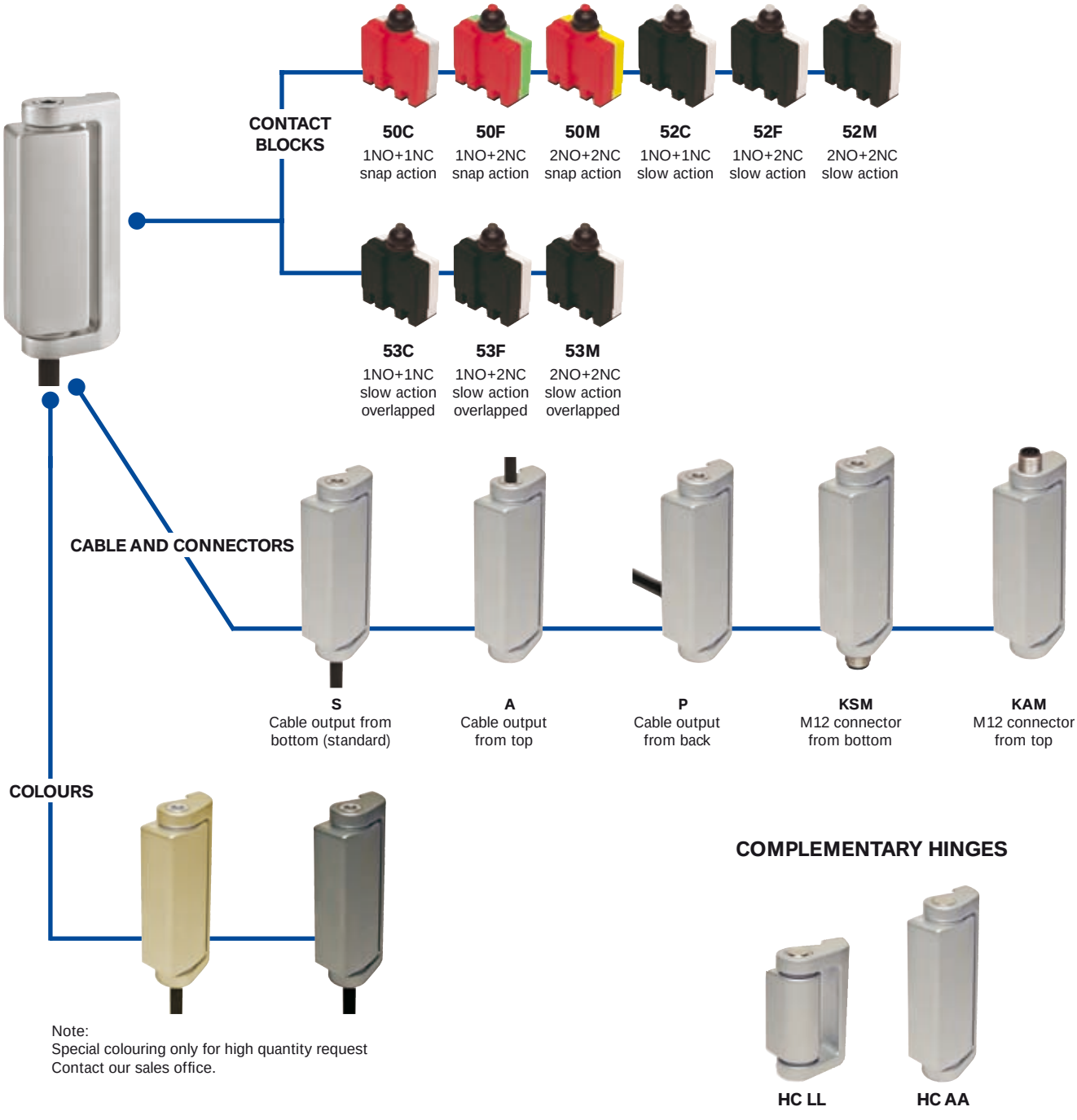
## Selection diagram



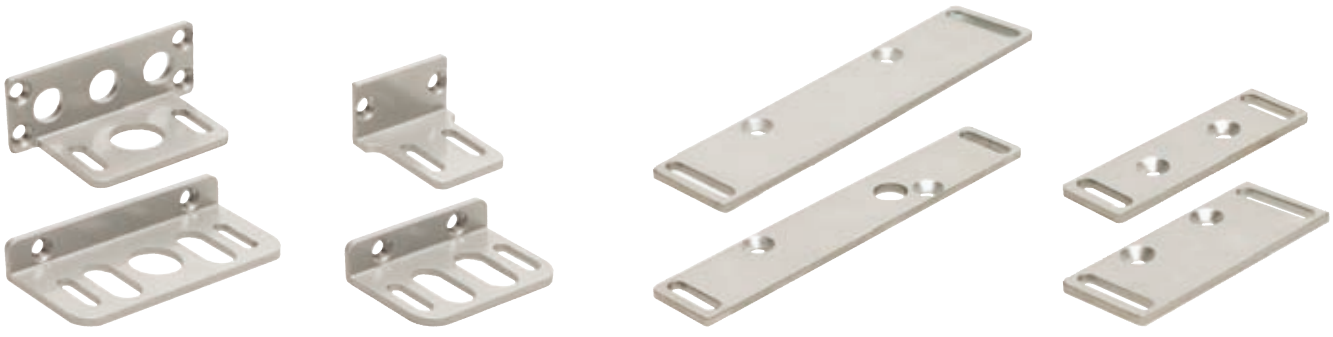

Note:
Special colouring only for high quantity request
Contact our sales office.

### COMPLEMENTARY HINGES



**HC LL** **HC AA**

### FIXING PLATES



**VF SFH1-C** **VF SFH2-C** **VF SFH3-C** **VF SFH4-C**

product option

## Application examples



- Switch without supports
- Rear fixing
- Cable output from back



- Switch with angular supports for profiles with slots
- Fixing through internal screws
- Connector output from bottom



- Switch with plane supports for profiles with slots
- Fixing through front screws
- Cable output from bottom

## Code structure

article option

**HP AA050C-2SNG**

Contact block

| | |
|---|---|
| **50C** | 1NO+1NC, snap action |
| **50F** | 1NO+2NC, snap action |
| **50M** | 2NO+2NC, snap action |
| **52C** | 1NO+1NC, slow action |
| **52F** | 1NO+2NC, slow action |
| **52M** | 2NO+2NC, slow action |
| **53C** | 1NO+1NC, slow action overlapped |
| **53F** | 1NO+2NC, slow action overlapped |
| **53M** | 2NO+2NC, slow action overlapped |

Contacts type

| | |
|---|---|
| | silver contacts (standard) |
| **G** | silver contacts gold plated 1 µm |

Type of cable or connector

| | |
|---|---|
| **N** | cable EN 50265-1 black (standard) |
| **G** | cable CEI 20-22 II grey (1NO+1NC contacts block only) |
| **H** | cable PUR halogen free grey (1NO+1NC contacts block only) |
| **M** | M12 connector |

Type of connection

| | |
|---|---|
| **1** | cable length 1 m |
| **2** | cable length 2 m |
| **...** | ..... |
| **10** | cable length 10 m |
| **K** | with connector |

Connection output direction

| | |
|---|---|
| **S** | from bottom |
| **P** | from back (cable versions only) |
| **A** | from top |

**COMPLEMENTARY HINGES**

| Code | Hinge length |
|---|---|
| **HC LL** | 65 mm |
| **HC AA** | 100,6 mm |



**New product 2007**

**Main data**

- Metal housing, cable output from top, bottom or back
- 4 integrated cable types available
- Versions with M12 connector
- Protection degree IP67
- 9 contact blocks with positive opening ⊕
- Complementary hinges without contacts

**Markings and quality marks:**

CE

## Technical data

**Housing**

Metal housing, coated with baked epoxy powder
Version with cable integrated with 5 x 0,75 mm², 7 x 0,5 mm² o 9 x 0,34 mm² wires length 2 m, other lengths on request.
Versions with M12 5 or 8 poles integrated connector

| | |
|---|---|
| Protection degree: | IP67 |
| M5 screws max driving torque: | 3 ... 5 Nm |

**General data**

| | |
|---|---|
| Ambient temperature: | See table on page 4/21 |
| Max operating frequency: | 720 operations cycles[1]/hour |
| Mechanical endurance: | 1 million operations cycles[1] |
| Max actuating speed: | 90°/s |
| Min. actuating speed: | 2°/s |
| Assembling position: | any |
| Max axial charge: | 1500 N (preliminary data) |
| Max radial charge: | 1000 N (preliminary data) |

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by IEC 60947-5-1 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.

**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.

⚠ **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.**

## Utilization temperatures

| | Ambient temperature: min. | Ambient temperature: max. | Thermal current Ith | Rated insulation voltage (Ui): | Protection against short circuits (fuse) | Utilization category AC15: 24 V | AC15: 120 V | AC15: 250 V | AC15: 400 V | Utilization category DC13: 24 V | DC13: 125 V | DC13: 250 V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Version with 2 contacts, fixed laying cable (N, G, U cable) | -25°C | +70°C | 10 A | 400 VAC | 10 A 500 V type gG | 4 A | 4 A | 4 A | 3 A | 2 A | 0,4 A | 0,3 A |
| Version with 2 contacts, dynamic laying cable (H cable) | -40°C | +80°C | 10 A | 400 VAC | 10 A 500 V type gG | 4 A | 4 A | 4 A | 3 A | 2 A | 0,4 A | 0,3 A |
| Version with 3 contacts, fixed laying cable (N cable) | -25°C | +80°C | 6 A | 400 VAC | 6 A 500 V type gG | 4 A | 4 A | 4 A | 3 A | 2 A | 0,4 A | 0,3 A |
| Version with 4 contacts, fixed laying cable (N cable) | -25°C | +80°C | 4 A | 400 VAC | 4 A 500 V type gG | 4 A | 4 A | 4 A | 3 A | 2 A | 0,4 A | 0,3 A |
| Version with 2 contacts, 5 poles M12 connector | -40°C | +80°C | 4 A | 250 VAC 300 VDC | 4 A 500 V type gG | 4 A | 4 A | 4 A | / | 2 A | 0,4 A | 0,3 A |
| Version with 3 or 4 contacts, 8 poles M12 connector | -40°C | +80°C | 2 A | 30 VAC 36 VDC | 2 A 500V type gG | 2 A | / | / | / | 2 A | / | / |

## Application field

Pizzato Elettrica widens the own range of products making a new series of safety switches hinge-shaped named Palladio, where safety and style are melted in one single product.
The switch is completely integrated in the mechanical hinge, to result practically invisible to an inexpert eye. This guarantees a higher safety because a switch hard to identify is consequently also more difficult to defeat. The assembly without visible screws and the pleasant line, make the switch perfectly integrated also with guards of modern design machinery.
In order to complete the offer complementary hinges with purely mechanics functions are available.



## Operating point regulation



The switches operating point can be regulated through a simple Phillips screwdriver. The operating point regulation allows the setting possibility (up to 4°) for large guards. After the setting, it's always necessary to close the hole through the suitable supplied safety seal plug.

## M12 integrated connector version



Versions with connection from the top or the bottom are available with M12 integrated connector. The application of versions with connector allows a faster wiring when it's necessary to move guards from test line to final user.

## Opening angle up to 180°



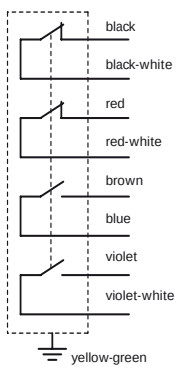
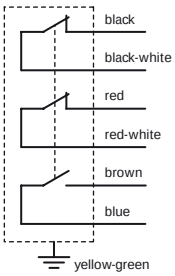
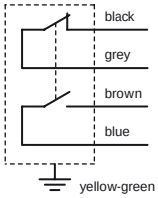
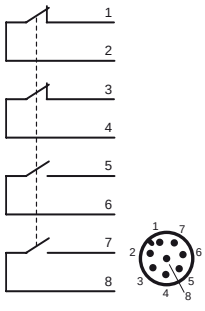
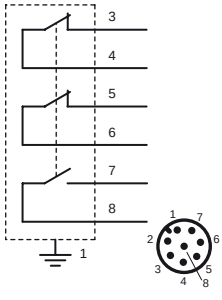
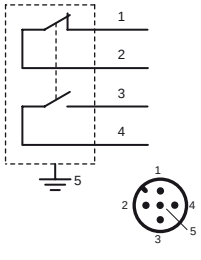
The mechanical design of the switch allows the application also onto protections up to 180° opening angle.

## INNOVATION & DESIGN AWARD 2007

INNOVATION & DESIGN AWARD
LIVINLUCE ENERMOTIVE 2007

This product has been presented at the "Innovation & Design award 2007" which selects, among all industrial products, those that stand out for technological innovation and their particular design. The switch has been selected by the jury in category "Innovation " during the fair "Enermotive 2007".

## Internal connections

| With cable (2NO+2NC) | With cable (1NO+2NC) | With cable (1NO+1NC) | With M12 connector with 8 poles (2NO+2NC) | With M12 connector with 8 poles (1NO+2NC) | With M12 connector with 5 poles (1NO+1NC) |
|---|---|---|---|---|---|
|  |  |  |  |  |  |





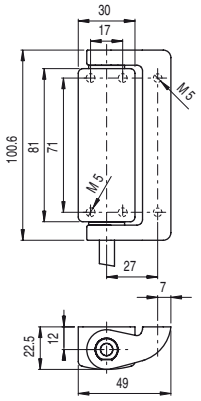
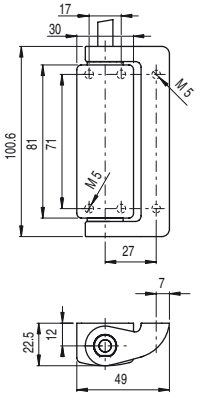
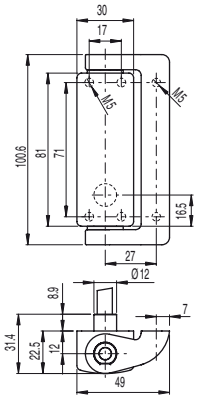


Attention! According to EN 60204-1, versions with 8 poles M12 connector can be used only in circuits PELV.

## Dimensional drawings

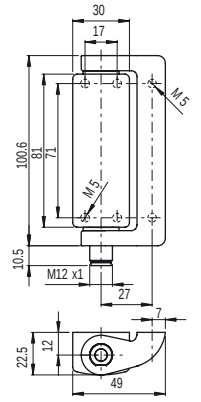
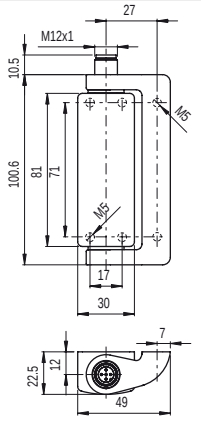
Contacts type:

R = snap action
L = slow action
LO = slow action overlapped

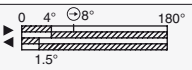
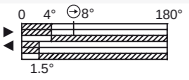
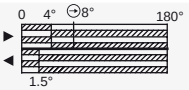
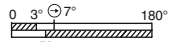
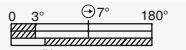
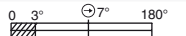
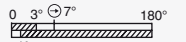
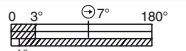
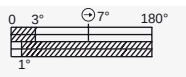
| Contact blocks | | version with 2 m cable from bottom | version with 2 m cable from top | version with 2 m cable from back |
|---|---|---|---|---|
| | |  |  |  |
| 50C | R | HP AA050C-2SN 1NO+1NC | HP AA050C-2AN 1NO+1NC | HP AA050C-2PN 1NO+1NC |
| 50F | R | HP AA050F-2SN 1NO+2NC | HP AA050F-2AN 1NO+2NC | HP AA050F-2PN 1NO+2NC |
| 50M | R | HP AA050M-2SN 2NO+2NC | HP AA050M-2AN 2NO+2NC | HP AA050M-2PN 2NO+2NC |
| 52C | L | HP AA052C-2SN 1NO+1NC | HP AA052C-2AN 1NO+1NC | HP AA052C-2PN 1NO+1NC |
| 52F | L | HP AA052F-2SN 1NO+2NC | HP AA052F-2AN 1NO+2NC | HP AA052F-2PN 1NO+2NC |
| 52M | L | HP AA052M-2SN 2NO+2NC | HP AA052M-2AN 2NO+2NC | HP AA052M-2PN 2NO+2NC |
| 53C | LO | HP AA053C-2SN 1NO+1NC | HP AA053C-2AN 1NO+1NC | HP AA053C-2PN 1NO+1NC |
| 53F | LO | HP AA053F-2SN 1NO+2NC | HP AA053F-2AN 1NO+2NC | HP AA053F-2PN 1NO+2NC |
| 53M | LO | HP AA053M-2SN 2NO+2NC | HP AA053M-2AN 2NO+2NC | HP AA053M-2PN 2NO+2NC |
| Min. force | | 0,3 Nm (0,65 Nm) | 0,3 Nm (0,65 Nm) | 0,3 Nm (0,65 Nm) |
| Travel diagrams | | page 4/23 - group 1 | page 4/23 - group 1 | page 4/23 - group 1 |

Contacts type:

R = snap action
L = slow action
LO = slow action overlapped

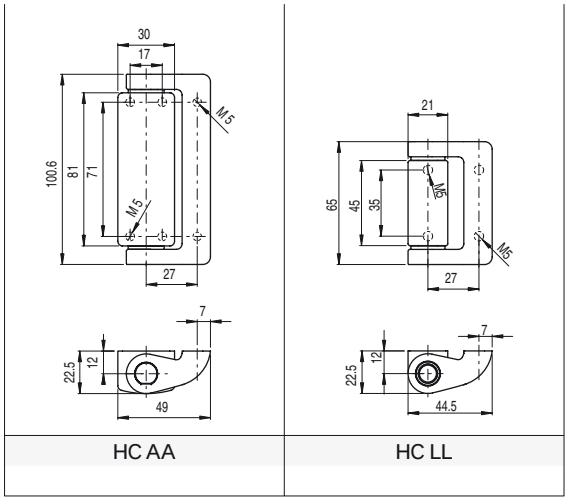
| Contact blocks | | version with M12 connector from bottom | version with M12 connector from top |
|---|---|---|---|
| | |  |  |
| 50C | R | HP AA050C-KSM 1NO+1NC | HP AA050C-KAM 1NO+1NC |
| 50F | R | HP AA050F-KSM 1NO+2NC | HP AA050F-KAM 1NO+2NC |
| 50M | R | HP AA050M-KSM 2NO+2NC | HP AA050M-KAM 2NO+2NC |
| 52C | L | HP AA052C-KSM 1NO+1NC | HP AA052C-KAM 1NO+1NC |
| 52F | L | HP AA052F-KSM 1NO+2NC | HP AA052F-KAM 1NO+2NC |
| 52M | L | HP AA052M-KSM 2NO+2NC | HP AA052M-KAM 2NO+2NC |
| 53C | LO | HP AA053C-KSM 1NO+1NC | HP AA053C-KAM 1NO+1NC |
| 53F | LO | HP AA053F-KSM 1NO+2NC | HP AA053F-KAM 1NO+2NC |
| 53M | LO | HP AA053M-KSM 2NO+2NC | HP AA053M-KAM 2NO+2NC |
| Min. force | | 0,3 Nm (0,65 Nm) | 0,3 Nm (0,65 Nm) |
| Travel diagrams | | page 4/23 - group 1 | page 4/23 - group 1 |

## Travel diagrams table

| Contact blocks | Group 1 |
|---|---|
| 50C 1NO+1NC |  |
| 50F 1NO+2NC |  |
| 50M 2NO+2NC |  |
| 52C 1NO+1NC |  |
| 52F 1NO+2NC |  |
| 52M 2NO+2NC |  |
| 53C 1NO+1NC |  |
| 53F 1NO+2NC |  |
| 53M 2NO+2NC |  |

**Attention!** The hinged safety switch can be combined together exclusively with one or more Pizzato Elettrica hinges (series HP or HC). The use of whichever other hinge does not guarantee the right working of the safety device.

## Complementary hinges




HC AA | HC LL

| Article | Description |
|---|---|
| AC 7032 | Protection plug of regulation screw |



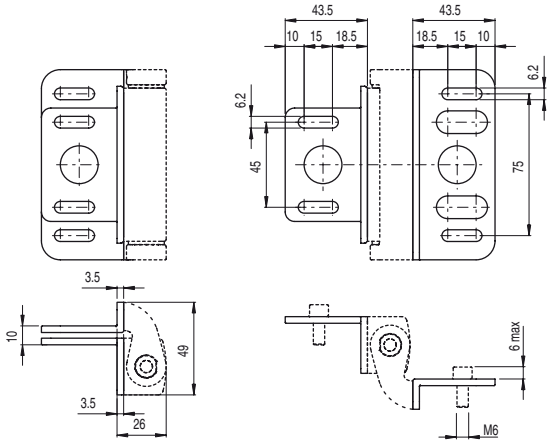
The plug is supplied with every hinge and must always be inserted after the operating point regulation. In case of loss or damage, the plug can be ordered separately.

## Fixing plates

Fixing screw for profile not supplied on issue

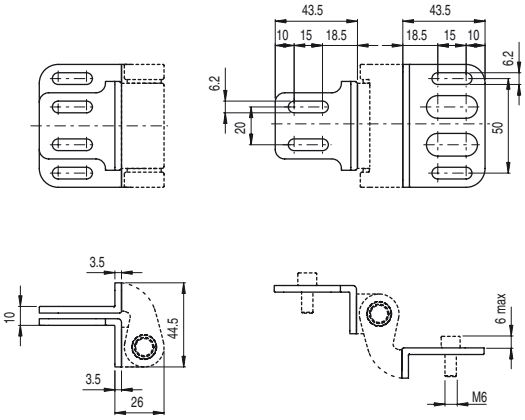
| Article | Description |
|---|---|
| VF SFH1-C | Couple of angular supports for HP AA and HC AA supplied with fixing screws for switch |





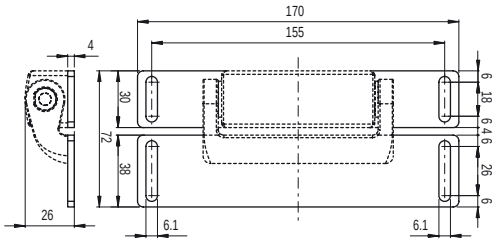

| Article | Description |
|---|---|
| VF SFH2-C | Couple of angular supports for HC LL supplied with fixing screws for switch |





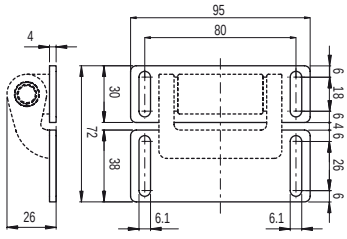

| Article | Description |
|---|---|
| VF SFH3-C | Couple of plane supports for HP AA and HC AA supplied with fixing screws for switch |






| Article | Description |
|---|---|
| VF SFH4-C | Couple of plane supports for HC LL supplied with fixing screws for switch |






**Accessories** See page 5/1

Items with code on the **green** background are available in stock