

Operator units CDPX



# Operator units CDPX

Key features

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## Properties

Festo CDPX panels are high-performance processors combined with wide-screen technology. They provide more functions at a higher resolution for the interfaces between man and machine.

## Functionality

- Advanced graphics and animations
- Symbol gallery
- Advanced functions with script language
- Remote access, remote control
- FTP and HTTP servers
- Templates
- Pop-up
- Incorporation of standard documents
- Differential download
- Open for web and multimedia applications

## The front end displays with touchscreen CDPX

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The CDPX panels visualise data and, at the same time, operate as servers by allowing access for external clients both on-site and around the world; networking made simple thanks to the Ethernet interface with integrated switch. They are distinguished by a high-resolution graphic display and simple, intuitive project planning and programming in Designer Studio. Ideally matched to Festo controllers (CoDeSys V2.3 and V3.5) and Modbus TCP networks, they display data and

parameters in graphic format simply, flexibly and with great diversity. Thanks to modern touch technology, the projected dialogue with machines and systems is extremely easy. With the CoDeSys V3.5 controller provided by Festo which can be optionally integrated, CDPX panels can be expanded into a space-saving controller concept.

## Fieldbus interface, I/O module

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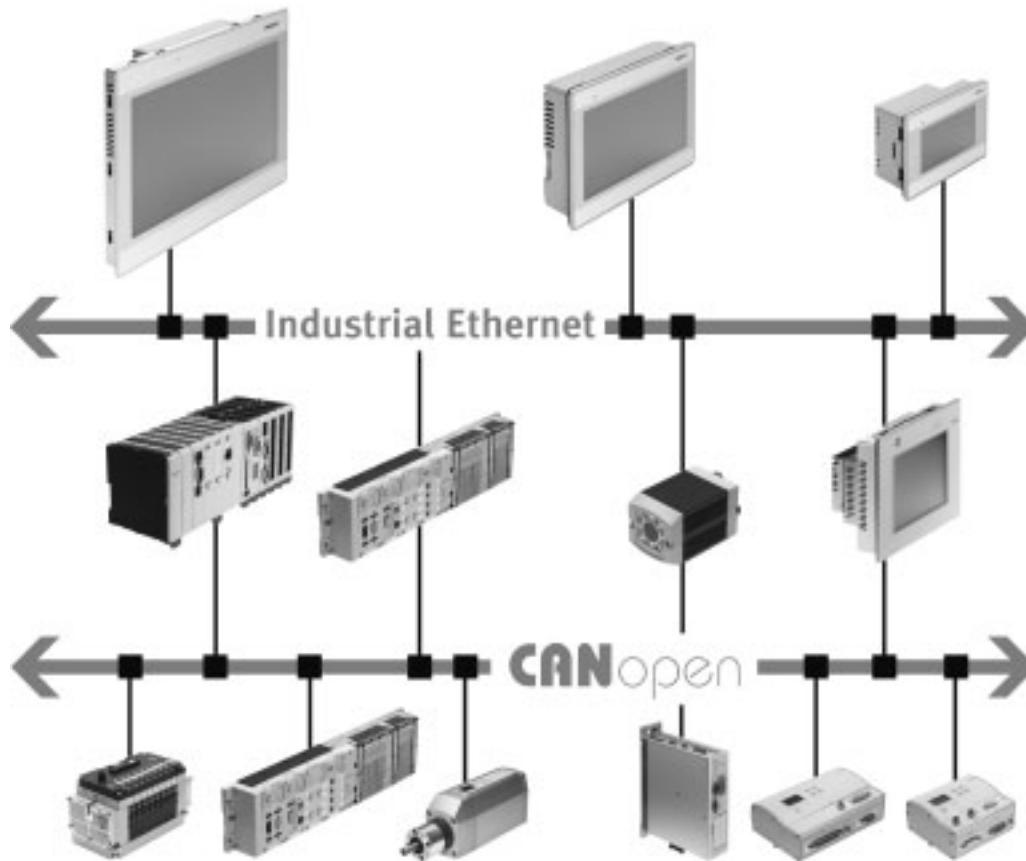
The addition to the new CDPX series with the well-known PLC operating system CODESYS V3.5, a CANopen master module and two I/O modules with digital and analogue I/O channels. Integration of CODESYS V3.5 into the CDPX display and control unit results in a so-called PAC (programmable automation controller), i.e. a combination of a PLC and an operator unit. PLC functions are programmed using the well-known KOP, FUP, AS, ST, IL or CFC programming languages.

External components can be controlled via the integrated Ethernet ports with the help of the ModbusTCP protocol. The optional CANopen master interface allows simple control of Festo valve terminals and electric drives. Commercially available CANopen products can also be controlled. If the application requires local digital and/or analogue inputs and outputs, one or two optional I/O modules are simply plugged in at the back of the CDPX display and control unit.

# Operator units CDPX

Features

The front end displays in the Festo controller range



## Functions

- Data display in numerical, textual and graphic form
- Data acquisition
- Trend display
- Recipe handling
- Alarm management
- Multilingualism
- Editor for Java script language
- Security management
- Audit trail
- Scheduler functionality
- Extendable memory area on SD card
- Web browser
- IP camera image display

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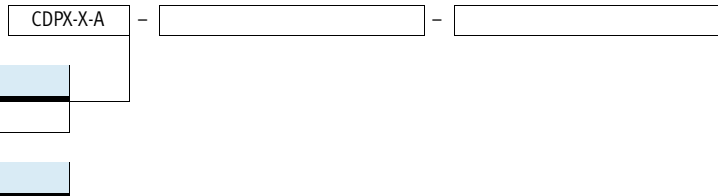
Product range overview, type codes

Type	Display resolution	Number of colours	Display size	Interfaces	→ Page/Internet
<b>Front end display with touchscreen</b>					
CDPX-X-A-W-4	WQVGA, 480x272 pixels	64 k	4.3"	USB, Ethernet <sup>1)</sup> , RS485, USB, SD card	5
CDPX-X-A-W-7	WVGA, 800x480 pixels		7"		
CDPX-X-A-S-10	SVGA, 800x600 pixels		10.4"		
CDPX-X-A-W-13	WXGA, 1280x800 pixels		13.3"		

1) Ethernet switch 2x Rj45 10/100 MBd

Type	→ Page/Internet
<b>Software licence</b>	
CDPX-SL-C3	9
<b>Bus interface</b>	
CDPX-F-CO	9
<b>I/O module</b>	
CDPX-EA-V1	10
CDPX-EA-V2	

## Type codes





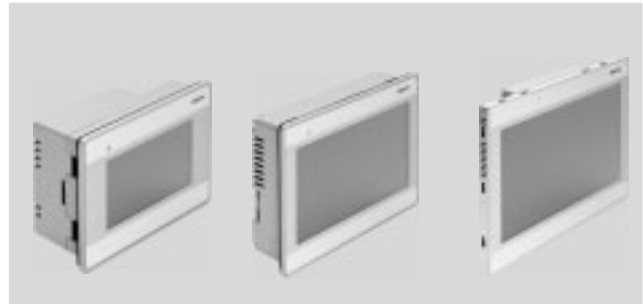
Function	
CDPX-X-A	Operator unit

Display size, equipment	
S	Standard display, touchscreen
10	10.4", 64 k colours
W	Wide-screen display, touchscreen
4	4.3", 64 k colours
7	7", 64 k colours
13	13.3", 64 k colours

# Operator units CDPX

Technical data

-  Voltage  
18 ... 30 V DC
-  Temperature range  
0 ... +50 °C



General technical data Display				
	CDPX-X-A-W-4	CDPX-X-A-W-7	CDPX-X-A-S-10	CDPX-X-A-W-13
Display	Colour TFT			
Display properties	Touchscreen			
Display size	4.3"	7"	10.4"	13.3"
Display resolution	WQVGA, 480x272 pixels	WVGA, 800x480 pixels	SVGA, 800x600 pixels	WXGA, 1280x800 pixels
Number of colours	64 k			
Number of system LEDs	1			
Recipe memory [kB]	32			
Event lists	2,048			
Alerts	2,000			
Pages	1,000			
Tags	10,000			
Widgets	2,000			
Objects on one page	2,000			
Users	50			
Simultaneous client access attempts	4			
Trend buffers	30			
Curves per trend widget	5			
Recipes	32			
Parameter sets per recipe	32,000			
Event buffers	4			
Events per event buffer	2,048			
Java script file size per page [kB]	8			
Project size	30			
Schedulers	30			
SD card slot	1			
Type of mounting	Front panel mounting			
Installation depth [mm]	56	47	56	56
Height [mm]	109	147	232	267
Length [mm]	149	187	287	336
Max. front panel thickness [mm]	4			
Note on materials	RoHS-compliant			

# Operator units CDPX

Technical data

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Electrical data		CDPX-X-A-W-4	CDPX-X-A-W-7	CDPX-X-A-S-10	CDPX-X-A-W-13
Nominal operating voltage DC	[V]	24			
Operating voltage range DC	[V]	18 ... +30			
Current consumption at nominal operating voltage	[A]	0.4	0.7	1	1.2
Programming software		Designer Studio			
PLC interface		Modbus RTU			
		RS485			
Supported PLC protocols		CoDeSys 2.3			
		CoDeSys 3.x			
		Modbus RTU Client			
		Modbus RTU Server			
		Modbus TCP Client			
		Modbus TCP Server			
USB interface		Yes			
Ethernet interface		RJ45 10/100 MBd			
Backup battery		Rechargeable lithium battery			
Real-time clock		Yes			
Real-time clock deviation		130 s/month			
Protection class		IP65 at the front following installation into control panel, IP20 at the back			

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +50
Storage temperature	[°C]	-20 ... +70
Relative air humidity	[%]	5 - 85
		Non-condensing
CE marking (see declaration of conformity)		To EU EMC Directive <sup>1)</sup>
Certification		C-Tick
		cULus listed (OL)

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.  
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Weight [g]		CDPX-X-A-W-4	CDPX-X-A-W-7	CDPX-X-A-S-10	CDPX-X-A-W-13
Product weight	[g]	1,000	1,000	2,100	2,800

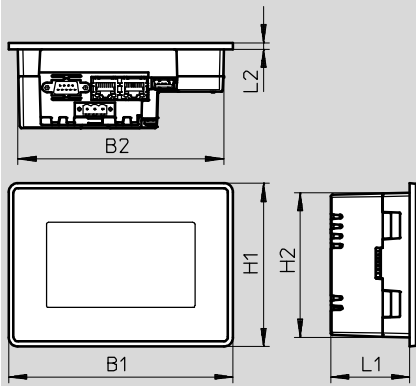
# Operator units CDPX

Technical data

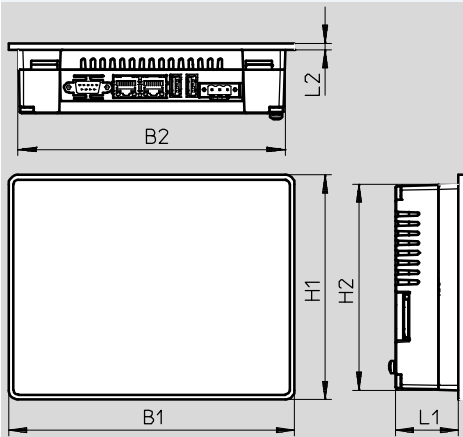
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

CDPX-X-A-W-4



CDPX-X-A-W-7



Type	B1	B2	H1	H2	L1	L2
CDPX-X-A-W-4	149	136	109	96	56	4.5
CDPX-X-A-W-7	187	176	147	136	47	4

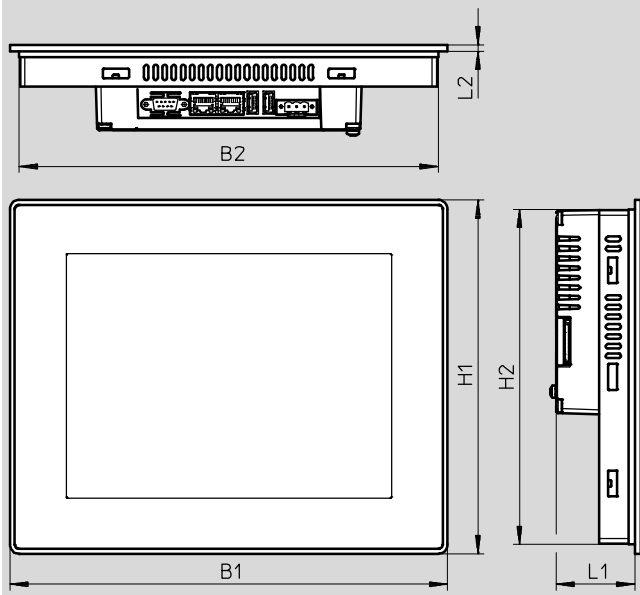
# Operator units CDPX

Technical data

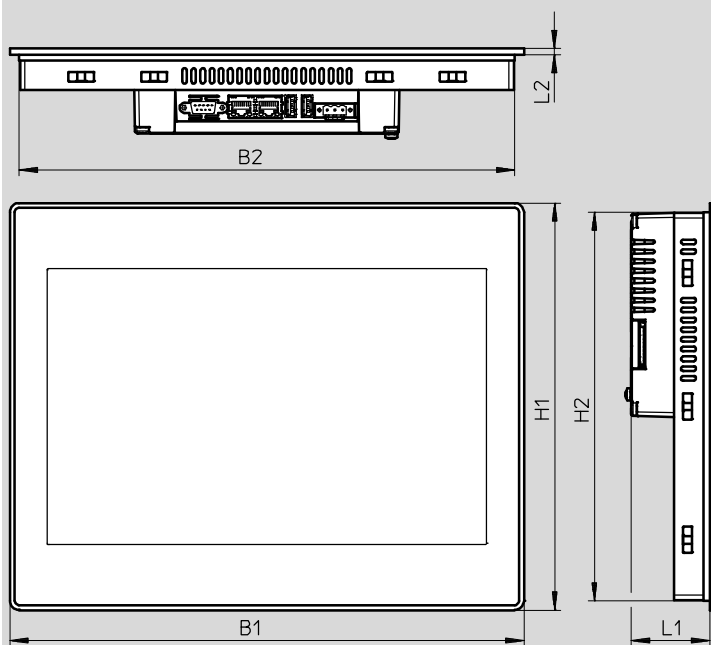
## Dimensions

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CDPX-X-A-S-10



CDPX-X-A-W-13



Type	B1	B2	H1	H2	L1	L2
CDPX-X-A-S-10	287	276	232	221	56	4
CDPX-X-A-W-13	336	326	267	256	56	4

## Ordering data

Display resolution	Display size	Number of colours	Part No.	Type
WQVGA, 480x272 pixels	4.3"	64 k	574410	CDPX-X-A-W-4
WVGA, 800x480 pixels	7"		574411	CDPX-X-A-W-7
SVGA, 800x600 pixels	10.4"		574412	CDPX-X-A-S-10
WXGA, 1280x800 pixels	13.3"		574413	CDPX-X-A-W-13



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Technical data

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General technical data on the software licence, bus interface		
	Software licence CDPX-SL-C3	Fieldbus interface CDPX-F-CO
Programming software	Codesys V3.5 pbf	–
Programming languages	LD, FBD, SFC, IL, ST, CFC	–
Ethernet, supported protocols	TCP/IP, EasyIP, Modbus TCP	–
Fieldbus interface type	–	CANOpen
Fieldbus interface, connection technology	–	Plug, sub-D, 9-pin
Fieldbus interface, transmission rate	–	9.6 kbit/s up to 1 mbit/s
Installation depth [mm]	–	24
Height [mm]	–	91
Length [mm]	–	41
Note on materials	–	RoHS-compliant

Fitting dimensions for input/output module			
		CDPX-EA-V1	CDPX-EA-V2
Installation depth [mm]		34	34
Height [mm]		89	89
Length [mm]		125	41

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Technical data

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Digital inputs on the input/output module		
	CDPX-EA-V1	CDPX-EA-V2
Number	20	8
Fast counting inputs	2	–
Incremental encoder connection	2	–
Input signal delay	[ms]	0.1
	[ms]	3
	[ms]	10
	[ms]	20
Input voltage/current	V [DC]	24
Nominal value for TRUE	V [DC]	12 ... 30
Nominal value for FALSE	V [DC]	0
Electrical isolation	Yes	Yes

Analogue inputs on the input/output module		
	CDPX-EA-V1	CDPX-EA-V2
Number	8 single-ended / 4 differential	–
Resolution	12 bits	–
Signal range	[V]	±10
	[V]	0 ... 10
	[mA]	0 ... 20
		PT 100
Absolute accuracy at 25°C	[%]	0.1
Linearity error at 25°C	[%]	0.1% full scale
Input resistance	47 ohms	–

Digital outputs on the input/output module		
	CDPX-EA-V1	CDPX-EA-V2
Number	12	7
Contact	–	1 relay
Output voltage	V [DC]	12 ... 30
Output current	[A]	0.5
Electrical isolation	Yes	Yes
Short circuit proof	Yes	Yes
Overload proof	Yes	Yes

Analogue outputs on the input/output module		
	CDPX-EA-V1	CDPX-EA-V2
Number	4	–
Resolution	12 bit	–
Max. load resistance	[ohms]	470
Signal range		±10
Linearity error at 25°C	[%]	0.2

# Operator units CDPX

Technical data

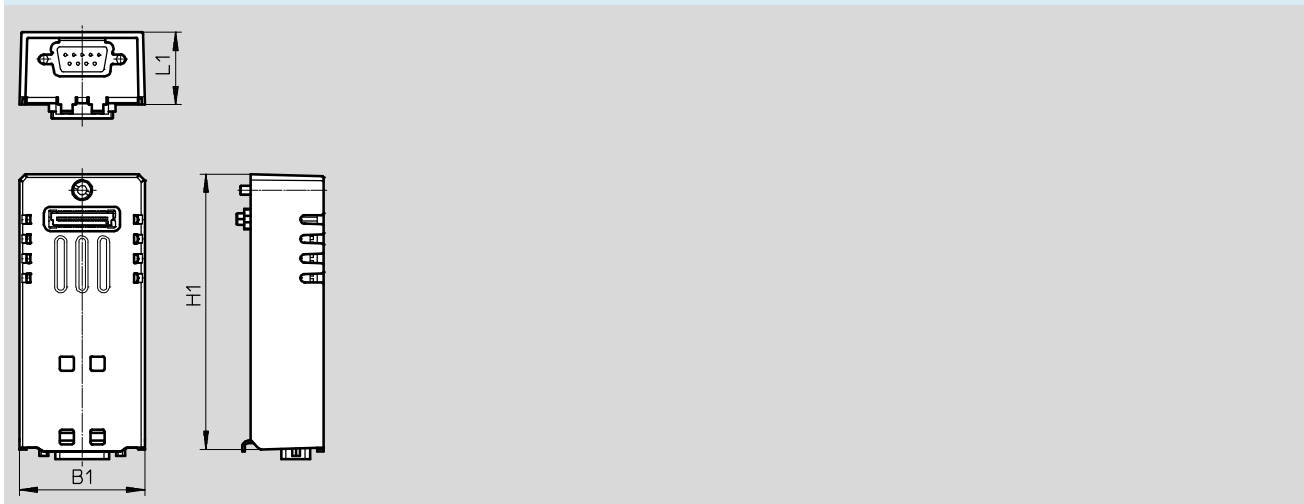
Operating and environmental conditions		
Ambient temperature	[°C]	0 ... 50
Storage temperature	[°C]	-20 ... 70
Relative air humidity	[%]	5 ... 85
		Non-condensing
CE marking (see declaration of conformity)		In accordance with EU EMC Directive <sup>1)</sup>
Certification		cULus listed (OL)
		C-Tick
Protection class		IP20
Note on materials		Conforms to RoHS

- 1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.  
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Weight [g]				
		Bus interface CDPX-F-CO	Input/output module CDPX-E-V1	Input/output module CDPX-E-V2
Product weight	[g]	150	230	80

## Bus interface dimensions

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Type	B1	H1	L1
CDPX-F-CO	41.2	90.3	23.8

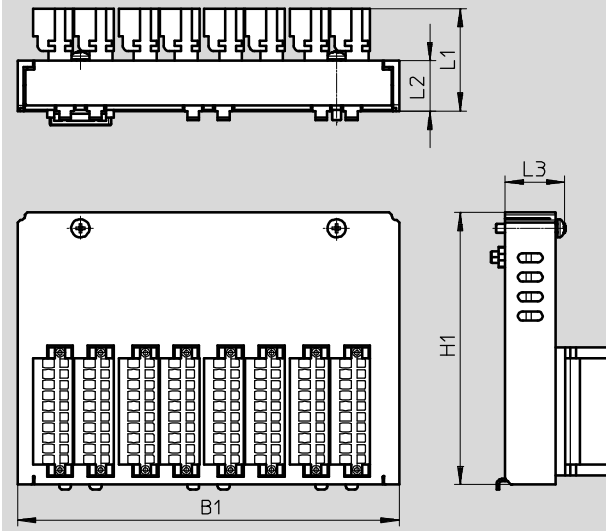
# Operator units CDPX

Technical data

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## I/O module dimensions

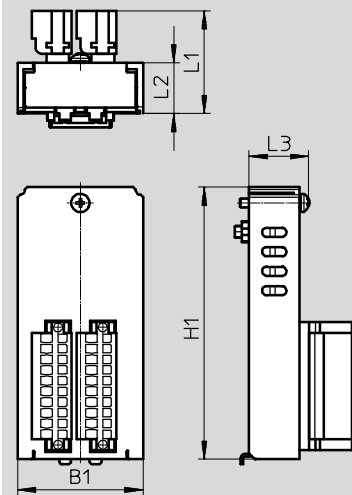
Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	H1	L1	L2	L3
CDPX-EA-V1	125.2	89.3	33.7	16.6	20

## I/O module dimensions

Download CAD data → [www.festo.com](http://www.festo.com)






Type	B1	H1	L1	L2	L3
CDPX-EA-V2	41.2	89.3	33.7	16.6	20

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Technical data

Ordering data				
Display resolution	Display size	Number of colours	Part No.	Type
WQVGA, 480x272 pixels	4.3"	64 k	574410	CDPX-X-A-W-4
WVGA, 800x480 pixels	7"		574411	CDPX-X-A-W-7
SVGA, 800x600 pixels	10.4"		574412	CDPX-X-A-S-10
WXGA, 1280x800 pixels	13.3"		574413	CDPX-X-A-W-13

Ordering data				
	Description	Part No.	Type	
–	Software licence	576045	CDPX-SL-C3	
	Bus interface	575301	CDPX-F-C0	
	I/O module	575300	CDPX-EA-V1	
	I/O module	8023321	CDPX-EA-V2	