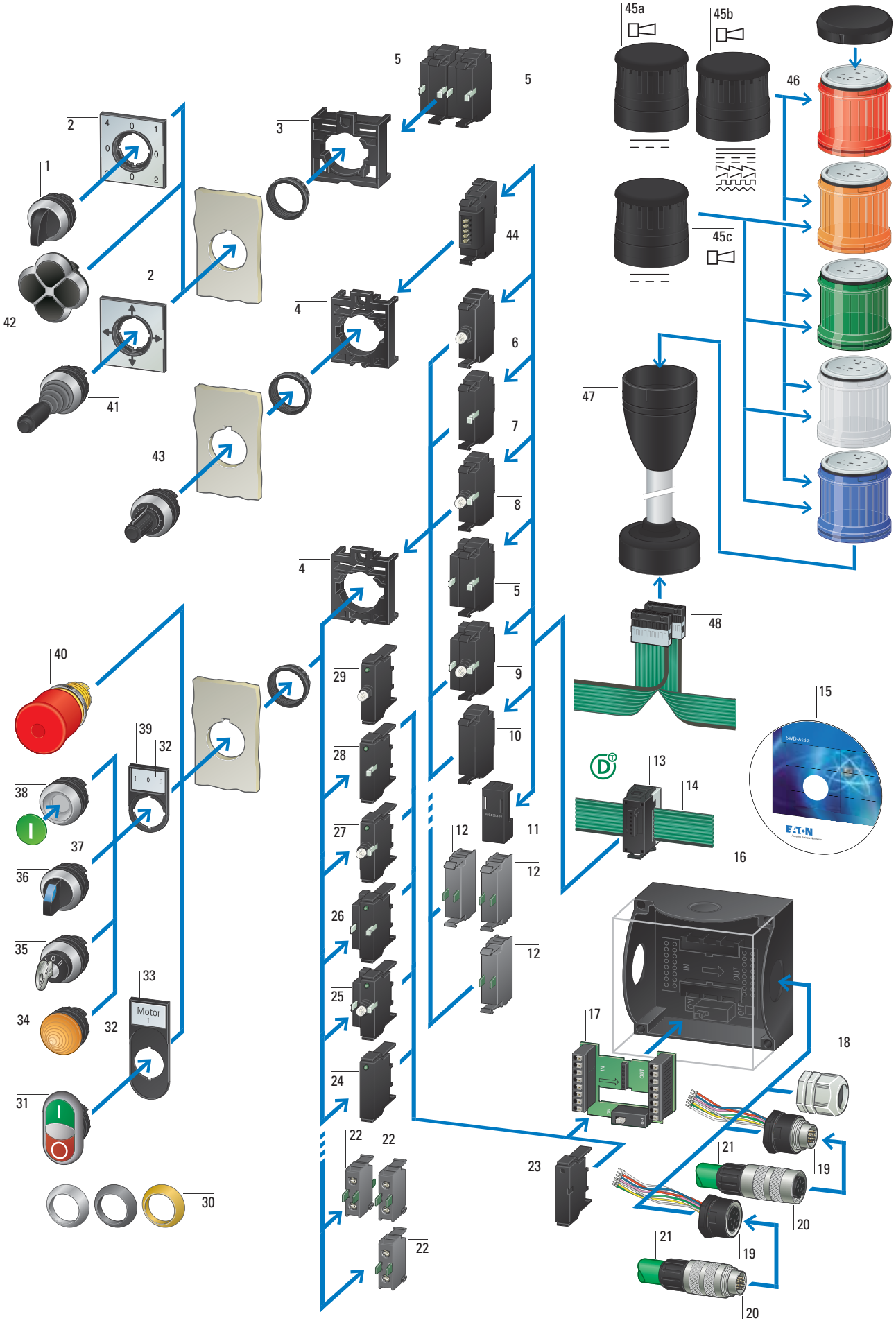
supply of the SmartWire-DT modules and switchgear

		Baud Rates	Number of SmartWire-DT slaves	Part no.	Article no.	Std. pack UL, CSA
	For connection to PROFIBUS-DP field bus field bus connection through 9-pin SUB-D socket Separate RS232 diagnostics interface (RJ45)	up to 12 MBit/s	Max. 58	**EU5C-SWD-CAN**	116307	1 off
	For connection to CANopen® field bus Field bus connection through 9-pin SUB-D plug Separate RS232 diagnostics interface (RJ45)	up to 1 MBit/s	Max. 99	**EU5C-SWD-DP**	116308	
	For connection to the Ethernet-IP/MODBUS-TCP field bus Field bus connection via Ethernet Switch Separate RS232 diagnostics interface (RJ45)	10/100 MBit/s	Max. 99	**EU5C-SWD-EIP-MODTCP**	153163	
	For connection to field bus PROFINET as PROFINET IO-Device Field bus connection via Ethernet Switch Separate USB diagnostics interface (Mini-USB)	100 MBit/s	Max. 99	**EU5C-SWD-PROFINET**	170124	
	For connection to a POWERLINK field bus as a slave Field bus connection via Ethernet hub Separate USB diagnostics interface (Mini-USB)	100 MBit/s	Max. 99	**EU5C-SWD-POWERLINK**	171797	
	For connection to an EtherCAT fieldbus as a slave Field bus connection via Ethernet Switch Separate USB diagnostics interface (Mini-USB)	100 MBit/s	Max. 99	**EU5C-SWD-ETHERCAT**	177354	

		Inputs Digital	Analog	Outputs Relay	Transistor	Analog	Part no.	Article no.	Std. pack UL, CSA
Input/Output modules (IP20)									
Digital modules IP20 For connection of digital I/O signals For use with: ribbon cable, SWD coordinators									
		8	-	-	-	-	**EU5E-SWD-8DX**	116381	1 off
	The outputs are short-circuit proof.	4	-	-	4	-	**EU5E-SWD-4D4D**	116382	
		4	-	2	-	-	**EU5E-SWD-4D2R**	116383	
	The outputs are short-circuit proof.	-	-	-	8	-	**EU5E-SWD-X8D**	144061	
	Inputs with supply for sensor system.	4	-	-	-	-	**EU5E-SWD-4DX**	144060	
Analog modules IP20 For connection of analog I/O signals For use with ribbon cable, SWD coordinators									
	Inputs configurable: 0 - 10 V, 0 - 20 mA	-	4	-	-	-	**EU5E-SWD-4AX**	144062	
	Inputs/outputs, configurable: 0 - 10 V, 0 - 20 mA	-	2	-	-	2	**EU5E-SWD-2A2A**	144063	
	Configurable inputs: PT100, PT1000, Ni1000 Temperature range °C : PT100, PT1000: -50 - +200 Ni1000: -50 - +150	-	4	-	-	-	**EU5E-SWD-4PT**	144064	
	Configurable inputs: PT100, PT1000, Ni1000 Temperature range °C : PT100, PT1000: -100 - +400 Ni1000: -50 - +200	-	4	-	-	-	**EU5E-SWD-4PT-2**	172560	

	Short Description	Inputs Digital	Analog	Outputs Transistor	Analog	Part no.	Article no.	Std. pack UL, CSA
Input/Output modules (IP67)								
Digital modules IP67 For connection of digital I/O signals								
	-	2	-	-	-	**EU1E-SWD-2DX**	174711	1 off
	Freely configurable inputs/outputs, max. 2 The outputs are short-circuit proof.	≤ 2	-	≤ 2	-	**EU1E-SWD-2DD**	174715	1 off
	-	4	-	-	-	**EU2E-SWD-4DX**	174726	1 off
	Freely configurable inputs/outputs, max. 4 The outputs are short-circuit proof.	≤ 4	-	≤ 4	-	**EU2E-SWD-4DD**	174732	1 off
Analog modules IP67 For connection of analog I/O signals								
	Input: 0 - 10 V	-	1	-	-	**EU1E-SWD-1AX-1**	174717	1 off
	Input: 0 - 20 mA	-	1	-	-	**EU1E-SWD-1AX-2**	174718	1 off
	Output: 0 - 10 V	-	-	-	1	**EU1E-SWD-1XA-1**	174719	1 off
	Output: 0 - 20 mA	-	-	-	1	**EU1E-SWD-1XA-2**	174720	1 off
	Configurable inputs: PT100, PT1000, Ni1000	-	2	-	-	**EU2E-SWD-2PT**	174733	1 off
Counter module IP67 For connecting a meter								
	Meter/incremental encoder 24 V DC, max. 30 kHz	-	-	-	-	**EU1E-SWD-1CX**	174721	1 off

System overview



1 RMQ-Titan, 4-way selector switch actuator

2 RMQ-Titan, label with label mount for 4-way selector switch actuator and joystick

3 SWD front mounting adapter for 2 × M22-SWD-K22

4 RMQ-Titan, front mounting adapter with three mounting locations

5 SWD function element with 3 positions and LED for front mounting

6 SWD LED element for front mount

7 SWD function element with 2 positions for front mount

8 SWD function element with 2 positions and LED for front mount

9 SWD function element with 3 positions and LED for front mount

10 Universal module for front mount

11 Link for SWD external device plug

12 RMQ-Titan, M22 contact elements for front mount

13 SWD external device plug

14 SWD ribbon cable

15 SWD-Assist, planning and ordering help

16 RMQ-Titan, surface mounting enclosure

17 SWD circuit board for surface mounting enclosure cable gland for SWD round cable

18 Cable gland for SWD round cable

19 SWD bulkhead interface/socket with assembled signal cables

20 SWD socket/plug for round cable

21 SWD round cable

22 RMQ-Titan, M22 contact elements for base fixing

23 Link for SWD card

24 Universal module for base fixing

25 SWD function element with 3 positions and LED for base fixing

26 SWD function element with 3 positions for base fixing

27 SWD function element with 2 positions and LED for base fixing

28 SWD function element with 2 positions for base fixing

29 SWD LED element for base fixing

30 RMQ-Titan, bezels

31 RMQ-Titan, double actuator pushbutton

32 RMQ-Titan, insert labels

33 RMQ-Titan, Label mount for double actuator pushbuttons

34 RMQ-Titan, indicator light

35 RMQ-Titan, key-operated button

36 RMQ-Titan, selector switch actuator

37 RMQ-Titan, button plates/button lenses

38 RMQ-Titan, pushbuttons

39 RMQ-Titan, label mounts

40 RMQ-Titan, controlled stop button (for safety circuits use only M22 standard contacts)

41 RMQ-Titan, joystick

42 RMQ-Titan, 4-way position switch

43 RMQ-Titan, potentiometer / encoder

44 Function element for potentiometer/encoder

45 Acoustic modules signal tower

46 Illumination modules signal tower

47 SWD interface module for signal tower

48 SWD ribbon cable with a blade terminal

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Features

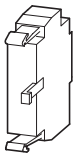
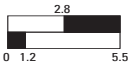
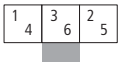
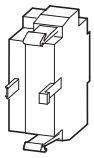
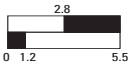
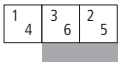
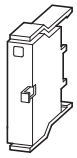
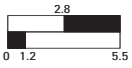
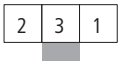
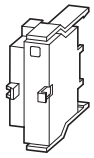
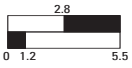
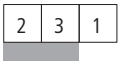
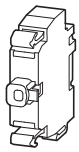
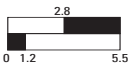
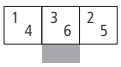
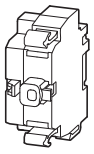
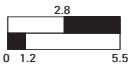
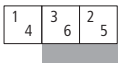
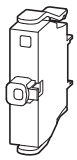
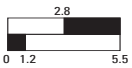
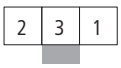
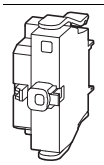
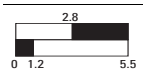
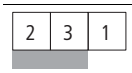
SWD RMQ connection for front mount
- Adaptation with standard adapter M22-A or M22-SWD-A4 for 4-way selector switch/pushbutton and joystick.
- Combination with standard pilot devices of the RMQ-Titan M22 series.
- Types with one or two change-over contacts and with/without integrated LED element.
- LED elements in four colors.
- Function elements for connecting to potentiometer / encoder
- SWD diagnostics LED for signaling the communication status of the function element.
- Connection to SWD ribbon cable line with external device plug.

SWD RMQ connection for base fixing
- For use with SWD card, RMQ-Titan surface mounting enclosure and RMQ-Titan M22 pilot devices.
- Types with one or two change-over contacts and with/without integrated LED element.
- LED elements in four colors.
- SWD diagnostics LED to signal the communication status of the function element

SWD card for function elements
- Connecting SWD function elements for base fixing
- Type with 1, 2, 3, 4 and 6 slots.
- Bridging of free slots with links for base fixing.
- Integrated connectible bus termination resistor
- Connection to 8 pole SWD round cable via terminals or plug-in with enclosure bushing

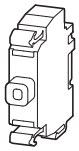
SWD connection - base module for signal tower SL4/SL7
- Connection to SWD ribbon cable line with blade terminal.
- Actuation of up to 5 signal modules.
- 24 V DC supply of the signal modules via SWD ribbon cable or separately.

Ordering

	Number of contacts	Contact sequence	Contact travel diagram stroke in connection with front element	Configuration	Colour LED	Part no.	Article no.	Std. pack UL, CSA
Function elements								
Front fixing								
	1 changeover contact				without LED	**M22-SWD-K11**	115964	20 off
	2 changeover contact				without LED	**M22-SWD-K22**	115965	10 off
Base fixing								
	1 changeover contact				without LED	**M22-SWD-KC11**	115995	20 off
	2 changeover contact				without LED	**M22-SWD-KC22**	115996	10 off
Front fixing								
	1 changeover contact					**M22-SWD-K11LED-W**	115972	20 off
						**M22-SWD-K11LED-B**	115973	
						**M22-SWD-K11LED-G**	115974	
						**M22-SWD-K11LED-R**	115975	
	2 changeover contact					**M22-SWD-K22LED-W**	115978	10 off
						**M22-SWD-K22LED-B**	115979	
						**M22-SWD-K22LED-G**	115980	
						**M22-SWD-K22LED-R**	115981	
Base fixing								
	1 changeover contact					**M22-SWD-K11LEDC-W**	116003	20 off
						**M22-SWD-K11LEDC-B**	116004	
						**M22-SWD-K11LEDC-G**	116005	
						**M22-SWD-K11LEDC-R**	116006	
	2 changeover contact					**M22-SWD-K22LEDC-W**	116009	10 off
						**M22-SWD-K22LEDC-B**	116010	
						**M22-SWD-K22LEDC-G**	116011	
						**M22-SWD-K22LEDC-R**	116012	

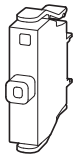
LED elements

Front fixing



Configuration	Colour LED	Part no.	Article no.	Std. pack UL, CSA
1 4 3 6 2 5	○	**M22-SWD-LED-W**	115966	20 off
1 4 3 6 2 5	●	**M22-SWD-LED-B**	115967	
1 4 3 6 2 5	●	**M22-SWD-LED-G**	115968	
1 4 3 6 2 5	●	**M22-SWD-LED-R**	115969	

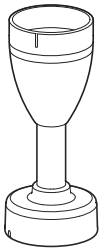
Base fixing



Configuration	Colour LED	Part no.	Article no.	Std. pack UL, CSA
2 3 1	○	**M22-SWD-LEDC-W**	115997	20 off
2 3 1	●	**M22-SWD-LEDC-B**	115998	
2 3 1	●	**M22-SWD-LEDC-G**	115999	
2 3 1	●	**M22-SWD-LEDC-R**	116000	

Signal towers Basic modules

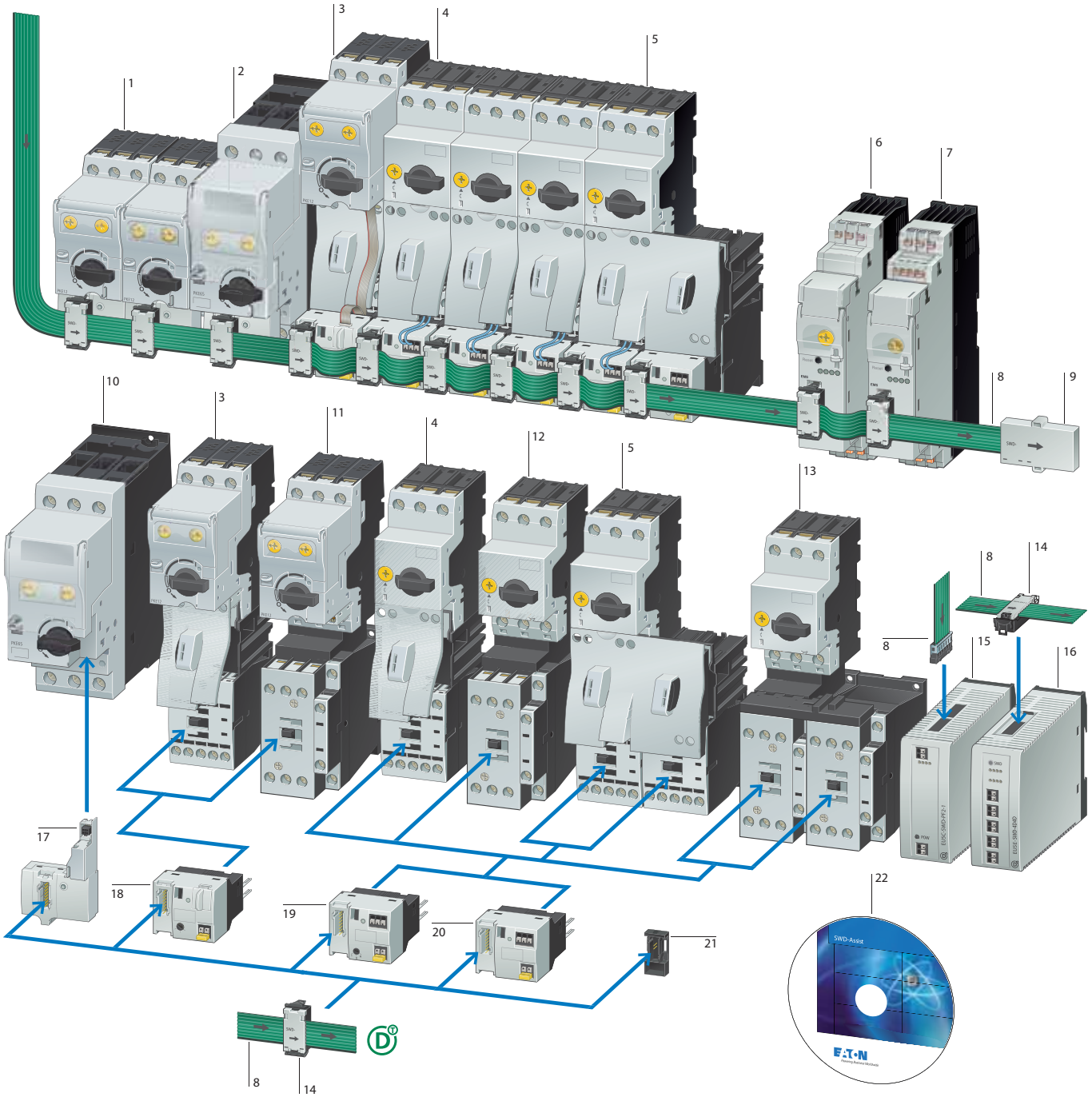
For horizontal mounting
including cover
Max. 5 modules



Description	Tube length	For use with	Part no.	Article no.	Std. pack UL, CSA
Base with base adapter for slipping onto place (rapid mounting and wiring system) Blade terminal SWD4-8MF2 max. 0.3 A per module External power supply connectable (24 V DC) Configurable with SWD-Assist (planning and ordering help) Further technical data, see manual MN05006001Z.	100 mm	SL4-L-… SL4-BL-… SL4-FL-… SL4-AP-…	**SL4-SWD**	171311	1 off
	100 mm	SL7-L-… SL7-BL-… SL7-FL-… SL7-AP-…	**SL7-SWD**	171459	

Description	Configuration	Part no.	Article no.	Std. pack UL, CSA
Potentiometer				
Front element SmartWire-DT potentiometer Only in conjunction with M22-SWD-R function element		**M22-R-SWD**	179292	1 off
Function element SmartWire-DT potentiometer Only in conjunction with M22-R-SWD front element	14 36 25 M22-SWD-R M22-SWD-INC	**M22-SWD-R**	179293	1 off
Encoder				
Front element SmartWire-DT encoder With actuation function Only in conjunction with M22-SWD-INC function element		**M22-INC-SWD**	179981	1 off
Function element SmartWire-DT encoder Only in conjunction with M22-INC-SWD front element	14 36 25 M22-SWD-R M22-SWD-INC	**M22-SWD-INC**	179982	1 off

System overview



1 Network-capable motor-protective circuit-breaker PKE 12/PKE 32 with trip block PKE-XTUA-... up to 15 kW

2 Network-capable motor-protective circuit-breaker PKE65 with trip block PKE-XTUA-... up to 30 kW

3 Network-capable motor starter MSC-DEA based on PKE up to 5.5 kW

4 Direct-on-line starter MSC-D based on PKZM0 up to 5.5 kW

5 Reversing starter MSC-R based on PKZM0 up to 5.5 kW

6 Electronic motor starter EMS up to 3 kW

7 Electronic motor starter EMS up to 3 kW for controlled stop

8 SWD ribbon cable, 8 pole

9 SWD network termination for 8 pole ribbon cable line

10 Network-capable PKE circuit-breaker to protect wires and cables

11 Network-capable motor starter MSC-DEA based on PKE up to 15 kW

12 Direct-on-line starter MSC-D based on PKZM0 up to 15 kW

13 Reversing starter MSC-R based on PKZM0 up to 15 kW

14 SWD device plug, 8 pole

15 SWD power feeder modules

16 SWD input/output module with relay outputs

17 SWD module for PKE circuit-breaker

18 SWD module for PKE motor starter combinations

19 SWD contactor module with manual 0 automatic switch

20 SWD contactor module

21 link for external device plug

22 SWD planning and ordering help (SWD-Assist)

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Features

SWD contactor modules
- Suitable for contactors DILM7(24VDC)…DILM38(RDC24), DILMC7(24VDC)…DILMC32(RDC24), DILA, DILMP20(24VDC)…DILMP45(RDC24)
- Use of the standard accessories in the xStart series
- Suitable for contactor combinations with PKZ or with Z overloads
- Integrated switch position polling
- Integrated mechanical switch position indication
- Contactor actuation
- SWD diagnostics LED for signaling communication status and signaling the switch command via SWD
- Two independently fed digital inputs for scanning potentially isolated contacts, such as motor protective circuit-breaker auxiliary contacts.
- Connection to the SWD ribbon cable via external device plug

SWD input/output modules
- Digital module with four 24 V DC digital inputs and two relay outputs for actuating DILM40...DILM72 contactors.
- Connection to the SWD via external device plug.

Safety technology for SWD contactor modules and SWD PKE module (motor starter)
Controlled stop switch off as per IEC/EN 954-1, switching category 3; EN ISO 13849-1 PL d; IEC 62061 SIL 2.
Switching off control voltage centrally at the gateway or power feeder module
Can be combined with safety-oriented switchgear.

Power feeder module
- SWD supply voltage incoming unit.
- 24 V DC supply voltage incoming unit for activation of the contactors.
- Assembly of controlled stop groups.

SWD PKE module (motor starter)
- Suitable for motor starters MSC-DEA-…(24 V DC) or DILM(C)7 -DILM(C)32 in combination with PKE12/32 and trip block PKE-XTUA-…
- Use of the standard accessories in the xStart series
- Integrated mechanical switch position indication of the contactor state
- Integrated switch position polling
- Integrated mechanical switch position indication
- Transmission of PKE-specific data (PKE contactor state, relative motor current, thermal motor image, trip indications (overload, short-circuit,…), type PKE trip block, set value overload release and time-lag class).
- Communication cable (PKE32-COM) for connection to PKE trip block included as standard.
- Contactor actuation
- Selectable overload relay function (switches off the contactor in the event of an overload)
- SWD diagnostics LED to signal the communication status of the module and to signal the switching command via SWD
- Hand/Auto functionality for automatic or manual switching-on of the connected contactor.
- Connection to the SWD ribbon cable via external device plug

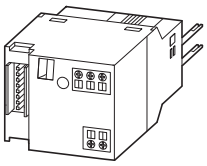
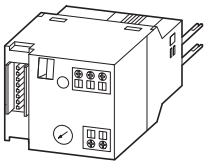
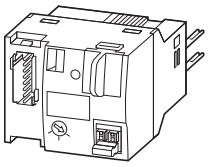
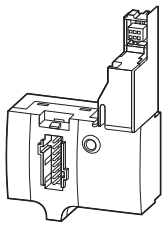
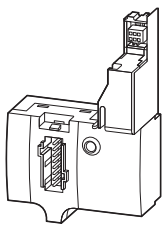
SWD PKE module (motor-protective circuit-breaker)
- Can be fitted to PKE12, PKE32, PKE65 motor-protective circuit-breaker with PKE-XTUA-... trip block
- Use of standard accessories for PKE motor-protective circuit-breaker
- Transmission of PKE-specific data (switch position PKE, relative motor current, thermal motor image, trip indications (overload, short-circuit,…), type PKE trip block, set value overload release and time-lag class)
- Remote tripping of PKE motor-protective circuit-breaker
- SWD diagnostics LED for signaling of the communication status
- Connection to the SWD ribbon cable via external device plug

SWD PKE module (circuit-breaker)
- Can be fitted to PKE32, PKE65 motor-protective circuit-breaker with PKE-XTUACP-... trip block.
- Use of standard PKE accessories
- Transmission of PKE specific data: PKE contactor state, relative phase current (L1 ...L3), thermal pattern, trip indications (overload, short-circuit, ...) trip block type, value set for overload trip and short-circuit release
- Remote tripping of PKE motor-protective circuit-breaker
- SWD diagnostics LED for signaling of the communication status
- Connection to SWD flat band conductor via external device plug.

Electronic motor starter EMS with SWD
- Motor direct start
- Motor reverse start
- Motor protection
- Useable up to 3 kW rated motor output
- Transmission of EMS specific data: operating direction, relative motor current, absolute motor current, thermal motor pattern, tripped messages (overload, phase failure, ...), device type, value set for overload trip
- Overload pre-warning
- Remote reset after overload trip
- Remote configuration of the set motor current
- SWD diagnostics LED for signaling of the communication status
- Connection to the SWD ribbon cable via external device plug

Electronic EMS motor starter for controlled stop with SWD
- Motor direct start
- Motor reverse start
- Motor protection
- Controlled stop via additional terminal up to SIL3/PLe.
- Useable up to 3kW rated motor output
- Transmission of EMS specific data: operating direction, relative motor current, absolute motor current, thermal motor pattern, tripped messages (overload, phase failure, ...), device type, value set for overload trip
- Overload pre-warning
- Remote reset after overload trip
- SWD diagnostics LED for signaling of the communication status
- Connection to the SWD ribbon cable via external device plug

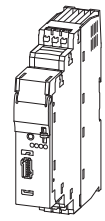
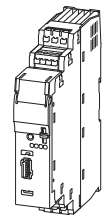
Ordering

	Description	For use with	Part no. Article no.	Std. pack UL, CSA
Contactor modules[1),2)]				
	For connecting the contactors to SmartWire-DT Per contactor 1 module necessary.			
	**Messages** Switch status Contactor, status of the digital inputs 1 and 2 **Commands** Contactor actuation	DILM(C)7… - DILM(C)32 DILM38 DILA MSC-D(E)-...(24VDC)	**DIL-SWD-32-001** 118560	5 off
	1-0-A switch for manual or automatic operation. **Messages** Switch status Contactor, status of the digital inputs 1 and 2, 1-0-A switch position **Commands** Contactor actuation	DILM(C)7… - DILM(C)32 DILM38 DILA MSC-D(E)-...(24VDC)	**DIL-SWD-32-002** 118561	5 off
PKE module (motor-starter combinations)[1)]				
	For connecting PKE motor-starter combination MSC-DEA… with PKE-XTUA-... trip blocks with a rated motor output of 15 kW/400 V to SmartWire-DT SmartWire-DT module for connection of motor-starter combination, model “Extended” 24 V DC (MSC-DEA-…) up to 15 kW. 1 module per contactor and PKE.			
	Mounting on DILM contactor with 24 V DC control voltage. One module per contactor and PKE necessary Additional SWD contactor module required fir actuation of reversing starter. 1 electrical interlock for the surface mounting of reversing starters. 1-0-A switch for manual or automatic operation. Selectable overload relay function (ZMR) for switching off the contactor on overload. Wiring sets DILM 12-XRL and PKZM0-XRM12 cannot be used. Connecting cable between module and trip block PKE-XTUA-… included as standard. **Messages** Switch position contactor/PKE/1-0-A switch Motor current in % Thermal motor image in % Trip indications (Overload, Short-circuit,...) Set value of overload releases Set time lag (CLASS) Part no. of trip block **Commands** Contactor actuation Activation Overload relay function (ZMR)	DILM(C)7… - DILM(C)32 MSC-DEA	**PKE-SWD-32** 126895	4 off
PKE module (motor-protective circuit-breaker)				
	For connecting the motor-protective circuit-breaker with PKE-XTU(W)A-... trip blocks(motor protection) to SmartWire-DT			
	Fitted on PKE motor-protective circuit-breaker **Messages** Contactor state PKE Motor current in % Thermal motor image in % Trip indications (Overload, Short-circuit,...) Set value of overload releases Set time lag (CLASS) Part no. of trip block **Commands** Remote disconnection of motor-protective circuit-breaker	PKE12 PKE32 PKE65	**PKE-SWD-SP** 150614	1 off
PKE module (circuit-breaker)				
	For connecting PKE motor-starter combination MSC-DEA… with PKE-XTUA-... trip blocks with a rated motor output of 15 kW/400 V to SmartWire-DT For connecting the PKE circuit-breaker with PKE-XTU(W)ACP-... trip blocks(motor protection) to SmartWire-DT			
	For attachment to PKE circuit-breakers **Messages** Contactor state PKE All phase currents in % Thermal load as a % Trip indications (Overload, Short-circuit,...) Set value of overload releases Set short-circuit release value **Commands** Part no. of trip block Remote circuit-breaker de-energization	PKE32 PKE65	**PKE-SWD-CP** 172735	1 off

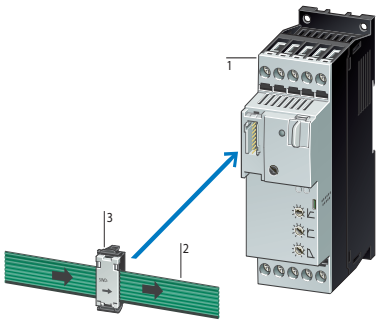
Notes

1) For current consumption of the contactor coils > 3 A (UL: 2 A) use additional power feed module.
A2 connections must not be bridged.
Wiring sets DILM 12-XRL and PKZM0-XRM12 cannot be used.

2) Connection terminals for electrical interlocking are not suitable for safety technology.

	Description		Setting range of overload releases I_r A_x	Part no.	Article no.	Std. pack UL, CSA
Electronic motor starter						
For connecting to SmartWire-DT for expanded diagnostics						
		DOL starters (complete devices)	0,18 - 2,4	**EMS-DO-T-2,4-SWD**	170106	1 off
			1,5 - 7 (AC-53a) 9 (AC-51)	**EMS-DO-T-9-SWD**	170107	
		Reversing starters (complete devices)	0,18 - 2,4	**EMS-RO-T-2,4-SWD**	170108	
			1,5 - 7 (AC-53a) 9 (AC-51)	**EMS-RO-T-9-SWD**	170109	
	Controlled stop via additional enable signal terminal up to SIL3/PIe.	DOL starters (complete devices)	0,18 - 2,4	**EMS-DOS-T-2,4-SWD**	170110	1 off
			1,5 - 7 (AC-53a) 9 (AC-51)	**EMS-DOS-T-9-SWD**	170111	
		Reversing starters (complete devices)	0,18 - 2,4	**EMS-ROS-T-2,4-SWD**	170112	
			1,5 - 7 (AC-53a) 9 (AC-51)	**EMS-ROS-T-9-SWD**	169790	

System overview



1 SWD soft starter DS7

2 SWD ribbon cable

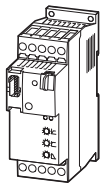
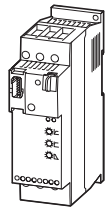
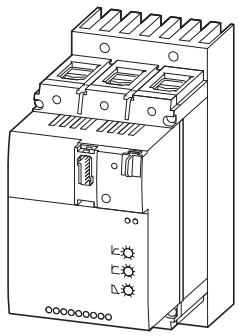
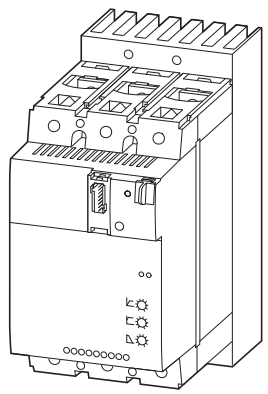
3 SWD external device plug

The DS7-...-D series soft starters are designed to connect to the SmartWire-DT. These two-phase controlled soft starters actuate three-phase motors for applications with normal switching frequency in the performance ranges of between 4 and 200 A (1.5 to 110 kW at 400 V supply voltage) an. The running behavior of a DS7 can be compared with three-phase soft starters due to the special actuation method designed by Eaton.

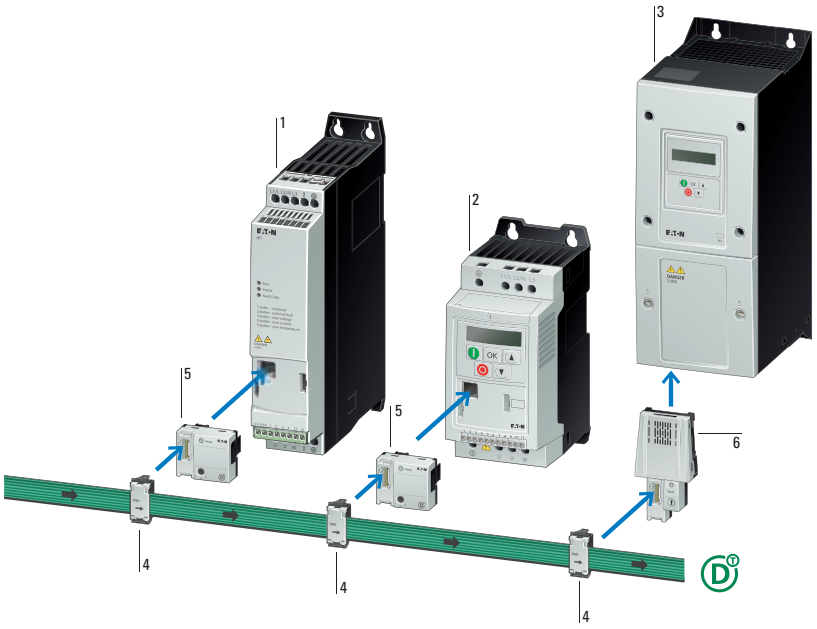
SmartWire-DT provides the ability to connect directly to the DS7 without being wired to the controller. The PLC sends all of the control commands to the soft-starter directly via SmartWire-DT. The device data are available for processing in the head control without requiring any additional effort. Connecting with SmartWire-DT is fast, easy, cost effective and practical.

Ordering

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

	Rated operational current of the soft starter I_e A	Assigned motor rating at 400 V, 50 Hz P kW	480 V P HP	**Part no.** Article no.	Std. pack UL, CSA
Soft starters					
Soft starters for three-phase loads, mains supply voltage 230 – 480 V AC (50/60 Hz) Rated control circuit voltage U_c: 24 V DC SmartWire-DT					
	4	1.5	2	**DS7-34DSX004N0-D** 134943	1 off
	7	3	5	**DS7-34DSX007N0-D** 134945	
	9	4	5	**DS7-34DSX009N0-D** 134946	
	12	5.5	10	**DS7-34DSX012N0-D** 134947	
	16	7.5	10	**DS7-34DSX016N0-D** 134948	
	24	11	15	**DS7-34DSX024N0-D** 134949	
	32	15	25	**DS7-34DSX032N0-D** 134950	
	41	22	30	**DS7-34DSX041N0-D** 134952	
	55	30	40	**DS7-34DSX055N0-D** 134953	
	70	37	50	**DS7-34DSX070N0-D** 134954	
	81	45	60	**DS7-34DSX081N0-D** 134955	
	100	55	75	**DS7-34DSX100N0-D** 134956	
	135	75	100	**DS7-34DSX135N0-D** 134957	
	160	90	125	**DS7-34DSX160N0-D** 134958	
	200	110	150	**DS7-34DSX200N0-D** 134959	

System overview



1 Power XL™ DE1 variable speed starter

2 Power XL™ DC1 variable frequency drive

3 Power XL™ DA1 variable frequency drive

4 SWD external device plug, 8 pole

5 SWD functions element for variable frequency drive DC1, Variable speed starter DE1

6 SWD function element for DA1 variable frequency drive

PowerXL™ DE1 variable speed starters

The PowerXL™ DE1 variable speed starter offers simple handling and highest reliability while at the same time variable motor speed and improved energy efficiency of the machine. This new device class closes the loop between conventional motor starters and variable frequency drives.

- Performance range 0.25 -7.5 kW
- Connection to SmartWire-DT via SWD module DX-NET-SWD3

PowerXL™ Variable Frequency Drives DC1, Compact Machinery Drive

The compact PowerXL™ DC1 variable frequency drive is particularly well-suited for use with simple pump, fan, and conveyor belt systems. It can be quickly and easily configured and commissioned, resulting in tangible savings.

- Performance range 0.37 - 11 kW
- Connection to SmartWire-DT via SWD module DX-NET-SWD3

PowerXL™ Variable Frequency Drive DA1, Advanced Machinery Drive

The PowerXL™ DA1 variable frequency drive, designed for the machine and system building industry, is characterized by its enormous flexibility in terms of communications protocols, a function block editor (PLC) that makes it possible to configure the drive as necessary for specific applications, and a powerful vector control mode for highly dynamic applications.

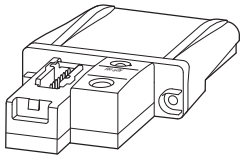
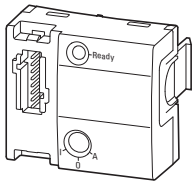
- Performance range 0.75 - 250 kW
- Connection to SmartWire DT via SWD module DX-NET-SWD1

SWD modules DX-NET, for connecting to variable speed starter and variable frequency drive

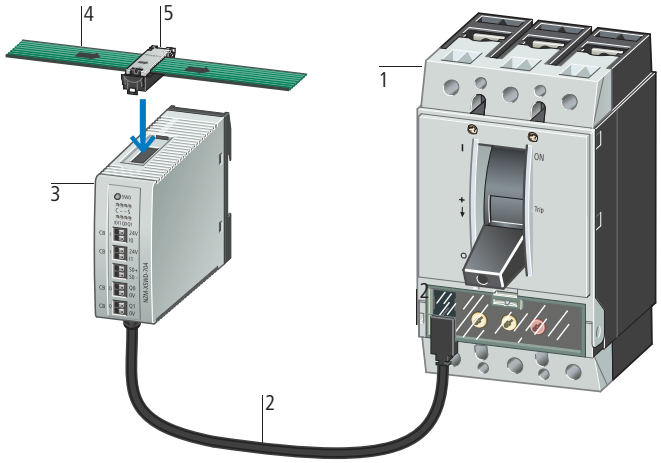
- Reading and writing cyclic and acyclic data
- Complete command volume for controlling the variable frequency drive
- Complete command volume for configuring the variable frequency drive
- Complete access to status, error and diagnostic messages
- Fast and fault-free wiring with plug-in units

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Ordering

	Connection technique	For use with	Part no.	Article no.	Std. pack UL, CSA
SWD function elements					
Fieldbus connection (optional)					
	For connecting DA1 variable frequency drives (IP20/IP55) to SmartWire-DT Plug-in module with slot for SWD4-8SF2-5 external device plug	DA1 (IP20, IP55)	**DX-NET-SWD1**	169129	1 off
	For connecting DE1 variable speed starter and DC1 variable frequency drives (IP20) to SmartWire-DT Plug-in module (front) with slot for SWD4-8SF2-5 external device plug	DE1, DC1 (IP20)	**DX-NET-SWD3**	169131	1 off

System overview



1	NZM circuit-breaker
2	connection cable
3	SWD interface for NZM
4	SWD ribbon cable, 8 pole
5	SWD external device plug, 8 pole

SWD module to connect to NZM2/3/4 circuit-breaker

The SWD connection for NZM implements the data connection between the NZM2/3/4 circuit-breakers with electronic release and SmartWire-DT. The NZM-XSWD-704 communication interface is used to diagnose the circuit-breaker

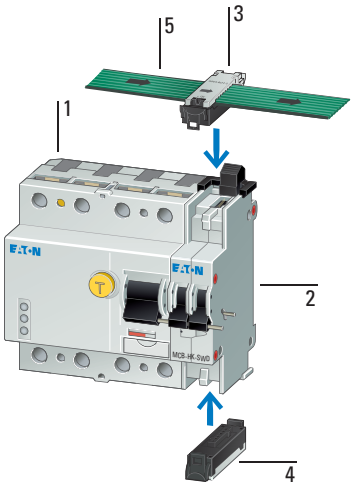
- Status data of the circuit-breaker
- Load warnings
- Reason for last trip
- Actual current values
- Switch type
- Actual settings of the rotary coding switches

Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Ordering

	Description	Part no. Article no.	Std. pack UL, CSA
SWD function element			
SmartWire-DT interface for NZM The module implements the data connection between the NZM2/3/4 with electronic release and the SmartWire-DT.			
	A switch with a remote operator can also be remotely operated with the module. Two digital inputs for the switch status 2 transistor outputs for remote switching Retentive memory for energy data (kWh) Energy data is transmitted through digital input (S0) from an external energy measuring module NZN...-XMC-S0. A connection cable (1.90 m) for the circuit-breaker and two NZM auxiliary contacts (1 x NO, 1 x NC) are included as standard.	**NZM-XSWD-704** 135530	1 off

System overview



1 Residual current circuit-breakers

2 Fuse auxiliary contact

3 SWD external device plug, 8 pole

4 Covering cap

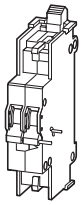
5 SWD ribbon cable, 8 pole

SWD module for circuit-breakers and residual current circuit-breakers

The SmartWire-DT auxiliary contact module makes it possible to easily connect a circuit-breaker, fault current switch or combination protective switch to the SmartWire - DT line using plug-in connection and to in this way easily and quickly integrate the protective switching devices. This makes the I/O level redundant and at the same time the information is implemented in the controllers and the drives. With the SmartWire-DT auxiliary contact, the states ON, OFF and triggered (as a result of a fault) can be transmitted.

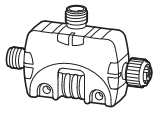
Comprehensive and up-to-date information in the online catalog: http://eaton.eu/ecat

Ordering

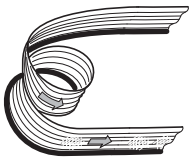
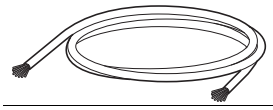
	Short Description	Side mounting	**Part no.** Article no.	Std. pack UL, CSA
SWD function element				
Safety switching devices XEffect				
	Fuse auxiliary contact Accessories for combined residual-current/power circuit-breakers Accessories for residual current circuit breakers Accessories for miniature circuit breaker	for fitting on left to: FI for fitting on right to: LS, FI/LS	**MCB-HK-SWD** 177175	1 off

Notes

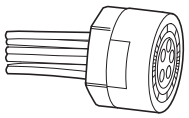
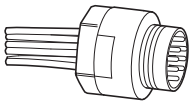
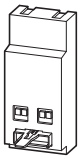
Ordering

	Description	Part no. Article no.	Std. pack UL, CSA
Power feeder module			
	For feeding control voltage in order to connect additional motor starters and contactors to the SmartWire-DT ribbon cable For the formation of emergency switching off groups for motor starters and contactors	**EU5C-SWD-PF1-1** 116309	1 off
	For feeding supply voltage in order to connect additional SmartWire-DT modules to the SmartWire-DT ribbon cable For additional control voltage feeder for the motor starter and contactors For the formation of emergency switching off groups for motor starters and contactors	**EU5C-SWD-PF2-1** 116380	1 off
	For feeding supply voltage in order to connect additional SmartWire-DT modules (IP 67) and connected sensors/actuators	**EU1S-SWD-PF1-2** 174724	1 off

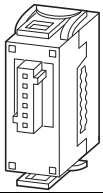
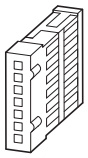
SWD Connection cables

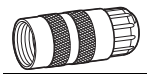
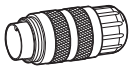
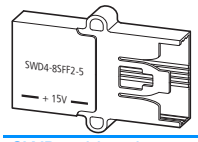
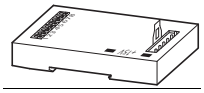
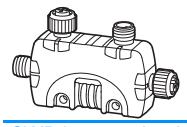
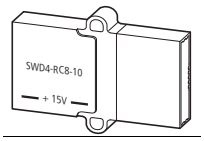
	Description	Protection type (IEC/EN 60529, EN50178, VBG 4)	Length m	Part no. Article no.	Std. pack UL, CSA
SWD ribbon cable For connecting the SmartWire-DT modules within the control panel					
	8 pole not ready-assembled	IP20	100	**SWD4-100LF8-24** 116026	1 off
	8 pole prefabricated with two blade terminals SWD4-8MF2	IP20	10	**SWD4-10LF8-24-2S** 116029	
		IP20	3	**SWD4-3LF8-24-2S** 116027	
		IP20	5	**SWD4-5LF8-24-2S** 116028	
SWD round cable For connecting pilot devices in CI surface mounting enclosures					
	8 pole HK-S0-Li2YY, 8 mm diameter	IP67	50	**SWD4-50LR8-24** 116030	1 off
		IP67	250	**SWD4-250LR8-24** 144878	
SWD round cable For connecting peripheral SmartWire-DT cards					
	5-pole prefabricated with M12 socket and M12 plug, A-coded	IP67	0.1	**SWD4-M1LR5-2S** 174760	1 off
		IP67	0.3	**SWD4-M3LR5-2S** 174761	
		IP67	0.6	**SWD4-M6LR5-2S** 174762	
		IP67	1	**SWD4-1LR5-2S** 174763	
		IP67	1.5	**SWD4-1M5LR5-2S** 174764	
		IP67	2	**SWD4-2LR5-2S** 174765	
		IP67	3	**SWD4-3LR5-2S** 174766	
		IP67	4	**SWD4-4LR5-2S** 174767	
		IP67	5	**SWD4-5LR5-2S** 174768	
		IP67	10	**SWD4-10LR5-2S** 174769	
		IP67	20	**SWD4-20LR5-2S** 174770	
I/O round cable For directly connecting sensors/actuators to IP67 SWD modules					
	5-pole prefabricated on one side with M12 plug, A-coded	IP67	1	**SWD4-1LR5-S** 174697	1 off
		IP67	2	**SWD4-2LR5-S** 174698	
		IP67	0.3	**SWD4-M3LR5-S** 174771	
		IP67	0.6	**SWD4-M6LR5-S** 174772	
I/O round cable For directly connecting sensors/actuators to IP67 SWD modules					
	5-pole prefabricated with M12 socket and M12 plug, A-coded	IP67	0.3	**SWD4-M3LR5-1-2S** 179543	1 off
		IP67	0.6	**SWD4-M6LR5-1-2S** 179544	
		IP67	1	**SWD4-1LR5-1-2S** 179545	
		IP67	2	**SWD4-2LR5-1-2S** 179546	

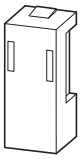
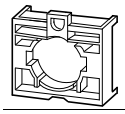
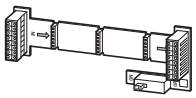
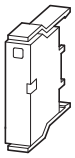
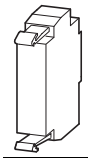
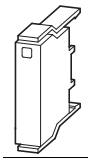
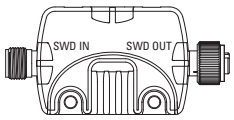
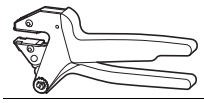
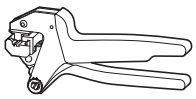
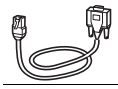
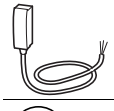
SWD enclosure and control panel cable gland

	Description	Function	Protection type (IEC/EN 60529, EN50178, VBG 4)	Length m	Part no. Article no.	Std. pack UL, CSA
	8 pole M20 socket 8 prefabricated cables for connection to PCB M22-SWD-I...	For flush mounting in M22-I... surface mounting enclosure	IP67	0.15	**SWD4-SF8-20** 116031	1 off
	8 pole M20 plug 8 prefabricated cables for connection to PCB M22-SWD-I...		IP67	0.15	**SWD4-SM8-20** 116032	1 off
	Connection round cable via socket Connection of ribbon cable with blade terminal SWD4-8MF2 8 pole double conductor run pluggable Additional control voltage feeder for the motor starter and contactors.	For transition from SWD ribbon cable to SWD round cable SWD4-…LR8-24	IP67	-	**SWD4-SFL8-20** 121380	1 off
	Connection round cable via plug Connection of ribbon cable with blade terminal SWD4-8MF2 8 pole double conductor run pluggable Additional control voltage feeder for the motor starter and contactors.		IP67	-	**SWD4-SML8-20** 121381	1 off
	SmartWire-DT control panel bushing for 8-conductor ribbon cable to 5-conductor round cable, separate 24 VDC 4 A power supply for round cable	For transition from SWD round cable to SWD ribbon cable SWD4-…LR5-2S	IP67	-	**SWD4-SFL8-12** 174756	1 off
	From IP67 to IP20, from 5-conductor round cable to 8-conductor ribbon cable, integrated 15 VDC 180 mA power supply unit for SmartWire-DT modules on the ribbon cable	For transition from SWD round cable SWD4-…LR5-2S to SWD ribbon cable	IP67	-	**SWD4-SML8-12** 174755	1 off
	Control panel cable gland for 5-conductor SWD4-…LR8-24 M12 SmartWire-DT round cable, M12 plug/socket	For flush mounting in an enclosure	IP67	-	**SWD4-SML5-12** 174757	1 off
	5-pole M12 socket, A-coded 5 prefabricated cables	For flush mounting in an enclosure	IP67	1	**SWD4-PRF5-1-S** 174758	1 off
	5-pin M12 plug, A-coded 5 prefabricated cables	For flush mounting in an enclosure	IP67	1	**SWD4-PRM5-1-S** 174759	1 off
	5-pole M12 socket, A-coded 5 prefabricated cables	For flush mounting in an enclosure	IP67	0.15	**SWD4-PRF5-2-S** 179541	1 off
	5-pin M12 plug, A-coded 5 prefabricated cables	For flush mounting in an enclosure	IP67	0.15	**SWD4-PRM5-2-S** 179542	1 off

SWD plugs and plug-in connections

	Description	Function	Protection type (IEC/EN 60529, EN50178, VBG 4)	Part no. Article no.	Std. pack UL, CSA
	8-pin SmartWire-DT external device plug that can be connected at any point on the ribbon cable. External device plugs can be used to connect the function elements of any SmartWire-DT module in a control panel.	For connecting the ribbon cable to SmartWire-DT modules in the control panel	IP20	**SWD4-8SF2-5** 116022	10 off
	8-pin SmartWire-DT blade terminal that can be installed at both ends of the SmartWire-DT ribbon cable. The following components can be connected: SmartWire-DT coordinators such as easy800-SWD / SmartWire-DT gateway, SmartWire-DT power feeder module, SmartWire-DT coupling, SmartWire-DT bus termination resistor, SmartWire-DT control panel bushings	For connecting the ribbon cable to the gateway, power feeder module, coupling, SWD4-RC8-10 bus termination resistor	IP20	**SWD4-8MF2** 116023	10 off

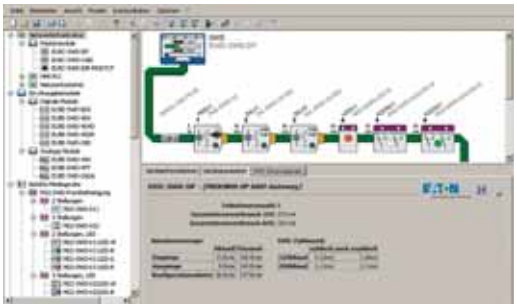
	Description	Function	Protection type (IEC/EN 60529, EN50178, VBG 4)	**Part no.** Article no.	Std. pack UL, CSA
SWD plugs and plug-in connections					
	8 pole socket Straight Soldering connection	Plug connector for 8-pole SWD4-…LR8-24 round cables	IP67	**SWD4-SF8-67** 116033	1 off
	8-pinplug connector Straight Soldering connection		IP67	**SWD4-SM8-67** 116034	1 off
	Splitter with IP67 degree of protection, M12 plug into two M12 sockets with I/O signal on pin 4	For splitting an M12 I/O connection's I/O signals	IP67	**SWD4-SP-4124** 174703	1 off
	Splitter with IP67 degree of protection, M12 plug into two M12 sockets with I/O signal on pin 2		IP67	**SWD4-SP-4122** 174704	1 off
	Splitter with IP67 degree of protection, M12 plug into two 4 pole M8 sockets with I/O signal on pin 2		IP67	**SWD4-SP-4084** 174705	1 off
	Splitter with IP67 degree of protection, M12 plug into two 4 pole M8 sockets with I/O signal on pin 4		IP67	**SWD4-SP-4082** 174706	1 off
	Splitter with IP67 degree of protection, M12 plug into two 3 pole M8 sockets		IP67	**SWD4-SP-3084** 174707	1 off
	Cap with monitoring function for M12 bushings on SWD connector (IP67)	Cover cap with monitoring function for M12 socket	IP67	**SWD4-ACAP-10** 174751	1 off
	Cap for M12 sockets on SWD connector (IP67)	Cap for M12 socket	IP67	**SWD4-PCAP-F** 174752	1 off
	Cap for M12 plugs on SWD connector (IP67)	Cover cap for M12 plug	IP67	**SWD4-PCAP-M** 174753	1 off
	5 pole socket Straight Screw connection	Plug connector for 5 pole SWD4-…LR5-.. round cables	IP67	**SWD4-SF5-67** 179547	1 off
	5 pole plug Straight Screw connection	Plug connector for 5 pole SWD4-…LR5-.. round cables	IP67	**SWD4-SM5-67** 179548	1 off
SWD coupling					
	Coupling via two 8-pin blade terminals	To connect SWD ribbon cables over SWD4-8MF2 blade terminals	IP20	**SWD4-8SFF2-5** 116024	1 off
SWD cable adapters					
	for connection flat cable (plug) on round cable (terminal)	SWD cable adapters	IP20	**SWD4-8FRF-10** 121377	1 off
	SWD power supply module for modules (IP20) on a local SWD segment	SWD power supply module	IP20	**SWD4-FFR-PF1-1** 168880	1 off
	SmartWire-DT cable adapter for putting together a local SmartWire-DT segment	SWD cable adapters	IP20	**SWD4-FFR-ST1-1** 168881	1 off
	To set up a local SWD network with SWD modules (IP67)	Local SmartWire-DT branch	IP67	**EU2A-SWD-PBWN** 174734	1 off
SWD bus termination resistor					
	SmartWire-DT bus termination resistor; plugged onto SWD4-8MF2 blade terminal at the end of the SmartWire-DT ribbon cable	For the SmartWire-DT bus termination resistor on the SmartWire-DT ribbon cable	IP20	**SWD4-RC8-10** 116020	1 off
	SmartWire-DT bus termination resistor with IP67 degree of protection, connected to 5-conductor SWD4-..LR5.. round cable or directly to SmartWire-DT T-Connectors (IP67 I/O modules)	for IP67, M12 SWD bus termination resistor	IP67	**SWD4-RC5-10** 174754	1 off

	Function	Protection type (IEC/EN 60529, EN50178, VBG 4)	**Part no.** Article no.	Std. pack UL, CSA
Link				
	For bridging open mounting locations for SWD4-8SF2-5 external device plugs	-	**SWD4-SEL8-10** 116021	5 off
RMQ				
	for 2 function elements M22-SWD-K22… For two M22-SWD-NOP universal modules	-	**M22-SWD-A4** 116016	10 off
	For mounting 1 base function element	-	**M22-SWD-I1-LP01** 115990	1 off
	For mounting 2 base function elements	-	**M22-SWD-I2-LP01** 115991	
	For mounting 3 base function elements	-	**M22-SWD-I3-LP01** 115992	
	For mounting 4 base function elements	-	**M22-SWD-I4-LP01** 115993	
	For mounting 6 base function elements	-	**M22-SWD-I6-LP01** 115994	
	For bridging of open mounting locations on card	-	**M22-SWD-SEL8-10** 116698	5 off
Universal module				
	For configured but not yet installed SWD modules connected to the SWD ribbon cable	IP20	**M22-SWD-NOP** 147637	20 off
	For configured but not yet installed SWD modules on the M22-SWD-I... card	IP20	**M22-SWD-NOPC** 147638	20 off
	For configured but not yet installed SWD modules connected to the SWD ribbon cable SWD4-..LR5-2S	IP67	**EU1M-SWD-NOP** 174716	1 off
Cables				
	Pliers for connecting external device plug and ribbon cable	-	**SWD4-CRP-1** 116025	1 off
	Pliers for making contacts with blade terminals and ribbon cables	-	**SWD4-CRP-2** 116699	1 off
Programming accessories				
	For transferring the user program to the PLC or for diagnosing SmartWire-DT networks	-	**EU4A-RJ45-CAB1** 106726	1 off
	For transferring the user program to the PLC or for diagnosing SmartWire-DT networks	-	**EU4A-RJ45-USB-CAB1** 115735	1 off
	Programming and visualisation software	-	**EASY-SOFT-PRO** 266040	1 off

Notes

Current consumption 15-V-SWD supply voltage

Type	Current consumption mA	Notes
DIL-SWD-32-001	40	-
DIL-SWD-32-002	40	-
DS7-34DSX...-D	50	-
DX-NET-SWD1, DX-NET-SWD3	22	-
EMS-DO-T-2,4-SWD, EMS-DO-T-9-SWD	50	-
EMS-DOS-T-2,4-SWD, EMS-DOS-T-9-SWD	50	-
EMS-RO-T-2,4-SWD, EMS-RO-T-9-SWD	50	-
EMS-ROS-T-2,4-SWD, EMS-ROS-T-9-SWD	50	-
EU5E-SWD-4DX	33	-
EU5E-SWD-8DX	16	-
EU5E-SWD-4D4D	33	-
EU5E-SWD-4D2R	45	-
EU5E-SWD-X8D	43	-
EU5E-SWD-4AX	22	-
EU5E-SWD-2A2A	22	-
EU5E-SWD-4PT	22	-
EU5E-SWD-4PT-2	22	-
MCB-HK-SWD	27	-
M22-SWD-K11 , M22-SWD-K22	10	-
M22-SWD-KC11, M22-SWD-KC22	10	-
M22-SWD-NOP, M22-SWD-NOPC	10	-
M22-SWD-LEDC-... , M22-SWD-LED-...	22	-
M22-SWD-K11LED-..., M22-SWD-K22LED-...	22	-
M22-SWD-K11LEDC-..., M22-SWD-K22LEDC-...	22	-
M22-SWD-I...-LP01	17	with bus termination resistor switched on
M22-SWD-INC	20	-
M22-SWD-R	20	-
NZM-XSWD-704	25	-
PKE-SWD-32	58	-
PKE-SWD-SP, PKE-SWD-CP	35	-
SL7-SWD, SL4-SWD	26	-
SWD4-RC8-10	17	-



SWD-Assist can be downloaded for free from our website:
www.eaton.eu/documentation
Search term: SWD-Assist

Achieving results quicker using SWD-Assist:
.. Planning .. Engineering .. Commissioning

The SWD-Assist software provides the support you need to plan, configure and put a SWD network into operation. Not only does it offer planning and configuration functions, but the network can be easily initialized using the SWD coordinator diagnostics interface.
SWD-Assist contains the following functions:

Offline:
- Easy creation of SWD networks
- Validity check while automatically adding missing components
- Creation of project-specific field bus description files (e.g. Profibus, Profinet)
- Print-out of the SWD network

Online:
- Importing installed network configurationsVerifying correct installation (target-actual comparison)Showing process data of digital and analog inputs and outputsWiring test (setting outputs in the stop position of the controller) Evaluating fault message for easy fault diagnostics

Technical data

Part no.			**XV-102-BE-35TQRC-10**	**NZM-XMC-MDISP35-SWD**
Article no.			153524	172765
Display				
Display - Type			Color display, TFT	Color display, TFT
Screen diagonal		Inch	3.5	3.5
Resolution		Pixel	QVGA, 320 x 240	QVGA, 320 x 240
Visible screen area		mm	70 x 53	70 x 53
Number of colours			64 k Colours	64 k Colours
Contrast ratio (Normally)			Normally 300:1	Normally 300:1
Brightness		cd/m²	Normally 250	Normally 250
Back-lighting			LED, dimmable via software	LED, dimmable via software
Service life of back-lighting		h	Normally 40000	Normally 40000
Operation				
Front type			Standard front with standard membrane (fully enclosed)	
Technology			Resistive-Touch, 4 wire	Resistive-Touch, 4 wire
Touch sensor			Glass with film	Glass with film
System				
Processor			RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz
Internal memory			DRAM (OS, Program and data memory): 64 MByte NAND-Flash (can be used for data backup): approx. 128 MByte available NVRAM (retained data): approx. 32 KByte available	
External memory			SD Memory Card Slot: SDA Specification 1.00	
Cooling			Fanless CPU and system cooling, natural convection-based passive cooling	
Back-up of real-time clock				
Battery (service life)			Zero maintenance	Zero maintenance
Backup (time at zero voltage)			Normally 10 years	Normally 10 years
Operating system			Windows CE 5.0 (licence incl.)	Windows CE 5.0 (licence incl.)
Engineering				
Visualisation software			GALILEO, EPAM, XSOFT-CODESYS-2, XSOFT-CODESYS-3	-
PLC-Programming software			XSOFT-CODESYS-2 XSOFT-CODESYS-3	-
Target and web visualization			Yes	no
Interfaces, communication				
Built-in interfaces			1 x Ethernet 100base-TX/10base-T 1 x USB device 1 x SmartWire-DT	1 x Ethernet 100base-TX/10base-T 1 x USB device 1 x SmartWire-DT
PLC-licence			PLC licence inclusive	PLC licence inclusive
SmartWire-DT master			Yes	Yes
Ethernet			100Base-TX/10Base-T	100Base-TX/10Base-T
easyNet			no	no
MPI			no	no
Power supply				
Nominal voltage			24 V DC SELV (safety extra low voltage)	
permissible voltage			Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms	
Voltage dips		ms	≤ 10 ms from rated voltage (24 V DC), ≤ 5 ms from undervoltage (19.2 V DC)	
Power consumption	$P_{max.}$	W	5	5
Note on power consumption			Basic device USB Slave to USB Host: 2.5 Total: 9.5	Basic device USB Slave to USB Host: 2.5 Total: 9.5
Heat dissipation		W	5	5
Note on heat dissipation			Heat dissipation with power consumption for 24 V, all ports and interfaces connected	
Siemens MPI, (optional)			yes	yes
Type of fuse			Yes (fuse not accessible)	
Potential isolation			no potential isolation	no potential isolation

XV-102-E6-57TVRC-10 153525	**XV-102-E8-57TVRC-10** 153526	**XV-102-E6-70TWRC-10** 153527	**XV-102-E8-70TWRC-10** 153528	**NZM-XMC-MDISP70** 172766
Color display, TFT	Color display, TFT	Color display, TFT	Color display, TFT	Color display, TFT
5.7	5.7	7	7	7
VGA, 640 x 480	VGA, 640 x 480	WVGA, 800 x 480	WVGA, 800 x 480	WVGA, 800 x 480
115 x 86	115 x 86	152 x 91	152 x 91	152 x 91
64 k Colours	64 k Colours	64 k Colours	64 k Colours	64 k Colours
Normally 300:1	Normally 300:1	Normally 300:1	Normally 300:1	Normally 300:1
Normally 250	Normally 250	Normally 250	Normally 250	Normally 250
LED, dimmable via software	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software
Normally 40000	Normally 40000	Normally 40000	Normally 40000	Normally 40000
Standard front with standard membrane (fully enclosed)				
Resistive-Touch, 4 wire	Resistive-Touch, 4 wire	Resistive-Touch, 4 wire	Resistive-Touch, 4 wire	Resistive-Touch, 4 wire
Glass with film	Glass with film	Glass with film	Glass with film	Glass with film
RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz
DRAM (OS, Program and data memory): 64 MByte NAND-Flash (can be used for data backup): approx. 128 MByte available NVRAM (retained data): approx. 32 KByte available				
SD Memory Card Slot: SDA Specification 1.00				
Fanless CPU and system cooling, natural convection-based passive cooling				
Zero maintenance	Zero maintenance	Zero maintenance	Zero maintenance	Zero maintenance
Normally 10 years	Normally 10 years	Normally 10 years	Normally 10 years	Normally 10 years
Windows CE 5.0 (licence incl.)				
GALILEO, EPAM, XSOFT-CODESYS-2, XSOFT-CODESYS-3				-
XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3	-
Yes	Yes	Yes	Yes	no
1 x Ethernet 100base-TX/ 10base-T 1 x USB device 1 x RS485 1 x CAN 1 x USB host 1 x SmartWire-DT	1 x Ethernet 100base-TX/ 10base-T 1 x USB device 1 x RS485 1 x PROFIBUS/MPI 1 x USB host 1 x SmartWire-DT	1 x Ethernet 100base-TX/ 10base-T 1 x RS485 1 x CAN 1 x USB host 1 x USB device 1 x SmartWire-DT	1 x Ethernet 100base-TX/ 10base-T 1 x RS485 1 x PROFIBUS/MPI 1 x USB host 1 x USB device 1 x SmartWire-DT	1 x Ethernet 100base-TX/ 10base-T 1 x RS485 1 x USB host 1 x USB device 1 x SmartWire-DT
PLC licence inclusive	PLC licence inclusive	PLC licence inclusive	PLC licence inclusive	PLC licence inclusive
Yes	Yes	Yes	Yes	Yes
100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T
Yes	no	Yes	no	no
no	Yes	no	Yes	no
24 V DC SELV (safety extra low voltage)				
Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms				
≤ 10 ms from rated voltage (24 V DC), ≤ 5 ms from undervoltage (19.2 V DC)				
10	10	10	10	7
Basic device USB Slave to USB Host: 2.5 Total: 9.5				
9.5	9.5	9.5	9.5	7
Heat dissipation with power consumption for 24 V 7 W for basic device + 2.5 W for USB module				Heat dissipation with power consumption for 24 V, all ports and interfaces connected
yes	yes	yes	yes	yes
Yes (fuse not accessible)				
no potential isolation	no potential isolation	no potential isolation	no potential isolation	no potential isolation

Part no.			**XV-102-BE-35TQRC-10**	**NZM-XMC-MDISP35-SWD**
Article no.			153524	172765
General				
Housing material			Plastic, gray	Insulated material black
Front type			Standard front with standard membrane (fully enclosed)	
Dimensions (W x H x D)		mm	136 x 100 x 30	136 x 100 x 30
Flush mounted			Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)	
Weight		kg	0.3	0.3
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (at front), IP20 (at rear)	
Approvals				
Approvals			cUL (UL508)	cUL (UL508)
Explosion protection (according to ATEX 94/9/EC)			II 3D Ex II T70°C IP5x: Zone 22, Category 3D	
Environmental conditions				
Temperature				
Operation	ϑ	°C	0 - +50	0 - +50
Storage / Transport	ϑ	°C	-20 - +60	-20 - +60
Relative humidity			10 - 95%, non-condensing	10 - 95%, non-condensing
Supply voltage U_{Aux}				
Rated operational voltage	U_{Aux}	V	24 V DC (-20/+25%)	24 V DC (-20/+25%)
Residual ripple on the input voltage		%	≦ 5	≦ 5
Protection against polarity reversal			Yes	Yes
Max. current	I_{max}	A	3	3
Note			If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.	-
Short-circuit rating			no, external fuse FAZ Z3	no, external fuse FAZ Z3
Potential isolation			No	No
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2	-
Supply voltage U_{Pow}				
Supply voltage	U_{Pow}	V	24 DC -20 % + 25 %	24 DC -20 % + 25 %
Input voltage ripple		%	≦ 5	≦ 5
Siemens MPI, (optional)			yes	yes
Rated current	I	A	0.7	0.7
Overload proof			yes	yes
Inrush current and duration		A	12.5 A/6 ms	12.5 A/6 ms
Heat dissipation at 24 V DC		W	1.0	1.0
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No	No
Bridging voltage dips		ms	10	10
Repetition rate		s	1	1
Status indication		LED	yes	yes
SmartWire-DT supply voltage				
Rated operating voltage	U_e	V	14,5 ± 3 %	14,5 ± 3 %
Max. current	I_{max}	A	0.7	0.7
Note			If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.	
Short-circuit rating			Yes	Yes
Connection supply voltages				
Connection type			Push in terminals	Push in terminals
Solid		mm^2	0.2 - 1.5	0.2 - 1.5
Flexible with ferrule		mm^2	0.25 - 1.5	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16	24 - 16
SmartWire-DT network				
Station type			SmartWire-DT master	SmartWire-DT master
Number of SmartWire-DT slaves			99	8
Baud Rates		kBd	125, 250	125, 250
Address allocation			automatic	automatic
Status indication		LED	SmartWire-DT master LED: ret/green Configurations LED: red/green	
Connections			Plug, 8-pole	2 x plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

XV-102-E6-57TVRC-10 153525	**XV-102-E8-57TVRC-10** 153526	**XV-102-E6-70TWRC-10** 153527	**XV-102-E8-70TWRC-10** 153528	**NZM-XMC-MDISP70** 172766
Plastic, gray	Plastic, gray	Plastic, gray	Plastic, gray	Insulated material black
Standard front with standard membrane (fully enclosed)				
170 x 130 x 39	170 x 130 x 39	210 x 135 x 38	210 x 135 x 38	210 x 135 x 38
Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)				
0.6	0.6	0.6	0.6	0.6
IP65 (at front), IP20 (at rear)				
cUL (UL508)	cUL (UL508)	cUL (UL508)	cUL (UL508)	cUL (UL508)
II 3D Ex II T70°C IP5x: Zone 22, Category 3D				
0 - +50	0 - +50	0 - +50	0 - +50	0 - +50
-20 - +60	-20 - +60	-20 - +60	-20 - +60	-20 - +60
10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing
24 V DC (-20/+25%)	24 V DC (-20/+25%)	24 V DC (-20/+25%)	24 V DC (-20/+25%)	24 V DC (-20/+25%)
≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Yes	Yes	Yes	Yes	Yes
3	3	3	3	3
If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.				-
no, external fuse FAZ Z3				
No	No	No	No	No
typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	-
24 DC -20 % + 25 %	24 DC -20 % + 25 %	24 DC -20 % + 25 %	24 DC -20 % + 25 %	24 DC -20 % + 25 %
≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
yes	yes	yes	yes	yes
0.7	0.7	0.7	0.7	0.7
yes	yes	yes	yes	yes
12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms
1.0	1.0	1.0	1.0	1.0
No	No	No	No	No
10	10	10	10	10
1	1	1	1	1
yes	yes	yes	yes	yes
14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %
0.7	0.7	0.7	0.7	0.7
If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.				
Yes	Yes	Yes	Yes	Yes
Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals
0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
24 - 16	24 - 16	24 - 16	24 - 16	24 - 16
SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master
99	99	99	99	16
125, 250	125, 250	125, 250	125, 250	125
automatic	automatic	automatic	automatic	automatic
SmartWire-DT master LED: ret/green Configurations LED: red/green				
Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	2 x plug, 8-pole
Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

Part no.			**XV-152-E6-57TVRC-10**	**XV-152-E8-57TVRC-10**
Article no.			166700	166701
Display				
Display - Type			Color display, TFT	Color display, TFT
Screen diagonal		Inch	5.7	5.7
Resolution		Pixel	VGA, 640 x 480	VGA, 640 x 480
Visible screen area		mm	115 x 86	115 x 86
Number of colours			64 k Colours	64 k Colours
Contrast ratio (Normally)			Normally 300:1	Normally 300:1
Brightness		cd/m²	Normally 250	Normally 250
Back-lighting			LED, dimmable via software	LED, dimmable via software
Service life of back-lighting		h	Normally 40000	Normally 40000
Operation				
Front type			Standard front with standard membrane (fully enclosed)	Standard front with standard membrane (fully enclosed)
Technology			Resistive-Touch 4 wire	Resistive-Touch 4 wire
Touch sensor			Glass with film	Glass with film
System				
Processor			RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz
Internal memory			DRAM (OS, Program and data memory): 64 MByte NAND-Flash (can be used for data backup): approx. 64 MByte available NVRAM (Retain data): 125 kByte NOR-Flash: 2 MByte	
External memory			SD Memory Card Slot: SDA Specification 1.00	
Cooling			Fanless CPU and system cooling, natural convection-based passive cooling	
Back-up of real-time clock				
Battery (service life)			CR 2032 (190 mA/h), zero maintenance (soldered)	
Backup (time at zero voltage)			Normally 10 years	Normally 10 years
Operating system			Windows CE 5.0 (licence incl.)	Windows CE 5.0 (licence incl.)
Engineering				
Visualisation software			GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3	GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3
PLC-Programming software			XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3
Target and web visualization			Yes	Yes
Interfaces, communication				
built-in interfaces			1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x CAN 1 x USB host 1 x SmartWire-DT 1 x USB device	1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x PROFIBUS/MPI 1 x USB host 1 x SmartWire-DT 1 x USB device
PLC-licence			PLC licence inclusive	PLC licence inclusive
SmartWire-DT master			Yes	Yes
Ethernet			100Base-TX/10Base-T	100Base-TX/10Base-T
easyNet			Yes	no
MPI			no	Yes
Power supply				
Nominal voltage			24 V DC SELV (safety extra low voltage)	24 V DC SELV (safety extra low voltage)
permissible voltage			Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms	
Voltage dips		ms	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)
Power consumption	$P_{max.}$	W	7	7
Note on power consumption			Basic device USB Slave to USB Host: 2.5 Total: 9.5	Basic device USB Slave to USB Host: 2.5 Total: 9.5
Heat dissipation		W	9.5	9.5
Note on heat dissipation			Heat dissipation with power consumption for 24 V, 7 W for basic device + 2.5 W for USB module	
Siemens MPI, (optional)			yes	yes
Type of fuse			Yes (fuse not accessible)	Yes (fuse not accessible)
Potential isolation			no potential isolation	no potential isolation

XV-152-E6-84TVRC-10 166702	XV-152-E8-84TVRC-10 166703	XV-152-E6-10TVRC-10 166704	XV-152-E8-10TVRC-10 166705
Color display, TFT	Color display, TFT	Color display, TFT	Color display, TFT
8.4	8.4	10.4	10.4
VGA, 640 x 480	VGA, 640 x 480	VGA, 640 x 480	VGA, 640 x 480
170 x 128	170 x 128	211 x 158	211 x 158
64 k Colours	64 k Colours	64 k Colours	64 k Colours
Normally 300:1	Normally 300:1	Normally 300:1	Normally 300:1
Normally 250	Normally 250	Normally 250	Normally 250
LED, dimmable via software	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software
Normally 40000	Normally 40000	Normally 40000	Normally 40000
Standard front with standard membrane (fully enclosed)	Standard front with standard membrane (fully enclosed)	Standard front with standard membrane (fully enclosed)	Standard front with standard membrane (fully enclosed)
Resistive-Touch 4 wire	Resistive-Touch 4 wire	Resistive-Touch 4 wire	Resistive-Touch 4 wire
Glass with film	Glass with film	Glass with film	Glass with film
RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz
DRAM (OS, Program and data memory): 64 MByte NAND-Flash (can be used for data backup): approx. 64 MByte available NVRAM (Retain data): 125 kByte NOR-Flash: 2 MByte			
SD Memory Card Slot: SDA Specification 1.00			
Fanless CPU and system cooling, natural convection-based passive cooling			
CR 2032 (190 mA/h), zero maintenance (soldered)			
Normally 10 years	Normally 10 years	Normally 10 years	Normally 10 years
Windows CE 5.0 (licence incl.)	Windows CE 5.0 (licence incl.)	Windows CE 5.0 (licence incl.)	Windows CE 5.0 (licence incl.)
GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3	GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3	GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3	GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3
XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3	XSOFT-CODESYS-2 XSOFT-CODESYS-3
Yes	Yes	Yes	Yes
1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x CAN 1 x USB host 1 x SmartWire-DT 1 x USB device	1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x PROFIBUS/MPI 1 x USB host 1 x SmartWire-DT 1 x USB device	1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x CAN 1 x USB host 1 x USB device 1 x SmartWire-DT	1 x Ethernet 100base-TX/10base-T 1 x RS485 1 x PROFIBUS/MPI 1 x USB host 1 x USB device 1 x SmartWire-DT
PLC licence inclusive	PLC licence inclusive	PLC licence inclusive	PLC licence inclusive
Yes	Yes	Yes	Yes
100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T
Yes	no	Yes	no
no	Yes	no	Yes
24 V DC SELV (safety extra low voltage)	24 V DC SELV (safety extra low voltage)	24 V DC SELV (safety extra low voltage)	24 V DC SELV (safety extra low voltage)
Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms			
≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)
12	12	12	12
Basic device USB Slave to USB Host: 2.5 Total: 9.5	Basic device USB Slave to USB Host: 2.5 Total: 9.5	Basic device USB Slave to USB Host: 2.5 Total: 9.5	Basic device USB Slave to USB Host: 2.5 Total: 9.5
14.5	14.5	14.5	14.5
Heat dissipation with power consumption for 24 V, 12 W for basic device + 2.5 W for USB module			
yes	yes	yes	yes
Yes (fuse not accessible)	Yes (fuse not accessible)	Yes (fuse not accessible)	Yes (fuse not accessible)
no potential isolation	no potential isolation	no potential isolation	no potential isolation

Part no.			**XV-152-E6-57TVRC-10**	**XV-152-E8-57TVRC-10**
Article no.			166700	166701
General				
Housing material			Metal, anodized	Metal, anodized
Front type			Standard front with standard membrane (fully enclosed)	
Dimensions (W x H x D)		mm	212 x 198 x 54	212 x 198 x 54
Flush mounted			Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)	
Weight		kg	1.25	1.25
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)	IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)
Approvals				
Approvals			cUL (UL508)	cUL (UL508)
Explosion protection (according to ATEX 94/9/EC)			II 3D Ex II T70°C IP5x: Zone 22, Category 3D	
Environmental conditions				
Temperature				
Operation	ϑ	°C	0 - +50	0 - +50
Storage / Transport	ϑ	°C	-20 - +60	-20 - +60
Relative humidity			IEC/EN 50178 10 - 95%, non-condensing	IEC/EN 50178 10 - 95%, non-condensing
Supply voltage U_{Aux}				
Rated operational voltage	U_{Aux}	V	24 V DC (-20/+25%)	24 V DC (-20/+25%)
Residual ripple on the input voltage		%	≦ 5	≦ 5
Protection against polarity reversal			Yes	Yes
Max. current	I_{max}	A	3	3
Note			If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.	
Short-circuit rating			no, external fuse FAZ Z3	no, external fuse FAZ Z3
Potential isolation			No	No
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2
Supply voltage U_{Pow}				
Supply voltage	U_{Pow}	V	24 DC -20 % + 25 %	24 DC -20 % + 25 %
Input voltage ripple		%	≦ 5	≦ 5
Siemens MPI, (optional)			yes	yes
Rated current	I	A	0.7	0.7
Overload proof			yes	yes
Inrush current and duration		A	12.5 A/6 ms	12.5 A/6 ms
Heat dissipation at 24 V DC		W	1.0	1.0
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No	No
Bridging voltage dips		ms	10	10
Repetition rate		s	1	1
Status indication		LED	yes	yes
SmartWire-DT supply voltage				
Rated operating voltage	U_e	V	14,5 ± 3 %	14,5 ± 3 %
Max. current	I_{max}	A	0.7	0.7
Note			If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.	
Short-circuit rating			Yes	Yes
Connection supply voltages				
Connection type			Push in terminals	Push in terminals
Solid		mm^2	0.2 - 1.5	0.2 - 1.5
Flexible with ferrule		mm^2	0.25 - 1.5 (AWG 24 - 16)	0.25 - 1.5 (AWG 24 - 16)
UL/CSA solid or stranded		AWG	24 - 16	24 - 16
SmartWire-DT network				
Station type			SmartWire-DT master	SmartWire-DT master
Number of SmartWire-DT slaves			99	99
Baud Rates		kBd	125, 250	125, 250
Address allocation			automatic	automatic
Status indication		LED	SmartWire-DT master LED: ret/green Configurations LED: red/green	
Connections			Plug, 8-pole	Plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

XV-152-E6-84TVRC-10 166702	**XV-152-E8-84TVRC-10** 166703	**XV-152-E6-10TVRC-10** 166704	**XV-152-E8-10TVRC-10** 166705
Metal, anodized	Metal, anodized	Metal, anodized	Metal, anodized
Standard front with standard membrane (fully enclosed)			
275 x 208 x 54	275 x 208 x 54	345 x 260 x 54	345 x 260 x 54
Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)			
2.1	2.1	3	3
IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)	IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)	IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)	IP65 (at front), IP20 (at rear) Enclosure Type 4X (Indoor use only)
cUL (UL508)	cUL (UL508)	cUL (UL508)	cUL (UL508)
II 3D Ex II T70°C IP5x: Zone 22, Category 3D			
0 - +50	0 - +50	0 - +50	0 - +50
-20 - +60	-20 - +60	-20 - +60	-20 - +60
IEC/EN 50178 10 - 95%, non-condensing	IEC/EN 50178 10 - 95%, non-condensing	IEC/EN 50178 10 - 95%, non-condensing	IEC/EN 50178 10 - 95%, non-condensing
24 V DC (-20/+25%)	24 V DC (-20/+25%)	24 V DC (-20/+25%)	24 V DC (-20/+25%)
≦ 5	≦ 5	≦ 5	≦ 5
Yes	Yes	Yes	Yes
3	3	3	3
If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.			
no, external fuse FAZ Z3	no, external fuse FAZ Z3	no, external fuse FAZ Z3	no, external fuse FAZ Z3
No	No	No	No
typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2
24 DC -20 % + 25 %	24 DC -20 % + 25 %	24 DC -20 % + 25 %	24 DC -20 % + 25 %
≦ 5	≦ 5	≦ 5	≦ 5
yes	yes	yes	yes
0.7	0.7	0.7	0.7
yes	yes	yes	yes
12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms
1.0	1.0	1.0	1.0
No	No	No	No
10	10	10	10
1	1	1	1
yes	yes	yes	yes
14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %
0.7	0.7	0.7	0.7
If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.			
Yes	Yes	Yes	Yes
Push in terminals	Push in terminals	Push in terminals	Push in terminals
0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
0.25 - 1.5 (AWG 24 - 16)	0.25 - 1.5 (AWG 24 - 16)	0.25 - 1.5 (AWG 24 - 16)	0.25 - 1.5 (AWG 24 - 16)
24 - 16	24 - 16	24 - 16	24 - 16
SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master
99	99	99	99
125, 250	125, 250	125, 250	125, 250
automatic	automatic	automatic	automatic
SmartWire-DT master LED: ret/green Configurations LED: red/green			
Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

			XV-303-70-BE0-A00-1C 179655	XV-303-70-CE0-A00-1C 179656	XV-303-70-BE2-A00-1C 179657
Display					
Display - Type			Color display, TFT, anti-glare	Color display, TFT, anti-glare	Color display, TFT, anti-glare
Screen diagonal		Inch	7, widescreen		
Resolution		Pixel	WSVGA, 1024 x 600		
Visible screen area		mm	153.6 x 90.0	153.6 x 90.0	153.6 x 90.0
Format			16:9	16:9	16:9
Number of colours			16 mil.	16 mil.	16 mil.
Contrast ratio (Normally)			Normally 850:1	Normally 850:1	Normally 850:1
Brightness		cd/m²	Normally 400	Normally 400	Normally 400
Back-lighting			LED, dimmable via software	LED, dimmable via software	LED, dimmable via software
Service life of back-lighting		h	Normally 50000	Normally 50000	Normally 50000
Operation					
Front type			Anti-glare tempered glass in plastic bezel		
Technology			Projected Capacitive Touch (PCT)		
Touch sensor			Multi-touch touch panel		
System					
Processor			ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz
Internal memory			DRAM: 512 MB RAM Flash: 1GB SLC NVRAM: 128kB Retain		
External memory			SD card, Type: SDSC, SDHC		
Cooling			Fanless CPU and system cooling, natural convection-based passive cooling		
Back-up of real-time clock					
Battery (service life)			Zero maintenance	Zero maintenance	Zero maintenance
Backup (time at zero voltage)			Normally 10 years	Normally 10 years	Normally 10 years
Operating system			Windows Embedded Compact 7 Pro		
Engineering					
Visualisation software			GALILEO, XSOFT-CODESYS		
PLC-Programming software			XSOFT-CODESYS-2, XSOFT-CODESYS-3		
Target and web visualization			Yes	Yes	Yes
Interfaces, communication					
built-in interfaces			1 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x SmartWire-DT	2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x SmartWire-DT	1 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x PROFIBUS 1 x SmartWire-DT
PLC-licence			PLC licence inclusive	PLC licence inclusive	PLC licence inclusive
Slots			for SD card: 1	for SD card: 1	for SD card: 1
SmartWire-DT master			Yes	Yes	Yes
Ethernet			10/100 Mbps	10/100 Mbps	10/100 Mbps
easyNet			-	-	-
MPI			no	no	Yes
Power supply					
Nominal voltage			24 V DC SELV (safety extra low voltage)		
permissible voltage			Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms		
Voltage dips		ms	≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)		
Power consumption	$P_{max.}$	W	14.4	14.4	14.4
Note on power consumption			-	-	-
Heat dissipation		W	14.4	14.4	14.4
Note on heat dissipation			Current consumption at 24 V DC 11.9 W for basic device + 2.5 W for USB module		
Siemens MPI, (optional)			yes	yes	yes
Type of fuse			Yes (fuse not accessible)		
Potential isolation			no	no	no

XV-303-70-CE2-A00-1C 179658	**XV-303-10-BE0-A00-1C** 179667	**XV-303-10-CE0-A00-1C** 179668	**XV-303-10-BE2-A00-1C** 179669	**XV-303-10-CE2-A00-1C** 179670
Color display, TFT, anti-glare	Color display, TFT, anti-glare	Color display, TFT, anti-glare	Color display, TFT, anti-glare	Color display, TFT, anti-glare
7, widescreen	10.1, widescreen			
WSVGA, 1024 x 600				
153.6 x 90.0	222.72 x 125.28	222.72 x 125.28	222.72 x 125.28	222.72 x 125.28
16:9	16:9	16:9	16:9	16:9
16 mil.	16 mil.	16 mil.	16 mil.	16 mil.
Normally 850:1	Normally 500:1	Normally 500:1	Normally 500:1	Normally 500:1
Normally 400	Normally 400	Normally 400	Normally 400	Normally 400
LED, dimmable via software	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software
Normally 50000	Normally 50000	Normally 50000	Normally 50000	Normally 50000
Anti-glare tempered glass in plastic bezel				
Projected Capacitive Touch (PCT)				
Multi-touch touch panel				
ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz	ARM Cortex-A9 800 MHz
DRAM: 512 MB RAM Flash: 1GB SLC NVRAM: 128kB Retain				
SD card, Type: SDSC, SDHC				
Fanless CPU and system cooling, natural convection-based passive cooling				
Zero maintenance	Zero maintenance	Zero maintenance	Zero maintenance	Zero maintenance
Normally 10 years	Normally 10 years	Normally 10 years	Normally 10 years	Normally 10 years
Windows Embedded Compact 7 Pro				
GALILEO, XSOFT-CODESYS				
XSOFT-CODESYS-2, XSOFT-CODESYS-3				
Yes	Yes	Yes	Yes	Yes
2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x PROFIBUS 1 x SmartWire-DT	1 x Ethernet 10/100 Mbps 1 x CAN 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x SmartWire-DT	2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x SmartWire-DT	1 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x PROFIBUS 1 x SmartWire-DT	2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CAN 1 x USB host 2.0 1 x USB device 1 x PROFIBUS 1 x SmartWire-DT
PLC licence inclusive	PLC licence inclusive	PLC licence inclusive	PLC licence inclusive	PLC licence inclusive
for SD card: 1	for SD card: 1	for SD card: 1	for SD card: 1	for SD card: 1
Yes	Yes	Yes	Yes	Yes
10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
-	-	-	-	-
Yes	no	no	Yes	Yes
24 V DC SELV (safety extra low voltage)				
Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms				
≤ 10 ms from rated voltage (24 V DC) ≤ 5 ms from undervoltage (19.2 V DC)				
14.4	18	18	18	18
-	-	-	-	-
14.4	18	18	18	18
Current consumption at 24 V DC 11.9 W for basic device + 2.5 W for USB module	Heat dissipation with power consumption for 24 V 12 W for basic device + 2.5 W for USB module			
yes	yes	yes	yes	yes
Yes (fuse not accessible)				
no	no	no	no	no

			XV-303-70-BE0-A00-1C 179655	XV-303-70-CE0-A00-1C 179656	XV-303-70-BE2-A00-1C 179657
General					
Housing material			Insulated material black	Insulated material black	Insulated material black
Front type			Anti-glare tempered glass in plastic bezel		
Dimensions (W x H x D)		mm	196 x 135 x 51	196 x 135 x 51	196 x 135 x 51
Flush mounted			Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)		
Weight		kg	0.74	0.74	0.74
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1), NEMA 4X (in preparation)		
Approvals					
Approvals			in preparation: cUL 61010-2-201		
Explosion protection (according to ATEX 94/9/EC)			-	-	-
Environmental conditions					
Climatic environmental conditions					
Climatic proofing			Cold to EN 60068-2-1, Dry heat to IEC 60068-2-2, Damp heat as per EN 60068-2-3		
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080
Temperature					
Operation	ϑ	°C	0 - +50	0 - +50	0 - +50
Storage / Transport	ϑ	°C	-20 - +60	-20 - +60	-20 - +60
Relative humidity			10 - 95%, non-condensing		
Supply voltage U_{Aux}					
Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)	24 V DC (-15/+20%)	24 V DC (-15/+20%)
Residual ripple on the input voltage		%	≦ 5	≦ 5	≦ 5
Protection against polarity reversal			Yes	Yes	Yes
Max. current	I_{max}	A	3	3	3
Note			If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.		
Short-circuit rating			no, external fuse FAZ Z3		
Potential isolation			No	No	No
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2
Supply voltage U_{Pow}					
Supply voltage	U_{Pow}	V	24 DC -15 % + 20 %	24 DC -15 % + 20 %	24 DC -15 % + 20 %
Input voltage ripple		%	≦ 5	≦ 5	≦ 5
Siemens MPI, (optional)			yes	yes	yes
Rated current	I	A	0.7	0.7	0.7
Overload proof			yes	yes	yes
Inrush current and duration		A	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms
Heat dissipation at 24 V DC		W	1.0	1.0	1.0
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No	No	No
Bridging voltage dips		ms	10	10	10
Repetition rate		s	1	1	1
Status indication		LED	yes	yes	yes
SmartWire-DT supply voltage					
Rated operating voltage	U_e	V	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %
Max. current	I_{max}	A	0.7	0.7	0.7
Note			If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.		
Short-circuit rating			Yes	Yes	Yes
Connection supply voltages					
Connection type			Push in terminals	Push in terminals	Push in terminals
Solid		mm^2	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
Flexible with ferrule		mm^2	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16	24 - 16	24 - 16
SmartWire-DT network					
Station type			SmartWire-DT master	SmartWire-DT master	SmartWire-DT master
Number of SmartWire-DT slaves			99	99	99
Baud Rates		kBd	125, 250	125, 250	125, 250
Address allocation			automatic	automatic	automatic
Status indication		LED	SmartWire-DT master LED: ret/green Configurations LED: red/green		
Connections			Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

XV-303-70-CE2-A00-1C	XV-303-10-BE0-A00-1C	XV-303-10-CE0-A00-1C	XV-303-10-BE2-A00-1C	XV-303-10-CE2-A00-1C
179658	179667	179668	179669	179670
Insulated material black	Insulated material black	Insulated material black	Insulated material black	Insulated material black
Anti-glare tempered glass in plastic bezel				
196 x 135 x 51	269 x 174 x 58	269 x 174 x 58	269 x 174 x 58	269 x 174 x 58
Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)				
0.74	1.13	1.13	1.13	1.13
IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1), NEMA 4X (in preparation)				
in preparation: cUL 61010-2-201				
-	-	-	-	-
Cold to EN 60068-2-1, Dry heat to IEC 60068-2-2, Damp heat as per EN 60068-2-3				
795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080
0 - +50	0 - +50	0 - +50	0 - +50	0 - +50
-20 - +60	-20 - +60	-20 - +60	-20 - +60	-20 - +60
10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing	10 - 95%, non-condensing
24 V DC (-15/+20%)	24 V DC (-15/+20%)	24 V DC (-15/+20%)	24 V DC (-15/+20%)	24 V DC (-15/+20%)
≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Yes	Yes	Yes	Yes	Yes
3	3	3	3	3
If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.				
no, external fuse FAZ Z3				
No	No	No	No	No
typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2
24 DC -15 % + 20 %	24 DC -15 % + 20 %	24 DC -15 % + 20 %	24 DC -15 % + 20 %	24 DC -15 % + 20 %
≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
yes	yes	yes	yes	yes
0.7	0.7	0.7	0.7	0.7
yes	yes	yes	yes	yes
12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms
1.0	1.0	1.0	1.0	1.0
No	No	No	No	No
10	10	10	10	10
1	1	1	1	1
yes	yes	yes	yes	yes
14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %
0.7	0.7	0.7	0.7	0.7
If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.				
Yes	Yes	Yes	Yes	Yes
Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals
0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
24 - 16	24 - 16	24 - 16	24 - 16	24 - 16
SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master
99	99	99	99	99
125, 250	125, 250	125, 250	125, 250	125, 250
automatic	automatic	automatic	automatic	automatic
SmartWire-DT master LED: ret/green Configurations LED: red/green				
Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

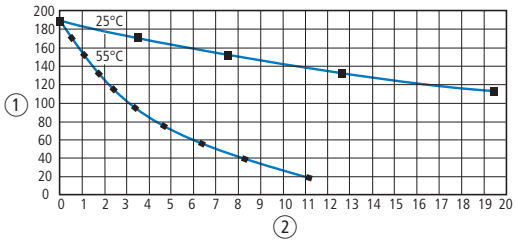
			XC-152-E3-11 167850	XC-152-E6-11 167851	XC-152-E8-11 167852
General					
Standards			EN 61131, UL 508	EN 61131, UL 508	EN 61131, UL 508
Approvals			CE, cULus	CE, cULus	CE, cULus
Ambient temperature		°C	0 - +55	0 - +55	0 - +55
Storage / Transport	ϑ	°C	-20 - +60	-20 - +60	-20 - +60
Degree of Protection			IP20	IP20	IP20
Battery (service life)			normally 10 years	normally 10 years	normally 10 years
Weight		kg	0.47	0.49	0.49
Power supply					
Supply voltage		V DC	24	24	24
Permissible range	U_e		18 - 30 V DC	18 - 30 V DC	18 - 30 V DC
Maximum power loss	P_v	W	8.5	8.5	8.5
Note on heat dissipation			Heat dissipation with power consumption for 24 V 6 W for basic device + 2.5 W for USB module		
CPU					
Processor			RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz	RISC CPU, 32 Bit, 400 MHz
Memory					
Program code/program data			64MB	64MB	64MB
Cycle time for 1 k of instructions (Bit, Byte)		ms	Normally 0.04	Normally 0.04	Normally 0.04
Interfaces					
Basic interfaces					
Ethernet					
Profile			FTP SMTP HTTP TCP UDP IP	FTP SMTP HTTP TCP UDP IP	FTP SMTP HTTP TCP UDP IP
Data transfer rate		MBit/s	100Base-TX 10Base-T	100Base-TX 10Base-T	100Base-TX 10Base-T
Potential isolation			500 $V_{r.m.s.}$	500 $V_{r.m.s.}$	500 $V_{r.m.s.}$
Programming interface			yes	yes	yes
Connections			RJ45	RJ45	RJ45
USB					
USB Host			USB 2.0	USB 2.0	USB 2.0
Potential isolation			None	None	None
USB device			USB 2.0	USB 2.0	USB 2.0
Potential isolation			None	None	None
additional interfaces					
PROFIBUS					
Profile			-	-	DP V1 MPI (Master)
Data transfer rate		kbit/s	-	-	max. 1500
Potential isolation			-	-	None
Module		Count	-	-	126
Connections			-	-	9-pin D-sub (socket)
CAN					
Profile			-	CANopen easyNet (Master/Device)	-
Data transfer rate		kbit/s	-	max. 1000	-
Potential isolation			-	None	-
Module		Count	-	127	-
Connections			-	9-pin D-sub (plug)	-
SmartWire-DT					
Profile			SmartWire-DT	SmartWire-DT	SmartWire-DT
Data transfer rate		kbit/s	max. 250	max. 250	max. 250
Potential isolation			None	None	None
Module		Count	99	99	99
Connections			Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2

			XC-152-E3-11 167850	XC-152-E6-11 167851	XC-152-E8-11 167852
Interfaces					
Additional interfaces					
RS485					
Data transfer rate		kbit/s	max. 57.6	max. 57.6	max. 57.6
Potential isolation			None	None	None
Connections			9-pin D-sub (plug)	9-pin D-sub (plug)	9-pin D-sub (plug)
RS232					
Data transfer rate		kbit/s	max. 57.6	-	-
Potential isolation			None	-	-
Connections			9-pin D-sub (plug)	-	-
RTC (real-time clock)			yes	yes	yes

			EASY802-DC-SWD 152901	EASY806-DC-SWD 152902
General				
Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27	
Dimensions (W x H x D)		mm	35 x 110 x 125.5 (2 PE)	35 x 110 x 125.5 (2 PE)
Weight		kg	0.16	0.16
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)	
Terminal capacities				
Solid		mm^2	0.2/1.5 (AWG 24 - 16)	0.2/1.5 (AWG 24 - 16)
Flexible with ferrule		mm^2	0.2/1.5 (AWG 24 - 16)	0.2/1.5 (AWG 24 - 16)
Standard screwdriver		mm	-	-
Max. tightening torque		Nm	-	-
Climatic environmental conditions				
Operating ambient temperature		°C	In accordance with IEC 60068-2-1, -25 - +55	In accordance with IEC 60068-2-1, -25 - +55
Condensation			Take appropriate measures to prevent condensation	Take appropriate measures to prevent condensation
Storage	ϑ	°C	In accordance with IEC 60068-2-1, -2, -14 -40 - +70	In accordance with IEC 60068-2-1, -2, -14 -40 - +70
Relative humidity		%	in accordance with IEC 60068-2-30, IEC 60068-2-78 5 - 95	in accordance with IEC 60068-2-30, IEC 60068-2-78 5 - 95
Air pressure (operation)		hPa	795 - 1080	795 - 1080
Ambient conditions, mechanical				
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20
Vibrations		Hz	In accordance with IEC 60068-2-6 constant amplitude 0.15 mm: 10 - 57 constant acceleration 2 g: 57 - 150	In accordance with IEC 60068-2-6 constant amplitude 0.15 mm: 10 - 57 constant acceleration 2 g: 57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3
Mounting position			Vertical or horizontal	Vertical or horizontal
Electromagnetic compatibility (EMC)				
Overvoltage category/pollution degree			III/2	III/2
Electrostatic discharge (ESD)				
applied standard			according to IEC EN 61000-4-2	according to IEC EN 61000-4-2
Air discharge		kV	8	8
Contact discharge		kV	6	6
Electromagnetic fields (RFI) to IEC EN 61000-4-3		V/m	0.8 - 1.0 GHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1	0.8 - 1.0 GHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1
Radio interference suppression			EN 55011 Class B	EN 55011 Class B
Burst		kV	according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 2 SWD lines: 2	according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 2 easyNet: 2 SWD lines: 2
Power pulses (Surge)			according to IEC/EN 61000-4-5 1 kV (supply cables, symmetrical)	according to IEC/EN 61000-4-5 1 kV (supply cables, symmetrical)
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10	10
Insulation resistance				
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142	EN 50178, UL 508, CSA C22.2, No. 142
Insulation resistance			EN 50178	EN 50178
Back-up of real-time clock			1)	1)
Accuracy of real-time clock to inputs		s/day	typ. ± 2 (± 0.2 h/Year)	typ. ± 2 (± 0.2 h/Year)
			depending on ambient air temperature fluctuations of up to ± 5 s/day (± 0.5 h/year) are possible	

Note

1)



① Backup time (hours) with fully charged double layer capacitor

② Service life (years)

			EASY802-DC-SWD 152901	EASY806-DC-SWD 152902
Repetition accuracy of timing relays				
Accuracy of timing relays (of values)		%	± 0.02	± 0.02
Resolution				
Range “S”		ms	5	5
Range “M:S”		s	1	1
Range “H:M”		min	1	1
Retentive memory				
Write cycles of the retentive memory			10^{14} (read/write cycles)	10^{14} (read/write cycles)
Power supply				
Rated operational voltage	U_e	V	24 DC (-15/+20%)	24 DC (-15/+20%)
Permissible range	U_e		20.4 - 28.8 V DC	20.4 - 28.8 V DC
Residual ripple		%	≦ 5	≦ 5
Siemens MPI, (optional)			yes	yes
Frequency		Hz	-	-
Input current			normally 500 mA at U_e	normally 900 mA at U_e
Inrush current and length		A	12.5 for 6 ms	12.5 for 6 ms
Voltage dips		ms	≤ In accordance with IEC 61131-2 ≤ ≤ 10	≤ In accordance with IEC 61131-2 ≤ ≤ 10
Fuse		A	≧ 3 A (T) (e.g FAZ C3)	≧ 3 A (T) (e.g FAZ C3)
Potential isolation			-	-
Power loss	P	W	Normally 1	Normally 1
Heat dissipation at 24 V DC		W	-	-
Note on heat dissipation			Current consumption at 24 V DC	Current consumption at 24 V DC
Digital inputs 24 V DC				
Number			-	4
Inputs can be used as analog inputs			-	-
Status Display			-	LED
Potential isolation			-	from power supply: no between digital inputs: no from the outputs: no to COM interface: yes to easyNet: yes to AUX: yes to SmartWire-DT: no
Rated operational voltage	U_e	V DC	-	24
Input voltage		V DC	-	Signal 0: ≦ 5 (I1 - I4) Signal 1: ≧ 15 (I1 - I4)
Input current at signal 1		mA	-	I1 - I4: 3.9
Deceleration time		ms	-	20 (0 -> 1/1 -> 0, Debounce ON) normally 0.025 (0 -> 1/1 -> 0, Debounce OFF)
Cable length		m	-	100 (unshielded)
Frequency counter				
Number			-	4 (I1, I2, I3, I4)
Counter frequency		kHz	-	≦ 5
Pulse shape			-	Square
Pulse pause ratio			-	1:1
Cable length		m	-	≦ 20 (screened)
Incremental counter				
Number of counter inputs			-	2 (I1 + I2, I3 + I4)
Value range			-	-
Counter frequency		kHz	-	≦ 5
Pulse shape			-	Square
Counter inputs			-	-
Reference input			-	-
Input for reference switch			-	-
Counter inputs I1 and I2, I3 and I4			-	-
Signal offset			-	90°
Pulse pause ratio			-	1:1

			EASY802-DC-SWD 152901	EASY806-DC-SWD 152902
Rapid counter inputs				
Number			-	4 (I1, I2, I3, I4)
Value range			-	-
Cable length		m	-	≦ 20 (screened)
Counter frequency		kHz	-	< 5
Pulse shape			-	Square
Pulse pause ratio			-	1:1
Transistor outputs				
Number			-	2
Rated operational voltage	U_e	V DC	-	-
Permissible range	U_e		-	-
Residual ripple		%	-	-
Supply current		mA	-	-
Siemens MPI, (optional)			-	-
Potential isolation			-	from power supply: no From the inputs: yes: no to COM interface: yes to easyNet: yes to AUX: yes
Rated operational current at signal „1" DC per channel	I_e	A	-	max. 0.1
Lamp load without R_v per channel		W	-	1.2
Residual current on 0 signal per channel		mA	-	< 0.1
Max. output voltage		V	-	2.5 (signal 0 at external load < 10 MΩ) $U = U_e$ - 2 V (signal 1 at I_e = 0.1 A)
Short-circuit protection			-	Yes, electronic (Q1 - Q2)
Short-circuit tripping current for R_a ≦ 10 mΩ		A	-	0.15 - 0.35 per output depending on number of active channels and their load
Total short-circuit current		A	-	-
Peak short-circuit current		A	-	10 A/80 ms (on short-circuit) 10 A/20 ms (on attempted restart of device after 10s)
Thermal cutout			-	no
Max. operating frequency with constant resistive load		Operations/h	-	-
Parallel connection of outputs				
With resistive load, inductive load with external suppressor circuit, combination within a group			-	-
Number of outputs	max.		-	-
Max. total current		A	-	-
Output status indication			-	LED
Inductive load to EN 60947-5-1				
Without external suppressor circuit				
$T_{0.95 = 1 ms, R = 48 Ω, L = 16 mH}$				
Utilization factor		g	-	-
Duty factor		% DF	-	-
Max. switching frequency f = 0.5 Hz (max. DF = 50 %)		Operations	-	-
DC-13, $T_{0.95 = 72 ms, R = 48 Ω, L = 1.15 H}$				
Utilization factor		g	-	-
Duty factor		% DF	-	-
Max. switching frequency f = 0.5 Hz (max. DF = 50 %)		Operations	-	-
$T_{0.95 = 15 ms, R = 48 Ω, L = 0.24 H}$				
Utilization factor		g	-	-
Duty factor		% DF	-	-
Max. switching frequency f = 0.5 Hz (max. DF = 50 %)		Operations	-	-
With external suppressor circuit				
Utilization factor		g	-	-
Duty factor		% DF	-	-
Max. switching frequency, max. duty factor		Operations	-	-

			EASY802-DC-SWD 152901	EASY806-DC-SWD 152902
Supply voltage U_{Aux}				
Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)	24 V DC (-15/+20%)
Permissible range			20.4 - 28.8 V DC	20.4 - 28.8 V DC
Output voltage SWD-OUT			U_e - 0.3 V	U_e - 0.3 V
Siemens MPI, (optional)			yes	yes
Residual ripple on the input voltage		%	≦ 5	≦ 5
Max. current	I_{max}	A	3 (IEC) 2 (UL)	3 (IEC) 2 (UL)
Short-circuit rating			no	no
Heat dissipation		W	Normally 1 W at 24 V DC	Normally 1 W at 24 V DC
Potential isolation			from power supply POW: yes to COM interface: yes to SmartWire-DT: yes	from power supply POW: yes From the inputs: yes from the outputs: yes to COM interface: yes to easyNet: yes to SmartWire-DT: yes
Power loss	P	W	1	1
SmartWire-DT supply voltage				
Rated operating voltage	U_e	V	14.5 ± 3 %	14.5 ± 3 %
Max. current	I_{max}	A	0.4	0.7
Short-circuit rating			Yes	Yes
Potential isolation			from power supply POW: no to COM interface: yes to AUX: yes	from power supply POW: no From the inputs: yes: no from the outputs: no to COM interface: yes to easyNet: yes to AUX: yes
SmartWire-DT network				
Station type			Master	Master
Number of SmartWire-DT slaves			Max. 99	Max. 600
Baud Rates		kBd	125/250	125/250
Address allocation			Automatically (via Configuration button)	Automatically (via Configuration button)
Status indication		LED	SWD-LED: orange/green/red Config. LED: green/red	SWD-LED: orange/green/red Config. LED: green/red
Connections			Plug, 8-pole	Plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2	Blade terminal SWD4-8MF2
Bus termination			Integrated in the device SmartWire-DT line end with SWD4-RC8-10	Integrated in the device SmartWire-DT line end with SWD4-RC8-10
Network easyNet				
Module		Count	-	Max. 8
Data transfer rate/distance			-	1000 KBit/s, 6 m 500 KBit/s, 25 m 250 Kbit/s, 40 m 125 Kbit/s, 300 m 50 KBit/s, 300 m 20 KBit/s, 700 m 10 KBit/s, 1000 m Lengths from 40 m can be obtained only with cables with reinforced cross-section and terminal adapter.
Potential isolation			-	from power supply POW: yes From the inputs: yes from the outputs: yes to COM interface: yes to SmartWire-DT: yes to AUX: yes
Bus termination (first and last station)			-	yes
Terminal types			-	RJ45, 8-polig
Terminal capacity			-	up to 1000 m, < 16 mΩ/m: 1.5 (AWG: 16) up to 600 m, < 26 mΩ/m: 0.75 - 0.8 (AWG: 18) up to 600 m, < 26 mΩ/m: 0.5 - 0.6 (AWG: 20, 19) up to 400 m, < 40 mΩ/m: 0.34 - 0.5 (AWG: 22, 21, 20) up to 250 m, < 60 mΩ/m: 0.25 - 0.34 (AWG: 23, 22) up to 175 m, < 70 mΩ/m: 0.13 (AWG: 26) up to 40 m, < 140 mΩ/m: 1.5 (AWG: 16)

			EU5C-SWD-CAN	EU5C-SWD-DP	EU5C-SWD-EIP-MODTCP	EU5C-SWD-PROFINET	EU5C-SWD-POWERLINK	EU5C-SWD-ETHERCAT
General								
Standards			IEC/EN 61131-2 EN 50178			IEC/EN 61131-2		
Dimensions (W x H x D)		mm	35 x 90 x 127	35 x 90 x 127	35 x 90 x 124	35 x 90 x 124	35 x 90 x 124	35 x 90 x 124
Weight		kg	0.16	0.16	0.17	0.16	0.16	0.16
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)					
Mounting position			As required	As required	As required	As required	As required	As required
Ambient conditions, mechanical								
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)								
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 9	5 - 9	5 - 9
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	9 - 150	9 - 150	9 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	1	1	1
Electromagnetic compatibility (EMC)								
Overvoltage category			II	II	II	II	II	II
Pollution degree			2	2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)								
Air discharge (Level 3)		kV	8	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)								
80 - 1000 MHz		V/m	10	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1	1
Radio interference suppression			EN 55011 Class A					
Burst (IEC/EN 61131-2:2008, Level 3)								
Supply cable		kV	2	2	2	2	2	2
Fieldbus cable								
Signal lines		kV	1	1	1	1	1	1
SmartWire-DT cable								
SmartWire-DT cables		kV	1	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)								
Supply cable			0.5 kV	0.5 kV	0.5 kV	0.5 kV	0.5 kV	0.5 kV
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10	10
Operating conditions								
Climatic environmental conditions								
Climatic proofing			In accordance with IEC 60068-2					
Ambient temperature								
Operation	ϑ	°C	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55
Storage	ϑ	°C	-40 - +70	-40 - +70	-40 - +70	-40 - +70	-40 - +70	-40 - +70
Atmospheric conditions								
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Supply voltage U_{Aux}								
Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)					
Residual ripple on the input voltage		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Protection against polarity reversal			Yes	Yes	Yes	Yes	Yes	Yes
Max. current	I_{max}	A	3	3	3	3	3	3
			If contactors with a total current consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.					
Short-circuit rating			no, external fuse FAZ Z3					
Power loss	P	W	Normally 1	Normally 1	Normally 1	Normally 1	Normally 1	Normally 1
Potential isolation			No	No	No	No	No	No
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2

			EU5C-SWD-CAN	EU5C-SWD-DP	EU5C-SWD-EIP-MODTCP	EU5C-SWD-PROFINET	EU5C-SWD-POWERLINK	EU5C-SWD-ETHERCAT
Supply voltage U_{Pow}								
Supply voltage	U_{Pow}	V	24 V DC (-15/+20%)					
Input voltage ripple		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Siemens MPI, (optional)			yes	yes	yes	yes	yes	yes
Rated current	I	A	0.6	0.7	0.7	0.7	0.7	0.7
Overload proof			yes	yes	yes	yes	yes	yes
Inrush current and duration		A	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	44 A/2 ms	44 A/2 ms	44 A/2 ms
Heat dissipation at 24 V DC		W	3.8	3.8	3.8	4.4	4.4	4.4
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No	No	No	No	No	No
Bridging voltage dips		ms	10	10	10	10	10	10
Repetition rate		s	1	1	1	1	1	1
Status indication		LED	yes	yes	yes	yes	yes	yes
SmartWire-DT supply voltage								
Rated operating voltage	U_e	V	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %
Max. current	I_{max}	A	0.7	0.7	0.7	0.7	0.7	0.7
			If SWD modules with a total current consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.					
Short-circuit rating			Yes	Yes	Yes	Yes	Yes	Yes
Connection supply voltages								
Connection type			Push in terminals					
Solid		mm^2	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
Flexible with ferrule		mm^2	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16	24 - 16	24 - 16	24 - 16	24 - 16	24 - 16
SmartWire-DT network								
Station type			SmartWire-DT master					
Number of SmartWire-DT slaves			99	58	99	99	99	99
Baud Rates		kBd	125 250	125 250	125 250	125 250	125 250	125 250
Status indication		LED	SmartWire-DT master LED: ret/green Configurations LED: red/green					
Connections			Plug, 8-pole					
Plug connectors			Blade terminal SWD4-8MF2					
Fieldbus interface								
Module type			CANopen® slave	PROFIBUS DP slave	Ethernet IP/ MODBUS-TCP Slave	PROFINET IO Device	Powerlink slave	EtherCAT slave
Protocol			CANopen®	PROFIBUS-DP	Ethernet IP/ MODBUS-TCP	PROFINET	Powerlink V2	EtherCAT
Input data, max.		Byte	128	240	Ethernet-IP: 546 MODBUS-TCP: 800	800	800	800
Output data, max.		Byte	128	240	Ethernet-IP: 496 MODBUS-TCP: 642	642	642	642
Baud Rate								
Baud Rates			up to 1 MBit/s	up to 12 MBit/s	10/100 MBit/s	100 MBit/s	100 MBit/s	100 MBit/s
Baud rate setting								
Address allocation			automatic	automatic	automatic	-	-	-
Station address			2 … 32	2 … 125	IP	IP	IP	IP
Address allocation								
Setting			viaDIP switch	viaDIP switch	viaDip switch/ DHCP/BOOTP	via PROFINET	viaPowerlink	viaEtherCAT
Status display interface								
Status display fieldbus interface	Multi colour	LED	CAN	DP	MS, Link status	APL, SF, BF, LINK, RX/TX	APL, BS, BE, L/A	APL, RUN, ERR, L/A
Terminating resistor								
Type or resistance			Switchable via DIP switches	Switchable via field bus connectors	-	-	-	-
Connection design for field bus			1 x SUB-D plug, 9-pole	1 x D-SUB socket, 9-pin	2 x RJ45 (2-channel switch)	2 x RJ45 (2-channel switch)	Two RJ45 (two-channel hub)	2 x RJ45 (2-channel switch)
Potential isolation			Yes	Yes	Yes	Yes	Yes	Yes

			EU5E-SWD-8DX	EU5E-SWD-4DX	EU5E-SWD-4D2R	EU5E-SWD-4D4D	EU5E-SWD-X8D
General							
Standards			IEC/EN 61131-2 EN 50178				
Dimensions (W x H x D)		mm	35 x 90 x 101				
Weight		kg	0.1	0.1	0.1	0.1	0.1
Mounting			Top-hat rail IEC/EN 60715, 35 mm				
Mounting position			As required				
Climatic environmental conditions							
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3				
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Operating ambient temperature (IEC 60068-2)		°C	- 25 - +55	- 25 - +55	- 25 - +55	- 25 - +55	- 25 - +55
Storage / Transport	ϑ	°C	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70
Relative humidity							
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Ambient conditions, mechanical							
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)							
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9	9	9
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 30 g/11 ms		Impacts	-	-	-	-	-
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)							
Overvoltage category			II	II	II	II	II
Pollution degree			2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)							
Air discharge (Level 3)		kV	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)							
80 - 1000 MHz		V/m	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT)			EN 55011 Class A				
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cable		kV	2	2	2	2	2
Signal lines		kV	1	1	1	1	1
SmartWire-DT cables		kV	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)							
Surge power cables		kV	-	0.5	-	0.5	0.5
Surge I/O cables		kV	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10

			EU5E-SWD-8DX	EU5E-SWD-4DX	EU5E-SWD-4D2R	EU5E-SWD-4D4D	EU5E-SWD-X8D
SmartWire-DT network							
Station type			SmartWire-DT slave				
Setting the baud rate			automatic				
Baud rate (data transfer speed)		kbps	maximum250				
Status SmartWire-DT		LED	Green				
Connection			Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5				
SWD-IN			-	-	-	-	-
SWD-OUT			-	-	-	-	-
Current consumption (15 V SWD supply)	I_e	mA	16	33	45	33	43
Stromaufnahme (24-V-SWD-Versorgung)		mA	-	-	-	-	-
Sensor supply							
Max. current consumption per M12 I/O plug		mA	-	-	-	-	-
Overload and short-circuit proof			-	-	-	-	-
Digital inputs							
Number of digital inputs/outputs			-	-	-	-	-
Quantity			8	-	4	4	-
Input current		mA	Normally 4 at 24 V DC	-	Normally 4 at 24 V DC	Normally 4 at 24 V DC	-
Voltage level to IEC/EN 61131-2			-	-	-	-	-
Limit value type 1			Low < 5V DC;High > 15V DC	-	Low < 5V DC;High > 15V DC	Low < 5V DC;High > 15V DC	-
Input delay			High->Low < 0.2 ms Low->High < 0.2 ms	-	High->Low < 0.2 ms Low->High < 0.2 ms	High->Low < 0.2 ms Low->High < 0.2 ms	-
Status display inputs		LED	yellow	-	yellow	yellow	-
Digital semi-conductor outputs							
Number			-	-	-	4	8
Output current		A	-	-	-	0.5	0.5
Short-circuit tripping current		A	-	-	-	max. 1.2 over 3 ms	
Lamp load	R_{LL}	W	≦ -	≦ -	≦ -	≦ 3	≦ 3
Overload proof			-	-	-	yes, with diagnostics	yes, with diagnostics
Switching capacity			-	-	-	EN 60947-5-1 utilization category DC-13	
Status display		LED	-	-	-	yellow	
Relay outputs							
Number			-	-	2	-	-
Contact type art			-	-	N/O contact	-	-
Operations							
Utilization category AC-1, 250 V, 6 A			-	-	> 2 x 10^4	-	-
Utilization category AC-15, 250 V, 3 A			-	-	> 5 x 10^4	-	-
Utilization category DC-13, 24 V, 1 A			-	-	> 2 x 10^5	-	-
Safe isolation according to EN 50178		V AC	-	-	230	-	-
Minimum load current		mA	-	-	100 mA , 12 V DC	-	-
Pick-up/drop-out time		ms	-	-	5/2.5	-	-
Bounce duration		ms	Normally -	Normally -	Normally 1.5	Normally -	Normally -
Short-circuit protection			-	-	external 4 A gL/gG	-	-
Status display for relay outputs		LED	-	-	yellow	-	-
Potential isolation							
Output to input			-	-	-	no	-
Output to output			-	-	Yes	-	-
Inputs for SmartWire-DT			Yes	Yes	Yes	Yes	-
Outputs to SmartWire-DT			-	Yes	Yes	Yes	Yes
Input to input			-	-	-	No	-

			EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT	EU5E-SWD-4PT-2
General						
Standards			IEC/EN 61131-2, EN 50178			
Dimensions (W x H x D)		mm	35 x 90 x 101	35 x 90 x 101	35 x 90 x 101	35 x 90 x 101
Weight		kg	0.1	0.1	0.1	0.1
Mounting			Top-hat rail IEC/EN 60715, 35 mm			
Mounting position			As required	As required	As required	As required
Climatic environmental conditions						
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3			
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Operating ambient temperature (IEC 60068-2)		°C	- 25 - +55	- 25 - +55	- 25 - +55	- 25 - +55
Storage / Transport	ϑ	°C	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70
Relative humidity						
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
Ambient conditions, mechanical						
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)						
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9	9
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 30 g/11 ms		Impacts	-	-	-	-
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)						
Overvoltage category			II	II	II	II
Pollution degree			2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)						
Air discharge (Level 3)		kV	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)						
80 - 1000 MHz		V/m	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1
Radio interference suppression (SmartWire-DT)			EN 55011 Class B	EN 55011 Class B	EN 55011 Class B	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cable		kV	2	2	2	2
Signal lines		kV	2	2	2	2
SmartWire-DT cables		kV	2	2	2	2
Surge (IEC/EN 61131-2:2008, Level 1)						
Surge power cables		kV	1	1	1	1
Surge I/O cables		kV	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10
SmartWire-DT network						
Station type			SmartWire-DT slave			
Setting the baud rate			automatic	automatic	automatic	automatic
Baud rate (data transfer speed)		kbps	maximum 250	maximum 250	maximum 250	maximum 250
Status SmartWire-DT		LED	Green	Green	Green	Green
Connection			Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5			
SWD-IN			-	-	-	-
SWD-OUT			-	-	-	-
Current consumption (15 V SWD supply)	I_e	mA	22	22	22	22
Stromaufnahme (24-V-SWD-Versorgung)		mA	-	-	-	-
Sensor supply						
Max. current consumption per M12 I/O plug		mA	-	-	-	-
Overload and short-circuit proof			-	-	-	-

			EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT	EU5E-SWD-4PT-2
Analog inputs						
Quantity			4 (2-wire connection, screened, length < 10 m)	2 (2-wire connection, screened, length < 10 m)	-	-
Parameter setting						
Input type			Voltage, current	Voltage, current	-	-
Averaging			adjustable	adjustable	-	-
Voltage						
Input voltage		V	0 - 10	0 - 10	-	-
Input impedance		kΩ	-	-	-	-
Current						
Input current		mA	0 - 20	0 - 20	-	-
Input impedance		Ω	< 250	< 250	-	-
Resolution		Bit	11	11	-	-
Conversion time		ms	20	20	-	-
Total error		%	± 1	± 1	-	-
Repetition accuracy		%	± 0.5	± 0.5	-	-
Dielectric strength		V	± 30	± 30	-	-
Analog outputs						
Number			-	2 (2-wire connection, screened)	-	-
Parameter setting						
Output type			-	Voltage, current	-	-
Voltage						
Output voltage		V	-	0 -10	-	-
Max. output current		mA	-	10	-	-
Current						
Output current		mA	-	0 - 20	-	-
Load resistance		Ω	-	< 500	-	-
Overload and short-circuit proof			-	yes	-	-
Resolution		Bit	-	11	-	-
Conversion time		ms	-	20	-	-
Total error		%	-	± 1	-	-
Repetition accuracy		%	-	± 0.5	-	-
Temperature inputs						
Number			-	-	4 (2, 3-wire connection, screened, length < 10 m)	
Parameter setting						
Averaging			-	-	adjustable	adjustable
Temperature sensor			-	-	PT100, PT1000, Ni1000	PT100, PT1000, Ni1000
Temperature range		°C	-	-	PT100, PT1000: -50 - +200 Ni1000: -50 - +150	PT100, PT1000: -100 - +400 Ni1000: -50 - +200
Resolution		°C	-	-	0.1	0.1
Conversion time		ms	-	-	250	250
Display			-	-	°C, °F, raw value	°C, °F, raw value
Total error		%	-	-	± 1	± 1
Repetition accuracy		%	-	-	± 0.5	± 0.5
Potential isolation						
Output to input			-	no	-	-
Output to output			-	No	-	-
Inputs for SmartWire-DT			Yes	Yes	Yes	Yes
Outputs to SmartWire-DT			-	Yes	-	-
Input to input			No	No	No	No

			EU1E-SWD-2DX 174711	EU1E-SWD-2DD 174715	EU2E-SWD-4DX 174726	EU2E-SWD-4DD 174732	EU1E-SWD-1CX 174721	EU1M-SWD-N0P 174716
General								
Standards			IEC/EN 61131-2, EN50178, IEC/EN 60529					
Dimensions (W x H x D)		mm	85.6 x 56.9 x 20.1					
Weight		kg	0.07	0.07	0.09	0.09	0.07	0.07
Mounting			DIN-rail, screw fixing (M4), mounting section (Clip M20)					
Mounting position			As required	As required	As required	As required	As required	As required
Climatic environmental conditions								
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3					
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Operating ambient temperature (IEC 60068-2)		°C	- 25 - +70	- 25 - +70	- 25 - +70	- 25 - +70	- 25 - +70	- 25 - +70
Storage / Transport	ϑ	°C	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70
Relative humidity								
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Ambient conditions, mechanical								
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP67	IP67	IP67	IP67	IP67	IP67
Vibrations (IEC/EN 61131-2:2008)								
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	-	-	-	-	-	-
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 30 g/11 ms		Impacts	9	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)								
Overvoltage category			II	II	II	II	II	II
Pollution degree			3	3	3	3	3	3
Electrostatic discharge (IEC/EN 61131-2:2008)								
Air discharge (Level 3)		kV	8	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)								
80 - 1000 MHz		V/m	10	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1	1
Radio interference suppression			EN 55011 Class A					
Burst (IEC/EN 61131-2:2008, Level 3)								
Supply cable		kV	2	2	2	2	2	2
Signal lines		kV	1	1	1	1	1	1
SmartWire-DT cables		kV	1	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)								
Surge power cables		kV	0.5	0.5	0.5	0.5	0.5	0.5
Surge I/O cables		kV	1	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10	10

			EU1E-SWD-2DX 174711	EU1E-SWD-2DD 174715	EU2E-SWD-4DX 174726	EU2E-SWD-4DD 174732	EU1E-SWD-1CX 174721	EU1M-SWD-N0P 174716
SmartWire-DT network								
Station type			SmartWire-DT slave					
Setting the baud rate			automatic	automatic	automatic	automatic	automatic	automatic
Baud rate (data transfer speed)		kbps	maximum 2000	maximum 2000	maximum 2000	maximum 2000	maximum 2000	maximum 2000
Status SmartWire-DT		LED	Green	Green	Green	Green	Green	Green
Connection			-	-	-	-	-	-
SWD-IN			M12 plug (A-coded), 5-pin					
SWD-OUT			M12 socket (A-coded), 5-pin					
Current consumption (15 V SWD supply)	I_e	mA	-	-	-	-	-	-
Current consumption (24V, without sensor and without I/O supply)		mA	55	58	72	75	57	45
Sensor supply								
Max. current consumption per M12 I/O plug		mA	70	70	70	70	70	-
Overload and short-circuit proof			yes, with diagnostics	yes, with diagnostics	yes, with diagnostics	yes, with diagnostics	yes, with diagnostics	-
Digital inputs								
Number of digital inputs/outputs			2	2, configurable as input or output	4	4, configurable as input or output	-	-
Input current		mA	-	Normally 4 at 24 V DC			-	-
Voltage level to IEC/EN 61131-2			-	-	-	-	-	-
Limit value type 1			-	Low < 5V DC;High > 15V DC			-	-
Input delay			-	High->Low < 0.2 ms Low->High < 0.2 ms			-	-
Status display inputs		LED	-	yellow	yellow	yellow	-	-
Digital semi-conductor outputs								
Quantity			-	4	-	4	-	-
Output current		A	-	0.5	-	0.5	-	-
Short-circuit tripping current		A	-	max. 1.2 over 3 ms	-	max. 1.2 over 3 ms	-	-
Lamp load	R_{LL}	W	-	≦ 3		≦ 3	-	-
Overload proof			-	yes, with diagnostics	-	yes, with diagnostics	-	-
Switching capacity			-	EN 60947-5-1 utilization category DC-13	-	EN 60947-5-1 utilization category DC-13	-	-
Status display		LED	-	yellow	-	yellow	-	-
Potential isolation								
Output to output			-	No	-	No	-	-
Output to input			-	no	-	no	-	-
Inputs for SmartWire-DT			-	No	No	No	No	-
Outputs to SmartWire-DT			-	No	-	No	-	-
Input to input			-	No	No	No	No	-

			EU1E-SWD-1AX-1 174717	EU1E-SWD-1AX-2 174718	EU1E-SWD-1XA-1 174719	EU1E-SWD-1XA-2 174720	EU2E-SWD-2PT 174733
General							
Standards			IEC/EN 61131-2, EN50178, IEC/EN 60529				
Dimensions (W x H x D)		mm	85.6 x 56.9 x 20.1	85.6 x 56.9 x 20.1	85.6 x 56.9 x 20.1	85.6 x 56.9 x 20.1	98.0 x 56.9 x 20.1
Weight		kg	0.07	0.07	0.07	0.07	0.09
Mounting			DIN-rail, screw fixing (M4), mounting section (Clip M20)				
Mounting position			As required	As required	As required	As required	As required
Climatic environmental conditions							
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3				
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Operating ambient temperature (IEC 60068-2)		°C	- 25 - +70	- 25 - +70	- 25 - +70	- 25 - +70	- 25 - +70
Storage / Transport	ϑ	°C	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70	- 40+ 70
Relative humidity							
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Ambient conditions, mechanical							
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP67	IP67	IP67	IP67	IP67
Vibrations (IEC/EN 61131-2:2008)							
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	-	-	-	-	-
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 30 g/11 ms		Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)							
Overvoltage category			II	II	II	II	II
Pollution degree			3	3	3	3	3
Electrostatic discharge (IEC/EN 61131-2:2008)							
Air discharge (Level 3)		kV	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)							
80 - 1000 MHz		V/m	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1
Radio interference suppression			EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cable		kV	2	2	2	2	2
Signal lines		kV	1	1	1	1	1
SmartWire-DT cables		kV	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)							
Surge power cables		kV	0.5	0.5	0.5	0.5	0.5
Surge I/O cables		kV	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10
SmartWire-DT network							
Station type			SmartWire-DT slave				
Setting the baud rate			automatic	automatic	automatic	automatic	automatic
Baud rate (data transfer speed)		kbps	maximum 2000	maximum 2000	maximum 2000	maximum 2000	maximum 2000
Status SmartWire-DT		LED	Green	Green	Green	Green	Green
Connection			-	-	-	-	-
SWD-IN			M12 plug (A-coded), 5-pin				
SWD-OUT			M12 socket (A-coded), 5-pin				
Current consumption (15 V SWD supply)	I_e	mA	-	-	-	-	-
Current consumption (24V, without sensor and without I/O supply)		mA	30	30	40	50	35
Sensor supply							
Max. current consumption per M12 I/O plug		mA	70	70	70	70	-
Overload and short-circuit proof			yes, with diagnostics	yes, with diagnostics	yes, with diagnostics	yes, with diagnostics	-

			EU1E-SWD-1AX-1 174717	EU1E-SWD-1AX-2 174718	EU1E-SWD-1XA-1 174719	EU1E-SWD-1XA-2 174720	EU2E-SWD-2PT 174733
Analog inputs							
Quantity			1 (2-wire connection, screened, length < 10 m)	1 (2-wire connection, screened, length < 10 m)	-	-	-
Parameter setting							
Input type.			Voltage	Current	-	-	-
Averaging			adjustable	adjustable	-	-	-
Voltage							
Input voltage		V	0 - 10	-	-	-	-
Input impedance		kΩ	13.3	-	-	-	-
Current							
Input current		mA	-	0 - 20	-	-	-
Input impedance		Ω	-	< 250	-	-	-
Resolution		Bit	12	12	-	-	-
Conversion time		ms	20	20	-	-	-
Total error		%	± 1	± 1	-	-	-
Repetition accuracy		%	± 0.5	± 0.5	-	-	-
Dielectric strength		V	± 30	± 30	-	-	-
Analog outputs							
Quantity			-	-	1 (2-wire connection, screened)	1 (2-wire connection, screened)	-
Parameter setting							
Part no.			-	-	Voltage	Current	-
Voltage							
Output voltage		V	-	-	0 -10	-	-
Max. output current		mA	-	-	10	-	-
Max. current							
Output current		mA	-	-	-	0 - 20	-
Load resistance		Ω	-	-	-	< 500	-
Overload and short-circuit proof			-	-	yes	yes	-
Resolution		Bit	-	-	12	12	-
Conversion time		ms	-	-	20	20	-
Total error		%	-	-	± 1	± 1	-
Repetition accuracy		%	-	-	± 0.5	± 0.5	-
Temperature inputs							
Quantity			-	-	-	-	2 (two-, three-wire connection, screened,length < 10 m)
Parameter setting							
Averaging			-	-	-	-	adjustable
Temperature sensor			-	-	-	-	PT100, PT1000, Ni1000
Temperature range		°C	-	-	-	-	PT100, PT1000: -100 - +400 Ni1000: -50 - +200
Resolution		°C	-	-	-	-	0.1
Conversion time		ms	-	-	-	-	250
Display			-	-	-	-	°C, °F, raw value
Total error		%	-	-	-	-	± 1
Repetition accuracy		%	-	-	-	-	± 0.5
Potential isolation							
Output to output			-	-	-	-	-
Output to input			-	-	-	-	-
Inputs for SmartWire-DT			No	No	-	-	No
Outputs to SmartWire-DT			-	-	No	No	-
Input to input			No	No	-	-	No

			M22-SWD-K11	M22-SWD-KC11	M22-SWD-LED…	M22-SWD-LEDC…	M22-SWD-K11LED…
General							
Standards			IEC/EN 61131-2 EN 50178				
Dimensions (W x H x D)		mm	12 x 42 x 39	12 x 45 x 37	10 x 42 x 45	10 x 45 x 42	12 x 42 x 45
Weight		g	10	10	10	10	10
Mounting position			As required	As required	As required	As required	As required
Ambient conditions, mechanical							
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)							
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)							
Overvoltage category			Not applicable				
Pollution degree			2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)							
Air discharge (Level 3)		kV	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)							
80 - 1000 MHz		V/m	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT)							
Radio interference suppression			EN 55011 Class A				
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cable		kV	2	2	2	2	2
SmartWire-DT cables		kV	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)							
Supply cables/CAN/DP bus cable							
Surge power cables		kV	-	-	-	-	-
Surge I/O cables		kV	-	-	-	-	-
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10
Climatic environmental conditions							
Operating ambient temperature (IEC 60068-2)		°C	- 30 - +70	- 30 - +55	- 30 - +70	- 30 - +55	- 30 - +70
Storage / Transport		°C	- 40 - + 80	- 40 - + 80	- 40 - + 80	- 40 - + 80	- 40 - + 80
Betauung			Take appropriate measures to prevent condensation				
relative Luftfeuchte, nicht betauend (IEC/EN 60068-2-30)		%	9 - 95	9 - 95	9 - 95	9 - 95	9 - 95
SmartWire-DT network							
Station type			SmartWire-DT slave				
Number of SmartWire-DT slaves			-	-	-	-	-
Baud Rates		kBd	-	-	-	-	-
Address allocation			automatic	automatic	-	-	automatic
Status indication		LED	Green	Green	Green	Green	Green
Connections			Plug, 8-pole				
Plug connectors			SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5

M22-SWD-K11LEDC…	M22-SWD-K22	M22-SWD-KC22	M22-SWD-K22LED…	M22-SWD-K22LEDC…	M22-SWD-INC	M22-SWD-R
IEC/EN 61131-2 EN 50178					IEC/EN 61131-2	IEC/EN 61131-2
12 x 45 x 42	17 x 42 x 39	17 x 45 x 37	17 x 42 x 45	17 x 45 x 42	13 x 42 x 37	13 x 42 x 37
10	14	14	14	14		9
As required	As required	As required	As required	As required	As required	As required
IP20	IP20	IP20	IP20	IP20	IP20	IP20
5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
9	9	9	9	9	9	9
50	50	50	50	50	50	50
0.3	0.3	0.3	0.3	0.3	0.3	0.3
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
2	2	2	2	2	2	2
8	8	8	8	8	8	8
4	4	4	4	4	4	4
10	10	10	10	10	10	10
3	3	3	3	3		3
1	1	1	1	1		1
EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
2	2	2	2	2		2
1	1	1	1	1	1	1
-	-	-	-	-	-	-
-	-	-	-	-	-	-
10	10	10	10	10		10
- 30 - +55	- 30 - +70	- 30 - +55	- 30 - +70	- 30 - +55		
- 40 - + 80	- 40 - + 80	- 40 - + 80	- 40 - + 80	- 40 - + 80		
Take appropriate measures to prevent condensation						
9 - 95	5 - 95	5 - 95	5 - 95	5 - 95	9 - 95	9 - 95
SmartWire-DT slave						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
automatic	automatic	automatic	automatic	automatic	-	-
Green	Green	Green	Green	Green	Green	Green
Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	SWD4-8SF2-5

			SL4-SWD	SL7-SWD
General				
Standards			IEC/EN 60947-5-1	IEC/EN 60947-5-1
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60069-2-30	
Mounting position			for horizontal mounting	for horizontal mounting
Mechanical shock resistance		g	> 15 according to IEC 60068-2-27 Shock duration 11 ms Sinusoidal	> 15 according to IEC 60068-2-27 Shock duration 11 ms Sinusoidal
IEC degree of protection			IP66 IEC/EN 60529	IP66 IEC/EN 60529
Protection type UL			Type 4, 4X, 13	Type 4, 4X, 13
Material			-	-
Cap colour				
			black Aluminum color tube	black Aluminum color tube
Ambient temperature		°C	-30 - +60	-30 - +60
Number of signal elements			Max. 5 with standard base Max. 10 with base for mounting on both sides	Max. 5 with standard base Max. 10 with base for mounting on both sides

			DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32	PKE-SWD-SP PKE-SWD-CP	NZM-XSWD-704
General							
Standards			IEC/EN 61131-2 EN 50178 IEC/EN 60947			IEC/EN 61131-2 IEC/EN 61131-2	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)		mm	45 x 38 x 76	45 x 38 x 76	45 x 38 x 76	45 x 46.8 x 70.3 45 x 46.8 x 70.3	35 x 90 x 101
Weight		kg	0.04	0.04	0.04	0.02 0.04	0.1
Mounting			on DILM7…DILM38	on DILM7…DILM38	on DILM7…DILM32	at PKE12/32/65 at PKE32/65	Top-hat rail IEC/EN 60715, 35 mm
Mounting position			as DILM7 to DILM38	as DILM7 to DILM38	as DILM7 to DILM32	as PKE12/35/65 as PKE32/65	Vertical
Ambient conditions, mechanical							
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)							
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)							
Overvoltage category			II	II	II	II	II
Pollution degree			2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)							
Air discharge (Level 3)		kV	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)							
80 - 1000 MHz		V/m	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1
Radio interference suppression			EN 55011 Class A				
Burst (IEC/EN 61131-2:2008, Level 3)							
Signal lines		kV	1	1	1	1	1
SmartWire-DT cables		kV	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10
Climatic environmental conditions							
Operating ambient temperature (IEC 60068-2)		°C	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +55
Condensation			Take appropriate measures to prevent condensation				
Storage / Transport	ϑ	°C	-	-	-30 - +70	-30 - +70	-
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95

			DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32	PKE-SWD-SP PKE-SWD-CP	NZM-XSWD-704
SmartWire-DT network							
Station type			SmartWire-DT slave				
Address allocation			automatic	automatic	automatic	automatic	automatic
Status SmartWire-DT		LED	green/orange	green/orange	green/orange	Green	Green
Connections			Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	-
Connection			External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	Plug, 8-pole Connection plug: External device plug SWD4-8SF2-5
Current consumption							
15-V-SWD supply		mA	-	-	58	35	-
24-V-DC-SWD control voltage	U_{aux}		-	-	See the contactor's pick-up current and holding current (max. 0.5 A).	-	-
Operating mode							
Manual/automatic mode			-	-	yes	-	-
Setting			-	via Rotary switch	via Rotary switch	via-	-
Connection auxiliary contact							
Number			2	2	-	-	-
Rated voltage	U_e	V DC	15	15	-	-	-
Input current at 1 signal, typical		mA	3	3	-	-	-
Potential isolation			No	No	-	-	-
Cable length		m	≦ 2.8	≦ 2.8	≦ 2.8	≦ - -	≦ 2.8
Connection type			Push in terminals			-	Push in terminals
Terminal capacities							
Solid		mm^2	0.2 - 1.5 (AWG 24 - 16)	0.2 - 1.5 (AWG 24 - 16)	0.2 - 1.5 (AWG 24 - 16)	-	0.2 - 1.5 (AWG 24 - 16)
Flexible with ferrule		mm^2	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	-	0.25 - 1.5

			DS7-34DSX...			
			...004N0-D	...007N0-D	...009N0-D	...012N0-D
General						
Standards			IEC/EN 60947-4-2 UL 508 CSA22.2-14	IEC/EN 60947-4-2 UL 508 CSA22.2-14	IEC/EN 60947-4-2 UL 508 CSA22.2-14	IEC/EN 60947-4-2 UL 508 CSA22.2-14
Ambient temperature						
Operation	ϑ	°C	-5 - +40 higher than 40 °C with 2 % derating per Kelvin temperature rise, max. +60 °C			
Storage / Transport	ϑ	°C	-25 - +60	-25 - +60	-25 - +60	-25 - +60
Altitude		m	0 - 1000 m, above that 1 % derating per 100 m , up to 2000 m			
Mounting position			Vertical	Vertical	Vertical	Vertical
Degree of protection			IP20	IP20	IP20	IP20
Protection against direct contact			Finger- and back-of-hand proof			
Overvoltage category/pollution degree			II/2	II/2	II/2	II/2
Shock resistance			8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms
Vibration resistance to EN 60721-3-2			2M2	2M2	2M2	2M2
Radio interference level (IEC/EN 55011)			B	B	B	B
Static heat dissipation, non-current-dependent	P_{vs}	W	0.2	0.35	0.45	0.6
Weight		kg	0.41	0.41	0.41	0.41
Main conducting paths						
Rated operating voltage	U_e	V AC	200 - 480	200 - 480	200 - 480	200 - 480
Supply frequency	f_{LN}	Hz	50/60	50/60	50/60	50/60
Assigned motor rating (Standard connection, In-Line)						
at 230 V, 50 Hz	P	kW	0.75	1.5	2.2	3
at 400 V, 50 Hz	P	kW	1.5	3	4	5.5
at 200 V, 60 Hz	P	HP	0.75	2	2	3
at 230 V, 60 Hz	P	HP	1	2	3	3
at 460 V, 60 Hz	P	HP	2	5	5	10
Overload cycle to IEC/EN 60947-4-2						
AC-53a (without bypass)			4 A: AC-53a: 3 - 5: 75 - 10	7 A: AC-53a: 3 - 5: 75 - 10	9 A: AC-53a: 3 - 5: 75 - 10	12 A: AC-53a: 3 - 5: 75 - 10
AC-53b (with bypass) Internal bypass contacts			✓	✓	✓	✓
Short-circuit rating						
Type "1" coordination			PKM0-4 (+ CL-PKZ0)	PKM0-10 (+ CL-PKZ0)	PKM0-10 (+ CL-PKZ0)	PKM0-12 (+ CL-PKZ0)
Type „2" coordination (additional with the fuses for coordination type „1")			3 x 170M1359	3 x 170M1361	3 x 170M1362	3 x 170M1362
Fuse base (number x part no.)			3 x 170H1007	3 x 170H1007	3 x 170H1007	3 x 170H1007
Terminal capacities						
Cable lengths						
Solid		mm^2	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)
Flexible with ferrule		mm^2	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with cable lug		mm^2	-	-	-	-
Stranded		mm^2	-	-	-	-
Stranded with cable lug		mm^2	-	-	-	-
Solid or stranded		AWG	18 - 10	18 - 10	18 - 10	18 - 10
Copper band		MM				
Tightening torque		Nm	1.2	1.2	1.2	1.2
Screwdriver (PZ: Pozidriv)		mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm
Control cables						
Solid		mm^2	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)
Flexible with ferrule		mm^2	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Stranded		mm^2	-	-	-	-
Solid or stranded		AWG	18 - 10	18 - 10	18 - 10	18 - 10
Tightening torque		Nm	1.2	1.2	1.2	1.2
Screwdriver		mm	0,8 x 5,5 1 x 6	0,8 x 5,5 1 x 6	0,8 x 5,5 1 x 6	0,8 x 5,5 1 x 6

DS7-34DSX...										
...016N0-D	...024N0-D	...032N0-D	...041N0-D	...055N0-D	...070N0-D	...081N0-D	...100N0-D	...135N0-D	...160N0-D	...200N0-D
IEC/EN 60947-4-2 UL 508 CSA22.2-14										
-5 - +40 higher than 40 °C with 2 % derating per Kelvin temperature rise, max. +60 °C										
-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60	-25 - +60
0 - 1000 m, above that 1 % derating per 100 m , up to 2000 m										
Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
IP20	IP20	IP20	IP20 (terminals IP00)							
Finger- and back-of-hand proof										
II/2	II/2	II/2	II/2	II/2	II/2	II/2	II/2	II/2	II/2	II/2
8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms	8 g/11 ms
2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2	2M2
B	B	B	B	B	B	B	B	B	B	B
0.8	1.1	1.5	7	10	13	18	25	24	30	42
0.46	0.46	0.46	1.8	1.8	1.8	1.8	1.8	3.7	3.7	3.7
200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480	200 - 480
50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
4	5.5	7.5	11	15	15	22	30	30	45	55
7.5	11	15	22	30	37	45	55	75	90	110
5	7.5	10	10	15	20	25	30	40	50	60
5	7.5	10	15	20	25	30	30	50	60	75
10	15	25	30	40	50	60	75	100	125	150
16 A: AC-53a: 3 - 5: 75 - 10	24 A: AC-53a: 3 - 5: 75 - 10	32 A: AC-53a: 3 - 5: 75 - 10	41 A: AC-53a: 3 - 5: 75 - 10	55 A: AC-53a: 3 - 5: 75 - 10	68 A: AC-53a: 3 - 5: 75 - 10	81 A: AC-53a: 3 - 5: 75 - 10	99 A: AC-53a: 3 - 5: 75 - 10	135 A: AC-53a: 3 - 5: 75 - 10	160 A: AC-53a: 3 - 5: 75 - 10	200 A: AC-53a: 3 - 5: 75 - 10
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PKM0-16 (+ CL-PKZ0)	PKM0-25 (+ CL-PKZ0)	PKM0-32 (+ CL-PKZ0)	NZMN1-M50/ PKZM4-49	NZMN1-M63/ PKZM4-57	NZMN1-M80	NZMN1- M100	NZMN1- M100	NZMN2- M160	NZMN2- M200	NZMN2- M200
3 x 170M1364	3 x 170M1365	3 x 170M1366	3 x 170M3012	3 x 170M2615	3 x 170M4008	3 x 170M4008	3 x 170M4008	3 x 170M4010	3 x 170M5008	3 x 170M6008
3 x 170H1007	3 x 170H1007	3 x 170H1007	3 x 170H3004	3 x 170H1007	3 x 170H3004	3 x 170H3004	3 x 170H3004	3 x 170H3004	3 x 170H3004	3 x 170H3004
1 x (0.75 - 16) 2 x (0.75 - 10)	1 x (0.75 - 16) 2 x (0.75 - 10)	1 x (0.75 - 16) 2 x (0.75 - 10)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (4 - 185) 2 x (4 - 70)	1 x (4 - 185) 2 x (4 - 70)	1 x (4 - 185) 2 x (4 - 70)
1 x (0.75 - 16) 2 x (0.75 - 10)	1 x (0.75 - 16) 2 x (0.75 - 10)	1 x (0.75 - 16) 2 x (0.75 - 10)	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
1 x 16	1 x 16	1 x 16	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (25 - 70) 2 x (6 - 25)	1 x (4 - 185) 2 x (4 - 70)	1 x (4 - 185) 2 x (4 - 70)	1 x (4 - 185) 2 x (4 - 70)
-	-	-	-	-	-	-	-	-	-	-
18 - 6	18 - 6	18 - 6	1 x (12 - 2/0)	1 x (12 - 2/0)	1 x (12 - 2/0)	1 x (12 - 2/0)	1 x (12 - 2/0)	1 x (12 - 350 kcmil) 2 x (12 - 00)		
			2 x 9 x 0.89 x 9 x 0.8					2 x 9 x 0.810 x 16 x 0.8		
3.2	3.2	3.2	6 (≤ 10 mm²); 9 (> 10 mm²)					5 (≤ 10 mm²); 14 (> 10 mm²)		
PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm	PZ2; 1 x 6 mm
1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.75 - 4) 2 x (0.75 - 4)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)
1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)
-	-	-	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)
18 - 14	18 - 14	18 - 14	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)	1 x (21 - 14) 2 x (21 - 18)
1.2	1.2	1.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0,6 x 5,5 1 x 6	0,6 x 5,5 1 x 6	0,6 x 5,5 1 x 6	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5

			DS7-34DSX…			
			…004N0-D	…007N0-D	…009N0-D	…012N0-D
Control circuit						
Digital inputs						
Control voltage						
DC-operated		V DC	24 V DC +10 %/- 15 % oder über SWD			
Current consumption 24 V						
External 24 V		mA	1.6	1.6	1.6	1.6
Pick-up voltage						
DC-operated		V DC	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27
Drop-out voltage						
DC operated		V DC	0 - 3	0 - 3	0 - 3	0 - 3
Pick-up time						
DC operated		ms	250	250	250	250
Drop-out time						
DC operated		ms	350	350	350	350
Regulator supply						
Voltage	U_s	V	24 V DC +10 %/- 15 %			
Current consumption	I_e	mA	50	50	50	50
Current consumption at peak performance (close bypass) at 24 V DC	I_{Peak}	A/ms	-	-	-	-
Notes			External supply voltage			
Built-in interfaces			SmartWire-DT	SmartWire-DT	SmartWire-DT	SmartWire-DT

Notes

Rated impulse withstand voltage:
- 1.2 µs/50 µs (rise time/fall time of the pulse to IEC/EN 60947-2 or -3)
- Applies for control circuit/power section/enclosure

DS7-34DSX...										
...016N0-D	**...024N0-D**	**...032N0-D**	**...041N0-D**	**...055N0-D**	**...070N0-D**	**...081N0-D**	**...100N0-D**	**...135N0-D**	**...160N0-D**	**...200N0-D**
24 V DC +10 %/- 15 % oder über SWD										
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27	17.3 - 27
0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
250	250	250	250	250	250	250	250	250	250	250
350	350	350	350	350	350	350	350	350	350	350
24 V DC +10 %/- 15 %										
50	50	50	50	50	50	50	50	50	50	50
-	-	-	0,6/50	0,6/50	0,6/50	0,6/50	0,6/50	0,6/50	0,6/50	0,6/50
External supply voltage										
SmartWire-DT										

Rated impulse withstand voltage:
- 1.2 µs/50 µs (rise time/fall time of the pulse to IEC/EN 60947-2 or -3)
- Applies for control circuit/power section/enclosure

			EMS-DO-T-2,4-SWD 170106	EMS-DO-T-9-SWD 170107	EMS-RO-T-2,4-SWD 170108
General					
Standards			IEC/EN 60947-4-2	IEC/EN 60947-4-2	IEC/EN 60947-4-2
Dimensions					
Width		mm	30	30	30
Height		mm	157	157	157
Depth		mm	124	124	124
Weight		kg	0.3	0.3	0.3
Mounting			Top-hat rail IEC/EN 60715, 35 mm		
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20
Mounting position			Vertical	Vertical	Vertical
Lifespan, electrical	Operations		3×10^7	3×10^7	3×10^7
Max. switching frequency	Operations/h		7200 (pulse pause time 50:50)		
Terminal capacity					
Solid		mm^2	1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14
flexible, with ferrule		mm^2	2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14
Notes			Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.
flexible, with twin ferrule		mm^2	2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16
Notes			Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.
Climatic environmental conditions					
Operating ambient temperature		°C	-5 - +60, in accordance with IEC 60068-2-1		
Storage	ϑ	°C	-40 - +80	-40 - +80	-40 - +80
Main conducting paths					
Rated impulse withstand voltage	U_{imp}	V AC	6000	6000	6000
Overvoltage category/pollution degree			III/2	III/2	III/2
Rated operational voltage	U_e	V	42 - 550	42 - 550	42 - 550
Rated operational current					
AC-51	I_e	A	0.15 - 2.40	1.20 - 9	0.15 - 2.40
AC-53a	I_e	A	0.15 - 2.4	1.20 - 7	0.15 - 2.4
Rated operational current at AC-53a	I_e	A	2.4	7	2.4
Heat dissipation	P_V	W	0.1 - 2	1 - 12	0.1 - 2
Static heat dissipation, non-current-dependent	P_{vs}	W	1	1	1
Basic insulation to IEC/EN60947-1					
Between supply, control, and switching voltages		V AC	-	500	-
Current measurement					
Setting range of overload releases	I_r	A_x	0,18 - 2,4	1,5 - 7 (AC-53a) 9 (AC-51)	0,18 - 2,4
Release class		CLASS	10	10 (Ir ≦ 4 A) 10A (Ir > 4 A)	10
Recovery time	t_W	min.	2 (manual startup) 20 (automatic restart)		
Balance monitoring					
Magnitude $I_{max} > I_{rated}$ $((I_{max} - I_{min})/I_{max})$		%	at ≧ 33, response time 120 s at ≧ 67, response time 1,8 s		
Magnitude $I_{max} < I_{rated}$ $((I_{max} - I_{min})/I_{rated})$		%	at ≧ 33, response time 120 s at ≧ 67, response time 1,8 s		
Stall protection					
Pick-up time I (L1) or I (L3)		A	33	60	33
Pick-up time		S	0.5	0.5	0.5
Short-circuit rating					
Type "1" coordination					
Short-circuit protective device			50 kA, 500 V AC: Fuse 16 A gG/gL 50 kA, 500 V AC: fuse 30 A CCMR 50 kA, 415 V AC: PKM0-4 15 kA, 415 V AC: PKM0-6,3 2.5 kA, 400 V AC: FAZ-B16/3		

EMS-RO-T-9-SWD 170109	**EMS-DOS-T-2,4-SWD** 170110	**EMS-DOS-T-9-SWD** 170111	**EMS-ROS-T-2,4-SWD** 170112	**EMS-ROS-T-9-SWD** 169790
IEC/EN 60947-4-2	IEC/EN 60947-4-2	IEC/EN 60947-4-2	IEC/EN 60947-4-2	IEC/EN 60947-4-2
30	30	30	30	30
157	157	157	157	157
124	124	124	124	124
0.3	0.3	0.3	0.3	0.3
Top-hat rail IEC/EN 60715, 35 mm				
IP20	IP20	IP20	IP20	IP20
Vertical	Vertical	Vertical	Vertical	Vertical
3 x 10^7	3 x 10^7	3 x 10^7	3 x 10^7	3 x 10^7
7200 (pulse pause time 50:50)				
1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14	1 x (0.2 - 2.5) 1 x AWG20 - 14
2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14	2 x (0,2 - 2,5) 1 x AWG24 - 14
Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.
2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16	2 x (0,2 - 1,5) 2 x AWG24 - 16
Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.	Minimum length 10 mm.
-5 - +60, in accordance with IEC 60068-2-1				
-40 - +80	-40 - +80	-40 - +80	-40 - +80	-40 - +80
6000	6000	6000	6000	6000
III/2	III/2	III/2	III/2	III/2
42 - 550	42 - 550	42 - 550	42 - 550	42 - 550
1.20 - 9	0.15 - 2.40	1.20 - 9	0.15 - 2.40	1.20 - 9
1.20 - 7	0.15 - 2.4	1.20 - 7	0.15 - 2.4	1.20 - 7
7	2.4	7	2.4	7
1 - 12	0.1 - 2	1 - 12	0.1 - 2	1 - 12
1	1	1	1	1
-	500	-	-	-
1,5 - 7 (AC-53a) 9 (AC-51)	0,18 - 2,4	1,5 - 7 (AC-53a) 9 (AC-51)	0,18 - 2,4	1,5 - 7 (AC-53a) 9 (AC-51)
10 (Ir ≦ 4 A) 10A (Ir > 4 A)	10	10 (Ir ≦ 4 A) 10A (Ir > 4 A)	10	10 (Ir ≦ 4 A) 10A (Ir > 4 A)
2 (manual startup) 20 (automatic restart)				
at ≧ 33, response time 120 s at ≧ 67, response time 1,8 s				
at ≧ 33, response time 120 s at ≧ 67, response time 1,8 s				
60	33	60	33	60
0.5	0.5	0.5	0.5	0.5
50 kA, 500 V AC: Fuse 16 A gG/gL 50 kA, 500 V AC: fuse 30 A CCMR 50 kA, 415 V AC: PKM0-4 15 kA, 415 V AC: PKM0-6,3 2.5 kA, 400 V AC: FAZ-B16/3				

			EMS-DO-T-2,4-SWD 170106	EMS-DO-T-9-SWD 170107	EMS-RO-T-2,4-SWD 170108
Electromagnetic compatibility (EMC)					
Electrostatic discharge (ESD)					
applied standard			IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3
Air discharge		kV	8	8	8
Contact discharge		kV	6	6	6
Electromagnetic fields (RFI)					
applied standard			IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3
		V/m	800 - 1000 mHz: 10 1.4 - 2 GHz: 10 2.0 - 2.7 GHz: 3		
Radio interference suppression			EN 55011, Class A (emitted interference, line-conducted) EN 61000-6-3, Class A (emitted interference, radiated)		
Burst		kV	2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3
power pulses (Surge)			1 kV (symmetrical) 2 kV (asymmetrical) according to IEC/EN 61000-4-5		
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10	10	10

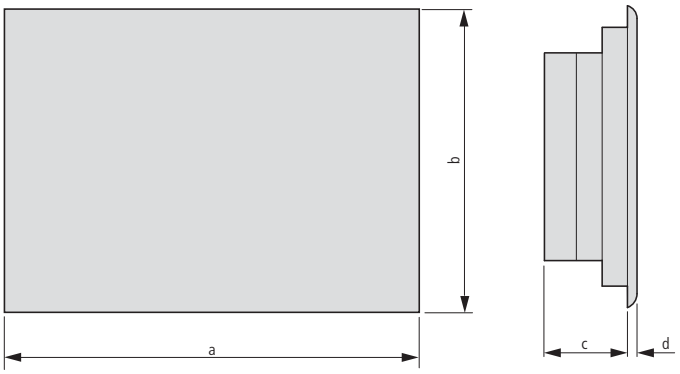
EMS-RO-T-9-SWD 170109	**EMS-DOS-T-2,4-SWD** 170110	**EMS-DOS-T-9-SWD** 170111	**EMS-ROS-T-2,4-SWD** 170112	**EMS-ROS-T-9-SWD** 169790
IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3	IEC EN 61000-4-2, Level 3
8	8	8	8	8
6	6	6	6	6
IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3
800 - 1000 mHz: 10 1.4 - 2 GHz: 10 2.0 - 2.7 GHz: 3				
EN 55011, Class A (emitted interference, line-conducted) EN 61000-6-3, Class A (emitted interference, radiated)				
2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3	2 IEC/EN 61000-4-4, level 3
1 kV (symmetrical) 2 kV (asymmetrical) according to IEC/EN 61000-4-5				
10	10	10	10	10

			EU5C-SWD-PF1-1 116309	EU5C-SWD-PF2-1 116380	EU1S-SWD-PF1-2 174724
General					
Standards			IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2, EN50178, IEC/EN 60529
Dimensions (W x H x D)		mm	35 x 90 x 124	35 x 90 x 124	85.6 x 20.1 x 56.9
Weight		kg	0.11	0.17	0.1
Weight		g	-	-	-
Mounting			Top-hat rail IEC/EN 60715, 35 mm	Top-hat rail IEC/EN 60715, 35 mm	DIN-rail, screw fixing (M4), mounting section (Clip M20)
Mounting position			As required	As required	As required
Ambient conditions, mechanical					
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP67
Vibrations (IEC/EN 61131-2:2008)					
Constant amplitude 3,5 mm		Hz	5 - 8.4	5 - 8.4	5 - 8.4
Constant acceleration 1 g		Hz	8.4 - 150	8.4 - 150	8.4 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	0.3	0.3
Electromagnetic compatibility (EMC)					
Overvoltage category			II	II	II
Pollution degree			2	2	3
Electrostatic discharge (IEC/EN 61131-2:2008)					
Air discharge (Level 3)		kV	8	8	8
Contact discharge (Level 2)		kV	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)					
80 - 1000 MHz		V/m	10	10	10
1.4 - 2 GHz		V/m	3	3	3
2 - 2.7 GHz		V/m	1	1	1
Radio interference suppression (SmartWire-DT)					
Radio interference suppression			Class A	Class A	Class A
Burst (IEC/EN 61131-2:2008, Level 3)					
Supply cable		kV	2	2	2
CAN/DP bus cable					
Signal lines		kV	-	-	1
SmartWire-DT cable					
SmartWire-DT cables		kV	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)					
Supply cable		kV	0.5	0.5	0.5
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10
Climatic environmental conditions					
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3		
Air pressure (operation)		hPa	795 - 1080	795 - 1080	795 - 1080
Operating ambient temperature (IEC 60068-2)		°C	- 25 - +55	- 25 - +55	- 25 - +70
Storage / Transport		°C	- 40 - + 70	- 40 - + 70	- 40 - + 70
Relative humidity					
Condensation			Take appropriate measures to prevent condensation		
relative humidity		%	-	-	-
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95
Supply voltage U_{Aux}					
Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)	24 V DC (-15/+20%)	-
Residual ripple on the input voltage		%	≦ 5	≦ 5	≦ -
Protection against polarity reversal			Yes	Yes	-
Max. current	I_{max}	A	3	3	-
Short-circuit rating			no, external fuse FAZ Z3		-
Power loss	P	W	Normally 1	Normally 2.7	Normally 1
Potential isolation			No	No	-
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2	typ. U_{Aux} - 0.2	-

			EU5C-SWD-PF1-1 116309	EU5C-SWD-PF2-1 116380	EU1S-SWD-PF1-2 174724
Supply voltage U_{Pow}					
Supply voltage	U_{Pow}	V	-	24 DC -15 % + 20 %	-
Input voltage ripple		%	-	≦ 5	-
Siemens MPI, (optional)			yes	yes	-
Rated current	I	A	-	0.7	-
Overload proof			-	yes	-
Inrush current and duration		A	-	12.5 A/6 ms	-
Heat dissipation at 24 V DC		W	-	3.8	-
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			-	Yes	-
Bridging voltage dips		ms	-	10	-
Repetition rate		s	-	1	-
Status indication		LED	-	yes	-
SmartWire-DT supply voltage					
Rated operating voltage	U_e	V	-	14,5 ± 3 %	-
max. current	I_{max}	A	-	0.7	-
Short-circuit rating			-	Yes	-
Connection supply voltages					
Connection type			Push in terminals	Push in terminals	5-pin M12 socket (A-keyed)
Solid		mm^2	0.2 - 1.5	0.2 - 1.5	-
Flexible with ferrule		mm^2	0.25 - 1.5	0.25 - 1.5	-
UL/CSA solid or stranded		AWG	24 - 16	24 - 16	-
SmartWire-DT network					
Station type			-	-	SmartWire-DT slave
Number of SmartWire-DT slaves			-	-	-
Baud Rates		kBd	-	-	-
Address allocation			-	-	-
Status indication		LED	-	-	-
Connections			2 x plug, 8-pole	2 x plug, 8-pole	Socket, plug M12 (A-keyed), 5 pole
Plug connectors			2 blade terminals SWD4-8MF2		SWD4-SM5-67 SWD4-SF5-67

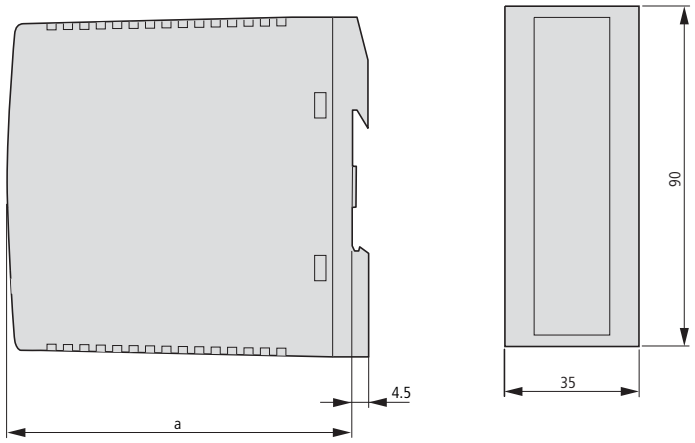
Dimensions

Touch Panel (HMI-PLC)



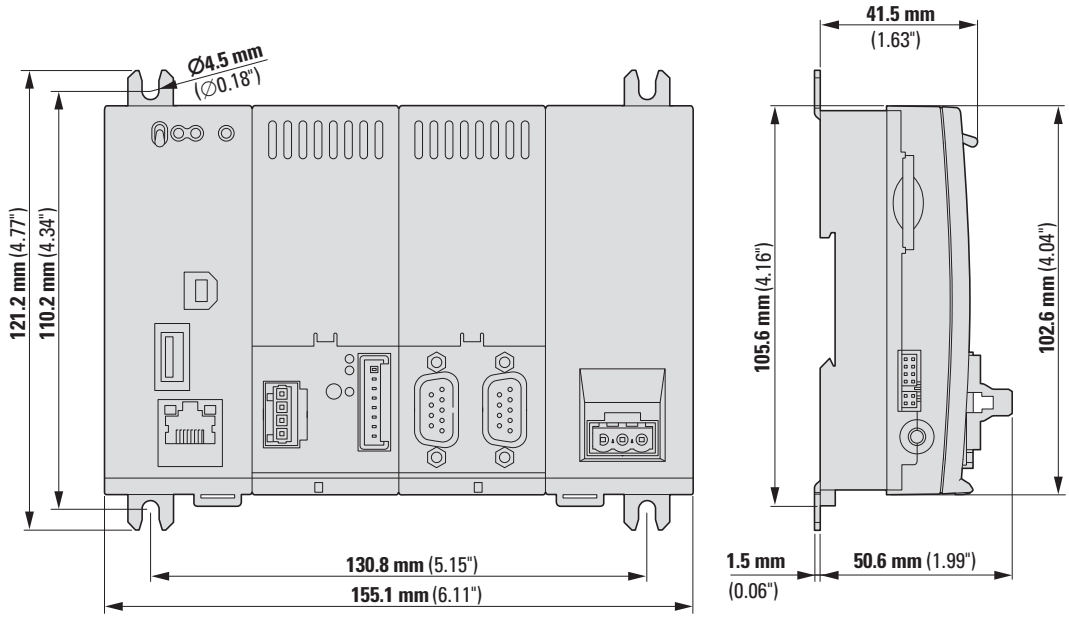
Type	a	b	c	d	e	f
XV-102-…-35...	136	100	25	5	123	87
NZM-…-MDISP35-SWD	136	100	25	5	132	87
XV-102-…-57...	170	130	34	5	157	117
XV-102-…-70...	210	135	33	5	197	122
NZM-…-MDISP70-SWD	210	135	33	5	197	122
XV-152-…-57…	212	156	47.5	5	198	142
XV-152-…-84…	275	208	47.5	5	261	194
XV-152-…-10…	345	260	49	5	329	238
XV-30-70-…	196	135	43.1	7	183	122
XV-30-10-…	269	174	50.1	7	255.5	160.5

Gateways, easy800, Power feeder module, Input/Output modules (IP20)



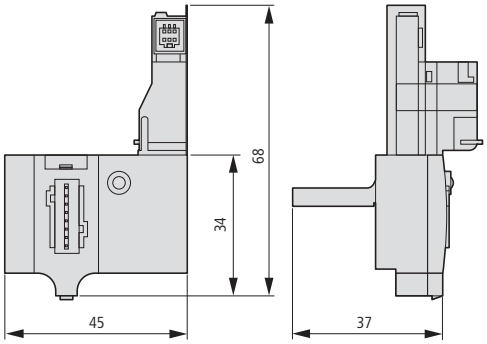
	a	b
EU5C-SWD-DP	127	90
EU5C-SWD-CAN	122	90
EU5E-SWD-...	97	90
EU5C-SWD-PF...	120	90
EU5C-SWD-EIP-MODTCP...	124	90
EU5C-SWD-PROFINET	120	90
EU5C-SWD-ETHERCAT	120	90
EU5C-SWD-POWERLINK	120	90
NZM-XSWD-704...	97	90
EASY8…DC-SWD	120	100

XC compact PLCs

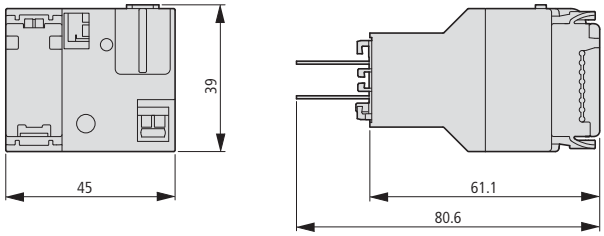


SWD PKE modules

PKE-SWD-SP, PKE-SWD-CP

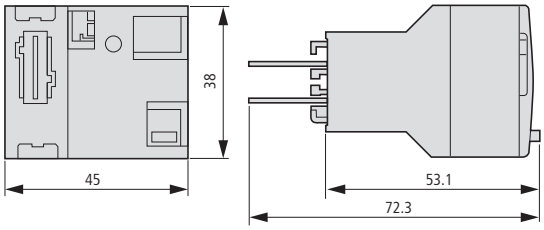


PKE-SWD-32



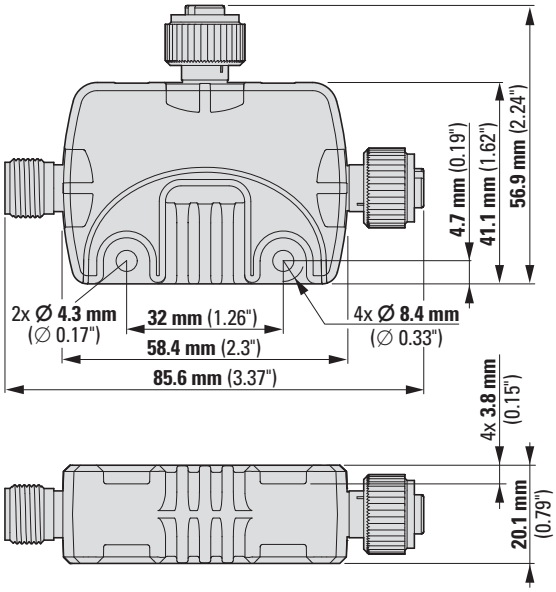
SWD Contactor modules

DIL-SWD-32-001
DIL-SWD-32-002

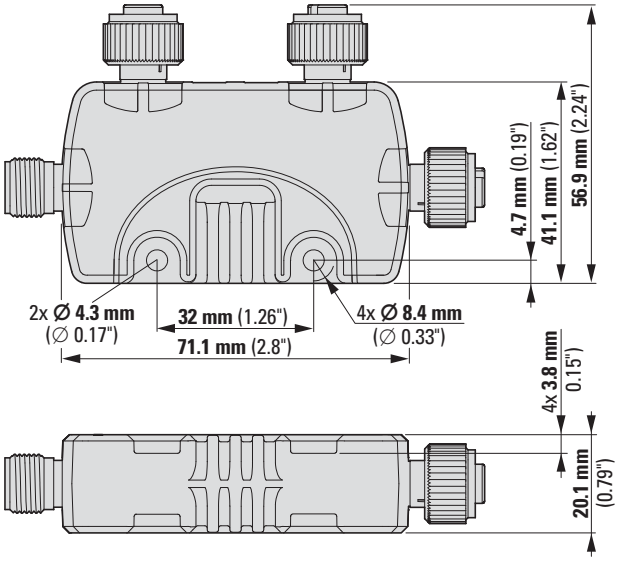


Input/Output modules (IP67)

EU1E-SWD-2DX
EU1E-SWD-2DD
EU1S-SWD-PF1-2



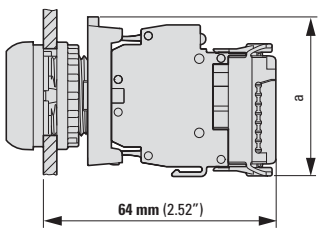
EU2E-SWD-4DX
EU2E-SWD-4DD



Pushbutton with function element

M22-SWD-K...
M22-SWD-LED...
M22-SWD-NOP...

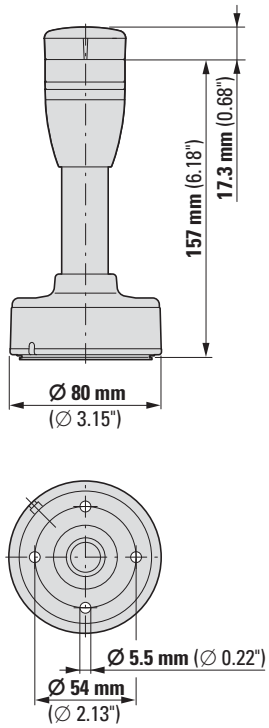
M22-SWD-K...
M22-SWD-K...



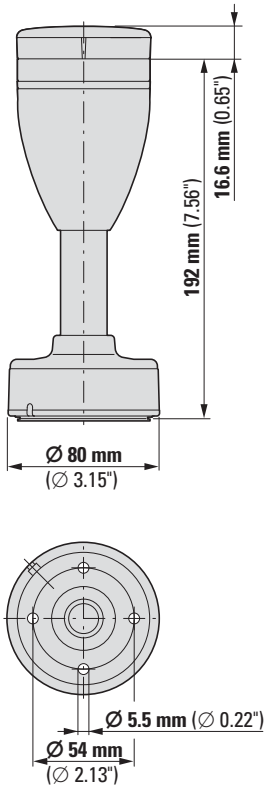
	a
M22-A	44
M22-SWD-A4	48

Signal towers Basic modules

SL4-SWD

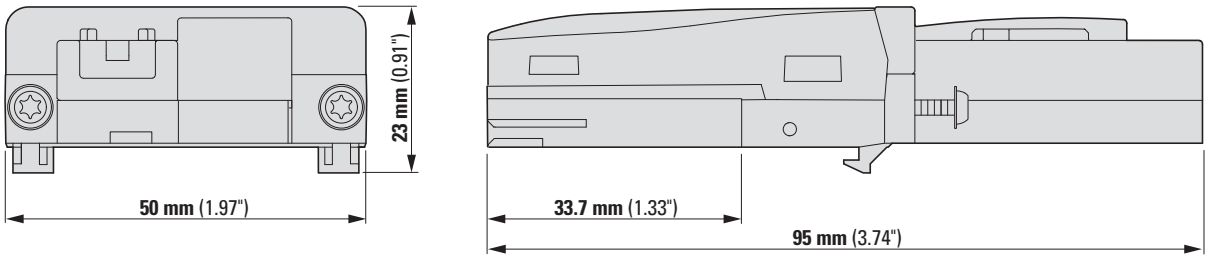


SL7-SWD

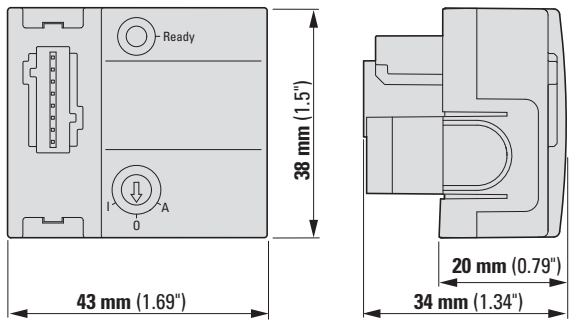


SWD function element

DX-NET-SWD1

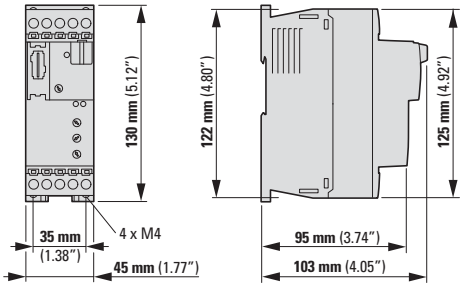


DX-NET-SWD3

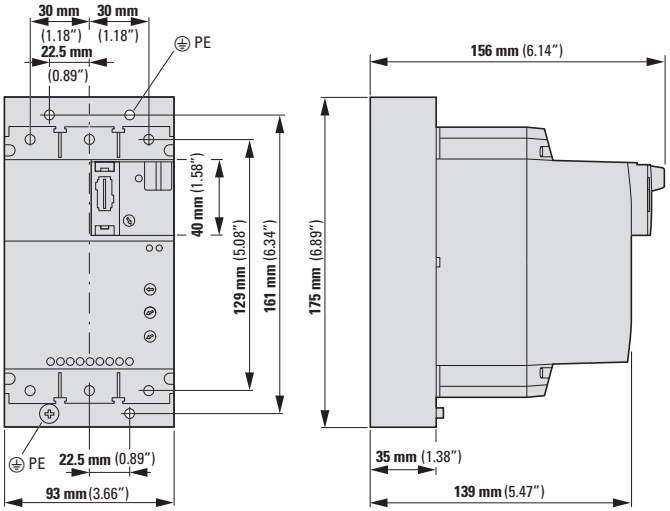


Soft starters

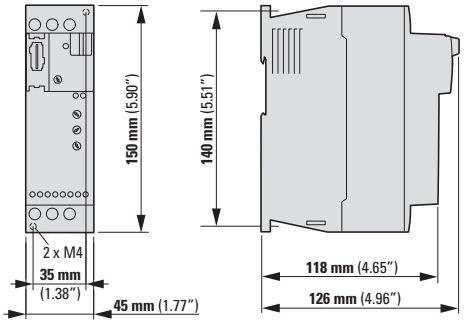
DS7-34DSX004N0-D
DS7-34DSX007N0-D
DS7-34DSX009N0-D
DS7-34DSX012N0-D



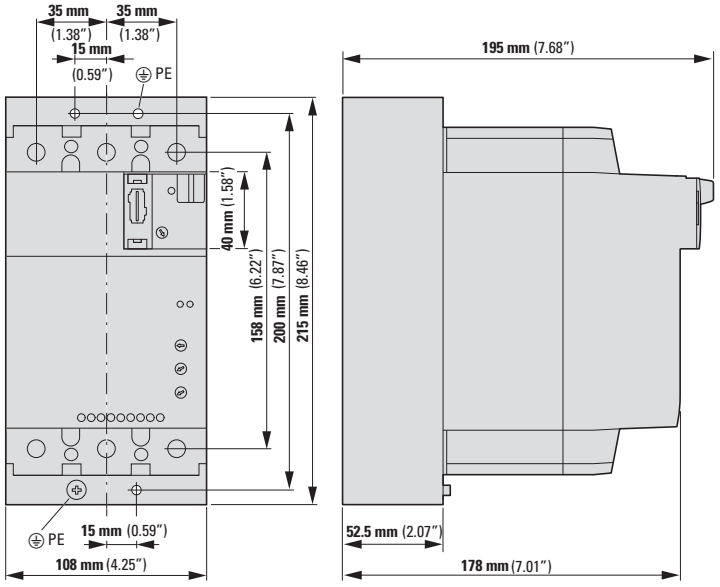
DS7-34DSX041N0-D
DS7-34DSX055N0-D
DS7-34DSX070N0-D
DS7-34DSX081N0-D
DS7-34DSX100N0-D



DS7-34DSX016N0-D
DS7-34DSX024N0-D
DS7-34DSX032N0-D

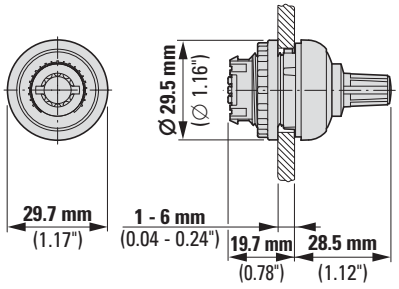


DS7-34DSX135N0-D
DS7-34DSX160N0-D
DS7-34DSX200N0-D



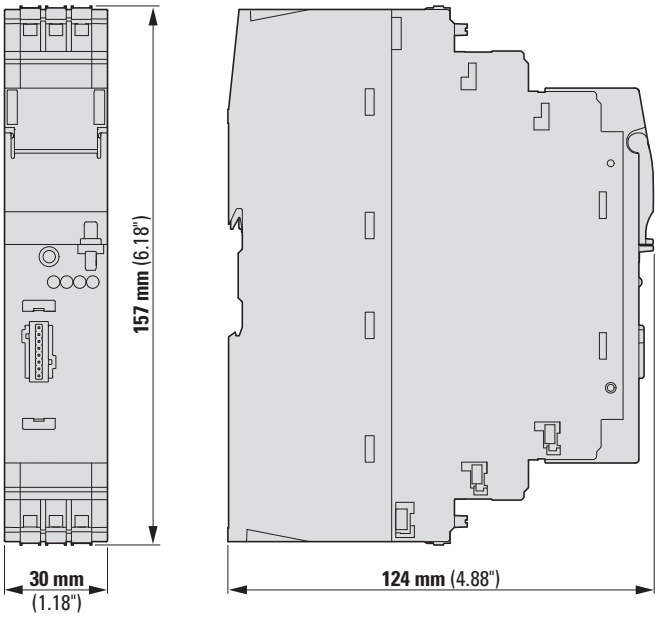
Potentiometer

M22-R-SWD

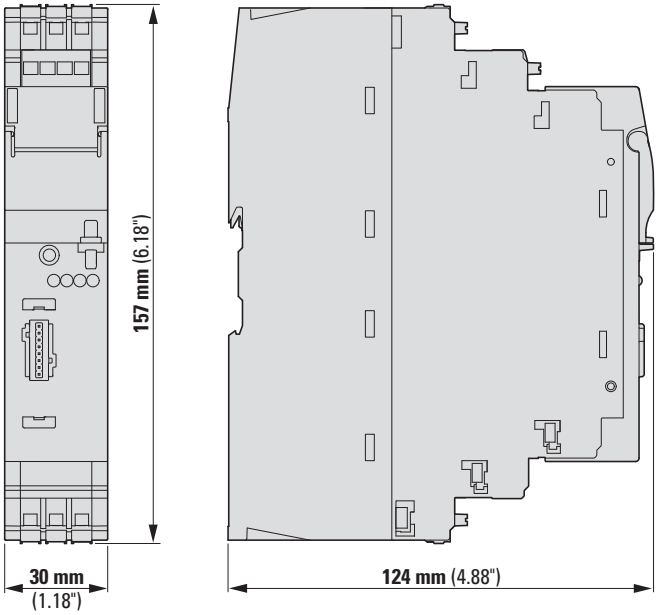


Electronic motor starter

EMS-DO-T-2,4-SWD
EMS-DO-T-9-SWD

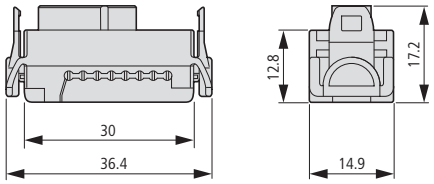


EMS-DOS-T-2,4-SWD
EMS-DOS-T-9-SWD



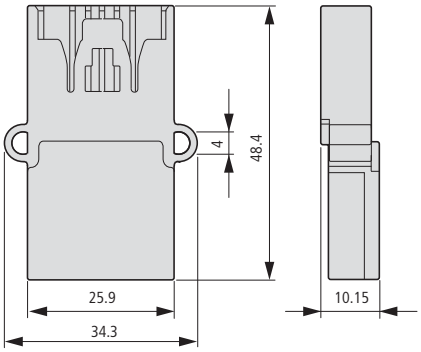
External device plugs

SWD4-8SF2-5



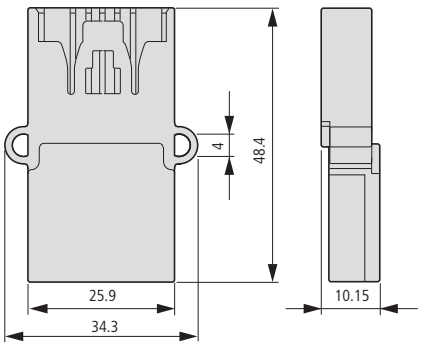
Network terminator

SWD4-RC8-10



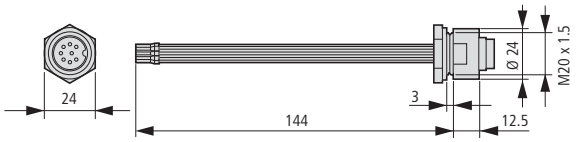
Coupling

SWD4-8SFF2-5



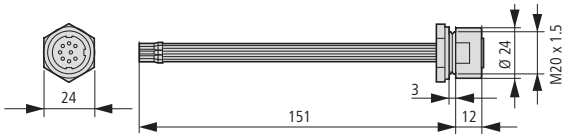
Housing bushing Plug , M20

SWD4-SM8-20



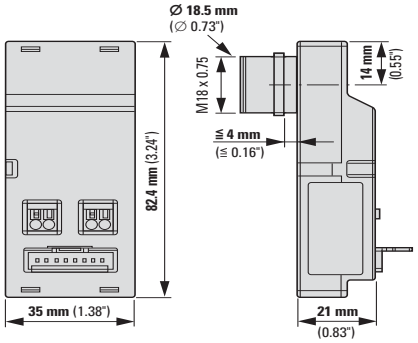
Housing bushing Socket , M20

SWD4-SF8-20



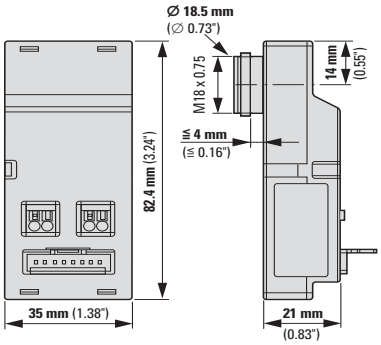
Switch cabinet bushing Plug

SWD4-SML8-20



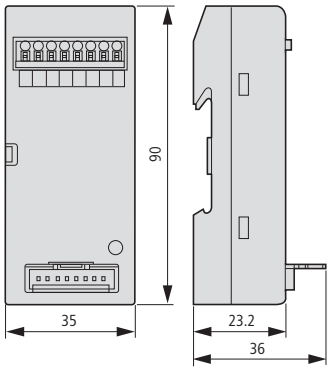
Switch cabinet bushing Socket

SWD4-SFL8-20



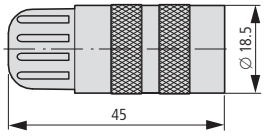
Component adapter flat cable (plug) on round cable (terminal)

SWD4-8FRF-10

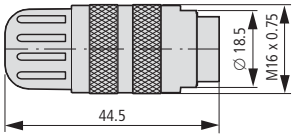


Plug connectors for SmartWire-DT round cables, flat

SWD4-SF8-67

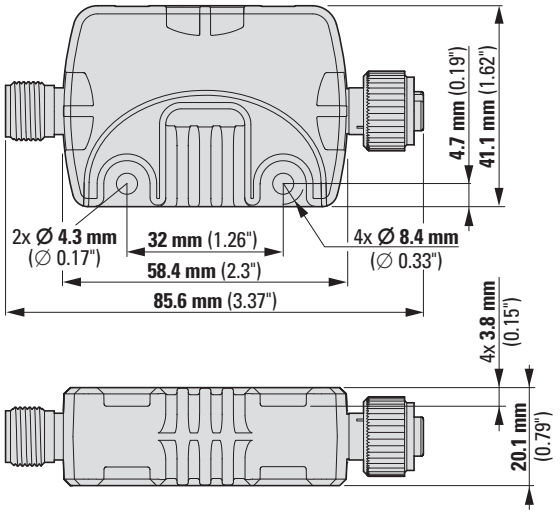


SWD4-SM8-67



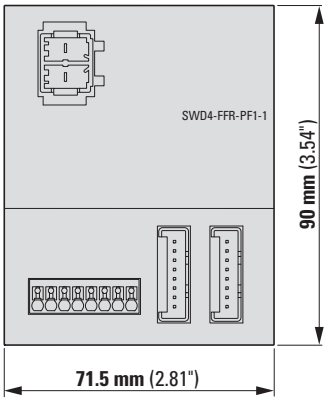
Universal module

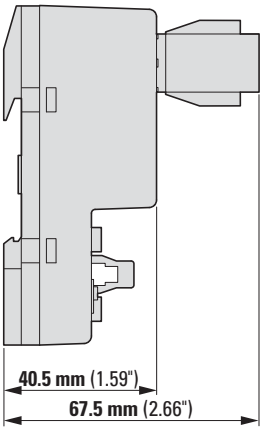
EU1M-SWD-NOP



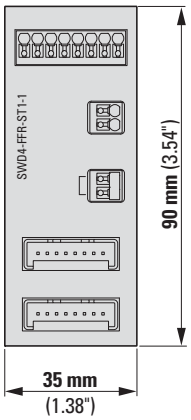
Cable adapters

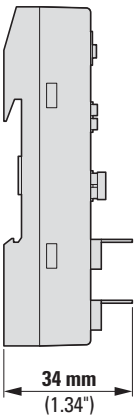
SWD4-FFR-PF1-1





SWD4-FFR-ST1-1





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