



SLC

Guard locking safety switch

The new generation of safe mechanical guard locking switches



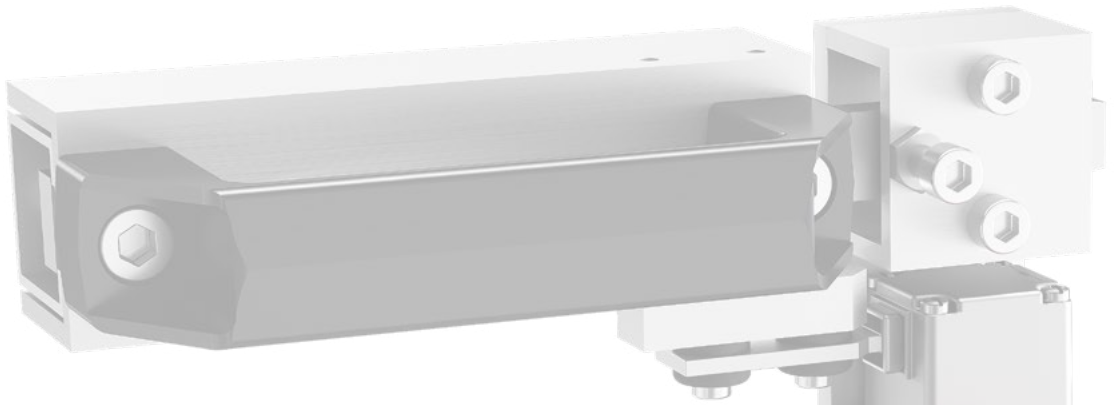
Surely. Exactly the right solution.

With machines, it is imperative to ensure that there is no access or entry to the dangerous area after the process has been switched off. If, for example, we think of a large flywheel mass such as rotating saw blades, the machine operator shall have no access to the dangerous area until the dangerous movement has come to a complete standstill. Safety switches with guard locking such as the SLC ensure that safety guards, doors and other covers remain closed as long as a dangerous condition persists.

Did you know that ...

... an interlocking device with guard locking combines two safety functions in one product?

1. Safe monitoring of the door position
2. Safe monitoring of the guard lock



MANY FEATURES AT A GLANCE

- Lightweight yet robust: Hybrid of metal and plastic
- Flexible contact assembly
- Integrated manual release
- Symmetrical design
- Five actuating positions
- Rotatable head (4×90°)
- Fail-safe guard locking system
- Optional emergency release
- Optional escape release
- M12 connector as an option

Thought through and cost-effective. Economical and user-friendly.

The coded SLC has been re-thought and is a further development from BERNSTEIN with optimised functions in many respects. During development, it was important to reduce the functions to the essentials, to consider the primary requirements of the customers and, in particular, to keep an eye on cost-effectiveness.

Thus, for example, mechanically highly stressed components – such as the rotating head – are made of metal. This makes it extremely robust and durable. The plastic housing, on the other hand, is light and functional.

A variant with M12 plug connector allows a particularly simple connection to the machine. Another user-friendly feature is the possibility of flexible contact assembly: The contact combination of NC and NO for monitoring the door position and the guard locking can be freely combined at the factory.

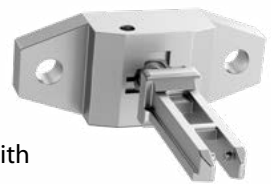
The specific requirements of our customers can be configured individually. Should it be necessary to open the guard locking when the machine is switched off – e.g. for maintenance work – the SLC is equipped with an auxiliary release as standard, which can be operated with an Allen key.

The SLC

The modular concept



Actuator straight (ACS-1)
Proven standard model among the actuators.



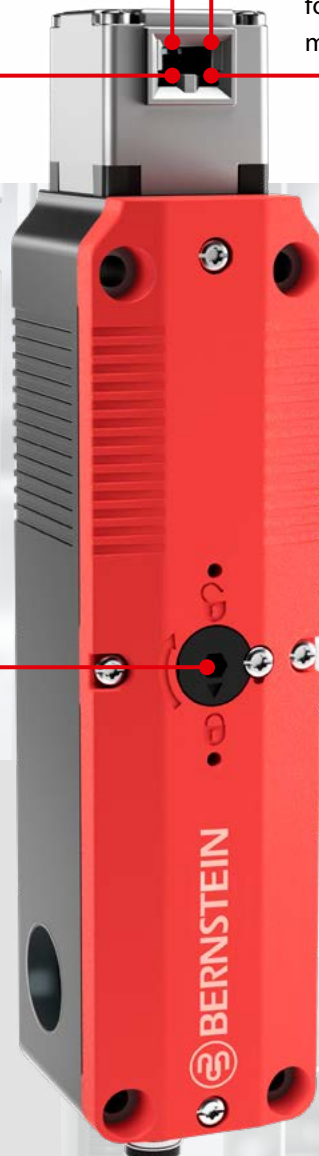
Actuator ACR-1
Radius actuator – for use with small actuating radii.



Actuator flex (ACF-1)
Designed to compensate for a slight vertical/horizontal offset.



Actuator cross (ACC-1)
for vertical/horizontal mounting.

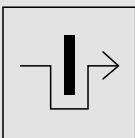


Manual release (standard)
Possibility of manually unlocking the switch using a tool – for example for maintenance work.

Guard locking principles

Spring-To-Lock
Guard locked by spring force. To unlock, the solenoid needs to be energised.

Power-To-Lock
Guard locked by energised solenoid. To unlock, the energy needs to be switched off.



New symbol according to ISO 14119 for the interlocking contact

Contacts labelled with this symbol monitor the guard locking position. Since the SLC is a fail-safe guard locking switch, it is sufficient to integrate only these into the safety circuit.

In addition to the manual release, the SLC offers further functions that enable quick intervention if required.

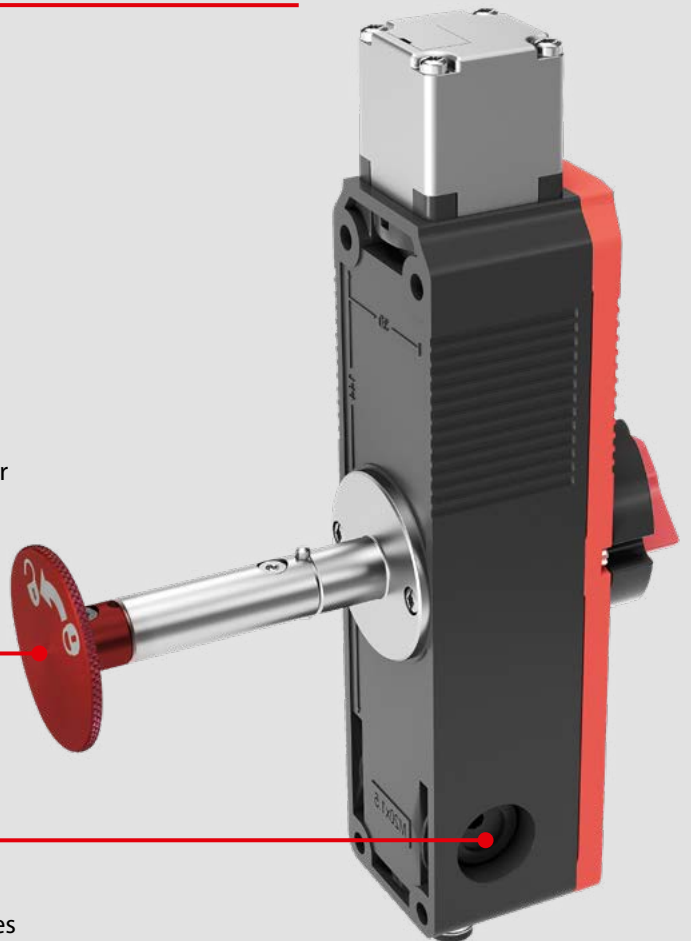
Emergency release

As a ready-to-use switch or as an accessory, mounted on the front of the SLC, enables immediate opening from outside the dangerous area.



Escape release

Optionally mounted on the rear of the SLC, the escape release enables immediate opening from within the dangerous area.



M20 cable glands

Possible on the sides and from below.

Optionally available with M12 connector.



Product range

SLC and actuator



Product range

Article number	Designation	Guard locking principle	Supply voltage of solenoid	Contact configuration		Emergency release	Connection type*
				Interlock	Guard locking		
6018200001	SLC-F-024-11/11-R4	Spring	24 V AC/DC	1 NC / 1 NO	1 NC / 1 NO	No	Standard
6018200007	SLC-F-024-20/20-R4	Spring	24 V AC/DC	2 NC	2 NC	No	Standard
6018200008	SLC-F-024-11/20-R4	Spring	24 V AC/DC	1 NC / 1 NO	2 NC	No	Standard
6018200009	SLC-F-024-20/11-R4	Spring	24 V AC/DC	2 NC	1 NC / 1 NO	No	Standard
6018200034	SLC-F-024-01/21-R4	Spring	24 V AC/DC	1 NO	2 NC / 1 NO	No	Standard
6018200010	SLC-F-024-10/21-R4	Spring	24 V AC/DC	1 NC	2 NC / 1 NO	No	Standard
6018200011	SLC-F-024-10/30-R4	Spring	24 V AC/DC	1 NC	3 NC	No	Standard
6018200012	SLC-F-024-30/10-R4	Spring	24 V AC/DC	3 NC	1 NC	No	Standard
6018200013	SLC-F-024-11/11-R6	Spring	24 V AC/DC	1 NC / 1 NO	1 NC / 1 NO	Yes	Standard
6018200014	SLC-F-024-20/20-R6	Spring	24 V AC/DC	2 NC	2 NC	Yes	Standard
6018200018	SLC-F-024-10/20-R4-01	Spring	24 V AC/DC	1 NC	2 NC	No	M12, 8-pin
6018200019	SLC-F-024-10/11-R4-01	Spring	24 V AC/DC	1 NC	1 NC / 1 NO	No	M12, 8-pin
6018200020	SLC-F-024-11/10-R4-01	Spring	24 V AC/DC	1 NC / 1 NO	1 NC	No	M12, 8-pin
6018200021	SLC-F-024-10/11-R6-01	Spring	24 V AC/DC	1 NC	1 NC / 1 NO	Yes	M12, 8-pin
6018200022	SLC-F-024-10/20-R4-11	Spring	24 V AC/DC	1 NC	2 NC	No	M12, 8-pin
6018200002	SLC-M-024-11/11-R4	Magnet	24 V AC/DC	1 NC / 1 NO	1 NC / 1 NO	No	Standard
6018200035	SLC-M-024-01/21-R4	Magnet	24 V AC/DC	1 NO	2 NC / 1 NO	No	Standard
6018200015	SLC-M-024-20/11-R4	Magnet	24 V AC/DC	2 NC	1 NC / 1 NO	No	Standard
6018200016	SLC-M-024-11/20-R4	Magnet	24 V AC/DC	1 NC / 1 NO	2 NC	No	Standard
6018200017	SLC-M-024-20/20-R4	Magnet	24 V AC/DC	2 NC	2 NC	No	Standard
6018200033	SLC-M-024-10/20-R4-01	Magnet	24 V AC/DC	1 NC	2 NC	No	M12, 8-pin
6018200036	SLC-M-024-30/10-R4	Magnet	24 V AC/DC	3 NC	1 NC	No	Standard
6018200003	SLC-F-120-11/11-R4	Spring	120 V AC	1 NC / 1 NO	1 NC / 1 NO	No	Standard
6018200005	SLC-F-230-11/11-R4	Spring	230 V AC	1 NC / 1 NO	1 NC / 1 NO	No	Standard
6018200004	SLC-M-120-11/11-R4	Magnet	120 V AC	1 NC / 1 NO	1 NC / 1 NO	No	Standard
6018200006	SLC-M-230-11/11-R4	Magnet	230 V AC	1 NC / 1 NO	1 NC / 1 NO	No	Standard

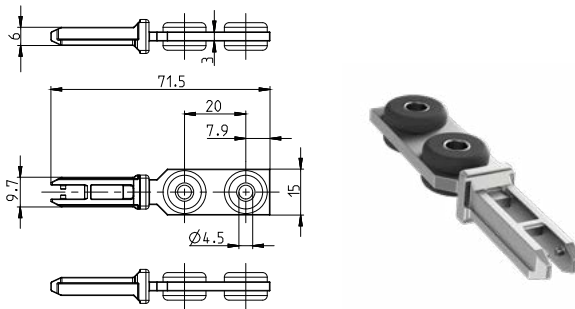
* 3 × M20 thread with closed housing wall

Actuators

Product selection

Article number	Designation
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3911742390	ACS-1
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Mechanical data

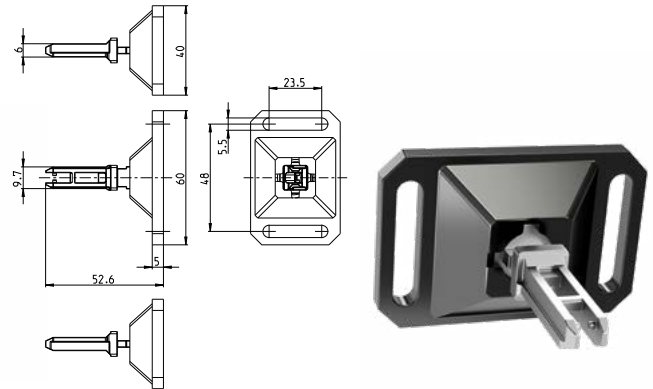
Actuator	Stainless steel (Niro)
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Minimum actuating radius R_{min}	800 mm
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Product selection

Article number	Designation
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3911742391	ACF-1
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Mechanical data

Actuator	Stainless steel (Niro)
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Enclosure	GD-Zn
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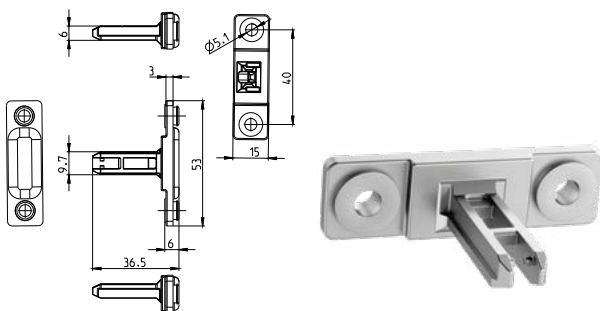
Minimum actuating radius R_{min}	400 mm
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When screwed on, the actuator can be turned in 90° steps by pressing it into the actuator housing.

Product selection

Article number	Designation
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3911742392	ACC-1
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Mechanical data

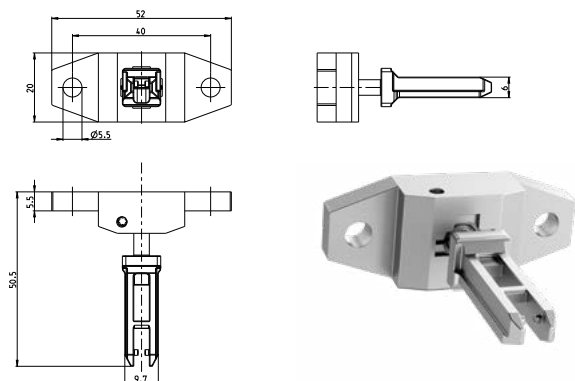
Actuator	Stainless steel (Niro)
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Minimum actuating radius R_{min}	600 mm
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Product selection

Article number	Designation
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3911742398	ACR-1
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Mechanical data

Actuator	Stainless steel (Niro)
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Minimum actuating radius R_{min}	150 mm
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Actuators must be ordered separately.

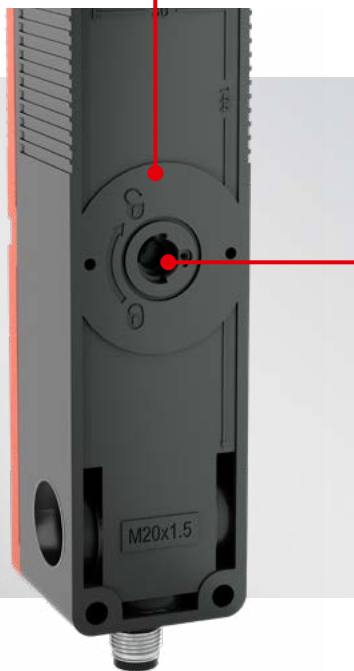
Accessories

For immediate release in case of emergency

Article number	Designation	Description
6051101003	EMR-F-1	Emergency release front
6051101004	EMR-B-1	Emergency release back
6051201005	ESCR-B-1	Basic set for escape release
6051201007	ESCR-20-1	Extension module escape release * Length: 20 mm
6051201006	ESCR-40-1	Extension module escape release * Length: 40 mm



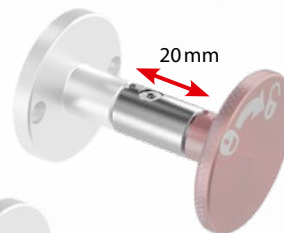
Emergency release
for immediate opening from
outside the dangerous area
in case of an emergency.



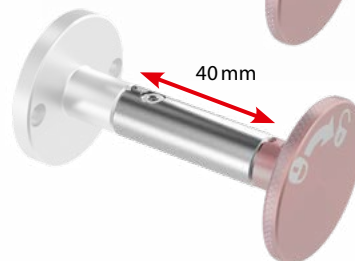
Escape release
enables immediate
opening **from inside**
the dangerous area
in case of an emergency.



Escape release
Basic set
ESCR-B-1



Extension module *
20 mm
ESCR-20-1



Extension module *
40 mm
ESCR-40-1

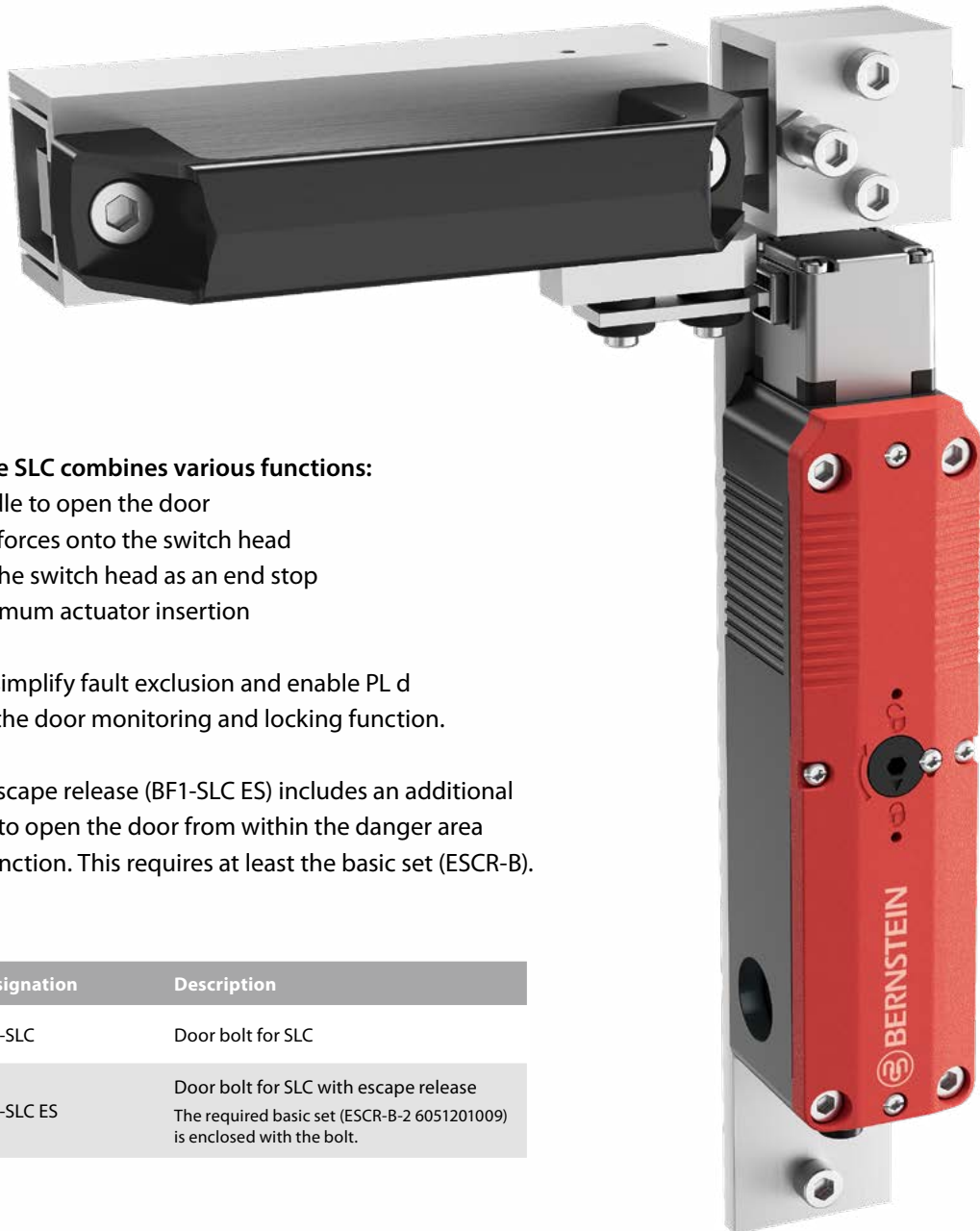
* Base set required to use the expansion modules.

Connection cable

Article number	Designation	Description	Plug alignment	Plug 1	Plug 2	Number of pins	Cable length [m]
6075689185	SFW-M12A8/BW-2PU	Connection cable	straight	F		8	2
6075689186	SFW-M12A8/BW-5PU	Connection cable	straight	F		8	5
6075689187	SFW-M12A8/BW-10PU	Connection cable	straight	F		8	10

SLC sliding handle

For robust applications



The handle for the SLC combines various functions:

- Ergonomic handle to open the door
- Prevents lateral forces onto the switch head
- Prevents using the switch head as an end stop
- Guarantees optimum actuator insertion

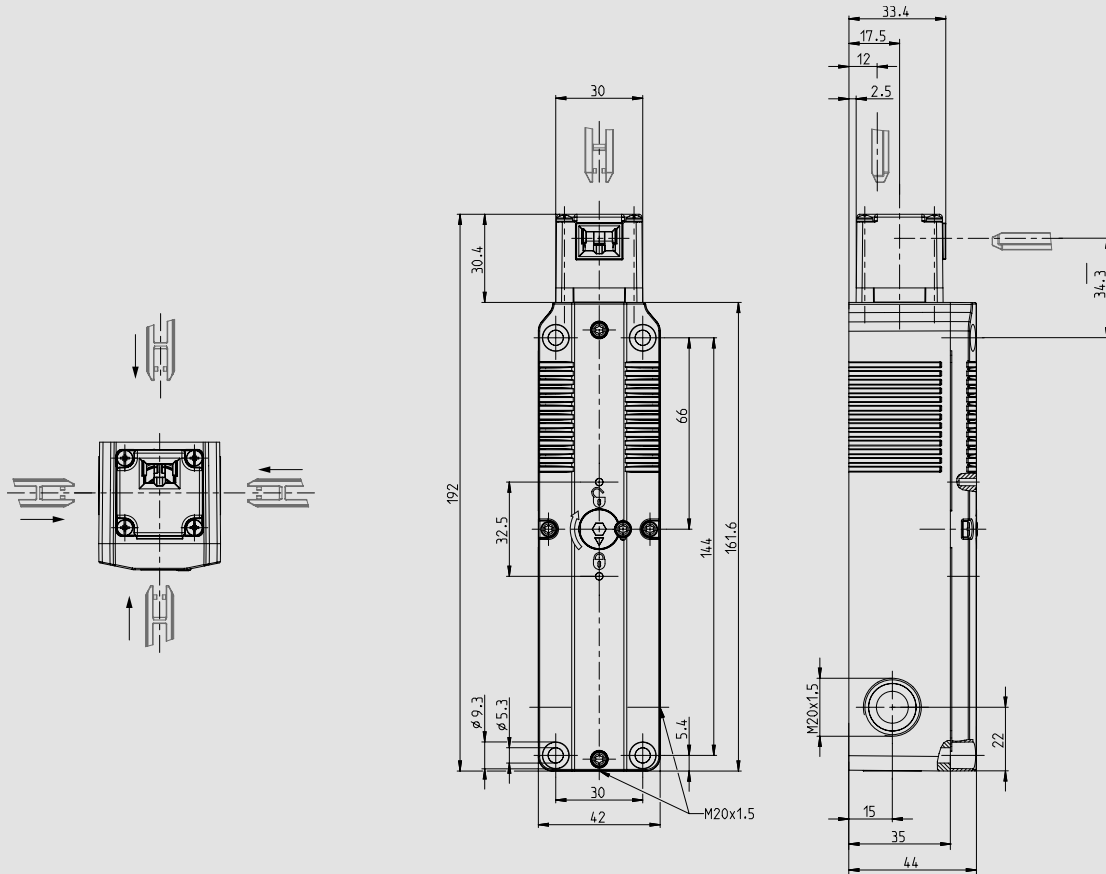
These properties simplify fault exclusion and enable PL d to be achieved in the door monitoring and locking function.

The variant with escape release (BF1-SLC ES) includes an additional handle to be able to open the door from within the danger area when using the function. This requires at least the basic set (ESCR-B).

Article number	Designation	Description
6050101002	BF1-SLC	Door bolt for SLC
6051201008	BF1-SLC ES	Door bolt for SLC with escape release The required basic set (ESCR-B-2 6051201009) is enclosed with the bolt.

Technical data

SLC safety switch



Electrical data

- **Contacts**

Rated operational voltage U_e : 240 V AC / 24 V DC

Utilization category:

AC-15, U_e / I_e 240 V / 1,5 A (B300)

DC-13, U_e / I_e 24 V / 1,5 A; 250 V / 0,11 A (R300)

- **Solenoid**

Operating voltage: 24 V AC / DC or 120 V AC
or 230 V AC

Mechanical data

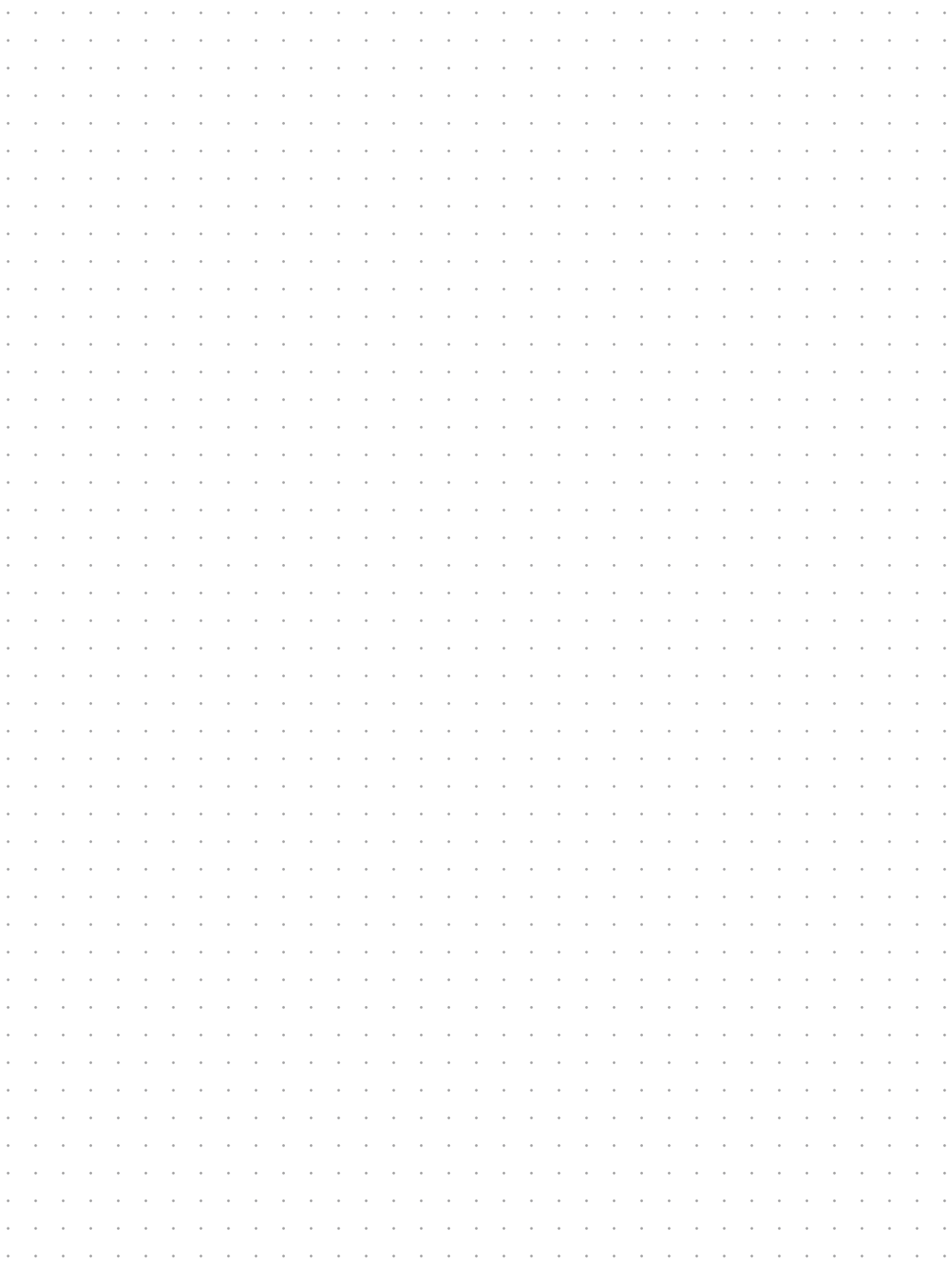
- Enclosure: Thermoplastic, glass fibre reinforced (UL 94-V0)
- Cover: Thermoplastic, glass fibre reinforced (UL 94-V0)
- Operating device: Metal
- Latching force: 1500 N (EN ISO 14119)
- Ambient temperature: -25 °C to +55 °C
- Switching principle: 4 slow-action-contacts
- Protection class: IP67

Safety data

- B_{10D} : 2×10^6 cycles (EN ISO 13849-1)

Notes

Diagrams. Sketches. Ideas.





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