SCHMERSAL Non-Illuminated 30mm IP65 Plastic Key Selector Switches

ESS21S1.V

ESS32S1.V

Non-Illuminated 30mm IP65 Plastic Key Selector Switches*				
Part Number	***Price***	***Color***	***Drawing Link***	***Operation***
ESS21S1.V	$103.00	Black	PDF	2-position, maintained, key removable left position
ESS21S12.V	$103.00	Black	PDF	2-position, maintained, key removable left and right position
ESS21S2.V	$103.00	Black	PDF	2-position, maintained, key removable right position
ESS32S1.V	$110.00	Black	PDF	3- position, maintained, key removable left position
ESS32S123.V	$110.00	Black	PDF	3- position, maintained, key removable left, right and center position
ESS32S2.V	$110.00	Black	PDF	3-position, maintained, key removable center position
ESS32S3.V	$110.00	Black	PDF	3-position, maintained, key removable right position

***Operator only. Purchase contact blocks separately.**

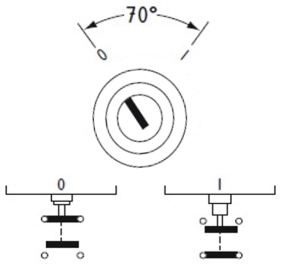
30mm IP65 Selector Switches Specifications	
Toggle material	Aluminum
Front ring material	Aluminum
Front panel thickness	1 to 6 mm
Mechanical operations	300,000
Mounting screws tightening torque	0.6 N·m [0.44 lb·ft]
Ambient temperature	-25 to +75°C [-13 to +167°F]
Shock resistance	< 50g
Vibration resistance	5g
Ingress protection rating	IP65
Standards *	IEC 60947-5-1; IEC 60947-1; UL File E57648

*** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.**

SCHMERSAL Non-Illuminated 30mm IP65 Plastic Key Selector Switches

Key Selector Switches with 2-Positions

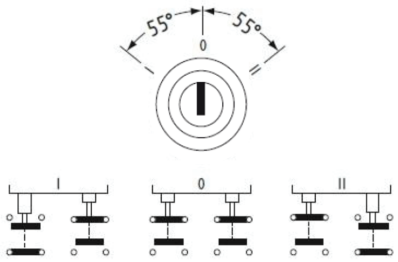
ESS21.V



Contact Blocks							
		Mounting Position 1		Mounting Position 3		Mounting Position 2	
Left (0)	Right (I)	N.C. Contact	N.O. Contact	N.C. Contact	N.O. Contact	N.C. Contact	N.O. Contact
X		1	0	1	0	1	o
	X	0	1	0	1	0	1

Key Selector Switches with 3-Positions

ESS32.V

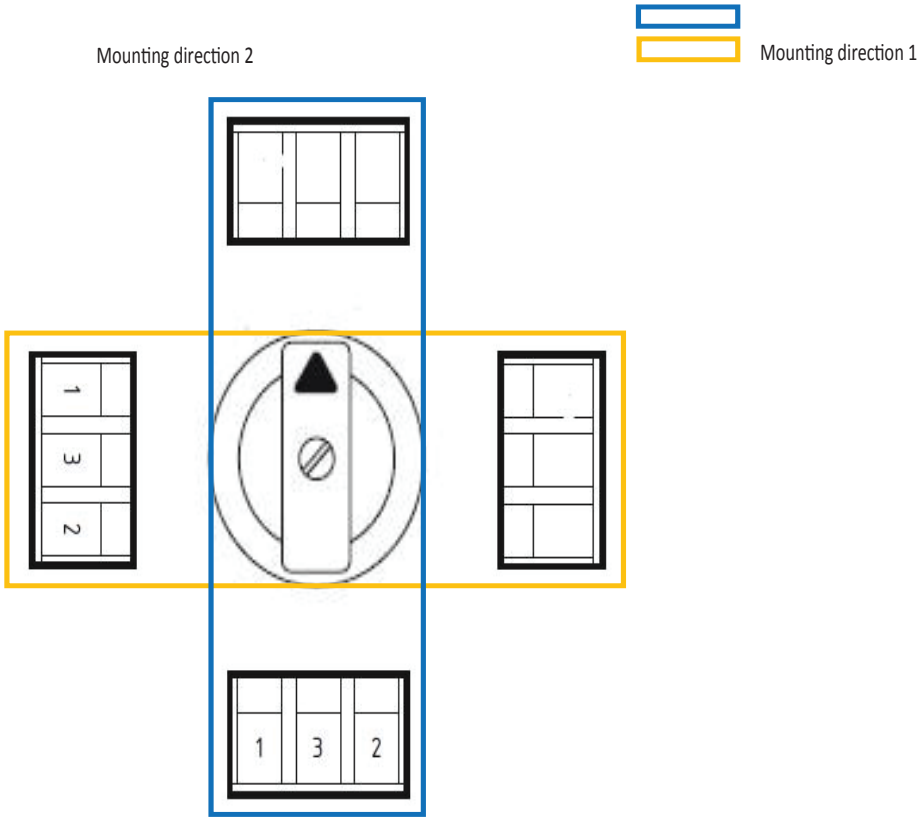


Contact Blocks							
			Mounting Position 1		Mounting Position 3	Mounting Position 2	
Left (1)	Middle (0)	Right (11)	N.C. Contact	N.O. Contact		N.C. Contact	N.O. Contact
X			0	1	Free	1	0
	X		1	0		1	0
		X	1	0		0	1

SCHMERSAL Selector Switches

Important: The mounting flange can be mounted in 4 directions. Please have a look on the position of the mounting flange. Only in the two shown directions the truth table is right.

Note: Only on one side are the numbers for the mounting position of the contact blocks.



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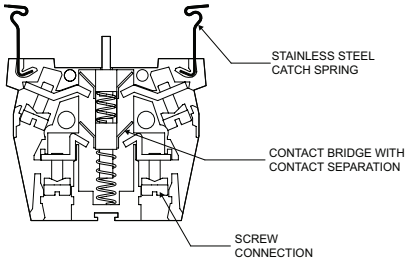
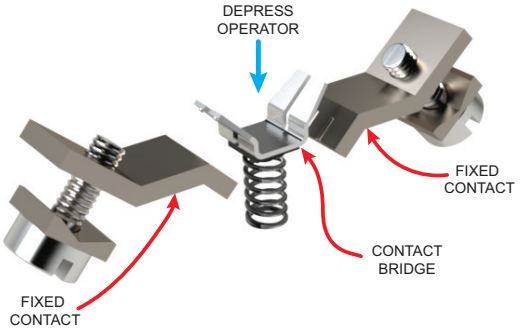
Contact Blocks and Light Terminal Blocks Overview

Features

- A self-cleaning contact bridge system, known as Elan four-way system, which is particularly suitable for low voltage applications and has a lower switching capacity of 5VDC/3.2 mA (max. 400VAC/8A). It is designed in the form of a bent twin contact bridge, with parallel and also diagonal operation.
- Block mounting via snap-on stainless steel springs.
- Complete terminal designations visible at a glance in compliance with IEC 60 947-1 (VDE 0660, Part 100) with a complete function and sequence number (refer also to product ranges). The function number identifies the N.C. and N.O. contact. The sequence number specifies the number and the order of the contacts on the complete switching device.
- N.C. contacts with positive opening in compliance with IEC 60 947-5-1 (VDE 0660 Part 200).
- Galvanically isolated contact circuits in 2-pole blocks.
- High resistance to shock and vibrations.





Technical Specifications

	Contact Blocks	*Light Blocks (ELE)*	*Light Blocks (ELDE)*
General description	Contact element	Light terminal block w/Ba9S base	Light terminal block w/LED
Enclosure material	Plastic, glass fiber reinforced	Plastic, glass fiber reinforced	Plastic, glass fiber reinforced
Contact material	Fine-silver, phosphor bronze or brass carrier	–	–
Utilization category	AC-15: 250 V / 8 A DC-13: 24 V / 5 A	–	–
Suitability for low voltages	≥ 5VDC / 3.2 mA	–	–
Rated insulation voltage Ui	400V	440V	440V
Rated impulse withstand voltage U_{imp}	4kV	–	–
Thermal test current Ithe	10A	–	–
Max. fuse rating	10A gG D-fuse slow blow	10A gG T-slow blow	10A gG T-slow blow
Wire size	0.5 mm² to 2.5 mm² (20 - 14 AWG)		
Tightening torque wire connection	Maximum 1 N·m (0.74 lb·ft)		
NEMA contact rating	A300 / P300	–	–
Switching frequency	1200 s/h	–	–
Switching capacity	5VDC / 3.2 mA (max 400VAC / 8A)	–	–
Mechanical life	10,000,000 operation	–	–
Resistance to shock	110 g/4ms to 30 g/18ms no bouncing	–	–
Resistance to vibration	> 20 g/10ms to 200Hz	–	–
Ambient temperature	-25 to +80°C [-13 to +176°F]		
Ingress protection rating	IP20 terminals / IP40 switching compartment	IP20 terminals	IP20 terminals
Standards	IEC 60947-5-1; IEC 60947-1; UL File E57648		

NEMA Contact Rating Designation

	Thermal Current	*Voltage*	*Volt amperes*
A300	10	300 AC	N/A
P300	5	300 DC	138

SCHMERSAL Contact Blocks

EF03.2

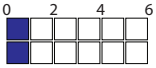
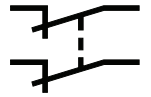
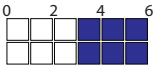
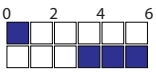
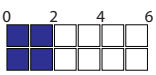
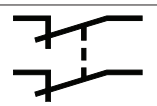
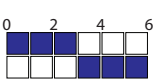
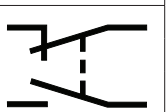
EF10.1

EF103.2

EF220.2

EF303.2

Contact Blocks

Part Number	Price	Qty.	Drawing Link	Contacts	Mounting Position	Travel Diagram (mm)	Wiring Diagram	Application
EF10.1*	$9.25	1	PDF	1 N.C.	1			Standard
EF10.2*	$9.25	1	PDF		2			
EF10.3*	$9.25	1	PDF		3			
EF03.1	$9.25	1	PDF	1 N.O.	1			
EF03.2	$9.25	1	PDF		2			
EF03.3	$9.25	1	PDF		3			
EF110.1*	$14.00	1	PDF	2 N.C.	1			
EF110.2*	$14.50	1	PDF		2			
EF110.3*	$14.50	1	PDF		3			
EF033.1	$14.50	1	PDF	2 N.O.	1			
EF033.2	$14.50	1	PDF		2			
EF033.3	$14.50	1	PDF		3			
EF103.1*	$11.50	1	PDF	1 N.C. / 1 N.O.	1			
EF103.2*	$11.50	1	PDF		2			
EF103.3*	$11.50	1	PDF		3			
EF220.1**	$14.50	1	PDF	2 N.C.	1			Emergency Stop
EF220.2**	$14.50	1	PDF		2			
EF220.3**	$14.50	1	PDF		3			
EF303.1**	$11.50	1	PDF	1 N.C. / 1 N.O.	1			
EF303.2**	$11.50	1	PDF		2			
EF303.3**	$11.50	1	PDF		3			

*Not suitable for Emergency Stop devices
**Not suitable for maintained selector switches NWS/NWT

Travel Diagram Legend
= contact closed
= contact open
Numbers indicate distance in mm

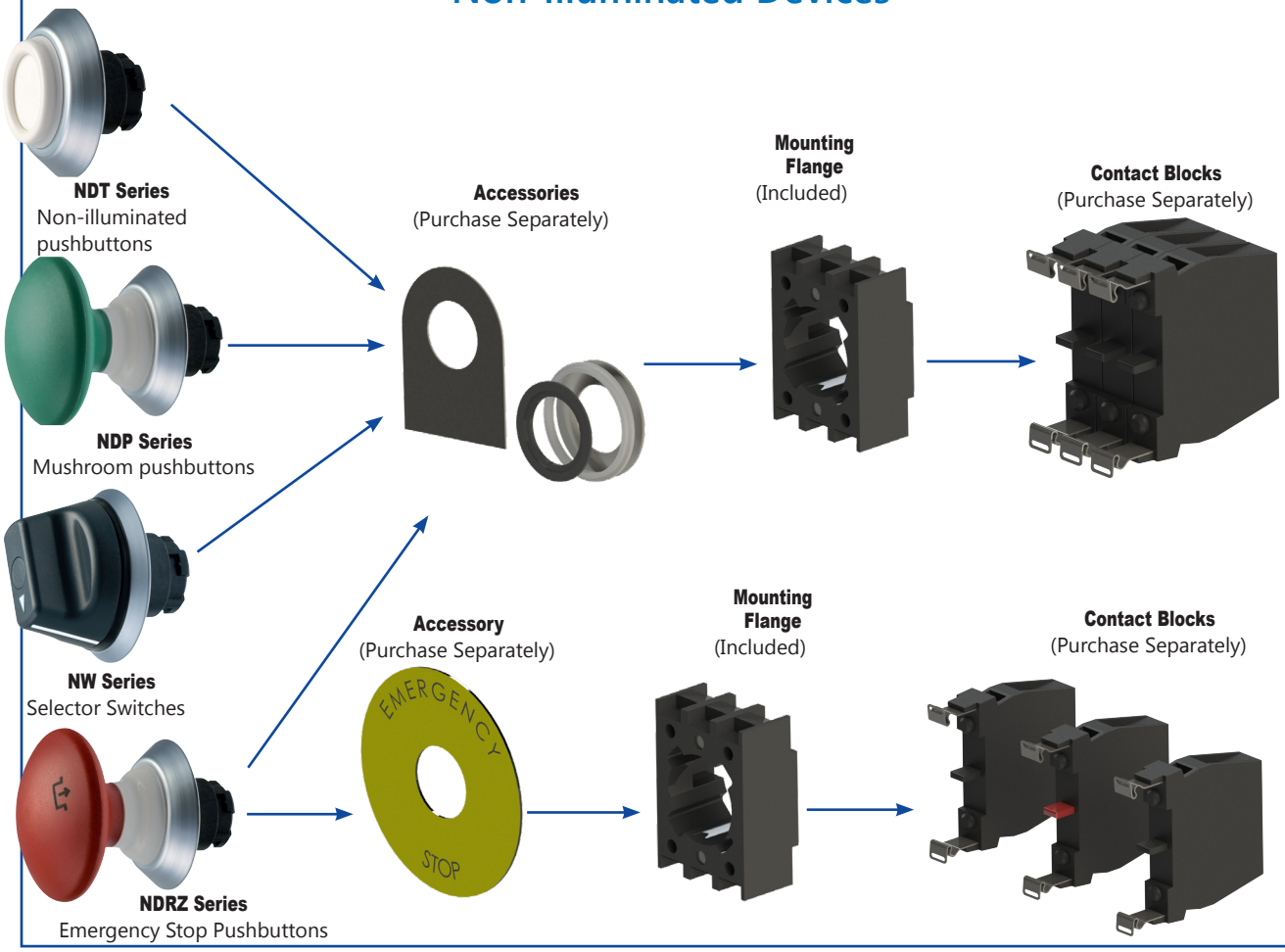
EFM

Mounting Flange

Part Number	Price	Description	Drawing Link
EFM	$5.00	Schmersal mounting flange, replacement. For use with E and N series pushbuttons.	PDF

SCHMERSAL Modular Design Flexibility

Non-Illuminated Devices



Illuminated Devices