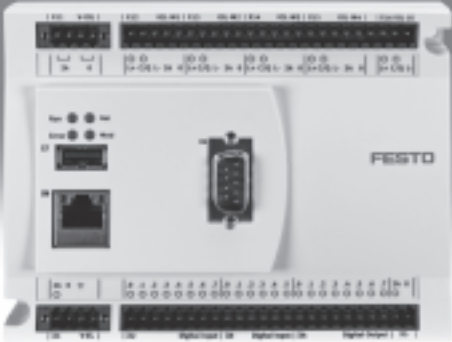


Controllers CECC



## Controllers CECC

Key features

**FESTO**

### 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 MBd, 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

### Basic 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

### Fieldbus interfaces

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

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



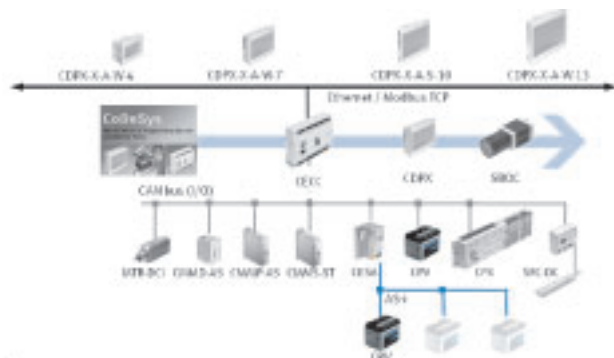
### System configuration

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 via Ethernet. For example with the modern, new HMI device series CDPX and the camera SBOX-Q for image evaluation.

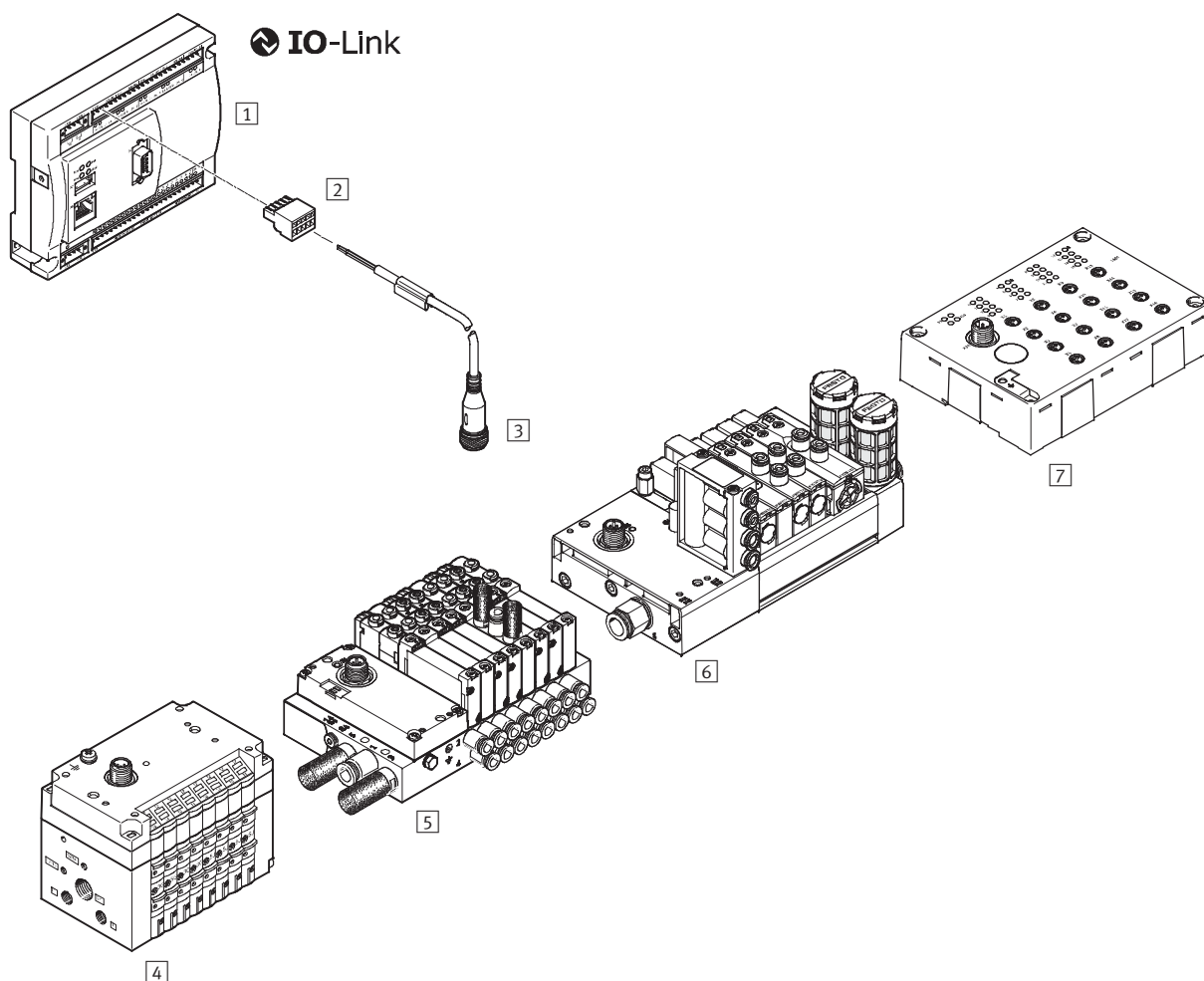
### System configuration (example)

CECC with CANopen



# **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  | 8               |
| 3 Connecting cable NEBU              | –  | 9               |
| 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 | 9               |

## Controllers CECC

Technical data

**FESTO**

Voltage

19.2 ... 30 V DC

Temperature range

0 ... +50 °C



| General technical data                   |                           |        |
|--|---------------------------|--------|
| Type                                     | CECC-LK                   | CECC-D |
| 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            |        |

| Digital inputs                          |                           |        |
|---|---------------------------|--------|
|   | CECC-LK                   | CECC-D |
| 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 |
| 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                  |        |

## Controllers CECC

Technical data

| Serial interfaces        |                           |        |
|--------------------------|---------------------------|--------|
|                          | CECC-LK                   | CECC-D |
| USB interface            | USB 1.1                   |        |
| Fieldbus interface type  | CAN bus                   |        |
|                          |                           |        |
| 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 |
| Number                    | 1                          |        |
| Connector plug            | RJ45                       |        |
| Supported protocols       | TCP/IP, EasyIP, Modbus TCP |        |
| Transmission speed [Mbps] | 10/100                     |        |
| Protocol                  | CANopen                    |        |
|                           | IO-Link                    | –      |
|                           | I-Port                     | –      |
|                           | Modbus TCP                 |        |

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

| Operating and environmental conditions |                     |        |
|--|---------------------|--------|
|  | CECC-LK             | CECC-D |
| Operating voltage [V DC]               | 19.2 ... 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                               | C-Tick              |        |

## Controllers CECC

Technical data

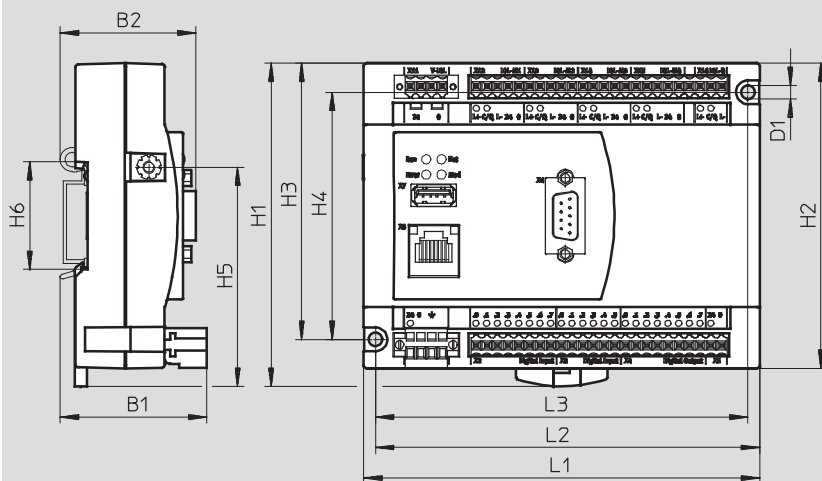
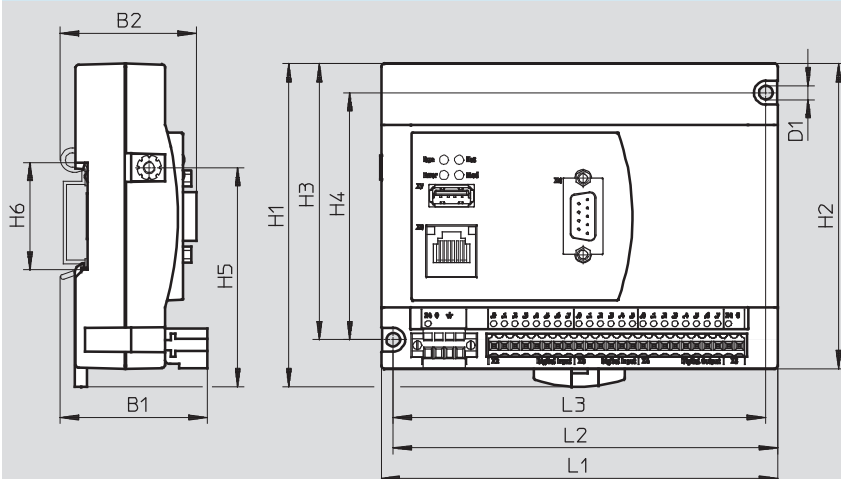
**FESTO**

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

# **Controllers CECC**

Technical data

**Dimensions**

 Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)
**CECC-LK**

**CECC-D**


| Type    | B1    | B2   | D1<br>Ø | 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 |

**Ordering data**

| Controllers | Brief description                            | Part No. | Type    |
|-------------|--|----------|---------|
| CECC-LK     | IO-Link master, Ethernet integrated          | 574418   | CECC-LK |
| CECC-D      | With 12 digital inputs and 8 digital outputs | 574415   | CECC-D  |

## Controllers CECC

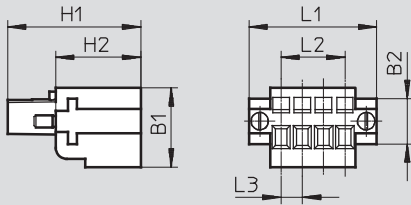
Accessories

**FESTO**

### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

#### Plug

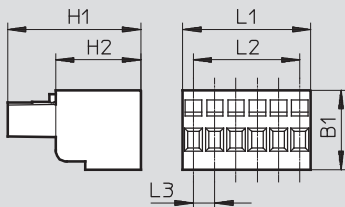


| Type           | B1 | B2  | H1   | H2 | L1 | L2   | L3  |
|----------------|----|-----|------|----|----|------|-----|
| NECC-L2G4-C1-M | 13 | 7.5 | 21.9 | 14 | 21 | 10.5 | 3.5 |

### Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

#### 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

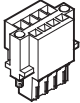
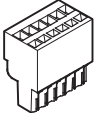

|  |                |
|--|----------------|
| Corrosion resistance class CRC <sup>1)</sup> | 1              |
| Note on materials                            | RoHS-compliant |

1) Corrosion resistance class 1 according to Festo standard 940 070  
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

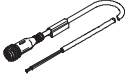



## Controllers CECC

Accessories

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

2) Packaging unit

| Ordering data   |   |               |                             |
|---|---|---------------|-----------------------------|
|   | Description   | Part No.      | Type                        |
| <b>Connecting cables</b>  |   |               |                             |
|  | Up to 5 m long  | <b>539052</b> | <b>NEBU-M12W5-P-2-N-LE5</b> |
| <b>Programming software</b>   |   |               |                             |
|  | This software is optimised for configuring, programming, commissioning and maintaining automation solutions | <b>542000</b> | <b>GSPF-CDS-3</b>           |

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# Festo North America

## Festo Regional Contact Center

5300 Explorer Drive  
Mississauga, Ontario L4W 5G4  
Canada

### USA Customers:

For ordering assistance,

**Call:** 1.800.99.FESTO (1.800.993.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [customer.service@us.festo.com](mailto:customer.service@us.festo.com)

For technical support,

**Call:** 1.866.GO.FESTO (1.866.463.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [product.support@us.festo.com](mailto:product.support@us.festo.com)

### Canadian Customers:

**Call:** 1.877.GO.FESTO (1.877.463.3786)

**Fax:** 1.877.FX.FESTO (1.877.393.3786)

**Email:** [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

## USA Headquarters

Festo Corporation  
395 Moreland Road  
P.O. Box 18023  
Hauppauge, NY 11788, USA  
[www.festo.com/us](http://www.festo.com/us)

## USA Sales Offices

### Appleton

North 922 Tower View Drive, Suite N  
Greenville, WI 54942, USA

### Boston

120 Presidential Way, Suite 330  
Woburn, MA 01801, USA

### Chicago

1441 East Business Center Drive  
Mt. Prospect, IL 60056, USA

### Dallas

1825 Lakeway Drive, Suite 600  
Lewisville, TX 75057, USA

### Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320  
Auburn Hills, MI 48326, USA

### New York

395 Moreland Road  
Hauppauge, NY 11788, USA

### Silicon Valley

4935 Southfront Road, Suite F  
Livermore, CA 94550, USA

## United States



**USA Headquarters, East:** Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: [info@festo-usa.com](mailto:info@festo-usa.com)

[www.festo.com/us](http://www.festo.com/us)

## Canada



**Headquarters:** Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

[www.festo.ca](http://www.festo.ca)

## Mexico



**Headquarters:** Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,  
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: [festo.mexico@mx.festo.com](mailto:festo.mexico@mx.festo.com)

[www.festo.com/mx](http://www.festo.com/mx)

## Central USA

Festo Corporation  
1441 East Business  
Center Drive  
Mt. Prospect, IL 60056, USA  
Phone: 1.847.759.2600  
Fax: 1.847.768.9480



## Western USA

Festo Corporation  
4935 Southfront Road,  
Suite F  
Livermore, CA 94550, USA  
Phone: 1.925.371.1099  
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Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark  
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