

Operator units CDPX

FESTO



Characteristics

Features

CDPX panels from Festo 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

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

The Front End Displays with touchscreen CDPX

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The CDPX panels visualise data and, at the same time, operate as on-site servers and for external clients worldwide; networking made simple thanks to the Ethernet interface with integrated switch. They are distinguished by a high-resolution graphic display and simple, intuitive project engineering 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 communication 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 used to create a space-saving controller concept.

Bus interface, I/O module

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The addition to the 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 operator 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 LD, FCH, SFC, ST, IL or CFC programming languages. External components can be controlled via the integrated Ethernet interfaces with the help of the Modbus TCP protocol.

The optional CANopen master interface permits simple control of Festo valve terminals and electric drives. Commercially available CANopen products can also be directly 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 operator unit.

Functions

- | | | | |
|---|--------------------|----------------------------------|--------------------------------------|
| • Data display in numerical, textual and graphic form | • Trend display | • Editor for JavaScript language | • Extendable memory range on SD card |
| • Data acquisition | • Recipe handling | • Security management | • Web browser |
| | • Alarm management | • Audit trail | • IP camera image display |
| | • Multilingual | • Scheduler functionality | |

Product range overview, type codes

Type	Display resolution	Number of colours	Display size	Interfaces	→ Page/Internet
Front End Display with touchscreen					
CDPX-X-A-W-4	WQVGA, 480x272 pixels	64 k	4.3"	USB, Ethernet ¹⁾ , RS485, USB, SD card	4
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

001	Series
CDPX	Operator unit



002	Function module
SL	Software licence
EA	Inputs/outputs
F	Fieldbus connection

003	Device version
	None
A	Standard version

004	Display format
	None
S	Standard 4:3
W	Widescreen 16:9

005	Display size ["]
	None
4	4.3
7	7
10	10.4
13	13.3

Data sheet

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



General technical data of 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 design		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	[Kbyte]	32			
Event lists		2048			
Alarms		2000			
Pages		1000			
Tags		10000			
Widgets		2000			
Objects per page		2000			
Users		50			
Simultaneous client access		4			
Trend buffer		30			
Curves per trend widget		5			
Recipes		32			
Parameter sets per recipe		32000			
Event buffer		4			
Events per event buffer		2048			
JavaScript file size per page	[Kbyte]	8			
Project size		30			
Scheduler		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			

Data sheet

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			
Degree of protection		IP65 at the front after installation into control panel, IP20 at the back			

Operating and environmental conditions

Ambient temperature	[°C]	0 ... +50			
Storage temperature	[°C]	-20 ... +70			
Relative humidity	[%]	5 - 85			
		Non-condensing			
CE marking (see declaration of conformity)		To EU EMC Directive ¹⁾			
Certification		C-Tick			
		cUL us Listed (OL)			

1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

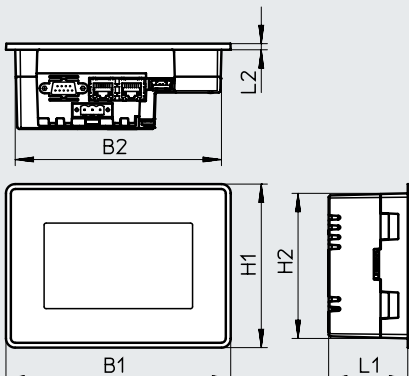
Weight [g]		CDPX-X-A-W-4	CDPX-X-A-W-7	CDPX-X-A-S-10	CDPX-X-A-W-13
Product weight	[g]	1000	1000	2100	2800

Data sheet

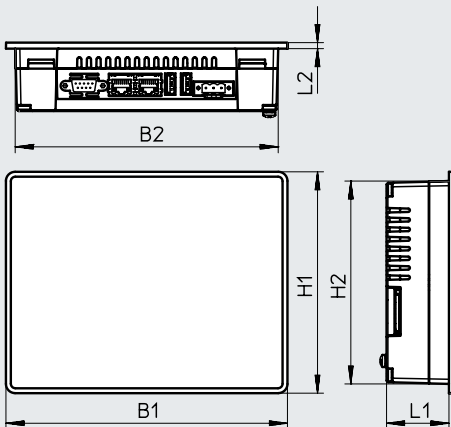
Dimensions

Download CAD data → www.festo.com

CDPX-X-A-W-4



CDPX-X-A-W-7



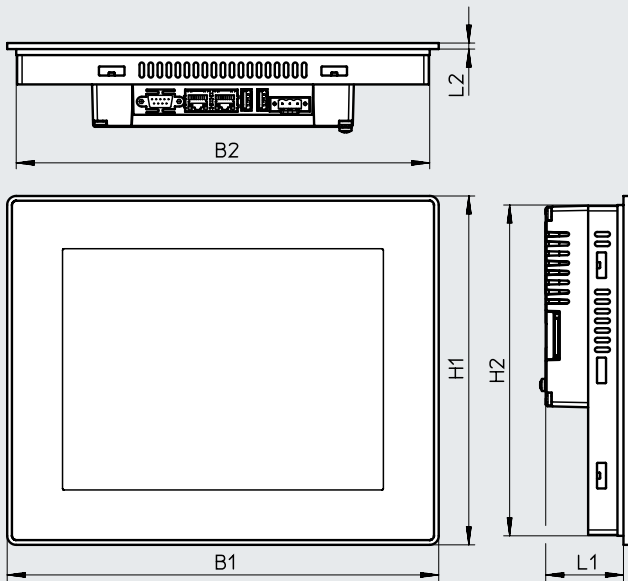
Type	B1	B2	H1	H2	L1	L2
CDPX-X-A-W-4	149	136	109	96	56	4.5
CDPX-X-A-W-7	187	176	147	136	47	4

Data sheet

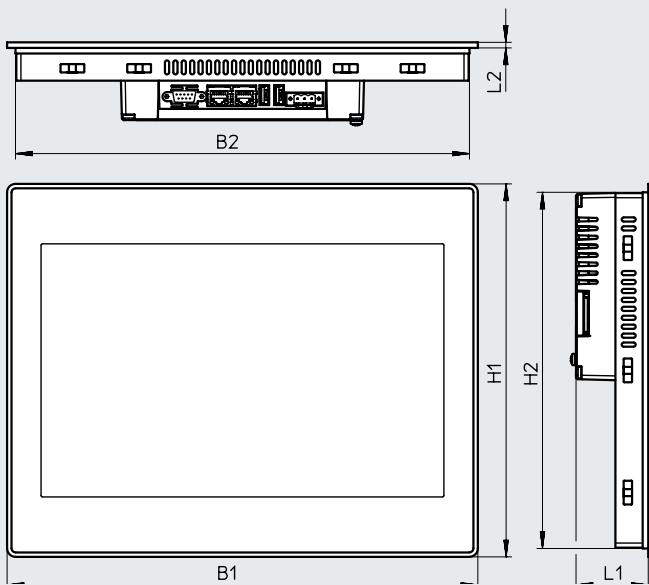
Dimensions

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CDPX-X-A-S-10

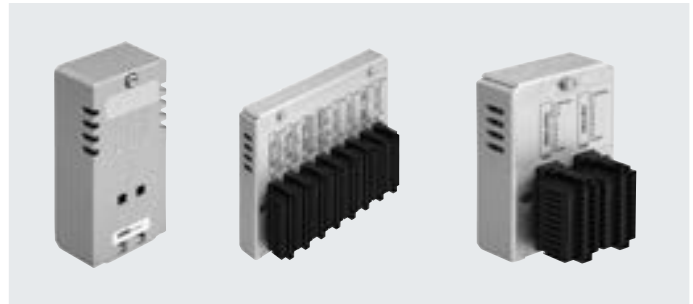


CDPX-X-A-W-13



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

Data sheet



General technical data on the software license, bus interface		Software license CDPX-SL-C3	Bus interface CDPX-F-CO
Programming software		CODESYS V3.5 pbf	–
Programming languages		LD, FCH, SFC, STL, ST, CFC	–
Protocols supported with Ethernet		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

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

Data sheet

Digital inputs on the input/output module		CDPX-EA-V1	CDPX-EA-V2
Number		20	8
High-speed clock pulse inputs		2	–
Incremental encoder connection		2	–
Input signal delay	[ms]	0.1	0.1
	[ms]	3	3
	[ms]	10	10
	[ms]	20	20
Input voltage/current	V [DC]	24	24
Nominal value for TRUE	V [DC]	12 ... 30	12 ... 30
Nominal value for FALSE	V [DC]	0	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 bit	–
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% FS	Yes
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	12 ... 30
Output current	[A]	0.5	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	–

Data sheet

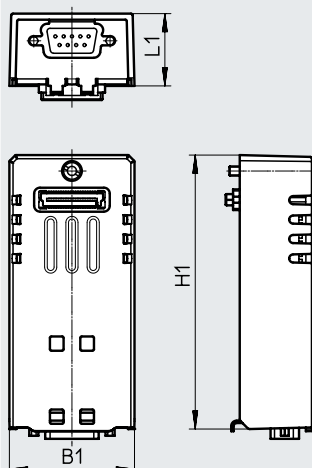
Operating and environmental conditions		
Ambient temperature	[°C]	0 ... 50
Storage temperature	[°C]	-20 ... 70
Relative humidity	[%]	5 ... 85
		Non-condensing
CE marking (see declaration of conformity)		To EU EMC Directive ¹⁾
Certification		c UL us Listed (OL)
		C-Tick
Degree of protection		IP20
Note on materials		RoHS-compliant

- 1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.
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Weight [g]		Bus interface CDPX-F-CO	Input/output module CDPX-EA-V1	Input/output module CDPX-EA-V2
Product weight	[g]	150	230	80

Bus interface dimensions

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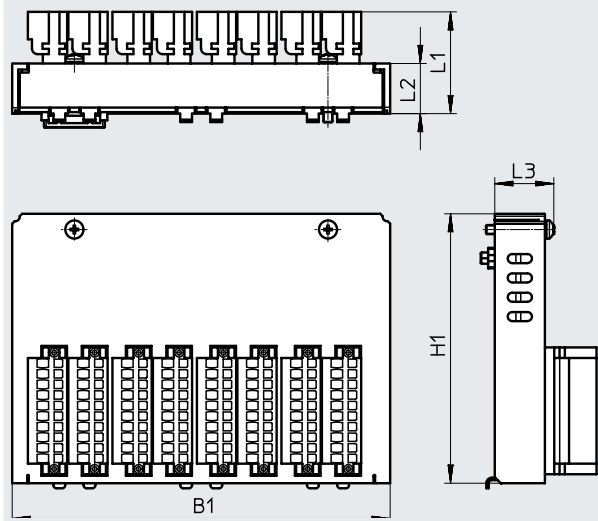


Type	B1	H1	L1
CDPX-F-CO	41.2	90.3	23.8

Data sheet

I/O module dimensions

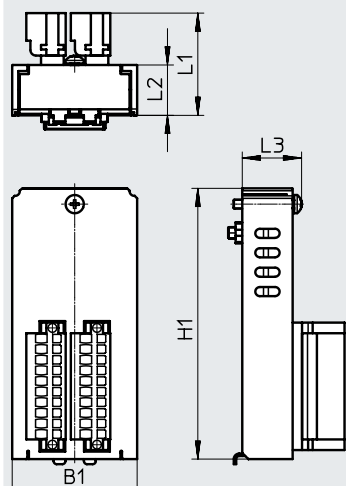
Download CAD data → www.festo.com



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



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

Data sheet

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			
	Designation	Part no.	Type
–	Software license	576045	CDPX-SL-C3
	Bus interface	575301	CDPX-F-C0
	I/O module	575300	CDPX-EA-V1
	I/O module	8023321	CDPX-EA-V2