

# Guard Locking Device

## Electromagnetic, Power to Lock Principle

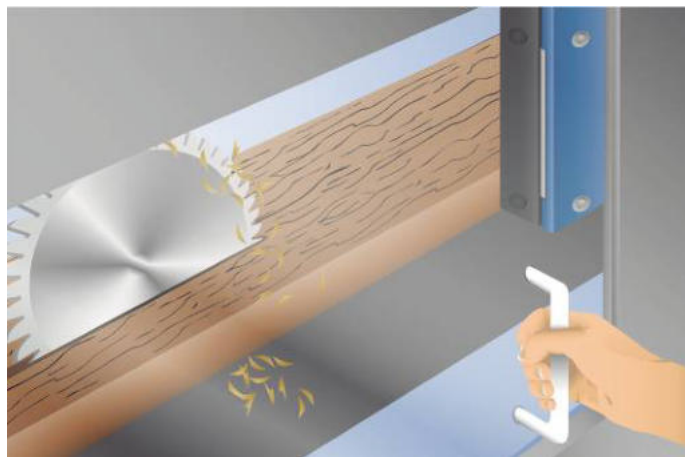
# SD4ICS03SE89

Part Number



- 500 N locking force (monitored)
- Adjustable locking force
- Easy to clean
- Extensive diagnosis

This innovative guard locking device is suitable for process safety thanks to the constantly monitored locking force. Also, the safety level cat. 4 PL e (EN ISO 13849-1) can be achieved with just one guard locking device and is retained even during series connection. Response and risk times remain unchanged during series connection. Extensive diagnosis functions boost system availability and make installation and maintenance easier. Thanks to the electrical locking, no touching components whatsoever are used and therefore wear, the guard door clattering (and rattling) loudly and laborious cleaning work are avoided.



## Technical Data

### Electrical Data

|                                     |                  |
|-------------------------------------|------------------|
| Sensor Type                         | Locking unit     |
| Supply Voltage                      | 20,4...26,4 V DC |
| Response Time                       | < 150 ms         |
| Risk time                           | < 150 ms         |
| Temperature Range                   | -25...55 °C      |
| Storage temperature                 | -25...85 °C      |
| Safety Output                       | OSSD             |
| No. Safety Outputs (OSSDs)          | 2                |
| PNP Safety Output/Switching Current | < 250 mA         |
| Number of Signal Outputs            | 1                |
| PNP signal output switching current | < 50 mA          |
| Short Circuit Protection            | yes              |
| Protection Class                    | II               |

### Mechanical Data

|                         |                |
|-------------------------|----------------|
| Housing Material        | Plastic        |
| Degree of Protection    | IP67           |
| Connection              | M12 x 1; 8-pin |
| Latching Force, typical | 30...100 N     |

### Safety-relevant Data

|                                    |                         |
|------------------------------------|-------------------------|
| Operating principle                | Inductively coded       |
| Coding                             | Standard                |
| Performance Level (EN ISO 13849-1) | Cat. 4 PL e             |
| PFHD                               | 3,50 × E-9 1/h          |
| Safety Integrity Level (EN 61508)  | SIL3                    |
| Safety Integrity Level (EN 62061)  | SILCL3                  |
| PDDb (EN 60947-5-3)                | yes                     |
| Locking Device                     | Power to lock principle |
| Locking Force F, guaranteed        | 500 N                   |
| Locking Force Fmax, typical        | 750 N                   |

### Function

|                             |     |
|-----------------------------|-----|
| Series Connection           | yes |
| Monitored lock              | yes |
| Electrical Detent Mechanism | yes |

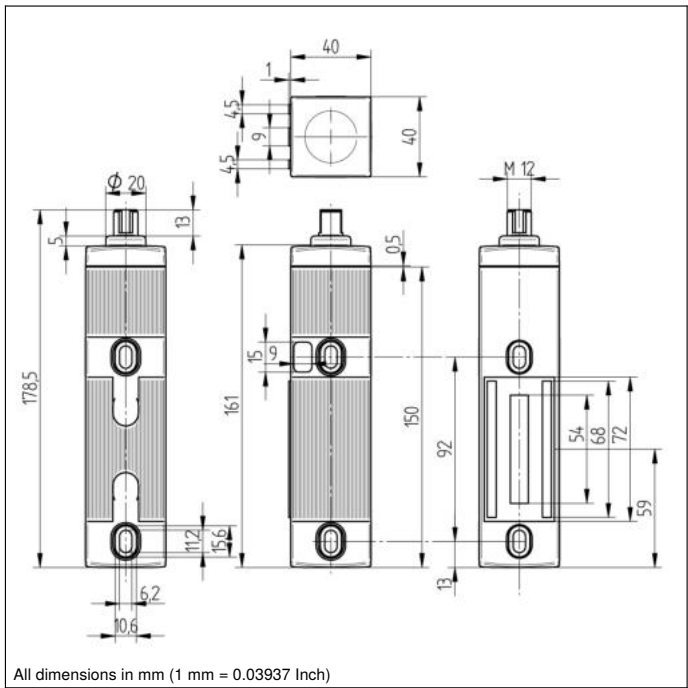
|                     |          |
|---------------------|----------|
| Applicable actuator | SD4ICA01 |
|---------------------|----------|

|                                   |            |
|-----------------------------------|------------|
| Connection Diagram No.            | <b>P03</b> |
| Suitable Connection Equipment No. | <b>89</b>  |
| Suitable Mounting Technology No.  | <b>830</b> |

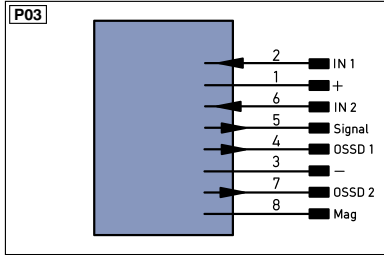
Adjusting Target must be ordered separately (not included in delivery)

## Complementary Products

|                                   |
|-----------------------------------|
| Adjusting Target Z0048            |
| Safety Relay SR4B3B01S, SR4D3B01S |
| Software                          |



All dimensions in mm (1 mm = 0.03937 Inch)



#### Legend

|           |                                            |
|-----------|--------------------------------------------|
| +         | Supply Voltage +                           |
| -         | Supply Voltage 0 V                         |
| ~         | Supply Voltage (AC Voltage)                |
| A         | Switching Output (NO)                      |
| Ā         | Switching Output (NC)                      |
| V         | Contamination/Error Output (NO)            |
| Ī         | Contamination/Error Output (NC)            |
| E         | Input (analog or digital)                  |
| T         | Teach Input                                |
| Z         | Time Delay (activation)                    |
| S         | Shielding                                  |
| RxD       | Interface Receive Path                     |
| TxD       | Interface Send Path                        |
| RDY       | Ready                                      |
| GND       | Ground                                     |
| CL        | Clock                                      |
| E/A       | Output/Input programmable                  |
|           | IO-Link                                    |
| PoE       | Power over Ethernet                        |
| IN        | Safety Input                               |
| OSSD      | Safety Output                              |
| Signal    | Signal Output                              |
| BL-D+/-   | Ethernet Gigabit bidirect. data line (A-D) |
| EN0-RS422 | Encoder 0-pulse 0-0 (TTL)                  |

|                  |                                |
|------------------|--------------------------------|
| PT               | Platinum measuring resistor    |
| nc               | not connected                  |
| U                | Test Input                     |
| Ū                | Test Input inverted            |
| W                | Trigger Input                  |
| W-               | Ground for the Trigger Input   |
| O                | Analog Output                  |
| O-               | Ground for the Analog Output   |
| BZ               | Block Discharge                |
| AWV              | Valve Output                   |
| a                | Valve Control Output +         |
| b                | Valve Control Output 0 V       |
| SY               | Synchronization                |
| SY-              | Ground for the Synchronization |
| E+               | Receiver-Line                  |
| S+               | Emitter-Line                   |
| ±                | Grounding                      |
| S <sub>n</sub> R | Switching Distance Reduction   |
| Rx+/-            | Ethernet Receive Path          |
| Tx+/-            | Ethernet Send Path             |
| Bus              | Interfaces-Bus A(+)/B(-)       |
| La               | Emitted Light disengageable    |
| Mag              | Magnet activation              |
| RES              | Input confirmation             |
| EDM              | Contacting Monitoring          |

|                                      |                     |
|--------------------------------------|---------------------|
| ENAR5422                             | Encoder A/Ā (TTL)   |
| ENB5422                              | Encoder B/B̄ (TTL)  |
| ENa                                  | Encoder A           |
| ENb                                  | Encoder B           |
| A <sub>MIN</sub>                     | Digital output MIN  |
| A <sub>MAX</sub>                     | Digital output MAX  |
| A <sub>OK</sub>                      | Digital output OK   |
| SY <sub>in</sub>                     | Synchronization In  |
| SY <sub>OUT</sub>                    | Synchronization OUT |
| OL <sub>T</sub>                      | Brightness output   |
| M                                    | Maintenance         |
| rsv                                  | reserved            |
| Wire Colors according to DIN IEC 757 |                     |
| BK                                   | Black               |
| BN                                   | Brown               |
| RD                                   | Red                 |
| OG                                   | Orange              |
| YE                                   | Yellow              |
| GN                                   | Green               |
| BU                                   | Blue                |
| VT                                   | Violet              |
| GY                                   | Grey                |
| WH                                   | White               |
| PK                                   | Pink                |
| GNYE                                 | Green/Yellow        |

