ERSCE

				Command auxiliaries
Rated insulation voltage	Ui	IEC947-5-1	V	600
Rated thermal current	Ithe	IEC947-5-1	A	10
Rated operating current		IEC947-5-1/EN60947-5-1		
Category AC15	Ie		230 V	A	6
			400 V	A	4
			500 V	A	3
Category DC13	Ie		24 V	A	6
			250 V	A	0,4
Insulation		500 V DC	MΩ	100
Contact resistance	IEC255-7 cat. 3	Initial value	mΩ	25
Insulation strength		50/60 Hz per 1' *	Vca	2500
Protection against short circuits	IEC269 (IEC947-5-1)			
		GI or gG fuse	A	10
Conditional short circuit current	IEC947-5-1		A	100
Pollution degree	IEC947-5-1			3
Command protection degree (EN 60529)		Opaque/illuminated	IP	65
		Dual pushbuttons	IP	40
		Controllers	IP	65
Resistance to vibrations	IEC68-2-6		mm	0,35 ± 15% (10 to 55 Hz ± 1 Hz)
Resistance to shock	IEC68-2-27	11 ms	g	30
Mechanical life		Mushroom and coupling		
		pushbuttons and controllers	cycles	500000
		Selector switches and	cycles	1000000
		Illuminated pushbuttons	cycles	3000000
Electrical life		at 250 V AC 6A with		
		resistant cosφ=1	min cycles	500000
		at 250 V AC 6A with		
		inductive load of cosφ=0,4	min cycles	500000
Distance between contacts		slow action models	mm	2x2
Terminals		type		Screw with combined notch and removable plate
		Screw	M	3,5
		Protection level	IP	20
		Material		Steel class 8.8 / 6-8 micron galvanised iridescent yellow
		Max screw tightening force N cm (kg cm)		120 (12,24)
		Sections that can rigid cable	mm²	2x1,5
		be connected flexible cable	mm²	2x1,5
		With prod terminal	mm²	1x1,5
		Terminal numbering		In accordance with EN50013
		Terminal coloring		Red for NC contacts, green for NO contacts

Conditions of use

Ambient temperature	operating	°C	-25 to +70
Relative humidity	operating		95% max
Weather resistance	temperate in accordance with DIN 50014:		23/50
	damp in accordance with DIN 50015:		23/83
	hot humid in accordance with DIN 50015:		40-92
	variable humid in accordance with DIN 50016:		FW24

* Between terminals of the same polarity; between terminals of different polarity; between live metal parts and mass; between live and unpowered metal parts.

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Definition of the colors in accordance with the specific use

- **Provisions laid down by the CEI 16-3, EN60073 and CEI 44-5, and EN60204-1 standards**

- **Introduction:** when the color alone is insufficient to identify a function, it is useful to make use of one or more complementary methods, such as wording or symbols. For the symbols, see the EI 16-3 and IEC 417 standards. To simplify the choice of colors, some of the provisions set out in the CEI 16-3 and CEI 44-5 standards are set out below.

Colors of the light indicators and their meaning

Color	Meaning	Explanation	Operator action	Examples of application
Red	Emergency	Dangerous conditions	Immediate action to eliminate a dangerous condition (such as an emergency stop)	❑ Pressure / temperature outside safety limits ❑ Voltage drop ❑ Cut-off ❑ Limit switch beyond the stop condition
Yellow	Abnormal	Abnormal conditions critical condition imminent	Check and/or action (such as the restoration of the desired function)	❑ Pressure / temperature beyond normal limits ❑ Release of the safety device
Green	Normal	Normal condition	Optional	❑ Pressure / temperature within normal limits ❑ Authorisation to proceed
Blue	Compulsory	Indicates a condition requiring action by the operator	Compulsory action	❑ Instruction to enter pre-selected values
White	Neutral	Other conditions – may be used each time there are doubts over the use of the other colours	Check	❑ General information

Illuminated pushbuttons

The illuminated pushbuttons have to be colored in accordance with the code in the tables.
The red color used for the emergency stop driver should not depend on its light source.

Colors of the light indicators on the illuminated pushbuttons and their meaning*

Color	Meaning	Explanation	Examples of application
Red	Emergency	Activate in the event of dangerous or emergency conditions	❑ Emergency stop ❑ Start of the emergency function (**)
Yellow	Abnormal	Activate in the event of abnormal conditions	❑ Operation to eliminate an abnormal condition ❑ Operation to restart an interrupted automatic cycle
Green	Safety	Activate in the event of a safety condition or as preparation for a normal condition	(**)
Blue	Compulsory	Activate in the event of a condition that requires compulsory action	❑ Reset function
White	No specific meaning	For the general start-up of the functions, with the exception of emergency stop (see note **)	❑ Start-up (preferential) ❑ Stop
Grey			❑ Start-up ❑ Stop
Black			❑ Stop ❑ Start-up (preferential)

(*) When a supplementary coding method is used (such as a special structure, shape or position) to identify the pushbutton drive systems, white, grey or black may be used for a variety of functions (for example, white for the start and stop buttons).

(**) The colors for the start buttons are white and black, with white preferred. Green may also be used. Red should be used for the emergency stop buttons. The colors used for the stop buttons are white and (preferably) black. Red may also be used. Green cannot be used. Red, green and yellow should not be used for pushbuttons that cause start-up or stop, or which cause a function to be performed when they are pressed and a stop when released (pushbuttons held down, for example). Green is reserved for the indication of normal or safety functions. Green should not be used for reset buttons.

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30mm diameter selector switches - metal

Short black selector switch

Code	Model	Description
ER511010	**30 / SN1CD**	2 position 0-1 maintained
ER511030	**30 / SN1CD-RD**	2 position 0-1 with spring return
ER511000	**30 / SN1A**	2 position 0-1 maintained at 60°
ER511020	**30 / SN1E**	3 position 1-0-2 maintained
ER511050	**30 / SN1E-RD**	3 position 1 maintained-0-with spring return-2
ER511060	**30 / SN1E-RS**	3 position 1 with spring return-0-maintained-2
ER511040	**30 / SN1E-RC**	3 position 1-0-2 with spring return

Long black selector switch

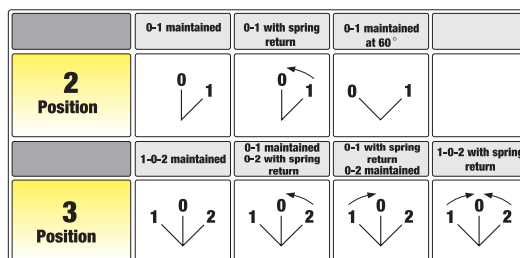| Code	Model	Description
ER511110	**30 / SNL1CD**	2 position 0-1 maintained
ER511130	**30 / SNL1CD-RD**	2 position 0-1 with spring return
ER511100	**30 / SNL1A**	2 position 0-1 maintained at 60°
ER511120	**30 / SNL1E**	position 1-0-2 with spring return
ER511150	**30 / SNL1E-RD**	3 position 1 maintained-0-with spring return-2
ER511160	**30 / SNL1E-RS**	3 position 1 with spring return-0-maintained-2
ER511140	**30 / SNL1E-RC**	3 position 1-0-2 with spring return

Key selector

Code	Model	Description	Key removable in
ER511270	**30 / SC1CD/V**	2 position 0-1 maintained	0
ER512750	**30 / SC1CD/W**	2 position 0-1 maintained	1
ER511210	**30 / SCA1CD/Z**	2 position 0-1 maintained	0-1
ER511230	**30 / SC1CD-RD/V**	2 position 0-1 with spring return	0
ER511290	**30 / SC1A/U**	2 position 0-1 maintained at 60°	0
ER512760	**30 / SC1A/W**	2 position 0-1 maintained at 60°	1
ER511200	**30 / SC1A/Y**	2 position 0-1 maintained at 60°	0-1
ER511220	**30 / SC1E/J**	3 position 1-0-2 maintained	1-0-2
ER511280	**30 / SC1E/V**	3 position 1-0-2 maintained	0
ER512770	**30 / SC1E/U**	3 position 1-0-2 maintained	1
ER512780	**30 / SC1E/Y**	3 position 1-0-2 maintained	1-2
ER512790	**30 / SC1E/Z**	3 position 1-0-2 maintained	0-2
ER512800	**30 / SC1E/W**	3 position 1-0-2 maintained	2
ER512810	**30 / SC1E/X**	3 position 1-0-2 maintained	1-0
ER512850	**30 / SC1E-RD/V**	3 position 1 maintained 0-2 with spring return	0
ER511250	**30 / SC1E-RD/X**	3 position 1 maintained 0-2 with spring return	1-0
ER512820	**30 / SC1E-RD/U**	3 position 1 maintained 0-2 with spring return	1
ER512830	**30 / SC1E-RS/V**	3 position 1 with spring return-0-2 maintained	0
ER512840	**30 / SC1E-RS/W**	3 position 1 with spring return-0-2 maintained	2
ER511260	**30 / SC1E-RS/Z**	3 position 1 with spring return-0-2 maintained	0-2
ER511240	**30 / SC1E-RC/V**	3 position 1-0-2 with spring return	0

C

(*) **Note:**
The final letter in the model code identifies the key extraction position (to find the meaning, see the table below).
In the key selectors with return to center, the key can be removed only in the central position. In the key selectors with return from the left or the right, the key can be removed in the other two stable positions.

Suffix letter	Left	Center	Right
U	■		
W			■
V		■	
X	■	■	
Y	■		■
Z		■	■
J	■	■	■

	0-1 maintained	0-1 with spring return	0-1 maintained at 60°	
2 Position	0 1	0 1	0 1	

	1-0-2 maintained	0-1 maintained 0-2 with spring return	0-1 with spring return 0-2 maintained	1-0-2 with spring return
3 Position	1 0 2	1 0 2	1 0 2	1 0 2

- Accessories page **C47**
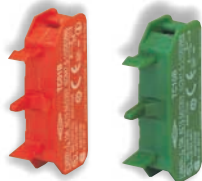- Dimensions page **C50**
- Technical information page **C8**

The above parts refer to **ONLY** the **OPERATOR** and **CONTACT HOLDER ELEMENT**. The products may be combined with one or more **CONTACT ELEMENTS** shown on page C47.
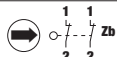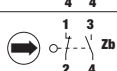
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Contact elements for 22 or 30mm diameter operators

Contact elements (*)

Code	Model	Description	
ER520810	**C01B**	1 NC	1 / 2
ER520800	**C10B**	1 NO	3 / 4

Code	Model	Description	
ER520840	**C02**	2 NC	1 1 / 2 2 Zb
ER520830	**C20**	2 NO	3 3 / 4 4 Zb
ER520820	**C11**	1 NC + 1 NO	1 3 / 2 4 Zb

Zb   Contact element in exchange with 4 terminals (the two mobile contacts are electrically separated)

➡   Forced NC contact opening symbol (IEC 947-5-1, section 3)
For switches used in command circuits with safety functions, the safe operation of the NC contact opening is required (see IEC 204, EN 60204)

(*)   Slow action contact element

C

Example of travel diagram

A

B   F

21-22
13-14

C
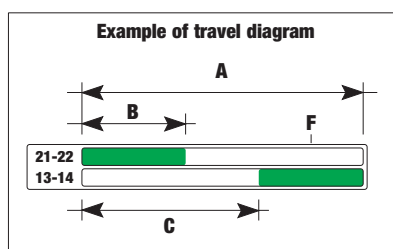
A = maximum driver travel
B = drive travel up to the opening of the 21-22 NC contact
C = drive travel up to the closure of the 13-14 NO contact
F = total travel necessary for complete forced opening

• Dimensions page **C53**
• Technical information page **C8**

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ERSCE

30mm diameter operators – Dimensions (mm)

Two and four position operators

Series	Model	Opaque metal operators	Model	Illuminated metal operators
Short black knob selector switch	30/SN		30/SL	
Long black knob selector switch	30/SNL			
Key selector switch	30/SC			

C

Reset pushbutton

Series	Model	Thermoplastic version		
Reset button	30/PR... + AR			

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30mm diameter operator accessories – Dimensions (mm)

Series and model	Dimensions
E1 **Plate holder**	
C01B **C10B** **Contact elements**	
C02 **C20** **C11** **Contact elements**	
BL9S-B **BR24-B** **BR110-B** **BR220-B** **Lamp holder**	
BT **BR** **BLL** **Complete lamp holder**	
BTC **BRC** **BLLC** **Complete lamp holder**	

C

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