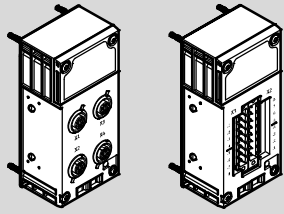


Input module CPX-P-8DE-N...



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Brief Description
(Translation of the original instructions)

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[8089307]

Input module CPX-P-8DE-N... English

For all available product documentation → www.festo.com/pk

1 Intended use

The CPX-P modules have been designed for use in the P-variant CPX terminal from Festo.

The input module CPX-P-8DE-N can also be used in the Festo CPX terminal under the following conditions:

- When combined with interlinking blocks in metal design
- Use for non-intrinsically safe wiring

The CPX-P modules each consist of an electronics module that is mounted, together with a combinable connection block, in an interlinking block of metal design. During operation, the specified limits for technical data must be adhered to.

You can find detailed information in the description of the CPX-P module P.BE-CPX-P-EA-...
For CPX-P-8DE-N-**IS**, also pay attention to the related special documentation.

Warning

- Before carrying out installation and maintenance work, switch off the following:
 - Compressed air supply,
 - Operating and load voltage supply.
- Connect an earth conductor of sufficient cable cross section to the connection of the CPX terminal marked with the earth symbol.

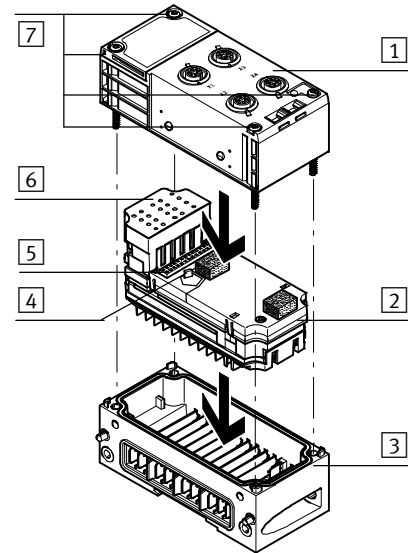
The CPX-P modules contain electrostatically sensitive devices.

- Therefore, do not touch any components. Observe the handling specifications for electrostatically sensitive devices.

Note

- Only place into operation a CPX terminal (-P) which has been completely mounted and wired.

2 Connection and display components



- | | |
|--|--------------------------------------|
| Connection block ¹⁾ with electrical connections | Coding pin |
| CPX-P module ¹⁾ (electronics module) | Electrical plug connector |
| Interlinking block ¹⁾ with contact rails | LEDs of the CPX-P module |
| | Screws, tightening torque 1 Nm ±10 % |

1) Example
Fig. 1

LEDs	Meaning
0 ... 7 (green)	Status LEDs for inputs
red	– Module error LED (combined fault display) – Channel error LED

Fig. 2

3 Installation instructions

3.1 Combinations of electronics modules/connection blocks

Electronics modules of version ...-IS may only be equipped with the respective connection blocks of version ...-IS, and vice versa. To avoid assignment errors, connection blocks and electronics modules of version ...-IS are marked with blue colour markings and coded mechanically at the factory (see description P.BE-CPX-P-EA-...).

The combination of components of the version ...-IS with other versions is not permitted (→ Technical data in section 5).

The following connection blocks are available for CPX-P modules:

Connection blocks CPX-P-...	Description
...-AB-4xM12-4pol- 8DE-N-IS ²⁾	M12 connection block for input module CPX-P- 8DE-N-IS
...-AB-2xKL-8pol- 8DE-N-IS ²⁾	Terminal connection block for input module CPX-P- 8DE-N-IS
...-AB-4xM12-4pol ³⁾	M12 connection block for CPX-P modules of standard design
...-AB-2xKL-8pol ³⁾	Terminal connection block for CPX-P modules of standard design

2) Suitable for connection of intrinsically safe field devices

3) Suitable only for **not** intrinsically safe circuits

Fig. 3

4 Fitting and removal

The plugs and lines at the connection block can remain attached when the connection block is removed or to replace the electronics module.

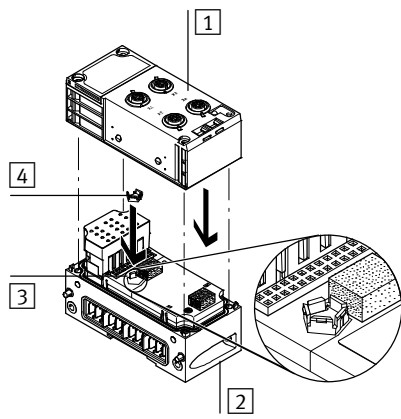
4.1 Encode connection block mechanically (optional)

Connection blocks of version -IS are already mechanically coded at the factory.

Caution

Modules and connection blocks may be damaged if they are not handled correctly.

- During assembly, make sure that the mechanical coding is correct.



- 1 Connection block (here type CPX-PAB-4xM12-4pol)
- 2 Interlinking block (here CPX-M-GE-EV)
- 3 Coding pin
- 4 Coding element

Fig. 4

Perform mechanical coding as follows prior to initial mounting of uncoded connection blocks:

1. Make sure that no coding element is still plugged into the connection block. To remove coding elements, see description P.BE-CPX-P-....
2. Push the electronics module carefully and without tilting into the interlinking block up to the stop (→ Section 4.2; Mount module).
3. Lay the interlinking block with electronics module horizontally on a flat surface.
4. Insert the proper coding element (versions A and B are possible) in the proper position onto the coding pin of the electronics module. This ensures correct orientation of the coding element.
5. Align the connection block via the interlinking block with the electronics module. Make sure that the plug connectors of the connection block and electronics module are exactly opposite each other.
6. Push the connection block carefully and without tilting onto the electronics module until the coding element catches in the intended cut-out on the bottom of the connection block.

4.2 Mounting the module



Note

Incorrect handling can damage the product.

- Observe the specified tightening torques.
- Make sure that connecting surfaces are clean and seals undamaged (to ensure sealing effect, avoid contact errors).
- Avoid mechanical tension (tighten screws evenly crosswise).

Mounting the electronics module

1. Insert the electronics module in the proper position into the interlinking block.
2. Align the electronics module so that the appropriate slots with the terminals for electrical contact on the bottom of the electronics module lie directly above the contact rails.
3. Then press the electronics module carefully and without tilting into the interlinking block up to the stop.

Mount the connection block

1. Check whether the connection block is correctly mechanically coded. If necessary, perform a new mechanical coding (see Section 4.1).
2. Align the connection block via the interlinking block with the electronics module. Make sure that the plug connectors of the connection block and electronics module are exactly opposite each other. Then carefully press the connection block onto the interlinking block without tilting.
3. Tighten the four screws only by hand. Then tighten all four screws diagonally with a Torx screwdriver of size T10.
 - Tightening torque 1 Nm ± 10 %



The lower right screw is used internally as an earth terminal between the interlinking block and connection block.

4.3 Remove module

Remove connection block

1. Loosen the 4 screws of the respective connection block with a Torx screwdriver of size T10.
2. Without tilting, carefully disconnect the connection block from the electrical plug connector of the electronics module.

Dismantling the electronics module

- Pull the electronics module carefully and without tilting away from the contact rails of the interlinking block.

4.4 Installation

Connection of field devices to the CPX-P modules depends on the connection block used and the CPX-P module.



Note

- When connecting field devices, observe the instructions in the description “CPX-P modules P.BE-CPX-P-EA-...”.

5 Technical data



For product versions with corresponding approvals and certificates (→ Product labels) in connection with potentially explosive areas, observe the specifications in the related special documentation (→ www.festo.com/sp).

Input module CPX-...	...P-8DE-N	...P-8DE-N-IS
General technical data of the CPX terminal (-P)	→ CPX system description (P.BE-CPXSYS...)	
Product weight [g]	100	
Mechanical characteristic values		
Type of mounting	on interlinking block CPX-M-GE...	
Compatible with the CPX interlinking blocks	– CPX-M-GE-EV – CPX-M-GE-EV-S-7/8-5POL-VL – CPX-M-GE-EV-Z-7/8-5POL-VL Only in the non-ATEX zone: – CPX-M-GE-EV-S-7/8-5POL – CPX-M-GE-EV-Z-7/8-5POL	
Compatible with the connection blocks	– CPX-P-AB-2XKL-8POL – CPX-P-AB-4XM12-4POL	– CPX-P-AB-2XKL-8POL-8DE-N-IS; – CPX-P-AB-4XM12-4POL-8DE-N-IS
Electric characteristic values – power supply		
Nominal operating voltage [V DC]	24	
Operating voltage range DC [V DC]	24 ± 25%	
Switch-on current limitation [A]	Yes, > 3	
Reverse polarity protection	For operating voltage	
Intrinsic current consumption at nominal operating voltage [mA]	Typ. 75	
Power failure buffering [ms]	20 (without loss of the parameter data)	
Electric characteristic values – sensors inputs		
Open circuit voltage [V]	8.0 ± 10 % (within EN 60947-5-6)	
Hysteresis	To EN 60947-5-6	
Internal resistance of the circuit amplifier		
Switching level	Within EN 60947-5-6	
Inputs characteristic curve		
Residual ripple [Vpp]	0.4	
Maximum length of sensor supply lines [m]	Max. 200 (at min. 0.1424 mm ² , resistance < 50 ohms for the entire line length)	
Number of inputs	8	
Electrical isolation channel – channel	No	
Electrical isolation channel – internal bus	Yes, in accordance with EN 50178	
Electrical isolation between intrinsically safe and not intrinsically safe circuit parts	–	Yes
Fuse protection (short circuit)	Per channel	
Special functions channel 0 ... 3	Operating mode A, B, C, D (→ Description P.BE-CPX-P-EA-...)	
Ambient characteristics		
Storage temperature [°C]	-20 ... +70	
Ambient temperature	→ CPX system description (P.BE-CPXSYS...)	
Relative humidity		
Degree of protection in accordance with EN 60 529	Dependent on the connection block → Technical data of connection block	
Characteristic values for explosion prevention and protection	– (Not permitted)	Related ATEX special documentation → www.festo.com/sp

Fig. 5

Connection block	Degree of protection	Ports
CPX-P-AB-4xM12-4pol-8DE-N-IS ¹⁾	With mounted plug connectors or protective cap ISKM12 mounted on interlinking block: IP65 ³⁾	4 x socket, 4-pin, A-coded, M12X1 round plug connector
CPX-P-AB-4xM12-4pol ²⁾		
CPX-P-AB-2xKL-8pol-8DE-N-IS ¹⁾	At the terminal connection (2x pin header 8-pin), mounted on interlinking block: IP20	2 x COMBICON pin headers, 8-pin (grid = 5.00 mm)
CPX-P-AB-2xKL-8pol ²⁾		

- 1) Suitable for connection of suitable intrinsically safe field devices. Only connectors in accordance with ATEX special documentation permitted!
- 2) Suitable only for not intrinsically safe circuits
- 3) To ensure the housing degree of protection (IP code), the tightening torque of the housing screws, plug connectors and protective caps must be checked semi-annually.

Fig. 6