

Controllers CECC



Controllers CECC

Key features

Application

Controller



The controllers CECC are modern, compact and versatile controllers that enable programming with CoDeSys according to IEC 61131-3.

State-of-the-art programming

CoDeSys V3 pbF offers a user-friendly interface with the following new functions:

- Object-oriented programming
- Modern editors for simplified input
- Simplified configuration for fieldbus

- New configurator for IO-Link masters



- Multiple controllers in one project
- Improved troubleshooting function
- Simplified project navigation

Basic functions of the CECC-D

The controllers CECC (CECC-D) offer the following basic functions:

- 12 digital inputs, 8 digital outputs, additionally 2 high-speed counters up to 250 kHz
- Ethernet 10/100 Mbps, Modbus TCP client/server, EasyIP, TCP/IP, OPC Server available

- CANopen master: connection of the electric drives
- USB interface for data transfer
- Can be connected directly with modern HMI devices: CDPX

Additional functions of the CECC-LK

- This variant of the CECC offers four IO-Link masters and one IO-Link device interface
- The integrated IO-Link interface of the CECC-LK enables quick and easy connection of Festo valve terminals and sensors to a controller

- All modern, compact valve terminals from the CTEU series can be connected to IO-Link masters: VTUB, VTUG, MPA, CPV, VTOC and upcoming devices, as well as the input box CTSL

Additional functions CECC-S

- 2 RS232 interfaces
- 1 RS422/RS485 interface, allows freely configurable communication with different devices
- The RS422 interface can optionally be used as an encoder interface. For this operating mode, there are numerous setting options on the encoder type, comparison functions and referencing

- In addition, the CECC offers an IO-Link master and an IO-Link device interface

Fieldbus interfaces

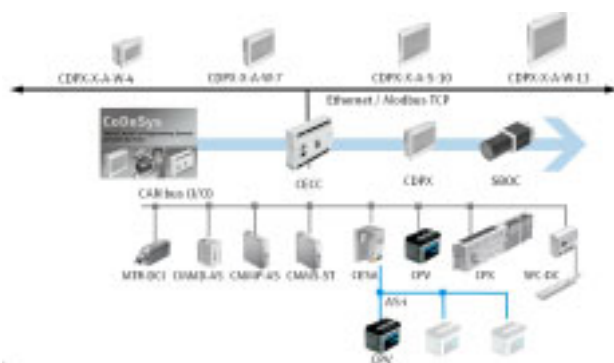
The CECC-LK and CECC-S can be connected to a combination of CTEU nodes and CAPC on various fieldbuses via the IO-Link device interface:

- PROFIBUS
- EtherCAT
- DeviceNet
- CANopen
- AS-interface



System configuration (example)

CECC with CANopen

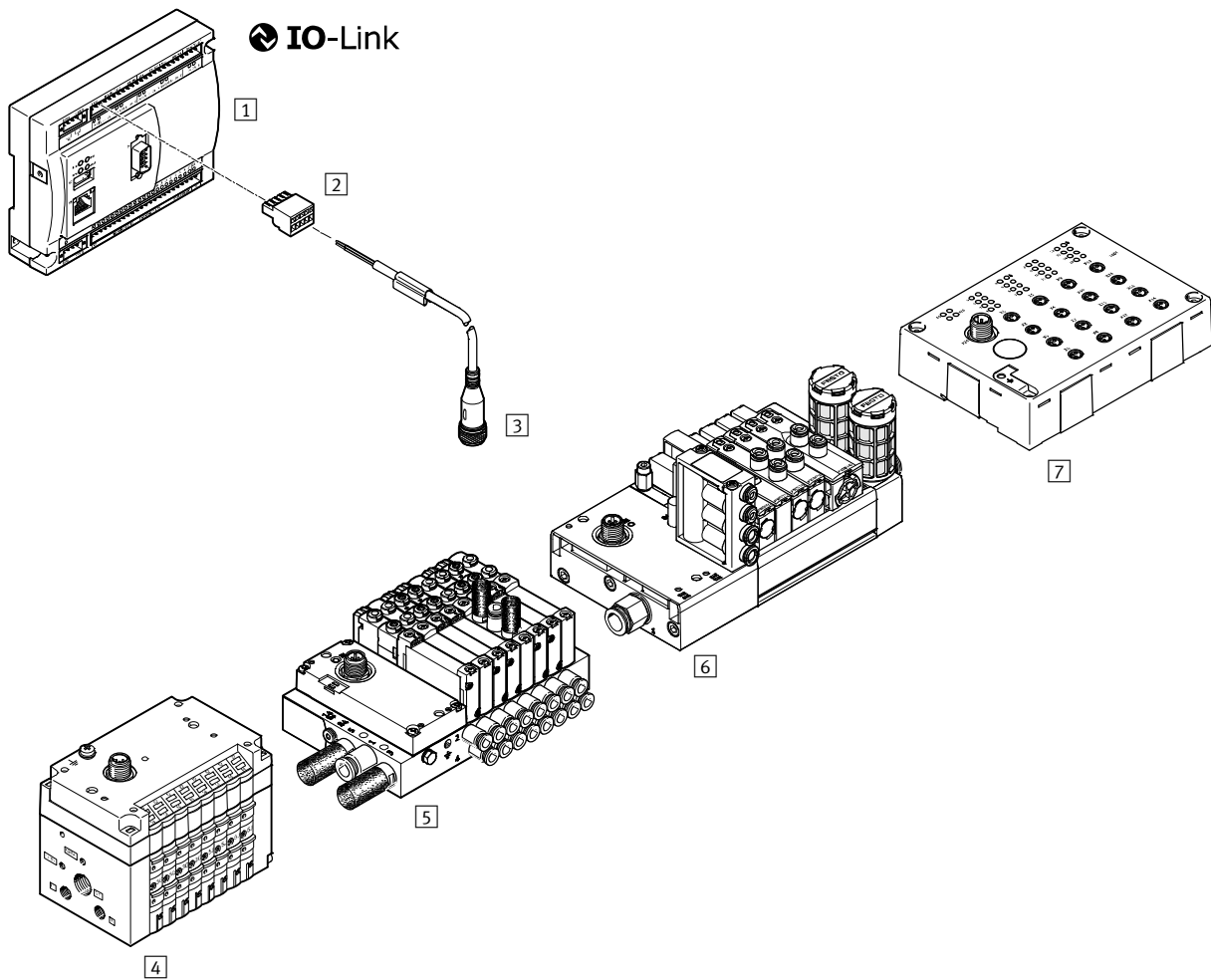


The CECC can communicate with all electric drive controllers from Festo and actuate all valve terminals via CANopen.

The CECC communicates with other controllers and operator units from Festo, such as the modern, new HMI device series CDPX and the camera SBOx-Q for image evaluation, via Ethernet.

Controllers CECC



Peripherals overview



Mounting attachments and accessories			
	Brief description	→ Page/Internet	
1	Controller CECC	The integrated IO-Link interface of the CECC enables quick and easy connection of Festo valve terminals and sensors to a controller	4
2	Plug NECC	Plug connector for self-assembly with 2, 5, 6, 8 or 24 pins	9
3	Connecting cable NEBU	–	10
4	Valve terminal CPV	–	cpv
5	Valve terminal VTUG	–	vtug
6	Valve terminal VTUB	–	vtub
7	Input module CTSL	–	cteu
–	Software CoDeSys V3	The software CoDeSys V3 with the order code GSPF-CD-3 enables standardised programming according to IEC 61131-3 using object-oriented additional functions	10

Controllers CECC

Technical data

-  Voltage
19.2 ... 30 V DC
-  Temperature range
0 ... +50 °C



General technical data			
Type	CECC-LK	CECC-D	CECC-S
CPU data	400 MHz processor		
Status displays	LED		
Electrical connection technology for I/O	Socket strip, grid 3.5 mm		
Resistance to vibration	As per EN 61131-2		
Resistance to shock	As per EN 61131-2		
Relative air humidity [%]	95, non-condensing		
Protection class	IP20		
Electrical protection class	III		
Product weight [g]	200		
Note on materials	RoHS-compliant		

Operating and environmental conditions			
	CECC-LK	CECC-D	CECC-S
Operating voltage [V DC]	19.2 ... 30		20.4 ... 30
Current consumption at 24 V DC [mA]	100		
Ambient temperature [°C]	0 ... 55		
Storage temperature [°C]	-25 ... +70		
CE marking	To EU EMC Directive		
Approval	RCM trademark		

Encoder inputs			
Type	CECC-LK	CECC-D	CECC-S
Number	-	-	1
Resolution [bit]	-	-	32
Signal range [V]	-	-	5, differential (RS 422)
Max. input frequency [kHz]	-	-	1000
Encoder supply voltage	-	-	5 V DC (100 mA)

Controllers CECC

Technical data

Digital inputs		CECC-LK	CECC-D	CECC-S
Number		12		
Switching logic		Positive logic (PNP)		
Fast clock pulse inputs		2, each with max. 200 kHz		
Input signal delay		Typically 3 ms		
Input voltage	[V DC]	24		
Nominal value for TRUE	[V DC]	≥ 15		
Nominal value for FALSE	[V DC]	≤ 5		
Electrical isolation		Yes, via optocoupler		
Status display		LED		
Permissible connecting cable length	[m]	30		

Digital outputs		CECC-LK	CECC-D	CECC-S
Number		8		
Switching logic		Positive logic (PNP)		
Contact		Transistor		
Output voltage	[V DC]	24		
Output current	[mA]	500		
Electrical isolation		Yes, via optocoupler		
Status display		LED		
Switching frequency	[kHz]	Max. 1		
Protection against short circuit		Yes		

Serial interfaces		CECC-LK	CECC-D	CECC-S
USB interface		USB 1.1		
Fieldbus interface type		CAN bus		
Number		–	–	3
Type		–	–	2x RS 232 / 1x RS 485-A/422-A
Connection technology		–	–	Plug
Baud rate	[bit/s]	–	–	300 ... 375,000
Fieldbus interface				
Connection technology		Sub-D plug, 9-pin		
Transmission rate	[kbps]	125; 250; 500; 800; 1,000 Adjustable via software		
Galvanic isolation		Yes		

Ethernet		CECC-LK	CECC-D	CECC-S
Number		1		
Connector plug		RJ45		
Supported protocols		TCP/IP, EasyIP, Modbus TCP		
Transmission speed	[Mbps]	10/100		
Protocol		CANopen		
		IO-Link	–	IO-Link
		I-Port	–	I-Port
		Modbus TCP		

Controllers CECC

Technical data

Programming			
	CECC-LK	CECC-D	CECC-S
Programming software	CoDeSys provided by Festo		
Programming language according to IEC 61131-3	SFC		
	IL		
	FCH		
	LDR		
	ST		

IO-Link			
	CECC-LK	CECC-D	CECC-S
Number of ports	Master 4	–	Master 1
	Device 1	–	Device 1
Port type	Device A	–	Device A
	Master B	–	Master B
Protocol	Device V 1.0	–	Device V 1.0
	Master V 1.1	–	Master V 1.1
Connection technology	Plug	–	Plug
	Cage clamp	–	Cage clamp
	Device, 3-pin	–	Device, 3-pin
	Master, 5-pin	–	Master, 5-pin
Communication mode	Configurable via software	–	Configurable via software
	Device COM1 (4.8 kB), COM2 (38.4 kB), COM3 (230 kB)	–	Device COM1 (4.8 kB), COM2 (38.4 kB), COM3 (230 kB)
	Master SIO, COM1 (4.8 kB), COM2 (38.4 kB), COM3 (230 kB)	–	Master SIO, COM1 (4.8 kB), COM2 (38.4 kB), COM3 (230 kB)
Port type	Device A	–	Device A
	Master B	–	Master B
Number of ports	Device 1	–	Device 1
	Master 4	–	Master 4
Master, output current [A]	3.5/port	–	3.5/port
Communication	C/Q green LED	–	C/Q green LED
	C/Q red LED	–	C/Q red LED
Ready status display	L+ green LED on	–	L+ green LED on
	L+ green LED off	–	L+ green LED off
Process data width OUT	Master parameterisable 2 - 32 bytes	–	Master parameterisable 2 - 32 bytes
Process data width IN	Master parameterisable 2 - 32 bytes	–	Master parameterisable 2 - 32 bytes
Memory card	Master 2 kB per port	–	Master 2 kB per port
Minimum cycle time	Device 3.2 ms	–	Device 3.2 ms
	Master 5 ms	–	Master 5 ms
Device ID	0x550000	–	0x550000
	0x550001	–	0x550001
	0x550002	–	0x550002
	0x550003	–	0x550003
	0x550004	–	0x550004

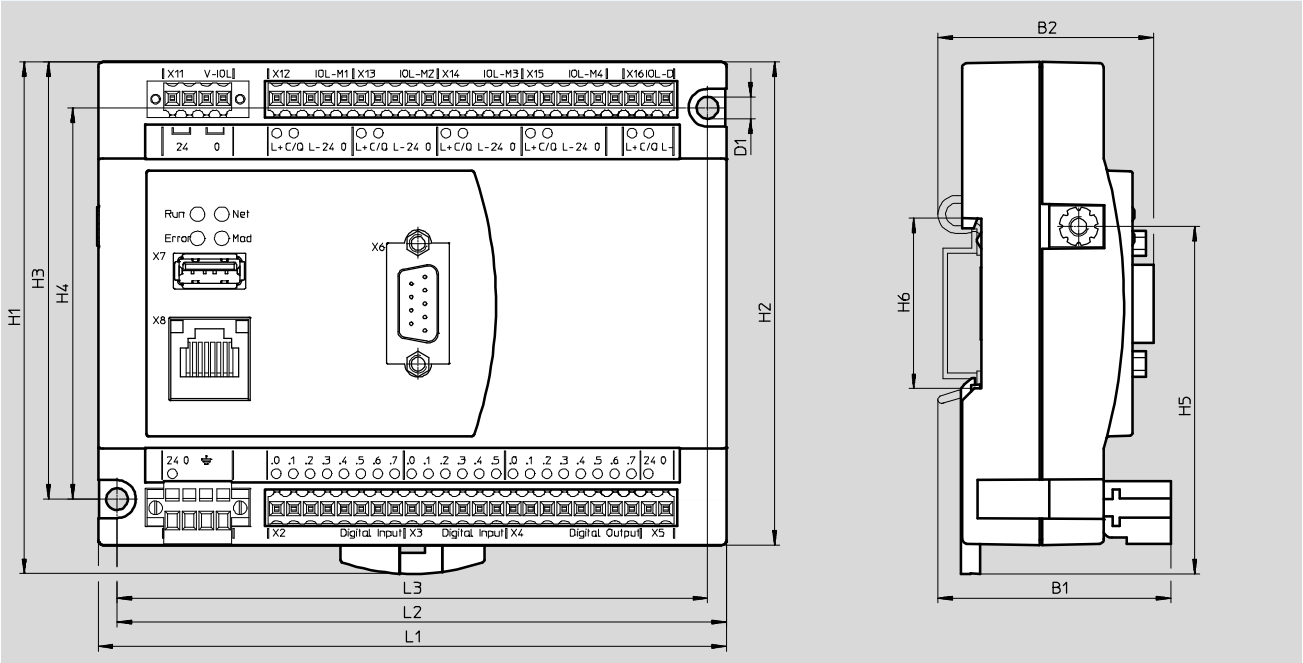
Controllers CECC

Technical data

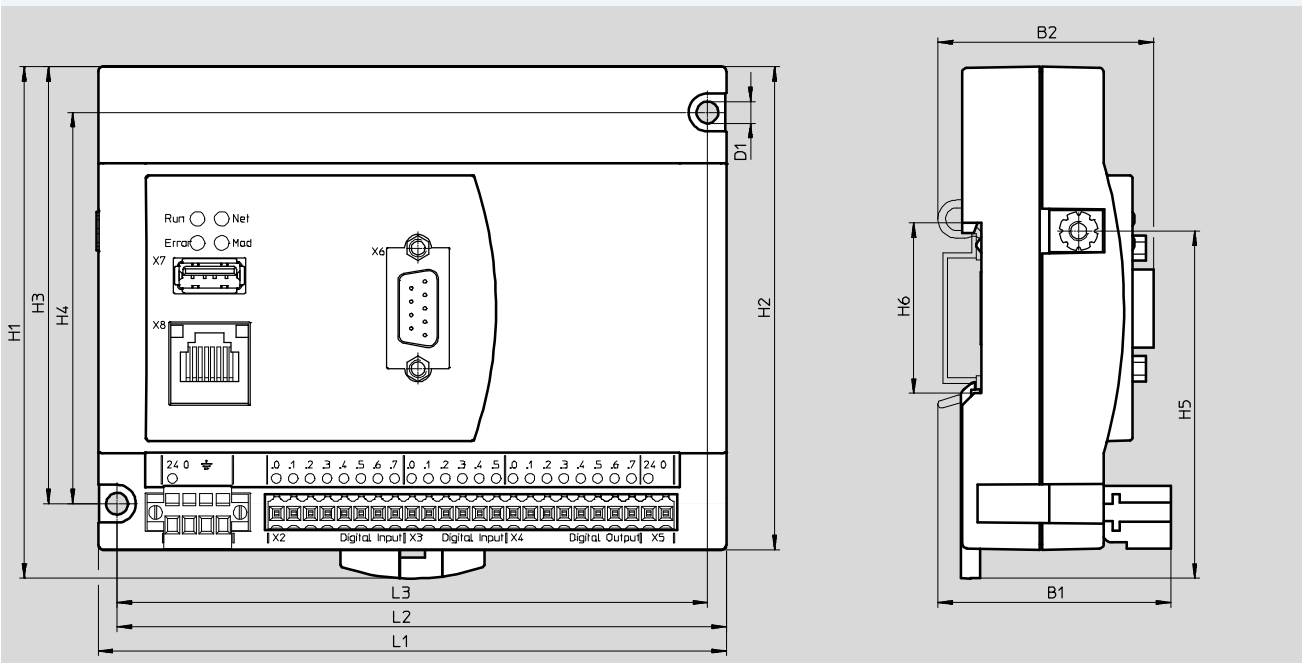
Dimensions

Download CAD data → www.festo.com

CECC-LK



CECC-D



Type	B1	B2	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3
CECC-LK	48.15	44.6	4.5	106	100	90.5	81	72	35.2	130	126.11	122.2
CECC-D	48.15	44.6	4.5	106	100	90.5	81	72	35.2	130	126.11	122.2

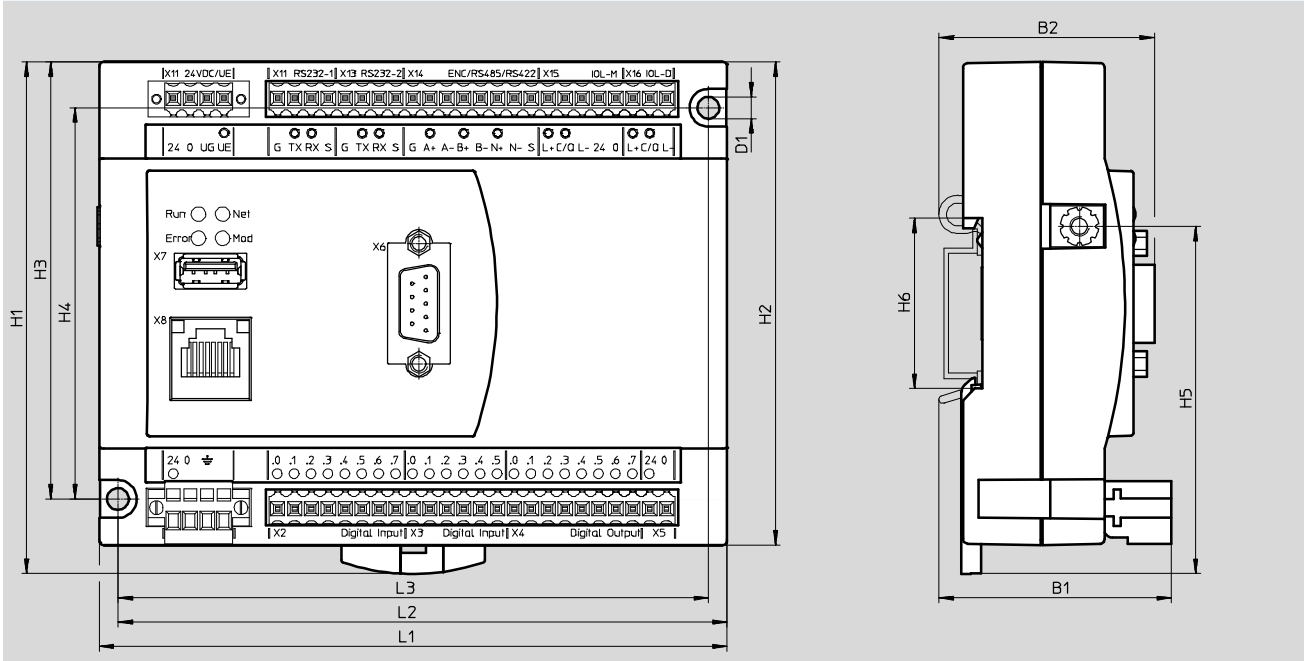
Controllers CECC

Technical data

Dimensions

Download CAD data → www.festo.com

CECC-S



Type	B1	B2	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3
CECC-S	47.2	43.6	4.5 ∅	106	100	90.5	81	72	35.2	130	126.1	122.2

Ordering data			
Controllers	Brief description	Part No.	Type
CECC-LK	With 14 digital inputs and 8 digital outputs, Ethernet, USB, CANopen, 4 IO-Link masters, 1 IO-Link device	574418	CECC-LK
CECC-D	With 14 digital inputs and 8 digital outputs, Ethernet, USB, CANopen	574415	CECC-D
CECC-S	With 14 digital inputs and 8 digital outputs, Ethernet, USB, CANopen, 2 RS232, 1 RS485/RS422/Encoder, 1 IO-Link masters, 1 IO-Link device	574416	CECC-S

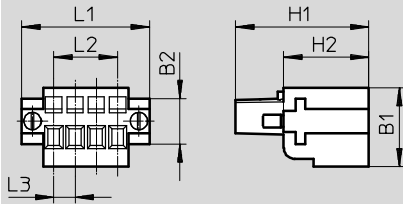
Controllers CECC

Accessories

Dimensions

Download CAD data → www.festo.com

Plug

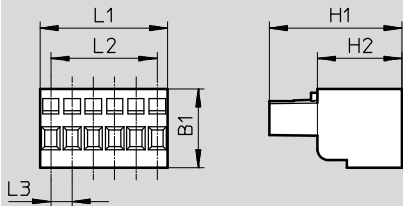


Type	B1	B2	H1	H2	L1	L2	L3
NECC-L2G4-C1-M	13	7.5	21.9	14	21	10.5	3.5

Dimensions

Download CAD data → www.festo.com

Plug



Type	B1	H1	H2	L1	L2	L3
NECC-L2G2-C1	13	21.9	14	7	3.5	3.5
NECC-L2G5-C1				17.5	14	
NECC-L2G6-C1				21	17.5	
NECC-L2G8-C1				28	24.5	
NECC-L2G24-C1				84	80.5	

Materials

Corrosion resistance class CRC ¹⁾	1
Note on materials	RoHS-compliant

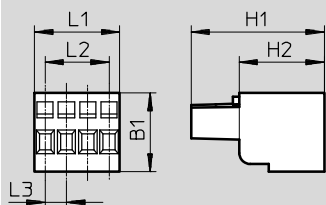
1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Dimensions

Download CAD data → www.festo.com

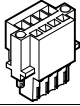
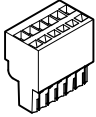


Plug





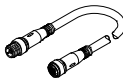

Type	B1	H1	H2	L1	L2	L3
NECC-L2G4-C1	13	21.9	14	14	10.5	3.5

Controllers CECC

Accessories

Ordering data				
	Description	PU ²⁾	Part No.	Type
Plug				
	Plug connector for self-assembly	1	575303	NECC-L2G4-C1-M
	Plug connector for self-assembly, 2-pin	1	575302	NECC-L2G2-C1
	Plug connector for self-assembly, 4-pin	1	8024782	NECC-L2G4-C1 
	Plug connector for self-assembly, 5-pin	1	575304	NECC-L2G5-C1
	Plug connector for self-assembly, 6-pin	1	575305	NECC-L2G6-C1
	Plug connector for self-assembly, 8-pin	1	575306	NECC-L2G8-C1
	Plug connector for self-assembly, 24-pin	1	575307	NECC-L2G24-C1
	Sub-D plug, 9-pin with screw terminal, protection class IP40	1	576031	NECC-S1G9-C2-M

2) Packaging unit

Ordering data				
	Description	Part No.	Type	
Connecting cables				
	Straight socket, 5-pin, M12 – open cable end Cable length 2.5 m	541330	NEBU-M12G5-K-2.5-LE5	
	Angled socket, 5-pin, M12 – open cable end Cable length 2.5 m	567843	NEBU-M12W5-K-2.5-LE5	
	Up to 20 m long ¹⁾	574321	NEBU-M12G5-E-5-Q8-M12G5	
		574322	NEBU-M12G5-E-7.5-Q8-M12G5	
		574323	NEBU-M12G5-E-10-Q8-M12G5	
Programming software				
	This software is optimised for configuring, programming, commissioning and maintaining automation solutions	542000	GSPF-CDS-3	

1) Modular product, more information → Internet:nebu