## Description




#### Abstract

The HP - HC series hinge switches from Pizzato Elettrica combine safety and style in a single product. The electric switch is fully integrated into the mechanical hinge so that it is virtually invisible to an inexpert eye. This, asides from being an aesthetic advantage, guarantees greater safety as a switch which is difficult to identify is consequently even more difficult to tamper with. The rear mounting without screws in sight and the very precise line mean the switch can be perfectly integrated even with guards of machinery with a very precise design. Complementary hinges with purely mechanical functions are also available to ensure perfect alignment with the rest of the machine.


## Adjustment of the switching point



The switching point of the switches can be set with a Phillips head screwdriver. Adjusting the switching point allows for any calibration for large size guards. After calibrating the switch, it is always necessary to close the hole using the safety cap supplied.

## Integrated M12 connector



Versions with connection from the top or the bottom are available with integrated M12 connector.
The use of versions with connectors permits faster wiring if guards need to be moved from the test location to the installation site.

## Cable with connector at the back



The version with a rear cable and M12 connector is the best combination between aesthetics and connection ease.
If machines need to assembled at the customer's site, this solution allows the wiring to be hidden. At the same time, it facilitates the connection and disconnection of the wiring from inside the machinery.

## Protection degrees IP67 and IP69K



These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to EN 60529. They can therefore be used in all environments where maximum protection degree of the housing is required. Due to their special design, these devices are suitable for use in equipment subjected to cleaning with high pressure hot water jets. These devices meet the IP69K test requirements according to ISO 20653 (water jets with 100 bar and $80^{\circ} \mathrm{C}$ ).

## Basic activation angle variants



On request, versions with a switch activation angle of $15^{\circ}$ multiples (e.g. $45^{\circ}$ or $90^{\circ}$ ) are available.
The different activation angle does not exclude the possibility of adjustment of the switching point by means of the adjustment screw in the switch. Any change in the operating angle clearly does not alter the maximum mechanical switch travel.

## Opening angle up to $180^{\circ}$

The mechanical design of the switch also allows use on guards with an opening angle of up to $180^{\circ}$.


## Versions for glass or polycarbonate doors

A version of the switch developed exclusively for glass and polycarbonate doors without frame is available.
Installation is facilitated by the larger supporting arm and the spaced fixing points; these also prevent the formation of cracks caused by holes located too close to the edge of the guard.
It is necessary to verify that the switch is not used as a mechanical stop for the door.

## Additional hinges



To complete the installation, various types of additional hinges are available to be used in a variable number depending on the weight of the guard.
These hinges have the same aesthetic but cost less as they contain no electrical parts.

## Application examples



- Switch without mounting plate.
- Rear fixing.
- Cable output at the back.

- Switch with angular mounting plate for slotted profile.
- Fixing with internal screws
- Output with M12 connector at the bottom.

- Switch with straight mounting plate for front slotted profile.
- Fixing with screws at the back.
- Cable output at the bottom.

Closed door


- Direct fixing to the polycarbonate plate
- Switch without mounting plate
- Fixing with internal screws
- Output with connector at the back.


## Selection diagram



ADDITIONAL HINGES

## Code structure

| Movable part |  |
| :--- | :--- |
| A | $100 \times 50 \mathrm{~mm}$ movable part, metal |
| B | $100 \times 75 \mathrm{~mm}$ movable part, metal |
| Contact blocks |  |
| 52C | 1NO+1NC, slow action |
| 52D | 2NC, slow action |
| 52F | 1NO+2NC, slow action |
| 52M | 2NO+2NC, slow action |
| 53C | 1NO+1NC, slow action, make before break |
| 53F | 1NO+2NC, slow action, make before break |
| 53M | 2NO+2NC, slow action, make before break |
| 50C | 1NO+1NC, snap action |
| 50D | 2NC, snap action |
| 50F | 1NO+2NC, snap action |
| 50M | 2NO+2NC, snap action |
| 1 |  |

The versions with snap-action contact blocks are recom mended for doors having a radius not greater than 600 mm .

## Connection type

0.2 cable, length: 0.2 m with M 12 connector (available for 0.2 PM versions only)
0.5
cable, length: 0.5 m
...
cable, length: 2 m (standard)
...
10 cable, length: 10 m
K integrated M12 connector

Activation angle
$0^{\circ}$ activation angle (standard)
H15 $15^{\circ}$ activation angle
H30 $30^{\circ}$ activation angle
H45 $45^{\circ}$ activation angle
H60 $60^{\circ}$ activation angle
H75 $75^{\circ}$ activation angle
H90 $90^{\circ}$ activation angle

## Contact type

silver contacts (standard)
G
silver contacts with $1 \mu \mathrm{~m}$ gold coating

## Cable or connector type

N PVC cable, IEC 60332-1-2 oil-resistant (standard)
E PVC cable, IEC 60332-1-2 (with 2 contacts only)
H PUR cable, halogen free
R cable for railway applications (EN 50306-4)
M M12 connector

| Output direction, connections |  |
| :---: | :--- |
| $\mathbf{S}$ | movable part at the right and bottom output |
| $\mathbf{P}$ | movable part at the right and output at the back |
| A | movable part at the right and output at top |
| $\mathbf{Q}$ | movable part at the left and output at the back |

## Code structure for additional hinges

HC AA

| Additional hinges $(\mathrm{H} \mathrm{x} \mathrm{L})$ |  |
| :--- | :--- |
| HC AA | $100.6 \times 49 \mathrm{~mm}$ |
| HC AB | $100.6 \times 79 \mathrm{~mm}$ |
| HC LL | $65 \times 44.5 \mathrm{~mm}$ |



## Main features

- Metal housing, cable output at top, bottom or back
- 4 types of integrated cable available
- Versions with M12 connector
- Protection degrees IP67 and IP69K
- 11 contact blocks with positive opening $\Theta$
- Additional hinges without contacts


## Quality marks:

##  <br> IMQ approval: UL approval: CCC approval: EAC approval: <br> CA02.03746 E131787 <br> 2013010305647255 <br> RU C-IT.УT03.B.00035/19

## Technical data

## Housing

Metal housing, powder-coated
Versions with integrated cable, length 2 m , other lengths from $0.5 \ldots 10 \mathrm{~m}$ on request Versions with integrated M12 connector
Versions with M12 connector and 0.2 m cable, other lengths from $0.1 \ldots 3 \mathrm{~m}$ on request
Protection degree:
IP67 acc. to EN 60529
IP69K acc. to ISO 20653
(Protect the cables from direct high-pressure
and high-temperature jets)
Corrosion resistance in saline mist:
$\geq 300$ hours in NSS acc. to ISO 9227

## General data

SIL (SIL CL) up to:
SIL 3 acc. to EN 62061
Performance Level (PL) up to:
PL e acc. to EN ISO 13849-1
Mechanical interlock, not coded:
type 1 acc. to EN ISO 14119
Safety parameters:
$\mathrm{B}_{10 \mathrm{D}}$ :
5,000,000 for NC contacts
Mission time
20 years
Ambient temperature for hinges without cable: $-25 \mathrm{C}^{\circ} \ldots+80 \mathrm{C}^{\circ}$ (standard)
$-40 C^{\circ} \ldots+80 C^{\circ}$ (T6 option)
Ambient temperature for hinges with cable:
Max. actuation frequency:
See table on page 54
Mechanical endurance:
1200 operating cycles/hour
Max. actuation speed:
1 million operating cycles
Min. actuation speed:
$90 \%$
Min. actuation speed: $\quad 2^{\circ} / \mathrm{s}$
Mounting position:
any
Tightening torque, M5 screws: $\quad 3 \ldots 5 \mathrm{Nm}$

## Electrical data

Electrical data
Rated impulse withstand voltage Uimp: 4 kV
Conditional short circuit current.
Pollution degree:

$$
1000 \text { A acc. to EN 60947-5-1 }
$$

## In compliance with standards:

IEC 60947-5-1, IEC 60947-1, IEC 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 50581, ISO 20653, UL 508, CSA 22.2 No. 14.

## Approvals:

EN 60947-5-1, UL 508, CSA 22.2 No.14, GB/T14048.5-2017.

## Compliance with the requirements of:

Machinery Directive 2006/42/EC, EMC Directive 2014/30/EU, RoHS Directive 2011/65/EU. Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

## 〔 If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 337 to 350.

§ Important: Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads. According to EN 60204-1, versions with 8-pole M12 (2NO+2NC) connector can be used only in SELV circuits.

## Features approved by IMO

| Rated insulation voltage ( $U_{i}$ ) | 250 Vac |
| :---: | :---: |
| Conventional free air thermal current (lth): | $10 \mathrm{~A}(1-2$ contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pole M12 connector) |
| Protection against short circuits (fuse): 10 | 10 A (1-2 contacts) / 6 A ( $2-3$ contacts) / <br> 4 A (4 contacts or 5 -pole M12 connector) type gG |
| Rated impulse withstand voltage ( | 4 kV |
| Protection degree of the housing: IP | IP67 |
| MA terminals (crimped terminals) Pollution degree: | 3 |
| Utilization category: Acter | AC15 / DC13 (with connector) |
| Operating voltage $\left(\mathrm{U}_{\mathrm{e}}\right)$ : | $250 \mathrm{Vac}(50 \mathrm{~Hz}) / 24 \mathrm{Vdc}$ (with connector) |
| Operating current ( $\mathrm{I}_{\mathrm{e}}$ ): | $3 \mathrm{~A} / 2 \mathrm{~A}$ (with connector) |
| Forms of the contact element: $X, Y, X+Y$, $X$ Positive opening contacts on contact block 51C, 51D, 51F, 51G, 51M, 52A, 52C, 52D 53G, 53M | $Y, X+X, Y+Y, Y+Y+X, X+X+Y, X+X+Y+Y$ <br> ocks 50A, 50C, 50D, 50F, 50G, 50M, 51A, D, 52F, 52G, 52M, 53A, 53C, 53D, 53F, |
| In compliance with standards: EN 60947-1, requirements of the Low Voltage Directive | $7-1$, EN 60947-5-1, fundamental ive 2014/35/EU. | requirements of the Low Voltage Directive 2014/35/EU.

## Features approved by UL

Electrical Ratings: $\quad$ R300 pilot duty ( $28 \mathrm{VA}, 125-250 \mathrm{Vdc}$ )
B300 pilot duty ( $360 \mathrm{VA}, 120-240 \mathrm{Vac}$ ) (1-2-3 cont.) C300 pilot duty ( $180 \mathrm{VA}, 120-240 \mathrm{Vac}$ ) (4 cont. or M12 connector)
Environmental Ratings: Type 1

[^0]Ambient temperatures for hinges with cable and electrical data

|  | Connection type Contact blocks | Output with cable |  |  |  |  |  |  |  | Output with M12 connector |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2 contacts |  |  |  | 3 contacts |  | 4 contacts |  | 2 contacts | 3 or 4 contacts |
|  | Cable or connector type | E | N | H | R | N | H | N | R | M12 connector, 5 -pole | M12 connector, 8-pole |
|  | Conductors | $5 \times 0.75 \mathrm{~mm}^{2}$ | $5 \times 0.75 \mathrm{~mm}^{2}$ | $5 \times 0.75 \mathrm{~mm}^{2}$ | $5 \times 0.5 \mathrm{~mm}^{2}$ | $7 \times 0.5 \mathrm{~mm}^{2}$ | $7 \times 0.5 \mathrm{~mm}^{2}$ | $9 \times 0.34 \mathrm{~mm}^{2}$ | 9×0.5 mm ${ }^{2}$ | $5 \times 0.25 \mathrm{~mm}^{2}$ | $8 \times 0.25 \mathrm{~mm}^{2}$ |
|  | Application field | General | General | General, <br> mobile installation | Rail | General | General, <br> mobile installation | General | Rail | General | General |
|  | Incompliance with standards | Ho5V-F | H05W5-F | O5EO-H |  | 03W-F | ОзЕ7О-Н | 03W-F |  | O3W-H | 03W-H |
|  | Sheath | PVC | PVC OIL RESISTANT | PUR HALOGEN FREE | 1 | PVC oil resistant | PUR <br> halogen FREE | PVC OIL RESIITANT | 1 | PVC OIL RESIITANT | PVC OIL RESISTANT |
|  | Self-extinguishing | IEC 60332-1-2 | IEC 60332-1-2 CEI 20-22 II | IEC 60332-1-2 UL 758:FT1 | IEC 60332-1 EN 50305 EN 50306-1 | IEC 60332-1-2 CE1 20-22 II | IEC 60332-1-2 UL $758: \mathrm{FT} 1$ | IEC 60332-1-2 CEI 20-22 II | IEC 60332-1 EN 50305 <br> EN 50306- | IEC 60332-1-2 CEL 20-22 II - 758. F | IEC 60332-1-2 UL 758:FT1 |
|  | Oil resistant | 1 | UL 758 <br> CSA 22.2 No210 | UL 758 <br> CSA 22.2 No2 10 | 1 | UL 758 <br> CSA 22.2 N 210 | UL 758 | UL 758 CSA 22.2 No210 | 1 | UL758 CSA 22.2 N 210 | UL 758 <br> CSA 22.2 No2 10 |
|  | Max. speed | 1 | 1 | $300 \mathrm{~m} / \mathrm{min}$ | 1 | 1 | $300 \mathrm{~m} / \mathrm{min}$ | 1 | 1 | $50 \mathrm{~m} / \mathrm{min}$ | $50 \mathrm{~m} / \mathrm{min}$ |
|  | Max. acceleration | 1 | 1 | $30 \mathrm{~m} / \mathrm{s}^{2}$ | 1 | 1 | $30 \mathrm{~m} / \mathrm{s}^{2}$ | 1 | 1 | $5 \mathrm{~m} / \mathrm{s}^{2}$ | $5 \mathrm{~m} / \mathrm{s}^{2}$ |
|  | Minimum bending radius | 80 mm | 80 mm | 80 mm | 60 mm | 108 mm | 80 mm | 108 mm | 65 mm | 75 mm | 90 mm |
|  | Outer diameter | 8 mm | 8 mm | 8 mm | 6 mm | 7 mm | 7 mm | 7 mm | 6.5 mm | 6 mm | 6 mm |
|  | End stripped | 80 mm | 80 mm | 80 mm | 80 mm | 80 mm | 80 mm | 80 mm | 80 mm | 1 | 1 |
|  | Copper conductors IEC 60228 | Class 5 | Class 5 | Class 6 | Class 5 | Class 5 | Class 6 | Class 5 | Class 5 | Class 6 | Class 6 |
|  | Engraving | Standard | 6268 | 6280 | Standard | 6274 | 6282 | 6278 | Standard | 6267 | 6275 |
|  | Cable, fixed installation | $-15^{\circ} \mathrm{C}+60^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ |
|  | Cable, flexible installation | $+5^{\circ} \mathrm{C}+60^{\circ} \mathrm{C}$ | $-5^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-5^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-5^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-15^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-15^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ |
|  | Cable, mobile installation | 1 | 1 | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 | $-25^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 | $-15^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-15^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ |
|  | Cable, fixed installation | 1 | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 |
|  | Cable, flexible installation | 1 | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 |
|  | Cable, mobile installation | 1 | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 | $-40^{\circ} \mathrm{C}+80^{\circ} \mathrm{C}$ | 1 | 1 | 1 | 1 |
|  | Thermal current Ith | 10 A | 10 A | 10 A | 6 A | 6 A | 6 A | 3 A | 4A | 4 A | 2 A |
|  | Rated insulation voltage Ui | 250 Vac | 250 Vac | 250 Vac | 250 Vac | 250 Vac | 250 Vac | 250 Vac | 250 Vac | $\begin{aligned} & 250 \mathrm{Vac} \\ & 300 \mathrm{Vdc} \end{aligned}$ | 30 Vac 36 Vdc |
|  | Protection against short circuits (fuse) |  |  | $\begin{gathered} 10 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type } \mathrm{gG} \end{gathered}$ |  | $\begin{gathered} 6 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type } \mathrm{gG} \end{gathered}$ |  | $\begin{gathered} 3 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type } \mathrm{gG} \end{gathered}$ | $\begin{gathered} 4 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type } \mathrm{gG} \end{gathered}$ | $\begin{gathered} 4 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type } \mathrm{gG} \end{gathered}$ | $\begin{gathered} 2 \mathrm{~A} \\ 500 \mathrm{~V} \\ \text { type gG } \end{gathered}$ |
|  | 24 V | 2 A | 2 A | 2 A | 2 A | 2 A | 2 A | 2 A | 2 A | 2 A | 2 A |
|  | N 125 V | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 0.4 A | 1 |
|  | つ 250 V | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 0.3 A | 1 |
|  | 24 V | 4 A | 4 A | 4 A | 4 A | 4 A | 4 A | 3 A | 4 A | 4 A | 2 A |
|  | $120 \mathrm{~V}$ | 4 A | 4 A | 4 A | 4 A | 4 A | 4 A | 3 A | 4 A | 4 A | 1 |
|  | 200V | 4 A | 4 A | 4 A | 4 A | 4 A | 4 A | 3 A | 4 A | 4 A | 1 |
| Approvals |  | $\begin{aligned} & \text { CE CULus } \\ & \text { IMO EAC } \\ & \text { CCC } \end{aligned}$ | $\begin{aligned} & \text { CE CULus } \\ & \text { IMQ EAC } \end{aligned}$ CCC | $\begin{aligned} & \text { CE cULus } \\ & \text { IMO EAC } \\ & \text { CCC } \end{aligned}$ | $\begin{aligned} & \text { CE } \\ & \text { EAC } \\ & \text { IMO } \\ & \hline \end{aligned}$ | CE cULus <br> IMO EAC <br> CCC | CE cULus <br> IMO EAC <br> CCC | $\begin{aligned} & \text { CE cULus } \\ & \text { IMO EAC } \\ & \text { CCC } \end{aligned}$ | $\begin{aligned} & \text { CE } \\ & \text { EAC } \\ & \text { IMO } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { CE CULus } \\ & \text { IMO EAC } \\ & \text { CCC } \end{aligned}$ | $\begin{aligned} & \text { CE cULus } \\ & \text { EAC } \end{aligned}$ |

## Internal cable wiring



## Connector pin assignment

| $2 N O+2 N C$ | $1 N O+2 N C$ | $1 N O+1 N C$ | $2 N C$ |
| :--- | :--- | :--- | :--- |

$\because \because$
$\begin{array}{ll}1-2 & N C \\ 3-4 & N C\end{array}$ $\begin{array}{ll}3-4 & \mathrm{NC} \\ 5-6 & \mathrm{NO}\end{array}$
$\because{ }_{3}$ $1-2$
NC
$3-4$ $5 \xrightarrow{\underline{1}}$ $\begin{array}{ll}3-4 & N C \\ 5-6 & N C\end{array}$ 5-6 NC 7-8 NO


1-2 NC 3-4 NC 7-8 NO


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


| Contact type <br> L $=$ slow action <br> LO slow action, <br> make before <br> break |
| :--- |

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

## Additional hinges

|  |  |  |
| :---: | :---: | :---: |
| HC AA | HC AB | HC LL |

Maximum forces and loads HP AA ${ }^{\bullet \bullet \bullet-\bullet \bullet \bullet, ~ H C ~ A A, ~ H C ~ L L ~}$

Admitted max. loads, independent of utilization conditions.


The loads have been verified by a

Doors with one safety hinge
$\mathrm{F}_{\text {max }}(\mathrm{N})=25,000 / \mathrm{D}(\mathrm{mm})$

fatigue test of one million operating cycles with a $90^{\circ}$ opening angle.

## Legend

$F_{\text {max }}$
Force exerted by the weight of the door ( N )
$\begin{array}{ll}D^{\max } & \text { Distance from the centre of gravity of the door to the axis of the hinge }(\mathrm{mm}) \\ \text { A } & \text { Safety hinge }\end{array}$
B Additional hinge

Doors with one safety hinge and one additional hinge


Doors with one safety hinge and two additional hinges $\mathrm{F}_{\text {max }}(\mathrm{N})=250,000 / \mathrm{D}(\mathrm{mm})$


## Maximum forces and loads HP AB

## Admitted max. loads, conditions.



Attention: Never exceed the loads listed above under any circumstances.
The loads have been verified by a fatigue test of one million operating cycles with a $90^{\circ}$ opening angle.

Doors with one safety hinge
$\mathrm{F}_{\max }(\mathrm{N})=12,500 / \mathrm{D}(\mathrm{mm})$


Doors with one safety hinge and one additional hinge
$F_{\max }(N)=100,000 / D(\mathrm{~mm})$


## Legend

$\mathrm{F}_{\text {max }} \quad$ Force exerted by the weight of the door (N)
$D^{\max } \quad$ Distance from the centre of gravity of the door to the axis of the hinge ( mm ) Safety hinge Additional hinge

## Accessories

Doors with one safety hinge and two additional hinges
$F_{\max }(N)=200,000 / D(\mathrm{~mm})$


Article
VF AC7032
Protection cap for adjustment screw
The cap is supplied with every hinge and must always be inserted after the adjustment of the switching point.
In case of loss or damage, the cap can be ordered separately.

## Travel diagrams

| Contact blocks | Group 1 | Contact blocks | Group 1 |
| :---: | :---: | :---: | :---: |
| $\begin{array}{ll} 52 \mathrm{C} & \dot{-}--4 \\ 1 \mathrm{NO}+1 \mathrm{NC} \end{array}$ |  | $\begin{array}{ll} 53 \mathrm{C} & \dot{1}---4 \\ 1 \mathrm{NO}+1 \mathrm{NC} \end{array}$ | $\stackrel{1}{10}_{0}^{3^{\circ} \quad \Theta 7^{\circ}} 180^{\circ}$ |
| $\begin{array}{ll} 52 \mathrm{D} \\ 2 \mathrm{NC} \end{array} \quad \neq-7$ |  |  |  |
| $\begin{array}{ll} 52 F \\ 1 \mathrm{NO}+2 \mathrm{NC} \end{array} \quad \neq-7-\lambda^{\prime}$ |  |  |  |
|  |  |  |  |

## Legend

$\rightleftharpoons$ Closed contact $\quad \stackrel{\ominus}{\square}$ Positive opening travel

| Contact blocks | Group 1 |
| :---: | :---: |
| $\begin{aligned} & 50 \mathrm{C} \\ & 1 \mathrm{NO}+1 \mathrm{NC} \\ & \hline \end{aligned}$ |  |
| $\begin{array}{ll} 50 D \\ 2 N C \end{array} \quad F-7$ |  |
| $\begin{aligned} & 50 \mathrm{~F} \\ & 1 \mathrm{NO}+2 \mathrm{NC} \end{aligned} \quad \neq-\boldsymbol{F}^{\prime}-\gamma^{\prime}$ |  |
|  |  |

The switching point of the contacts can be adjusted from $0^{\circ}$ to $+4^{\circ}$ compared to that indicated in the travel diagrams. The hinge is supplied without preadjustment.

## Fixing plates

Fastening screws for profile not supplied.



[^0]:    Please contact our technical department for the list of approved products.

