

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

→Page 5

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

→Page LEERER MERKER

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 con-

trolled 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 CAN-open products can also be controlled.

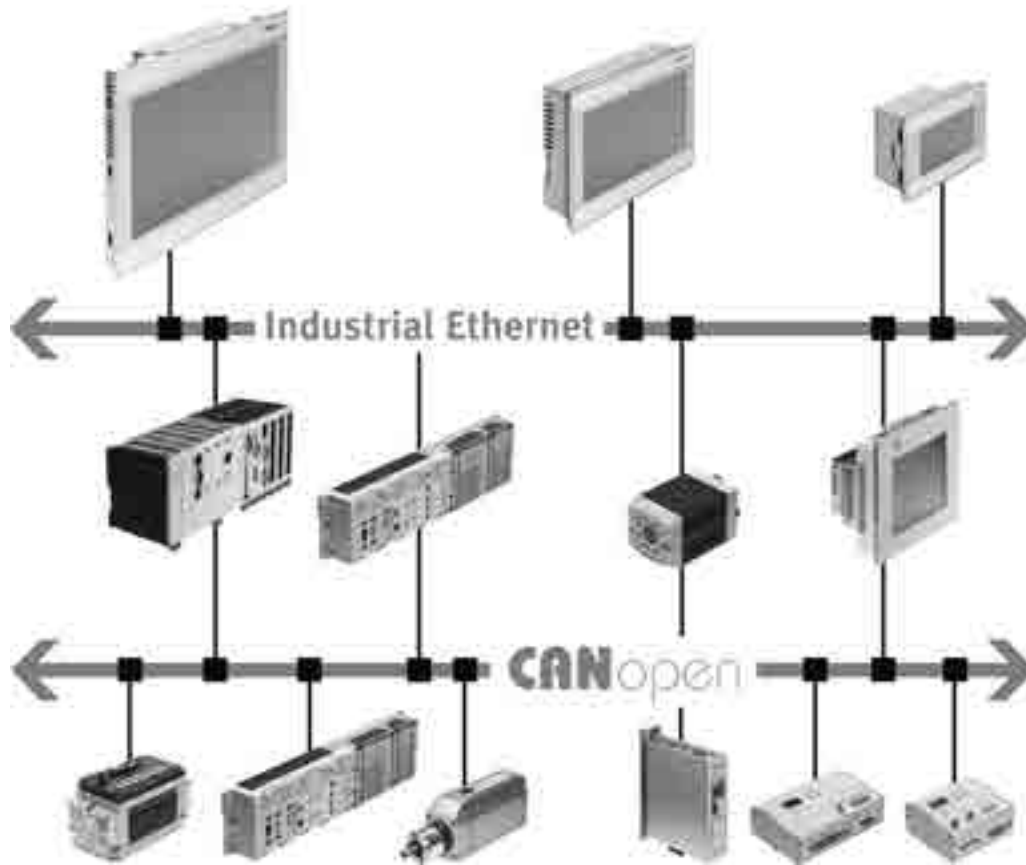
If the application requires local digital and/or analogue inputs and outputs, one or two optional I/O modules are simply plugged in at the back of the CDPX display and control unit.

Operator units CDPX

Features

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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

Operator units CDPX

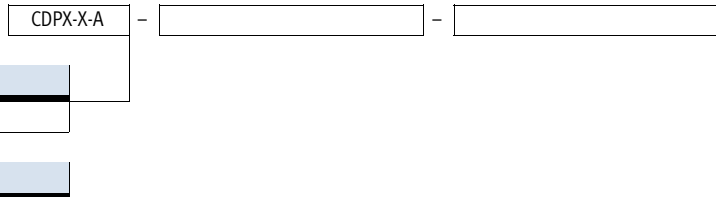
Product range overview, type codes

| 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 | 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 |
|-------------------------|-----------------|
| Software licence | |
| CDPX-SL-C3 | 9 |
| Bus interface | |
| CDPX-F-CO | 9 |
| I/O module | |
| CDPX-EA-V1 | 10 |
| CDPX-EA-V2 | |

Type codes





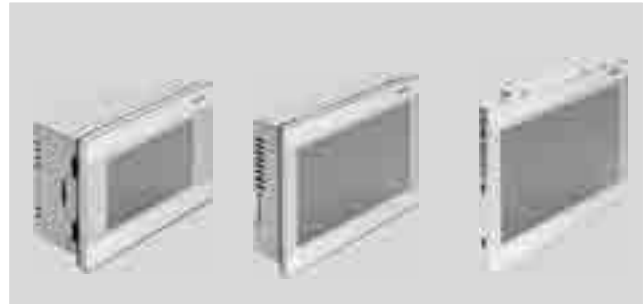
| Function | |
|----------|---------------|
| CDPX-X-A | Operator unit |

| 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 ¹⁾ |
| 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 → User documentation.
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 |

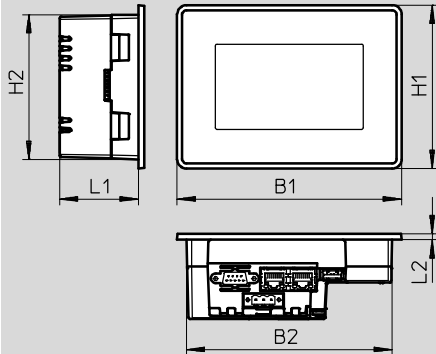
Operator units CDPX

Technical data

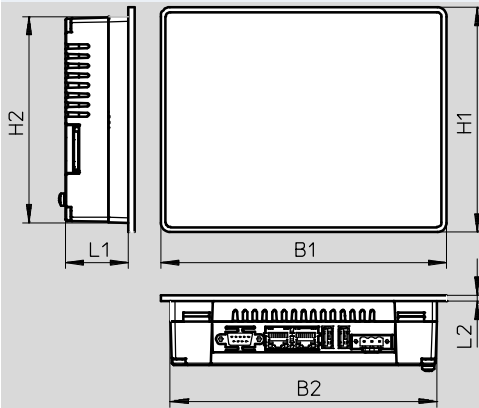
Dimensions

Download CAD data → www.festo.com

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 |

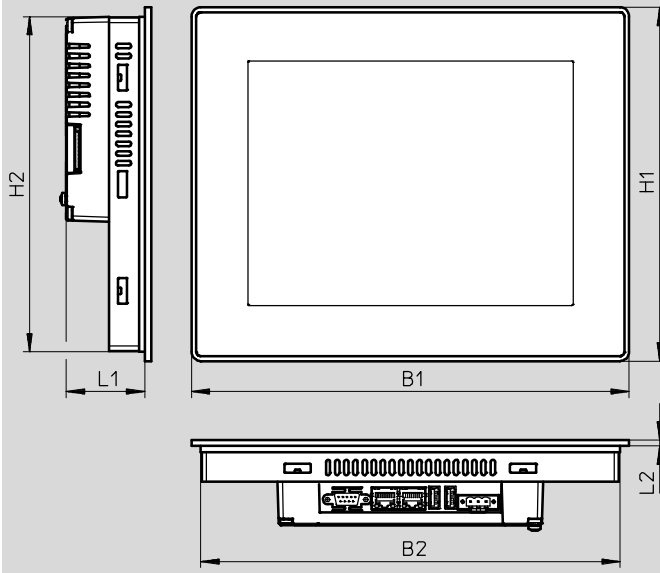
Operator units CDPX

Technical data

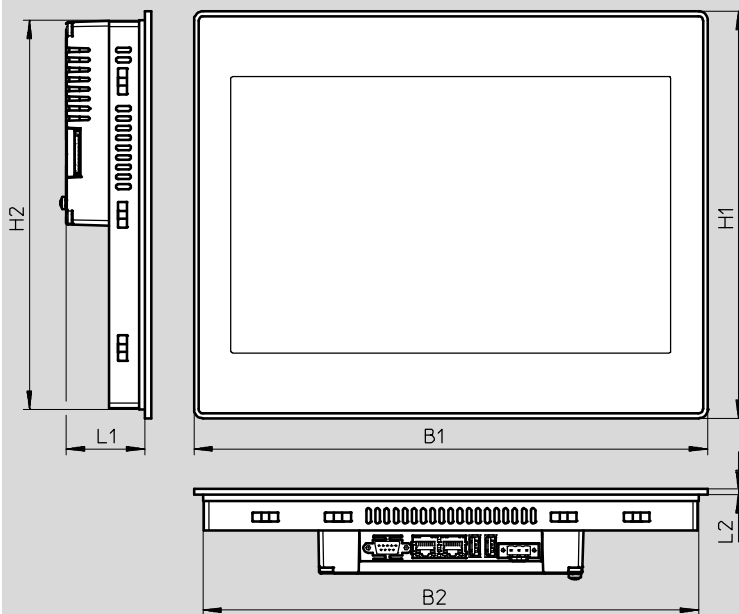
Dimensions

Download CAD data → www.festo.com

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 |

Operator units CDPX

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 |

Operator units CDPX

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 ¹⁾ |
| 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 → User documentation.
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] | | | | |
|----------------|-----|----------------------------|----------------------------------|----------------------------------|
| | | 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 Download CAD data → www.festo.com

The image shows three technical drawings of the bus interface. The top-left drawing is a side view showing the height dimension H1. The top-right drawing is a front view showing the width dimension B1. The bottom drawing is a top view showing the length dimension L1. The drawings illustrate the physical layout of the connector and its mounting points.

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

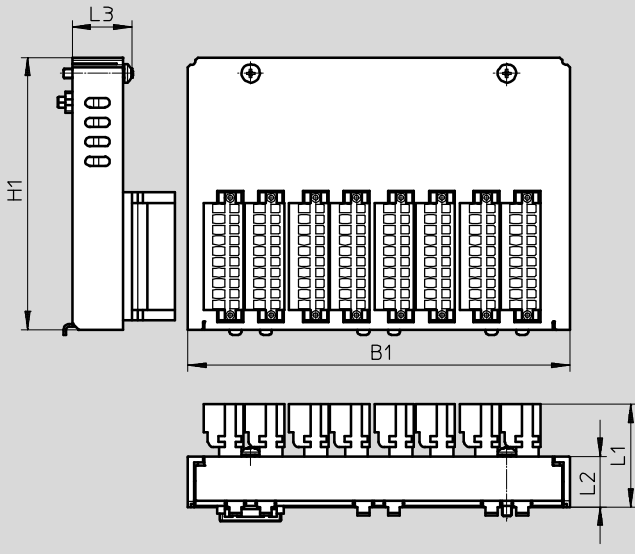
Operator units CDPX

Technical data

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I/O module dimensions

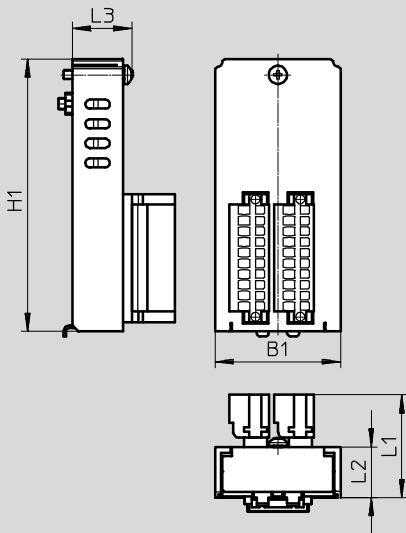
Download CAD data → www.festo.com



| 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 |

Operator units CDPX

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 | |

Product Range and Company Overview

A Complete Suite and Company Overview

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
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The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drivers



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Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 16,000 employees in 60 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.

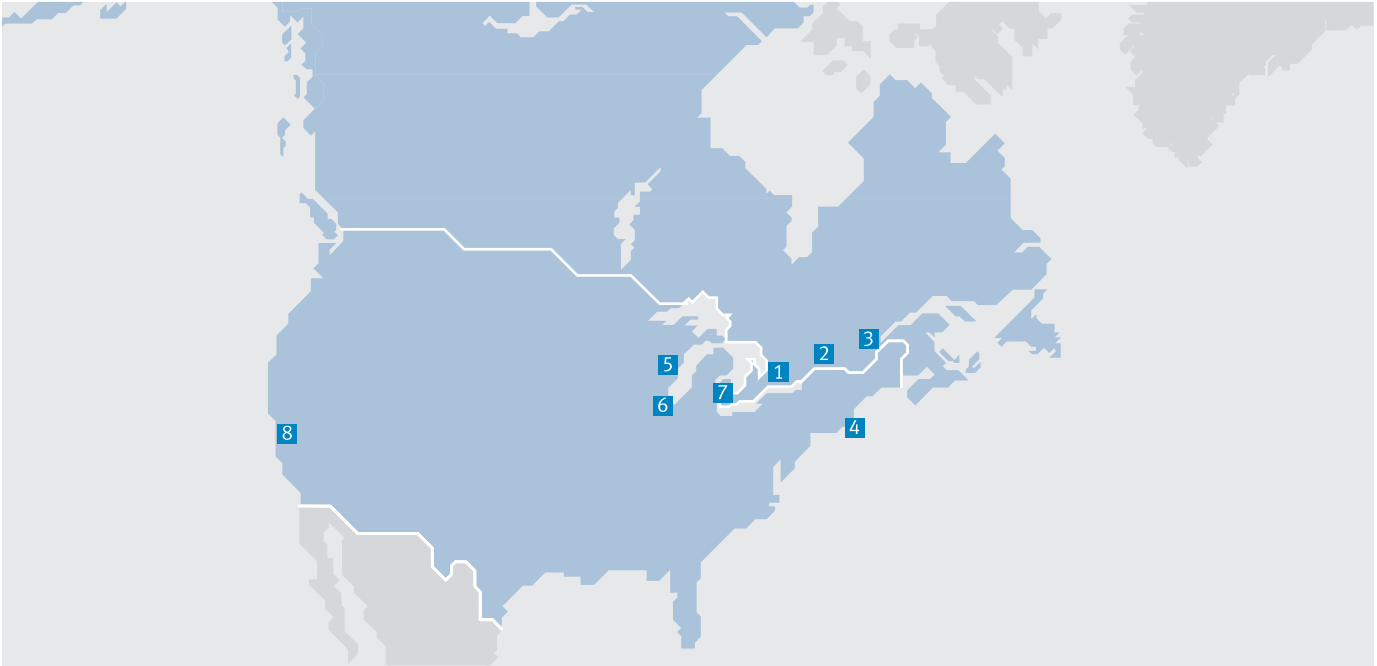


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