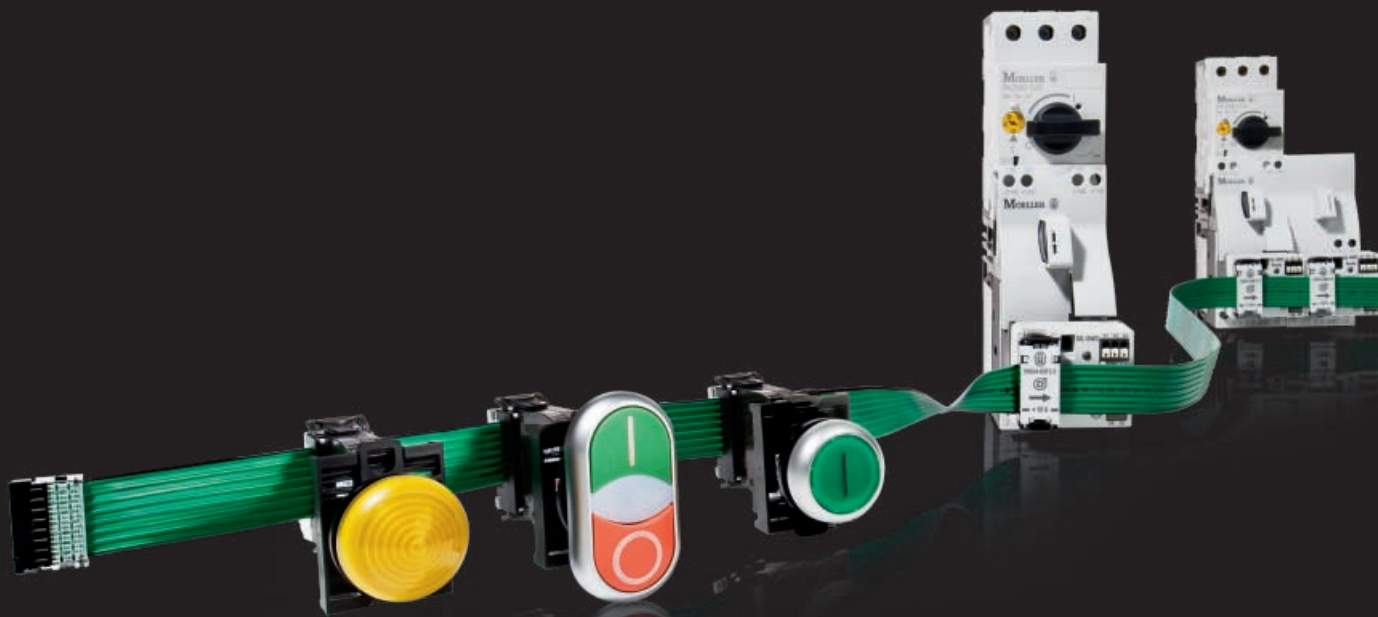
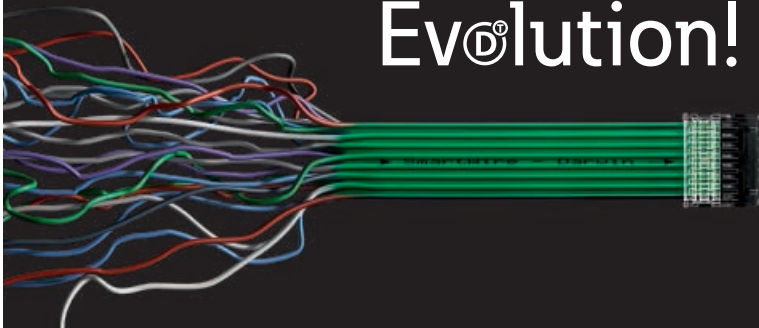


New Products Catalogue 2009

# SmartWire-Darwin



Evolution!



The easy way to connect.



Powering Business Worldwide

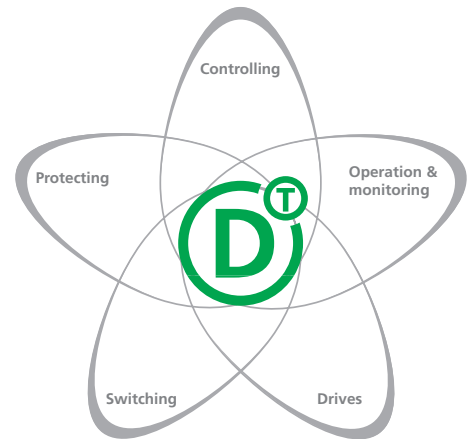


An Eaton Brand

# SmartWire-Darwin. Evolution in the control panel.

Manufacturers of machines and systems strive to achieve a balance between the maximum level of functionality and cost optimization. SmartWire-Darwin 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-Darwin: The easy way to connect.

SmartWire-Darwin to a very great degree reduces the wiring effort and expense 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-Darwin relies on the tried-and-tested Moeller industrial switchgear and grants intelligent communication features.

Efficient planning and engineering

Fault-free mounting and wiring

Quick to commission

Comfortable operation

Maintenance with direct diagnostics

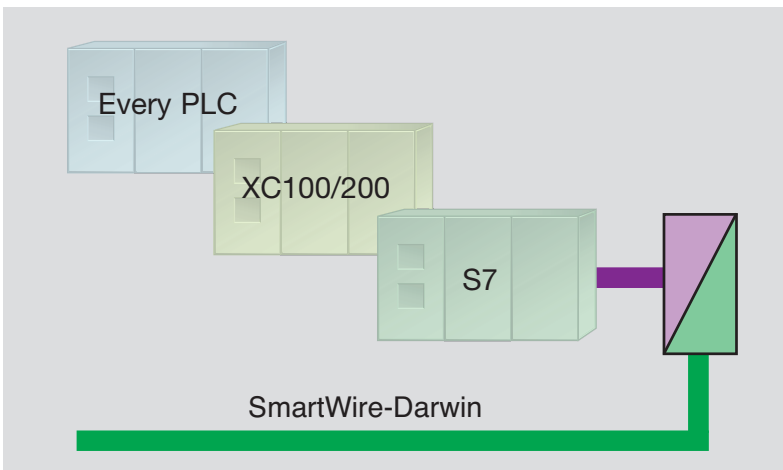
Simple to expand

# SmartWire-Darwin. Connecting instead of wiring.

One system, countless possibilities: Independently of the selected bus system of the higher-level control, up to 99 devices can be interconnected with the new SmartWire-Darwin line up to a maximum overall total length of 100 m. The SmartWire-Darwin line always commences with a gateway. From here the "green" flat cable originates and interconnects the devices inside and outside the control panel right up to the termination resistor. Thus on the one hand the gateway assumes the co-ordination of the SmartWire-Darwin line, and on the other hand assumes the data coupling to the higher-level control.

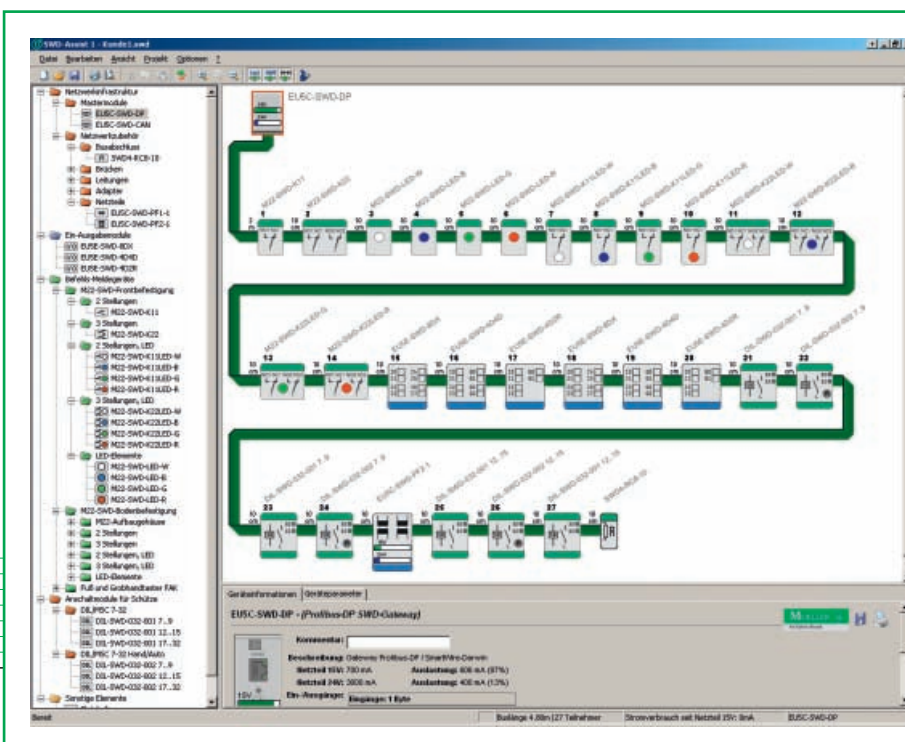


The SWD-Assist can be downloaded free-of-charge from our website: [www.moeller.net/swdassist](http://www.moeller.net/swdassist)



## Your application program is retained

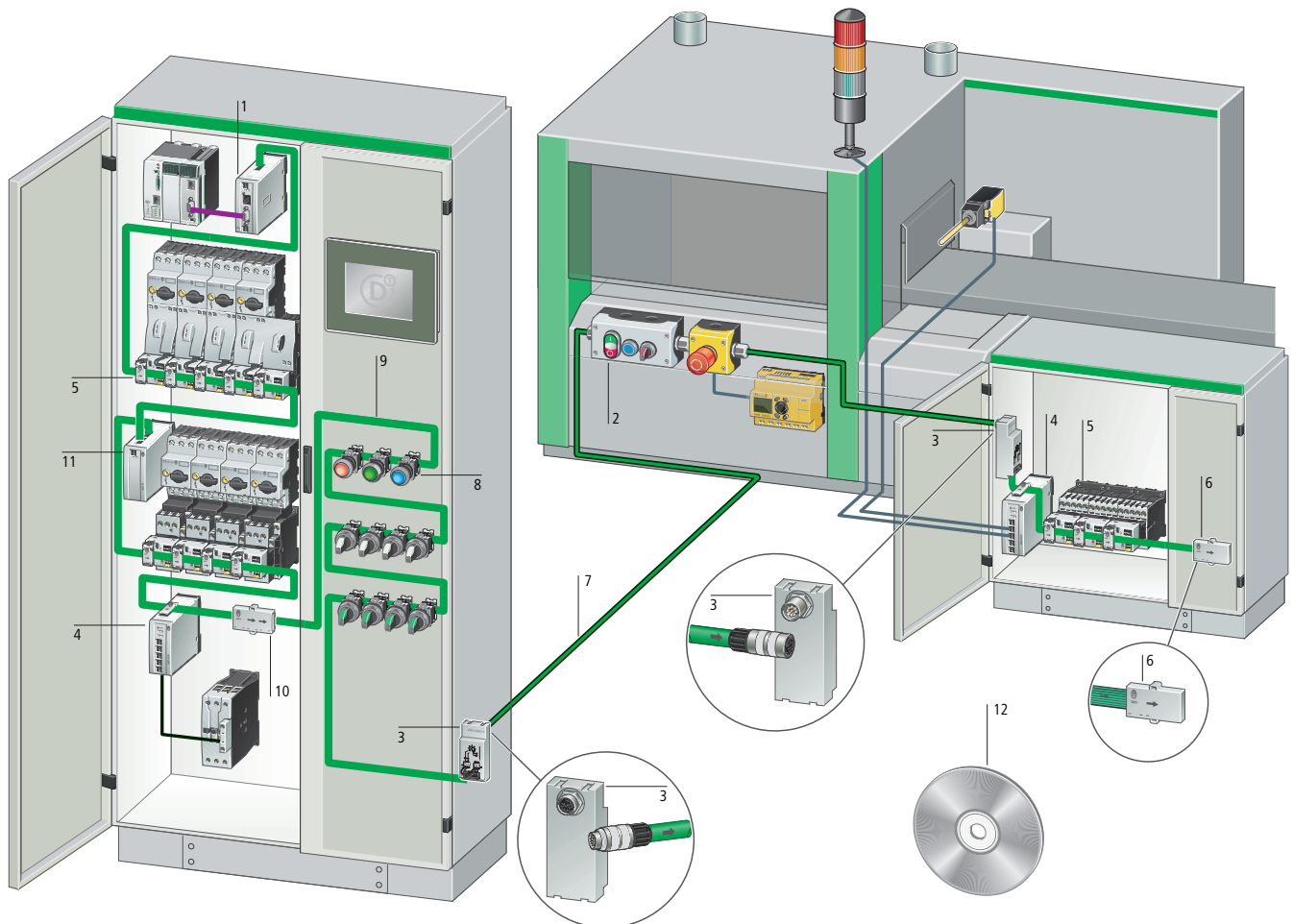
Integration of the SmartWire-Darwin-gateways into the PLC program is also problem-free. It simply acts as the control configuration not as the application program. Thus the conversion to SmartWire-Darwin is also made simple and easy in the area of PLC programming. You continue to protect and retain your software know-how!



## Easily achieve your target with SWD-Assist

In principle all SmartWire-Darwin lines can be established and configured without using software tools. The software SWD-Assist helps you to simply and easily plan the SmartWire-Darwin line. The device description files – GSD for PROFIBUS-DP, can be created on a project-basis with the SWD-Assist.

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- 8 Function element for command and signalling devices RMQ Titan → page 6
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- 11 Power feeder module → features
- 12 Planning and ordering help, SWD-Assist → features

### System description

The communication system SmartWire-Darwin makes possible the connection of switching devices to a programmable logic controller without elaborate control wiring. The control wiring between the programmable logic controller and the switching devices is replaced by the new plug-in connection technique SmartWire-Darwin. This enables faster mounting of the individual switching devices, faster replacement of components and the minimization wiring complexity and of wiring errors. Connection of the I/O components of the system SmartWire-Darwin is performed via field bus gateways. Due to this the centralized and decentralized I/O components of the automation system are reduced. Connection of the switching devices of the system is performed both inside the control panel via a flat cable and outside of the control panel via a round cable.

### Features

- SWD gateway → page 4
  - Connection of SmartWire-Darwin to field bus.
  - Supports the field Buses PROFIBUS-DP and CANopen.
  - Supply voltage feeder for the SmartWire-Darwin slaves.
- Function element for command signalling devices RMQ Titan in surface mounting enclosure → page 6
  - Supplies the control voltage for the motor starter or contactor.
  - Configuration button for automatic addressing of the SmartWire-Darwin slaves.
  - Support of up to 99 SmartWire-Darwin slaves.
  - Connection of the SmartWire-Darwin flat band conductor via blade terminal.
- Switch cabinet bushing → page 11
  - Transition between the SmartWire-Darwin connection cables round and flat.
  - Connection of the flat band conductor via blade terminal.
  - Additional feeder facility for 24 V DC control voltage for motor starter and contactors.
  - Formation of emergency stop groups.
  - Protection class IP67.
  - Round cable connection via socket/plug.
- SWD inputs/outputs module → page 4
  - Connection to SmartWire-Darwin flat band conductor via external device plug.
  - Integration of other switching devices without integrated SmartWire-Darwin technology.
  - Variant with 8 digital inputs or 4 digital inputs and 4 potential-tied transistor outputs or 4 digital inputs and 2 relay outputs 250 V AC.
  - SmartWire-Darwin diagnostics LED for signalling of the communication status of the module.
- Power feeder module → page 4
  - Connection to SmartWire-Darwin flat band conductor via blade terminal.
  - Supply voltage feeder for the SmartWire-Darwin slaves.
  - Control voltage feeder for the motor starter and contactors.
  - Formation of emergency stop groups.
- Planning and ordering help (SWD-Assist)
  - Free download at: <http://downloadcenter.moeller.net>.
  - Easy generation of SmartWire-Darwin networks.
  - Function for the generation of ordering lists.
  - Integrated validity check.

# Ordering

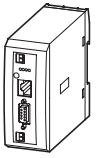


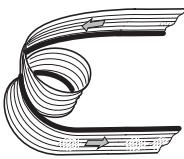
## SWD gateways, SWD I/O modules, SWD accessories



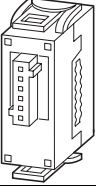

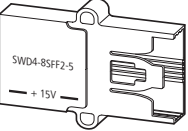
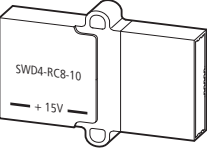

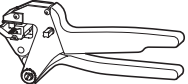
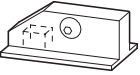

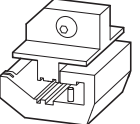
EU5...SWD..., SWD4...

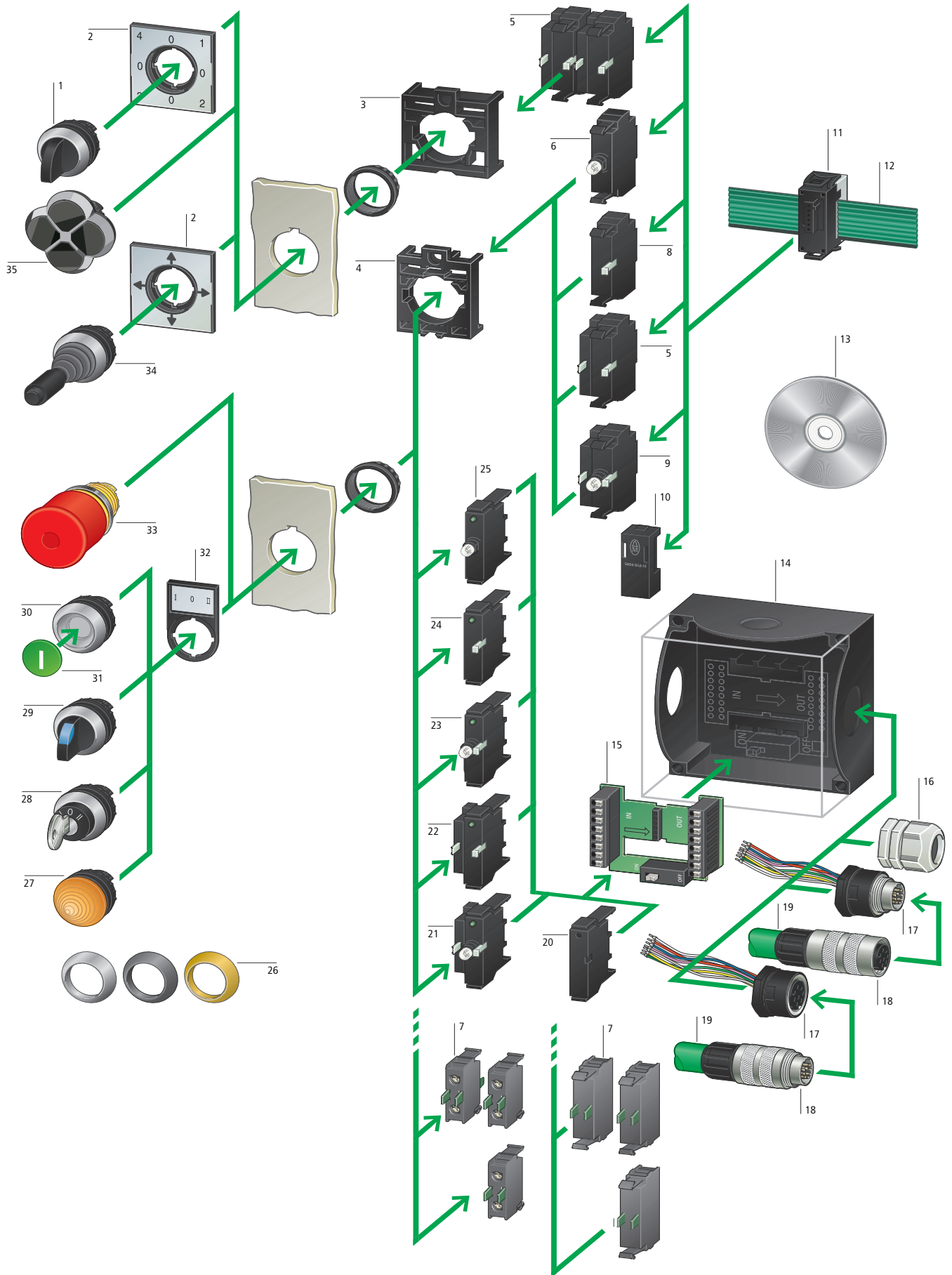
Moeller NK2723-1186

<http://catalog.moeller.net>

		Part no. Article no.	Price see price list	Std. pack
<b>SWD gateways</b>				
Gateway to the connection to the field bus and for supply of the SmartWire-Darwin (SWD) slaves and switching devices.				
	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 SWD slaves.	<b>EU5C-SWD-DP</b> 116308		1 off
	Connection to CANopen as slave. Automatic baud rate detection from 10 kB to 1 MB. Address range 1 - 32. 9-pole SUB-D plug. Connection of up to 99 SWD slaves.	<b>EU5C-SWD-CAN</b> 116307		1 off
<b>SWD I/O modules</b>				
SmartWire-Darwin slaves for the connection of digital I/O signals.				
	Digital module with 8 digital inputs 24 V DC	<b>EU5E-SWD-8DX</b> 116381		1 off
	Digital module with 4 digital inputs 24 V DC and 4 transistor outputs 24 V DC/0.5 A	<b>EU5E-SWD-4D4D</b> 116382		
	Digital module with 4 digital inputs 24 V DC and 2 relay outputs 250 V AC	<b>EU5E-SWD-4D2R</b> 116383		
<b>SWD accessories</b>				
Power feeder module				
	For additional control voltage feeder for the motor starter and contactors. For the formation of Emergency Stop groups for the motor starter and contactors.	<b>EU5C-SWD-PF1-1</b> 116309		1 off
	For the supply of other SWD slaves For additional control voltage feeder for the motor starter and contactors. For the formation of Emergency Stop groups for the motor starter and contactors.	<b>EU5C-SWD-PF2-1</b> 116380		1 off
Connecting cables				
Flat band conductor, 8 pole For laying the SmartWire-Darwin network inside the control panel.				
	Length: 100 m	<b>SWD4-100LF8-24</b> 116026		1 off
	Length: 3 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-3LF8-24-2S</b> 116027		
	Length: 5 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-5LF8-24-2S</b> 116028		
	Length: 10 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-10LF8-24-2S</b> 116029		



		Part no. Article no.	Price see price list	Std. pack
<b>SWD accessories</b>				
<b>Plug</b>				
	External device plug for SmartWire-Darwin slaves	SWD4-8SF2-5 116022		10 off
	8-pin blade terminal for connection to gateway, power feeder module, coupling	SWD4-8MF2 116023		10 off
<b>Coupling</b>				
	Coupling for 8-pin blade terminal	SWD4-8SFF2-5 116024		1 off
<b>Network terminator</b>				
	Network terminator for 8-pole flat band conductor	SWD4-RC8-10 116020		1 off
<b>Tools for plugs</b>				
	Pliers for external device plugs	SWD4-CRP-1 116025		1 off
	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		
				

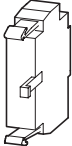


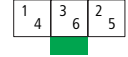
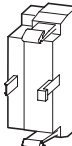



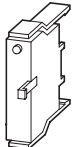


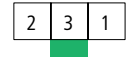
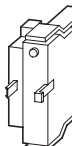

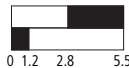
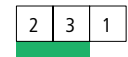
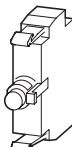

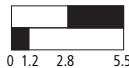
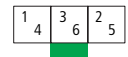
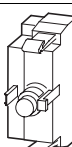

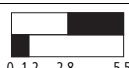
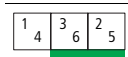
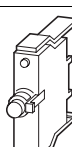


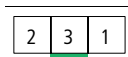
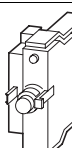

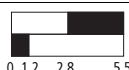
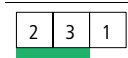




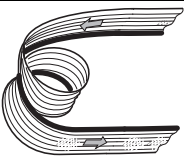

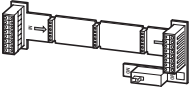
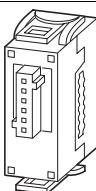


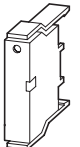
- 1 4-way selector switch actuator → HPL0211 2007/2008, page 2/13
- 2 Labels with label mounts → HPL0211 2007/2008, page 2/17
- 3 4-way adapter → page 9
- 4 Fixing adapter → page 9
- 5 Function element with 3 positions for front fixing → features
- 6 LED element for front fixing → features
- 7 M22 contact elements → HPL0211-2007/2008, page 2/22
- 8 Function element with 2 positions for front fixing → features
- 9 Function element with 3 positions and LED for front fixing → features
- 10 Link for device plug → features
- 11 SWD external device plug → page 5
- 12 SWD flat band conductor → page 4
- 13 Planning and ordering help, SWD-Assist → features
- 14 M22 surface mounting enclosure → HPL0211 2007/2008, page 2/35
- 15 PCB for built-in enclosure → features
- 16 Enclosure bushing for round cable → HPL0211-2007/2008, page 8/17
- 17 Enclosure bushing plug/socket → features
- 18 Connectors for SWD round cables → page 11
- 19 SWD round cable → page 10
- 20 Link for base slots → page 10
- 21 Function element with 3 positions and LED for base fixing → features
- 22 Function element with 3 positions for base fixing → features
- 23 Function element with 2 positions and LED for base fixing → features
- 24 Function element with 2 positions for base fixing → features
- 25 LED element for base fixing → features
- 26 Front rings → HPL0211 2007/2008, page 2/37
- 27 Indicator light → HPL0211 2007/2008, page 2/18
- 28 Key-operated actuators → HPL0211 2007/2008, page 2/14
- 29 Selector switch actuators → HPL0211 2007/2008, page 2/13
- 30 pushbutton actuators → HPL0211 2007/2008, page 2/10
- 31 Button plates/button lenses → HPL0211 2007/2008, page 2/26
- 32 Label mounts → HPL0211 2007/2008, page 2/25
- 33 Emergency-stop pushbutton → HPL0211 2007/2008, page 2/7
- 34 Joystick → HPL0211 2007/2008, page 2/17
- 35 4-way pushbutton → HPL0211 2007/2008, page 2/17

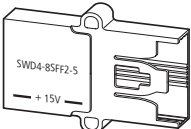
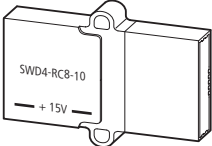
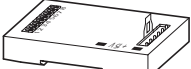
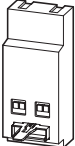


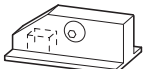
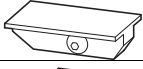
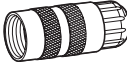
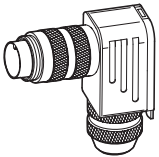
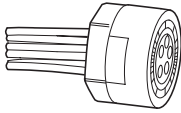
### Features

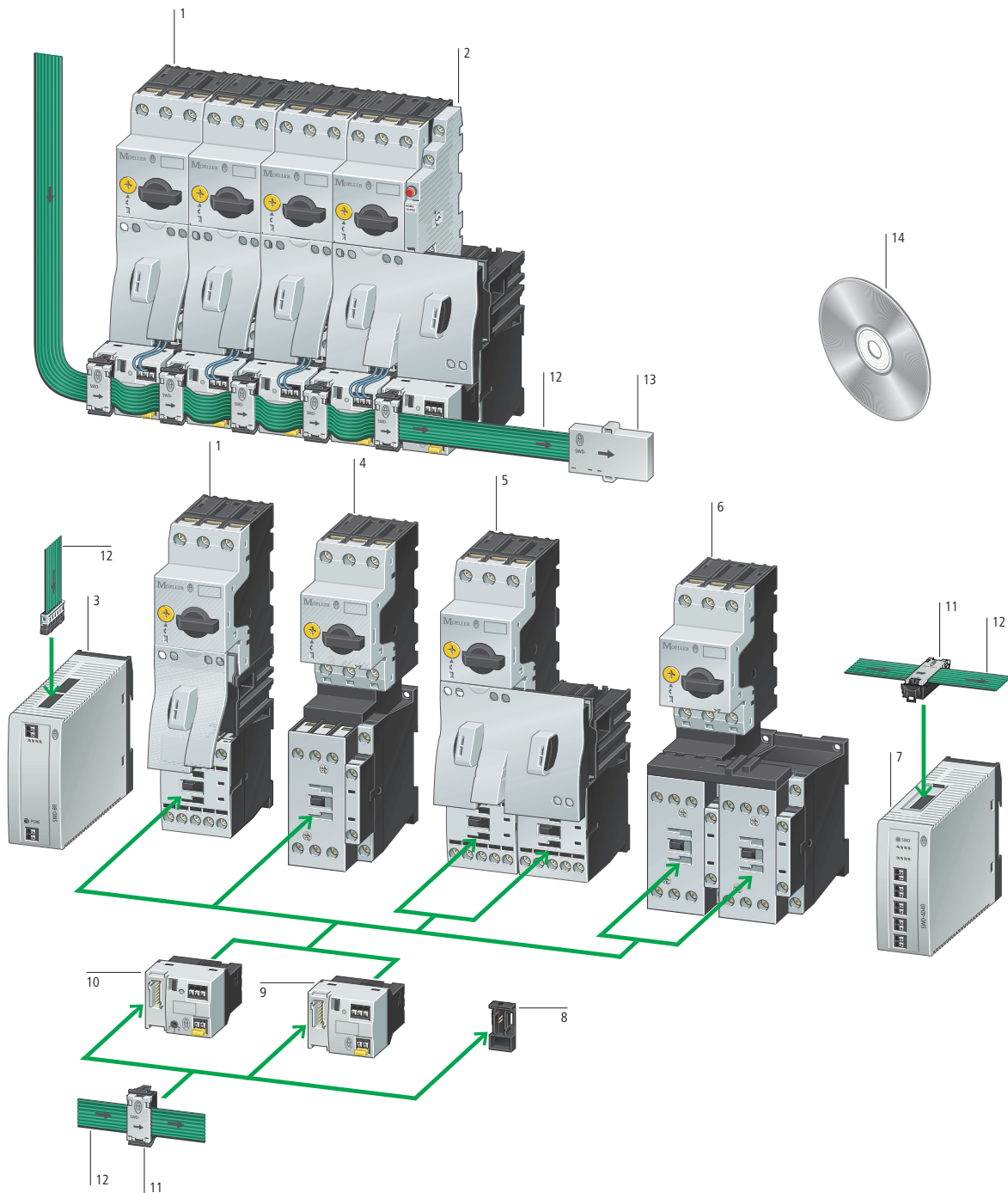
- SWD-RMQ connection for front fixing → page 8
  - Adaption with standard adapter M22-A or M22-SWD-A4 for 4-way pushbutton.
  - Combination with standard control circuit devices of the M22 series.
  - Types with one or two change-over contacts and with/without integrated LED element.
  - SmartWire-Darwin diagnostics LED for signalling of the communication status of the function element.
  - Connection to SmartWire-Darwin flat band conductor via external device plug.
- Link for device plug → page 10
  - Connection to SmartWire-Darwin external device plug.
  - Suitable for the bridging of already adapted SmartWire-Darwin external device plugs (e.g. as a wildcard).
- Planning and ordering help (SWD-Assist)
  - Free download at: <http://downloadcenter.moeller.net>.
  - Easy generation of applications with the system SmartWire-Darwin.
  - Integrated function for the generation of ordering lists.
  - Integrated validity check.
- Surface-mounting enclosure with PCB → page 10
  - Connection of SmartWire-Darwin RMQ 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.
- Housing bushing socket → page 11
  - Application for M22 surface mounting enclosure or control panel.
  - Type plug/socket.
  - Prefabricated signal cable with ferrules for connection to PCB for surface mounting enclosure.
- SWD-RMQ connection for base fixing → page 8
  - Application with surface mounting enclosure for M22 command and indicator devices.
  - Combination with standard control circuit devices of the M22 series.
  - Types with one or two change-over contacts and with/without integrated LED element.
  - SmartWire-Darwin diagnostics LED for signalling of the communication status of the function element.
  - Connection to SmartWire-Darwin via PCB for built-in enclosure.

	Number of changeover 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
<b>Function elements</b>								
<b>Front fixing</b>								
	1		 0 1.2 2.8 5.5		without LED	<b>M22-SWD-K11</b> 115964		20 off
	2		 0 1.2 2.8 5.5		without LED	<b>M22-SWD-K22</b> 115965		10 off
<b>Base fixing</b>								
	1		 0 1.2 2.8 5.5		without LED	<b>M22-SWD-KC11</b> 115995		20 off
	2		 0 1.2 2.8 5.5		without LED	<b>M22-SWD-KC22</b> 115996		10 off
<b>Front fixing</b>								
	1		 0 1.2 2.8 5.5		○	<b>M22-SWD-K11LED-W</b> 115972		20 off
	1				●	<b>M22-SWD-K11LED-B</b> 115973		
	1				●	<b>M22-SWD-K11LED-G</b> 115974		
	1				●	<b>M22-SWD-K11LED-R</b> 115975		
	2		 0 1.2 2.8 5.5		○	<b>M22-SWD-K22LED-W</b> 115978		10 off
	2				●	<b>M22-SWD-K22LED-B</b> 115979		
	2				●	<b>M22-SWD-K22LED-G</b> 115980		
	2				●	<b>M22-SWD-K22LED-R</b> 115981		
<b>Base fixing</b>								
	1		 0 1.2 2.8 5.5		○	<b>M22-SWD-K11LEDC-W</b> 116003		20 off
	1				●	<b>M22-SWD-K11LEDC-B</b> 116004		
	1				●	<b>M22-SWD-K11LEDC-G</b> 116005		
	1				●	<b>M22-SWD-K11LEDC-R</b> 116006		
	2		 0 1.2 2.8 5.5		○	<b>M22-SWD-K22LEDC-W</b> 116009		10 off
	2				●	<b>M22-SWD-K22LEDC-B</b> 116010		
	2				●	<b>M22-SWD-K22LEDC-G</b> 116011		
	2				●	<b>M22-SWD-K22LEDC-R</b> 116012		

		Configuration	Colour LED	Part no. Article no.	Price see price list	Std. pack						
<b>LED elements</b>												
<b>Front fixing</b>												
		<table border="1" style="display: inline-table;"><tr><td>1</td><td>3</td><td>2</td></tr><tr><td>4</td><td>6</td><td>5</td></tr></table>	1	3	2	4	6	5	○	M22-SWD-LED-W 115966		20 off
	1	3	2									
	4	6	5									
		<table border="1" style="display: inline-table;"><tr><td>1</td><td>3</td><td>2</td></tr><tr><td>4</td><td>6</td><td>5</td></tr></table>	1	3	2	4	6	5	●	M22-SWD-LED-B 115967		
1	3	2										
4	6	5										
	<table border="1" style="display: inline-table;"><tr><td>1</td><td>3</td><td>2</td></tr><tr><td>4</td><td>6</td><td>5</td></tr></table>	1	3	2	4	6	5	●	M22-SWD-LED-G 115968			
1	3	2										
4	6	5										
	<table border="1" style="display: inline-table;"><tr><td>1</td><td>3</td><td>2</td></tr><tr><td>4</td><td>6</td><td>5</td></tr></table>	1	3	2	4	6	5	●	M22-SWD-LED-R 115969			
1	3	2										
4	6	5										
<b>Base fixing</b>												
		<table border="1" style="display: inline-table;"><tr><td>2</td><td>3</td><td>1</td></tr></table>	2	3	1	○	M22-SWD-LEDC-W 115997		20 off			
	2	3	1									
		<table border="1" style="display: inline-table;"><tr><td>2</td><td>3</td><td>1</td></tr></table>	2	3	1	●	M22-SWD-LEDC-B 115998					
	2	3	1									
	<table border="1" style="display: inline-table;"><tr><td>2</td><td>3</td><td>1</td></tr></table>	2	3	1	●	M22-SWD-LEDC-G 115999						
2	3	1										
	<table border="1" style="display: inline-table;"><tr><td>2</td><td>3</td><td>1</td></tr></table>	2	3	1	●	M22-SWD-LEDC-R 116000						
2	3	1										
<b>Fixing adapters</b>												
<b>Front fixing</b>												
	For 1 Function element M22-SWD-K... or LED element M22-SWD-LED... In addition 1 or 2 contact elements M22-K.. possible. Sequence number on fixing adapter	<table border="1" style="display: inline-table;"><tr><td>1/4</td><td>3/6</td><td>2/5</td></tr></table>	1/4	3/6	2/5	-	M22-A 216374		50 off			
	1/4	3/6	2/5									
For 2 function elements M22-SWD-K22... For use with M22-WR4, -WRJ4, -D4 in conjunction with M22-(SWD)-K	<table border="1" style="display: inline-table;"><tr><td>1</td><td>4</td><td>2</td><td>3</td></tr></table>	1	4	2	3	-	M22-SWD-A4 116016		10 off			
1	4	2	3									

		Part no. Article no.	Price see price list	Std. pack
<b>SWD accessories</b>				
<b>Connecting cables</b>				
Flat band conductor, 8 pole For laying the SmartWire-Darwin network inside the control panel.				
	Length: 100 m	SWD4-100LF8-24 116026		1 off
	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		
Round cable, 8-pole For laying the SmartWire-Darwin network outside of the control panel.				
	Length: 50 m, HK-50-Li2YY, 8 mm diameter	SWD4-50LR8-24 116030		1 off
<b>PCBs</b>				
PCBs for surface mounting enclosure M22-I.. for mounting base function elements M22-SWD...K. Integrated, connectable SWD network terminator.				
	Number of mounting locations: 1	M22-SWD-I1-LP01 115990		1 off
	Number of mounting locations: 2	M22-SWD-I2-LP01 115991		
	Number of mounting locations: 3	M22-SWD-I3-LP01 115992		
	Number of mounting locations: 4	M22-SWD-I4-LP01 115993		
	Number of mounting locations: 6	M22-SWD-I6-LP01 115994		
<b>Plug</b>				
	External device plug for SmartWire-Darwin slaves	SWD4-8SF2-5 116022		10 off
	8-pin blade terminal for connection to gateway, power feeder module, coupling	SWD4-8MF2 116023		10 off
<b>Link</b>				
Bridging of open mounting locations of device plug or M22-SWD-I PCB.				
	Link for device plug SWD4-8SF2-5 (front fixing)	SWD4-SEL8-10 116021		5 off
	Link for unused mounting locations of M22-SWD-I...LP (base fixing)	M22-SWD-SEL8-10 116698		5 off

		Part no. Article no.	Price see price list	Std. pack
<b>SWD accessories</b>				
<b>Coupling</b>				
	Coupling for 8-pin blade terminal	SWD4-8SFF2-5 116024		1 off
<b>Network terminator</b>				
	Network terminator for 8-pole flat band conductor	SWD4-RC8-10 116020		1 off
<b>Cable adapters</b>				
	Component adapter flat cable (plug) on round cable (terminal)	SWD4-8FRF-10 121377		1 off
<b>Switch cabinet bushing</b> 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
	Connection round cable via plug.	SWD4-SML8-20 121381		1 off
<b>Tools for plugs</b>				
	Pliers for external device plugs	SWD4-CRP-1 116025		1 off
	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		
<b>Connectors for SWD round cables</b>				
	8-pole socket, flat	SWD4-SF8-67 116033		1 off
	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		
<b>Housing bushing socket</b> Enclosure bushing for installation 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
	8-pole plug, M20	SWD4-SM8-20 116032		1 off



- 1 DOL starter MSC-D up to 7.5 kW
- 2 DOL starter MSC with differentiated trip-indicating auxiliary contact AGM
- 3 Power feeder module → features
- 4 DOL starter MSC-D up to 15 kW
- 5 Reversing starter MSC-R up to 5.5 kW
- 6 Reversing starter MSC-R up to 15 kW
- 7 SWD input/output module → features
- 8 Link for device plug → features
- 9 SWD protective module → features
- 10 SWD protective module with hand/auto functionality → features
- 11 SWD external device plug → page 5
- 12 SWD flat band conductor → page 4
- 13 Network terminator → page 5
- 14 Planning and ordering help, SWD-Assist → features



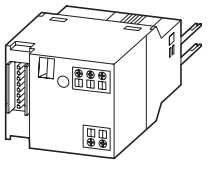

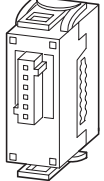

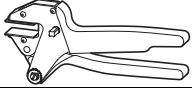
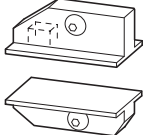
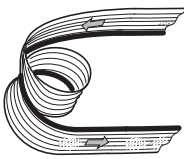
### Features

- Power feeder module → page 14
  - 24 V DC supply voltage feeder for activation of the contactors.
  - Formation of emergency stop groups.
  - Increase in the current consumption of the control voltage in a SmartWire-Darwin line.
- SWD input/output modules → page 4
  - Variant with 8 or 4 digital inputs for the connection of zero-potential contacts.
  - Variant with 2 relay outputs for the activation of contactors up to 37 kW.
  - Power supply for the digital inputs comes from the device.
- Link for device plug → page 14
  - Connection to SmartWire-Darwin external device plug.
  - Suitable for the bridging of already adapted SmartWire-Darwin external device plugs (e.g. as a wildcard)
- SWD contactor modules → page 14
  - Can be plugged-in onto contactors of the xStart series.
  - Suitable for contactors DILM7...DILM38 (24VDC), DILMC7...DILMC32 (24 VDC), DILMP20...DILMP45 (24 VDC) or motor starter MSC-...(24VDC).
  - Application of the standard switchgear of the xStart series.
  - Application of the standard accessories of the xStart range.
  - Suitable for contactor combinations with PKZ or with Z relays.
  - Integrated switch position polling.
  - Integrated mechanical switch position display.
  - Contactor actuation.
  - SWD diagnostics LED for signalling the communication status of the module and signalling of the switch command via SmartWire-Darwin.
  - Two digital inputs for monitoring of zero-potential contacts, e.g. NHI-E-10-PKZ0, AGM2-10-PKZ0.
  - Variant (DIL-SWD-32-002) with integrated hand/auto functionality for automatic or manual switching-on of the connected contactor.
  - Connection to SmartWire-Darwin flat band conductor via external device plug.
- Planning and ordering help
  - Free download at: <http://downloadcenter.moeller.net>.
  - Easy generation of applications with the system SmartWire-Darwin.
  - Integrated function for the generation of ordering lists.-Integrated validity check.
- Safety engineering
  - Emergency stop disconnection to IEC/EN 954-1, switching category 3.
  - Central switch-off of the control voltage at the gateway or power feeder module.
  - Combination with safety-orientated switchgears possible.

### Design note

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.

24 V DC		DILM7	DILM9	DILM12	DILM15	DILM17	DILM25	DILM32
<b>Pick-up power</b>	W	3	3	4.5	4.5	12 at 24 V	12 at 24 V	12 at 24 V
<b>Sealing power</b>	W	3	3	4.5	4.5	0.5 at 24 V	0.5 at 24 V	0.5 at 24 V

	Part no. Article no.	Price see price list	Std. pack	Notes
<b>SWD contactor modules</b>				
SmartWire-Darwin module for attachment to contactor DILM7 - DILM38. Per contactor 1 module.				
	2 digital inputs for potential-free contacts. 1 electrical interlock for the surface mounting of reversing combinations. Messages: contactor switching position, status of the digital inputs 1 and 2.	<b>DIL-SWD-32-001</b> 118560	5 off	<ul style="list-style-type: none"> <li>• Take account of the max. current consumption of the contactor coils per SmartWire-Darwin line.</li> <li>• A2 connections must not be linked.</li> <li>• Wiring sets DILM 12-XRL and PKZM0-XRM12 cannot be used.</li> <li>• Connection terminals for electrical interlocking are not suitable for safety technology.</li> </ul>
	2 digital inputs for potential-free contacts. 1 electrical interlock for the surface mounting of reversing combinations. 1-0-A switch for manual or automatic operation. Messages: contactor switching position, status of the digital inputs 1 and 2 and of the 1-0-A switch.	<b>DIL-SWD-32-002</b> 118561	5 off	
<b>Power feeder module</b>				
	For additional control voltage feeder for the motor starter and contactors. For the formation of Emergency Stop groups for the motor starter and contactors.	<b>EU5C-SWD-PF1-1</b> 116309	1 off	
	For the supply of other SWD slaves For additional control voltage feeder for the motor starter and contactors. For the formation of Emergency Stop groups for the motor starter and contactors.	<b>EU5C-SWD-PF2-1</b> 116380	1 off	
<b>SWD accessories</b>				
<b>Plug</b>				
	External device plug for SmartWire-Darwin slaves	<b>SWD4-8SF2-5</b> 116022	10 off	
<b>Link</b> Bridging of open mounting locations of device plug or M22-SWD-I PCB.				
	Link for device plug SWD4-8SF2-5 (front fixing)	<b>SWD4-SEL8-10</b> 116021	5 off	
<b>Tools for plugs</b>				
	Pliers for external device plugs	<b>SWD4-CRP-1</b> 116025	1 off	
	Insert for toggle lever press of external device plugs	<b>SWD4-CRPAD-1</b> 116700	1 off	
<b>Connecting cables</b>				
Flat band conductor, 8 pole For laying the SmartWire-Darwin network inside the control panel.				
	Length: 100 m	<b>SWD4-100LF8-24</b> 116026	1 off	
	Length: 3 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-3LF8-24-2S</b> 116027		
	Length: 5 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-5LF8-24-2S</b> 116028		
	Length: 10 m Prefabricated with 2 blade terminals SWD4-8MF2.	<b>SWD4-10LF8-24-2S</b> 116029		

Maximum current consumption SWD slaves

http://catalog.moeller.net

Moeller NK2723-1186



Current consumption 15-V-SWD supply voltage

Part no.	Article no.	Current consumption mA	
M22-SWD-K11	115964	7	
M22-SWD-K22	115965	7	
M22-SWD-LED-W	115966	19	
M22-SWD-LED-B	115967	19	
M22-SWD-LED-G	115968	19	
M22-SWD-LED-R	115969	19	
M22-SWD-K11LED-W	115972	19	
M22-SWD-K11LED-B	115973	19	
M22-SWD-K11LED-G	115974	19	
M22-SWD-K11LED-R	115975	19	
M22-SWD-K22LED-W	115978	19	
M22-SWD-K22LED-B	115979	19	
M22-SWD-K22LED-G	115980	19	
M22-SWD-K22LED-R	115981	19	
M22-SWD-KC11	115995	7	
M22-SWD-KC22	115996	7	
M22-SWD-LEDC-W	115997	19	
M22-SWD-LEDC-B	115998	19	
M22-SWD-LEDC-G	115999	19	
M22-SWD-LEDC-R	116000	19	
M22-SWD-K11LEDC-W	116003	19	
M22-SWD-K11LEDC-B	116004	19	
M22-SWD-K11LEDC-G	116005	19	
M22-SWD-K11LEDC-R	116006	19	
M22-SWD-K22LEDC-W	116009	19	
M22-SWD-K22LEDC-B	116010	19	
M22-SWD-K22LEDC-G	116011	19	
M22-SWD-K22LEDC-R	116012	19	
DIL-SWD-32-001	118560	40	
DIL-SWD-32-002	118561	40	
EU5E-SWD-8DX	116381	12	
EU5E-SWD-4D4D	116382	45	
EU5E-SWD-4D2R	116383	45	
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	

Power consumption/current consumption 24-V-SWD-control voltage U<sub>Aux</sub>

		DIL-SWD-32-...
<b>Pick-up power</b>		
for DILM 7-9	W	3
for DILM 12-15	W	4,5
for DILM 17-38	W	12
<b>Pick-up current</b>		
for DILM 7-9	mA	125
for DILM 12-15	mA	188
for DILM 17-38	mA	500
<b>Holding power</b>		
for DILM 7-9	W	3
for DILM 12-15	W	4,5
for DILM 17-3	W	0,5
<b>Holding current</b>		
for DILM 7-9	mA	125
for DILM 12-15	mA	188
for DILM 17-38	mA	21

			EU5C-SWD-DP	EU5C-SWD-CAN	EU5C-SWD-PF1-1	EU5C-SWD-PF2-1
<b>General</b>						
Standards			IEC/EN 61131-2 EN 50178			
Dimensions (W × H × D)		mm	35 × 90 × 127		35 × 90 × 124	
Weight		kg	0,16	0,16	0,11	0,17
Mounting			Top-hat rail IEC/EN 60715, 35 mm			
Mounting position			Vertical			
<b>Ambient conditions, mechanical</b>						
Degree of protection (IEC/EN 60529)			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
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
<b>Electromagnetic compatibility (EMC)</b>						
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-Darwin)			EN 55011 Class A			
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cables		kV	2	2	2	2
CAN/DP bus cable		kV	1	1	–	–
SmartWire-Darwin cables		kV	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
<b>Climatic environmental conditions</b>						
Operating ambient temperature (IEC 60068-2)		°C	–25 ... +55	–25 ... +55	–25 ... +55	–25 ... +55
Condensation			prevent with suitable measures			
Storage		°C	–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
<b>Supply voltage U<sub>Aux</sub></b>						
SM Puffer Bremer		V	24 DC -15% +20%			
Residual ripple on the input voltage		%	5	5	5	5
Protection against polarity reversal			Yes	Yes	Yes	Yes
Max. current	I <sub>max</sub>	A	3 <sup>1)</sup>	3 <sup>1)</sup>	3	3
Short-circuit rating			no, external fuse FAZ Z3			
Power loss		W	Normally 1	Normally 1	Normally 1	Normally 1
Potential isolation			No	No	No	No
Rated operating voltage of 24-V-DC slaves		V	typ. U <sub>Aux</sub> - 0.2	typ. U <sub>Aux</sub> - 0.2	typ. U <sub>Aux</sub> - 0.2	typ. U <sub>Aux</sub> - 0.2

**Notes**

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

			EU5C-SWD-DP	EU5C-SWD-CAN	EU5C-SWD-PF1-1	EU5C-SWD-PF2-1
<b>Supply voltage U<sub>Pow</sub></b>						
Supply voltage		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>I</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	3.8	3.8		3.8
Potential isolation between U <sub>Pow</sub> and 15 V SmartWire-Darwin supply voltage			No	No		Yes
Bridging voltage dips		ms	10	10	–	10
Repetition rate		s	1	1	–	1
Status indication		LED	yes	yes		yes
<b>SmartWire-Darwin supply voltage</b>						
Rated operating voltage	<i>U<sub>e</sub></i>	V	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %	14,5 ± 3 %
Max. current	<i>I<sub>max</sub></i>	A	0,7 <sup>2)</sup>	0,7 <sup>2)</sup>	0,7	0,7
Short-circuit proof			Yes	Yes		Yes
<b>Connection supply voltages</b>						
Connection type			Push in terminals			
Solid		mm <sup>2</sup>	0.2 - 1.5 (AWG 24 - 16)			
Flexible with ferrule		mm <sup>2</sup>	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
<b>SmartWire-Darwin network</b>						
Station type			SmartWire-Darwin master			
Number of SmartWire-Darwin slaves			58	99		
Baud Rates			125	125		
Address allocation			automatic	automatic		
Status indication		LED	SmartWire-Darwin master LED: green Configurations LED: red			
Connections			Plug, 8-pole		2 × plug, 8-pole	
Plug connectors			Blade terminal SWD4-8MF2		2 blade terminals SWD4-8MF2	
<b>Fieldbus interface</b>						
			PROFIBUS DP slave	CANopen slave		
Bus protocol			PROFIBUS-DP	CANopen		
Baud Rates			up to 12 MB	to 1 MB		
Address allocation			automatic	automatic		
Station address			2 ... 125	2 ... 32	–	–
Address allocation			DIP switch	DIP switch		
Status display fieldbus interface		LED	Two-coloured red/ green	Two-coloured red/ green		
Terminating resistor			switchable via plug	DIP switches		
Connection design for field bus			1 × SUB-D socket, 9-pole	1 × SUB-D plug, 9-pole		
Potential isolation			Yes	Yes		

**Notes**

<sup>2)</sup> If contactors with a total current consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.

			EU5E-SWD-8DX	EU5E-SWD-4D4D	EU5E-SWD-4D2R
<b>General</b>					
Standards			IEC/EN 61131-2 EN 50178		
Dimensions (W × H × D)		mm	35 × 90 × 101		
Weight		kg	0,1	0,1	0,11
Mounting			Top-hat rail IEC/EN 60715, 35 mm		
Mounting position			Vertical		
<b>Ambient conditions, mechanical</b>					
Degree of protection (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
<b>Electromagnetic compatibility (EMC)</b>					
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-Darwin)					
			EN 55011 Class A		
Burst (IEC/EN 61131-2:2008, Level 3)					
Supply cables		kV	2	2	2
Signal lines		kV	1	1	1
SmartWire-Darwin cables		kV	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)					
				Supply cables 0.5 kV	
Radiated RFI (IEC/EN 61131-2:2008, Level 3)					
		V	10	10	10
<b>Climatic environmental conditions</b>					
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
<b>SmartWire-Darwin network</b>					
Station type					
			SmartWire-Darwin station (slave)		
Address allocation					
			automatic		
SmartWire-Darwin status LED					
		LED	Green		
Connection					
			Plug, 8-pole Connection plug: external device plug SWD4-8SF2-5		
Current consumption (15 V SWD supply)					
			See separate table		
<b>Connection supply and I/O</b>					
Connection type					
			Push in terminals		
Solid					
		mm <sup>2</sup>	0.2 - 1.5 (AWG 24 - 16)		
Flexible with ferrule <sup>1)</sup>					
		mm <sup>2</sup>	0.25 - 1.5	0.25 - 1.5	0.25 - 1.5
<b>24 V DC supply for output supply</b>					
Rated operational voltage					
	$U_e$	V		24 DC -15 % / +20 %	
Residual ripple on the input voltage					
		%	-	5	-
Protection against polarity reversal					
				Yes	

**Notes**<sup>1)</sup> Minimum length 8 mm.





			EU5E-SWD-8DX	EU5E-SWD-4D4D	EU5E-SWD-4D2R
<b>Digital inputs</b>					
Quantity			8	4	4
Input current		mA	typ. 4 at 24 V DC		
Voltage level to IEC/EN 61131-2			Low < 5 V DC; High > 15 V DC		
Limit value type 1			High		
Input delay			Low typ. < 0.2 ms		
SmartWire-Darwin status LED		LED	yellow		
<b>Digital semi-conductor outputs</b>					
Number			–	4	–
Output current		A	Normally 0.5 at 24 V		
Short-circuit tripping current		A	max. 1.2 over 3 ms		
Lamp load	$R_{LL}$	W	3		
Overload proof			yes, with diagnostics		
Switching capacity			EN 60947-5-1 utilization category DC-13		
<b>Relay outputs</b>					
Number					2
Contact type art					N/O contact
<b>Operations</b>					
Utilization category AC-1, 250 V, 6 A			–	–	> 6 x 10 <sup>4</sup>
Utilization category AC-15, 250 V, 3 A			–	–	> 5 x 10 <sup>4</sup>
Utilization category DC-13, 24 V, 1 A			–	–	> 2 x 10 <sup>5</sup>
Safe isolation		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 outputs		LED	yellow		yellow
<b>Potential isolation</b>					
Inputs for SmartWire-Darwin			yes	yes	yes
Semi-conductor outputs for SmartWire-Darwin					
Semi-conductor outputs for inputs					no
Relays for SmartWire-Darwin					yes
Relays for inputs					yes
Relays for relays					yes



M22-SWD...

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		M22-SWD-K11	M22-SWD-KC11	M22-SWD-LED-...
<b>General</b>				
Standards		IEC/EN 61131-2 EN 50178		
Dimensions (W × H × D)	mm	12 × 42 × 39	12 × 45 × 37	10 × 42 × 45
Weight	g	10	10	10
Mounting position		As required		
<b>Ambient conditions, mechanical</b>				
Degree of protection (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-Drop to IEC/EN 60068-2-31	Impacts	9	9	9
Free fall, packaged (IEC/EN 60068-2-32)	Drop height mm	50	50	50
	m	0,3	0,3	0,3
<b>Electromagnetic compatibility (EMC)</b>				
Overvoltage category		Not applicable		
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-Darwin)				
Burst (IEC/EN 61131-2:2008, Level 3)		EN 55011 Class A		
Supply cables	kV	2	2	2
SmartWire-Darwin cables	kV	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10
<b>Climatic environmental conditions</b>				
Betriebsumgebungstemperatur (IEC 60068-2)	°C	-30 ... +55	-30 ... +55	-30 ... +55
Condensation		prevent with suitable measures		
Storage	°C	-40...80	-40...80	-40...80
Relative humidity, non-condensing (IEC/EN 60068-2-30)	%	9 ... 95	9 ... 95	9 ... 95
<b>SmartWire-Darwin network</b>				
Station type		SmartWire-Darwin station (slave)		
Address allocation		automatic		
SmartWire-Darwin status LED	LED	Green		
Connections		Plug, 8-pole		
Plug connectors		SWD4-8SF2-5	M22-SWD-I...LP	SWD4-8SF2-5
Number of insertion cycles		≥ 50	≥ 50	≥ 50
Current consumption (15 V SWD supply)		See separate table		
<b>Function element</b>				
Contacts		1 changeover	1 changeover	–
Lifespan mechanical/electrical	Operations	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	–
LED display		No	No	Yes
Diagnostics		Yes	Yes	No
Fixing		Front fixing	Base fixing	Front fixing

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M22-SWD...



M22-SWD-LEDC-...	M22-SWD-K11-LED...	M22-SWD-K11LEDC-...	M22-SWD-K22	M22-SWD-KC22	M22-SWD-K22-LED...	M22-SWD-K22LEDC-...
<b>General</b>						
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
10 × 45 × 42	12 × 42 × 45	12 × 45 × 42	17 × 42 × 39	17 × 45 × 37	17 × 42 × 45	17 × 45 × 42
10	10	10	14	14	14	14
As required						
<b>Ambient conditions, mechanical</b>						
IP20	IP20	IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)						
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
<b>Electromagnetic compatibility (EMC)</b>						
Not applicable						
2	2	2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)						
8	8	8	8	8	8	8
4	4	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)						
10	10	10	10	10	10	10
3	3	3	3	3	3	3
1	1	1	1	1	1	1
Radio interference suppression (SmartWire-Darwin)						
EN 55011 Class A						
2	2	2	2	2	2	2
1	1	1	1	1	1	1
10	10	10	10	10	10	10
<b>Climatic environmental conditions</b>						
-30 ... +55	-30 ... +55	-30 ... +55	-30 ... +55	-30 ... +55	-30 ... +55	-30 ... +55
prevent with suitable measures						
-40...80	-40...80	-40...80	-40...80	-40...80	-40...80	-40...80
9 ... 95	9 ... 95	9 ... 95	5 ... 95	5 ... 95	5 ... 95	5 ... 95
<b>SmartWire-Darwin network</b>						
SmartWire-Darwin station (slave)						
automatic						
Green						
Plug, 8-pole						
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
≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50
See separate table						
<b>Function element</b>						
–	1 changeover contact	1 changeover contact	2 changeover contact	2 changeover contact	2 changeover contact	2 changeover contact
–	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>
Yes	Yes	Yes	No	No	Yes	Yes
No	Yes	Yes	Yes	Yes	Yes	Yes
Base fixing	Front fixing	Base fixing	Front fixing	Base fixing	Front fixing	Base fixing



SWD4...

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		SWD4-RC8-10	SWD4-8SF2-5	SWD4-8SFF2-5
<b>General</b>				
Standards		IEC/EN 61131-2 EN 50178		
Dimensions (W × H × D)	mm	48.5 × 34.5 × 10	15 × 36.5 × 17.5	48.5 × 34.5 × 10
Weight	g	10	5,5	4,5
Mounting position		As required	As required	As required
<b>Ambient conditions, mechanical</b>				
Degree of protection (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	–	–
Free fall, packaged (IEC/EN 60068-2-32)	m	0,3	–	–
<b>Electromagnetic compatibility (EMC)</b>				
Overvoltage category		II		
Pollution degree		2		
Electrostatic discharge (IEC/EN 61131-2:2008)				
Air discharge (Level 3)	kV	8	–	8
Contact discharge (Level 2)	kV	4	–	4
Electromagnetic fields (IEC/EN 61131-2:2008)				
80-1000 MHz	V/m	10	–	–
1.4 - 2 GHz	V/m	3	–	–
2 - 2.7 GHz	V/m	1	–	–
Radio interference suppression (SmartWire-Darwin)		EN 55011 Class A		
Burst (IEC/EN 61131-2:2008, Level 3)				
SmartWire-Darwin cables	kV	1	–	–
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	–	–
<b>Climatic environmental conditions</b>				
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
<b>Connection options</b>				
SWD-In		Socket, 8-pole	Plug connector	Plug, 8-pole
Number of insertion cycles		≥ 200	1	≥ 200
SWD-Out			Socket, 8-pole	Plug, 8-pole
Number of insertion cycles		≥ –	≥ 200	≥ 200
Current consumption (15 V SWD supply)		See separate table		

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SWD4...



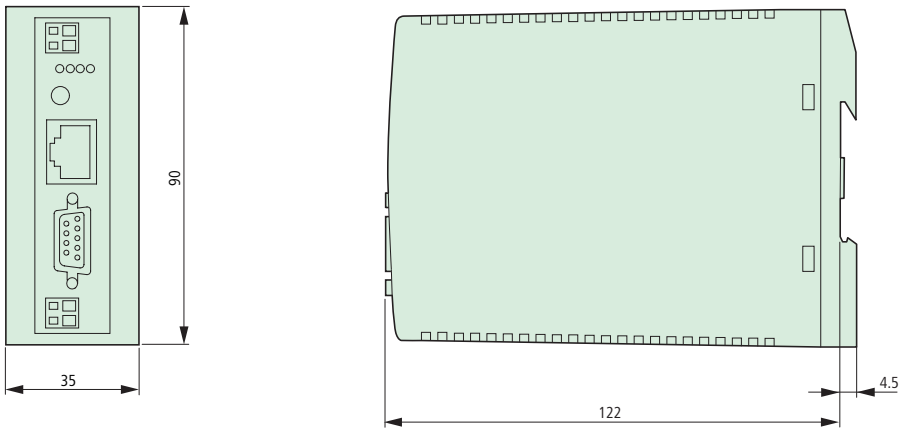
SWD4-SF8-20	SWD4-SM8-20	SWD4-8FRF-10	SWD4-SFL8-20	SWD4-SML8-20
<b>General</b>				
IEC/EN 61131-2 EN 50178				
24 × 26 × 162	24 × 26 × 170	35 × 90 × 35	35 × 83 × 40	35 × 83 × 46
20	22,5	42	50	50
As required	As required	As required	As required	As required
<b>Ambient conditions, mechanical</b>				
IP67	IP67	IP20	IP67	IP67
Vibrations (IEC/EN 61131-2:2008)				
		5 ... 8.4	5 ... 8.4	5 ... 8.4
		8.4 ... 150	8.4 ... 150	8.4 ... 150
		9	9	9
–	–	–	–	–
–	–	–	–	–
<b>Electromagnetic compatibility (EMC)</b>				
–	–	8	8	8
–	–	4	4	4
–	–	–	10	10
–	–	–	3	3
–	–	–	1	1
–	–	–	–	–
–	–	–	10	10
<b>Climatic environmental conditions</b>				
–25 ... +55	–25 ... +55	–25 ... +55	–25 ... +55	–25 ... +55
prevent with suitable measures				
–40...70	–40...70	–40...70	–40...70	–40...70
5 ... 95	5 ... 95	5 ... 95	5 ... 95	5 ... 95
<b>Connection options</b>				
	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
≥ –	≥ 500	≥ 200	≥ 200	≥ 500
Socket, 8-pole		Push in terminals	Socket, 8-pole	Socket, 8-pole
≥ 500	≥ –	≥ –	≥ 500	≥ 200
See separate table				

			DIL-SWD-32-001	DIL-SWD-32-002
<b>General</b>				
Standards			IEC/EN 61131-2 EN 50178 IEC/EN 60947	IEC/EN 61131-2 EN 50178 IEC/EN 60947
Dimensions (W × H × D)		mm	45 × 38 × 76	45 × 38 × 76
Weight		kg	0,04	0,04
Mounting			on DILM7 ... DILM38	on DILM7 ... DILM38
Mounting position			as DILM7 to DILM38	as DILM7 to DILM38
<b>Ambient conditions, mechanical</b>				
Degree of protection (IEC/EN 60529)			IP20	IP20
Vibrations (IEC/EN 61131-2:2008)				
Constant amplitude 3.5 mm		Hz	5 ... 8.4	5 ... 8.4
Constant acceleration 1 g		Hz	8.4 ... 150	8.4 ... 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms				
		Impacts	9	9
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
<b>Electromagnetic compatibility (EMC)</b>				
Overvoltage category				
			II	II
Pollution degree				
			2	2
Electrostatic discharge (IEC/EN 61131-2:2008)				
Air discharge (Level 3)		kV	8	8
Contact discharge (Level 2)		kV	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)				
80-1000 MHz		V/m	10	10
1.4 - 2 GHz		V/m	3	3
2 - 2.7 GHz		V/m	1	1
Radio interference suppression (SmartWire-Darwin)				
			EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)				
CAN/DP bus cable		kV	1	1
SmartWire-Darwin cables		kV	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)				
		V	10	10
<b>Climatic environmental conditions</b>				
Operating ambient temperature (IEC 60068-2)				
		°C	-25 ... +60	-25 ... +60
Condensation				
			prevent with suitable measures	prevent with suitable measures
Storage				
		°C	-30...70	-30...70
relative humidity, non-condensing (IEC/EN 60068-2-30)				
		%	5 ... 95	5 ... 95
<b>SmartWire-Darwin network</b>				
Station type				
			SmartWire-Darwin station (slave)	SmartWire-Darwin station (slave)
Address allocation				
			automatic	automatic
SmartWire-Darwin status LED				
		LED	green/orange	green/orange
Connections				
			Plug, 8-pole	Plug, 8-pole
Plug connectors				
			External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5
Current consumption (15 V SWD supply)				
			See separate table	See separate table
<b>Mode parameter</b>				
Manual/automatic mode				
			No	yes
Setting				
				Rotary switch
<b>Connection auxiliary contact</b>				
Number				
			2	2
Rated voltage <sup>1)</sup>				
	$U_e$	V DC	15	15
Input current at 1 signal, typical				
		mA	3	3
Potential isolation				
			No	No
Cable length				
		m	≤2.8	≤2.8
Connection type				
			Push in terminals	Push in terminals
<b>Terminal capacities</b>				
Solid				
		mm <sup>2</sup>	0.2 - 1.5 (AWG 24 - 16)	0.2 - 1.5 (AWG 24 - 16)
Flexible with ferrule <sup>2)</sup>				
		mm <sup>2</sup>	0.25 - 1.5	0.25 - 1.5
<b>Notes</b>				

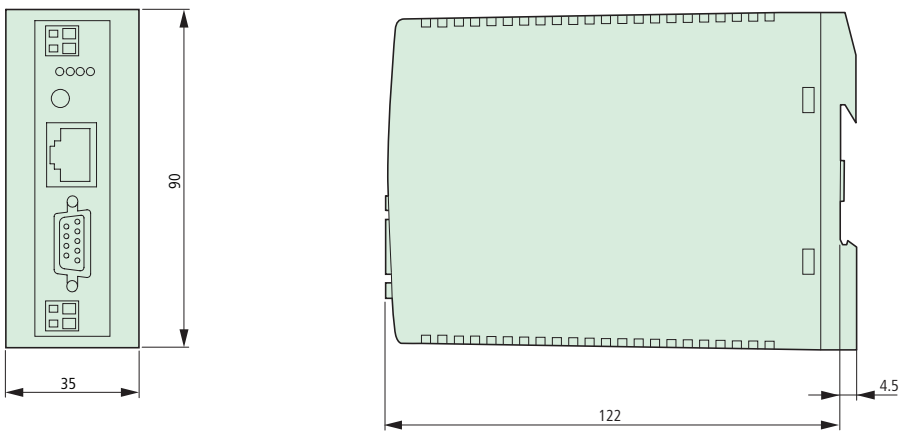
<sup>1)</sup> own supply<sup>2)</sup> Minimum length 8 mm.

**SWD gateways**

**EU5C-SWD-DP**

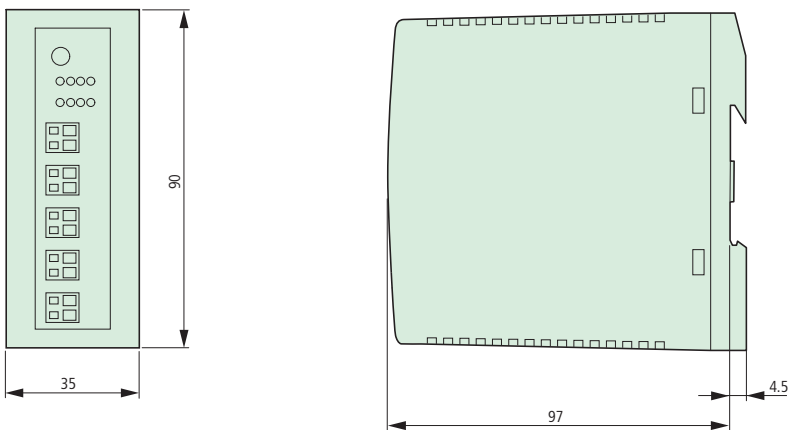


**EU5C-SWD-CAN**



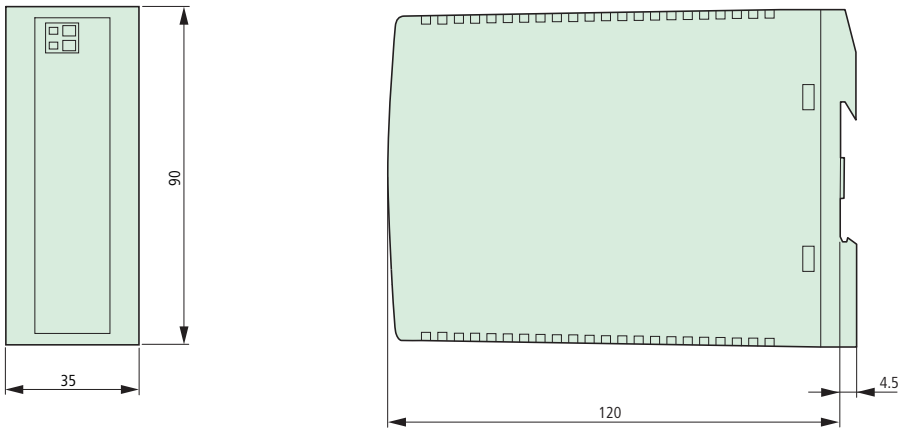
**SWD I/O modules**

**EU5E-SWD...**

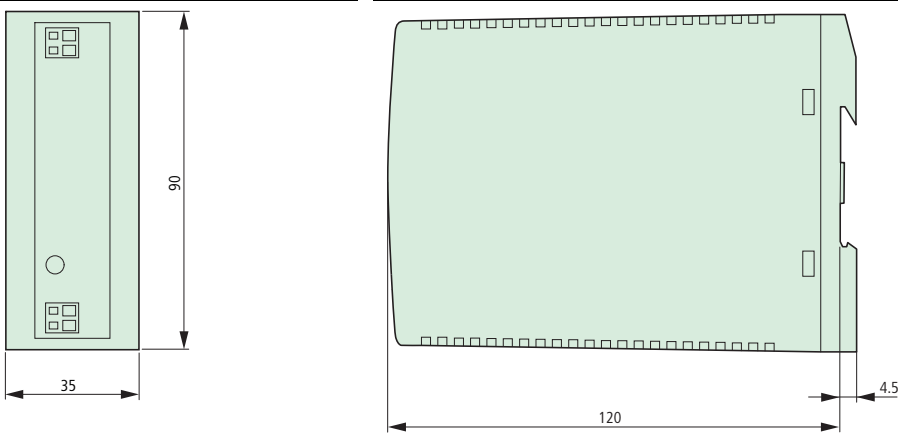


**Power feeder module**

EU5C-SWD-PF1-1



EU5C-SWD-PF2-1



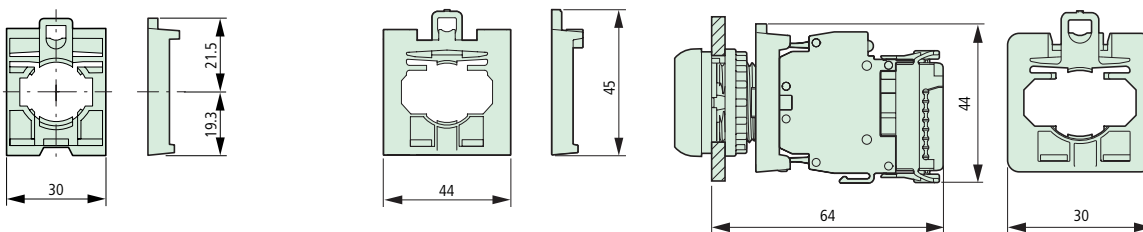
**Fixing adapter (front fixing) for 3-contact/ LED elements**

**Function elements**

M22-A

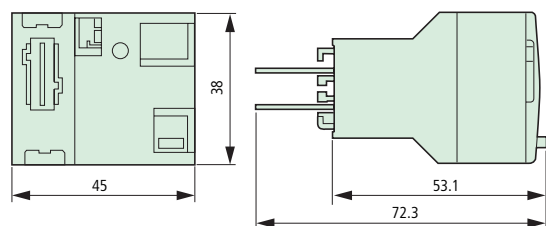
M22-SWD-A4

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



**SWD contactor modules**

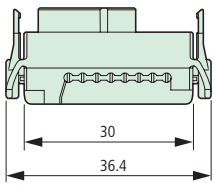
DIL-SWD-32-001  
DIL-SWD-32-002





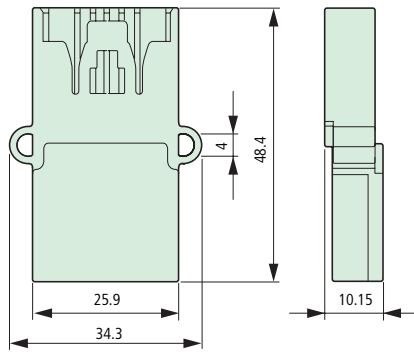
**Plug**

SWD4-8SF2-5



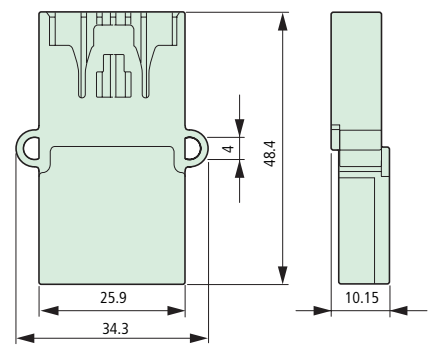
**Network terminator**

SWD4-RC8-10



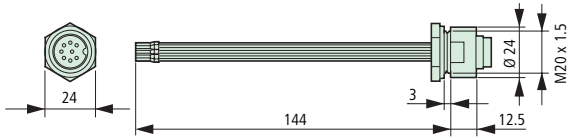
**Cable adapters**

SWD4-8SFF2-5



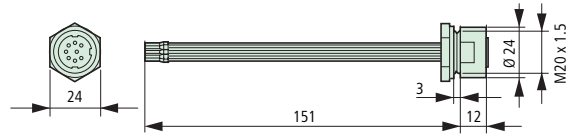
**Housing bushing plug**

SWD4-SM8-20



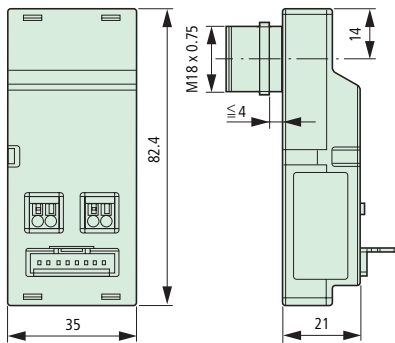
**Housing bushing socket**

SWD4-SF8-20



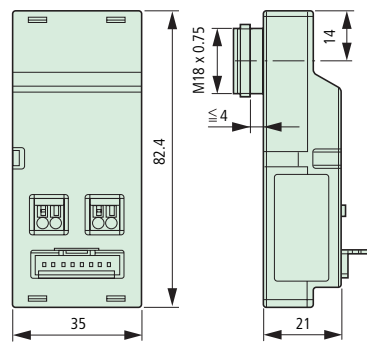
**Switch cabinet bushing plug**

SWD4-SML8-20



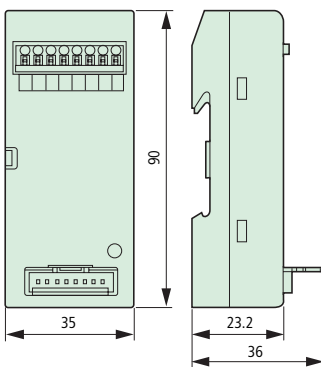
**Switch cabinet bushing socket**

SWD4-SFL8-20



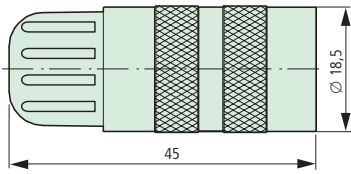
**Component adapter flat cable (plug) on round cable (terminal)**

SWD4-8FRF-10

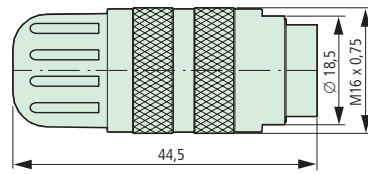


## Connectors for SWD round cables, flat

SWD4-SF8-67

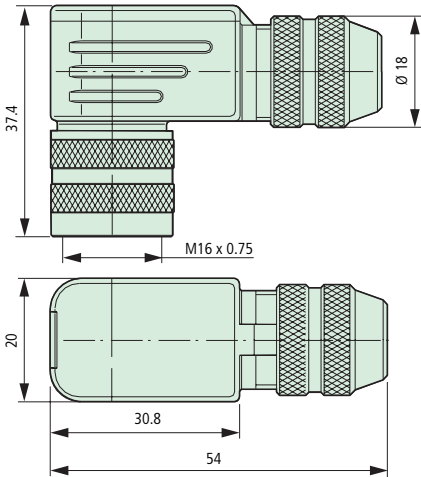


SWD4-SM8-67

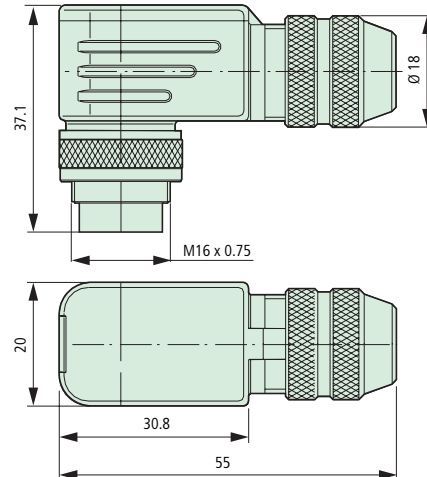


## Connectors for SWD round cables, angled

SWD4-SF8-67W



SWD4-SM8-67W



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Issued by Moeller GmbH  
Hein-Moeller-Str. 7-11  
D-53115 Bonn

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Subject to alterations  
NK2723-1186EN Doku/PB/ip/KD 03/09  
Printed in Germany (03/09)  
Article No.: 126029



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