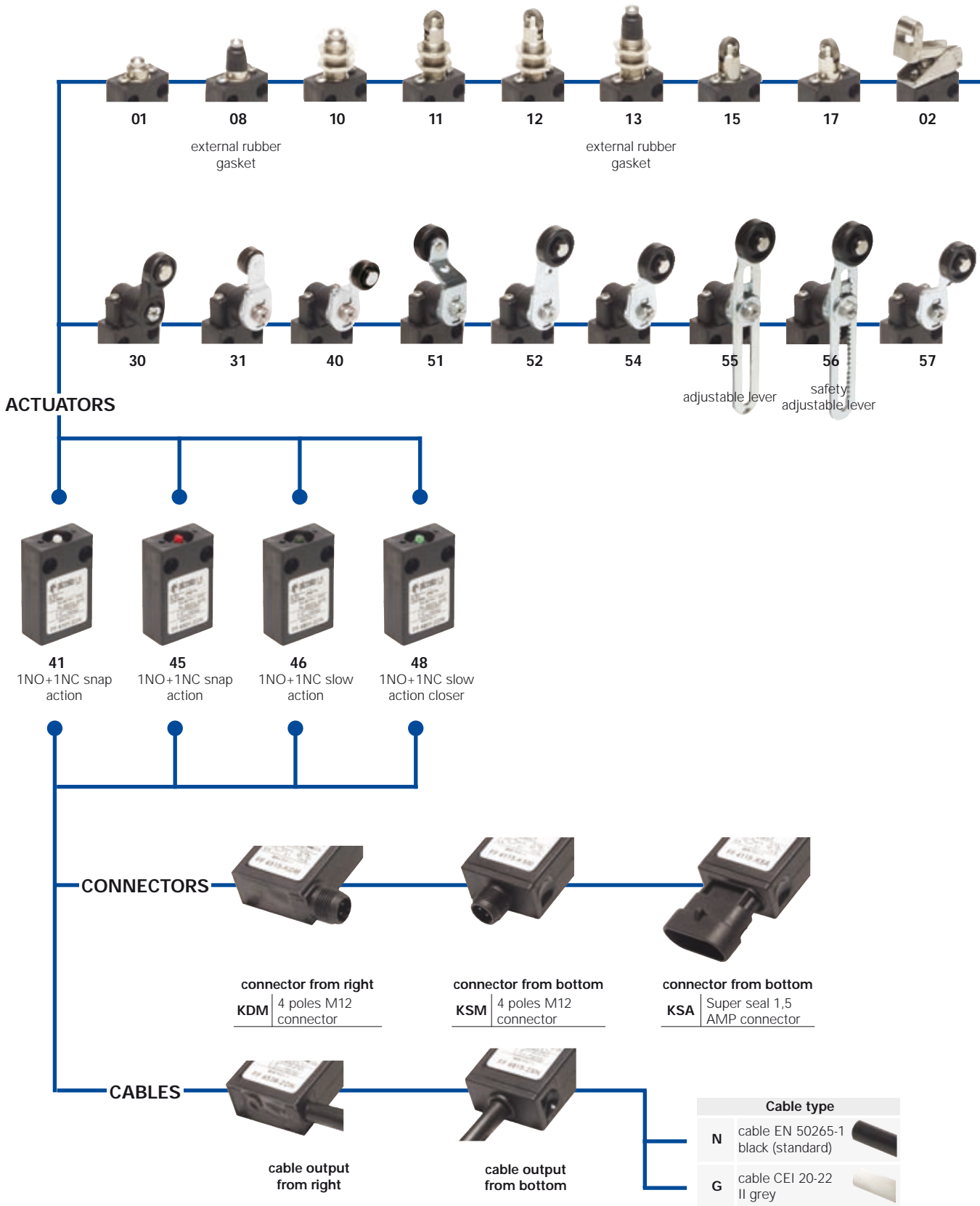


## Selection diagram



● product option  
 → accessory sold separately





### Main data

- Polymer housing, cable output from right or from bottom
- 2 integrated cable types available
- Versions with M12 connector from right or from bottom suitable for safety applications ⊕
- Connector AMP version
- Protection degree IP67
- 4 contact blocks available
- 24 actuators available

### Markings and quality marks:



Approval IMQ: CA02.02391  
 Approval UL: E131787  
 Approval UL: 2007010305230004

### Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation □

Version with cable integrated with 4x 0.75 mm<sup>2</sup> wires length 2 m, other lengths on request.

Versions with 4 poles M12 integrated connector suitable for safety applications ⊕  
 Protection degree: IP67

### General data

Ambient temperature: See table on page 2/118  
 Max operating frequency: 3600 operations cycles<sup>1</sup>/hour  
 Mechanical endurance: 20 million operations cycles<sup>1</sup>  
 Assembling position: any  
 Vibrations holding: 20 gn (10...500 Hz) according to IEC 60068-2-6  
 Shock holding: 50 gn (11 ms) according to IEC 60068-2-27  
 (1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by IEC 947-5-1 standard.

### In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, IEC 529, EN 60529, NFC 63-140, VDE 0660-200, VDE 0113, CENELEC EN 50013.

### Approvals:

IEC 60947-5-1, UL 508, GB14048.5-2001

### In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

### Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

### Installation for safety applications:

Use only switches marked with the symbol ⊕. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: see "internal connections" on page 2/118) as stated in the **standard CEI EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 6/8. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

⚠ If not expressly indicated in this chapter, for the right installation and the correct utilization of all articles see requirements indicated from page 6/1 to page 6/8.

| Electrical data            |   | Utilization categories  |                                      |     |      |      |
|----------------------------|---|-------------------------|--------------------------------------|-----|------|------|
| with cable                 | Thermal current (I <sub>th</sub> ):         | 10 A                    | Alternate current: AC15 (50...60 Hz) |     |      |      |
|                            | Rated insulation voltage (U <sub>i</sub> ): | 500 VAC 600 VDC         | U <sub>e</sub> (V)                   | 120 | 250  | 400  |
|                            | Protection against short circuits:          | fuse 10 A 500 V type aM | I <sub>e</sub> (A)                   | 6   | 4    | 3    |
|                            | Pollution degree:                           | 3                       | Direct current: DC13                 |     |      |      |
|                            |   |                         | U <sub>e</sub> (V)                   | 24  | 125  | 250  |
|                            |   |                         | I <sub>e</sub> (A)                   | 2,5 | 0,55 | 0,27 |
| with 4 poles M12 connector | Thermal current (I <sub>th</sub> ):         | 4 A                     | Alternate current: AC15 (50...60 Hz) |     |      |      |
|                            | Rated insulation voltage (U <sub>i</sub> ): | 250 VAC 300 VDC         | U <sub>e</sub> (V)                   | 120 | 250  |      |
|                            | Protection against short circuits:          | fuse 4 A 500 V type gG  | I <sub>e</sub> (A)                   | 4   | 4    |      |
|                            | Pollution degree:                           | 3                       | Direct current: DC13                 |     |      |      |
|                            |   |                         | U <sub>e</sub> (V)                   | 24  | 125  | 250  |
|                            |   |                         | I <sub>e</sub> (A)                   | 2,5 | 0,55 | 0,27 |
| with AMP connector         | Thermal current (I <sub>th</sub> ):         | 10 A                    | Alternate current: AC15 (50...60 Hz) |     |      |      |
|                            | Rated insulation voltage (U <sub>i</sub> ): | 250 VAC 300 VDC         | U <sub>e</sub> (V)                   | 120 | 250  |      |
|                            | Protection against short circuits:          | fuse 10 A 500 V type gG | I <sub>e</sub> (A)                   | 6   | 4    |      |
|                            | Pollution degree:                           | 3                       | Direct current: DC13                 |     |      |      |
|                            |   |                         | U <sub>e</sub> (V)                   | 24  | 125  | 250  |
|                            |   |                         | I <sub>e</sub> (A)                   | 2,5 | 0,55 | 0,27 |

**Data type approved by IMQ and CCC**

Rated insulation voltage (Ui): 500 VAC / 250 VAC (with connector)  
 Thermal current (Ith): 10 A / 4 A (with connector)  
 Protection against short circuits: fuse 10 A 500 V type aM  
 Protection degree: IP67  
 MA terminals (seamed clamps)  
 Pollution degree 3  
 Utilization category: AC15 / DC13 (with connector)  
 Operation voltage (Ue): 400 VAC (50 Hz) / 24 VDC (with connector)  
 Operation current (Ie): 3 A / 2,5 A (with connector)  
 Forms of the contact element: Zb  
 Positive opening of contacts on contact block 45, 46, 48  
 In conformity with standards: EN60947-1, EN 60947-5-1 and subsequent modifications and completions, fundamental requirements of the Low Voltage Directive 73/23 EEC and subsequent modifications and completions.

Please contact our technical service for the list of type approved products.

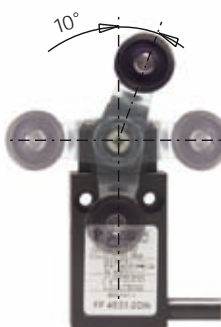
**Data type approved by UL**

Utilization categories: Q300 (69 VA, 125-250 VDC)  
 A600 (720 VA, 120-600 VAC)  
 Data of the housing type 4X, 6 (indoor use only)  
 In conformity with standard: UL 508

Please contact our technical service for the list of type approved products.

**Adjustable levers**

In switches with revolving lever it is possible to adjust the lever with 10° steps for the whole 360° range. The positive transmission is always guaranteed thanks to the particular geometrical coupling between the lever and the revolving shaft as prescribed for safety applications by the German standard BG-GS-ET-15.



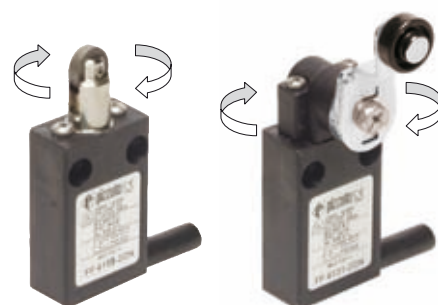
**Overturning levers**

It's possible to fasten the lever on switches on straight or reverse side, maintaining the positive coupling. In this way it is possible to obtain two different work plans of the lever.

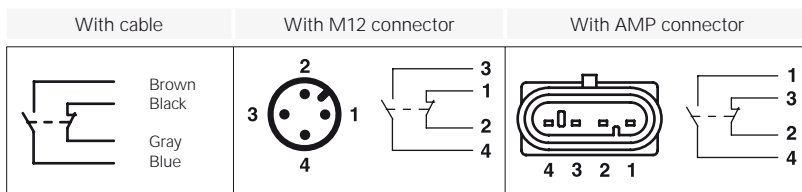


**Rotating heads**

According to different versions, it is possible to rotate the head in 90° or 180° steps.



**Internal connections**



**4 poles M12 safety connectors** ⊕

Pizzato Elettrica manufactures 4 poles connector integrated with a safety switch, complying with requirements of standard IEC 947-5-1. Its high insulation voltage Ui 250 VAC allows to mark it as suitable for safety applications ⊕.

**Utilization temperatures and approvals**

| Cable code | Cable features  | Switches FF series standard versions |        |                      |      |                    |      |                      |      | Available on request                             |      |   |   | Approvals of switches with integrated cable |
|------------|---|--------------------------------------|--------|----------------------|------|--------------------|------|----------------------|------|--|------|---|---|---|
|            |   | Fixed laying cable                   |        | Dynamic laying cable |      | Fixed laying cable |      | Dynamic laying cable |      | Switches FF series extended temperature versions |      |   |   |   |
|            |   | Tmin                                 | Tmax   | Tmin                 | Tmax | Tmin               | Tmax | Tmin                 | Tmax | Tmin   | Tmax |   |   |   |
| <b>N</b>   | PVC H05VV-F, fixed laying cable<br>Not spreading the flame EN 50265-2-1 | -25 °C                               | +70 °C | -                    | -    | -                  | -    | -                    | -    | -  | -    | - | - | CE, IMQ, UL, CCC                            |
| <b>G</b>   | PVC S05VV-F, fixed laying cable<br>Not flame-spreading CEI 20-22 II     | -25 °C                               | +70 °C | -                    | -    | -                  | -    | -                    | -    | -  | -    | - | - | CE  |

| Connector code | Connector features           | Switches FF series standard versions |        | Available on request |        | Approvals of switches with integrated connector |
|----------------|------------------------------|--------------------------------------|--------|----------------------|--------|---|
|                |                              | Tmin                                 | Tmax   | Tmin                 | Tmax   |   |
| <b>KDM-KSM</b> | 4 poles M12 connector        | -25 °C                               | +80 °C | -35 °C               | +80 °C | CE, IMQ, UL, CCC                                |
| <b>KSA</b>     | Super seal 1,5 AMP connector | -25 °C                               | +80 °C | -35 °C               | +80 °C | CE  |

Contacts type:

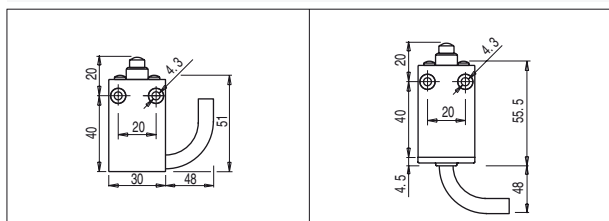
- R** = snap action
- L** = slow action
- LA** = slow action closer

|                 |                       |                                    |                             |                             |
|-----------------|-----------------------|------------------------------------|-----------------------------|-----------------------------|
|                 |                       |                                    |                             |                             |
| Contact blocks  |                       | It does not switch → It switches ← | With external rubber gasket | Fixed only by threaded head |
| 45              | <b>R</b> FF 4501-2DN  | <b>R</b> FF 4502-2DN               | <b>R</b> FF 4508-2DN        | <b>R</b> FF 4510-2DN        |
| 46              | <b>L</b> FF 4601-2DN  | <b>L</b> FF 4602-2DN               | <b>L</b> FF 4608-2DN        | <b>L</b> FF 4610-2DN        |
| 48              | <b>LA</b> FF 4801-2DN | <b>LA</b> FF 4802-2DN              | <b>LA</b> FF 4808-2DN       | <b>LA</b> FF 4810-2DN       |
| 41              | <b>R</b> FF 4101-2DN  | <b>R</b> FF 4102-2DN               | <b>R</b> FF 4108-2DN        | <b>R</b> FF 4110-2DN        |
| Max speed       | page 6/7 - type 4     |                                    | page 6/7 - type 4           |                             |
| Min. force      | 10 N (25 N <b>R</b> ) |                                    | 10 N (25 N <b>R</b> )       |                             |
| Travel diagrams | page 6/8 - group 1    |                                    | page 6/8 - group 1          |                             |

|                 |                             |                             |                             |                                |
|-----------------|-----------------------------|-----------------------------|-----------------------------|--------------------------------|
|                 |                             |                             |                             |                                |
| Contact blocks  | Fixed only by threaded head | Fixed only by threaded head | With external rubber gasket | Ø 12 mm stainless steel roller |
| 45              | <b>R</b> FF 4511-2DN        | <b>R</b> FF 4512-2DN        | <b>R</b> FF 4513-2DN        | <b>R</b> FF 4515-2DN           |
| 46              | <b>L</b> FF 4611-2DN        | <b>L</b> FF 4612-2DN        | <b>L</b> FF 4613-2DN        | <b>L</b> FF 4615-2DN           |
| 48              | <b>LA</b> FF 4811-2DN       | <b>LA</b> FF 4812-2DN       | <b>LA</b> FF 4813-2DN       | <b>LA</b> FF 4815-2DN          |
| 41              | <b>R</b> FF 4111-2DN        | <b>R</b> FF 4112-2DN        | <b>R</b> FF 4113-2DN        | <b>R</b> FF 4115-2DN           |
| Max speed       | page 6/7 - type 2           |                             | page 6/7 - type 4           |                                |
| Min. force      | 10 N (25 N <b>R</b> )       |                             | 10 N (25 N <b>R</b> )       |                                |
| Travel diagrams | page 6/8 - group 1          |                             | page 6/8 - group 1          |                                |

|                 |                                |                       |                       |                             |
|-----------------|--------------------------------|-----------------------|-----------------------|-----------------------------|
|                 |                                |                       |                       |                             |
| Contact blocks  | Ø 12 mm stainless steel roller |                       |                       |                             |
| 45              | <b>R</b> FF 4517-2DN           | <b>R</b> FF 4520-2DN  | <b>R</b> FF 4525-2DN  | <b>R</b> FF 4530-2DN        |
| 46              | <b>L</b> FF 4617-2DN           | <b>L</b> FF 4620-2DN  | <b>L</b> FF 4625-2DN  | <b>L</b> FF 4630-2DN        |
| 48              | <b>LA</b> FF 4817-2DN          | <b>LA</b> FF 4820-2DN | <b>LA</b> FF 4825-2DN | <b>LA</b> FF 4830-2DN       |
| 41              | <b>R</b> FF 4117-2DN           | <b>R</b> FF 4120-2DN  | <b>R</b> FF 4125-2DN  | <b>R</b> FF 4130-2DN        |
| Max speed       | page 6/7 - type 2              | 1 m/s                 | 1 m/s                 | page 6/7 - type 1           |
| Min. force      | 10 N (25 N <b>R</b> )          | 0,07 Nm               | 0,07 Nm               | 0,03 Nm (0,25 Nm <b>R</b> ) |
| Travel diagrams | page 6/8 - group 1             | page 6/8 - group 3    | page 6/8 - group 3    | page 6/8 - group 4          |

Outline dimensions with cable output from right or from bottom



Items with code on the green background are available in stock

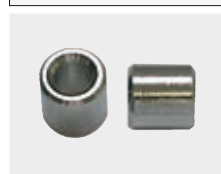
| Contacts type:  | With stainless steel roller on request   | 3x3 mm square rod  |  | With stainless steel roller on request |
|---|--|--|--|--|
| <b>R</b> = snap action<br><b>L</b> = slow action<br><b>LA</b> = slow action closer  |  |  |  |  |
| Contact blocks<br>45 <b>R</b> FF 4531-2DN 1NO+1NC<br>46 <b>L</b> FF 4631-2DN 1NO+1NC<br>48 <b>LA</b> FF 4831-2DN 1NO+1NC<br>41 <b>R</b> FF 4131-2DN 1NO+1NC | Contact blocks<br>FF 4533-2DN 1NO+1NC<br>FF 4633-2DN 1NO+1NC<br>FF 4833-2DN 1NO+1NC<br>FF 4133-2DN 1NO+1NC | Contact blocks<br>FF 4534-2DN 1NO+1NC<br>FF 4634-2DN 1NO+1NC<br>FF 4834-2DN 1NO+1NC<br>FF 4134-2DN 1NO+1NC | Contact blocks<br>FF 4540-2DN 1NO+1NC<br>FF 4640-2DN 1NO+1NC<br>FF 4840-2DN 1NO+1NC<br>FF 4140-2DN 1NO+1NC |  |
| Max speed   | page 6/7 - type 1  | 1,5 m/s  | 1,5 m/s  | page 6/7 - type 1                      |
| Min. force  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm  | 0,03 Nm  | 0,03 Nm (0,25 Nm ⊕)                    |
| Travel diagrams   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4                     |

|   | Ø 3 mm stainless steel round rod   | With stainless steel roller on request   | With stainless steel roller on request   | With stainless steel roller on request |
|---|--|--|--|--|
|   |  |  |  |  |
| Contact blocks<br>45 <b>R</b> FF 4550-2DN 1NO+1NC<br>46 <b>L</b> FF 4650-2DN 1NO+1NC<br>48 <b>LA</b> FF 4850-2DN 1NO+1NC<br>41 <b>R</b> FF 4150-2DN 1NO+1NC | Contact blocks<br>FF 4551-2DN 1NO+1NC<br>FF 4651-2DN 1NO+1NC<br>FF 4851-2DN 1NO+1NC<br>FF 4151-2DN 1NO+1NC | Contact blocks<br>FF 4552-2DN 1NO+1NC<br>FF 4652-2DN 1NO+1NC<br>FF 4852-2DN 1NO+1NC<br>FF 4152-2DN 1NO+1NC | Contact blocks<br>FF 4554-2DN 1NO+1NC<br>FF 4654-2DN 1NO+1NC<br>FF 4854-2DN 1NO+1NC<br>FF 4154-2DN 1NO+1NC |  |
| Max speed   | 1,5 m/s  | page 6/7 - type 1  | page 6/7 - type 1  | page 6/7 - type 1                      |
| Min. force  | 0,03 Nm  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm (0,25 Nm ⊕)                    |
| Travel diagrams   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4                     |

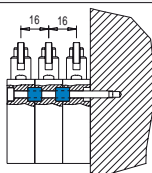
|   | With stainless steel roller on request   | With stainless steel roller on request   | With stainless steel roller on request   | Glass fibre rod    |
|---|--|--|--|--------------------|
|   |  |  |  |                    |
| Contact blocks<br>45 <b>R</b> FF 4555-2DN 1NO+1NC<br>46 <b>L</b> FF 4655-2DN 1NO+1NC<br>48 <b>LA</b> FF 4855-2DN 1NO+1NC<br>41 <b>R</b> FF 4155-2DN 1NO+1NC | Contact blocks<br>FF 4556-2DN 1NO+1NC<br>FF 4656-2DN 1NO+1NC<br>FF 4856-2DN 1NO+1NC<br>FF 4156-2DN 1NO+1NC | Contact blocks<br>FF 4557-2DN 1NO+1NC<br>FF 4657-2DN 1NO+1NC<br>FF 4857-2DN 1NO+1NC<br>FF 4157-2DN 1NO+1NC | Contact blocks<br>FF 4569-2DN 1NO+1NC<br>FF 4669-2DN 1NO+1NC<br>FF 4869-2DN 1NO+1NC<br>FF 4169-2DN 1NO+1NC |                    |
| Max speed   | page 6/7 - type 1  | page 6/7 - type 1  | page 6/7 - type 1  | 1,5 m/s            |
| Min. force  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm (0,25 Nm ⊕)  | 0,03 Nm            |
| Travel diagrams   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4   | page 6/8 - group 4 |

## Accessories

| Article | Description              |
|---------|--------------------------|
| VF D16  | Spacers for FA-FF series |



By interposing spacers between the switches, it is possible to join two or more prewired switches, preventing them from moving one against the other. **10 pcs** packs



(1) Positive opening only with lever adjusted on the max. See page 2/51

Contacts type:

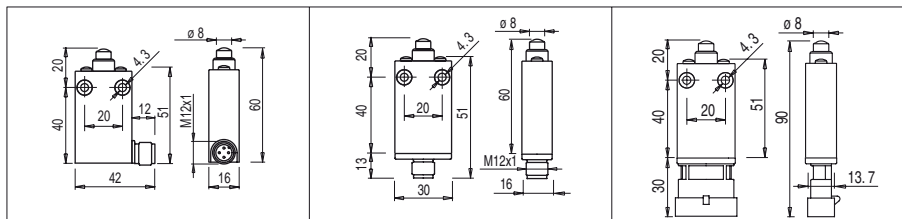
- R = snap action
- L = slow action
- LA = slow action closer

|                 |  |  |  |  |
|-----------------|--|--|--|--|
|                 |  |  |  |  |
| Contact blocks  |  |  |  |  |
| 45              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4501-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4502-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4508-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4510-KDM  |
| 46              | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4601-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4602-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4608-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4610-KDM  |
| 48              | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4801-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4802-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4808-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4810-KDM |
| 41              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4101-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4102-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4108-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4110-KDM  |
| Max speed       | page 6/7 - type 4  | page 6/7 - type 3  | page 6/7 - type 4  | page 6/7 - type 4  |
| Min. force      | 10 N (25 N $\rightarrow$ )   | 5 N (25 N $\rightarrow$ )  | 10 N (25 N $\rightarrow$ )   | 10 N (25 N $\rightarrow$ )   |
| Travel diagrams | page 6/8 - group 1   | page 6/8 - group 2   | page 6/8 - group 1   | page 6/8 - group 1   |

|                 |  |  |  |  |
|-----------------|--|--|--|--|
|                 |  |  |  |  |
| Contact blocks  |  |  |  |  |
| 45              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4511-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4512-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4513-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4515-KDM  |
| 46              | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4611-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4612-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4613-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4615-KDM  |
| 48              | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4811-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4812-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4813-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4815-KDM |
| 41              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4111-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4112-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4113-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4115-KDM  |
| Max speed       | page 6/7 - type 2  | page 6/7 - type 2  | page 6/7 - type 4  | page 6/7 - type 2  |
| Min. force      | 10 N (25 N $\rightarrow$ )   | 10 N (25 N $\rightarrow$ )   | 10 N (25 N $\rightarrow$ )   | 10 N (25 N $\rightarrow$ )   |
| Travel diagrams | page 6/8 - group 1   | page 6/8 - group 1   | page 6/8 - group 1   | page 6/8 - group 1   |

|                 |  |  |  |  |
|-----------------|--|--|--|--|
|                 |  |  |  |  |
| Contact blocks  |  |  |  |  |
| 45              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4517-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4520-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4525-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4530-KDM  |
| 46              | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4617-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4620-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4625-KDM  | <span style="border: 1px solid black; padding: 2px;">L</span> FF 4630-KDM  |
| 48              | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4817-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4820-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4825-KDM | <span style="border: 1px solid black; padding: 2px;">LA</span> FF 4830-KDM |
| 41              | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4117-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4120-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4125-KDM  | <span style="border: 1px solid black; padding: 2px;">R</span> FF 4130-KDM  |
| Max speed       | page 6/7 - type 2  | 1 m/s  | 1 m/s  | page 6/7 - type 1  |
| Min. force      | 10 N (25 N $\rightarrow$ )   | 0,07 Nm  | 0,07 Nm  | 0,03 Nm (0,25 N $\rightarrow$ )  |
| Travel diagrams | page 6/8 - group 1   | page 6/8 - group 3   | page 6/8 - group 3   | page 6/8 - group 4   |

Outline dimensions with M12 connector output from right or from bottom      Outline dim. with AMP connector



Items with code on the green background are available in stock

Attention! All measures in the drawings are in mm

