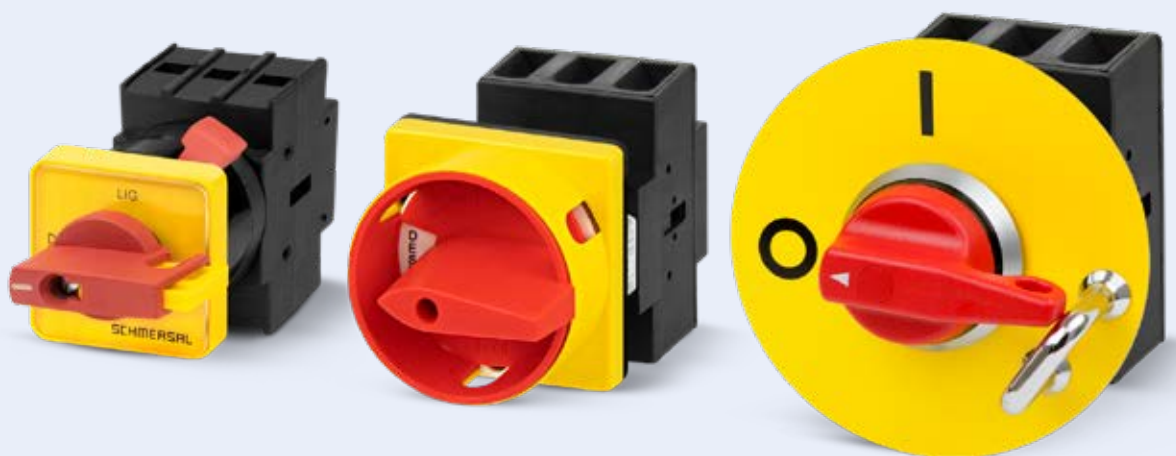


Industrial Automation
Technology

SAFETY SWITCHES LB COMPACT



INTRODUCTION



Heinz and Philip Schmersal,
Managing Directors of the Schmersal Group.

New solutions to improve the production efficiency and machine safety

How do you present a portfolio of more than 25,000 different products and services to a new customer or an interested designer?

This is a challenge for our sales consultants when they introduce our company, products and services.

This brochure is intended to provide an overview of what we have to offer to you. We introduce the company and each product group, with which, in recent years, we have developed ever more complete solutions for machine safety.

An area growing in importance is our qualified service offering, with which we pursue the same central purpose as our products and solutions: to develop innovative safety solutions together with the customer and thereby make the world safer.

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COMPACT SAFETY SWITCHES LB

MAIN FEATURES

- Protection against finger contact in the energized parts, to prevent “electric shock”.
- All contacts are double self-cleaning, ensuring safer activations
- Possibility of mounting on DIN rail, for easy installation
- Different mounting options suitable for most diverse applications
- Compact - requiring little space for installation
- Possibility of adding auxiliary contacts on both sides of the switch - suitable for more complex systems

APPLICATION AREAS

- Circuit insulator
- On/Off Switches
- Main Switch
- Control Switch
- Switch for system selectivity
- Ideal for the chemical industry, food industry, cement industry, and so on



For more information,
scan the QR code above to
access our website.





INDUSTRIAL AUTOMATION TECHNOLOGY

The LB Compact Safety Switches are developed in accordance with the standards in force, meeting the requirements of NR12 and international standards IEC 60947-1 and 3.

The construction and design make the switches compact, safe and highly reliable, decreasing the frequency of maintenance. Combined with modern manufacturing techniques, these switches are made of polyamide, thus having excellent tensile strength and insulation to prevent arcing between phases. In addition, they withstand short-circuit currents under the most severe conditions.

ENCAPSULATED SWITCHES

Encapsulated switch structures are made of strong materials and are designed to withstand a variety of applications, especially in industrial environments. The switches meet all the requirements regarding to safety, ease of installation and operation, and allows to save space.

These switches guarantee total safety for the operator because they are capable of withstanding short circuits. The boxes with switch fixing base can only be opened with the switch in the OFF position, the mechanism can be locked with up to 3 padlocks preventing a possible circuit closing in case of local maintenance.

B19

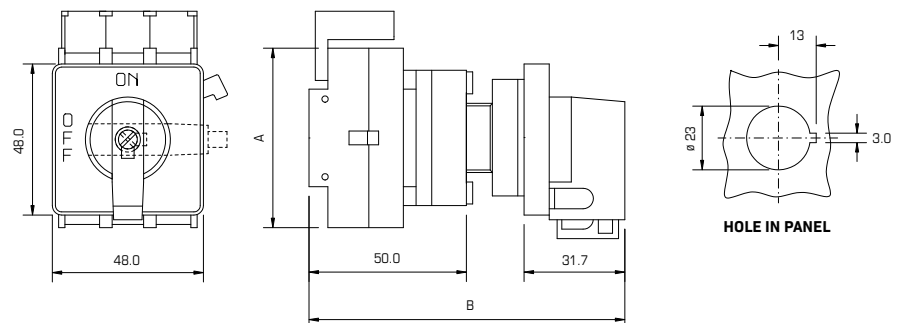
FRONT FITTING Ø 22 MM



Compact Safety Switches			
Code	Description	Current (A)	Poles
162048	LB 120 B19 YR TOPO	20	3
162051	LB 225 B19 YR TOPO	25	3
162052	LB 263 B19 YR TOPO	63	3

- Only one Ø 22.5 mm hole in the front panel for fixing
- Protection Degree - IP 55
- Knob with padlock input, preventing it from being switched on by unauthorized persons
- Max. 1 padlock
- Up to 2 auxiliary contact modules can be fixed
- Front panel - engraved ON/OFF

16 - 63 A



Current (A)	A	B
20	57	100
2 - 63	72	110

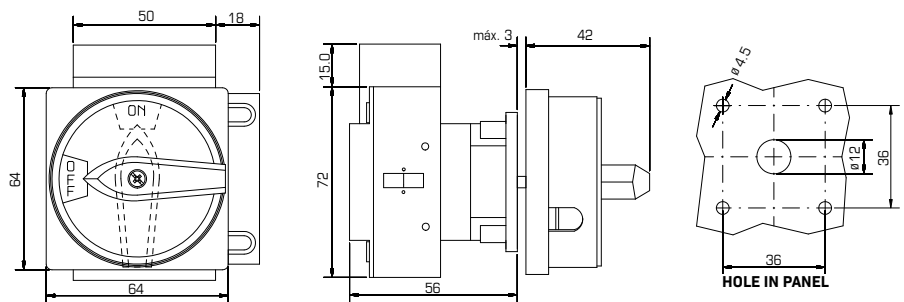
B33 FRONT FIXATION



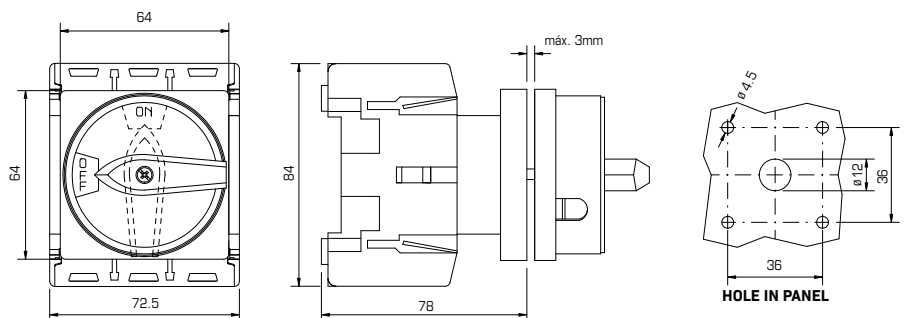
Compact Safety Switches			
Code	Description	Current (A)	Poles
162001	LB 225 B33 YR TOPO	25	3
162003	LB 240 B33 YR TOPO	40	3
162005	LB 263 B33 YR TOPO	63	3
150061	LB 125 B33 YR TOPO	125	3

- 4 holes in the front panel for fixing
- Protection Degree - IP 65
- Knob with padlock input, preventing it from being switched on by unauthorized persons
- Max. 3 padlock
- Up to 2 auxiliary contact modules can be fixed
- Front panel - engraved ON/OFF

25 A - 63 A



125 A

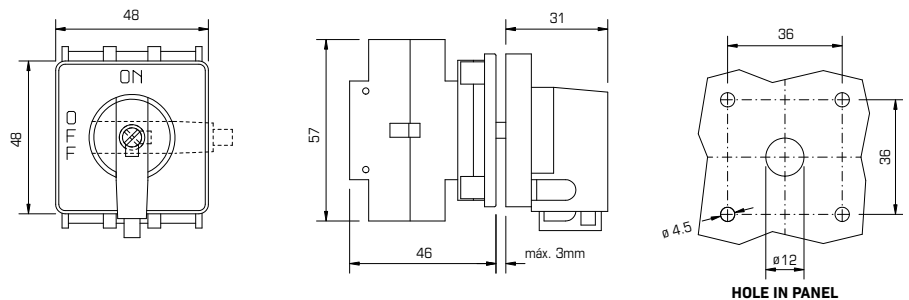


B40 FRONT FITTING



Compact Safety Switches			
Code	Description	Current (A)	Poles
162036	LB 116 B40 YR TOPO	16	3
162037	LB 120 B40 YR TOPO	20	3

- 4 holes in the front panel for fixation
- Protection Degree - IP 55
- Knob with padlock input, preventing it from being switched on by unauthorized persons
- Max. 1 padlock
- Up to 2 auxiliary contact modules can be fixed
- Front panel - engraved ON/OFF



NHS – SAFETY SWITCH IP67/IP69



Compact Safety Switches			
Code	Description	Current (A)	Poles
11929005	NHSNH40/O.VA-PL	40	3
119296	NHSNH63/O.VA-PL	63	3

The product is mainly applied to electrical panels, machines and equipment in the dairy and meat processing industry, where constant cleaning through high-pressure jets is required.

- IP67/IP69
- No sharp edges
- Integrated sealing - water jets up to 100bar
- High resistance to cleaning agents
- Front fixation

Refer to data and technical features on our website:



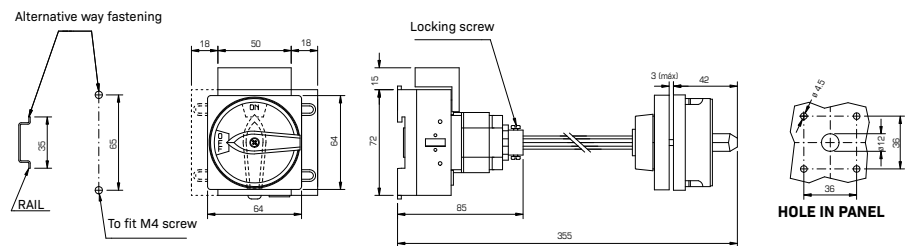
MB34 BASE FIXATION



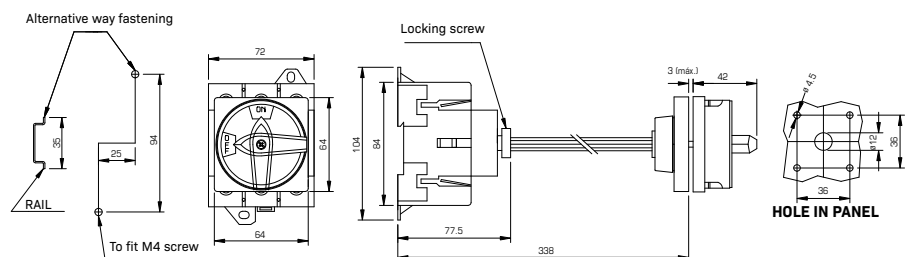
Compact Safety Switches			
Code	Description	Current (A)	Poles
162002	LB 225 MB34 YR BASE	25	3
162004	LB 240 MB34 YR BASE	40	3
162006	LB 263 MB34 YR BASE	63	3
162007	LB 080 MB34 YR BASE	80	3
162008	LB 100 MB34 YR BASE	100	3
162009	LB 125 MB34 YR BASE	125	3

- Two mounting possibilities from the base - via DIN rail or screws
- Door locking (opening only in OFF position)
- Protection Degree - IP 65
- Front with padlock attach point, preventing it from being turned on by unauthorized persons.
- Actuator / Extender assembly made of rigid metal
- Maximum 3 padlocks
- Adjustable mount by cutting the shaft to the required length, according to the height of the panel
- Up to 2 auxiliary contact modules can be fixed

25 A - 63 A



125 A



SAFETY SWITCHES LB MOUNTED IN ABS BOX

TOP FIXATION – 16A ATÉ 125A



Code	Description	Box Sizes W x L x D (mm)	Current (A)	Auxiliary Contact
14402225	LB 116 B40 C/ CX ABS	120x160x90	16	-
14402618	LB 116 B40+FAC20 C/ CX ABS	120x160x90	16	1NA/1NF
14403779	LB 120 B40 C/ CX ABS	120x160x90	20	-
14402337	LB 120 B40+FAC20 C/ CX ABS	120x160x90	20	1NA/1NF



Code	Description	Box Sizes W x L x D (mm)	Current (A)	Auxiliary Contact
14402528	LB 225 B33 C/ CX ABS	120x160x90	25	-
14402192	LB 225 B33+FAC32 C/ CX ABS	140x240x100	25	1NA/1NF
14402378	LB 240 B33 C/ CX ABS	140x240x100	40	-
14402193	LB 240 B33+FAC63 C/ CX ABS	140x240x100	40	1NA/1NF
14402090	LB 263 B33 C/ CX ABS	140x240x100	63	-
14402194	LB 263 B33+FAC63 C/ CX ABS	140x240x100	63	1NA/1NF
14402987	LB 125 B33 C/ CX ABS	160x360x100	125	-
14402224	LB 125 B33+FAC 125 C/ CX ABS	160x360x100	125	1NA/1NF

BASE FIXATION – 25 A E 125 A



Code	Description	Box Sizes W x L x D (mm)	Current (A)	Auxiliary Contact
168530	LB 225 MB34 C/ CX ABS	120x160x140	25	-
175090	LB 225 MB34+RAC32 C/ CX ABS	140x240x140	25	1NA/1NF
175088	LB 240 MB34 C/ CX ABS	140x240x140	40	-
175091	LB 240 MB34+RAC63 C/ CX ABS	140x240x140	40	1NA/1NF
175089	LB 263 MB34 C/ CX ABS	140x240x140	63	-
175092	LB 263 MB34+RAC63 C/ CX ABS	140x240x140	63	1NA/1NF
168944	LB 080 MB34 C/ CX ABS	200x360x150	80	-
175148	LB 080 MB34+RAC80 C/ CX ABS	200x360x150	80	1NA/1NF
168945	LB 100 MB34 C/ CX ABS	200x360x150	100	-
175149	LB 100 MB34+RAC125 C/ CX ABS	200x360x150	100	1NA/1NF
168946	LB 125 MB34 C/ CX ABS	200x360x150	125	-
14402740	LB 125 MB34+RAC125 C/ CX ABS	200x360x150	125	1NA/1NF

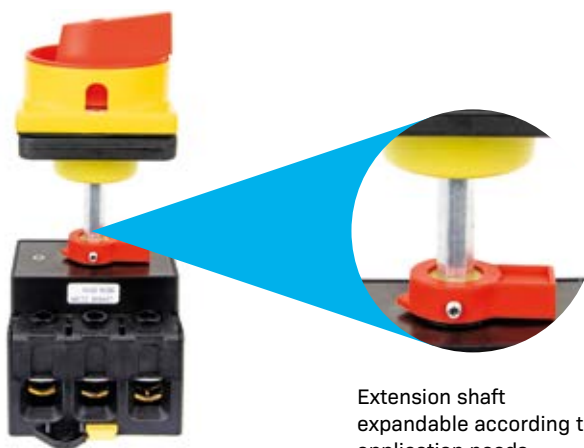
ACCESSORIES

HANDLES



Spare Handle		
Code	Description	Switch
162016	RD Y/R B33	Topo – B33
162030	RD Y/R MB34	Base – MB34
162058	FP Y/R B40	Topo – B40
162059	FP Y/R B19	Topo – B19

EXTENDER SHAFT



Extension shaft expandable according to application needs.

Spare Handle		
Code	Description	Switch
162068	Extender 400 mm	BASE – MB34

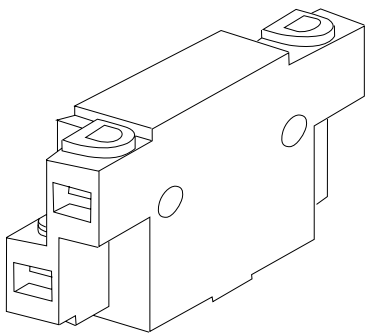


ACRYLIC COVER



Acrylic Contact Protection		
Code	Description	Switch
297338	Acrylic Protective Cover	25 A ... 63 A

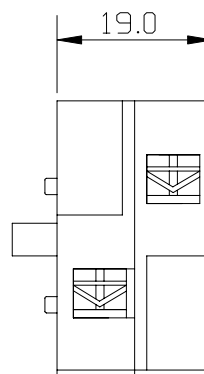
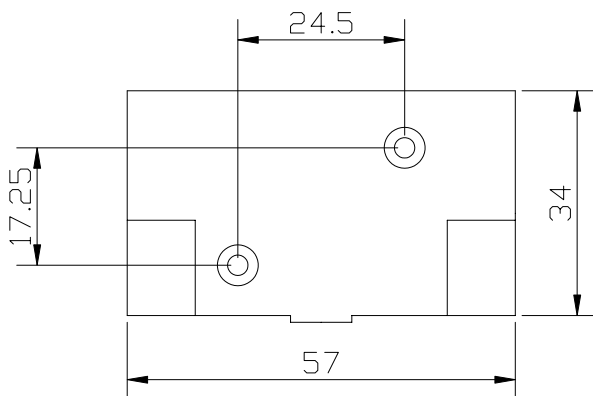
AUXILIARY CONTACT



Switch	Auxiliary Contact 1NO/1NC Top Fixation Switch B19/B33/B40	Top Switch Code	Auxiliary Contact 1NO/1NC Base Fixation Switch MB34 MB34	Base Switch Code
LB 116	FAC20	162041	-	-
LB 120	FAC20	162041	-	-
LB 225	FAC32	162028	RAC32	162029
LB 240	FAC63	162038	RAC63	162039
LB 263	FAC63	162038	RAC63	162039
LB 080	-	-	RAC80	162040
LB 100	-	-	RAC125	162027
LB 125	FAC125	162026	RAC125	162027

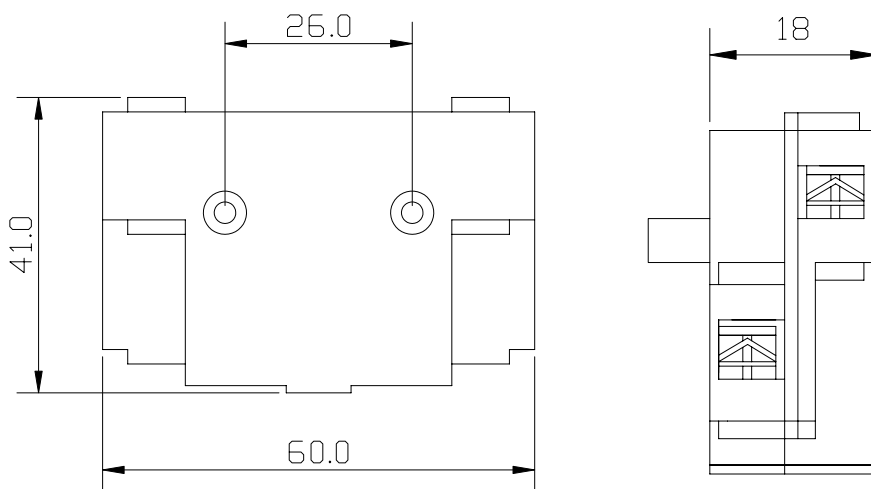
- The auxiliary contact module has 2 contacts, 1 NO and 1 NC
- The NO contact is the first to operate
- It is used to activate any auxiliary circuit
- The auxiliary contact can be fixed on both sides of the switch

LB 116 - LB 120



Current		
IEC/EN	16 A, 500 V	
AC-15	220 ... 240 V	6 A
	380 ... 440 V	4 A

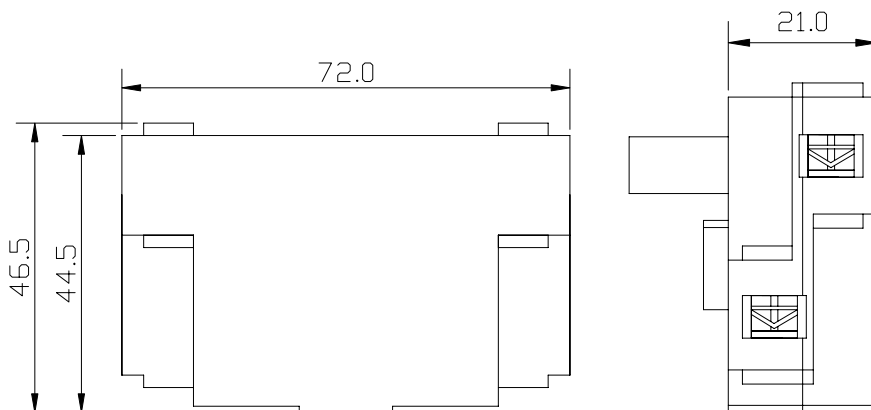
LB 225 – LB 263



Terminal Section

	Min. (mm ²)	Max. (mm ²)
Cable	1,0	1,5
Solid / Multiple	1,0	1,5

LB 080 – LB 125



TECHNICAL FEATURES

	LB 116	LB 120	LB 225	LB 240
Rated Operational Voltage (Ue)				
IEC/EN	690 V	690 V	690 V	690 V
UL	600 V	600 V	600 V	600 V
Insulation Voltage (Upto)	750 V	750 V	750 V	750 V
Impulse Voltage (Uimp)	6 kV	6 kV	6 kV	6 kV
Thermal Current (Ith)	16 A	20 A	25 A	40 A

Operating Current (Ie) IEC/EN

AC 22	16 A	20 A	25 A	40 A
AC 21-A	20 A	25 A	32 A	63 A
AC 1	20 A	25 A	32 A	63 A

Frequency 50 ... 60 Hz – IEC/EN (Power)

AC – 23 A, 3 Phase, 3 Pole	220 ... 240 V	7,5 kW	7,5 kW	11 kW	22 kW
	380 ... 440 V	15 kW	15 kW	22 kW	45 kW
	500 ... 690 V	15 kW	15 kW	22 kW	45 kW
AC – 3, 3 Phase, 3 Pole	220 ... 240 V	4 kW	5,5 kW	8 kW	15 kW
	380 ... 440 V	5,5 kW	11 kW	15 kW	30 kW
	500 ... 690 V	11 kW	11 kW	15 kW	30 kW

Frequency 50 ... 60 Hz – EN (Power)

3 Phase, 3 Pole	120 V	1,5 hp	1,5 hp	3 hp	5 hp
	240 V	3 hp	3 hp	7,5 hp	10 hp
	480 V	7,5 hp	7,5 hp	15 hp	20 hp
	600 V	10 hp	10 hp	20 hp	30 hp
1 Phase	120 V	0,5 hp	0,5 hp	1,5 hp	3 hp
	240 V	1,5 hp	1,5 hp	2 hp	5 hp

Frequency 50 ... 60 Hz – Short Circuit Capacity (UL)

Fuse		Rk5	Rk5	J	J
Fuse: Maximum Application	Amp	20 A	20 A	45 A	70 A
Short Circuit Condition	Amp	10 kA	10 kA	10 kA	10 kA

Frequency 50 ... 60 Hz – Terminals

Solid/Multiple Cables	1 ... 4 mm ²	1 ... 4 mm ²	2,5 ... 10 mm ²	2,5 ... 25 mm ²
Twisted Pair with Mesh	0,5 ... 4 mm ²	0,5 ... 4 mm ²	0,75 ... 6 mm ²	2,5 ... 10 mm ²
Terminal Bolt	M3,5	M3,5	M4	M4
Tightening Torque on Terminal	0,8 Nm	0,8 Nm	1,7 Nm	2 Nm

Certificates



NHS Switches/
Safety Switch IP67/IP69

Technical features and data available on website:
products.schmersal.com

LB 263	LB 080	LB 100	LB 125
690 V	690 V	690 V	690 V
600 V	600 V	600 V	600 V
750 V	750 V	750 V	750 V
6 kV	6 kV	6 kV	6 kV
63 A	80 A	100 A	125 A
63 A	80 A	100 A	125 A
80 A	80 A	100 A	125 A
80 A	80 A	100 A	125 A
30 kW	37 kW	44 kW	60 kW
45 kW	90 kW	90 kW	90 kW
45 kW	90 kW	90 kW	90 kW
22 kW	30 kW	37 kW	44 kW
30 kW	55 kW	55 kW	55 kW
30 kW	55 kW	55 kW	55 kW
7,5 hp	5 hp	7,5 hp	7,5 hp
15 hp	20 hp	20 hp	30 hp
25 hp	30 hp	30 hp	40 hp
30 hp	40 hp	40 hp	50 hp
3 hp	3 hp	3 hp	3 hp
7,5 hp	7,5 hp	7,5 hp	7,5 hp
J	J	J	J
70 A	125 A	125 A	125 A
10 kA	10 kA	10 kA	10 kA
2,5 ... 25 mm ²	2,5 ... 50 mm ²	2,5 ... 50 mm ²	2,5 ... 50 mm ²
2,5 ... 10 mm ²	4 ... 50 mm ²	4 ... 50 mm ²	4 ... 50 mm ²
M4	M6	M6	M6
2 Nm	2,5 Nm	2,5 Nm	2,5 Nm



UL STANDARD	EUROPEAN STANDARD
UL 508	IEC 60947-1 e 3; EN 60947-3



Technical features and data available on website:
products.schmersal.com

THE SCHMERSAL GROUP

PROTECTION FOR MAN AND MACHINE

In the demanding field of machine safety, the owner-managed Schmersal Group is one of the international market leaders. The company, which was founded in 1945, has a workforce of about 2,000 people and seven manufacturing sites on three continents along with its own companies and sales partners in more than 60 countries.

Customers of the Schmersal Group include global players from the area of mechanical engineering and plant manufacturing as well as operators of machinery. They profit from the company's extensive expertise as a provider of systems and solutions for machine safety. Furthermore, Schmersal specialises in various areas including food & beverage, packaging, machine tools, lift switchgear, heavy industry and automotive.

A major contribution to the systems and solutions offered by the Schmersal Group is made by tec.nicum with its comprehensive range of services: Certified Functional Safety Engineers advise machinery manufacturers and machinery operators in all aspects relating to machinery and occupational safety – and do so with product and manufacturer neutrality. Furthermore, they design and realise complex solutions for safety around the world in close collaboration with the clients.



SAFETY PRODUCTS

- Safety switches and sensors, solenoid interlocks
- Safety controllers and safety relay modules, safety bus systems
- Optoelectronic and tactile safety devices
- Automation technology: position switches, proximity switches

SAFETY SYSTEMS

- Complete solutions for safeguarding hazard areas
- Individual parametrisation and programming of safety controllers
- Tailor-made safety technology – be it for individual machines or a complex production line
- Industry-specific safety solutions

SAFETY SERVICES

- tec.nicum academy – Seminars and training
- tec.nicum consulting – Consultancy services
- tec.nicum engineering – Design and technical planning
- tec.nicum integration – Execution and installation



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THE DNA OF SAFETY

The details and data referred to have been carefully checked.
Subject to technical amendments and errors.

www.schmersal-latam.com