SmartWire-DT™

Product Range Catalog

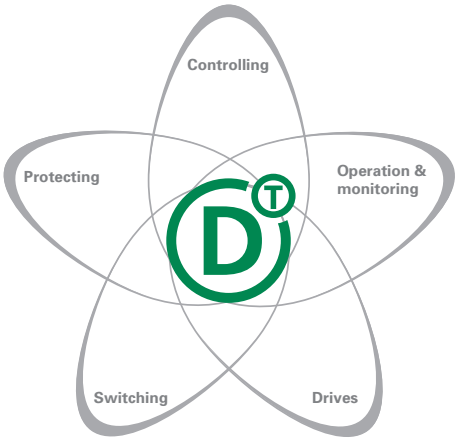
SmartWire-DT™

The cost-optimized communication system for switching devices

EATON

Powering Business Worldwide

SmartWire-DT™.
Cost-optimized communication for switchgear



Manufacturers of machines and systems strive to achieve a balance between the maximum level of functionality and cost optimization. SmartWire-DT is a communication system for industrial switchgear based on the concept of continued development in the control panel and in the peripherals:
from control through to protection and switching, and extending to driving, operation and monitoring.
A technology that benefits you, both now, and in the future.

SmartWire-DT ™
The easy way to connect

SmartWire-DT: The easy way to connect.

SmartWire-DT reduces the wiring effort and expense with many switchgear systems by more than 60% and helps along the entire value-added chain – from the design to the construction, to the commissioning up to system expansion – in the reduction of costs. SmartWire-DT relies on the tried-and-tested Eaton Moeller industrial switchgear and grants intelligent communication features.

Efficient planning and engineering → Fault-free mounting and wiring → Quick to commission → Simple to expand → Maintenance with direct diagnostics → Comfortable operation

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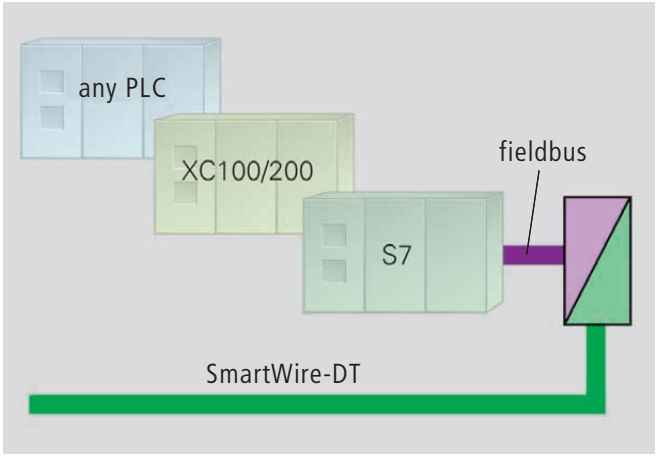
Description

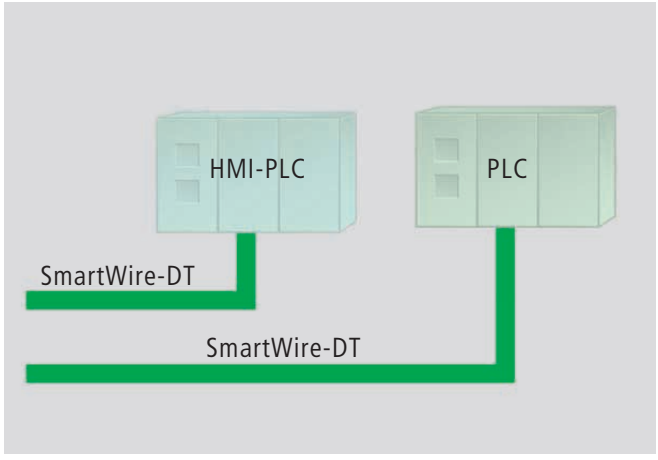
SmartWire-DT

Secures your know-how

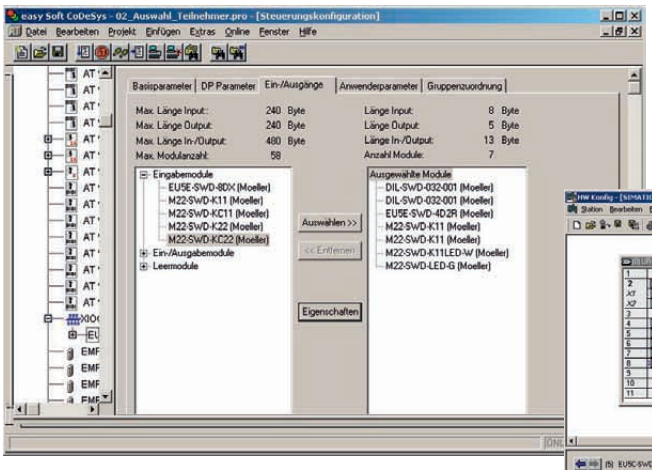
SmartWire-DT significantly cuts your wiring requirement and helps you save costs across the entire value chain. From design through construction, programming, commissioning to extending your system.
Utilizing Eaton's industrial switchgear, SmartWire-DT is based on tried-and-tested technology. SmartWire-DT makes Eaton industrial switchgear communications-capable. You can use the SmartWire-DT technology flexibly. The connection via standard fieldbus systems (e.g. PROFIBUS, CANopen) allows use on the controller platforms of many manufacturers. Another option is the use of Eaton automation components with an integrated SmartWire-DT interface.



Connection via standard fieldbus systems

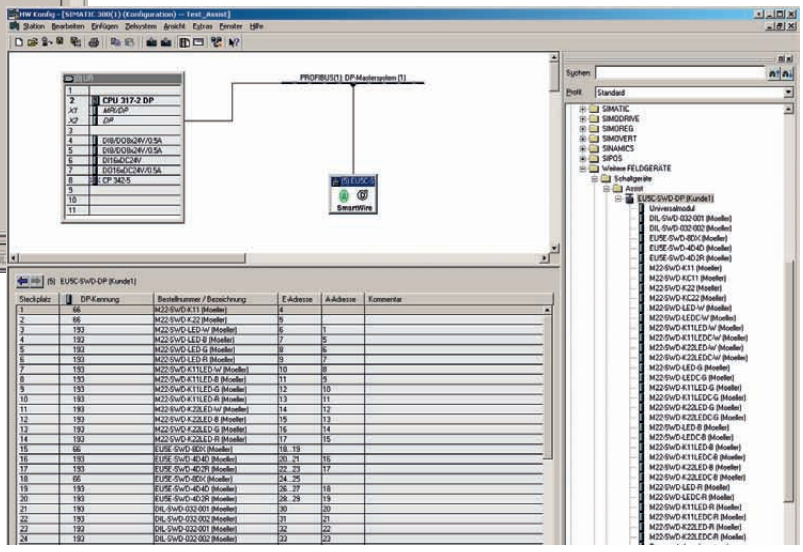


Connection via integrated SmartWire-DT interface



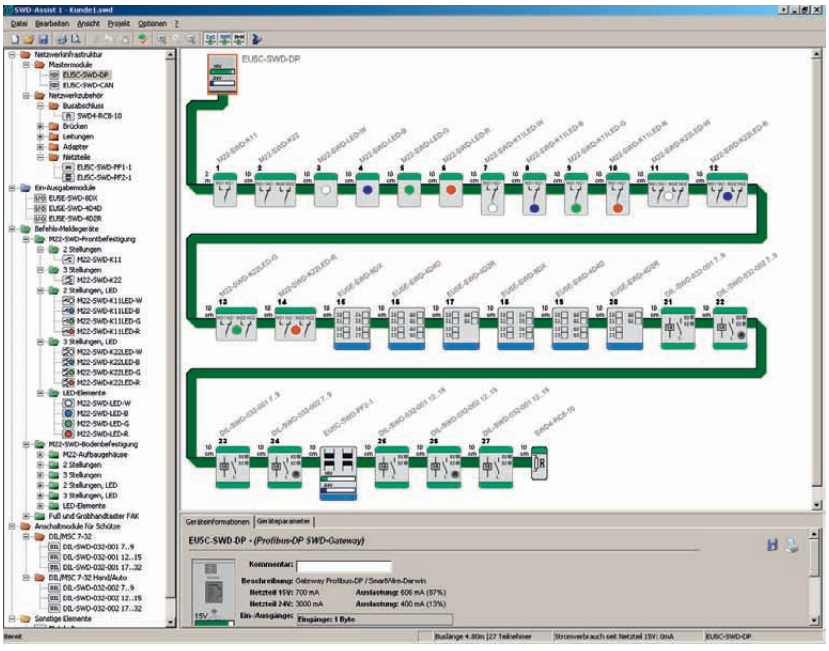
SmartWire-DT in the CoDeSys PLC configuration

SmartWire-DT in the STEP 7 control configuration



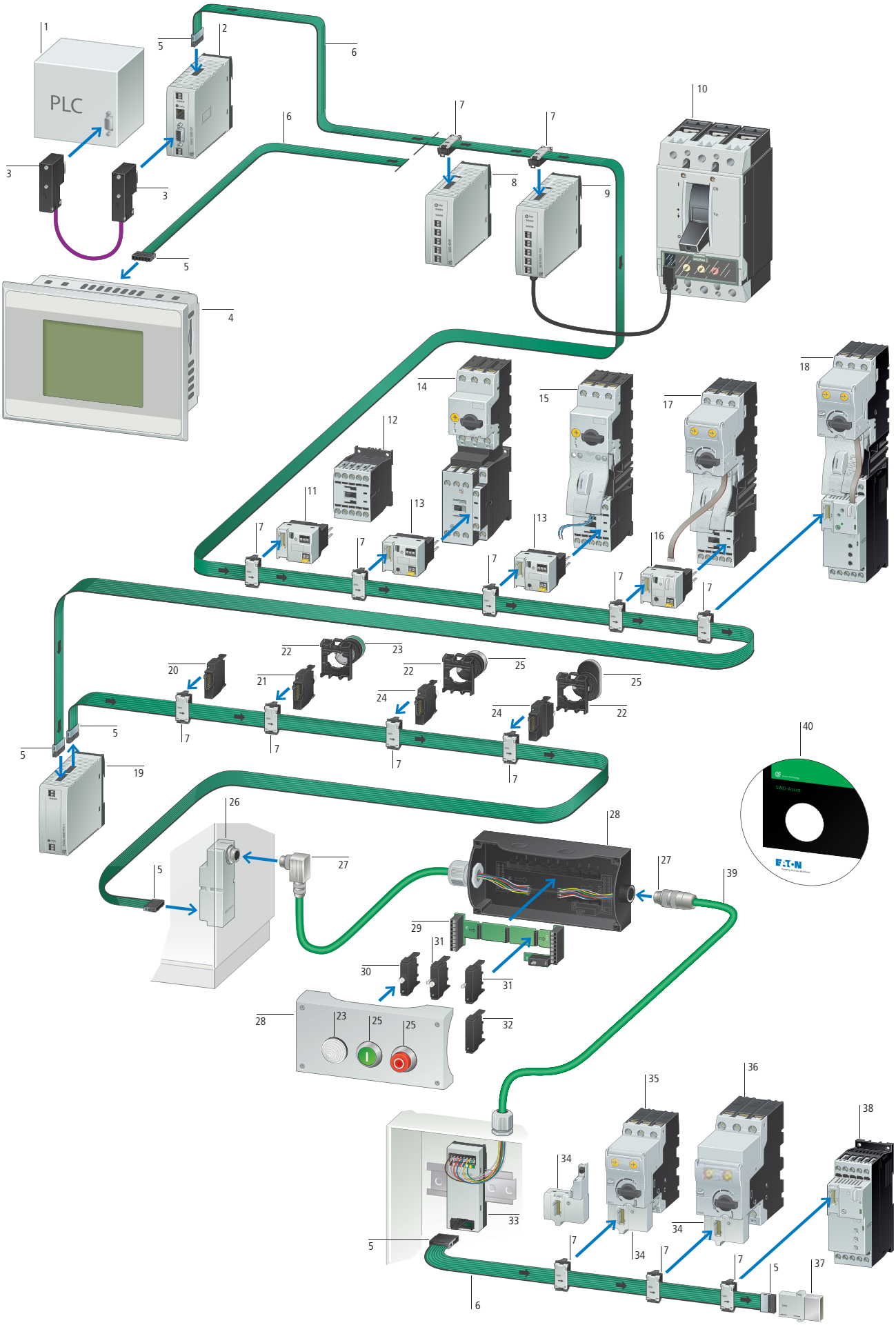
Planning and ordering help (SWD-Assist)

- Easy generation of applications with the system SmartWire-DT
- Integrated function for the generation of ordering lists
- Integrated validity check
- Online functionality
  – simple preliminary commissioning of SmartWire-DT inputs and outputs and function testing
  – easy diagnostics of SmartWire-DT slave
- Download
  – Free download under http://downloadcenter.moeller.net



The SWD-Assist software supports you in the fast and safe planning and commissioning of a SmartWire-DT line.

System overview



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Features

SmartWire-DT HMI-PLC
- with SmartWire-DT master interface and PLC function
- Compact design with light plastic enclosures
- Wide selection of onboard interfaces
- 3.5", 5.7" or 7" TFT-LCD screen

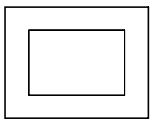
SmartWire-DT Gateways
- Connection of SmartWire-DT to field bus.
- Fieldbus address setting with DIP switches
- Automatic baud rate detection
- Feeding the supply voltage for the SmartWire-DT slaves
- Supplies the control voltage for the motor starter or contactor
- Configuration button for automatic addressing of the SmartWire-DT slaves.
- Support of up to 99 SmartWire-DT slaves.

SmartWire-DT slave
- Function element for connecting to RMQ-Titan pilot devices.
- Function element for connecting to DLM contactors
- Function element for connecting to PKZ/PKE motor-protective circuit-breakers
- Function module for connecting to NZM2,3,4 circuit-breakers
- Connection of digital and analog input/output modules

SmartWire-DT Assist (SWD-Assist)
- Easy creation of SmartWire-DT networks
- Integrated validity check
- Generation of ordering lists.
- Online-Functionality
  - Simple pre-commissioning
  - Configuration check and comparison
  - Display of parameters and diagnostics
  - easy diagnostics of SmartWire-DT slave
- Free download under: http://downloadcenter.moeller.net

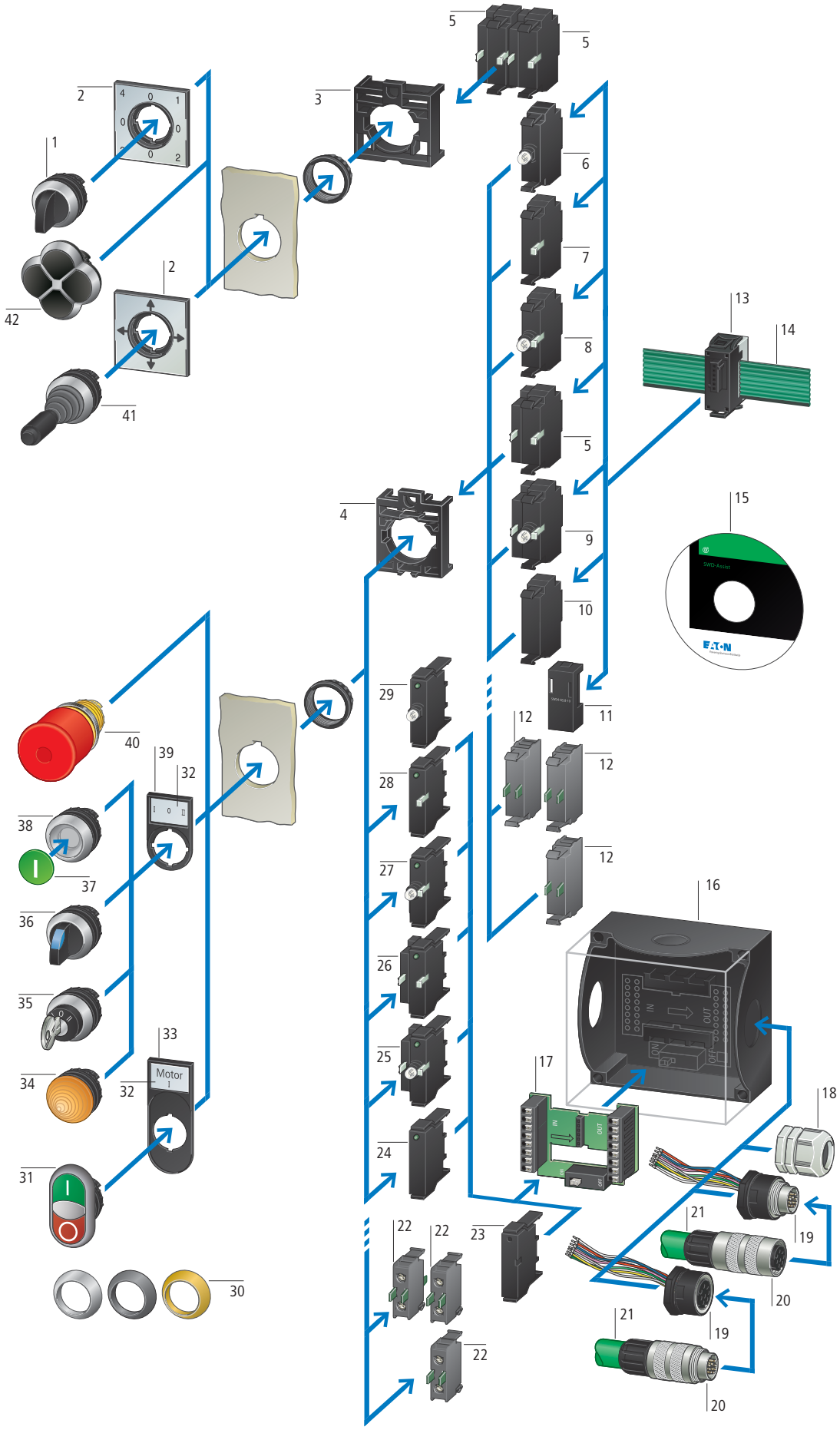
Ordering

SmartWire-DT HMI-PLC

	Type with	Front type	Screen diagonal	Resolution	Communication interface	**Part no.** Article no.	**Price** see price list	Std. pack	**Information relevant for export to North America**
			Inch	Pixel					
SmartWire-DT HMI-PLC									
• Including PLC function • Integrated interfaces: SWD master, Ethernet 100/10, USB, communication interfaces									
	Resistive-Touch TFT-LCD 64 k Colours	Standard membrane (fully enclosed)	3.5	320 x 240	–	**XV-102-BE-35TQRC-10** 153524		1 off	NA Certification Request filed for UL and CSA
			5.7	640 x 480	CAN RS485	**XV-102-E6-57TVRC-10** 153525			
			5.7	640 x 480	PROFIBUS RS485	**XV-102-E8-57TVRC-10** 153526			
			7	800 x 480	CAN RS485	**XV-102-E6-70TWRC-10** 153527			
			7	800 x 480	PROFIBUS RS485	**XV-102-E8-70TWRC-10** 153528			

	Description	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America	
SmartWire-DT Gateways						
Gateway to the connection to the field bus and for supply of the SmartWire-DT slaves and switchgears.						
	Connection to PROFIBUS-DP as slave Automatic baud rate detection from 9.6 kBit/s to 12 Mbit/s Address range 1 - 126 9-pole Sub-D socket Connection of up to 58 SmartWire-DT subscribers	**EU5C-SWD-DP** 116308		1 off	UL File No. UL CCN CSA File No. CSA Class No. NA Certification	E29184 NKCR 2324643 3211-07 UL Listed, CSA certified
	Connection to CANopen as slave Automatic baud rate detection from 10 Kbit/s to 1 Mbit/s Address range 1 - 32 9?pinSUB?Dplug connector Connection of up to 99 SmartWire-DT subscribers	**EU5C-SWD-CAN** 116307				
	Connection Ethernet IP or MODBUS as slave. Address set with DIP switch or DHCP Integrated Ethernet switch Connection of up to 99 SmartWire-DT subscribers Separate diagnostics interface	**EU5C-SWD-EIP-MODTCP** 153163			NA Certification	Request filed for UL and CSA
SmartWire-DT I/O modules						
SmartWire-DT subscriber for the connection of digital I/O signals						
	Module with 8 24 V DC digital inputs	**EU5E-SWD-8DX** 116381		1 off	UL File No. UL CCN CSA File No. CSA Class No. NA Certification	E29184 NKCR 2324643 3211-07 UL Listed, CSA certified
	Module with 4 24 V DC digital inputs, 3-wire connection with 24 V DC, 0.5 A supply	**EU5E-SWD-4DX** 144060			NA Certification	Request filed for UL and CSA
	Module with 4 24 V DC digital inputs and 4 24 V DC, 0.5 A digital outputs	**EU5E-SWD-4D4D** 116382			UL File No. UL CCN CSA File No. CSA Class No. NA Certification	E29184 NKCR 2324643 3211-07 UL Listed, CSA certified
	Module with 4 24 V DC digital inputs and 2 250 V AC, 3 A relay outputs	**EU5E-SWD-4D2R** 116383			UL File No. UL CCN CSA File No. CSA Class No. NA Certification	E29184 NKCR 2324643 3211-07 UL Listed, CSA certified
	Module with 8 24 V DC, 0.5 A digital outputs	**EU5E-SWD-X8D** 144061			NA Certification	Request filed for UL and CSA
SmartWire-DT slave for the connection of analog I/O signals						
	Module with 4 0-10 V, 0-20 mA analog inputs, can be configured individually	**EU5E-SWD-4AX** 144062		1 off	NA Certification	Request filed for UL and CSA
	Module with 2 0-10 V, 0-20 mA analog inputs and 2 0-10 V, 0-20 mA analog outputs, can be configured individually	**EU5E-SWD-2A2A** 144063				
	Module with 4 PT100, PT1000, Ni1000 temperature inputs, 2/3-wire connection, can be configured individually	**EU5E-SWD-4PT** 144064				
SmartWire-DT powerfeed module						
	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-PF1-1** 116309		1 off	UL File No. UL CCN CSA File No. CSA Class No. NA Certification	E29184 NKCR 2324643 3211-07 UL Listed, CSA certified
	for the supply of other SmartWire-DT slaves 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		

System overview



RMQ-Titan, 4 way selector switch actuator →HPL0200-2010	1
RMQ-Titan, label with label mount for 4-way selector switch and joystick →HPL0200-2010	2
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Features

SmartWire-DT RMQ interface for front mounting → page 10
- 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.
- SmartWire-DT diagnostics LED for signalling the communication status of the function element.
- Connection to SmartWire-DT ribbon cable with external device plug

Link for external device plug → page 11
- Connection to SmartWire-DT external device plug
- Suitable for the bridging of already adapted SmartWire-DT external device plugs (e.g. as a placeholder).

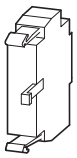
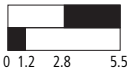
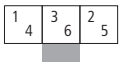
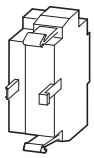
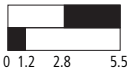
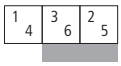
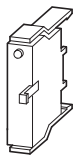
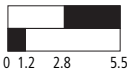
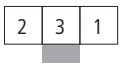
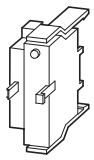
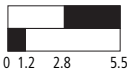
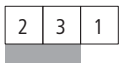
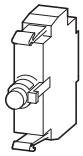
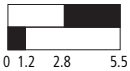
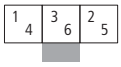
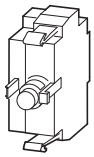
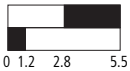
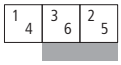
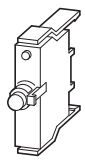
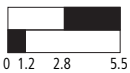
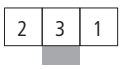
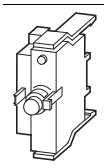
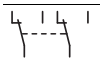
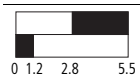
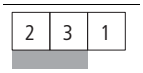
Surface mounting enclosure with PCB → page 11
- Connection of SmartWire-DT-Function elements for base fixing.
- Type with 1, 2, 3, 4 and 6 slots.
- Bridging of free slots with links for base fixing.
- Integrated connectable terminator.

SmartWire-DT RMQ interface for base fixing → page 10
- For use with SmartWire-DT board, 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.
- SmartWire-DT diagnostics LED for signalling of the communication status of the function elements.

Housing bushing socket → page 18
- Use for RMQ-Titan M22 surface mounting enclosure or control panel.
- Type plug/socket.
- Prefabricated signal cable with ferrules for connection to PCB for surface mounting enclosure.

Planning and ordering help (SWD-Assist)
- Easy generation of applications with the system SmartWire-DT.
- Integrated function for the generation of ordering lists.
- Integrated validity check.
- Online-Functionality:
  – simple preliminary commissioning of SmartWire-DT inputs and outputs and function testing.
  – easy diagnostics of SmartWire-DT slave
- Free download under: http://downloadcenter.moeller.net

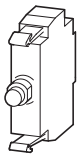
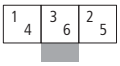
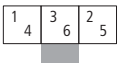
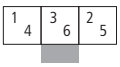
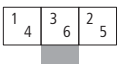
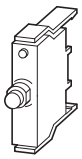
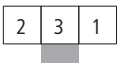
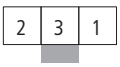
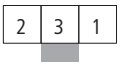
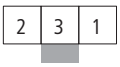
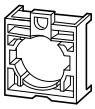
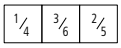
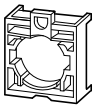
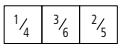
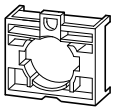
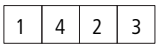
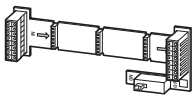
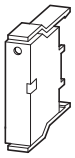
Ordering

	Number of contacts	Contact sequence	Contact travel diagram stroke in connection with front element	Configuration	Colour LED	**Part no.** Article no.	**Price** see price list	Std. pack
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		

Notes SmartWire-DT function elements can be combined with RMQ-Titan operating elements M22... → HPL chapter "Pilot devices"

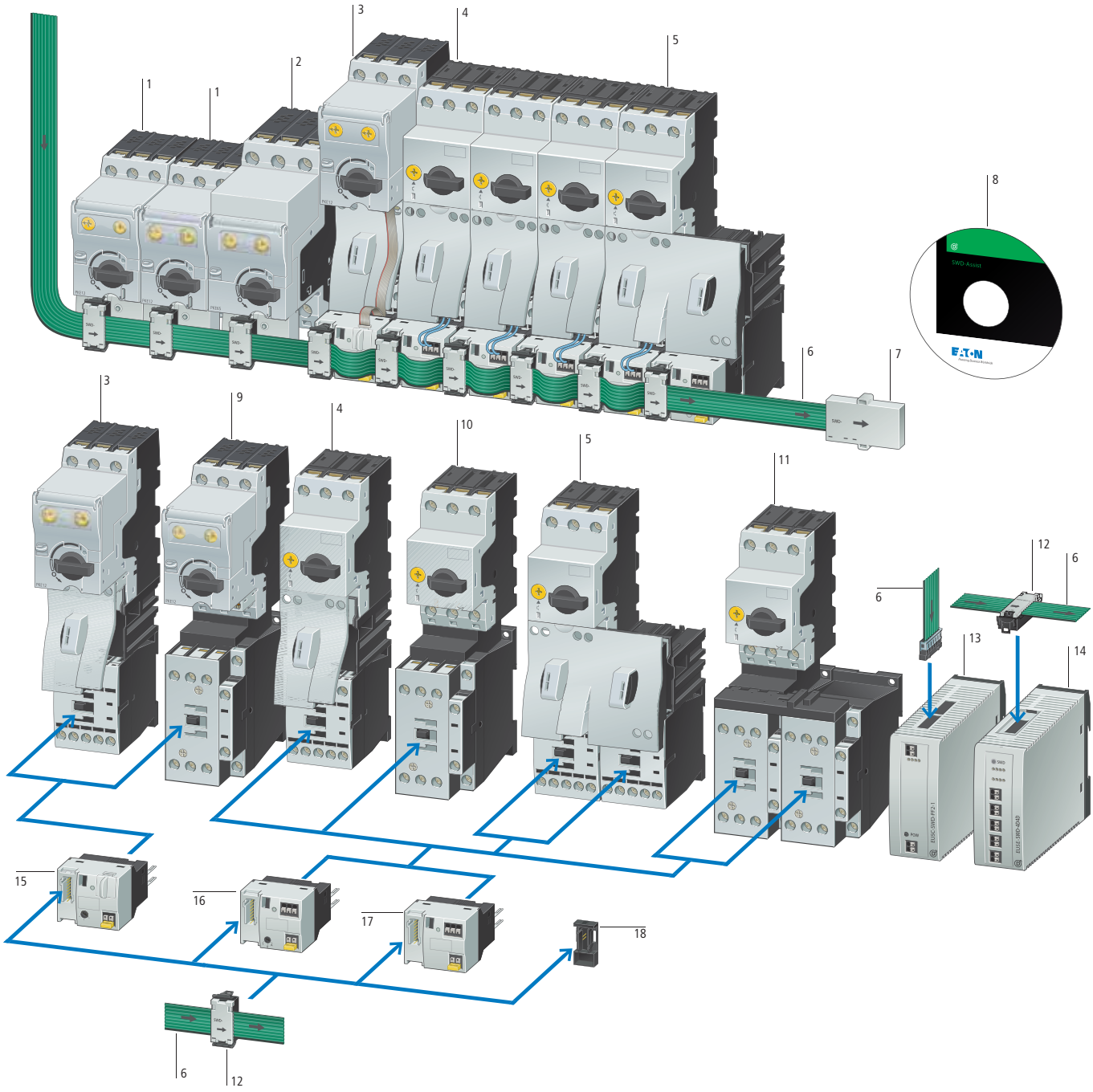
Information relevant for export to North America

UL File No.	E29184
UL CCN	NKCR
CSA File No.	2324643
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified

		Configuration	Colour LED	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America
LED elements							
Front fixing							
			○	**M22-SWD-LED-W** 115966		20 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
			●	**M22-SWD-LED-B** 115967			
			●	**M22-SWD-LED-G** 115968			
			●	**M22-SWD-LED-R** 115969			
Base fixing							
			○	**M22-SWD-LEDC-W** 115997		20 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
			●	**M22-SWD-LEDC-B** 115998			
			●	**M22-SWD-LEDC-G** 115999			
			●	**M22-SWD-LEDC-R** 116000			
Fixing adapters							
Front fixing							
	–			**M22-A** 216374		50 off	UL/CSA certification not required
				**M22-A-GVP** 216375		500 off	UL/CSA certification not required
	For 2 function elements M22-SWD-K22... For use with M22-WR4, -WRJ4, -D4 in conjunction with M22-(SWD)-K			**M22-SWD-A4** 116016		10 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Cards							
PCBs for surface mounting enclosure M22-I.. for mounting base function elements M22-SWD...K.							
	Number of mounting locations:	1		**M22-SWD-I1-LP01** 115990		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
		2		**M22-SWD-I2-LP01** 115991			
		3		**M22-SWD-I3-LP01** 115992			
		4		**M22-SWD-I4-LP01** 115993			
		6		**M22-SWD-I6-LP01** 115994			
Link							
For bridging of open mounting locations on card.							
Base fixing							
				**M22-SWD-SEL8-10** 116698		5 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified

Notes SmartWire-DT function elements can be combined with RMQ-Titan operating elements M22... → HPL chapter "Pilot devices"

System overview



PKE12, PKE32 networkable motor protective circuit breaker with PKE-XTUA-... trip block up to 15 kW → Features	1	Reversing starters MSC-R based on PKZM0 up to 5.5 kW →HPL0200-2010	5	DOL starters MSC-D based on PKZM0 up to 15 kW →HPL0200-2010	10	SmartWire-DT PKE module → features	15
PKE65 networkable motor protective circuit breaker with PKE-XTUA-... trip block up to 30 kW → Features	2	SmartWire-DT flat band conductor → page 17	6	Reversing starters MSC-R based on PKZM0 up to 15 kW →HPL0200-2010	11	SmartWire-DT contactor module with hand/auto functionality → features	16
Networkable PKE-based motor starters MSC-DEA up to 5.5 kW → Features	3	Network terminator → page 17	7	SmartWire-DT external device plug → page 17	12	SmartWire-DT protective module → features	17
DOL starters MSC-D based on PKZM0 up to 5.5 kW →HPL0200-2010	4	Planning and ordering help, SWD-Assist → features	8	Power feeder module → features	13	Link for external device plug → page 17	18
		Networkable PKE-based motor starters MSC-DEA up to 15 kW → Features	9	SmartWire-DT input/output module with relay outputs → features	14		

Features

SmartWire-DT protective modules → page 14
- Pluggable onto contactors in the xStart range
- Suitable for contactors DILM7(24VDC)…DILM38(RDC24), DILMC7(24VDC)…DILMC32(RDC24), DILA, DILMP20(24VDC)…DILMP45(RDC24)
- Use of the standard accessories in the xStart range
- Suitable for contactor combinations with PKZ or with Z overloads
- Integrated switch position polling
- Integrated mechanical switch position display
- Contactor actuation
- SmartWire-DT diagnostics LED for signalling communication status and signalling the switch command via SmartWire-DT
- Two independently fed digital inputs for scanning potentially isolated contacts, such as motor protective circuit breaker auxiliary contacts.
- Connection to SmartWire-DT flat band conductor via external device plug.

SmartWire-DT input/output modules → page 7
- Digital module with 4 24 V DC digital inputs and 2 relay outputs to actuate DILM contactors, including frame size 3.
- Connection to SmartWire-DT through external device plug.

SmartWire-DT PKE module (motor starter) → page 14
- Pluggable onto contactors in the xStart range
- 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 the standard switchgear of the xStart range
- Use of the standard accessories in the xStart range
- Built-in mechanical contactor switching state display
- Built-in contactor switching state scanning
- 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).
- Communication cable (PKE32-COM) for connection to PKE trip block included as standard.
- Contactor actuation
- Selectable ZMR functionality (contactor opening on overload)
- SmartWire-DT diagnostics LED for signalling the communication status of the module and signalling the switch command via SmartWire-DT
- Hand/Auto functionality for automatic or manual switching-on of the connected contactor.
- Connection to SmartWire-DT flat band conductor via external device plug

SmartWire-DT PKE module (motor protective circuit breaker) → page 14
- 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
- SmartWire-DT diagnostics LED for signalling of the communication status of the module
- Connection to SmartWire-DT flat band conductor via external device plug

Link for external device plug → page 17
- Connection to SmartWire-DT external device plug
- Suitable for the bridging of already adapted external device plugs (e.g. as a wildcard).

Powerfeed module → page 7
- SmartWire-DT supply voltage incoming unit.
- 24 V DC supply voltage incoming unit for activation of the contactors.
- Assembly of emergency stop groups.

Planning and ordering help (SWD-Assist)
- Easy generation of applications with the system SmartWire-DT.
- Integrated function for the generation of ordering lists.
- Integrated validity check.
- Online-Functionality:
  - simple preliminary commissioning of SmartWire-DT inputs and outputs and function testing.
  - easy diagnostics of SmartWire-DT slave
- Free download under: http://downloadcenter.moeller.net

Safety engineering
Emergency stop disconnection to IEC/EN 954-1, switching category 3; EN ISO 13849-1 PL d; IEC 62061 SIL 2
Central switch off of the control voltage at the gateway or power feeder.module. Combination with safety-orientated switchgears possible.

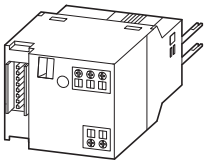
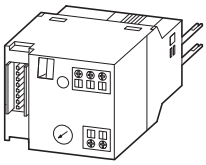
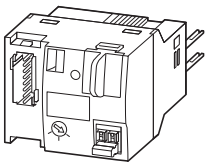
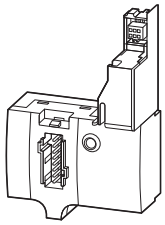
Engineering notes

The number of motor starters or DILM contactors that can be connected is dependant upon the power consumption of the magnet systems per SmartWire Darwin line. To increase the number of SmartWire-Darwin modules that can be connected power feeder modules can be used.

Power consumption/current consumption 24-V-SWD-control voltage U_{AUX}

		DIL-SWD-32-…	PKE-SWD-32
Pull-in power			
for DILM(C) 7-9, DILA	W	3	3
for DILM(C) 12-15, DILMP20	W	4.5	4.5
for DILM(C) 17-38, DILMP32-45	W	12	12
Pick-up current			
for DILM(C) 7-9, DILA	mA	125	125
for DILM(C) 12-15, DILMP20	mA	188	188
for DILM(C) 17-38, DILMP32-45	mA	500	500
Sealing power			
for DILM(C) 7-9, DILA	W	3	3
for DILM(C) 12-15, DILMP20	W	4.5	4.5
for DILM(C) 17-38, DILMP32-45	W	0.5	0.5
Holding current			
for DILM(C) 7-9, DILA	mA	125	125
for DILM(C) 12-15, DILMP20	mA	188	188
for DILM(C) 17-38, DILMP32-45	mA	21	21

Ordering

	Description	For use with	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America
SmartWire-DT protective modules[1),2)]						
SmartWire-DT module for surface-mounting on contactors. Per contactor 1 module.						
	Two digital inputs for potential-free contacts. 1 electrical interlock for the surface mounting of reversing starters. 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	[4)]
	Two digital inputs for potential-free contacts. 1 electrical interlock for the surface mounting of reversing starters. 1-0-A switch for manual or automatic operation. Messages: contactor switching position, 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	[4)]
SmartWire-DT PKE module (motor-starter combinations)[1),3)]						
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.						
	Surface-mounting to contactors. Connecting cable between module and trip block PKE-XTUA-… included as standard. 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 connecting the contactor on overload. Messages: - Switch position contactor/PKE/1-0-A switch - Motor current in % - Thermal motor image in % - Trip-indicating auxiliary contact (Overload, Short-circuit,...) - Set value of overload releases - Set value Verification time (CLASS), Part no. Trip block. Commands: contactor actuation, activation of overload relay function (ZMR)	DILM(C)7… - DILM(C)32 MSC-DEA	**PKE-SWD-32** 126895		4 off	[5)]
SmartWire-DT PKE (motor protective circuit breaker)						
SmartWire-DT module for connecting PKE motor protective circuit breakers with PKE-XTUA-… trip block						
	Fitted on PKE motor protective circuit breaker Messages: - Switch position PKE - Motor current in % - Thermal motor image in % - Trip-indicating auxiliary contact (Overload, Short-circuit,...) - Set value of overload releases - Set time lag (CLASS) - Type of trip block Commands: Remote disconnection of motor protective circuit breaker	PKE12 PKE32 PKE65	**PKE-SWD** 150613		1 off	[5)]
			PKE-SWD-SP 150614		1 off	[5)]

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.
3) Additional SWD contactor module required for actuation of reversing starter.

Information relevant for export to North America

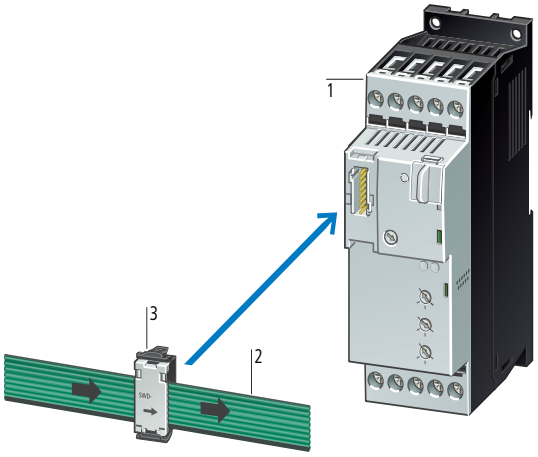
4)

UL File No.	E29184
UL CCN	NKCR
CSA File No.	2324643
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified

5)

NA Certification	Request filed für UL and CSA

System overview



SmartWire-DT soft starter DS7	1
SmartWire-DT flat band conductor	2
SmartWire-DT external device plug	3

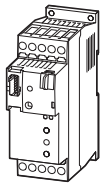
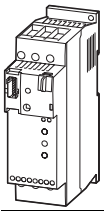
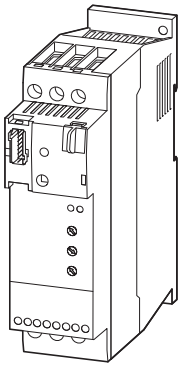
Short description

The soft starters DS7-…-D are designed for connection to SmartWire-DT. These two-phase-controlled soft starters control three-phase motors for applications with normal operating frequency in the performance range from 4 to 200 A (1.5 to 110 kW at 400 V mains voltage). Due to Eaton's special control method the true run behavior of a DS7 can be compared with that of three-phase soft starters.
SmartWire-DT provides a direct connection to the DS7, without control signal wiring. Through Smart-Wire-Darwin the PLC transmits all control signals directly to the soft starter. The device data are available for processing in the master control system without additional configuration. The connection with SmartWire-DT is fast, easy, inexpensive and convenient.

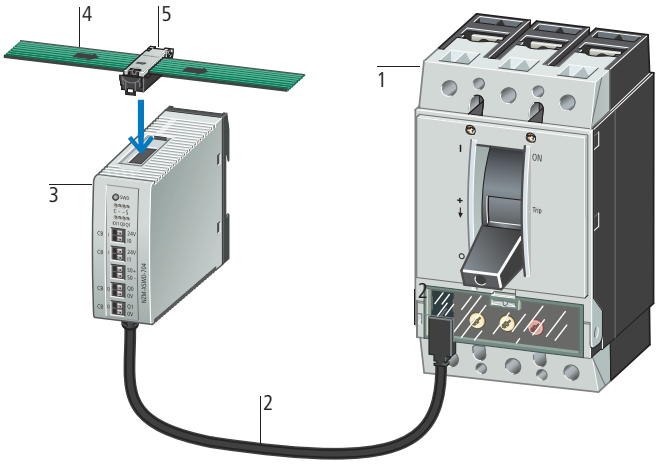
Notes

For further details see section "Soft starters"

Ordering

	Rated operational current of the soft starter I_e A	Assigned motor rating 400 V P kW	480 V KP HP	Part no. Article no.	Price see price list	Std. pack	Notes
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	Product Standards: IEC/EN 60947-4-2; GB 14048.6; UL 508; CSA-C22.2 No 0-M91; CSA-C22.2 No 14-05 CE marking
	7	3	3	**DS7-34DSX007N0-D** 134945			NA Certification: Request filed for UL and CSA
	9	4	5	**DS7-34DSX009N0-D** 134946			Suitable for: Branch circuits
	12	5.5	7.5	**DS7-34DSX012N0-D** 134947			Max. Voltage Rating: 480 V
	16	7.5	10	**DS7-34DSX016N0-D** 134948			Degree of Protection: IP20; UL/CSA Type 1
	24	11	15	**DS7-34DSX024N0-D** 134949			
	32	15	20	**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



SmartWire-DT Circuit-breaker NZM	1
Connection cable from NZM to NZMX-SWD-704	2
NZM-Interface for Smart-Wire-DT	3
SmartWire-DT flat band conductor	4
SmartWire-DT external device plug	5

Short description

The NZM interface module implements the data connection between NZM2/3/4 circuit-breakers with electronic release and SmartWire-DT.
The following status data is transferred:

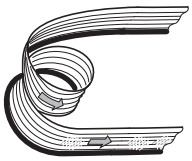
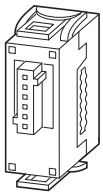
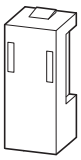
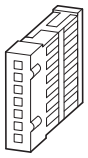
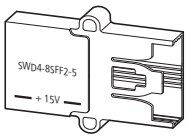
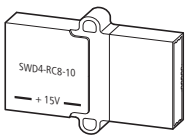
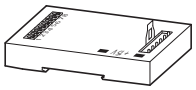
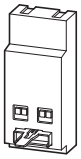
- On-Off-Tripped
- Load warnings
- Reason for last trip
- Actual currents as well as switch type
- Actual settings of the rotary coding switches.

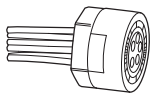
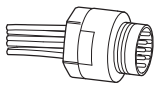
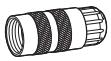
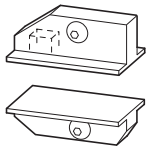
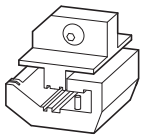
The switch can also be operated with a remote operator.

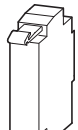
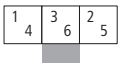
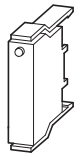
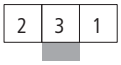
Note:
Further details see section “Circuit-breakers NZM” in the Main Catalogue.

Ordering

	Description	Part no. Article no.	Price see price list	Std. pack	Notes	Information relevant for export to North America
SmartWire-DT NZM interface						
	The module implements the data connection between the NZM2/3/4 with electronic release and the SmartWire-Darwin. The following data is transmitted • Status data (ON/OFF/TRIPPED) • Load warnings • Reason for last trip • The actual currents • The switch type • The current settings of the rotary coding switches The switch can also be operated with a remote operator. • 2 digital inputs for the switch status • 2 transistor outputs for remote operation • Retentive memory for energy data (kWh) Energy data is transmitted through digital input (S_0) from an external energy measuring module NZN...-XMC-SO.	**NZM-XSWD-704** 135530		1 off	A connection cable to the circuit-breaker is included as standard.	NA Certification Request filed for UL and CSA

	Description	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America
Flat band conductor, 8 pole					
For laying the SmartWire-DT network inside the control panel.					
	Length: 100 m	**SWD4-100LF8-24** 116026		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
	Length: 3 m Prefabricated with 2 blade terminals SWD4-8MF2.	**SWD4-3LF8-24-2S** 116027			
	Length: 5 m Prefabricated with 2 blade terminals SWD4-8MF2.	**SWD4-5LF8-24-2S** 116028			
	Length: 10 m Prefabricated with 2 blade terminals SWD4-8MF2.	**SWD4-10LF8-24-2S** 116029			
External device plugs					
External device plug for connecting SmartWire-DT stations					
		**SWD4-8SF2-5** 116022		10 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Link					
Bridging open mounting locations for external device plugs					
	Link for device plug SWD4-8SF2-5	**SWD4-SEL8-10** 116021		5 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Blade terminal					
	8-pin blade terminal for connection to gateway, power feeder module, coupling	**SWD4-8MF2** 116023		10 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Coupling					
	Coupling for 8-pin blade terminal	**SWD4-8SFF2-5** 116024		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Network terminator					
	Network terminator for 8-pole flat band conductor	**SWD4-RC8-10** 116020		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Cable adapters					
	Cable adapter for flat cable (plug) to round cable (terminal)	**SWD4-8FRF-10** 121377		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
Switch cabinet bushing					
Transition from SWD ribbon cable to round cable, can be plugged-in on both sides. Additional control voltage feeder for the motor starter and contactors. Suitable for wall thickness to 4 mm. Protection type IP67, drill hole 18.5 mm. Connection of ribbon cable with blade terminal SWD4-8MF2 8-pole					
	Connection round cable via socket.	**SWD4-SFL8-20** 121380		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
	Connection round cable via plug.	**SWD4-SML8-20** 121381		1 off	

	Description	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America
Round cable, 8 pole					
For laying the SmartWire-DT network outside of the control panel.					
	Length: 50 m, HK-SO-Li2YY, 8 mm diameter	**SWD4-50LR8-24** 116030		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
	Length: 250 m, HK-SO-Li2YY, 8 mm diameter	**SWD4-250LR8-24** 144878		1 off	
Housing bushing socket					
for flush mounting in surface mounting enclosure M22-I... 8-pole socket, IP67, for connection to SWD4-S(M,F)-67... 8 prefabricated cables for connection to PCB M22-SWD-I...					
	8-pole socket, M20	**SWD4-SF8-20** 116031		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
	8-pole plug, M20	**SWD4-SM8-20** 116032		1 off	
Connectors for SWD round conductors					
	8-pole socket, flat	**SWD4-SF8-67** 116033		1 off	UL File No. E29184 UL CCN NKCR CSA File No. 2324643 CSA Class No. 3211-07 NA Certification UL Listed, CSA certified
	8-pole plug, flat	**SWD4-SM8-67** 116034			
	8-pole socket, 90° angled	**SWD4-SF8-67W** 116035			
	8-pole plug, 90° angled	**SWD4-SM8-67W** 116036			
Tools for plugs					
	Pliers for external device plugs	**SWD4-CRP-1** 116025		1 off	UL/CSA certification not required
	Pliers for blade terminal	**SWD4-CRP-2** 116699			
	Insert for toggle lever press of external device plugs	**SWD4-CRPAD-1** 116700			
	Insert for toggle lever press of blade terminal	**SWD4-CRPAD-2** 116701			

	Description	Configuration	Part no. Article no.	Price see price list	Std. pack	Information relevant for export to North America
Universal slave						
for configured but not yet installed SmartWire-DT slaves						
	Front mount		**M22-SWD-NOP** 147637		20 off	NA Certification Request filed for UL and CSA
	Base fixing		**M22-SWD-NOPC** 147638		20 off	NA Certification Request filed for UL and CSA

Engineering

Current consumption 15-V-SWD supply voltage Part no.	Article no.	Current consumption mA	Notes
M22-SWD-K11	115964	10	-
M22-SWD-K22	115965	10	-
M22-SWD-NOP	147637	10	-
M22-SWD-LED-W	115966	22	-
M22-SWD-LED-B	115967	22	-
M22-SWD-LED-G	115968	22	-
M22-SWD-LED-R	115969	22	-
M22-SWD-K11LED-W	115972	22	-
M22-SWD-K11LED-B	115973	22	-
M22-SWD-K11LED-G	115974	22	-
M22-SWD-K11LED-R	115975	22	-
M22-SWD-K22LED-W	115978	22	-
M22-SWD-K22LED-B	115979	22	-
M22-SWD-K22LED-G	115980	22	-
M22-SWD-K22LED-R	115981	22	-
M22-SWD-KC11	115995	10	-
M22-SWD-KC22	115996	10	-
M22-SWD-NOPC	147638	10	-
M22-SWD-LEDC-W	115997	22	-
M22-SWD-LEDC-B	115998	22	-
M22-SWD-LEDC-G	115999	22	-
M22-SWD-LEDC-R	116000	22	-
M22-SWD-K11LEDC-W	116003	22	-
M22-SWD-K11LEDC-B	116004	22	-
M22-SWD-K11LEDC-G	116005	22	-
M22-SWD-K11LEDC-R	116006	22	-
M22-SWD-K22LEDC-W	116009	22	-
M22-SWD-K22LEDC-B	116010	22	-
M22-SWD-K22LEDC-G	116011	22	-
M22-SWD-K22LEDC-R	116012	22	-
DIL-SWD-32-001	118560	40	-
DIL-SWD-32-002	118561	40	-
PKE-SWD-32	126895	58	-
EU5E-SWD-8DX	116381	16	-
EU5E-SWD-4D4D	116382	33	-
EU5E-SWD-4D2R	116383	45	-
EU5E-SWD-4DX	144060	33	-
EU5E-SWD-X8D	144061	43	-
EU5E-SWD-4AX	144062	22	-
EU5E-SWD-2A2A	144063	22	-
EU5E-SWD-4PT	144064	22	-
M22-SWD-I1-LP01	115990	17	with terminating resistor switched on
M22-SWD-I2-LP01	115991	17	
M22-SWD-I3-LP01	115992	17	
M22-SWD-I4-LP01	115993	17	
M22-SWD-I6-LP01	115994	17	
SWD4-RC8-10	116020	17	-

Technical data

	XV-102-BE-35TQRC-10	XV-102-E6-57TVRC-10 XV-102-E8-57TVRC-10	XV-102-E6-70TWRC-10 XV-102-E8-70TWRC-10
Display			
Screen diagonal/part no.	3.5" TFT-LCD (color)	5.7" TFT-LCD (color)	7" TFT-LCD (color)
Resolution	QVGA (320 × 240 pixels or 240 × 320 pixels in portrait format)	VGA (640 × 480 pixels or 480 × 640 pixels in portrait format)	WVGA (800 × 480 pixels or 480 × 800 pixels in portrait format)
Visible screen area	70 mm x 53 mm	115 mm x 86 mm	152 mm x 91 mm
Color resolution (grayscale or color)	64 k Colours	64 k Colours	64 k Colours
Contrast ratio (Normally)	Normally 300:1	Normally 300:1	Normally 300:1
Brightness	Normally 250 cd/m²	Normally 250 cd/m²	Normally 250 cd/m²
Backlight	LED, dimmable via software		
Lifespan of backlight	Normally 40000 h		
Resistive touch protective screen	Touch sensor (glass with foil)		
Operation			
Technology	Resistive-Touch, 4-conductor	Resistive-Touch, 4-conductor	Resistive-Touch, 4-conductor
System			
Processor	RISC, 32 bit, 400 MHz	RISC, 32 bit, 400 MHz	RISC, 32 bit, 400 MHz
Internal memory			
DRAM (OS-, Program and data memory)	64 MByte	64 MByte	64 MByte
NAND FLASH (can be used for data security)	Approx. 128 Byte available	Approx. 128 Byte available	Approx. 128 Byte available
NVRAM (Retain data)	Approx. 32 kByte available	Approx. 32 kByte available	Approx. 32 kByte available
External memory			
SD Memory Card Slot	SDA Specification 1.00	SDA Specification 1.00	SDA Specification 1.00
Real-time clock (battery back-up)			
Battery	Zero maintenance	Zero maintenance	Zero maintenance
Backup time at zero voltage	Normally 10 years	Normally 10 years	Normally 10 years
Operating system	Windows CE	Windows CE	Windows CE
Engineering			
Visualisation software	CODESYS-2/GALILEO/EPAM	CODESYS-2/GALILEO/EPAM	CODESYS-2/GALILEO/EPAM
PLC-Programming software	CODESYS-2	CODESYS-2	CODESYS-2
Target and Web visualization	yes	yes	yes
Interfaces, communication			
SWD Master	yes	yes / yes	yes / yes
Ethernet	100Base-TX/10Base-T	100Base-TX/10Base-T	100Base-TX/10Base-T
USB Host	no	USB 2.0 (1.5 - 12 Mbit/s), not galvanically isolated	
USB device	USB 2.0, not galvanically isolated		
CAN-Master, easyNet	no	yes / no	yes / no
PROFIBUS-Master, MPI	no	no / yes	no / yes
RS485	no	yes / yes	yes / yes
Power supply			
Rated operational 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	10 ms from rated operating voltage (24 V DC), 5 ms from undervoltage (20.4 V DC)		
Power consumption	Max. 5 W	Max. 10 W / Max. 10 W	Max. 10 W / Max. 10 W
Protection against polarity reversal	yes	yes / yes	yes / yes
Fuse	yes (fuse not accessible)		
Potential isolation	no	no / no	no / no
General			
Front type	Standard membrane (fully enclosed)		
IP protection classes			
Front	IP65	IP65 / IP65	IP65 / IP65
Rear	IP20	IP20 / IP20	IP20 / IP20
Approvals			
Approvals	cUL	cUL / cUL	cUL / cUL
Explosion protection (according to ATEX 94/9/EC)	II 3D Ex II T70°C IP5x: Zone 22, Category 3D		
Applied standards and directives			
EMC (relevant for CE)	EN 61000-6-2, EN 61000-6-4, EN 61131-2		
Explosion protection (relevant for CE)	EN 60079-0, EN 61241-1, EN 13463		
Security	UL 508 (in preparation)		
Product standards	EN 50178, EN 61131-2		
Weight	approx. 0.3 kg	approx. 0.6 kg / approx. 0.6 kg	approx. 0.6 kg / approx. 0.6 kg

			XV-102-BE-35TQRC-10	XV-102-E6-57TVRC-10	XV-102-E8-57TVRC-10	XV-102-E6-70TWRC-10	XV-102-E8-70TWRC-10
Environmental specifications							
Temperature							
Operation			0 - 50°C	0 - 50°C	0 - 50°C	0 - 50°C	0 - 50°C
Storage/transport			-20 - +60°C	-20 - +60°C	-20 - +60°C	-20 - +60°C	-20 - +60°C
Relative humidity			10 - 95%, non-condensing				
Impact resistance			To IEC 68-2-27	To IEC 68-2-27		To IEC 68-2-27	
Vibration			To IEC 68-2-6	To IEC 68-2-6		To IEC 68-2-6	
Supply voltage U_{Aux}							
Rated operational voltage		V	24 DC -15 % +20 %	24 DC -15 % +20 %	24 DC -15 % +20 %	24 DC -15 % +20 %	24 DC -15 % +20 %
Residual ripple of input voltage		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Protection against polarity reversal			yes	yes	yes	yes	yes
max. current	I_{max}	A	3[1]	3[1]	3[1]	3[1]	3[1]
Short-circuit strength			no, external fuse FAZ Z3	no, external fuse FAZ Z3		no, external fuse FAZ Z3	
Heat dissipation		W	Part no. 1	Part no. 1	Part no. 1	Part no. 1	Part no. 1
Potential isolation			no	no	no	no	no
Rated operating voltage of 24-V-DC slaves		V	Normally U_{Aux} - 0.2	Normally U_{Aux} - 0.2	Normally U_{Aux} - 0.2	Normally U_{Aux} - 0.2	Normally U_{Aux} - 0.2
Supply voltage UP_{ow}							
Supply voltage		V	24 DC -15 % + 20 %	24 DC -15 % + 20 %		24 DC -15 % + 20 %	
Input voltage residual ripple		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Protection against polarity reversal			yes	yes	yes	yes	yes
Rated operational current	I	A	0.7	0.7	0.7	0.7	0.7
Overload proof			yes	yes	yes	yes	yes
Inrush current and length		A	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
Heat dissipation at 24 V DC		W	1.0	1.0	1.0	1.0	1.0
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			no	no	no	no	no
Bridging voltage dips		ms	10	10	10	10	10
Repeat rate		s	1	1	1	1	1
Status display		LED	yes	yes	yes	yes	yes
SmartWire-DT supply voltage							
Rated operational voltage	U_e	V	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %	14.5 ± 3 %
max. current	I_{max}	A	0.7[2]	0.7[2]	0.7[2]	0.7[2]	0.7[2]
Short-circuit strength			yes	yes	yes	yes	yes
Connection supply voltages							
Connection Type			Push in terminals	Push in terminals		Push in terminals	
solid		mm^2	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	
SmartWire-DT network							
Slave type			SmartWire-DT master	SmartWire-DT master		SmartWire-DT master	
Number of SmartWire-DT slaves			99	99	99	99	99
Baud rate		kBd	125, 250	125, 250	125, 250	125, 250	125, 250
Address setting			automatic	automatic	automatic	automatic	automatic
Status display		LED	SmartWire-DT master LED: green, Configurations LED: red				
Connections			Plug, 8-pole				
Plug connectors			Blade terminal SWD4-8MF2				

Notes

[1] If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.
[2] 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.

			EU5C-SWD-DP	EU5C-SWD-CAN	EU5C-SWD-EIP-MODTCP	EU5C-SWD-PF1-1	EU5C-SWD-PF2-1
General							
Standards			IEC/EN 61131-2 EN 50178				
Dimensions (W x H x D)		mm	35 x 90 x 127		35 x 90 x 124		
Weight		kg	0.16	0.16	0.17	0.11	0.17
Mounting			Top-hat rail IEC/EN 60715, 35 mm				
Mounting position			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 (SmartWire-DT)			EN 55011 Class A				
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cables		kV	2	2	2	2	2
CAN/DP bus cable		kV	1	1	1	–	–
SmartWire-DT cables		kV	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)							
Supply cables/CAN/DP bus cable			Supply cables 0.5 kV, CAN/DP bus cable 1 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	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55
Condensation			prevent with suitable measures				
Storage		°C	-40 - +70	-40 - +70	-40 - +70	-40 - +70	-40 - +70
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Supply voltage U_{Aux}							
Rated operational voltage		V	24 DC -15% +20%				
Residual ripple on the input voltage		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Protection against polarity reversal			Yes	Yes	Yes	Yes	Yes
Max. current	I_{max}	A	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.				
Short-circuit rating			no, external fuse FAZ Z3				
Power loss		W	Normally 1	Normally 1	Normally 1	Normally 1	Normally 1
Potential isolation			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

			EU5C-SWD-DP	EU5C-SWD-CAN	EU5C-SWD-EIP-MODTCP	EU5C-SWD-PF1-1	EU5C-SWD-PF2-1
Supply voltage U_{Pow}							
Supply voltage		V	24 DC -15 % + 20 %	24 DC -15 % + 20 %	24 DC -15 % + 20 %	–	24 DC -15 % + 20 %
Input voltage ripple		%	≦ 5	≦ 5	≦ 5	–	≦ 5
Siemens MPI, (optional)			yes	yes	yes	–	yes
Rated current	I	A	0.7	0.7	0.7	–	0.7
Overload proof			yes	yes	yes	–	yes
Inrush current and duration		A	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	–	12.5 A/6 ms
Heat dissipation at 24 V DC		W	3.8	3.8	3.8	–	3.8
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No	No	No	–	Yes
Bridging voltage dips		ms	10	10	10	–	10
Repetition rate		s	1	1	1	–	1
Status indication		LED	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 %
max. current	I_{max}	A	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.				
Short-circuit rating			yes	yes	yes	–	yes
Connection supply and inputs/outputs							
Connection type			Push in terminals				
Solid		mm²	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5	0.2 - 1.5
Flexible with ferrule		mm²	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
SmartWire-DT network							
Station type			SmartWire-DT master			–	–
Number of SmartWire-DT slaves			58	99	99	–	–
Baud Rates		kBd	125 250	125 250	125 250	–	–
Address allocation			automatic	automatic	automatic	–	–
Status indication		LED	SmartWire-DT master LED: green Configurations LED: red			–	–
Connection SmartWire-DT			Plug, 8-pole			2 x plug, 8-pole	
Plug connectors			Blade terminal SWD4-8MF2			2 blade terminals SWD4-8MF2	
Fieldbus interface							
Function			PROFIBUS DP slave	CANopen slave	Ethernet IP/ MODBUS-TCP Slave	–	–
Protocol			PROFIBUS-DP	CANopen	Ethernet IP/ MODBUS-TCP	–	–
Input data, max.		Byte	240	128	Ethernet-IP: 502 MODBUS-TCP: 1024	–	–
Output data, max.		Byte	240	128	Ethernet-IP: 502 MODBUS-TCP: 1024	–	–
Baud Rates			up to 12 MB	to 1 MB	10/100 Mbit	–	–
Baud rates switching			automatic	automatic	automatic	–	–
Address			2 … 125	2 … 32	–	–	–
Address allocation			DIP switch	DIP switch	Dip switch/ DHCP/BOOTP Selection via DIP switch	–	–
Status display interface		LED	Two-coloured red/green	Two-coloured red/green	Link status: yellow (10 MBit), green (100 MBit) flashing	–	–
Terminating resistor			switchable via plug	DIP switches	–	–	–
Terminal type			1 x D-SUB socket, 9-pin	1 x D-SUB socket, 9-pin	2 x RJ45 (2-channel switch)	–	–
Potential isolation			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			Vertical				
Ambient conditions, mechanical							
Protection type (IEC/EN 60529)			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 (SmartWire-DT)			EN 55011 Class A				
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cables		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)			–	Supply cables 0.5 kV	–	Supply cables 0.5 kV	Supply cables 0.5 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	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55
Condensation			prevent with suitable measures				
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70	-40 - 70
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
SmartWire-DT network							
Station type			SmartWire-DT slave				
Baud rate setting			automatic				
SmartWire-DT status LED		LED	Green				
Connection			Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5				
Current consumption (15 V SWD supply)			→ page 19	→ page 19	→ page 19	→ page 19	→ page 19
Connection supply and I/O							
Connection type			Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals
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)	0.2 - 1.5 (AWG 24 - 16)
Flexible with ferrule		mm^2	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)	0.25 - 1.5 (AWG 24 - 16)
			Minimum length 8 mm	Minimum length 8 mm	Minimum length 8 mm	Minimum length 8 mm	Minimum length 8 mm

			EU5E-SWD-8DX	EU5E-SWD-4DX	EU5E-SWD-4D2R	EU5E-SWD-4D4D	EU5E-SWD-X8D
24 V DC supply for output supply							
Rated operational voltage	U_e	V	–	24 DC -15 % / +20 %	–	24 DC -15 % / + 20 %	24 DC -15 % / +20 %
Residual ripple on the input voltage		%	–	≦ 5	–	≦ 5	≦ 5
Protection against polarity reversal			–	yes	–	yes	yes
Digital inputs							
Number			8	4 (3-wire connection with power supply I+, I-)	4	4	–
Input current		mA	typ. 4 at 24 V DC				–
Voltage level to IEC/EN 61131-2							
Limit value type 1			Low < 5 V DC; High > 15 V DC				–
Input delay			High Low typ. < 0.2 ms Low High typ. < 0.2 ms				–
Status display		LED	yellow				–
Eingangsversorgung I+, I-							
Overload proof			–	yes, with diagnostics	–	–	–
Output current per input supply		A	–	≦ 0.5	–	–	–
Supply voltage		V	–	U_e. 0.16 V	–	–	–
Digital semi-conductor outputs							
Number			–	–	–	4	8
Output current		A	–	–	–	Normally 0.5 at 24 V DC	Normally 0.5 at 24 V DC
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	
Status display		LED	–	–	–	yellow	yellow
Relay outputs							
Number			–	–	2	–	–
Contact type art			–	–	N/O contact	–	–
Operations							
Utilization category AC-1, 250 V, 6 A			–	–	> 6 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 1.5	–	–
Short-circuit protection			–	–	external 4 A gL/gG	–	–
Status display		LED	–	–	yellow	–	–
Potential isolation							
Inputs for SmartWire-DT			yes	yes	yes	yes	yes
Outputs to SmartWire-DT			–	yes	–	yes	–
Output to input			–	–	–	no	–
Output to output			–	–	yes	no	no

			EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT
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
Mounting			Top-hat rail IEC/EN 60715, 35 mm		
Mounting position			Vertical		
Ambient conditions, mechanical					
Protection type (IEC/EN 60529)			IP20	IP20	IP20
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	2
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)			EN 55011 Class A		
Burst (IEC/EN 61131-2:2008, Level 3)					
Supply cables		kV	2	2	2
Signal lines		kV	2	2	2
SmartWire-DT cables		kV	2	2	2
Surge (IEC/EN 61131-2:2008, Level 1)			Supply cables 1.0 kV		
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10
Climatic environmental conditions					
Operating ambient temperature (IEC 60068-2)		°C	-25 - +55	-25 - +55	-25 - +55
Condensation			prevent with suitable measures		
Storage		°C	-40 - 70	-40 - 70	-40 - 70
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95
SmartWire-DT network					
Station type			SmartWire-DT slave		
Baud rate setting			automatic		
SmartWire-DT status LED		LED	Green		
Connection			Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5		
Current consumption (15 V SWD supply)			→ page 19	→ page 19	→ page 19
Connection supply and I/O					
Connection type			Push in terminals		
Solid		mm^2	0.25 - 1.5 (AWG 24 - 16)		
Flexible with ferrule		mm^2	0.25 - 1.5 (AWG 24 - 16)		
			Minimum length 8 mm		
24 V DC supply for output supply					
Rated operational voltage	U_e	V	24 DC -15 % / +20 %	24 DC -15 % / +20 %	24 DC -15 % / +20 %
Residual ripple on the input voltage		%	≦ 5	≦ 5	≦ 5
Current consumption		mA	10	50	–
Protection against polarity reversal			yes	yes	yes

			EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT
Analog inputs					
Quantity			4 (2-wire connection, screened, length < 10 m)	2 (2-wire connection, screened, length < 10 m)	–
Parametrierung					
Part no.			Voltage, current	Voltage, current	–
Averaging			adjustable	adjustable	–
Voltage					
Input voltage		V	0 - 10	0 - 10	–
Input impedance		kΩ	13.3	13.3	–
Max. current					
Input current		mA	0 - 20	0 - 20	–
Input impedance		Ω	< 250	< 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					
Number			–	2 (2-wire connection, screened)	–
Parametrierung					
Part no.			–	Voltage, current	–
Mittelwertbildung			–	–	–
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	–
Resolution		Bit	–	12	–
Conversion time		ms	–	20	–
Total error		%	–	± 1	–
Repetition accuracy		%	–	± 0.5	–
Temperatureingänge					
Number			–	–	4 (2, 3-wire connection, screened, length < 10 m)
Parametrierung					
Averaging			–	–	adjustable
Temperature sensor			–	–	PT100, PT1000, Ni1000
Temperature range		°C	–	–	PT100, PT1000: -50 - +200 Ni1000: -50 - +150
Resolution		°C	–	–	0.1
Conversion time		ms	–	–	250
Display			–	–	°C, °F, raw value
Total error		%	–	–	± 1
Repetition accuracy		%	–	–	± 0.5
Potential isolation					
Inputs for SmartWire-DT			Yes	Yes	Yes
Outputs to SmartWire-DT			–	Yes	–
Input to input			No	No	No
Output to input			–	no	–
Output to output			–	No	–

			M22-SWD-NOP...	M22-SWD-K11	M22-SWD-KC11	M22-SWD-LED-...	M22-SWD-LEDC-...	M22-SWD-K11-LED...	M22-SWD-K11LEDC-...	M22-SWD-K22	M22-SWD-KC22	M22-SWD-K22-LED...	M22-SWD-K22LEDC-...
General													
Standards			IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)		mm	12 x 42 x 39	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	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
Weight		g	10	10	10	10	10	10	10	14	14	14	14
Mounting position			As required	As required	As required	As required	As required	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	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	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	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	9	9	9	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50	50	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	0.3	0.3	0.3	0.3	0.3
Electromagnetic compatibility (EMC)													
Overvoltage category			Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Pollution degree			2	2	2	2	2	2	2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)													
Air discharge (Level 3)		kV	8	8	8	8	8	8	8	8	8	8	8
Contact discharge (Level 2)		kV	4	4	4	4	4	4	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)													
80 - 1000 MHz		V/m	10	10	10	10	10	10	10	10	10	10	10
1.4 - 2 GHz		V/m	3	3	3	3	3	3	3	3	3	3	3
2 - 2.7 GHz		V/m	1	1	1	1	1	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT)			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	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 cables		kV	2	2	2	2	2	2	2	2	2	2	2
SmartWire-DT cables		kV	1	1	1	1	1	1	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10	10	10	10	10	10	10	10
Climatic environmental conditions													
Operating ambient temperature (IEC 60068-2)		°C	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55	-30 - +55
Condensation			prevent with suitable measures				prevent with suitable measures						
Storage		°C	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80	-40 - 80
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	9 … 95	9 … 95	9 … 95	9 … 95	9 … 95	9 … 95	5 - 95	5 - 95	5 - 95	5 - 95
SmartWire-DT network													
Station type			SmartWire-DT slave				SmartWire-DT slave						
Number			–	–	–	–	–	–	–	–	–	–	–
Baud rate setting			automatic	automatic	automatic	automatic	automatic	automatic	automatic	automatic	automatic	automatic	automatic
SmartWire-DT status LED		LED	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Connections			Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Plug connectors			SWD4-8SF2-5	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP	SWD4-8SF2-5	M22-SWD-I…LP
Number of insertion cycles			≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
Current consumption (15 V SWD supply)			→ page 19				→ page 19						
Function element													
Contacts			–	1 changeover contact	1 changeover contact	–	–	1 changeover contact	1 changeover contact	2 changeover contact	2 changeover contact	2 changeover contact	2 changeover contact
Lifespan mechanical/electrical	Operations		–	1×10^6	1×10^6	–	–	1×10^6	1×10^6	1×10^6	1×10^6	1×10^6	1×10^6
LED display		LED	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Diagnostics			Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Fixing			Front fixing	Front fixing	Base fixing	Front fixing	Base fixing	Front fixing	Base fixing	Front fixing	Base fixing	Front fixing	Base fixing

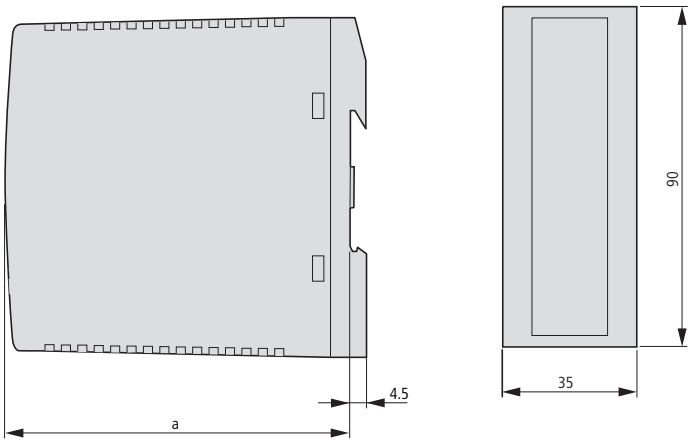
			DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32	NZM-XSWD-704
General						
Standards			IEC/EN 61131-2 EN 50178 IEC/EN 60947			
Dimensions (W x H x D)		mm	45 x 38 x 76	45 x 38 x 76	45 x 38 x 76	35 x 90 x 101
Weight		kg	0.04	0.04	0.04	0.1
Mounting			on DILM7 to DILM38	on DILM7 to DILM38	–	Top-hat rail IEC/EN 60715, 35 mm
Mounting position			as DILM7 to DILM38	as DILM7 to DILM38	–	Vertical
Ambient conditions, mechanical						
Protection type (IEC/EN 60529, EN50178, VBG 4)			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
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 A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cables		kV	–	–	–	2
CAN/DP bus cable		kV	1	1	1	1
SmartWire-DT cables		kV	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	10	10	10
Climatic environmental conditions						
Operating ambient temperature (IEC 60068-2)		°C	-25 - +60	-25 - +60	-25 - +60	-25 - +55
Condensation			prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures
Storage		°C	-30 - 70	-30 - 70	-30 - 70	-40 - 70
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
SmartWire-DT network						
Station type			SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Address allocation			automatic	automatic	automatic	automatic
SmartWire-DT status LED		LED	green/orange	green/orange	green/orange	green
Connections			Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Plug connectors			External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5
Current consumption (15 V SWD supply)			→ page 19			

			DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32	NZM-XSWD-704
Mode parameter						
Manual/automatic mode			No	yes	yes	–
Setting			–	Rotary switch	Rotary switch	–
Connection auxiliary contact						
Number			2	2	–	–
Rated voltage	U_e	V DC	15	15	–	–
			selfsupplied	selfsupplied	–	–
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	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
			Minimum length 8 mm	Minimum length 8 mm	Minimum length 8 mm	Minimum length 8 mm

Part no.			SWD4-RC8-10	SWD4-8SF2-5	SWD4-8SFF2-5	SWD4-SF8-20	SWD4-SM8-20	SWD4-8FRF-10	SWD4-SFL8-20	SWD4-SML8-20
General										
Standards			IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)		mm	48.5 x 34.5 x 10	15 x 36.5 x 17.5	48.5 x 34.5 x 10	24 x 26 x 162	24 x 26 x 170	35 x 90 x 35	35 x 83 x 40	35 x 83 x 46
Weight		kg	–	–	–	–	–	–	–	–
Weight		g	10	5.5	4.5	20	22.5	42	50	50
Mounting position			As required	As required	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	IP67	IP67	IP20	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	9	9	9	–	–	9	9	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50	–	–	–	–	–	–	–
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3	–	–	–	–	–	–	–
Electromagnetic compatibility (EMC)										
Overvoltage category			II	–	–	–	–	–	–	–
Pollution degree			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
1.4 - 2 GHz		V/m	3	–	–	–	–	–	3	3
2 - 2.7 GHz		V/m	1	–	–	–	–	–	1	1
Radio interference suppression (SmartWire-DT)			EN 55011 Class A	–	–	–	–	–	–	–
Burst (IEC/EN 61131-2:2008, Level 3)										
SmartWire-DT cables		kV	1	–	–	–	–	–	–	–
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10	–	–	–	–	–	10	10
Climatic environmental conditions										
Operating ambient temperature (IEC 60068-2)		°C	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55	-25 - +55
Condensation			prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures	prevent with suitable measures
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70	-40 - 70	-40 - 70	-40 - 70	-40 - 70
relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95	5 - 95
Connection options										
SWD-In			Plug, 8-pole	Plug connector	Plug, 8-pole	–	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Number of insertion cycles			≥ 200	≥ 1	≥ 200	–	≥ 500	≥ 200	≥ 200	≥ 500
SWD-Out			–	Socket, 8-pole	Plug, 8-pole	Socket, 8-pole	–	Push in terminals	Socket, 8-pole	Plug, 8-pole
Number of insertion cycles			–	≥ 200	≥ 200	≥ 500	–	–	≥ 500	≥ 200
Current consumption (15 V SWD supply)			→ page 19			→ page 19				

Dimensions

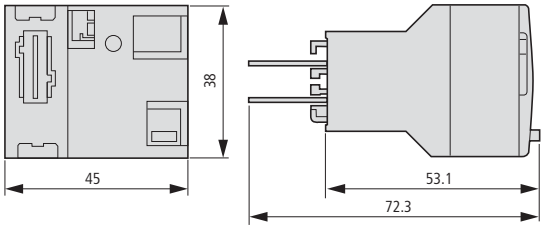
SmartWire-DT gateways, SmartWire-DT input/output modules, powerfeed modules



	a	b
EU5C-SWD-DP	122	90
EU5C-SWD-CAN	122	90
EU5E-SWD-...	97	90
EU5C-SWD-PF...	120	90
EU5C-SWD-EIP-MODTCP...	120	90
EASY8...DC-SWD	120	110
NZM-XSWD-704...	97	90

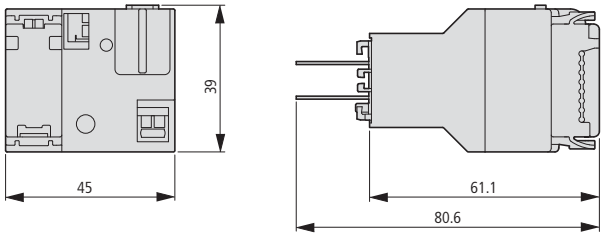
SmartWire-DT protective modules

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

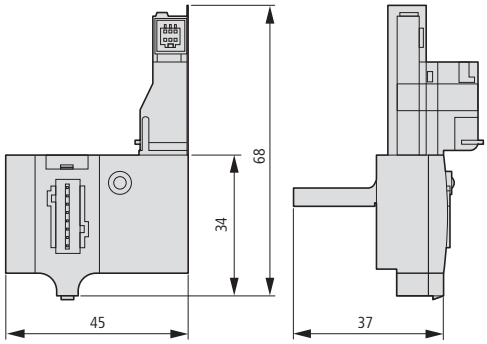


SmartWire-DT PKE module (motor-starter combinations)

PKE-SWD-32

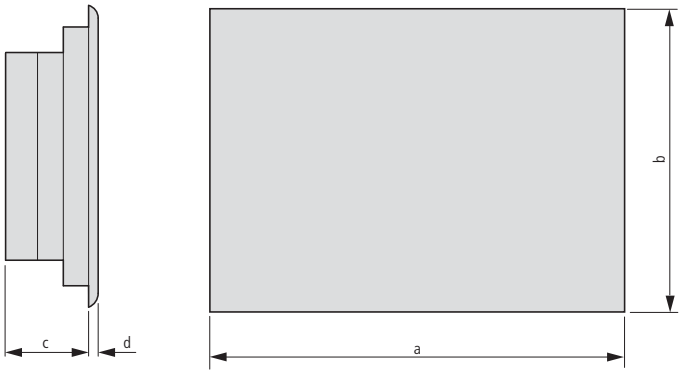


SWD-PKE-Modul (motor protective circuit braker)



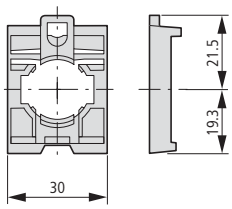
SmartWire-DT HMI-PLC

Part no.	a	b	c	d	e	f
XV-102-...-35...	136	100	25	5	123	87
XV-102-...-57...	170	130	34	5	157	117
XV-102-...-70...	210	135	33	5	197	122

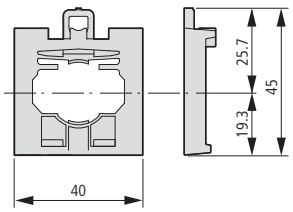


Fixing adapter (front mount) for 3-contacts-/LED elements

M22-A-...

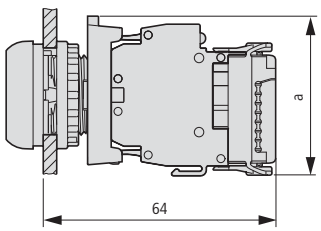


M22-SWD-A4



Function element, universal slave

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



	a
M22-A	44
M22-SWD-A4	48

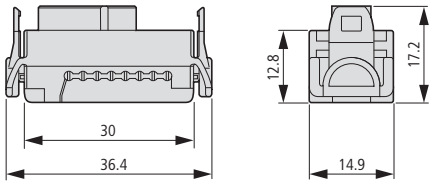
SmartWire-DT soft starter

DS7-34DSX...

Dimension → Chapter "Soft starter"

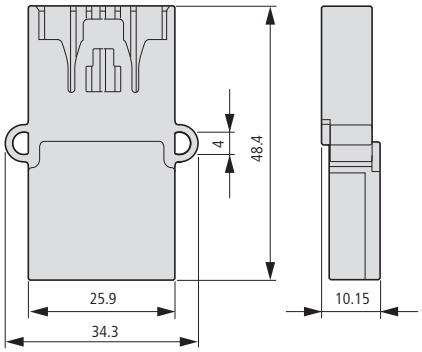
External device plugs

SWD4-8SF2-5



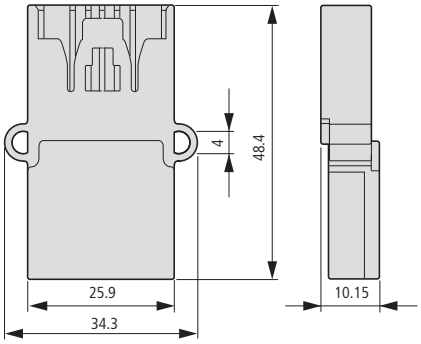
Network terminator

SWD4-RC8-10



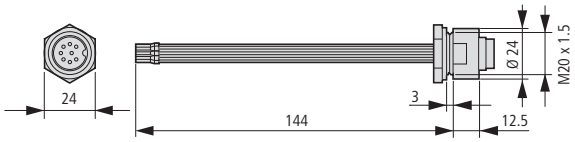
Coupling

SWD4-8SFF2-5



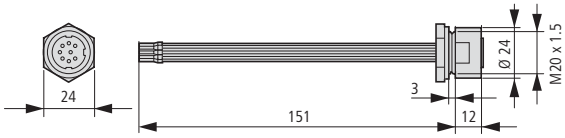
Housing bushing plug

SWD4-SM8-20



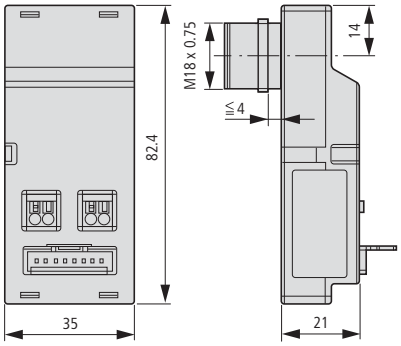
Housing bushing socket

SWD4-SF8-20



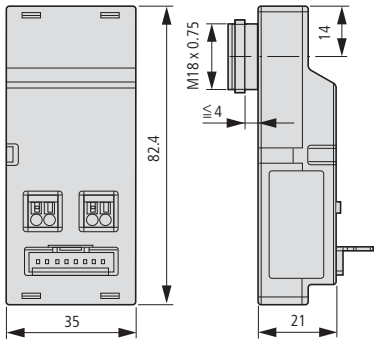
Switch cabinet bushing plug

SWD4-SM8-20



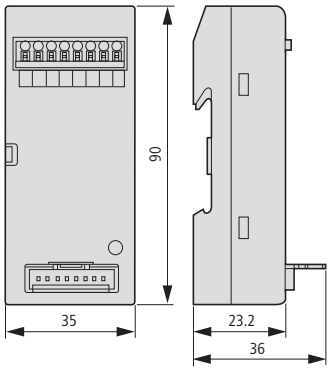
Switch cabinet bushing socket

SWD4-SFL8-20



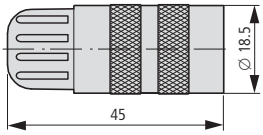
Adapter flat cable on round cable

SWD4-8FRF-10

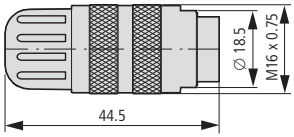


Plug connectors for SmartWire-DT round cables, straight

SWD4-SF8-67

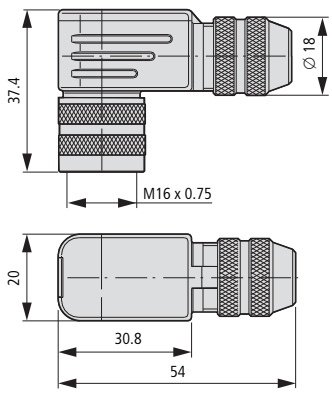


SWD4-SM8-67

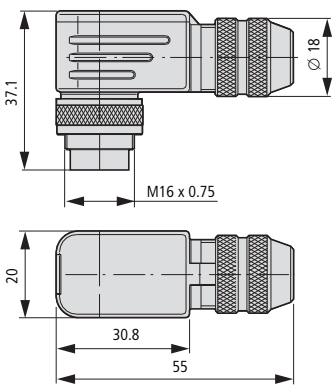


Connectors for SmartWire-DT round cables, angled

SWD4-SF8-67W



SWD4-SM8-67W



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