

Modular controllers CECX



Modular controllers CECX

Key features

At a glance

Versatile

The controller is functionally designed as a master and motion controller. It is a powerful control unit that can

execute both comprehensive PLC functions and at the same time also multi-axis movements with interpolation.

Economical

The modular structure offers the right solutions for all requirements. It has a high component density, is easy to use

and can be mounted on H-rails. Fully compatible with all products from Festo and other manufacturers.

Controlling electric axes

Simple commissioning, programming and servicing: with the SoftMotion module, the CoDeSys software offers a powerful programming environment for

controlling all electric axes with CANopen fieldbus connection. Also available are module libraries, configuration tools and drivers.

Flexible

Programming to the IEC 61131-3 standard means the CECX is flexible and open for all types of control tasks.

Numerous communication modules (Profibus, CANopen, Ethernet) guarantee compatibility with other systems.

Reliable

It is certified to CE, UL/CSA, produced based on global experience in front end automation and uses standard hardware and CoDeSys standard software.

Product features

- Two product versions
 - Modular master controller with CoDeSys
 - Motion controller with CoDeSys and SoftMotion
- Easy configuration
- Automatic module detection
- Search function for finding controllers in the network
- DHCP-compatible
- Automatic transfer of the communication settings of the project

Module selection

CPU unit

- Power PC 400 MHz
- Ethernet interface
- CAN bus interface
- RS485 interface
- USB interface
- Compact Flash card as removable storage
- Slots for optional modules

Optional modules

The controller CECX-X can be extended with the following optional modules:

- Ethernet interface
- CAN interface
- RS232 serial interface

Input/output modules

- Digital modules
- Analogue modules for current and voltage
- Encoder counter module

Communication modules

- Profibus slave DP V0

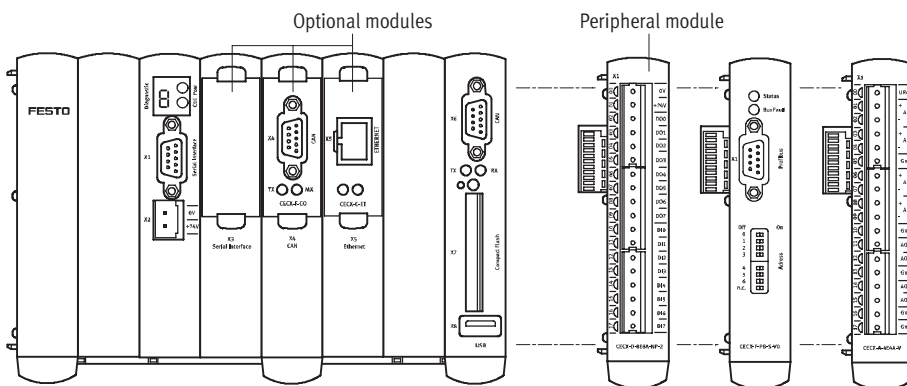
Actuating electric axes from Festo via CANopen interface

- Motor controllers CMMP-AS and CMMS-AS, for servo motors
- Motor controllers SFC-DC and SFC-LAC
- Motor unit MTR-DCI

Modular controllers CECX

Key features

Controller CECX with peripheral modules and optional modules

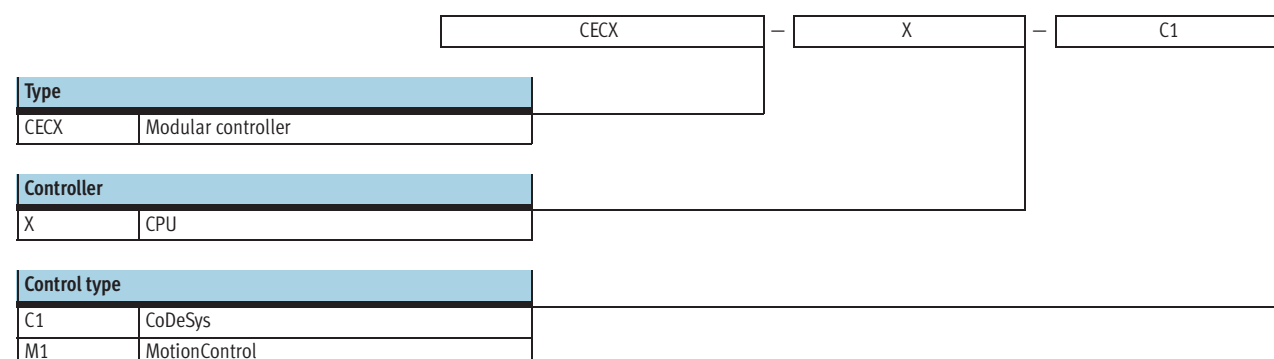


Type	Brief description	→ Page/Internet
Peripheral modules		
Input/output module, digital CECX-D-8E8A-NP-2	<ul style="list-style-type: none"> • 8 digital inputs • 8 digital outputs 	8
Input/output module, analogue CECX-A-4E4A-V	<ul style="list-style-type: none"> • 4 analogue voltage inputs • 4 analogue voltage outputs 	10
Input/output module, analogue CECX-A-4E4A-A	<ul style="list-style-type: none"> • 4 analogue current inputs • 4 analogue current outputs 	10
Input module, digital CECX-D-16E	<ul style="list-style-type: none"> • 16 digital inputs 	13
Output module, digital CECX-D-14A-2	<ul style="list-style-type: none"> • 14 digital outputs 	15
Encoder interface CECX-C-2G2	<ul style="list-style-type: none"> • 2 encoder interfaces 	17
Bus interface CECX-F-PB-S-V0	<ul style="list-style-type: none"> • Profibus slave DP-V0 	19
Optional modules		
Bus interface CECX-F-CO	<ul style="list-style-type: none"> • CAN interface 	21
Electrical interface CECX-C-ET	<ul style="list-style-type: none"> • Ethernet interface 	23
Electrical interface CECX-C-S1	<ul style="list-style-type: none"> • Serial interface 	25

Note

Max. 12 peripheral modules can be mounted. Mounting rules → System manual.

Type codes



Modular controllers CECX

Technical data

Controller CECX-X-C1

Modular master controller with CoDeSys

The controller is the central module in the modular control unit. It provides the resources for executing the application software.

Controller CECX-X-M1

Motion controller with CoDeSys and SoftMotion

The controller has three plug-in slots for optional modules to effect the following connections for interfaces:

- CAN bus interface
- Ethernet electrical interface
- RS232 serial interface

The controller is equipped with the optional module for the Ethernet electrical interface by default.



General technical data		CECX-X-C1	CECX-X-M1
Operating voltage range	[V DC]	19.2 ... 30	
Power consumption at 24 V	[W]	14	
Max. power output at 5 V	[W]	10	
Max. power output at 24 V	[W]	45	
Max. power consumption	[W]	69	
Resistance to shock		EN 60068-2-27 EA	
		15 g, 11 ms (half sine)	
Resistance to vibration		EN 60068-2-6-FC	
		5 ... 9 Hz, 3.5 mm	
		9 ... 150 Hz, 1g	
Control elements		CTRL key	
CPU data		64 MB DRAM	
		400 MHz processor	
Programming software		CoDeSys provided by Festo	CoDeSys provided by Festo
		–	SoftMotion
Programming language		SFC, STL, FCH, LDR and ST to IEC 61131-3	SFC, STL, FCH, LDR and ST to IEC 61131-3
		Additionally CFC	Additionally CFC
Status displays		7-segment display	
		LED green = power	
Slots		1x CAN optional module → 21	
		1x Compact Flash type 1	
		1x Ethernet optional module → 23	
		1x serial interface module → 25	
USB interface		USB 1.1	
Protection class		IP20	
Electrical protection class		III	
Product weight	[g]	580	
Materials			
Note on materials		Contains PWIS (paint-wetting impairment substances)	
		RoHS-compliant	

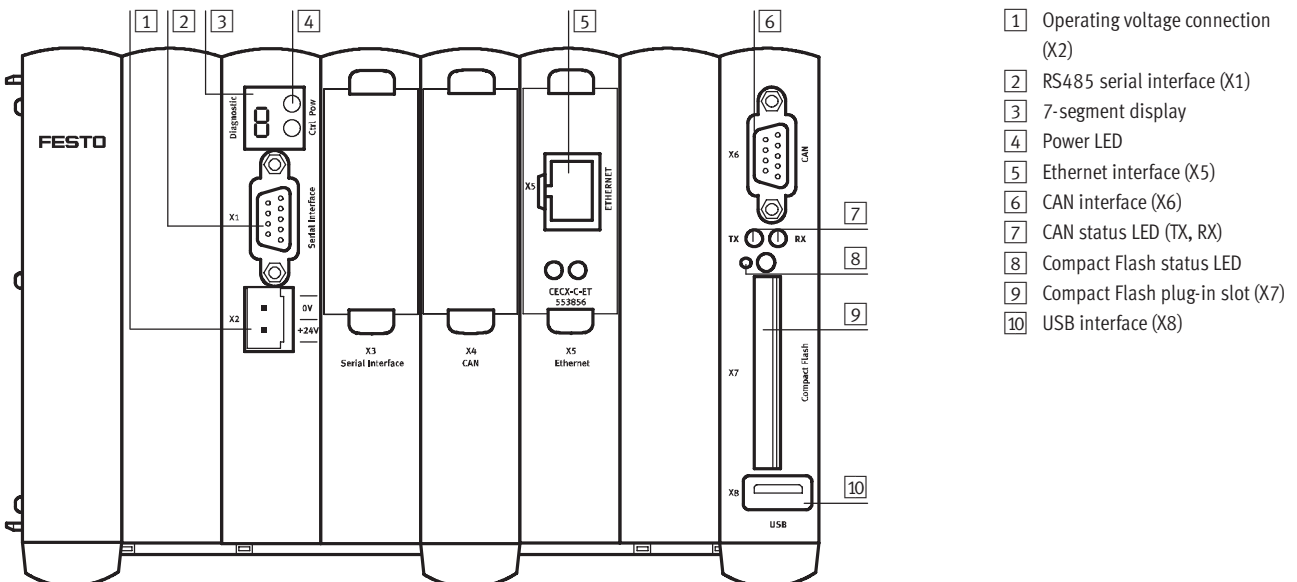
Modular controllers CECX

Technical data

Technical data – Interfaces		CECX-X-C1	CECX-X-M1
Ethernet			
Connector plug		RJ45 socket, 8-pin	
Transmission speed	[Mbps]	10/100	
Supported protocols		TCP/IP, EasyIP and Modbus TCP	
Fieldbus interface			
Type		CAN bus	
Connection technology		Sub-D plug, 9-pin	
Transmission rate	[kbps]	125; 250; 500; 800; 1,000	
		Adjustable via software	
Electrical isolation		No	
Serial interface			
Type		RS485-A	
Number		1	
Connection technology		Sub-D plug, 9-pin	
Transmission rate	[bps]	1,200 ... 115,000	
		Adjustable via software	
Electrical isolation		No	

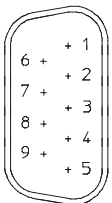
Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

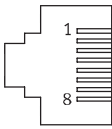
Connection and display components

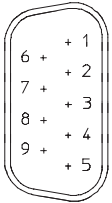


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Technical data

Pin allocation – RS485 serial interface (X1)			
	Pin	Signal	Meaning
Sub-D plug			
	1	GND	Ground
	2	Therm B	Terminating resistor
	3	B / B'	Transmit/receive +
	4	n.c.	Not connected
	5	GND	Ground
	6	n.c.	Not connected
	7	Therm A	Terminating resistor
	8	A / A'	Transmit/receive –
	9	n.c.	Not connected

Pin allocation – Ethernet interface (X5)			
	Pin	Signal	Meaning
RJ45 plug			
	1	TD+	Transmitted data +
	2	TD–	Transmitted data –
	3	RD+	Received data +
	4	n.c.	Not connected
	5	n.c.	Not connected
	6	RD–	Received data –
	7	n.c.	Not connected
	8	n.c.	Not connected
	Housing	Screened	Screened

Pin allocation – CAN interface (X6)			
	Pin	Signal	Meaning
Sub-D plug			
	1	n.c.	Not connected
	2	CAN_L	CAN low
	3	SGND	Signal ground
	4	TERM1	Connection for activating the internal terminating resistor
	5	TERM1	Connection for activating the internal terminating resistor
	6	GND	Ground
	7	CAN_H	CAN high
	8	TERM2	Connection for activating the internal terminating resistor
	9	TERM2	Connection for activating the internal terminating resistor
	Housing	Screened	Screened

Modular controllers CECX

Technical data

**Input/output module, digital
CECX-D-8E8A**

There are eight digital outputs and eight digital inputs available for processing digital process signals. The following functions are available:

- Address setting
- Short circuit monitor for outputs
- Debounce function for inputs
- Interrupt function DIO and DI1



General technical data		
Operating voltage range	[V DC]	19.2 ... 30
Electrical connection technology for I/O		Socket strip, grid 5.08 mm
Power consumption at 5 V	[W]	0.4
Power consumption at 24 V	[W]	1.9
Resistance to shock		EN 60068-2-27 EA
		15 g, 11 ms (half sine)
Resistance to vibration		EN 60068-2-6-FC
		5 ... 9 Hz, 3.5 mm
		9 ... 150 Hz, 1g
Protection class		IP20
Electrical protection class		III
Product weight	[g]	135
Materials		
Note on materials		Contains PWIS (paint-wetting impairment substances) RoHS-compliant

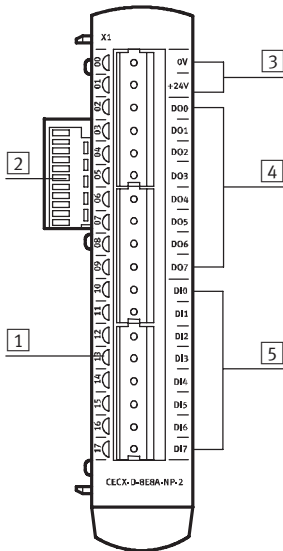
Technical data – Interfaces		
Digital inputs		
Number		8
Fast clock pulse inputs		2, interruptible, response time 50 µs
Input voltage/current	[V DC]	24
Nominal value for FALSE	[V DC]	≤ 5
Nominal value for TRUE	[V DC]	≥ 15
Input signal delay	[ms]	20, 100, adjustable
	[kHz]	12 with interrupt input
Electrical isolation		Yes, via optocoupler
Status display	[V DC]	LED green
Switching logic		Positive logic (PNP)
Digital outputs		
Number		8
Contact		Transistor
Output voltage	[V DC]	24
Output current	[A]	2 with 50% concurrence
Short circuit proof		Yes
Electrical isolation		Yes, via optocoupler
Status display	[V DC]	LED orange
Switching logic		Positive logic (PNP)

Modular controllers CECX

Technical data

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

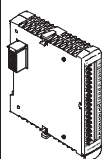
Connection and display components



- 1 Digital output or digital input status LEDs
- 2 Bus plug
- 3 Power supply
- 4 Digital output D00 ... D07
- 5 Digital input DI0 ... DI7

Pin allocation		
Pin	Designation	Meaning
Socket strip		
00	0 V	0 V power supply
01	24 V	24 V power supply
02 ... 09	D00 ... D07	Digital output 0 ... 7
10 ... 17	DI0 ... DI7 ¹⁾	Digital input 0 ... 7

1) DI0, DI1: interrupt inputs

Ordering data					
Input/output module, digital		Documentation ¹⁾			
	Part No.	Type			
	552099	CECX-D-8E8A-NP-2	Language		
			Part No.	Type	
			DE	560585	GDCC-CECX-D-8E8A-NP-DE
			EN	560586	GDCC-CECX-D-8E8A-NP-EN
			ES	560587	GDCC-CECX-D-8E8A-NP-ES
			FR	560588	GDCC-CECX-D-8E8A-NP-FR
			IT	560589	GDCC-CECX-D-8E8A-NP-IT
SV	560590	GDCC-CECX-D-8E8A-NP-SV			

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

**Input/output module, analogue
CECX-A-4E4A**

There are four analogue outputs and four analogue inputs available for processing analogue process signals.

- CECX-A-4E4A-V
Analogue voltage inputs and voltage outputs
- CECX-A-4E4A-A
Analogue current inputs and current outputs



General technical data		CECX-A-4E4A-V	CECX-A-4E4A-A
Electrical connection technology for I/O		Socket strip, grid 5.08 mm	
Power consumption at 5 V	[W]	0.3	0.3
Power consumption at 24 V	[W]	3.3	3.6
Resistance to shock		EN 60068-2-27 EA	
		15 g, 11 ms (half sine)	
Resistance to vibration		EN 60068-2-6-FC	
		5 ... 9 Hz, 3.5 mm	
		9 ... 150 Hz, 1g	
Protection class		IP20	
Electrical protection class		III	
Product weight	[g]	135	
Materials			
Note on materials		Contains PWIS (paint-wetting impairment substances)	
		RoHS-compliant	

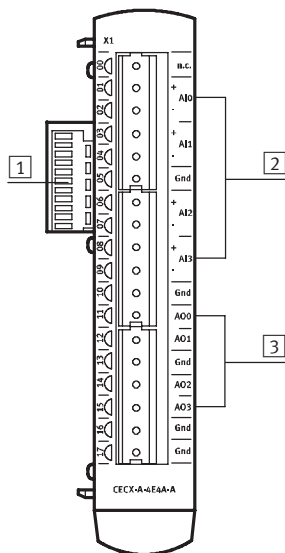
Technical data – Interfaces		CECX-A-4E4A-V	CECX-A-4E4A-A
Analogue inputs			
Number		4	4
Resolution	[bit]	14	14
Signal range	[V]	0 ... 10 Vref	–
		±10	–
	[mA]	–	0 ... 20
		–	4 ... 20
Value of the least significant bit (LSB)	[mV]	1.3	–
	[µA]	–	1.35
Supply voltage for actuators	[V DC]	10 ±2.5% (max. 20 mA)	–
Input resistance	[Ω]	10 10 ⁶	< 200
Absolute accuracy at 25 °C	[%]	±0.01	±0.01
Sampling repeat time	[ms]	1	1
Electrical isolation		No	No
Analogue outputs			
Number		4	4
Resolution	[bit]	12	12
Max. load resistance	[Ω]	≥ 1,000	≤ 600
Signal range	[V]	±10	–
	[mA]	–	0 ... 20
Value of the least significant bit (LSB)	[mV]	5.32	–
	[µA]	–	5.39
Conversion time	[ms]	1	1
Absolute accuracy at 25 °C	[%]	±0.15	±0.15

Modular controllers CECX

Technical data

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

Connection and display components

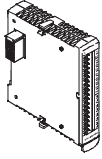



- 1 Bus plug
- 2 Analogue input AI0 ... AI7
- 3 Analogue output A00 ... A07

Pin allocation			
Pin	Designation	Meaning	
		CECX-A-4E4A-V	CECX-A-4E4A-A
Socket strip			
00	V _{REF} / n.c.	Reference voltage	Not connected
01	AI0+	Positive voltage input signal AI0	Positive current input signal AI0
02	AI0-	Negative voltage input signal AI0	Negative current input signal AI0
03	AI1+	Positive voltage input signal AI1	Positive current input signal AI1
04	AI1-	Negative voltage input signal AI1	Negative current input signal AI1
05	GND	Reference potential GND	Reference potential GND
06	AI2+	Positive voltage input signal AI2	Positive current input signal AI2
07	AI2-	Negative voltage input signal AI2	Negative current input signal AI2
08	AI3+	Positive voltage input signal AI3	Positive current input signal AI3
09	AI3-	Negative voltage input signal AI3	Negative current input signal AI3
10	GND	Reference potential GND	Reference potential GND
11	AO0	Voltage output signal AO0	Current output signal AO0
12	AO1	Voltage output signal AO1	Current output signal AO1
13	GND	Reference potential GND	Reference potential GND
14	AO2	Voltage output signal AO2	Current output signal AO2
15	AO3	Voltage output signal AO3	Current output signal AO3
16	GND	Reference potential GND	Reference potential GND
17	GND	Reference potential GND	Reference potential GND

Modular controllers CECX

Technical data

Ordering data		Documentation ¹⁾			
Input/output module, analogue		Language	Part No.	Type	
	Voltage inputs/outputs 552100 CECX-A-4E4A-V		Voltage inputs/outputs		
			DE	560591	GDCC-CECX-A-4E4A-V-DE
	EN		560592	GDCC-CECX-A-4E4A-V-EN	
	ES		560593	GDCC-CECX-A-4E4A-V-ES	
	FR		560594	GDCC-CECX-A-4E4A-V-FR	
	IT		560595	GDCC-CECX-A-4E4A-V-IT	
	SV		560596	GDCC-CECX-A-4E4A-V-SV	
			Current inputs/outputs		
	Current inputs/outputs 552101 CECX-A-4E4A-A		DE	560597	GDCC-CECX-A-4E4A-A-DE
			EN	560598	GDCC-CECX-A-4E4A-A-EN
		ES	560599	GDCC-CECX-A-4E4A-A-ES	
		FR	560600	GDCC-CECX-A-4E4A-A-FR	
		IT	560601	GDCC-CECX-A-4E4A-A-IT	
		SV	560602	GDCC-CECX-A-4E4A-A-SV	

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

Input module, digital

CECX-D-16E

There are 16 digital inputs available for processing digital process signals.



General technical data	
Electrical connection technology for I/O	Socket strip, grid 5.08 mm
Power consumption at the system bus [W]	0.4
Resistance to shock	EN 60068-2-27 EA 15 g, 11 ms (half sine)
Resistance to vibration	EN 60068-2-6-FC 5 ... 9 Hz, 3.5 mm 9 ... 150 Hz, 1g
Protection class	IP20
Electrical protection class	III
Product weight [g]	130
Materials	
Note on materials	Contains PWIS (paint-wetting impairment substances) RoHS-compliant

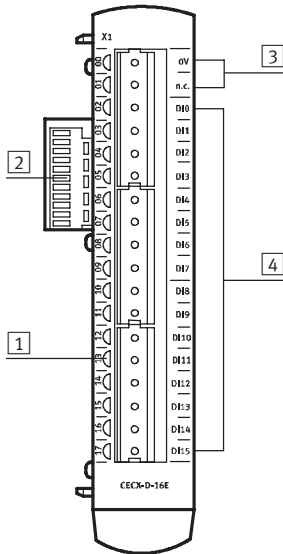
Technical data – Interface	
Digital inputs	
Number	16
Fast clock pulse inputs	2, interruptible, response time 100 µs
Input voltage/current [V DC]	24
Nominal value for FALSE [V DC]	≤ 5
Nominal value for TRUE [V DC]	≥ 15
Input signal delay [ms]	20, 200, adjustable Additionally 0.2 ms with interrupt inputs
Electrical isolation	Yes, via optocoupler
Status display [V DC]	LED
Switching logic	Positive logic (PNP)

Operating and environmental conditions	
Ambient temperature [°C]	5 ... 55
Storage temperature [°C]	-40 ... +70
Relative air humidity [%]	10 ... 95

Modular controllers CECX

Technical data

Connection and display components



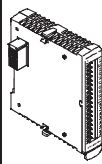
- 1 Digital input status LEDs
- 2 Bus plug
- 3 Reference potential
- 4 Digital input DI0 ... DI15

Pin allocation

Pin	Designation	Meaning
Socket strip		
00	0 V	Reference potential
01	n.c.	Not connected
02 ... 17	DI0 ... DI15	Digital input 0 ... 15 ¹⁾

1) DI0 and DI1 are interruptible.

Ordering data

Input module, digital		Documentation ¹⁾			
	Part No.	Type	Language	Part No.	Type
	552096	CECX-D-16E	DE	560573	GDCC-CECX-D-16E-DE
			EN	560574	GDCC-CECX-D-16E-EN
			ES	560575	GDCC-CECX-D-16E-ES
			FR	560576	GDCC-CECX-D-16E-FR
			IT	560577	GDCC-CECX-D-16E-IT
			SV	560578	GDCC-CECX-D-16E-SV

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

Output module, digital

CECX-D-14A-2

There are 14 digital outputs available for processing digital process signals.



General technical data		
Operating voltage range	[V DC]	24 +25%/–15%
Electrical connection technology for I/O		Socket strip, grid 5.08 mm
Power consumption at the system bus	[W]	0.4
Resistance to shock		EN 60068-2-27 EA
		15 g, 11 ms (half sine)
Resistance to vibration		EN 60068-2-6-FC
		5 ... 9 Hz, 3.5 mm
		9 ... 150 Hz, 1g
Protection class		IP20
Electrical protection class		III
Product weight	[g]	135
Materials		
Note on materials		Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

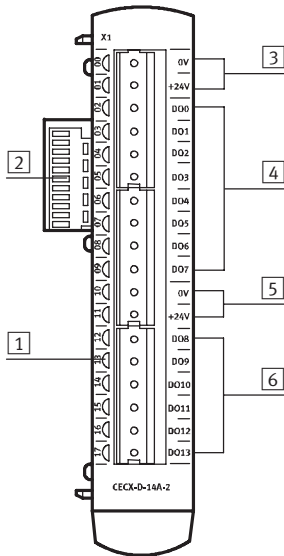
Technical data – Interface		
Digital outputs		
Number		14
Contact		Transistor
Output voltage	[V DC]	24
Output current	[A]	2 with 50% concurrence per group
Short circuit proof		Yes
Electrical isolation		Yes, via optocoupler
Electrical isolation in groups		Yes, in 2 groups
Status display	[V DC]	LED
Switching logic		Positive logic (PNP)

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	–40 ... +70
Relative air humidity	[%]	10 ... 95

Modular controllers CECX

Technical data

Connection and display components

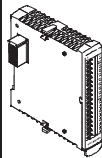


- 1 Digital output status LEDs
- 2 Bus plug
- 3 Voltage supply for D00 ... D07
- 4 Digital output D00 ... D07
- 5 Voltage supply for D08 ... D013
- 6 Digital output D08 ... D013

Pin allocation

Pin	Designation	Meaning
Socket strip – group 1		
00	0 V	0 V voltage supply for D00 ... D07
01	+24 V	24 V voltage supply for D00 ... D07
02 ... 09	D00 ... D07	Digital output 0 ... 7
Socket strip – group 2		
10	0 V	0 V voltage supply for D08 ... D013
11	+24 V	24 V voltage supply for D08 ... D013
12 ... 17	D08 ... D013	Digital output 8 ... 13

Ordering data

Output module, digital		Documentation ¹⁾			
	Part No.	Type	Language	Part No.	Type
	552097	CECX-D-14A-2	DE	560579	GDCC-CECX-D-14A-DE
			EN	560580	GDCC-CECX-D-14A-EN
			ES	560581	GDCC-CECX-D-14A-ES
			FR	560582	GDCC-CECX-D-14A-FR
			IT	560583	GDCC-CECX-D-14A-IT
			SV	560584	GDCC-CECX-D-14A-SV

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

Encoder interface

CECX-C-2G2

The following functions are available:

- Displacement measurement: incremental/decremental counter (displacement measurement) using A and B track, 1-way, 2-way, 4-way evaluation, 32-bit resolution
- Pulse counter on track A, 32-bit resolution
- Pulse counter on track A with direction evaluation for track B, 32-bit resolution
- Speed measurement by means of sampling with internal time basis
- Shaft encoder monitoring using zero-track information
- Counter reading latch function via an external latch input
- 24 V (sink and source)
- Counter reading latch function via zero pulse
- Sensor rupture monitoring for tracks A, B and zero



General technical data		
Operating voltage range	[V DC]	19.2 ... 30
Electrical connection technology for I/O		Socket strip, grid 5.08 mm
Power consumption at 5 V	[W]	0.6
Resistance to shock		EN 60068-2-27 EA
		15 g, 11 ms (half sine)
Resistance to vibration		EN 60068-2-6-FC
		5 ... 9 Hz, 3.5 mm
		9 ... 150 Hz, 1g
Protection class		IP20
Electrical protection class		III
Product weight	[g]	135
Materials		
Note on materials		Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

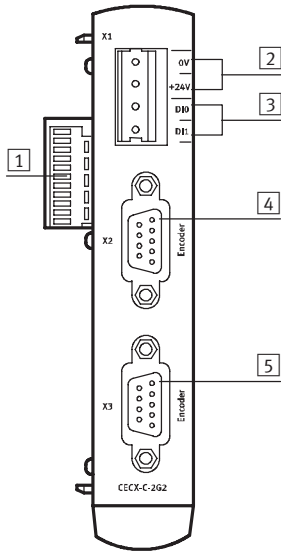
Technical data – Interfaces		
Digital inputs		
Fast clock pulse inputs		2 (latch function) response time 20 µs NPN/PNP
Electrical isolation		No
Encoder inputs		
Number		2
Connection technology		Sub-D socket, 9-pin
Resolution	[bit]	Speed measurement: 32
	[bit]	Displacement measurement: 24
Encoder supply voltage	[V DC]	24
	[V DC]	5.05 ±4% (100 mA/channel)
Max. input frequency	[kHz]	250
Signal range	[V]	5 differential (RS422)
	[V]	24 single ended

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

Modular controllers CECX

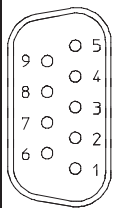
Technical data

Connection and display components

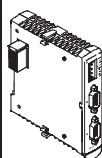
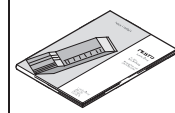


- 1 Bus plug
- 2 Power supply
- 3 Latch inputs
- 4 Encoder input X2
- 5 Encoder input X3

Pin allocation

	Pin	Signal	Meaning	
			Signal range 5 V	Signal range 24 V
Sub-D socket				
	1	GND	Ground	
	2	24 V	Encoder supply	
	3	0+	Zero track+	
	4	B+	Track B+	
	5	A+	Track A+	
	6	5 V (max. 100 mA)	Encoder supply	
	7	0-	Zero track-	Do not connect
	8	B-	Track B-	Do not connect
	9	A-	Track A-	Do not connect

Ordering data

Encoder interface			Documentation ¹⁾			
	Part No.	Type		Language	Part No.	Type
	552117	CECX-C-2G2		DE	560603	GDCC-CECX-C-2G2-DE
				EN	560604	GDCC-CECX-C-2G2-EN
				ES	560605	GDCC-CECX-C-2G2-ES
				FR	560606	GDCC-CECX-C-2G2-FR
				IT	560607	GDCC-CECX-C-2G2-IT
				SV	560608	GDCC-CECX-C-2G2-SV

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

Bus interface

CECX-F-PB-S-V0

The modular controller can be connected to the Profibus DP-V0 as a slave using this peripheral module.



General technical data		
Power consumption at 5 V	[W]	1.4
Resistance to shock		EN 60068-2-27 EA
		15 g, 11 ms (half sine)
Resistance to vibration		EN 60068-2-6-FC
		5 ... 9 Hz, 3.5 mm
		9 ... 150 Hz, 1g
Status displays		LED (status)
		LED red = bus fault
Protection class		IP20
Electrical protection class		III
Product weight	[g]	140
Materials		
Note on materials		Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

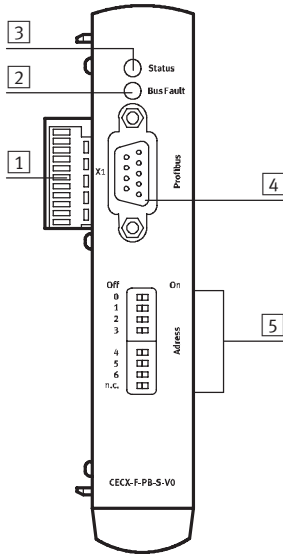
Technical data – Interface		
Fieldbus		
Type		Profibus slave DP-V0
Connection technology		Sub-D socket, 9-pin
Transmission rate		9.6 kbps ... 12 Mbps
Electrical isolation		Yes

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

Modular controllers CECX

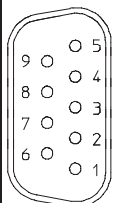
Technical data

Connection and display components

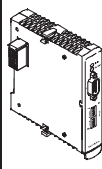
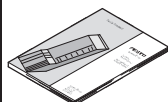


- 1 Bus plug
- 2 Bus fault LED
- 3 Status LED
- 4 Profibus interface
- 5 DIP switch

Pin allocation

	Pin	Signal	Meaning
Sub-D socket			
	3	RxD/TxD-P	Received/transmitted data P, B line
	4	RTS	Signal is HIGH if module is sending data
	5	GND	Ground (electrically isolated)
	6	5 V	5 V (electrically isolated)
	8	RxD/TxD-N	Received/transmitted data N, A line

Ordering data

Bus interface, Profibus slave DP-V0		Documentation ¹⁾				
	Part No.	Type	Language	Part No.	Type	
	552102	CECX-F-PB-S-V0				
				DE	560567	GDCC-CECX-F-PB-S-V0-DE
				EN	560568	GDCC-CECX-F-PB-S-V0-EN
				ES	560569	GDCC-CECX-F-PB-S-V0-ES
				FR	560570	GDCC-CECX-F-PB-S-V0-FR
				IT	560571	GDCC-CECX-F-PB-S-V0-IT
	SV	560572	GDCC-CECX-F-PB-S-V0-SV			

1) Manual in paper form is not included in the scope of delivery

Modular controllers CECX

Technical data

Bus interface

CECX-F-CO

Optional module for extending the controller with a CAN interface.

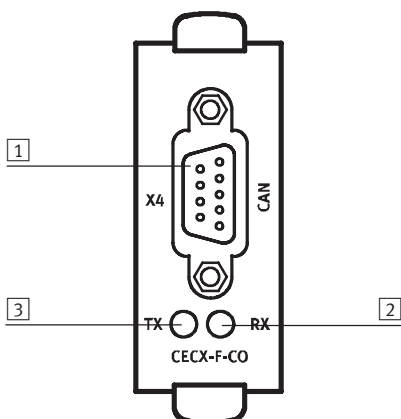


General technical data	
Resistance to shock	EN 60068-2-27 EA
	15 g, 11 ms (half sine)
Resistance to vibration	EN 60068-2-6-FC
	5 ... 9 Hz, 3.5 mm
	9 ... 150 Hz, 1g
Status displays	LED yellow = transmit
	LED green = receive
Electrical protection class	III
Product weight	[g] 27
Materials	
Note on materials	Contains PWIS (paint-wetting impairment substances)
	RoHS-compliant

Technical data – Interface	
Fieldbus	
Type	CAN bus
Connection technology	Sub-D plug, 9-pin
Transmission rate	125, 250, 500, 800, 1000 kbps
	Adjustable via software
Electrical isolation	No

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

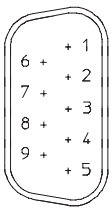
Connection and display components

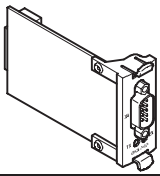


- 1 CAN interface
- 2 LED TX yellow
- 3 LED RX green

Modular controllers CECX

Technical data

Pin allocation			
	Pin	Signal	Meaning
Sub-D plug			
	1	n.c.	Not connected
	2	CAN_L	CAN low
	3	SGND	Signal ground
	4	TERM1	Connection for activating the internal terminating resistor
	5	TERM1	Connection for activating the internal terminating resistor
	6	GND	Ground
	7	CAN_H	CAN high
	8	TERM2	Connection for activating the internal terminating resistor
	9	TERM2	Connection for activating the internal terminating resistor
	Housing	Screened	

Ordering data		Part No.	Type
	Bus interface, CAN interface	553854	CECX-F-CO

Modular controllers CECX

Technical data

Electrical interface

CECX-C-ET

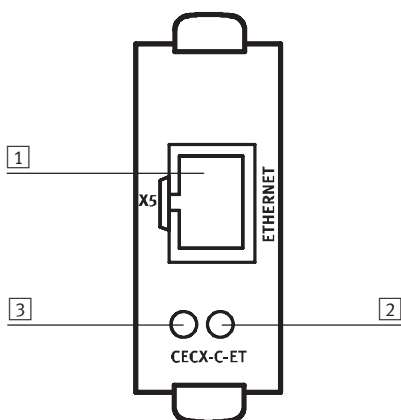
Optional module for extending the controller with an Ethernet interface.



General technical data		
Connector plug		RJ45 socket, 8-pin
Transmission speed	[Mbps]	10/100
Supported protocols		TCP/IP, EasyIP and Modbus TCP
Power consumption at the system bus	[W]	0.5
Resistance to shock		EN 60068-2-27 EA
		15 g, 11 ms (half sine)
Resistance to vibration		EN 60068-2-6-FC
		5 ... 9 Hz, 3.5 mm
		9 ... 150 Hz, 1g
Status displays		LED yellow = transmit/receive
		LED green = link
Electrical protection class		III
Product weight	[g]	23
Materials		
Note on materials		Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	5 ... 55
Storage temperature	[°C]	-40 ... +70
Relative air humidity	[%]	10 ... 95
Certification		cULus listed (OL)

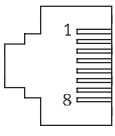
Connection and display components

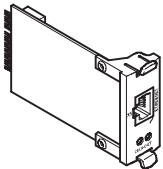


- 1 Ethernet interface
- 2 Green LED
- 3 Yellow LED

Modular controllers CECX

Technical data

Pin allocation			
	Pin	Signal	Meaning
RJ45 socket			
	1	TD+	Transmitted data +
	2	TD-	Transmitted data -
	3	RD+	Received data +
	4	n.c.	Not connected
	5	n.c.	Not connected
	6	RD-	Received data -
	7	n.c.	Not connected
	8	n.c.	Not connected
	Metal covering	Screened	Screened

Ordering data		Part No.	Type
	Electrical interface, Ethernet interface	553856	CECX-C-ET

Modular controllers CECX

Technical data

Electrical interface

CECX-C-S1

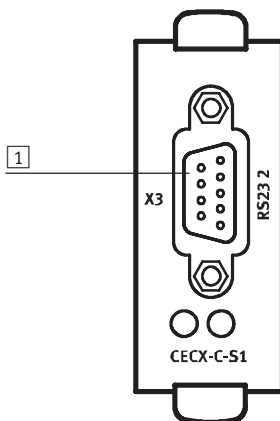
Optional module for extending the controller with an RS232 serial interface.



General technical data	
Type	RS232
Connection technology	Sub-D plug, 9-pin
Transmission rate [bps]	1 200 ... 115 000 Adjustable via software
Power consumption at the system bus [W]	0.2
Resistance to shock	EN 60068-2-27 EA 15 g, 11 ms (half sine)
Resistance to vibration	EN 60068-2-6-FC 5 ... 9 Hz, 3.5 mm 9 ... 150 Hz, 1g
Electrical isolation	No
Electrical protection class	III
Product weight [g]	31
Materials	
Note on materials	Contains PWIS (paint-wetting impairment substances) RoHS-compliant

Operating and environmental conditions	
Ambient temperature [°C]	5 ... 55
Storage temperature [°C]	-40 ... +70
Relative air humidity [%]	10 ... 95
Certification	cULus listed (OL)

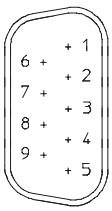
Connection and display components

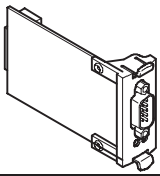


1 RS232 connection

Modular controllers CECX

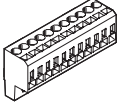
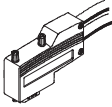
Technical data

Pin allocation			
	Pin	Signal	Meaning
Sub-D plug			
	1	n.c.	Not connected
	2	RxD	Receive data (input)
	3	TxD	Transmit data (output)
	4	n.c.	Not connected
	5	GND	Ground
	6	n.c.	Not connected
	7	RTS	Request to send (output)
	8	CTS	Clear to send (input)
	9	n.c.	Not connected
	Housing	Screened	Screened

Ordering data		Part No.	Type
	Electrical interface, RS232 serial interface	553855	CECX-C-S1

Modular controllers CECX

Accessories

Ordering data – Plugs			
	Brief description	Part No.	Type
	Plug for peripherals modules, 2-pin	553857	NECC-L1G2-C1
	Plug for peripherals modules, 4-pin	553858	NECC-L1G4-C1
	Plug for peripherals modules, 6-pin	553859	NECC-L1G6-C1
	Plug for peripherals modules, 8-pin	553860	NECC-L1G8-C1
	Plug for peripherals modules, 18-pin	553861	NECC-L1G18-C1
	Plug: For Profibus interface, Sub-D, 9-pin, without terminating resistor	533780	FBS-SUB-9-WS-PB-K
	Plug: For CAN bus interface, Sub-D, 9-pin, without terminating resistor	533783	FBS-SUB-9-WS-CO-K