

CFP* Contact Blocks & Switching Blocks

Manual

With regard to the supply of products, the current issue of the following document is applicable:
The General Terms of Delivery for Products and Services of the Electrical Industry, published
by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elek-
troindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause:
"Expanded reservation of proprietorship"

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1 Introduction

1.1 Content of this Document

This document contains information required to use the product in the relevant phases of the product life cycle. This may include information on the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

Note

For full information on the product, refer to the further documentation on the Internet at www.pepperl-fuchs.com.

The documentation comprises the following parts:

- This document
- Datasheet

The documentation may also comprise the following parts, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- Instruction manual
- Functional safety handbook
- Other documents

1.2 Target Group, Personnel

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

Prior to using the product make yourself familiar with it. Read the document carefully.

1.3 Intended Use

Always operate the device as described in these instructions. Only in this way, the safe function of the device and the connected systems is guaranteed.

The protection of operating personnel and plant is only given if the device is used in accordance with its intended use.

1.4 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

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Depending on the risk level, the warning messages are displayed in descending order as follows:

**Danger!**

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.

**Warning!**

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.

**Caution!**

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols

**Note**

This symbol brings important information to your attention.

**Tip**

This symbol brings an useful tip to your attention.

**Example**

This symbol provides an example of the issue described.

**Action**

1. This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

1.5

General

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Installation and commissioning of all devices may be performed only by trained and qualified personnel.

Protection of operating personnel and the system is not ensured if the product is not used in accordance with its intended use.

Observe the applicable laws and regulations regarding the intended use of the device. The devices are only approved for proper use for the intended purpose. Improper use will void any warranty and liability claims.

The corresponding datasheets, declarations of conformity, and/or EC-type examination certificates form an integral part of this document. The data sheet contains the electronic data of the EC-type-examination certificate.

These documents can be found at www.pepperl-fuchs.com or contact your local Pepperl+Fuchs representative.

2 Certificates and approvals

2.1 Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location. Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable supplement this document. You can find this information under www.pepperl-fuchs.com.

3 Installation

3.1 Storage and Transportation

Keep the original packaging. Always store and transport the device in the original packaging. Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.

3.2 Unpacking

Check the product for damage while unpacking. In the event of damage to the product, inform the post office or parcel service and notify the supplier.

Check the package contents against your purchase order and the shipping documents for:

- Delivery quantity
- Device type and version in accordance with the type label
- Any accessories ordered

Retain the original packaging in case you have to store or ship the device again at a later date.

Should you have any questions, please contact Pepperl+Fuchs.

3.3 Mounting and Installation

Observe the installation instructions according to IEC/EN 60079-14.

If you intend to install the device or enclosure in areas that may be exposed to aggressive substances, ensure that the stated surface materials are compatible with these substances.

If required, contact Pepperl+Fuchs for further information.

Contact Blocks & Switching Blocks

The CFP.* contact block & switching block series is suitable for use in hazardous area zones 1 and 2.

Use the contact blocks & switching blocks under the following atmospheric conditions:

- The pressure is 80 kPa ~110 kPa.
- The volume ratio of standard oxygen is 21% air.
- The components must be enclosed in an explosion-protected enclosure suitable for the environment.

Install this series of components in accordance with IEC60947-5-1.

Tighten the thread with the appropriate torque, see datasheet.

During wiring, the creepage distance of the bare current-carrying must be ≥ 10 mm, the electrical clearance must be ≥ 6 mm.

4 Operation

4.1 Operation, Maintenance, Repair

Observe IEC/EN 60079-17 for maintenance and inspection.

If there is a defect, always replace the device with an original device.

Do not modify or manipulate the device.

4.2 Delivery, Transport, Disposal

The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.

4.3 Technical Data

Contact Blocks & Switching Blocks

CFP.M/C/O, CFP.50 ... 54, CFP.10 ... 23, CFP.01 ... 05, CFP.A/B/D

Electrical specifications	
Operating voltage	250 V max.
Operating current	16 A max.
Terminal capacity	2.5 mm ²
Terminal torque	0.8 Nm
Usage category	AC12: 12 ... 250 V AC – 16A AC15: 12 ... 250 V AC – 10 A DC13: 12 ... 110 V DC – 1 A DC13: 12 ... 24 V DC – 1 A
Mechanical specifications	
Mechanical life	1000000 switching operations
Degree of protection	IP20
Material	
Housing	Polyamide (PA)
Ambient conditions	
Service temperature	-40 ... 90 °C (-40 ... 194 °F)
Data for application in connection with hazardous areas	
EU-Type examination certificate	CML 16 ATEX 3339U
Marking	Ex II 2 G Ex de IIC Gb
International approvals	
IECEx approval	IECEx CML 16.0114U
Conformity	
Degree of protection	EN 60529
Usage category	IEC / EN 60947
CE marking	2829

Table 4.1

CFP.RC/RM/RO

Electrical specifications	
Operating voltage	30 V max.
Operating current	30 mA max.
Terminal capacity	2.5 mm ²
Terminal torque	0.8 Nm
Usage category	AC15: 12 ... 30 V AC - 30 mA DC13: 12 ... 30 V DC - 30 mA
Mechanical specifications	
Mechanical life	1000000 switching operations
Degree of protection	IP20
Material	
Housing	Polyamide (PA)
Ambient conditions	
Service temperature	-40 ... 90 °C (-40 ... 194 °F)
Data for application in connection with hazardous areas	
EU-Type examination certificate	CML 19 ATEX 1177U
Marking	Ⓔ II 2 G Ex db eb IIC Gb
International approvals	
IECEX approval	IECEX CML 19.0053U
Conformity	
Degree of protection	EN 60529
CE marking	2829

Table 4.2

4.4 Dimensions

Contact Blocks & Switching Blocks base-mounted

CFP.M/C/O

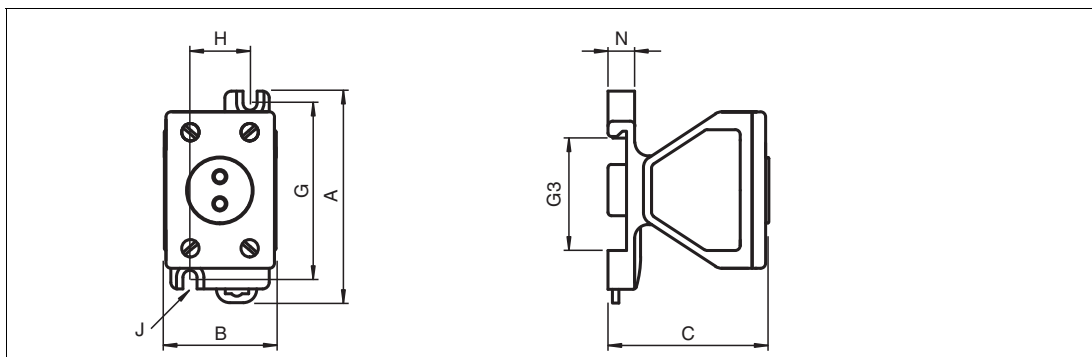


Figure 4.1

CFP.01 ... 05, CFP.RC/RM/RO

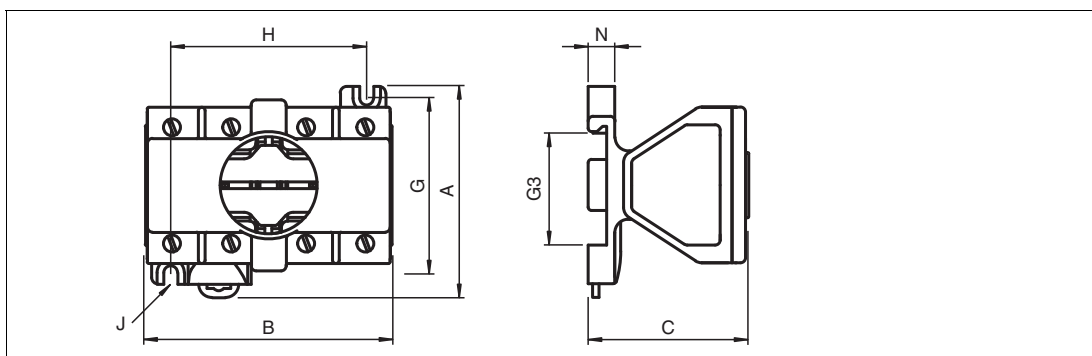


Figure 4.2

CFP.10 ... 23

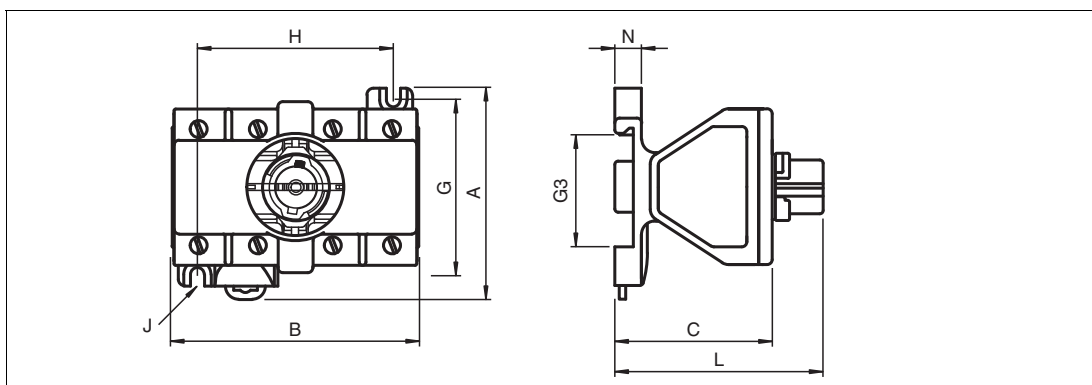


Figure 4.3

Contact Blocks cover-mounted

CFP.A/B/D

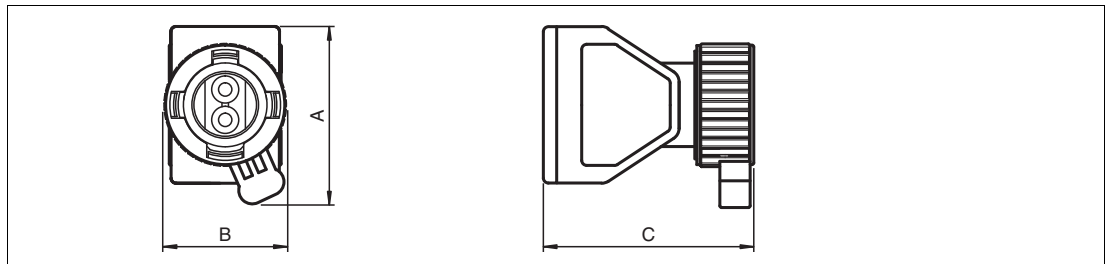


Figure 4.4

CFP.50 ... 54

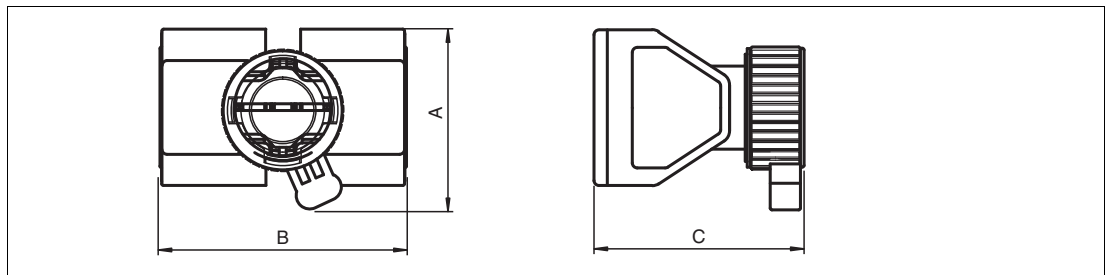


Figure 4.5

4.5 Type Code / Model Number

Contact Blocks & Switching Blocks

1		2		4
CFP	.	*	.	*
CFP	.	M	.	SP

Example: CFP.M.SP

control element Ex e, contact block, with 1x NO / 1x NC contact, base-mounted

1		2		4
CFP	.	*	.	*
CFP	.	A	.	SP

Example: CFP.A.SP

control element Ex e, contact block, with 1x NO / 1x NC contact, cover-mounted

1	Series
CFP	control element Ex e

2	Control Element Type
M/C/O	Contact block
A/B/D	Contact block
RC/RM/RO	Contact block
01 ... 05	Contact block
50 ... 54	Contact block
10 ... 23	Switching Block

4	Product Type
SP	spare part

4.6 Variant-Specific Data

Values might differ slightly due to manufacturing tolerances.

Contact Blocks & Switching Blocks - Dimensions base-mounted

CFP.M/C/O

Mounting	External dimensions [mm]			Mounting holes [mm]			Mounting brackets [mm]	DIN mounting rail receptacle [mm]	Mass [g]
	A	B	C	G	H	Diam. J	N	G3	
base-mounted	63	33.4	50	52	18	4.2	8	35.6	68

Table 4.3

Values might differ slightly due to manufacturing tolerances.

CFP.01 ... 05, CFP.RC/RM/RO

Mounting	External dimensions [mm]			Mounting holes [mm]			Mounting brackets [mm]	DIN mounting rail receptacle [mm]	Mass [g]
	A	B	C	G	H	Diam. J	N	G3	
base-mounted	63	74	58.6	52	58	4.2	8	35.6	165

Table 4.4

Values might differ slightly due to manufacturing tolerances.

CFP.10 ... 23

Mounting	External dimensions [mm]			Mounting holes [mm]			Mounting brackets [mm]	DIN mounting rail receptacle [mm]	Mass [g]
	A	B	C	G	H	Diam. J	N	G3	
base-mounted	63	74	58	52	58	4.2	8	35.6	211

Table 4.5

Values might differ slightly due to manufacturing tolerances.

Contact Blocks & Switching Blocks

CFP.M/C/O

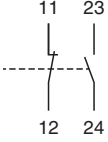
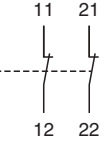
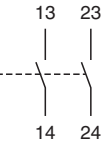
Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.M	base-mounted	2	1x NO/1x NC		
CFP.C	base-mounted	2	2x NC		
CFP.O	base-mounted	2	2x NO		

Table 4.6

Image is an example and color may differ.

CFP.01 ... 05

Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.01	base-mounted	4	2x NO/2x NC		
CFP.02	base-mounted	4	4x NC		
CFP.03	base-mounted	4	4x NO		
CFP.04	base-mounted	4	1x NO/3x NC		
CFP.05	base-mounted	4	3x NO/1x NC		

Table 4.7

Image is an example and color may differ.

CFP.RC/RM/RO

Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.RC	base-mounted	2	2x NC		
CFP.RM	base-mounted	2	1x NO/1x NC		
CFP.RO	base-mounted	2	2x NO		

Table 4.8

Image is an example and color may differ.

CFP.10 ... 23

Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.10	base-mounted	4	4x NO		
CFP.11	base-mounted	4	2x NO/ 2x NC		
CFP.12	base-mounted	4	4x NO		
CFP.13	base-mounted	4	4x NO		
CFP.15	base-mounted	4	3x NO/ 1x NC		
CFP.16	base-mounted	4	3x NO/ 1x NC		
CFP.17	base-mounted	4	3x NO/ 1x NC		
CFP.18	base-mounted	4	1x NO/ 3x NC		

Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.19	base-mounted	4	4x NO		
CFP.23	base-mounted	4	4x NO		

Table 4.9

Image is an example and color may differ.

Contact Blocks - Dimensions cover-mounted**CFP.A/B/D**

Mounting	External dimensions [mm]			Mounting holes [mm]			Mounting brackets [mm]	DIN mounting rail receptacle [mm]	Mass [g]
	A	B	C	G	H	Diam. J	N	G3	
cover-mounted	54	37	63	-	-	-	-	-	79

Table 4.10

Values might differ slightly due to manufacturing tolerances.

CFP.50 ... 54

Mounting	External dimensions [mm]			Mounting holes [mm]			Mounting brackets [mm]	DIN mounting rail receptacle [mm]	Mass [g]
	A	B	C	G	H	Diam. J	N	G3	
cover-mounted	57	73.4	65.7	-	-	-	-	-	166

Table 4.11

Values might differ slightly due to manufacturing tolerances.

Contact Blocks

CFP.A/B/D

Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.A	cover-mounted	2	1x NO/1x NC		
CFP.B	cover-mounted	2	2x NC		
CFP.D	cover-mounted	2	2x NO		

Table 4.12

Image is an example and color may differ.

CFP.50 ... 54

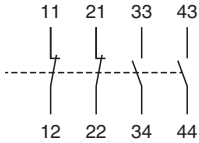
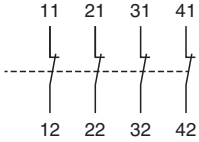
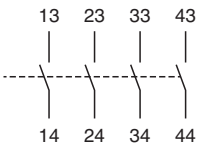
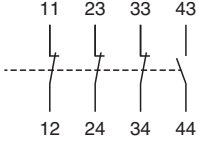
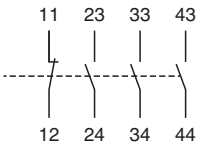
Type	Mounting	Number of poles	Contact configuration	Switching diagram	Image
CFP.50	cover-mounted	4	2x NO/2x NC		
CFP.51	cover-mounted	4	4x NC		
CFP.52	cover-mounted	4	4x NO		
CFP.53	cover-mounted	4	1x NO/3x NC		
CFP.54	cover-mounted	4	3x NO/1x NC		

Table 4.13

Image is an example and color may differ.

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepperl+Fuchs Quality

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