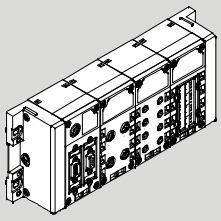
CPX(-M)-GE-EV, -FB20/-FB21, CPX-EPL-EV-S
pin allocation



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Addendum document

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1 Applicable documents

All available documents for the product ➔ www.festo.com/sp.

Documents	Product, type	Contents
Description	P.BE-CPX-SYS-...	System description

Tab. 1

2 Safety

⚠ WARNING!

Risk of injury due to electric shock.

- For the electrical power supply, use only PELV circuits in accordance with IEC 60204-1/EN 60204-1 (protective extra-low voltage, PELV).
- Observe the general requirements of IEC 60204-1/EN 60204-1 for PELV circuits.
- Only use voltage sources that ensure a reliable electric separation from the mains network in accordance with IEC 60204-1/EN 60204-1.
- Always connect all circuits for operating and load voltage supplies $U_{EL/SEN}$ and $U_{VAL/OUT}$.

The use of PELV circuits ensures protection against electric shock (protection against direct and indirect contact) in accordance with IEC 60204-1.

– CPX terminals are supplied with operating and load voltage via interlinking blocks, end plates or bus nodes.

The current consumption of a CPX terminal depends on the number and type of modules and connected components.
Notes on maximum permissible current load:

- Calculation of the current consumption ➔ 1 Applicable documents.
- Power rating per pin ➔ following tables.

When using modules that connect electrically isolated reference potentials internally, e.g. 0 $V_{EL/SEN}$ and 0 V_{OUT} or 0 $V_{EL/SEN}$ and 0 V_{VAL}:

- Connect the corresponding 0 V connections to the power supply or use a common fixed power supply.
- Power supply concept for CPX terminal ➔ 1 Applicable documents.

3 Equipotential bonding (earthing)

The CPX terminal has two earth terminals for equipotential bonding:

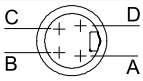
– Earth terminal on the left-hand end plate.
– Pin FE (functional earth) of the system supply, additional supply or valve supply (exception: CPX(-M)-GE-EV-S-7/8-CIP-4POL...).

- Preferably connect the earth terminal of the left-hand end plate to the earth potential with low impedance.
- Alternative 2: connect the earth terminal with low impedance to the earth potential via the FE pin on the plug.
- Alternative 3: with simultaneous earthing via the left-hand end plate and the pin FE on the plug, the earth terminals must be at the same earth potential so that no compensating currents flow.

4 Pin allocation power supply connection

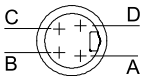
With alphabetical instead of numbered representation of the pin allocation: The coupling (connection socket NECU-G78G4-C2) is marked with 1, 2, 3, 4. Assignment: D=1, C=2, B=3, A=4. Other couplings may differ.

Plug 7/8 ", 4 pins

Plug	Pin	CPX-GE-EV-S-7/8-4POL...	CPX-GE-EV-V-7/8-4POL...	CPX-GE-EV-Z-7/8-4POL...
	A	24 V DC ($U_{EL/SEN}$)	n. c.	n. c.
	B	24 V DC (U_{VAL}/U_{OUT})	24 V DC (U_{VAL})	24 V DC (U_{OUT})
	C	FE	FE	FE
	D	0 V ($U_{EL/SEN}/U_{VAL}/U_{OUT}$)	0 V (U_{VAL})	0 V (U_{OUT})
Load capacity	≤ 10 A per pin			

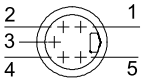
Tab. 2 Plug on interlinking block

Plug 7/8 ", 4 pins

Plug	Pin	CPX(-M)-GE-EV-S-7/8-CIP-4POL...
	A	24 V DC ($U_{EL/SEN}$)
	B	24 V DC (U_{VAL}/U_{OUT})
	C	0 V ($U_{EL/SEN}$)
	D	0 V (U_{VAL}/U_{OUT})
Load capacity	≤ 10 A per pin	

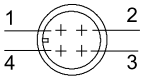
Tab. 3 Plug on interlinking block

Plug 7/8 ", 5 pins

Plug	Pin	CPX(-M)-GE-EV-S-7/8-5POL...	CPX(-M)-GE-EV-Z-7/8-5POL...
	1	0 V (U_{VAL}/U_{OUT})	0 V (U_{OUT})
	2	0 V ($U_{EL/SEN}$)	n. c.
	3	FE	FE
	4	24 V DC ($U_{EL/SEN}$)	n. c.
	5	24 V DC (U_{VAL}/U_{OUT})	24 V DC (U_{OUT})
Load capacity	≤ 8 A per pin		

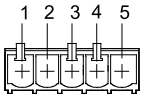
Tab. 4 Plug on interlinking block

Plug M18, 4 pins

Plug	Pin	CPX-GE-EV-S...	CPX-GE-EV-V...	CPX-GE-EV-Z...
	1	24 V DC ($U_{EL/SEN}$)	n. c.	n. c.
	2	24 V DC (U_{VAL}/U_{OUT})	24 V DC (U_{VAL})	24 V DC (U_{OUT})
	3	0 V ($U_{EL/SEN}/U_{VAL}/U_{OUT}$)	0 V (U_{VAL})	0 V (U_{OUT})
	4	FE	FE	FE
Load capacity	≤ 16 A per pin			

Tab. 5 Plug on interlinking block

Push-pull plug connector, 5 pins

Plug	Pin	CPX-M-GE-EV-S-PP-5POL	CPX-M-GE-EV-Z-PP-5POL
	1	24 V DC ($U_{EL/SEN}$)	n. c.
	2	0 V ($U_{EL/SEN}$)	n. c.
	3	24 V DC (U_{VAL}/U_{OUT})	24 V DC (U_{OUT})
	4	0 V (U_{VAL}/U_{OUT})	0 V (U_{OUT})
	5	FE	FE
Load capacity	≤ 16 A per pin		

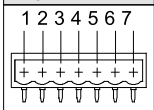
Tab. 6 Plug on interlinking block

Push-pull plug
When using the forwarding function with CPX-M-GE-EV-S-PP-5POL:

- use only one forwarding per terminal
- position immediately to the right of the system supply
- do not use an additional supply
- external fuse

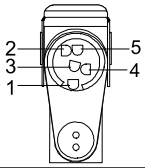
Power supply concept for CPX terminal ➔ 1 Applicable documents.

Plug pin header header, 7 pins

Plug	Pin	CPX-EPL-EV-S
	1	0 V (U_{VAL})
	2	24 V DC (U_{VAL})
	3	0 V (U_{OUT})
	4	24 V DC (U_{OUT})
	5	0 V ($U_{EL/SEN}$)
	6	24 V DC ($U_{EL/SEN}$)
	7	FE
Load capacity	≤ 12 A per pin	

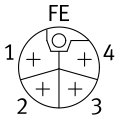
Tab. 7 Plug on end plate

Rugged Line plug, 5 pins

Plug	Pin	CPX-M-FB20	CPX-M-FB21
	1	24 V DC ($U_{EL/SEN}$)	
	2	0 V ($U_{EL/SEN}$)	
	3	24 V DC (U_{VAL}/U_{OUT})	
	4	0 V (U_{VAL}/U_{OUT})	
	5	FE	
Load capacity	≤ 16 A per pin		

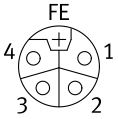
Tab. 8 Mating plug

Plug M12, 5 pins

Plug	Pin	CPX-M-GE-EV-S-M12-5POL
	1	24 V DC ($U_{EL/SEN}$)
	2	0 V (U_{VAL}/U_{OUT})
	3	0 V ($U_{EL/SEN}$)
	4	24 V DC (U_{VAL}/U_{OUT})
	5	FE
Load capacity	≤ 16 A per pin	

Tab. 9 Plug on interlinking block

Bushing M12, 5 pins

Bushing	Pin	CPX-M-GE-EV-W-M12-5POL
	1	24 V DC ($U_{EL/SEN}$)
	2	0 V (U_{VAL}/U_{OUT})
	3	0 V ($U_{EL/SEN}$)
	4	24 V DC (U_{VAL}/U_{OUT})
	5	FE
Load capacity	≤ 16 A per pin	

Tab. 10 Bushing on interlinking block