

B-COMMAND[®]



ROTARY LIMIT SWITCH SERIES FCN



The rotary limit switch is a device which allows you to control the movement of industrial and building machines. The shaft is connected to the motor, so that, after a certain number of turns, the cams make the switches work, and then they can carry out their pre-set manoeuvre.

The range of FCN rotary limit switches has been planned with a particular internal symmetry that allows you to have a series of 5 microswitches (on-off exits) as well as some other linear exits, and a potentiometer in the same box.

The innovative and thorough regulation of the cams allows you to set the microswitches working point linearly and micrometrically.

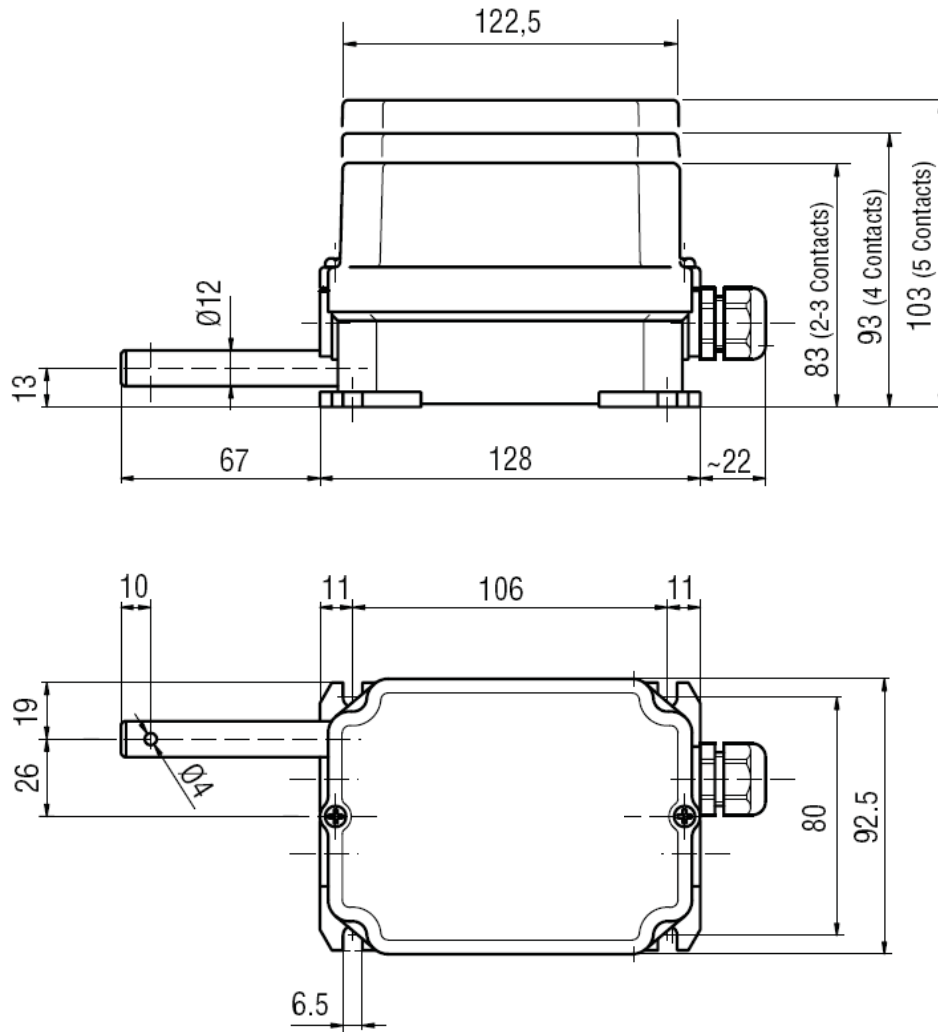
Reduction ratios range turns out to be remarkably large, since microswitches can be fitted with guaranteed opening (EN 60947-5-1) as well as deviation or progressive double opening contacts.

The choice of different cam profiles allows you to modify the limit switches function diagram.

Technical Features General

Marking	: CE
harm. Rules	: EN60947-1, EN60947-5-1, EN60529, EN60204-1, EN60529, EN418, 2006/95 CE, 98/37 CE
Rated Voltage	: 250V ~
Max. Operating Voltage	: 250V ~
Temperature	
Operational	: -20°C - +60°C
Insulation Class	: Class II
Protection Degree	: IP 55
Cable Entry	: one/more cable glands
Material Enclosure	: Thermoplastic material
Material Shaft	: Stainless Steel
Diameter Shaft	: 12mm
Weight	: ca. 300g

Dimensions



Technical Features Contacts

Schalter : 1NC Schleichschalter (Typ P)
 1NO/1NC Sprungschalter zwangsöffnend (Typ D)
 2NC Schleichschalter gestuft (Typ M)
 1NO/1NC Schleichschalter (Typ MD)

harm. Vorschriften : EN60947-5-1
 Isolierspannung : 250V ~
 Betriebsstrom : 10(3)A
 Lebensdauer : 2 Mio. Schaltspiele
 Schaltleistung : gem. EN60947-5-1
 Anschlüsse : Schraubanschluss

Electrical Performance

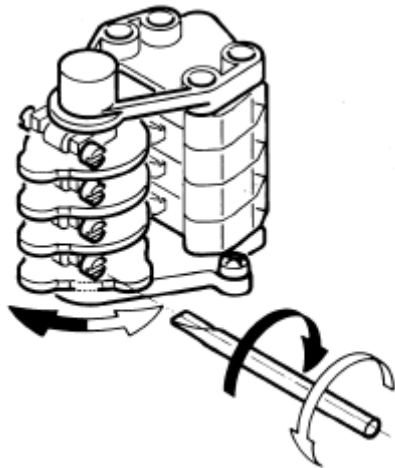
AC15	$V_e(V)$	24	48	110	230
	$I_e(A)$	10	10	6	3
DC13	$V_e(V)$	24	48	110	220
	$I_e(A)$	3	1,5	1	0,5



Revolution Ratios

- 1:7,5 with 2, 3, 4 or 5 Contacts
- 1:15 with 2, 3, 4 or 5 Contacts
- 1:25 with 2, 3, 4 or 5 Contacts
- 1:35 with 2, 3, 4 or 5 Contacts
- 1:50 with 2, 3, 4 or 5 Contacts
- 1:60 with 2, 3, 4 or 5 Contacts
- 1:100 with 2, 3, 4 or 5 Contacts

- 1:120 with 2, 3, 4 or 5 Contacts
- 1:140 with 2, 3, 4 or 5 Contacts
- 1:200 with 2, 3, 4 or 5 Contacts
- 1:275 with 2, 3, 4 or 5 Contacts
- 1:400 with 2, 3, 4 or 5 Contacts
- 1:550 with 2, 3, 4 or 5 Contacts

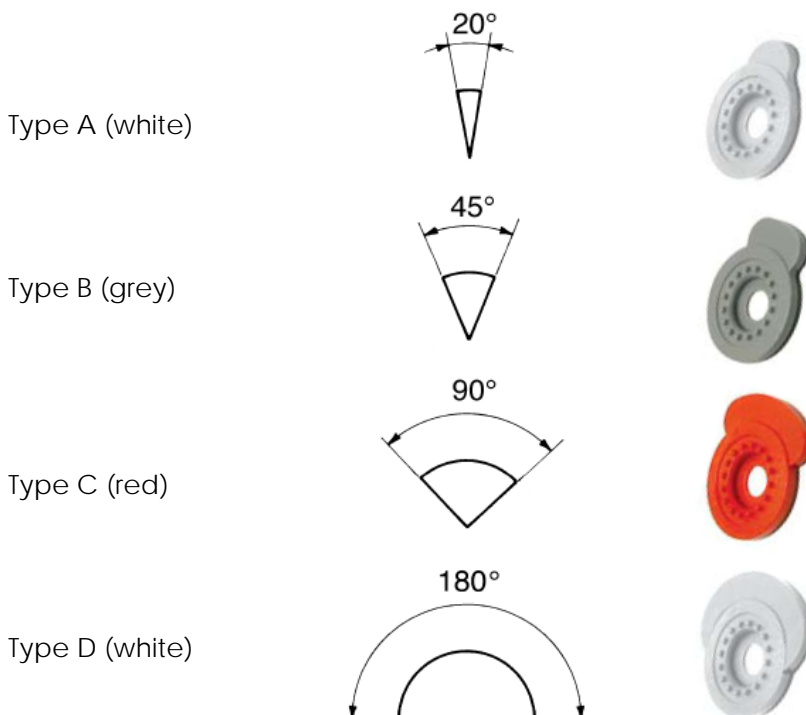


Adjusting the Cams

Each cam is equipped with its own micrometer regulating screw. Each screw operates exclusively on the cam it is combined with, without interfering mechanically against its adjacent cams. Regulation can simply be carried out by rotating the regulating screw through a small blade screwdriver. Thanks to a particular friction system, rapidity and regulation precision are assured, which makes the structure stable, steady and reliable.

Cams and Actuation Angle

The rotary limit switches series FCN can be equipped with maximum 5 switches. For actuating each contact the rotary limit switch can be manufactured with 4 different cam types.



Installation and Wiring

The limit switches must be installed by qualified personnel, in compliance with the current safety norms. Before wiring, the machine power supply must compulsorily be interrupted. Correct installation calls for working temperatures from -20°C to +60°C. The limit switch must not be used in any area which turns out to be potentially explosive, corrosive or with high sodium chloride contents. Acid, oil and solvent may cause the device deterioration; therefore it is recommended not to use either oil or fat to lubricate any part of the limit switch. The wiring installation must be completed and tested according to the current norms, in conformity with the electrical wiring diagram of the machine. After the installation, it is compulsory to check if both the limit switch and the machine it controls work correctly.

Operations for limit switch installation:

- remove the cover by loosening the retaining screws
- connect the limit switch shaft to the external drive element by using a flexible joint, the male connection or the cog wheels, (page 6) in order to avoid any misalignment between the shafts
- fix firmly the limit switches by using the base plate or the flange (page 6) to prevent it from anomalous vibrations.

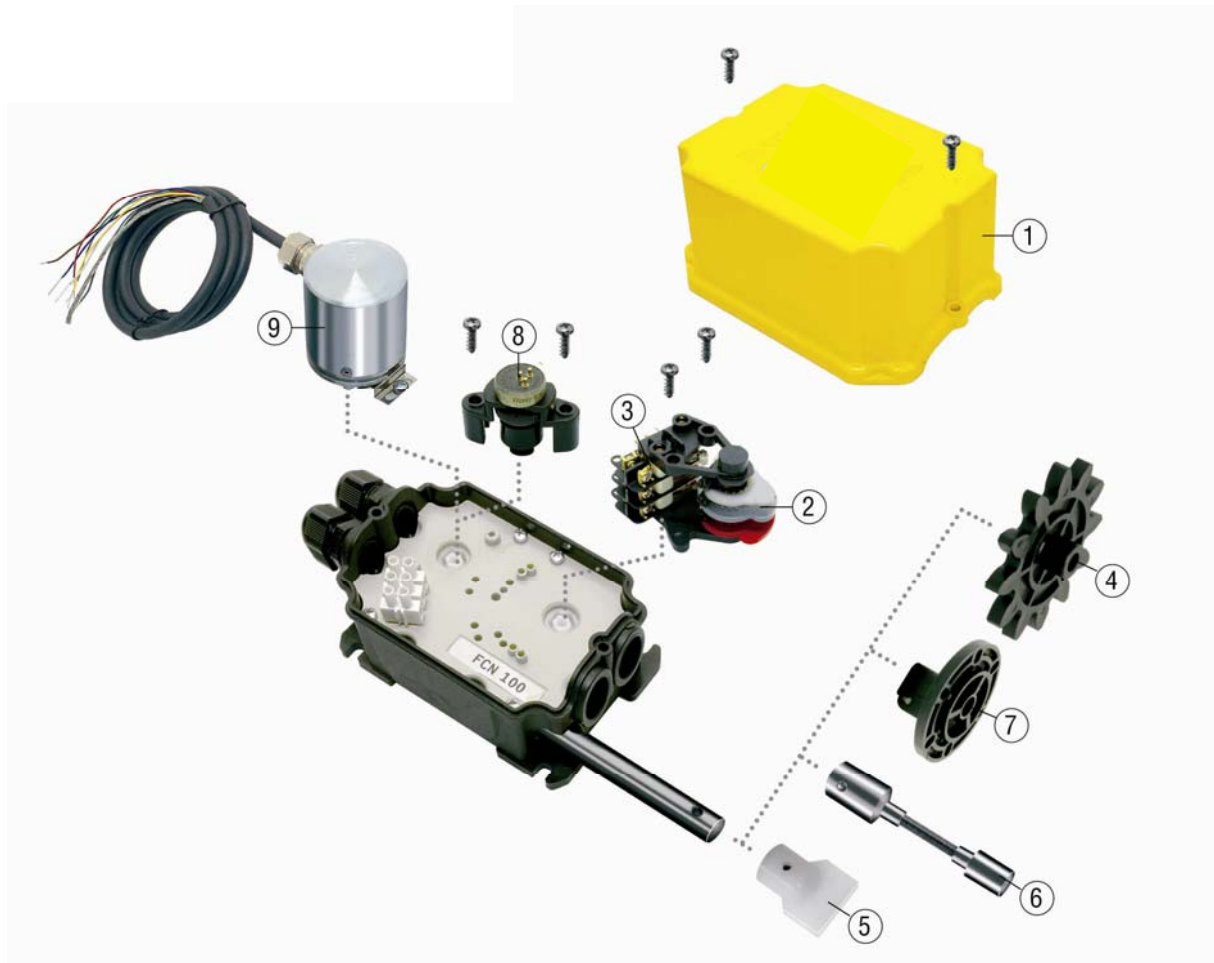
Wiring Operations

- introduce the multipolar cable into the special cable entry
- strip the cable for electrical connection to the microswitches and potentiometer
- tape the initial part of the cable
- lock the cable in the cable entry
- carry out the electrical connection by tightening the microswitch screws to maximum torque of 0,8 Nm
- set the position of the cams by adjusting the regulation screws (page 4)
- regulate the potentiometer
- replace the cover and make sure that the gasket is correctly positioned in its housing.

Maintenance Operations

- check if both the screws on the cover and the inner clamps are correctly tightened
- check if the multipolar cable is secured in the cable entry
- check wiring conditions
- check the integrity of the gasket inside the cover
- check that the drive system is functioning correctly and the shafts are in alignment
- check that the limit switches are safely fixed
- check the integrity of the box

B-COMMAND declines any responsibility for damage deriving from incorrect installation or improper use of the product.



No.	Item-Code	Description
1	B50454	Cover for 2-3 switches
	B50442	Cover for 4 switches
	B50447	Cover for 5 switches
2	BLEVFCNA	Cam Type A (white)
	BLEVFCNB	Cam Type B (grey)
	BLEVFCNC	Cam Type C (red)
	BLEVFCND	Cam Type D (white)
3	BFCNAPINT	Slow Contact 1NC (Type P)
	BFCNDINT	Snap Contact 1NO/1NC (Change-Over) (Type D)
	BAPO2PRFC	Slow Contact 2NC stepped (Type M)
	BAP11FC	Slow Contact 1NO/1NC (Type MD)

No.	Item-Code	Description
4	BMOD5FC	Pinion Gear Module 5, 12 teeth
	BMOD6FC	Pinion Gear Module 6, 11 teeth
	BMOD8FC	Pinion Gear Module 8, 12 teeth
	BMOD10FC	Pinion Gear Module 10, 12 teeth
	BMOD14FC	Pinion Gear Module 14, 10 teeth
5	BINNFC	Male Coupling
6	BAFLESFC	Flexible Shaft
7	BFLANFCN	Flange



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