

Safety Switch with Lock Function

Electromagnetic, Power to Lock Principle

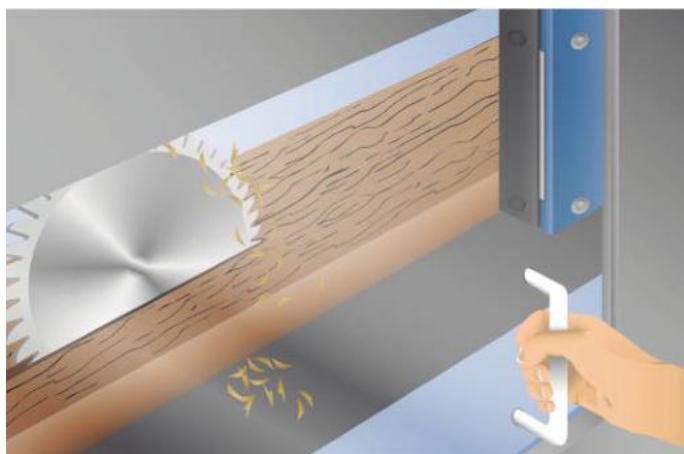
SD4ICS13SE89

Part Number



- **500 N locking force**
- **Adjustable locking force**
- **Easy to clean**
- **Extensive diagnosis**

This innovative safety switch with lock function is suitable for process protection thanks to its locking force. Furthermore, a safety level of category 4 PL e (EN ISO 13849-1) can be fulfilled with just one safety switch with lock function and is retained even when connected in series. Reaction time and risk time remain unchanged when connected in series as well. Extensive diagnosis functions enhance system availability and simplify installation and maintenance. Thanks to the electromagnetic operating principle, the safety switches with lock function work in a fully contactless fashion and are thus wear-resistant and easy to clean.



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	IP65/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 x 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

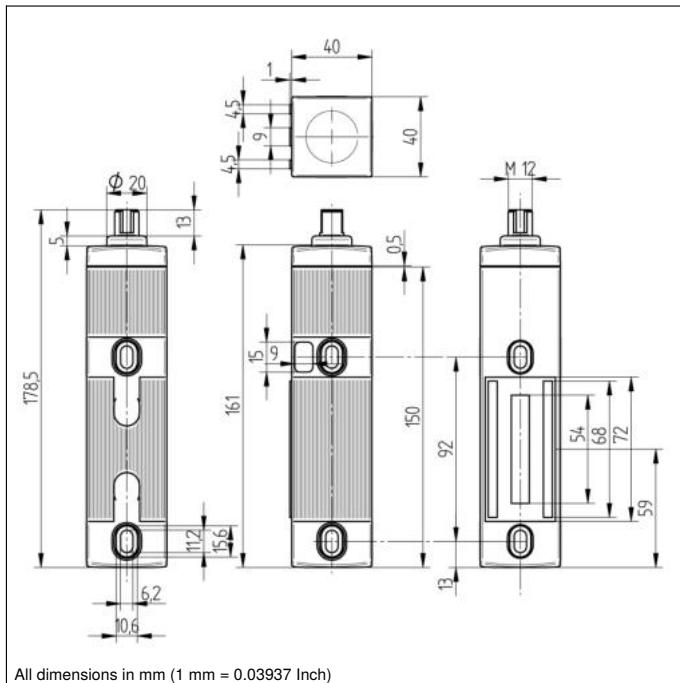
Function

Series Connection	yes
Actuator monitored	yes
Electrical Detent Mechanism	yes
Applicable actuator	SD4ICA01
Connection Diagram No.	P03
Suitable Connection Equipment No.	89
Suitable Mounting Technology No.	830

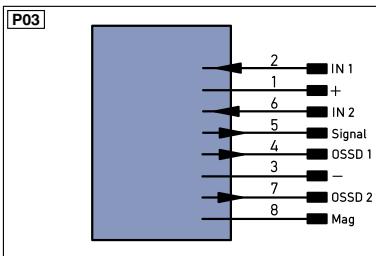
Adjusting Target must be ordered separately (not included in delivery)

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)
Ā	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)
EN0-5	Encoder 0-pulse 0-5 (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
Aw	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
SiR	Switching Distance Reduction
Rx+/-	Ethernet Receive Path
Tx+/-	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(-)
La	Emitted Light disengagable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
EN _A /RS422	Encoder A/Ā (TTL)
EN _B /RS422	Encoder B/Ā (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLt	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

