



### Main data

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Possibility of application with the cable side close to the wall
- Azionamento frontale
- Protection degree from IP00 to IP20
- Transparent cover

### Markings and quality marks:



Approval IMQ: CA50.00541  
EN 81-1:2005  
EN 81-2:2005  
230 VAC - 2 A

Approval UL: E131787

### Technical data

#### Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

#### Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin  
Protection degree: IP00 (DS A•5VA)  
IP20 (DS A•1VA)

#### General data

Ambient temperature: from -30°C to +80°C  
(humidity ≤ 95%, without condensation)

Max operating frequency: 3600 operations cycles<sup>1</sup>/hour

Mechanical endurance: 10 millions of operations cycles<sup>1</sup> (DS A•1VA)  
5 millions of operations cycles<sup>1</sup> (DS A•5VA)

Max actuating speed: 0,5 m/s

Min. actuating speed: 1 mm/s

Max actuating force: 1,5 N

Driving torque for installation: see page 75

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

#### Cross section of the conductors (flexible copper wire)

min. 1 x 0,5 mm<sup>2</sup> (1 x AWG 20)  
max. 1 x 2,5 mm<sup>2</sup> (1 x AWG 14)

#### In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60529, EN 60529, EN 81-1, EN 81-2

#### 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:

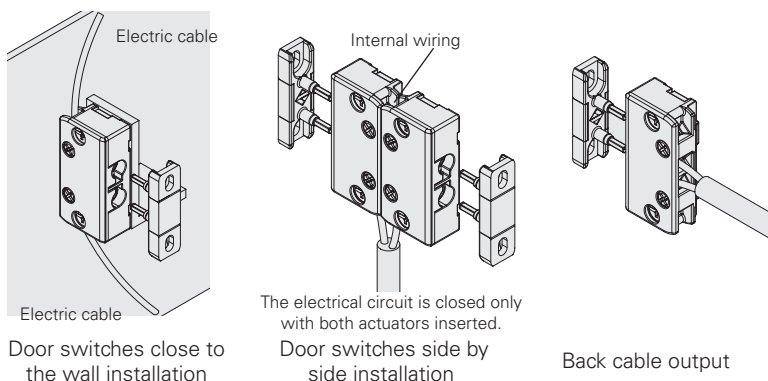
IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

### Electrical data

|   |               |                              |                                 |                                     |
|---|---------------|------------------------------|---------------------------------|-------------------------------------|
| Thermal current (I <sub>th</sub> ):                   | 4 A           | According to EN 60947-5-1    | According to EN 81 par. F.1.2.4 | According to EN 81 par. F.1.2.2.1.1 |
| Rated insulation voltage (U <sub>i</sub> ):           | 500 Vac       | EN 81 par. 14.1.2.2          |                                 |                                     |
| Rated impulse with stand voltage (U <sub>imp</sub> ): | 6 KV          | Utilization categories:      |                                 |                                     |
| Protection against short circuits:                    | fuse 4 A      | AC15 (50, 60 Hz)             | AC (50, 60 Hz)                  | AC (50, 60 Hz)                      |
|   | 500 V type gG | U <sub>e</sub> (V) 120 250   | 230 Vac                         | 230 Vac                             |
| Pollution degree:                                     | 3             | I <sub>e</sub> (A) 3 3       | 2 A                             | 2 A                                 |
|   |               | DC13                         | DC:                             | DC:                                 |
|   |               | U <sub>e</sub> (V) 125 250   | 200 Vdc                         | 125 Vdc                             |
|   |               | I <sub>e</sub> (A) 0,55 0,27 | 2 A                             | 0,5 A                               |

### Application examples DS A series

These devices have several cable outputs to allow installation also in restricted spaces, for example:



### Data type approved by UL

Utilization categories Q300 (69VA, 125-250Vdc), 120-240Vac, 3 A pilot duty, 5 A thermal current

For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG.  
Terminal tightening torque of 7,1 lb in (0.8 Nm).

In conformity with standard: UL 508

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

## Dimensional drawings

10 pcs packs

|                      | Door switches with positive opening - internal contacts |                         | Door switches with positive opening - external contacts |                         |
|----------------------|---|-------------------------|---|-------------------------|
|                      | Switch without actuator                                 | Switch without actuator | Switch without actuator                                 | Switch without actuator |
| Slow action contacts | <b>DS AA1VA</b> → 1NC                                   | <b>DS AE1VA</b> → 1NC   | <b>DS AA5VA</b> → 1NC                                   | <b>DS AE5VA</b> → 1NC   |
| Max actuating travel | 8 mm  | 8 mm                    | 6 mm  | 6 mm                    |

## Actuators for door switches with internal contacts (DS A•1VA)

10 pcs packs

| Article        | Description       | Article        | Description           |
|----------------|-------------------|----------------|-----------------------|
| <b>DS KA1A</b> | Straight actuator | <b>DS KB1A</b> | Right-angled actuator |
| <b>DS KA2A</b> | Straight actuator | <b>DS KB2A</b> | Right-angled actuator |
| <b>DS KA3A</b> | Straight actuator | <b>DS KB3A</b> | Right-angled actuator |

## Actuators for door switches with external contacts (DS A•5VA)

10 pcs packs

| Article        | Description    |
|----------------|----------------|
| <b>DS KP5A</b> | Plane actuator |

Items with code on the green background are available in stock

→ 2D and 3D files available on [www.pizzato.com](http://www.pizzato.com)

All measures in the drawings are in mm



### Main data

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Three wiring possibilities
- Protection degree IP20
- Transparent cover

### Markings and quality marks:



Approval IMQ: pending  
Approval UL: pending

### Technical data

#### Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

#### Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin  
Protection degree: IP20

#### General data

Ambient temperature: from -30°C to +80°C  
(humidity ≤ 95%, without condensation)  
Max operating frequency: 3600 operations cycles<sup>1</sup>/hour  
Mechanical endurance: 20 millions of operations cycles<sup>1</sup>  
Max actuating speed: 0,5 m/s  
Min. actuating speed: 1 mm/s  
Max actuating force: 1,5 N  
Driving torque for installation: see page 75  
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

#### Cross section of the conductors (flexible copper wire)

min. 1 x 0,5 mm<sup>2</sup> (1 x AWG 20)  
max. 1 x 2,5 mm<sup>2</sup> (1 x AWG 14)

#### In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60529, EN 60529, EN 81-1, EN 81-2

#### 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.

### Electrical data

Thermal current (I<sub>th</sub>): 6 A  
Rated insulation voltage (U<sub>i</sub>): 500 Vac  
Rated impulse with stand voltage (U<sub>imp</sub>): 6 kV  
Protection against short circuits: fuse 6 A  
500 V type gG  
Pollution degree: 3

According  
EN 60947-5-1

EN 81 par. 14.1.2.2  
Utilization categories:  
AC15 (50, 60 Hz)  
U<sub>e</sub> (V) 120 250  
I<sub>e</sub> (A) 3 3  
DC13  
U<sub>e</sub> (V) 125 250  
I<sub>e</sub> (A) 0,8 0,45

According  
EN 81  
par. F.1.2.4

AC (50, 60 Hz)  
230 Vac  
2 A  
DC:  
200 Vdc  
2 A

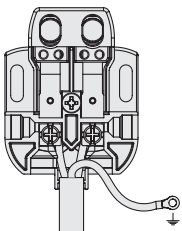
According  
EN 81  
par. F.1.2.2.1.1

AC (50, 60 Hz)  
230 Vdc  
2 A  
DC:  
125 Vdc  
1 A

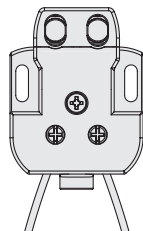
According  
UL508

Ratings:  
AC (50, 60 Hz)  
C300  
DC:  
Q300

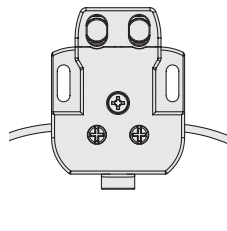
### Three wiring possibilities



Standard wiring



Fast bottom wiring



Fast lateral wiring

With a bipolar cable through the central hole on the housing bottom.

Furthermore, using a three-pole cable it is possible to use the lateral hole with a wire for earthing other metal parts.

With two monopolar cables through two holes on the housing bottom. During this operation there is no need to open the contact cover.

With two monopolar cables through two holes on the housing sides. During this operation there is no need to open the contact cover.

### Transparent head and slotted holes



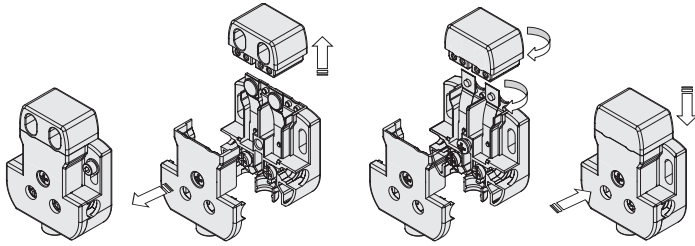
Transparent head on all sides in order to allow adjustment and centering of the actuator with the contacts.

The slotted holes on the actuator and on the contact housing allow to obtain a correct alignment between these two devices.

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

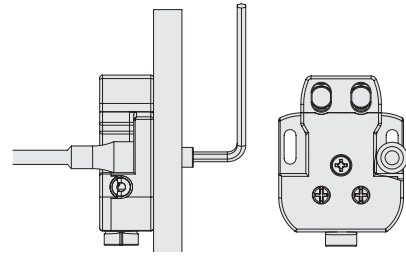
## Rotating heads

By rotating the head and the contact reeds of 180° it is possible to transform a door switch with frontal actuation into a door switch with actuation from back. The whole operation is possible by simply unscrewing three screws.



## Housing back fixing

The particular shape of the housing allows fixing from the back. In fact near the fixing holes it is possible to fit a tubular wrench in order to keep hold of the nut while fixing.



## Dimensional drawings

10 pcs packs

|                      | frontal actuation       | back actuation          |
|----------------------|-------------------------|-------------------------|
|                      | Switch without actuator | Switch without actuator |
|                      |                         |                         |
| Slow action contacts | DS CH1VA0 → 1NC         | DS CN1VA0 → 1NC         |
| Max actuating travel | 6 mm                    | 6 mm                    |

## Actuators

10 pcs packs

| Article | Description       |
|---------|-------------------|
| DS KA1A | Straight actuator |
|         |                   |

| Article | Description           |
|---------|-----------------------|
| DS KB1A | Right-angled actuator |
|         |                       |

| Article | Description       |
|---------|-------------------|
| DS KA2A | Straight actuator |
|         |                   |

| Article | Description           |
|---------|-----------------------|
| DS KB2A | Right-angled actuator |
|         |                       |

| Article | Description       |
|---------|-------------------|
| DS KA3A | Straight actuator |
|         |                   |

| Article | Description           |
|---------|-----------------------|
| DS KB3A | Right-angled actuator |
|         |                       |

→ 2D and 3D files available on [www.pizzato.com](http://www.pizzato.com)

All measures in the drawings are in mm

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