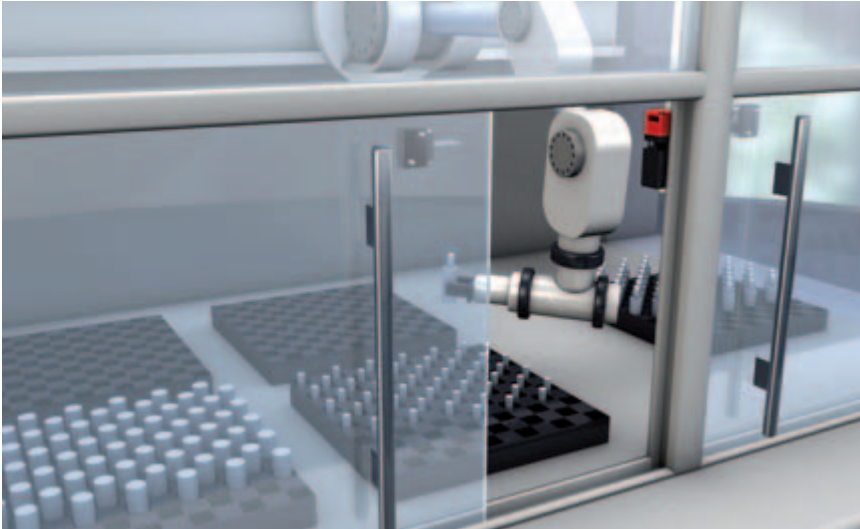


SAFETY SWITCHES

S20 Safety Switch



S20 Safety Switch for guarding the sliding door on a pick-and-place machine

The S20 is a Safety Switch without guard interlocking, which can always be used when the dangerous movement has stopped before the entering person can reach the point of operation. This is the case, for example, with machines and systems where the operator is protected from the point of operation with cages/grids or sliding doors, and a process or production interruption is essentially possible and may be required. The S20 series Safety Switches have a housing made of fiber-glass-reinforced plastic in accordance with protection rating IP 67. The models equipped with various contact sets enable integration in control circuits up to category 4 in accordance with EN ISO 13849. The swivel deflecting head and numerous actuators enable universal use of this Safety Switch.

Typical areas of application

- Monitoring of rotating, swiveling or sliding protective doors in "normal duty" applications
- Lateral monitoring of sliding protective grids or sliding doors

Important technical data, overview

| | | |
|-------------------------------|--|---------|
| Switch type | Interlock device without guard interlocking in accordance with EN 1088 | |
| Housing material | Fiberglass-reinforced, thermo-plastic plastic, self-extinguishing | |
| Contact equipment | 2NC ⊖ 1NC ⊖ + 1NO 2NC ⊖ + 1NO | |
| Switching principle | Creep contact | |
| External actuator | AC-ANxx series: Straight, angled, resilient, alignable | |
| Approach actuation directions | 1 x above, 4 x lateral (90°) | |
| Approach speed | Max. 0.5 m/s | |
| Connection system | Number of cable entries | 1, 3 |
| | Type of cable entries | M20x1.5 |
| Protection rating | IP 67 | |

Functions

Interlock device without guard interlocking in accordance with EN 1088
 Integration in control circuits up to category 4 in accordance with EN ISO 13849

Special features

- Contact sets for integration up to category 4 in accordance with EN ISO 13849
- Easy mounting with standard construction
- Universal use with 5 actuator starting directions
- 8 different actuators for different installation conditions and applications
- Self-centering with funnel-shaped entry opening
- Protective insulation, tough non-flammable plastic



Features



Certification requested:



IMQ is a European Commission recognized certification center

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SAFETY SWITCHES

Ordering information

S20

Included in delivery: Application information (print document)

Functions: Interlock device without guard interlocking in accordance with EN 1088

S20 Safety Switches, Normal Duty

| Art. no. | Article | Description | Contact equipment |
|----------|-----------------|-----------------|------------------------------|
| 63000100 | S20-P3C1-M20-FH | Safety Switches | (2NC ⊖) creep contacts |
| 63000101 | S20-P1C1-M20-FH | Safety Switches | (1NC ⊖ + 1NO) creep contacts |
| 63000102 | S20-P1C3-M20-LH | Safety Switches | (1NC ⊖ + 1NO) creep contacts |
| 63000103 | S20-P4C1-M20-FH | Safety Switches | (2NC ⊖ + 1NO) creep contacts |
| 63000104 | S20-P4C3-M20-LH | Safety Switches | (2NC ⊖ + 1NO) creep contacts |

Actuators must be ordered separately, see page 364.

Article list for S20

| Article | Description |
|----------------|--------------------------|
| S20 | Safety Switches |
| -P | Plastic housing |
| 1, 3, 4 | Contact set |
| C1, C3 | Number of cable bushings |
| -M20 | Metric thread |
| -FH | Non-removable head |
| -LH | Removable head |

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SAFETY SWITCHES

Technical data

| General system data | | |
|--|---|---|
| Switch type | Interlock device without guard interlocking in accordance with EN 1088 | |
| Service life (T_M) in accordance with EN ISO 13849-1 | 20 years | |
| Number of cycles until 10 % of the components have a failure to danger (B_{10d}) | 2,000,000 | |
| Ambient temperature, operation | -25...+80 °C | |
| Dirt levels, external, in accordance with EN 60947-1 | 3 | |
| Housing material | Fiberglass-reinforced, thermo-plastic plastic, self-extinguishing | |
| External actuator | AC-ANxx series: Straight, angled, resilient, alignable | |
| Dimensions | See dimensional drawing | |
| Protection rating | IP 67 | |
| Contact protection | Protective insulation O | |
| Approach actuation directions | 1 x above, 4 x lateral (90°) | |
| Mechanical life time in accordance with IEC 6047-5-1 | 1x10 ⁶ actuation clearance | |
| Actuation frequency according to IEC 6047-5-1 | Max. 3,600 | |
| Approach speed | Max. 0.5 m/s | |
| Actuation force (pull-out) | 10 N | |
| Actuating path with forced separation | Min. 9.0 mm Min. 7.2 mm Min. 7.8 mm | S20-P3C1-M20-FH S20-P1C1-M20-FH, S20-P1C3-M20-LH S20-P4C1-M20-FH, S20-P4C3-M20-LH |
| Recoil tolerance | 4.5 mm | |
| Contact equipment | 2NC ⊕ 1NC ⊕ + 1NO 2NC ⊕ + 1NO | S20-P3C1-M20-FH S20-P1C1-M20-FH, S20-P1C3-M20-LH S20-P4C1-M20-FH, S20-P4C3-M20-LH |
| Switching principle | Creep contact | |
| Contact opening | Force-fit | |
| Contact material | Silver alloy | |
| Usage category in accordance with EN 60947-5-1 | AC 15: U_e / I_e : 250 V / 6 A, 400 V / 4 A, 500 V / 1 A DC 13: U_e / I_e : 24 V / 6 A, 125 V / 1.1 A, 250 V / 0.4 A | |
| Rated insulation voltage | 500 V AC, 600 V DC | |
| Conventional thermal current | Max. 2 A | |
| Short-circuit protection in accordance with IEC60269-1 | 500 V, 10 A, type aM | |
| Connection system | Number of cable entries | 1 (S20-P3C1-M20-FH, S20-P1C1-M20-FH, S20-P4C1-M20-FH) 3 (S20-P1C3-M20-LH, S20-P4C3-M20-LH) |
| | Type of cable entries | M20x1.5 |
| | Cable cross-section (wire) | 1 x 0.5 mm ² to 2 x 2.5 mm ² |

Please note the additional information in the connecting and operating instructions at www.leuze.com/s20.

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SAFETY SWITCHES

Accessories ordering information

S20 Normal Duty accessories

| Art. no. | Article | Description | Length, design |
|----------|----------------|---------------|--|
| 63000700 | AC-AN-S | Actuator | Straight |
| 63000701 | AC-AN-A | Actuator | Angled |
| 63000702 | AC-AN-F4 | Actuator | Straight, flexible, 4 directions |
| 63000703 | AC-AN-F2J2 | Actuator | Straight, flexible, 2 directions, alignable 2 directions |
| 63000704 | AC-AN-SL | Actuator | Straight, long |
| 63000705 | AC-AN-AL | Actuator | Angled, long |
| 63000706 | AC-AN-F1J2 | Actuator | Straight, flexible, 1 direction, alignable 2 directions |
| 63000707 | AC-AN-ASH | Actuator | Angled, short |
| 63000843 | AC-A-M20-12NPT | Adapter | M20 x 1.5 on 1/2 NPT |
| 63000844 | AC-PLP-8 | Built-in plug | M12, plastic, with internal 8-pin connection cable |

Article list for S20 accessories

| Article | Description |
|---------------|-------------------------------|
| AC | Accessories |
| -AN | Actuator, Normal Duty |
| -S | Straight |
| -A | Angled |
| -F2 | Flexible in 2 directions |
| -F4 | Flexible in 4 directions |
| J2 | Alignable in 2 directions |
| -SL | Straight and long |
| -AL | Angled and long |
| -ASH | Angled and short |
| -PLP-8 | Built-in plug, 8-pin, plastic |

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