



Kraus & Naimer

BLUE LINE switchgear

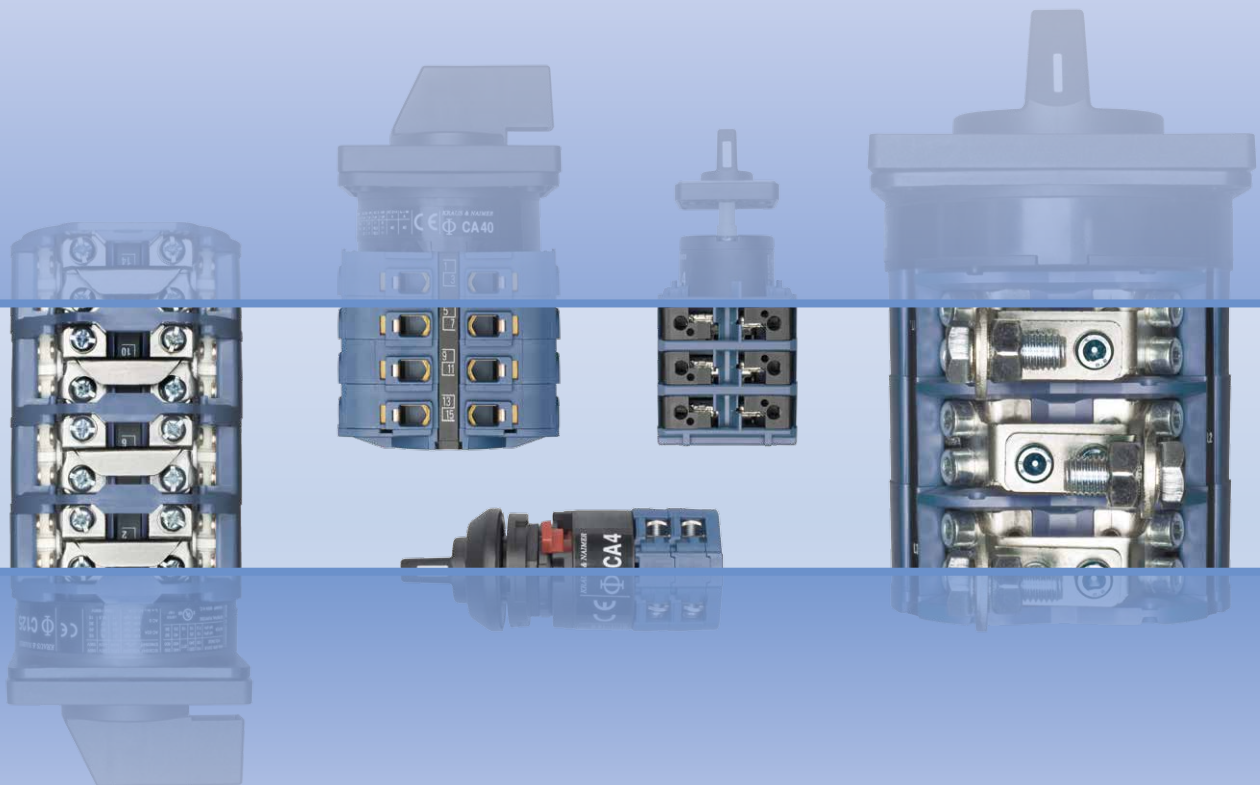
since 1907

Catalog 100

03/2017

Control and Load Switches for higher Capacities

CAD, CA and C type up to 315 A
L type up to 2400 A



Kraus & Naimer

The development of the Blue Line rotary switch, contactor and motor starter product ranges is based on more than hundred years experience by Kraus & Naimer in the design and manufacture of electrical switchgear. Kraus & Naimer pioneered the introduction of the cam operated rotary switch and continues to be recognized as the world leader in that product field.

BLUE LINE

Blue Line products are protected by numerous patents throughout the industrial world. They are built to national and international standards and designed to withstand adverse temperatures and climates.

Blue Line products are accepted and universally recognized for their quality and workmanship. They are supported by a worldwide sales and service organization.

The Kraus & Naimer Registered Trademark



WORLDWIDE SYMBOL
FOR QUALITY SWITCHGEAR

Disconnectors and Main Switches acc. to IEC 60947-3 see Catalog 500

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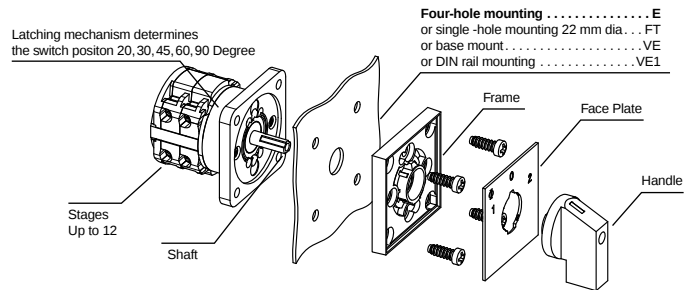
Construction Data

The load switches of the C, CA and CAD-series offer a solution for most cam switch applications. Different contact designs, contact materials and terminals allow for their use as control switches, instrumentation switches and motor control switches, as well as in electronic circuitry and in aggressive environments according to IEC 60947-3 and VDE 0660 part 107.

The stage is the basis for all switches and can be supplied with a maximum of 2 contacts. The terminals are accessible from the side. CA and CAD switches are supplied with open terminals to facilitate wiring and are protected against accidental finger contact according to EN 50274, VDE 0660 part 514 and BGV A3. Switches up to type CA25B are supplied with captive screws with clamping plates. The switch types CA40-CA63 are supplied with box terminals. Captive plus-minus terminal screws and integrated screwdriver guides facilitate wiring.

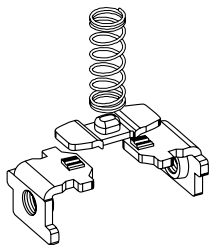
If a positive manual operation or a higher DC rating is required, many of these switches can be fitted with a snap action latching mechanism - suffix „S“ - to the switch type.

The cam-operated switches of the L-series are continuous current rated for off-load switching. They may be used to switch resistive or low inductive loads.



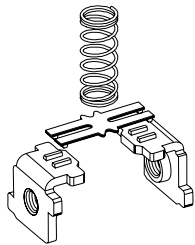
Special Contact Systems

CA4/CA4-1



High contact reliability by multiple cross-point contacts, electronic compatible, CA4 with 1 µ and CA4-1 with 35 µ gold plating.

CAD4-1/CAD11/CAD12



High contact reliability by H-bridge design with “cross-wire” contacts. The contact system with gold-plated contacts (CAD12 with silver contact) allows for low voltages, electronic compatible.

Type	Size	Possible Switching Angles	Max. No. of Stages
CA4, CA4-1, CAD4-1	S00	30°, 45°, 60°, 90°	9
CA10-CA25	S0	30°, 45°, 60°, 90°	12
CA10S-CA25S	S0	60°, 90°	on request
CAD11, CAD12	S0	30°, 45°, 60°, 90°	12
CA10B-CA25B	S1	30°, 45°, 60°, 90°	12
C26, C32, C42	S1	20°, 30°, 45°, 60°, 90°	12
C26S, C32S, C42S	S1	60°	on request
CA40, CA50, CA63	S1	30°, 45°, 60°, 90°	12
C43, C80, C125, C200-4	S2	20°, 30°, 45°, 60°, 90°	12
C315	S3	20°, 30°, 45°, 60°, 90°	12
L350, L351, L630, L631	S2	30°, 45°, 60°, 90°	12
L1000			
L400, L600, L800, L1200, L1600, L2000	S3	30°, 45°, 60°, 90°	12

CA and CAD Switches (CA4-CA25B)



CA Switches (CA40-CA63)



C Switches



L Switches



Above illustrates the standard terminal positions.

Nominal Ratings

Switch Size	Type	According to IEC 60947-3/VDE 0660 part 107			
		Insulation Voltage ¹ U_i V	Thermal Current I_u/I_{th} A	Motor Rating 3 x 380 V-440 V AC-23 AC-3	
				kW	kW
S00					
S0					
S1					
S2					
S3					

For further technical details, refer to pages 44-47.
To furnish with gold contacts and quick connects see page 6.

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. ²Ambient temperature 35 °C max. ³Additional switch functions on request.

How to order

Disconnectors and Main Switches according to IEC 60947-3 see Catalog 500

Three types of data (shown below) are required for ordering Blue Line cam-operated switches. Code numbers for ordering are shown in this catalog.

1. Type of Switch

The type of switch required may be easily selected by referring to the table on page 5 which shows the thermal current, power rating and dimensions of each switch. For further technical details, refer to pages 44-47. Variations of contacts and terminals are shown below.

2. Switch Function

The code numbers for standard switches shown on pages 8-32 indicate the switch function, face plate, handle and any optional extras.

Additional coding to modify type and color of handle and face plate is explained below.

3. Type of Mounting

Types of mounting are shown on pages 33-39. Catalog **101** describes enclosures and optional extras.

Specify the mounting code to indicate required mounting.

CA10

A202-600

VE

Type of Switch

Extending the switch type coding the following combinations will define:

Amendment	Definition	For switch types
-1	with gold contacts ¹	CA4-1, CA4N-1, CA10-1, CA11-1, CA10B-1, CA11B-1, CAD4-1
-4	with quick connects	CA4-4
B ²	S0 switches with latching mechanism size S1	CA10B, CA11B, CA25B, CAD11B, CAD12B
C ²	S1 switches with latching mechanism size S2	CA40C, CA50C, CA63C
L	with lockout-relay w/o manual release for std. sw.	CA10L, C25L, C26L, CA40L, CA50L, CA63L
M	with lockout-relay with manual release for std. sw.	CA10M, C25M, C26M, C42M, CA40M, CA50M, CA63M
X	with power failure release	CA10X, CA20X, CA25X, C26X, C32X, C42X, CA40X, CA50X, CA63X
Y	with power failure release and trip-free release	CA10Y, CA20Y, CA25Y
S ²	with snap action	CA10S, CA20S, CA25S with 60° or 90° switching C26S, C32S, C42S, CA40S, CA50S, CA63S with 60° switching
R	with spring return latching mechanism	CA10R, CA25R, CAD11R, CAD12R

Example: Coding for switch type **CA10** with gold contacts is **CA10-1**.

Modification of Switches

The part number for switch function and options may be modified in cases where items are required other than standard. The modification may involve the face plate inscription, color combination of face plate and handle, type of face plate and handle or the optional extra.

Switch Size	Escutcheon Plate Frame	Handle	Escutcheon Plate Backing	Escutcheon Plate Lettering	Dash Number
S00, S0, S1, S2, S3	black	black	brushed alu	black	-600
S00, S0, S1, S2, S3	black	black	black	mat silver	-700

Other colour combinations available on request.

¹Technical data on request. ²Additional length for switches with B, C, S, amendments refer page 54.

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Color combinations of face plate and handle

Example: The complete coding for switch type CA10 with a 3 pole ON/OFF switch function, black handle and face plate frame with brushed aluminum backing and black inscription which reads 0-1 is as follows: **CA10 A202-600 E.**

Special programs for face plate and handle combinations

- Example:** The complete coding for switch type CA10 with a 3 pole ON/OFF switch function with black face plate frame, square face plate without lettering, brushed aluminum plate backing and black handle reads as follows: **CA10 A202-603 E.**

When a handle, face plate or optional extra is required but not covered by the dash number, the code number for the selected component should be entered separately. A comprehensive range of available standard face plates is illustrated on pages 40 and 41. Non-standard or special face plate engravings are available at extra cost.

Switch Size

Page 5 lists these sizes and the various switch types they include.

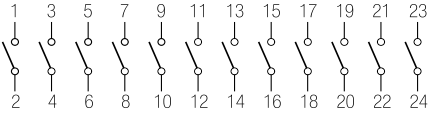
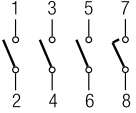
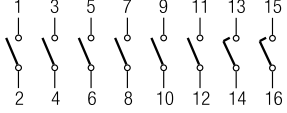
For technical reasons, it may not be possible to follow the sequence of contacts requested by the customer. The final contact development which is sent with every switch will show the customer's original terminal markings.

[illegible]

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA10B- CA25 CA25B	CA40 C26- C315	

ON/OFF Switches with 60° Switching

Dimensions p. 56

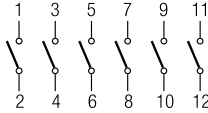
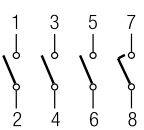
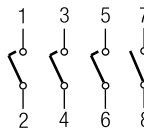
1 pole 2 pole 3 pole 3 pole with red handle 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ¹ 9 pole 10 pole 11 pole 12 pole		       	       	A200-600 A201-600 A202-600 A202-626 A203-600 WAA653 WAA341 A342-600 A343-600 A344-600 WAA654 WAA345 A346-600 WAA347 A348-600	1 1 2 2 2 2 3 3 4 4 4 4 5 5 6 6	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ¹ 9 pole 10 pole 11 pole 12 pole		       	       	A200-620 A201-620 A202-620 A203-620 WAA653 WAA341 A342-620 A343-620 A344-620 WAA654 WAA345 A346-620 WAA347 A348-620	1 1 2 2 2 2 3 3 4 4 4 5 5 6 6	 1-12 pole
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole		     	     	A200-621 A201-621 A202-621 A203-621 WAA653 WAA341 A342-621	1 1 2 2 2 3 3	 4 pole 1 pole preclose 6°
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole		     	     	A200-622 A201-622 A202-622 A203-622 WAA653 WAA341 A342-622	1 1 2 2 2 3 3	 8 pole 2 pole preclose 6°
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole		     	     	A200-623 A201-623 A202-623 A203-623 WAA653 WAA341 A342-623	1 1 2 2 2 3 3	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole		     	     	A200-624 A201-624 A202-624 A203-624 WAA653 WAA341 A342-624	1 1 2 2 2 3 3	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ¹ 5 pole 6 pole		     	     	A200-625 A201-625 A202-625 A203-625 WAA653 WAA341 A342-625	1 1 2 2 2 3 3	

¹for use in a three phase four-wire system with switched neutral

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315

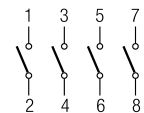
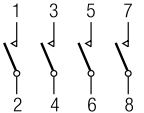
ON/OFF Switches with 90° Switching

Dimensions p. 56

1 pole contacts						A290-600	1	 1, 2, 3, 4, 5 and 6 pole
2 pole preclose 30°						A291-600	1	
3 pole						A292-600	2	
4 pole						A324-600	2	
4 pole 1 pole preclose 60° ¹						A293-600	2	
4 pole 3 pole preclose 30°						WAA327	2	
5 pole contacts						WAA325	3	 4 pole 1 pole preclose 60°
6 pole preclose 30°						A326-600	3	
1 pole contacts						A290-620	1	
2 pole preclose 30°						A291-620	1	
3 pole						A292-620	2	
4 pole						A324-620	2	
4 pole 1 pole preclose 60° ¹						A293-620	2	
4 pole 3 pole preclose 30°						WAA327	2	 4 pole 3 pole preclose 30°
5 pole contacts						WAA325	3	
6 pole preclose 30°						A326-620	3	
3 pole 360° rotation	 					WAA208	2	
						WAA208	2	
3 pole for foot operation						WAA386	2	

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ON/OFF Switches with 30° Switching

1 pole						WAA100	1	 1-4 pole
2 pole						WAA101	1	
3 pole						WAA102	2	
4 pole						WAA103	2	
1 pole with spring return						A204-600	1	 1-4 pole
2 pole with spring return						A205-600	1	
3 pole with spring return						WAA206	2	
4 pole with spring return						WAA207	2	
1 pole with spring return						A204-620	1	
2 pole with spring return						A205-620	1	
3 pole with spring return						WAA206	2	
4 pole with spring return						WAA207	2	

¹for use in a three phase four-wire system with switched neutral ²not available for switch type CA25 ³not available for switch type C315

Function	Escutch. Plate	Type/Handle CA4 CAD.. CA40 CA4-1 CA10- C26- CAD4-1 CA25 CA25B C315	Code	Stages	Connection Diagram
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Double-throw Switches without „OFF“ 60° Switching

Dimensions p. 56

1 pole	F072					A220-600	1														
2 pole																					
3 pole																					
4 pole																					
4 pole 1 pole preclose 6° ²																					
5 pole																					
6 pole																					
7 pole																					
8 pole																					
8 pole 2 pole preclose 6° ²																					
9 pole																					
10 pole																					
11 pole																					
12 pole																					

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Double-throw Switches without „OFF“ with electrically isolated contacts

1 pole 2 pole 3 pole 4 pole 4 pole	1 pole preclose 6° ²						A720-600 A721-600 A722-600 A723-600 WAA973	1 2 3 4 4	    	1-4 pole 4 pole 1 pole preclose 6°
1 pole	with spring return						A795-600	1		1 pole with spring return

Double-throw Switches without „OFF“ 30° Switching

1 pole	 F026						WAA120	1	   		1-4 pole
2 pole							2				
3 pole							3				
4 pole							4				
1 pole with spring return	 F026						A295-600	1	  		1-3 pole
2 pole with spring return							2				
3 pole with spring return							3				
1 pole with spring return	 F153						A295-620	1	  		1-3 pole
2 pole with spring return							2				
3 pole with spring return							3				

¹not available for switch type CA25 ²for use in a three phase four-wire system with switched neutral

Function	Escutch. Plate	Type/Handle CA4 CAD.. CA4-1 CA10- CA10B- C80- CAD4-1 CA25 CA63 C315	Code	Stages	Connection Diagram
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Double-throw Switches with Center „OFF“ 60° Switching

Dimensions p. 56

1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ³						A210-600 A211-600 A212-600 A213-600 WAA913 A361-600 A362-600 WAA363 WAA364 WAA664	1 2 3 4 4 5 6 7 8 8	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ³						A210-620 A211-620 A212-620 A213-620 WAA913 A361-620 A362-620 WAA363 WAA364 WAA664	1 2 3 4 4 5 6 7 8 8	
1 pole 2 pole 3 pole						A210-621 A211-621 A212-621	1 2 3	
1 pole 2 pole 3 pole						A210-622 A211-622 A212-622	1 2 3	
1 pole 2 pole 3 pole						A210-623 A211-623 A212-623	1 2 3	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³						A210-624 A211-624 A212-624 A213-624 WAA913	1 2 3 4 4	

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Double-throw Switches with Center „OFF“ 90° Switching

1 pole 2 pole 3 pole 4 pole 1 pole preclose 60°						A218-600 A219-600 WAA299 WAA294	1 2 3 4	
1 pole 2 pole 3 pole 4 pole 1 pole preclose 60°						A218-620 A219-620 WAA299 WAA294	1 2 3 4	

Double-throw Switches with Center „OFF“ and electrically isolated contacts

1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³						A710-600 A711-600 A712-600 A713-600 WAA963	1 2 3 4 4	
1 pole with spring return 2 pole to center						A714-600 A715-600	1 2	

¹switch type C315 with handle ²not available for switch type C315 ³for use in a three phase four-wire system with switched neutral

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CAD.. CA4-1 CA10- CAD4-1 CA25 CA10B- CA25B CA40 C26- C315			

Double-throw Switches with Spring Return to Center

Dimensions p. 56

1 pole with spring return to center					A214-600 A215-600 A216-600	1 2 3	
2 pole							
3 pole							
1 pole					A214-620 A215-620 A216-620	1 2 3	1-3 pole
2 pole							
3 pole							
1 pole with spring return from left to center					A320-600 A321-600 A322-600	1 2 3	
2 pole							
3 pole							
1 pole					A320-621 A321-621 A322-621	1 2 3	1-3 pole
2 pole							
3 pole							

General Application Switches

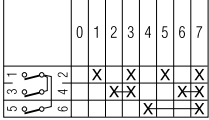
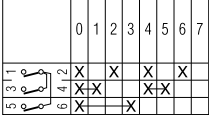
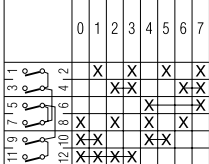
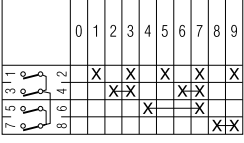
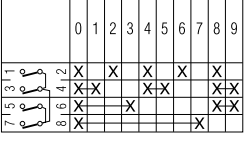
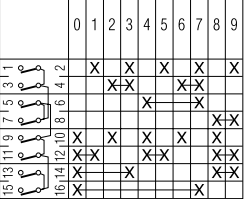
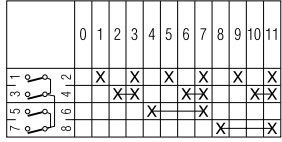
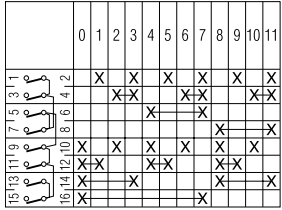
1 pole 2 Gang					A310-600 A312-600 WAA314	1 2 3	
2 pole Switching sequence: 0, A, A+B							
3 pole							
1 pole					A310-620 A312-620 WAA314	1 2 3	
2 pole							
3 pole							
1 pole 3 Gang					A311-600 WAA313 WAA315	2 3 5	
2 pole Switching sequence: 0, A, A+B, A+B+C							
3 pole							
1 pole					A311-620 WAA313 WAA315	2 3 5	
2 pole							
3 pole							
1 pole 2 Gang					WAA330 WAA331 WAA332	1 2 3	
2 pole Series switching							
3 pole Switching sequence: 0, A, B, A+B							
1 pole					WAA330 WAA331 WAA332	1 2 3	
2 pole							
3 pole							
2 pole 2 Gang					WAA339	2	
Series-parallel Switching							
Switching sequence: 0, A+B series, A, A+B parallel					WAA339	2	

¹not available for switch type CA25 ²not available for switch type C315 ³available only up to switch type CA63

Function	Escutch. Plate	Type/Handle CA4 CA10 CA4-1 CA11 CA10B- CAD4-1 CA12 CA25B CA40 C26- C315	Code	Stages	Connection Diagram
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Coding Switches/Binary Code

[Dimensions p. 56](#)

0 - 7 360° rotation	 F322				A540-600	2	
0 - 7 complement 360° rotation	 F322				WAA541	2	
0 - 7 + complement 360° rotation	 F322				WAA542	3	
0 - 9	 F007				A550-600	2	
0 - 9 complement	 F007				WAA551	2	
0 - 9 + complement	 F007				WAA552	4	
0 - 11 360° rotation	 F009				A543-600	2	
0 - 11 + complement 360° rotation	 F009				WAA545	4	

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CAD.. CA4-1 CA10- CA10B- C80- CAD4-1 CA25 CA63 C315			

Multi-step Switches without „OFF“

Dimensions p. 56

1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole		     	    	A230-600 A250-600 A270-600 A476-600 WAA484 WAA489	2 3 5 6 8 9	                 
1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole		     	    	A231-600 A251-600 A271-600 A477-600 WAA485 WAA490	2 4 6 8 10 12	                
1 pole 5 Step 2 pole 3 pole 4 pole		     	    	A232-600 A252-600 WAA272 WAA478	3 5 8 10	              
1 pole 6 Step 2 pole 3 pole		     	    	A233-600 WAA253 WAA273	3 6 9	              
1 pole 7 Step 2 pole 3 pole		     	    	WAA234 WAA254 WAA274	4 7 11	           
1 pole 8 Step 2 pole 3 pole		     	    	WAA235 WAA255 WAA275	4 8 12	           
1 pole 9 Step		     	    	WAA236	5	            
1 pole 10 Step		     	    	WAA237	5	            
1 pole 11 Step		     	    	WAA238	6	              
1 pole 12 Step 1 pole 360° rotation		     	    	WAA239 WAA639	6 6	           

¹switch type C315 with  handle ²not available for switch type CA11B

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CAD.. CA4-1 CA10- CA10B- C80- CAD4-1 CA25 CA63 C315			

Multi-step Switches without „OFF“ with electrically isolated contacts

[Dimensions p. 56](#)

1 pole 3 Step						A730-600	2	  
2 pole						A750-600	3	  
1 pole 4 Step						A731-600	2	  
2 pole						A751-600	4	  

Multi-step Switches with „OFF“

1 pole 2 Step						A240-600	1	
2 pole						A260-600	2	
3 pole						A280-600	3	
4 pole						WAA480	4	
5 pole						WAA486	5	
6 pole						WAA491	6	
1 pole						A240-620	1	1-6 pole
2 pole						A260-620	2	
3 pole						A280-620	3	
4 pole						WAA480	4	
5 pole						WAA486	5	
6 pole						WAA491	6	
1 pole 3 Step						A241-600	2	
2 pole						A261-600	3	
3 pole						A281-600	5	
4 pole						WAA481	6	
5 pole						WAA487	8	
1 pole						A241-620	2	
2 pole						A261-620	3	
3 pole						A281-620	5	
4 pole						WAA481	6	
5 pole						WAA487	8	
1 pole						A241-621	2	
2 pole						A261-621	3	

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CAD.. CA4-1 CA10- CA10B- C80- CAD4-1 CA25 CA63 C315			

Multi-step Switches with „OFF“

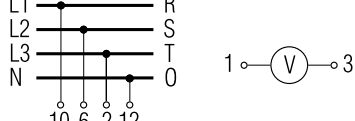
Dimensions p. 56

1 pole 4 Step						A242-600 WAA262 WAA282 WAA482	2 4 6 8	
1 pole 4 Step						A242-620 WAA262 WAA282 WAA482	2 4 6 8	1-4 pole
1 pole 5 Step						A243-600 WAA263 WAA283	3 5 8	
1 pole 5 Step						A243-620 WAA263 WAA283	3 5 8	1-3 pole
1 pole 6 Step						A244-600 WAA264 WAA284	3 6 9	
1 pole 6 Step						A244-620 WAA264 WAA284	3 6 9	1-3 pole
1 pole 7 Step						WAA245 WAA265	4 7	
1 pole 7 Step						WAA245 WAA265	4 7	1 pole 2 pole
1 pole 8 Step						WAA246	4	
1 pole 8 Step						WAA246	4	
1 pole 9 Step						WAA247	5	
1 pole 9 Step						WAA247	5	
1 pole 10 Step						WAA248	5	
1 pole 10 Step						WAA248	5	
1 pole 11 Step						WAA249 WAA649	6 6	
1 pole 360° rotation						WAA249 WAA649	6 6	

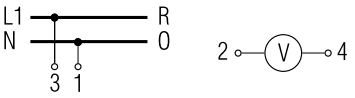
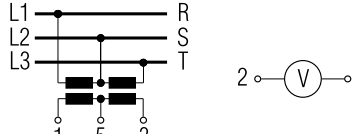
Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CA10- CAD4-1 CA25 CAD.. CA10B- CA25B			

Voltmeter Switches without „OFF“

[Dimensions p. 56](#)

3 phase 3 wire						A023-600	2	
						A023-620	2	
3 phase 3 wire 3 phase to phase and phase to neutral						A025-600	3	
						A025-620	3	

Voltmeter Switches with „OFF“

2 pole 360° rotation						WAA002	1	
3 phase 3 wire						A004-600	2	
						A004-620	2	
						A004-621	2	
						A004-622	2	
						A004-623	2	
						A004-624	2	
						WAA011	2	

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CA10- CAD4-1 CA25 CAD.. CA10B- CA25B			

Voltmeter Switches with „OFF“

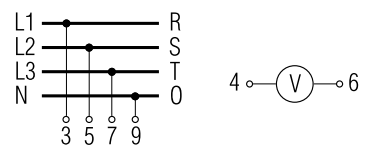
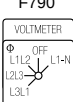
Dimensions p. 56

3 phase to neutral						WAA005	2	
	F779							
						WAA005	2	
	F780							
						WAA005	2	
3 phase to phase and 3 phase to neutral						WAA005	2	
	F781							
						A007-600	3	
	F782							
						A007-620	3	
2 separate 3 phase with center „OFF“						A007-621	3	
	F783							
						A007-622	3	
	F414-PRL							
						A007-623	3	
2 separate 3 phase with center „OFF“						A007-623	3	
	F784							
						A007-624	3	
	F415-PRL							
						A007-624	3	
2 separate 3 phase with center „OFF“						A007-624	3	
	F785							
						WAA008	4	
	F786							
						WAA008	4	
2 separate 3 phase with center „OFF“						WAA008	4	
	F787							
						WAA008	4	
	F418-PRL							
						WAA008	4	
2 separate 3 phase with center „OFF“						WAA008	4	
	F788							
						WAA008	4	
	F788							
						WAA008	4	

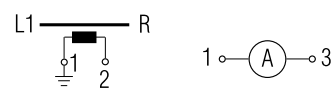
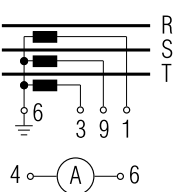
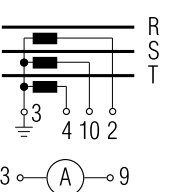
Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63 C32	C43- C125

Voltmeter Switches with „OFF“

[Dimensions p. 56](#)

3 phase and 1 phase to neutral	 F789			 ¹	WAA010	3	
	 F790			 ¹	WAA010	3	
	 F419-PRL			 ¹	WAA010	3	
	 F719			 ¹	WAA010	3	

Ammeter Switches

Single pole with one current transformer	 F058				WAA046	1	
	 F208				WAA046	1	
	 F340-PRL				WAA046	1	
Single pole with 3 current transformers without „OFF“	 F181-PRL				A017-600	3	
	 F719				A017-620	3	
Single pole with 3 current transformers with „OFF“ 360° rotation	 F059				A048-600	3	
	 F066				A048-620	3	
	 F186				A048-621	3	
	 F318-PRL				A048-622	3	
	 F172-PRL				A048-623	3	

¹available only up to switch type CA25B

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1 CAD.. CA10- CA25 CAD.. CA10B- CA63- C42 C43- C125	Code	Stages	Connection Diagram
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Ammeter Switches

Dimensions p. 56

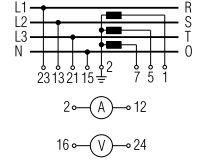
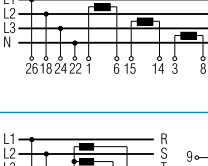
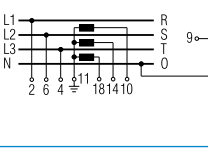
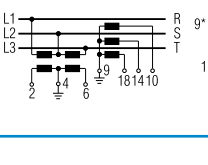
Single pole with 2 current transformers (3 readings)	 F172-PRL				A021-600	2	
	 F066				A021-620	2	
Single pole with 4 current transformers	 F060				WAA036	4	
	 F327-PRL				WAA036	4	
2 pole 2 current transformers	 F057				WAA037	3	
	 F064				WAA037	3	
	 F320-PRL				WAA037	3	
2 pole 3 current transformers	 F181-PRL				WAA019	5	
	 F719				WAA019	5	
	 F059				A038-600	5	
	 F172-PRL				A038-620	5	
	 F318-PRL				A038-621	5	
	 F060				A038-621	5	
2 pole 4 current transformers	 F060				WAA039	6	
	 F327-PRL				WAA039	6	

¹available only up to switch type CA25B

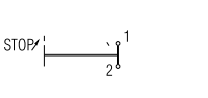
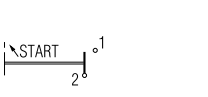
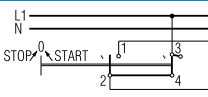
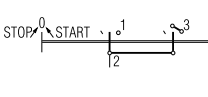
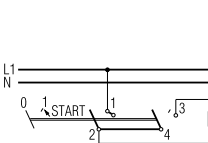
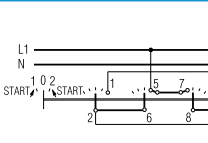
Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- C43 CA40- CA63			

Volt-ammeter Switches

Dimensions p. 56

3 phase - phase to phase 3 current	 F101					WAA027	6	
	 F077					WAA028	7	
3 phase voltage 3 phase current 4 wire	 F174-PRL					WAA033	5	
3 phase voltage 3 phase current 3 wire	 F174-PRL					WAA035	5	

Control Switches

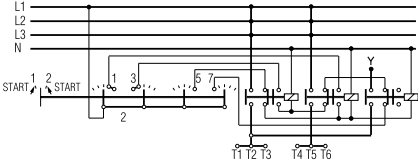
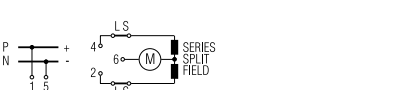
Stop switch	 F022					WAA174	1	
Start switch	 F023					A175-600	1	
Stop start switch single pole	 F024					A176-600	1	
Stop start switch 2 pole	 F024					WAA183	2	
Stop start switch with spring return from start to run	 F119					A178-600	1	
	 F130					A178-620	1	
Stop start switch with spring return to run for 2 units	 F121					WAA177	2	
	 F132					WAA177	2	

¹available only up to switch type CA25B

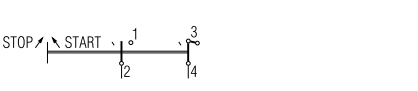
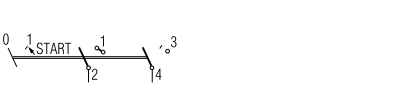
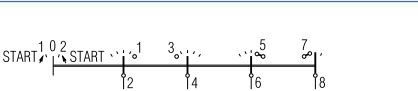
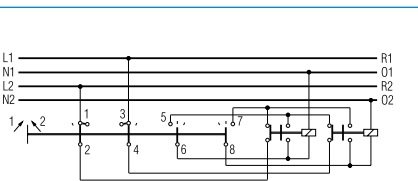
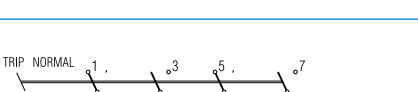
Function	Escutch. Plate	Type/Handle	C26- C43 CA40- CA63	Code	Stages	Connection Diagram
		CA4 CAD.. CA4-1 CA10- CA10B- CAD4-1 CA25 CA25B				

Control Switches

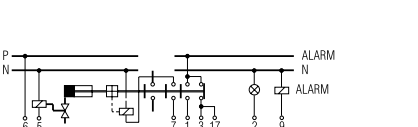
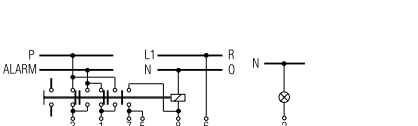
Dimensions p. 56

Stop start switch with spring return to run with contactor interlock contactors for 2 units						WAA182	2	
						WAA182	2	
Motor voltage control switch						WAA150	2	

Control Switches with electrically isolated contacts

Stop start switch single pole						A789-600	1	
Stop start switch with spring return to 1						A791-600	1	
Stop start switch with spring return to run for 2 units						WAA790	2	
Contactor control with spring return to „OFF“						WAA179	2	
						WAA179	2	
Circuit breaker control						WAA537	2	

Control and Alarm Switches¹

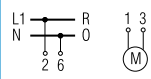
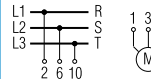
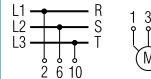
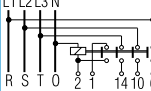
With slip clutch and without indicator device				WAA190	5 ³	
Without indicator device				WAA192	2	

¹Advise the indicator device, described in Catalog 101, page 9. ²not available for switch types CA25 and CA25B ³incl. slip clutch
⁴available only up to switch type CA40

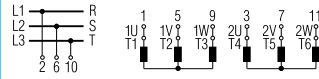
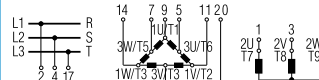
Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B C26-C43 CA40-CA63	C80- C315			

Motor Reversing Switches

[Dimensions p. 56](#)

2 pole						A400-600	2	
						A400-620	2	
						A400-621	2	
3 pole						A401-600	3	
						A401-620	3	
						A401-621	3	
3 pole with spring return to „OFF“						A228-600	3	
						A228-620	3	
3 pole for use with reversing contactors						WAA402	4	

Motor Control Switches

2 speed 2 winding 0-A-BY or Δ						WAA451	3	
						WAA451	3	
3 speed 2 winding 0-AΔ-BY-AY						WAA457	6	
						WAA457	6	

¹not available for switch type CA25 ²not available for switch types C26-C43, CA40-CA63 ³available only up to switch type CA50

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CAD.. CA40 CA4-1 CA10- C26- CAD4-1 CA25 CA25B C315			

Motor Control Switches

Dimensions p. 56

2 speed single winding						A440-600	4	
						A440-620	4	
2 speed single winding without „OFF“						A466-600	4	
						A466-620	4	
2 speed single winding with center „OFF“						A441-600	4	
						A441-620	4	
2 speed single winding reversing						A442-600	6	
						A442-620	6	
2 speed single winding for use with contactors						WAA444	5	
						WAA444	5	
2 speed reversing for 2 way operation with slip clutch for „OFF“ load use						WAA468	10 ¹	
						WAA468	10 ¹	

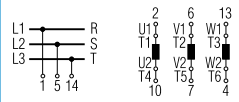
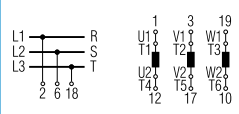
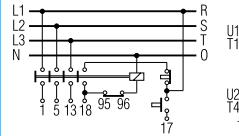
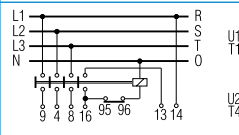
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¹incl. slip clutch

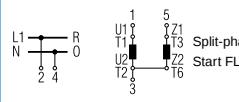
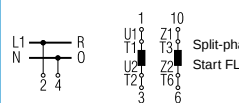
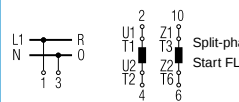
Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B C26-C43 CA40-CA63	C80- C315			

Star-delta Switches

Dimensions p. 56

OFF-star-delta						A410-600	4	
						A410-620	4	
Reversing						WAA413	5	
With auxiliary contact closed in „OFF“ position						WAA416	5	
For use with reversing contactors						A419-600	4	

Start and Run Switches

Split-phase start						A425-600	2	
						A425-620	2	
Split-phase start reversing						WAA426	3	
						WAA426	3	
Split-phase reversing auto cutout of start field winding						WAA622	3	

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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ON/OFF Switches with 60° Switching

[Dimensions p. 56](#)

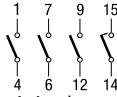
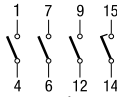
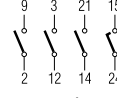
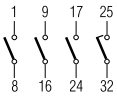
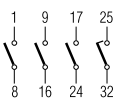
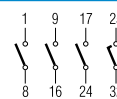
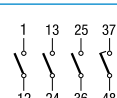
1 pole 2 pole 3 pole 4 pole	L350			WAA200 WAA201 WAA202 WAA203	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole	L351			WAA200 WAA201 WAA202 WAA203	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			WAA200 WAA201 WAA202 WAA203	2 2 4 4			1-4 pole
3 pole with lugs suitable for protective cover				WAA302	3			A302
1 pole 2 pole 3 pole 4 pole				WAA200 WAA201 WAA202 WAA203	2 2 4 4			
1 pole 2 pole 3 pole 4 pole	L600			WAA200 WAA201 WAA202 WAA203	3 3 6 6			1-4 pole
1 pole 2 pole 3 pole 4 pole	L630			WAA200 WAA201 WAA202 WAA203	2 4 6 8	● ●		1-4 pole
1 pole 2 pole 3 pole 4 pole	L631			WAA200 WAA201 WAA202 WAA203	2 4 6 8	● ●		1-4 pole
1 pole 2 pole 3 pole 4 pole	L800			WAA200 WAA201 WAA202 WAA203	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L1000			WAA200 WAA201 WAA202 WAA203	3 6 9 12	● ● ●		1-4 pole
1 pole 2 pole 3 pole	L1200			WAA200 WAA201 WAA202	3 6 9			1-3 pole
1 pole 2 pole 3 pole	L1600			WAA200 WAA201 WAA202	4 8 12			1-3 pole
1 pole 2 pole	L2000			WAA200 WAA201	5 10	●		1 und 2 pole

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Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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ON/OFF Switches with 90° Switching

[Dimensions p.56](#)

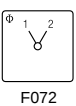
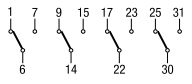
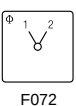
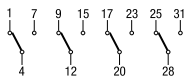
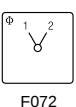
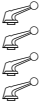
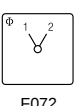
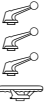
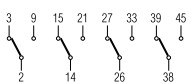
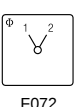
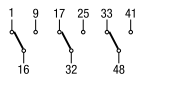
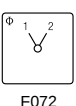
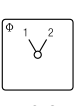
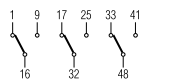
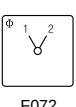
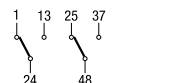
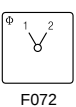
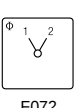
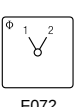
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1 pole 2 pole 3 pole 4 pole	L351 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	1 2 3 4			
1 pole 2 pole 3 pole 4 pole	L400 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 2 4 4			
3 pole	with lugs suitable for protective cover			WAA307	3			
3 pole	360° rotation			WAA208	4			
1 pole 2 pole 3 pole 4 pole	L600 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	3 3 6 6			
1 pole 2 pole 3 pole 4 pole	L630 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 4 6 8			
1 pole 2 pole 3 pole 4 pole	L631 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 4 6 8			
1 pole 2 pole 3 pole 4 pole	L800 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 4 6 8	● ● ●		
1 pole 2 pole 3 pole 4 pole	L1000 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	3 6 9 12	● ● ●		
1 pole 2 pole 3 pole	L1200			WAA290 WAA291 WAA292	3 6 9	● ● ●		1-3 pole
1 pole 2 pole 3 pole	L1600			WAA290 WAA291 WAA292	4 8 12	● ● ●		1-3 pole
1 pole 2 pole	L2000			WAA290 WAA291	5 10	● ●		1- und 2 pole

- Additional length for switches size S2 for mounting E/EF = 27 mm
- Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Double-throw Switches without „OFF“ 60° Switching

[Dimensions p. 56](#)

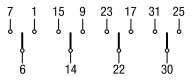
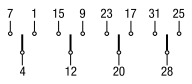
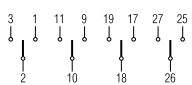
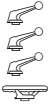
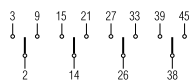
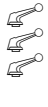
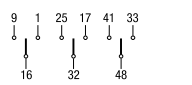
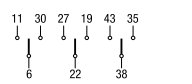
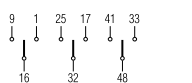
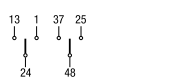
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1 pole 2 pole 3 pole 4 pole	L351			WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			WAA220 WAA221 WAA222 WAA223	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630			WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L631			WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800			WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole	L1000			WAA220 WAA221	6 12	●		1 and 2 pole
1 pole	L1200			WAA220	6			
1 pole	L1600			WAA220	8			
1 pole	L2000			WAA220	10			

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Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Double-throw Switches with Center „OFF“ 60° Switching

[Dimensions p. 56](#)

1 pole 2 pole 3 pole 4 pole	L350			WAA210 WAA211 WAA212 WAA213	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L351			WAA210 WAA211 WAA212 WAA213	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			WAA210 WAA211 WAA212 WAA213	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			WAA210 WAA211 WAA212 WAA213	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630			WAA210 WAA211 WAA212	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L631			WAA210 WAA211 WAA212	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800			WAA210 WAA211 WAA212	4 8 12	●		1-3 pole
1 pole 2 pole	L1000			WAA210 WAA211	6 12	●		1 and 2 pole
1 pole	L1200			WAA210	6			
1 pole	L1600			WAA210	8			
1 pole	L2000			WAA210	10			

- Additional length for switches size S2 for mounting E/EF = 27 mm
- Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Multi-step Switches single pole without „OFF“

[Dimensions p. 56](#)

3 Step	L350			WAA230	4		
3 Step	L351			WAA230	4		
3 Step	L400			WAA230	4		
4 Step	L350			WAA231	4		
4 Step	L351			WAA231	4		
4 Step	L400			WAA231	4		
5 Step	L350			WAA232	6		
5 Step	L351			WAA232	6		
5 Step	L400			WAA232	6		
6 Step	L350			WAA233	6		
6 Step	L351			WAA233	6		

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Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Multi-step Switches single pole without „OFF“

[Dimensions p. 56](#)

6 Step	L400			WAA233	6		
7 Step	L350			WAA234	8		
7 Step	L351			WAA234	8		
7 Step	L400			WAA234	8		
8 Step	L350			WAA235	8		
8 Step	L351			WAA235	8		
8 Step	L400			WAA235	8		
9 Step	L350			WAA236	10		
9 Step	L351			WAA236	10		
9 Step	L400			WAA236	10		
10 Step	L350			WAA237	10		

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Multi-step Switches single pole without „OFF“

[Dimensions p. 56](#)

10 Step	L351			WAA237	10		
10 Step	L400			WAA237	10		
11 Step	L350			WAA238	12		
11 Step	L351			WAA238	12		
11 Step	L400			WAA238	12		
12 Step	L350			WAA239	12		
12 Step	L351			WAA239	12		
12 Step	L400			WAA239	12		

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Two Hole Panel Mount or Mosaic Mount		Terminals rotated 90°	Code	CA4 CA4-1 CAD4-1
Panel Mount				
	Two hole, Protection IP 40	●	E E-V	● ●
	Two hole Protection IP 66/67/69k	●	EF EF-V	● ●
	Two hole with shaft for radio knobs, Protection IP 40 Shaft diam. 6 mm/.24 inch		E9	●
	Shaft diam. 6.35 mm/.25 inch, Protection IP 40		E91	●
Mosaic Mount				
	For Siemens-Mosaic 30 mm grid depth, Protection IP 40		E92	●
	For Subklew-, Kreutzenbeck-, Symo-Mosaic, Protection IP 40 28 mm 25 mm 25 mm grid depth		E93	●
	For Mauell-Mosaic 30 mm grid depth, Protection IP 40		E94	●

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Two or Four Hole Panel Mount	Terminals rotated 90°	Code	CAD.. CA10- CA25	CA10B- CA63 C42	C43 C80- C200-4 L350 Size S2	C315 L400- L2000 Size S2
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 Panel Mount Four hole, Protection IP 40 Four hole, Protection IP 66/67/69k Two hole, Protection IP 66/69k						
	●	E E-V	● ●	● ●	●	●
	●	EF EF-V	● ●	● ●	●	●
	●	E22 E22-V	● ●			
 Panel mount using larger face plate, handle and heavy duty stop Four hole, Protection IP 40 Four hole, Protection IP 66/67/69k		EG	●	CA40- CA63	C80- C200-4	
		EGF	●	CA40- CA63	C80- C200-4	
 Double End Mount Four hole, Protection IP 40 Four hole, Protection IP 66/67/69k		ER	CAD.. CA10- CA25	●	●	●
		ERF	CAD.. CA10- CA25	●	●	●

Two or Four Hole Panel Mount		Code	CAD.. CA10- CA25	CA10B CA11B CA20B CA25B	C32 C42 CA40 CA50 CA63	C43
 Panel mount with heavy duty latching and metal shaft Four hole, Protection IP 40 48 x 48 Plate – S0  Four hole, Protection IP 40 64 x 64 Plate – S1 Four hole, Protection IP 40 64 x 64 Plate – S1 complete with 6mm square metal shaft	Panel mount with heavy duty latching and metal shaft Four hole, Protection IP 40 48 x 48 Plate – S0 Four hole, Protection IP 40 64 x 64 Plate – S1 Four hole, Protection IP 40 64 x 64 Plate – S1 complete with 6mm square metal shaft	KN2	●			
		KN1	●	●	●	
		KD1	●	●	●	
Panel mount with protective cover  Four hole Protection front IP 40 rear IP 40 Four hole with additional shaft seal Protection front IP 66/67/69k rear IP 40  Four hole Protection front IP 40 rear IP 42 Four hole with additional shaft seal Protection front IP 66/67/69k rear IP 42 Two hole Protection front IP 66/69k rear IP 42	Panel mount with protective cover Four hole Protection front IP 40 rear IP 40 Four hole with additional shaft seal Protection front IP 66/67/69k rear IP 40 Four hole Protection front IP 40 rear IP 42 Four hole with additional shaft seal Protection front IP 66/67/69k rear IP 42 Two hole Protection front IP 66/69k rear IP 42	EC	CAD.. CA10- CA25	●		
		ED	CAD.. CA10- CA25	●		
		EC1		●		
		ED1		●		
		ED22	CAD.. CA10- CA25			

Single Hole Mount	Terminals rotated 90°	Code	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25
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			mm	mm
 Single Hole Mount complete with lock nut and shaft seal Bezel mount, Protection IP 66/67/69k	●	FS1 FS1-V FT1 FT1-V FT3 FT3-V	16/22 16/22	22 22 22/30 22/30
 Square face plate, Protection IP 66/67/69k	●	FS2 FS2-V FT2 FT2-V FT4 FT4-V	16/22 16/22	22 22 22/30 22/30
S1 square face plate and heavy duty stop, Protection IP 66/67/69k	●	FH3 FH3-V		22 22
 Rectangular face plate, Protection IP 66/67/69k	●	FS4 FS4-V FT6 FT6-V	16/22 16/22	22 22
S1 rectangular face plate and heavy duty stop, Protection IP 66/67/69k	●	FH4 FH4-V		22 22
 Lock nut spanner		S00 T170 09		

Base Mount	Terminals rotated 90°	Code	CAD.. CA10- CA25	CA10B- CA63 C42	C43 C80- L2000
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Base Mount



Four hole, Protection IP 40

Four hole with integrated simplified door clutch,
Protection IP 65



Two hole, Protection IP 40

Two hole with integrated simplified door clutch,
Protection IP 65



Snap-on for DIN Rail EN 60715,
Protection IP 40

●	VE VE-V	CAD.. CA10- CA25	● ●	●
●	VF VF-V	CAD.. CA10- CA25		
●	VE22 VE22V	● CAD.. CA10- CA25		
●	VF22 VF22V	● CAD.. CA10- CA25		
	VE1	●	●	

Base Mount	Code	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25
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 Snap-on for DIN Rail EN 60715 with face plate for 45 mm standard knock-out.  Snap-on for DIN Rail EN 60715. With face plate for 45 mm standard knock-out. The handle and plate are adjustable in height.		VE2	●	
		VE21	●	CAD.. CA10- CA20
		VE21V		CA25

Mounting Plates for Plaster Depth Boxes acc. to DIN 49073 and ÖNORM E8608	Code	CAD.. CA10- CA25
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	Plaster depth trim, Protection IP 40	UE1	●
	With light, Protection IP 40	UE2	●
	With facility for light addition, Protection IP 40	UE3	●

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Face plates

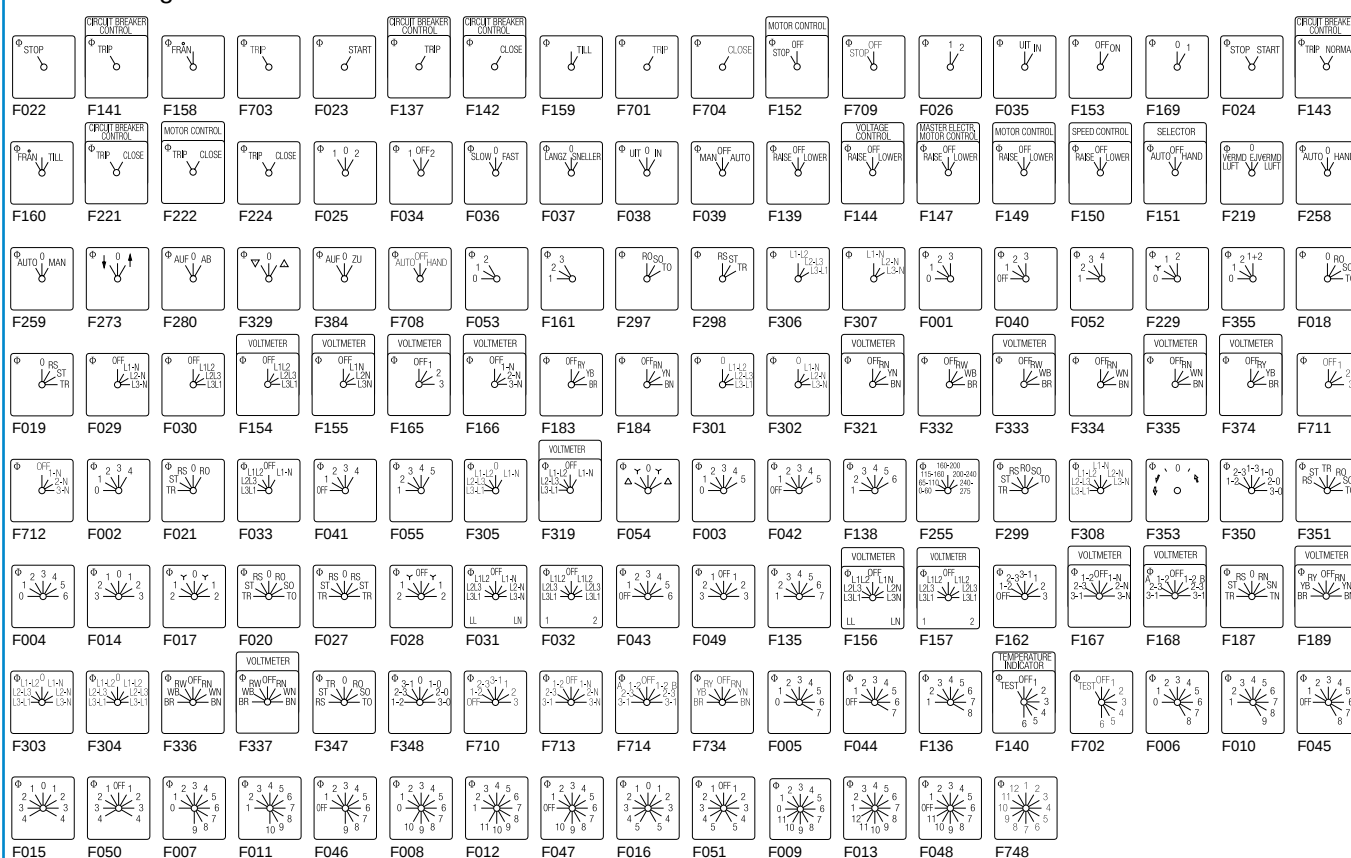


Square and rectangular face plates are available for each size of switch. The face plate consists of a frame and a faceplate having the switch positions which is then embossed with hot-foil backing. The face plate frame is an essential part of the switch and serves as a bearing surface for the handle. If the switch is to be mounted without an face plate we would recommend for size S1, S2 and S3 the handle bearing plate T100-04.

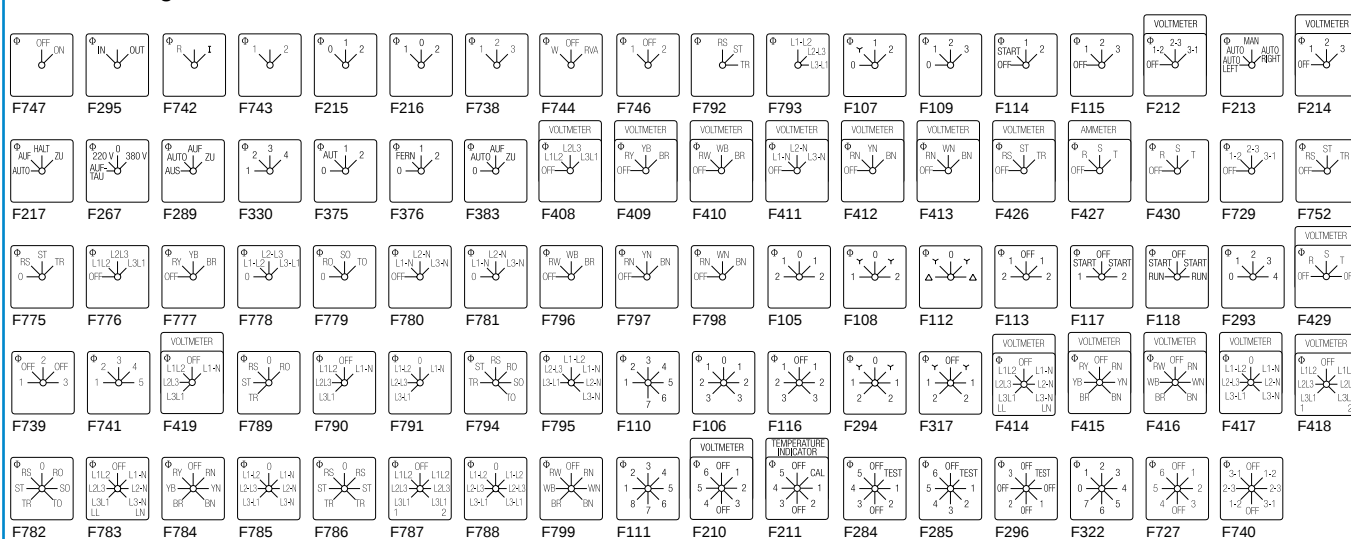
Standard Letterings Available

(Over 500 standard letterings, special letterings upon request.)

30° switching



45° switching



Face plates

60° switching

F070	F087	F088	F089	F133	F197	F198	F232	F243	F247	F263	F268	F310	F311	F323	F328	F352	F367
F379	F380	F470	F754	F072	F163	F164	F192	F193	F196	F230	F231	F234	F244	F257	F262	F264	F282
F288	F291	F313	F382	F441	F705	F721	F722	F750	F757	F758	F075	F076	F098	F220	F223	F356	F357
F377	F723	F071	F073	F080	F081	F085	F086	F090	F091	F092	F093	F094	F104	F194	F235	F237	F239
F240	F241	F249	F260	F269	F274	F281	F290	F292	F312	F314	F315	F316	F324	F331	F344	F354	F358
F359	F364	F370	F371	F373	F381	F385	F442	F444	F469	F732	F735	F759	F077	F100	F101	F102	F309
F342	F343	F361	F362	F363	F365	F366	F078	F191	F325	F326	F720	F074	F082	F096	F097	F195	F724
F256	F079	F083	F084	F095	F099	F185	F190	F199	F233	F236	F238	F242	F283	F725	F730	F731	F736
F737																	

90° switching

F056	F063	F068	F134	F201	F251	F252	F346	F456	F058	F065	F069	F177	F178	F182	F208	F253	F254
F340	F360	F378	F458	F443	F700	F743	F057	F061	F064	F067	F171	F181	F205	F207	F209	F320	F349
F437	F445	F715	F719	F059	F060	F062	F066	F170	F172	F173	F174	F175	F176	F179	F180	F186	F188
F202	F204	F206	F250	F265	F266	F286	F318	F327	F338	F339	F425	F716	F717	F718	F726	F733	F751
F755	F756																

Miscellaneous

F119	F130	F122	F126	F125	F129	F225	F248	F246	F261	F341	F345	F287	F123	F127	F145	F146	F148
F706	F707	F245	F120	F124	F128	F131	F121	F132	F749			F990	F991	F801	F802	F803	F804
F805	F806	F807	F808	F809	F810	F811	F812	F813	F814	F815	F816	F817	F818	F819	F820	F821	F822
F823	F824	F825	F826	F827	F828	F829	F830	F831	F832	F833	F834	F835	F837	F838	F839	F840	F841

¹INTERRUPTEUR PRINCIPAL, OUVERTURE EN POSITION 0 ²INTERRUTTORE GENERALE, APRIRE SOLO CON MANIGLIA SU 0
³INTERRUPTOR PRINCIPAL, ABRIR ARMARIO SOLO EN POS. "0"

Handles

Type	Color	Code	Size				
			S00	S0	S1	S2	S3

Type	Color	Code	Size				
			S00	S0	S1	S2	S3

Black and Red are standard colours. White and Electro-Grey available on request.

R-Handle 	black red white electro-gray	G001 G002 G003 G007	— ● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ●
F-Handle 	black red white electro-gray	G221 G222 G223 G227	● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ● —
S-Handle  S0 S1	black red white electro-gray	G301 G302 G303 G307	— ● ● — — — ● ● — — — ● ● — — — ● ● — —
P-Handle  S0 S1-S3	black red white electro-gray	G211 G212 G213 G217	— ● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ●
Handwheel 	black	G971	— — — — ●

I-Handle  S00 S0-S3	black red white electro-gray	G251 G252 G253 G257	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
B-Handle 	black red white electro-gray	G521 G522 G523 G527	— ● ● — — — ● ● — — — ● ● — — — ● ● — —
L-Handle 	black red white electro-gray	G501 G502 G503 G507	— — ● — — — — ● — — — — ● — — — — ● — —
K-Handle 	black red white electro-gray	G411 G412 G413 G417	— — ● ● ● — — ● ● ● — — ● ● ● — — ● ● ●
O-Handle 	black red white electro-gray	G321 G322 G323 G327	— — ● — — — — ● — — — — ● — — — — ● — —

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International Standards and Approvals

Country	Authority	Mark or Standard	CAD11/12 CA4 CA4-1	CA10 CA11 CA20	CA10B CA11B CA20B	CA25 CA25B	C26 C32 C42	CA40 CA50 CA63	C43 C80 C125	L350/1 L630/1 L1000	C315 C316	L400 L600 L800	L1200 L1600 L2000
USA	Underwriters Laboratories Inc.									●	●	●	●
			●	●	●	●	●	●	●			●	
Canada	UL investigated acc. to CSA		●	●	●	●	●		●	●	●	●	●
										●	●	●	●
			●	●	●	●	●	●	●			●	
Switzerland	Schweizerischer Elektrotechnischer Verein		+	+	+	+	+	+	+	+	+	+	+
Denmark	Danmarks Elektriske Materielkontrol		+	+	+	+	+	+	+	+	+	+	+
Norway	Norges Elektriske Materielkontrol		+	+	+	+	+	+	+	+	+	+	+
Sweden	Svenska Elektriska Materielkontrollanstalten		+	+	+	+	+	+	+	+	+	+	+
Finland	Sähkötar-kastuskeskus		+	+	+	+	+	+	+	+	+	+	+
Austria	Österreichischer Verband für Elektrotechnik		+	+	+	+	+	+	+	+	+	+	+
Federal Republic of Germany	Verband Deutscher Elektrotechniker	VDE 0660 ⁴	+	+	+	+	+	+	+	+	+	+	+
Great Britain	British Standards Institution	BS EN 60947 ⁴	+	+	+	+	+	+	+	+	+	+	+
International Electrical Commission (IEC) Recommendation		IEC 60947 ⁵	+	+	+	+	+	+	+	+	+	+	+
China	China Quality Certification Centre		●	●	●								
Russia Belarus Kazakhstan	Eurasian Conformity		●	●	●	●	●	●	●	+	+	+	+
Russian Federation	Russian Maritime Register of Shipping		●	●	●	●							
Germanischer Lloyd			+	+	+	+	+	+	+	+	+	+	+
Lloyds Register EMEA			+	+	+	+	+	+	+	+	+	+	+

● Switch approved

+ Switch conforms to requirements

+ No approval required

¹Approved under the "Component Program" (UL-Recognized Industrial Component). File No. E35541, Category Control No. NLRV2 (U.S.) and NLRV8 (Canada) resp. File No. E60262, Category Control Number NRNT2 (U.S.) and NRNT8 (Canada).

²Approved under the "Listing Program". File No. E35541, Category Control No. NLRV (U.S.) resp. NLRV7 (Canada).

³Switch types CAD11/CAD12 approved under the "Listing Program". File No. E60262, Category Control No. NRNT (U.S.) resp. NRNT7 (Canada).

⁴It is not required for Industrial Switchgear to bear a symbol but must conform to requirements. By stating the specific standard no. on the product the manufacturer declares that all requirements of the product standard are met.

⁵IEC does not operate an approval scheme.

⁶File No. 13002ass No. 3211-05 resp. 4652-04.

Selection Data

CA4 CA10 CA11 CA20 CA25 C42 C315
CA4-1 CA10B CA11B CA20B CA25B C26 C32 C43 CA40 CA50 CA63 C80 C125 C200-4 C316

Rated Insulation Voltage U_i		IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹ SEV ⁴ UL/Canada CEE/NEMKO min. voltage	V	440	690	690	690	690	690	690	690	690	690	690	690	690	690	690	1000
Rated Impulse Withstand Voltage U_{imp}			kV	4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6/8
Rated Thermal Current I_u/I_{th}		IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	10	20	20	25	32	32	50	63	40	50	63	115	150	200	315	
		SEV ⁴ 380 V	A	10	16	16	25	32	32	40	63	40	50	63	100	160	–	315	
		660 V	A	–	12	12	25	32	32	40	63	40	50	63	–	–	–	315	
		UL/Canada	A	10	20	20	30	30	40	50	65	45	55	65	100	150	–	240	
Rated Operational Current I_e																			
AC-21A Switching of resistive loads, including moderate overloads		IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	10	20	20	25	32	32	40	63	40	50	63	100	150	200	315	
AC-1 Resistive or low inductive loads		SEV ⁴ 380 V	A	10	16	16	25	32	32	40	63	40	50	63	100	160	–	315	
		660 V	A	–	12	12	20	32	32	40	63	40	50	63	–	–	–	315	
AC-22A Switching of combined resistive or low inductive loads including moderate overloads		IEC 60947-3, EN 60947-3 VDE 0660 220 V-500 V part 107 660 V-690 V	A	10	20	20	25	32	32	40	63	40	50	63	100	150	150	315	
			A	–	20	20	25	32	32	40	63	40	50	63	100	125	125	125	
AC-15 Switching of control devices, contactors, valves etc.		IEC 60947-5-1, EN 60947-5-1 VDE 0660 220 V-240 V part 200 380 V-440 V	A	2,5	5	5	8	12	14	16	–	14	16	16	–	–	–	–	
			A	1,5	4	4	5	6	6	7	–	6	7	7	–	–	–	–	
Pilot Duty		UL/Canada ⁴ Heavy	VAC	A300	A300	A600	A600	A300	A600	A600	A600	A600	A600	A600	–	–	–	A600	
Ampere Rating Resistive or low inductive loads		UL/Canada ⁴	A	10	20	20	30	30	40	50	65	45	55	60	100	150	–	240	
Resistive load/motor load		CEE NEMKO	A	4/2	10/6	10/6	16/10	–	25/10	32/10	40/10	–	–	–	63/10	–	–	–	
			A	6/4 ²	10/6	–	20/10	–	–	–	–	–	–	–	–	–	–	–	
Breaking capacity		220 V-240 V	A	50	150	150	200	280	280	380	550	290	330	440	860	1100	1100	2000	
		380 V-440 V	A	50	150	150	200	250	250	360	550	290	330	440	860	1100	1100	2000	
		660 V-690 V	A	–	80	80	125	150	150	270	365	170	200	260	400	490	490	340	
Power loss per contact at I_u Resistance to vibration Resistance to shock			W	0,4/0,9	0,9	0,9	0,9	0,7	1,3	1,3	1,7	1	1,8	2,8	5,8	3,8	6,7	17	
				min. 4 g, 2-100 Hz, 1,6 mm min. 5 g, 6 ms								on request min. 5 g, 30 ms							
Short Circuit Protection																			
Max. fuse size (gG-characteristic)			A	10	25	25	35	35	50	63	80	50	63	63	125	200	200	315	
Rated short-time withstand current (1s-current)			A	60	140	140	280	480	350	800	1000	950	950	950	1300	2000	2000	4200	
DC Switching Capacity⁶																			
No. of series contacts		1 2 3 4 5 6 8																	
Voltage V																			
Resistive loads		24 48 70 95 120 145 190	A	10	20	20	25	32	–	50	–	–	115	–	–	–	–	–	
T ≤ 1 ms		48 95 140 190 240 290 350		6	12	12	20	25	32	40	63	100	150	250	–	–	–	–	
		60 120 180 240 300 360 450		2,5	4,5	4,5	7,5	10	23	27	30	–	–	–	–	–	–	–	
		110 220 330 440 550 660 –		0,7	1	1	1,5	2	6,5	–	–	–	–	–	–	–	–	–	
		220 440 660 – – – –		0,3	0,4	0,4	0,5	0,6	1,2	–	–	–	–	–	–	–	–	–	
		440 660 – – – –		0,2	0,27	0,27	0,3	0,3	0,4	–	–	–	–	–	–	–	–	–	
Inductive loads		24 48 70 95 120 145 190	A	6	12	12	20	25	32	40	63	100	150	250	–	–	–	–	
T = 50 ms		30 60 90 120 150 180 240		3	5	5	9	12	25	30	55	33	50	70	–	–	–	–	
		48 95 140 190 240 290 350		1	2	2	3	3	16	20	–	–	–	–	–	–	–	–	
		60 120 180 240 300 360 450		0,7	1	1	1,5	1,5	11	15	–	–	–	–	–	–	–	–	
		110 220 330 440 550 660 –		0,3	0,4	0,4	0,5	0,5	3,2	3,5	–	–	–	–	–	–	–	–	
Min. Ambient Temperature of Stages				-25 °C (valid only without optional extra, C315/C316 on request)															
Max. Ambient Temperature of Stages^{5,7}		open at 100 % I_u/I_{th} enclosed at 100 % I_{the}		55 °C during 24 hours with peaks up to 60 °C 35 °C during 24 hours with peaks up to 40 °C															

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. ²Valid for CA4 only. ³DC switching capacity applies to ON/OFF switches. Switching capacity for other configurations on request. ⁴International Standards and Approvals, refer to page 43. ⁵For electromagnetic optional extras see additional data in Catalog 101. ⁶Values for switches with spring return on request. ⁷Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

Selection Data

CA4 CA10 CA11 CA20 CA25 C42 C315
CA4-1 CA10B CA11B CA20B CA25B C26 C32 C43 CA40 CA50 CA63 C80 C125 C200-4 C316

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Rated Utilization Category				IEC 60947-3, EN 60947-3 VDE 0660 part 107																			
AC-2	Slip ring motor starting, reversing and plugging, star-delta starting CA4-CA50	3 phase 3 pole	220 V-240 V	kW	2,5	4	4	5,5	7,5	8	10	18,5	10	11	18,5	30	37	37	55				
			380 V-440 V		4,5	7,5	7,5	11	15	15	18,5	30	18,5	22	30	45	55	55	90				
			500 V		–	10	10	15	18,5	18,5	22	40	22	30	40	55	75	75	110				
			660 V-690 V		–	10	10	13	15	15	22	37	22	30	37	55	55	55	55				
AC-3	Direct-on-line starting, star-delta starting CA63-C315	3 phase 3 pole	220 V-240 V	kW	1,5	3	3	4	5,5	5,5	7,5	11	7,5	11	11	15	22	22	37				
			380 V-440 V		2,2	5,5	5,5	7,5	11	11	15	18,5	15	18,5	18,5	30	37	37	55				
			500 V		–	5,5	5,5	7,5	11	11	15	18,5	15	18,5	18,5	30	37	37	55				
			660 V-690 V		–	5,5	5,5	7,5	11	11	15	18,5	15	18,5	22	30	30	30	37				
	1 phase 2 pole	110 V-120 V	kW	0,3	0,6	0,6	1,5	2,2	2,2	2,5	3	2,5	3	3	3,7	5,5	5,5	11					
		220 V-240 V		0,55	2,2	2,2	3	4	4	5,5	6	5,5	6	6	7,5	11	11	22					
		380 V-440 V		0,75	3	3	3,7	5,5	5,5	7,5	11	7,5	11	11	13	18,5	18,5	30					
AC-4	Direct-on-line starting, reversing, plugging and inching	3 phase 3 pole	220 V-240 V	kW	0,37	0,55	0,55	1,5	2,5	2,7	3,7	5,5	3,7	4	5,5	6	10	10	15				
			380 V-440 V		0,55	1,5	1,5	3	5,5	5,5	6	7,5	6	7	7,5	11	15	15	25				
			500 V		–	1,5	1,5	3	5,5	5,5	6	7,5	6	7	7,5	11	15	15	25				
			660 V-690 V		–	1,5	1,5	3	5,5	5,5	6	7,5	6	7,5	9	11	15	15	22				
	1 phase 2 pole	110 V-120 V	kW	0,15	0,3	0,3	0,45	0,75	0,75	1,1	1,2	1,1	1,2	1,2	1,5	2,2	2,2	4					
		220 V-240 V		0,25	0,75	0,75	1,1	1,5	1,5	2,2	2,4	2,2	2,4	2,4	3	4	4	7,5					
		380 V-440 V		0,5	1,5	1,5	2,2	3	3	3,7	4	3,7	4	4	5,5	7,5	7,5	11					
AC-23A	Frequent switching of motors or other high inductive loads	3 phase 3 pole	220 V-240 V	kW	1,8	3,7	3,7	5,5	7,5	7,5	11	15	7,5	11	15	30	37	37	75				
			380 V-440 V		3	7,5	7,5	11	15	15	22	30	18,5	22	30	45	75	75	132				
			500 V		–	7,5	7,5	11	15	15	30	45	18,5	22	30	55	90	90	132				
			660 V-690 V		–	7,5	7,5	11	15	15	22	40	18,5	22	30	45	55	55	37				
	1 phase 2 pole	110 V-120 V	kW	0,37	0,75	0,75	1,5	2,2	2,2	2,5	4	2,2	2,5	4	5,5	11	11	18,5					
		220 V-240 V		0,75	2,5	2,5	3	4	4	5,5	10	4	5,5	10	15	22	22	37					
		380 V-440 V		1,1	3,7	3,7	5,5	7,5	7,5	11	18,5	7,5	11	18,5	22	37	37	55					
Ratings				UL/Canada																			
	Standard motor load DOL-Rating (similar AC-3)	3 phase 3 pole	110 V-120 V	HP	0,75	1,5	1,5	3	5	5	7,5	7,5	7,5	7,5	7,5	10	15	–	30				
			220 V-240 V		1	3	3	7,5	10	10	15	15	15	15	15	20	25	–	75				
			440 V-480 V		–	–	5	10	–	20	25	25	25	25	30	30	40	–	75				
			550 V-600 V		–	–	5	10	–	25	30	30	25	30	30	40	50	–	60				
	1 phase 2 pole	110 V-120 V	HP	0,33	0,5	0,5	1,5	2	2	3	3	3	3	3	5	7,5	–	15					
		220 V-240 V		0,75	1	1	3	5	5	7,5	7,5	7,5	7,5	10	15	–	40						
		277 V		0,75	2	2	3	5	5	7,5	7,5	7,5	10	10	15	–	40						
		440 V-480 V		–	–	2	5	–	10	15	15	15	15	20	25	–	50						
550 V-600 V	–	–	2	5	–	15	20	20	15	20	20	20	25	30	–	50							
	Heavy motor load Reversing-Rating (similar AC-4)	3 phase 3 pole	110 V-120 V	HP	–	0,5	0,5	1	2	2	3	5	–	–	–	7,5	10	–	15				
			220 V-240 V		–	1	1	2	3	3	5	7,5	–	–	–	15	20	–	30				
			440 V-600 V		–	–	3	5	–	10	15	20	–	–	–	25	30	–	40				
1 phase 2 pole	110 V-120 V	HP	–	0,17	0,17	0,33	1,5	1,5	1,5	2	–	–	–	3	5	–	7,5						
	220 V-240 V		–	0,5	0,5	0,75	3	3	3	5	–	–	–	7,5	10	–	15						
	277 V		–	0,6	0,6	1	3	3	3	5	–	–	–	7,5	10	–	15						
Max. Permissible Wire Gage - Use copper wire only																							
	Single-core or stranded wire			mm ² AWG	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x				
					1,5	2,5	2,5	4	6	6	10	16	16	16	16	35	70	95 ¹	185 ¹				
					14	12	12	10	8	8	8	6	6	6	6	2	2/0	–	MCM				
																			350				
	Flexible wire (sleeving in accordance with DIN 46228) Flexible AWG wires (without sleeve)			mm ² AWG	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x				
					1,5	2,5	2,5	4	4	6	6	10	10	10	10	25	50	95 ¹	150 ¹				
					(1)	(2,5)	(2,5)	(2,5)	(4)	(4)	(6)	(10)	(10)	(10)	(10)	(25)	(50)	–	MCM				
					16	14	14	12	10	10	8	6	6	6	6	3	1/0	–	300				

¹Cable lug must accept M8 (C200-4) and M12 (C315/C316) screw. ²The insulation material of the conductor has to be PVC (typical wire codes are H05V-K0,5 ... H07V-K1,5 or H05V-U0,5 ... H07V-U1,5 etc.). Other materials on request. Connected conductors, which have to be disconnected and re-connected again must be cut in order to ensure a proper electrical connection and to prevent a complete cut-off of the wire insulation.

Selection Data										
	L350				L630					
	L351	L400	L600	L631	L800	L1000	L1200	L1600	L2000	

Rated Insulation Voltage U _i		IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹		V	690	690	690	690	690	690	690	690				
		UL/Canada ²		V	600	600	600	600	600	600	600	600				
		min. voltage		V	on request											
Rated Impulse Withstand Voltage U _{imp}				kV	6	6	6	6	6	6	6	6				
Rated Thermal Current I _u /I _{th}		IEC 60947-3, EN 60947-3 VDE 0660 part 107														
Ambient temp. +35 °C during 24 hours with peaks up to +40 °C Ambient temp. +55 °C during 24 hours with peaks up to +60 °C				A	350	500	800	630	1100	1000	1450	1900	2400			
				A	350	500	750	600	950	920	1300	1700	2000			
UL/Canada ²				A	350	400	630	630	800	1000	1200	1600	2000			
Rated Operational Current I _e																
AC-20A	No-load operation	IEC 60947-3, EN 60947-3 VDE 0660 part 107		690 V	A	350	500	800	630	1100	1000	1450	1900	2400		
				Occasional switching under load cos φ 0,8 (AC-20B)	3 phase, 3 pole	220 V-440 V	A	350	500	800	500	1000	630	1200	1200	1200
					and	500 V	A	350	450	500	450	630	500	800	800	800
					1 phase, 2 pole	660 V-690 V	A	315	350	400	360	400	400	400	400	400
AC-21B	Switching of resistive loads, including mo- derate overloads	3 phase, 3 pole	220 V-440 V	A	250	450	500	350	630	400	800	800	800			
		and	500 V	A	250	400	450	315	500	350	630	630	630			
		1 phase, 2 pole	660 V-690 V	A	200	300	350	250	350	300	350	350	350			
Interrupting Rating		UL/Canada ² CSA		600 V	A	200	300	300	200	300	200	300	200	200		
				600 V	A	200	200	200	200	200	200	200	200	200	200	
Rated Utilization Category		IEC 60947-3, EN 60947-3 VDE 0660 part 107														
AC-23B	Occasional switching of motors or other high inductive loads	3 phase	220 V-240 V	kW	45	75	75	45	75	45	75	75	75			
		3 pole	380 V-440 V	kW	90	132	132	90	132	90	132	132	132			
			500 V	kW	110	132	132	110	132	110	132	132	132			
			660 V-690 V	kW	55	55	65	65	65	65	65	65	65	65		
Short Circuit Protection																
Max. fuse size Rated short-time withstand current		(aR-characteristic) (1s-current)		A	400	500	800	630	1100	1000	2x800	2x1000	2x1250			
				A	on request											
Terminals																
		for connection screw			M12	M12	M16	Cable lug or copper bus			M16	2xM16	4xM16			
					M12	M12	M16	M16	M16	M16	M16	2xM16	4xM16			
		length		mm	20	30	40	30	40	40	40	50	50			
Min. Ambient Temperature of Stages Max. Ambient Temperature of Stages ^{3, 4}					-5 °C (-25 °C on request) 55 °C during 24 hours with peaks up to 60 °C, permissible load see Rated Thermal Current.											

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Selection Data	CAD4-1	CAD11	CAD12
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Rated Insulation Voltage U _i		IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107	V	440	600	600		
		SEV ²	V	–	600	600		
		North America	V	300	300	300		
		min. voltage	V	1 ⁷	1	6		
Rated Impulse Withstand Voltage U _{imp}				on request				
Rated Thermal Current I _u /I _{th}		IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	5	6	6		
		SEV ²	A	–	5	5		
		North America	A	5	6	6		
Rated Operational Current I _e	AC-21A	Switching of resistive loads, including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 part 107					
			North America ³					
			1 V/6 V	A	5/2	6/3	–/6	
			12 V/24 V	A	1,2/0,7	2/1	5/5	
			48 V/110 V	A	0,45/0,25	0,8/0,4	4/3	
			220 V/400 V	A	0,15/–	0,2/0,13	2/1,3	
			440 V/500 V	A	0,1/–	0,1/0,08	1/0,8	
	600 V	A	–	0,05	0,5			
	AC-1	Resistive or low inductive loads	SEV ²	1 V/6 V	A	–	5/3	–/5
				12 V/24 V	A	–	2/1	5/5
48 V/110 V				A	–	0,8/0,4	4/3	
220 V/380 V				A	–	0,2/0,13	2/1,3	
440 V/500 V				A	–	0,1/0,08	1/0,8	
600 V				A	–	0,05	0,5	
Power loss per contact at I _u			W	0,4	0,5	0,2		
Short Circuit Protection								
	Max. fuse size	(gG-characteristic)	A	5	6	6		
	Rated short-time withstand current	(1s-current)	A	30	35	50		
DC Switching Capacity ⁵		IEC 60947-3, EN 60947-3 VDE 0660 part 107						
		SEV ²						
		North America ³						
		1 V/6 V	A	3/1,2	4/2,5	–/4		
		12 V/24 V	A	0,7/0,4	1,5/0,8	3/2,2		
		48 V/60 V	A	0,25/0,2	0,3/0,27	1,2/1		
		110 V/220 V	A	0,13/–	0,2/0,1	0,6/0,3		
DC-1	Resistive load T = 1 ms	240 V/500 V	A	0,08/–	0,08/0,03	0,25/0,1		
		600 V	A		0,02	0,1		
Max. Permissible Wire Gage - Use copper wire only								
Single-core or stranded wire				2x	2x	2x		
			mm ²	1,5	2,5	2,5		
			AWG	14	12	12		
Flexible wire (sleeving in accordance with DIN 46228) Flexible AWG wires (without sleeve)				2x	2x	2x		
			mm ²	1,5 (1)	2,5 (2,5)	2,5 (2,5)		
			AWG	16	14	14		
Min. Ambient Temperature of Stages				-25 °C (valid only without optional extra)				
Max. Ambient Temperature of Stages ^{4, 6}				55 °C during 24 hours with peaks up to 60 °C				
				35 °C during 24 hours with peaks up to 40 °C				

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request.

²International Standards and Approvals, refer to page 43. ³Max. 300 V. ⁴For electromagnetic optional extras see additional data in Catalog 101.

⁵Values for switches with spring return on request. ⁶Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

⁷Values with lower voltages on request.

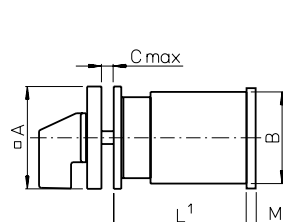
Tightening torque of screws

Type	Tightening torque	
C26	2,5 Nm	22 lb-in
C26L	2,5 Nm	22 lb-in
C26M	2,5 Nm	22 lb-in
C26S	2,5 Nm	22 lb-in
C26X	2,5 Nm	22 lb-in
C32	2,7 Nm	24 lb-in
C32L	2,7 Nm	24 lb-in
C32S	2,7 Nm	24 lb-in
C32X	2,7 Nm	24 lb-in
C42	3 Nm	26,4 lb-in
C42M	3 Nm	26,4 lb-in
C42S	3 Nm	26,4 lb-in
C42X	3 Nm	26,4 lb-in
C43	3 Nm	26,4 lb-in
C80	4 Nm	35 lb-in
C125	4,5 Nm	39,8 lb-in
C200-4	8 Nm	70 lb-in
C315	14 Nm	125 lb-in
CA4	0,6 Nm	5 lb-in
CA4-1	0,6 Nm	5 lb-in
CA4-4	0,6 Nm	5 lb-in
CA4N-1	0,6 Nm	5 lb-in
CA10	0,6 Nm	5 lb-in
CA10-1	0,6 Nm	5 lb-in
CA10B	0,6 Nm	5 lb-in
CA10B-1	0,6 Nm	5 lb-in
CA10L	0,6 Nm	5 lb-in
CA10M	0,6 Nm	5 lb-in
CA10R	0,6 Nm	5 lb-in
CA10S	0,6 Nm	5 lb-in
CA10X	0,6 Nm	5 lb-in
CA10Y	0,6 Nm	5 lb-in
CA11-1	0,6 Nm	5 lb-in
CA11B	0,6 Nm	5 lb-in
CA11B-1	0,6 Nm	5 lb-in
CA20	1,3 Nm	12 lb-in
CA20B	1,3 Nm	12 lb-in
CA20S	1,3 Nm	12 lb-in
CA20X	1,3 Nm	12 lb-in
CA20Y	1,3 Nm	12 lb-in
CA25	1,3 Nm	12 lb-in

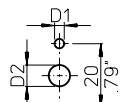
Type	Tightening torque	
CA25B	1,3 Nm	12 lb-in
CA25R	1,3 Nm	12 lb-in
CA25S	1,3 Nm	12 lb-in
CA25X	1,3 Nm	12 lb-in
CA25Y	1,3 Nm	12 lb-in
CA40	1,8 Nm	16 lb-in
CA40C	1,8 Nm	16 lb-in
CA40L	1,8 Nm	16 lb-in
CA40M	1,8 Nm	16 lb-in
CA40S	1,8 Nm	16 lb-in
CA40X	1,8 Nm	16 lb-in
CA50	1,8 Nm	16 lb-in
CA50C	1,8 Nm	16 lb-in
CA50L	1,8 Nm	16 lb-in
CA50M	1,8 Nm	16 lb-in
CA50S	1,8 Nm	16 lb-in
CA50X	1,8 Nm	16 lb-in
CA63	1,8 Nm	16 lb-in
CA63C	1,8 Nm	16 lb-in
CA63L	1,8 Nm	16 lb-in
CA63M	1,8 Nm	16 lb-in
CA63S	1,8 Nm	16 lb-in
CA63X	1,8 Nm	16 lb-in
CAD11	0,8 Nm	7 lb-in
CAD11B	0,8 Nm	7 lb-in
CAD11R	0,8 Nm	7 lb-in
CAD12	0,8 Nm	7 lb-in
CAD12B	0,8 Nm	7 lb-in
CAD12R	0,8 Nm	7 lb-in
CAD4-1	0,4 Nm	3,5 lb-in
L350	25 Nm	220 lb-in
L351	25 Nm	220 lb-in
L400	25 Nm	220 lb-in
L600	25 Nm	220 lb-in
L630	25 Nm	220 lb-in
L631	25 Nm	220 lb-in
L800	25 Nm	220 lb-in
L1000	25 Nm	220 lb-in
L1200	25 Nm	220 lb-in
L1600	25 Nm	220 lb-in
L2000	25 Nm	220 lb-in

[< back to table of contents >](#)

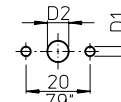
Two or Four Hole Panel Mounting



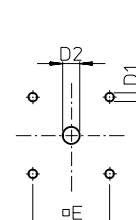
E
for CA4, CA4-1,
CAD4-1



E-V
for CA4, CA4-1,
CAD4-1



E
E-V
ER

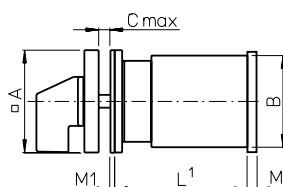


	CA4	CA10 CA11 CAD11	CA20	CA25 ³	CA20B	CA10B CA11B CA25B	C26	C32	C42 ³	C43	CA40 ³ CA50 ³ CA63 ³	C125 C80	C200-4	L switches Size S2	L switches Size S3
A	0 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	64 (88) 2.52	88 (3.46)	88 3.46	88 3.46	130 5.12
B	29.5 1.16	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	55.5x64 2.19x2.52	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5.5 .22	4 .16	5.5 .22	5.5 .22	5.5 .22	7 .28
D1	3.2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	5 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	8-19 .31-.75	8-19 .31-.75	8-19 .31-.75	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	13-30 .51-1.18	10-22 .39-.87	13-30 .51-1.18	13-30 .51-1.18	13-30 .51-1.18	15.5-25 .61-.98
E	-	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	104 4.09
M²	-	4.5 .18	4.5 .18	5.5 .22	5 .20	5.5 .22	7.5 .30	7.5 .30	7.5 .30	7.5 .30	7.6 .30	9.4 .37	9.4 .37	27.5 1.08	11.9 (32) .47 (1.26)

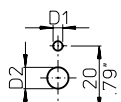
²M, additional length for mounting ER only

³Dimensions in () for ER mounting plate only

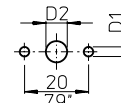
⁴Dimensions in () for L800, L1200, L1600



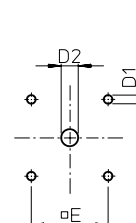
EF
for CA4, CA4-1,
CAD4-1



EF-V
for CA4, CA4-1,
CAD4-1



EF
EF-V
ERF



	CA4	CA10 CA11 CAD11	CA20	CA25 ³	CA20B	CA10B CA11B CA25B	C26	C32	C42 ³	C43	CA40 ³ CA50 ³ CA63 ³	C125 C80	C200-4	L switches Size S2	L switches Size S3
A	30 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	130 5.12
B	29.5 1.16	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	55.5x64 2.19x2.52	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5.5 .22	4 .16	5.5 .22	5.5 .22	5.5 .22	7 .28
D1	3.2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	5 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	15-19 .59-.75	15-19 .59-.75	15-19 .59-.75	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	26-30 1.02-1.18	19-22 .75-.87	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	22-25 .87-.98
E	-	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	104 4.09
M²	-	4.5 .18	4.5 .18	5.5 .22	5 .20	5.5 .22	7.5 .30	7.5 .30	7.5 .30	7.5 .30	7.6 .30	9.4 .37	9.4 .37	27.5 1.08	11.9 (32) .47 (1.26)
M1	1 .04	-	-	-	-	-	-	-	-	-	-	-	-	-	-

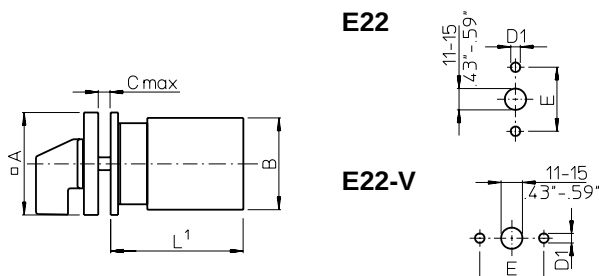
²M, additional length for mounting ERF only

³Dimensions in () for ERF mounting plate only

⁴Dimensions in () for L800, L1200, L1600

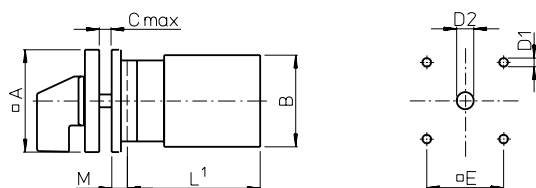
¹see page 56

Two or Four Hole Panel Mounting



	CA10	CA11	CAD11	CAD12	CA20	CA25
A	48	48	48	1.89	1.89	1.89
B	43	45	46	1.69	1.77	1.81
C	4	4	4	.16	.16	.16
D1	5	5	5	.20	.20	.20
E	30	30	30	1.17	1.17	1.17

EG EGF

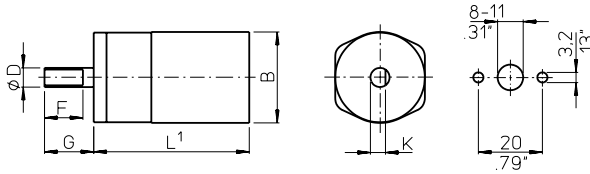


	CA10	CA11	CAD11	CAD12	CA20	CA25	C26	C32	C42	CA40	CA50	CA63	C80	C125	C200-4
														L switches	Size S2
A	64	64	64	2.52	2.52	2.52	88	88	88	88	3.46	3.46	130	130	5.12
B	43	45	46	1.69	1.77	1.81	58	60	66	55,5x64	84	88	84	88	3.46
C	4	4	4	.16	.16	.16	5,5	5,5	5,5	5,5	7	7	7	7	.28
D1	5	5	5	.20	.20	.20	6	6	6	6	7	7	7	7	.28
D2	10-22	10-22	10-22	.39-.87	.39-.87	.39-.87	13-30	13-30	13-30	13-30	15,5-25	15,5-25	15,5-25	15,5-25	.61-.98
D2	19-22	19-22	19-22	.75-.87	.75-.87	.75-.87	26-30	26-30	26-30	26-30	22-25	22-25	22-25	22-25	.87-.98
E	48	48	48	1.89	1.89	1.89	68	68	68	68	104	104	104	104	4.09
M	6,7	6,7	6,7	.26	.26	.26	0,5	0,5	0,5	0,5	2	2	2	2	.08

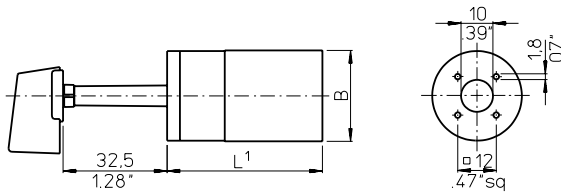
¹see page 56

Four Hole Panel Mounting or Mosaic Mounting

E9 E91



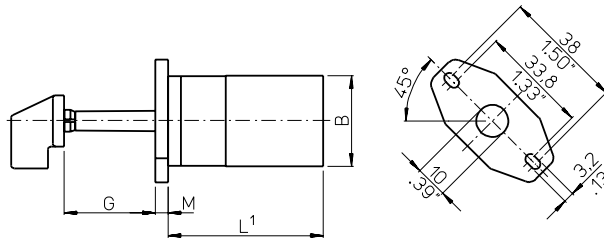
E92



CA4
CA4
CAD4-1
29,5
1.16

B

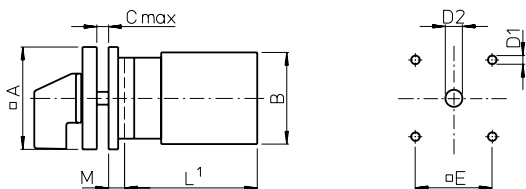
E93 E94



CA4
CA4-1
CAD4-1

	E9	E91	E92	E93	E94
D	6 .24	6,35 .25	-	-	-
F	12 .47	12,8 .50	-	-	-
G	15,4 .61	17,4 .69	32,5 1.28	28,5 1.12	32,5 1.28
K	4,7 .19	5,5 .22	-	-	-
M	-	-	-	4 .16	-

KN1 KD1 KN2

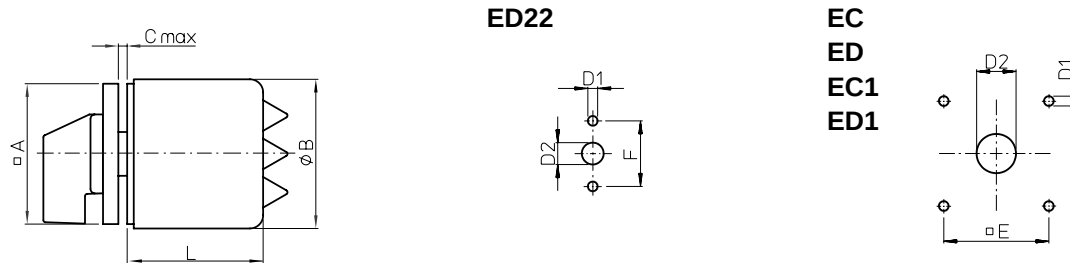


KN2	CA10 CA11 CAD11 CAD12	CA20	CA25
A	48 1.89	48 1.89	48 1.89
B	43 1.69	45 1.77	46 1.81
C	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20
D2	8-19 .31-.75	8-19 .31-.75	8-19 .31-.75
E	36 1.42	36 1.42	36 1.42
M	5,2 .20	5,2 .20	5,2 .20

KN1 KD1	CA10 CA11 CAD11 CAD12	CA20	CA25	CA10B CA11B CA20B	CA25B	C26	C32	C42	CA40 CA50 CA63
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	55,5x64 2.19x2.52
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87
E	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
M	4,7 .19	4,7 .19	4,7 .19	7 .28	7 .28	7 .28	7 .28	7 .28	7 .28

¹see page 56

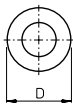
Two or Four Hole Panel Mounting



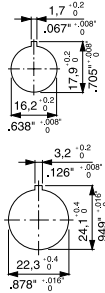
		CA10 CAD11 CAD12		CA11		CA20		CA25		CA10B		CA20B CA11B		CA25B		C26	
		EC ED	ED22	EC ED	ED22	EC ED	ED22	EC ED	ED22	EC ED	EC1 ED1	EC ED	EC1 ED1	EC ED	EC1 ED1	EC ED	EC1 ED1
EC/EC1	A	48 1.89	48 1.89	48 1.89	48 1.89	64 2.52	48 1.89	64 2.52	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
	B	50 1.97	74 2.91	50 1.97	74 2.91	68 2.68	74 2.91	68 2.68	74 2.91	88 3.46	74 2.91	88 3.46	74 2.91	88 3.46	74 2.91	88 3.46	74 2.91
	C	4 .16	-	4 .16	-	4 .16	-	4 .16	-	4 .16	-	4 .16	-	4 .16	-	4 .16	-
	D	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
ED/ED1/ ED22	D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
	D2	8-19 .31-.75	-	8-19 .31-.75	-	10-22 .39-.87	-	10-22 .39-.87	-	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87
	D2	15-19 .43-.75	11-15 .43-.59	15-19 .43-.75	11-15 .43-.59	19-22 .75-.87	11-15 .43-.59	19-22 .75-.87	11-15 .43-.59	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87
	E	36 1.42	-	36 1.42	-	48 1.89	-	48 1.89	-	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
ED/ED22	F	-	30 1.17	-	30 1.17	-	30 1.17	-	30 1.17	-	-	-	-	-	-	-	-
	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	53,5 2.10	74,3 2.93	53,5 2.10	74,3 2.93	-	74,3 2.93	-	74,3 2.93	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90
	2	53,5 2.10	74,3 2.93	53,5 2.10	74,3 2.93	-	74,3 2.93	-	74,3 2.93	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90
Stages L	3	67,5 2.66	74,3 2.93	67,5 2.66	94,3 3.71	-	74,3 2.93	-	94,3 3.71	-	73,7 2.90	-	93,7 3.69	-	93,7 3.69	-	93,7 3.69
	4	67,5 2.66	74,3 2.93	81,5 3.21	94,3 3.71	-	94,3 3.71	-	94,3 3.71	-	93,7 3.69	-	93,7 3.69	-	93,7 3.69	-	93,7 3.69
	5	81,5 3.21	94,3 3.71	-	-	104 4.10	-	104 4.10	-	-	93,7 3.69	104 4.10	-	127 5	-	114,5 4.50	-
	6	81,5 3.21	94,3 3.71	-	-	-	-	-	-	104 4.10	-	127 5	-	139,5 5.47	-	127 5	-
	7	-	-	-	-	-	-	-	-	127 5	-	139,5 5.47	-	152 5.98	-	139,5 5.47	-
	8	-	-	-	-	-	-	-	-	127 5	-	152 5.98	-	164,5 6.48	-	152 5.98	-
	9	-	-	-	-	-	-	-	-	139,5 5.47	-	164,5 6.48	-	177 6.97	-	164,5 6.48	-
	10	-	-	-	-	-	-	-	-	152 5.98	-	177 6.97	-	-	-	177 6.97	-
	11	-	-	-	-	-	-	-	-	152 5.98	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	164,5 6.48	-	-	-	-	-	-	-

Single Hole Mounting or Base Mounting

FS1...
FT1...
FT3...



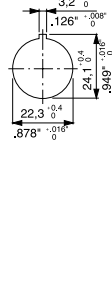
FS1...
FS2...
FS4...



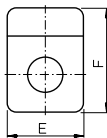
FH3...
FS2...
FT2...
FT4...



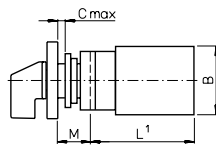
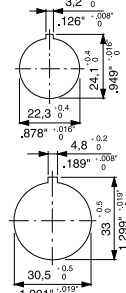
FH3...
FH4...
FT1...
FT2...
FT6...



FH4...
FS4...
FT6...



FT3...
FT4...



A/E

FH3...

FH4...

B

C

D

F

M

FH4...

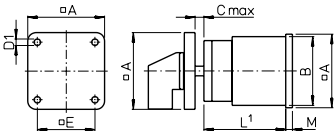
FH3...

FH4...

CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25
30 1.18	48 1.89	48 1.89	48 1.89
-	64 2.52	64 2.52	64 2.52
-	64 2.52	64 2.52	64 2.52
28 1.10	43 1.69	45 1.77	46 1.81
5 .20	6 .24	6 .24	6 .24
29.5 1.16	39 1.54	39 1.54	39 1.54
39 1.54	59 2.32	59 2.32	59 2.32
-	78.5 3.09	78.5 3.09	78.5 3.09
12.5 .49	18.2 .72	18.2 .72	18.2 .72
-	25.2 .99	25.2 .99	25.2 .99
-	25.2 .99	25.2 .99	25.2 .99

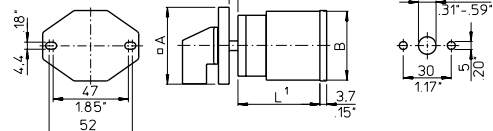
VE

VE-V



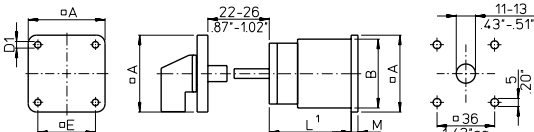
VE22

VE22V



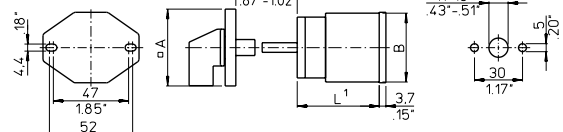
VF

VF-V



VF22

VF22V



	CA10 CA11 CAD11 CAD12	CA20	CA25 ²	CA10B CA11B CA20B	CA25B	C26	C32	CA42 ²	C43	CA40 ² CA50 ² CA63 ²	C125 C80	C200-4	L switches Size S2	L switches Size S3
A	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	128 5.04
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	55.5x64 2.19x2.52	84 3.30	88 3.46	88 3.46	126 4.96
C	10.5 .41	10.5 .41	10.5 .41	13.5 .53	13.5 .53	13.5 .53	13.5 .53	13.5 .53	16 .63	13.5 .53	16 .63	16 .63	16 .63	19.3 .76
D1	4.1 .16	4.1 .16	4.1 .16	4.1 .16	4.1 .16	4.1 .16	4.1 .16	5.4 .21	5.4 .21	5.4 .21	5.4 .21	5.4 .21	5.4 .21	7 .28
D2	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	6 .24	5 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D3	8-19 .31-.75	8-19 .31-.75	8-19 .31-.75	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	13-30 .51-1.18	10-22 .39-.87	13-30 .51-1.18	13-30 .51-1.18	13-30 .51-1.18	15.5-25 .61-.98
E	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	104 4.09
M	2.2 .09	2.2 .09	3.2 .13	2.5 .10	2.5 .10	5 .20	5 .20	5 .20	7 .28	5.1 .21	8.9 .35	8.9 .35	27 1.06	11.4 (31.9) .45 (1.25)

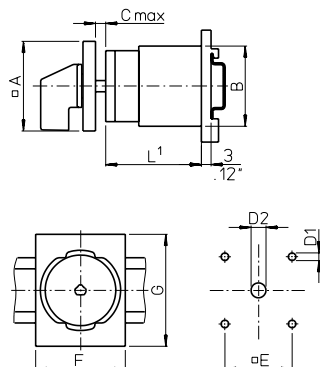
²Dimensions in () for revertive mounting plate

³Dimensions in () for L800, L1200, L1600

¹see page 56

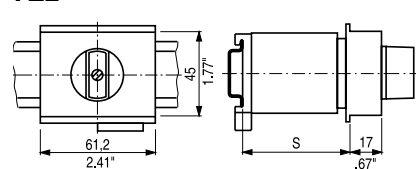
Base Mounting

VE1

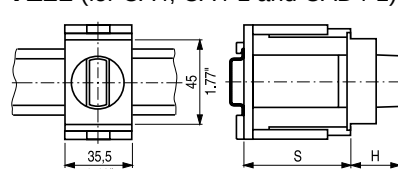


	CA10 CA11 CAD11 CAD12	CA20	CA25	CA10B CA11B CA20B	CA25B	C26	C32	C42	CA40 CA50 CA63
A	48 1.89	48 1.89	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	55,5x64 2.19x2.52
C	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53	13,5 .53	13,5 .53	13,5 .53
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
E	36 1.42	36 1.42	36 1.42	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
F	48 1.89	48 1.89	48 1.89	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76
G	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36

VE2

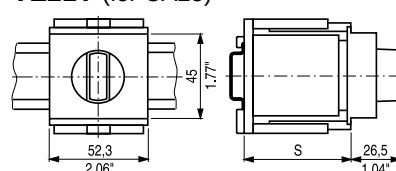


VE21 (for CA4, CA4-1 and CAD4-1)



VE21 (for CA10-CA20)

VE21V (for CA25)



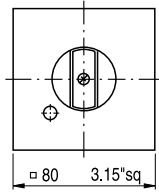
	VE2					VE21, VE21V				
	CA10 CAD11 CAD12	CA11 CA20 CL10	CA25	Max. no. of stages	S_{min.}	H	CA4 CAD4-1	CA10 CAD11 CA11	CA20	CA25
S = 46 1.81	3	1	-		44 1.73	21 .83	1/2	1/2	1/2	1
S = 50 1.97	3	1	1		46 1.81	26,5 1.04	3	3	-	2
S = 61 2.40	4	2	2		54 2.13	26,5 1.04	4	-	-	-
S = 67 2.64	5	2	2		56 2.20	-	-	-	3	3
S = 69 2.70	5	3 ²	3		60 2.36	-	-	-	-	3
					62 2.44	26,5 1.04	5	-	-	-
					66 2.60	-	-	4/5	-	-
					68 2.68	-	-	-	4	-
					70 2.76	26,5 1.04	6	-	-	4
					74 2.91	-	-	6	-	4

¹see page 56 ²not available for switch type CA20

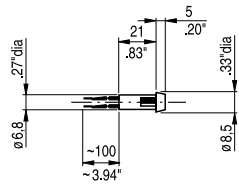
Dimensions mm
 inch

Wall Mounting, Face plates and Additional Length

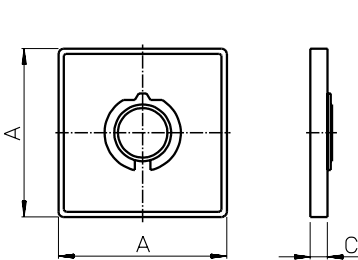
UE1
UE2
UE3



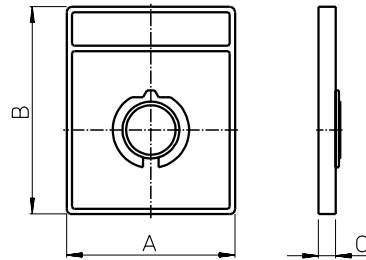
Lamp



Face plates for mounting E, EF, ER, ERF, EG, EGF, KN1, KD1, KN2, EC, EC1, ED, ED1, VE, VE1, VF



Size	A	C
S00	30 1.18	5,5 .22
S0	48 1.89	6,3 .25
S1	64 2.52	7,4 .29
S2	88 3.46	8,5 .33
S3	130 5.12	11,5 .45

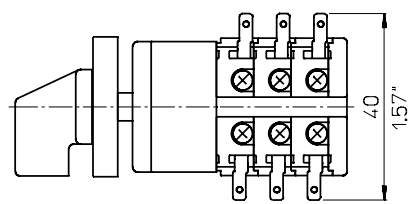


Size	A	B	C
S00	30 1.18	39 1.54	5,5 .22
S0	48 1.89	59 2.32	6,7 .26
S1	64 2.52	78 3.07	7,4 .29

Additional length for amendment (page 6)

Amendment		CAD11 CAD12	CA10 CA11 CA20 CA25	C26	C32	C42	CA40 CA50 CA63
B	S0 switches with latching mechanism size S1	5,4 .21	-	-	-	-	-
C	S1 switches with latching mechanism size S2	-	-	9,2 .36	9,2 .36	-	8,2 .32
S	with snap action	-	17,3 .68	12,2 .48	12,2 .48	12,2 .48	12,2 .48

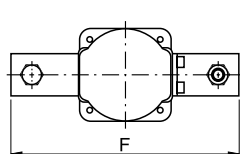
Quick connects for switches CA4-4



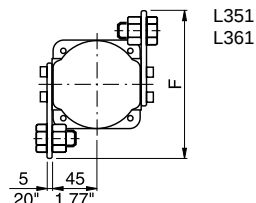
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Additional Length

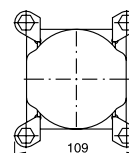
Terminal lugs for switches C200-4-, C315, C316 and L switches



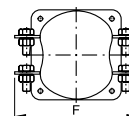
L350
L630
L1200



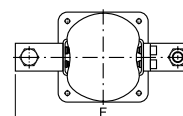
L351
L361



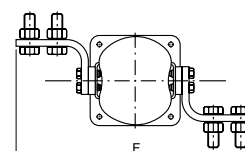
C200-4



C315
C316
L400
L600



L800
L1200
L1600



L2000

	L350	L630	L1000	L351	L631	C315 C316	L400	L600	L800 L1200	L1600 L2000
F	190 7.48	220 8.66	230 9.06	138 5.43	148 5.83	150 5.91	180 7.09	208 8.19	256 10.08	326 12.83

Length L

Stages	CA4 CA4-1 CAD4-1	CA10 CAD 1 CAD 2	CA11	CA20	CA25	CA10B	CA11B	CA20B	CA25B	C26	C32	C42	C43	CA40 CA50 CA63	C80	C125 C200-4 L switches Size S2	C315 L switches Size S3
1	30 1.18	33,5 1.32	36,7 1.44	37,7 1.48	39 1.51	38,9 1.53	42,1 1.66	43,1 1.70	44,4 1.75	42 1.65	46,8 1.84	50,8 2.00	59 2.32	42,5 1.67	61,5 2.42	67,5 2.66	78,6 3.09
2	38 1.50	43 1.69	49,4 1.94	50,4 1.98	53 2.09	48,4 1.91	54,8 2.16	55,8 2.20	58,4 2.30	54,7 2.15	64,3 2.51	72,3 2.85	80,5 3.17	55,2 2.17	88,0 3.46	100 3.94	117,2 4.61
3	46 1.81	52,5 2.07	62,1 2.44	63,1 2.48	67 2.64	57,9 2.28	67,5 2.66	68,5 2.70	72,4 2.85	67,4 2.65	81,8 3.22	93,8 3.69	102 4.02	67,9 2.67	114,5 4.51	132,5 5.22	155,8 6.13
4	54 2.13	62 2.44	74,8 2.94	75,8 2.98	81 3.19	67,4 2.65	80,2 3.16	81,2 3.20	86,4 3.40	80,1 3.15	99,3 3.91	115,3 4.54	123,5 4.86	80,6 3.17	141 5.55	165 6.50	194,4 7.65
5	62 2.44	71,5 2.81	87,5 3.44	88,5 3.48	95 3.74	76,9 3.03	92,9 3.66	93,9 3.70	100,4 3.95	92,8 3.65	116,8 4.60	136,8 5.39	145 5.71	93,3 3.67	167,5 6.59	197,5 7.78	233 9.17
6	70 2.76	81 3.19	100,2 3.94	101,2 3.98	109 4.29	86,4 3.40	105,6 4.16	106,6 4.20	114,4 4.50	105,5 4.15	134,3 5.29	158,3 6.23	166,5 6.56	106 4.17	194 7.64	230 9.06	271,6 10.69
7	78 3.07	90,5 3.56	112,9 4.44	113,9 4.48	123 4.84	95,9 3.78	118,3 4.66	119,3 4.70	128,4 5.05	118,2 4.65	151,8 5.98	179,8 7.08	188 7.40	118,7 4.67	220,5 8.68	262,5 10.33	310,2 12.21
8	86 3.39	100 3.94	125,6 4.94	126,6 4.98	137 5.39	105,4 4.15	131 5.16	132 5.20	142,4 5.60	130,9 5.15	169,3 6.67	201,3 7.93	209,5 8.25	131,4 5.17	247 9.72	295 11.61	348,8 13.73
9	94 3.70	109,5 4.31	138,3 5.44	139,3 5.48	151 5.94	114,9 4.52	143,7 5.66	144,7 5.70	156,4 6.15	143,6 5.65	186,8 7.36	222,8 8.77	231 9.09	144,1 5.67	273,5 10.77	327,5 12.89	387,4 15.25
10	-	119 4.68	151 5.94	152 5.98	165 6.50	124,4 4.90	156,4 6.16	157,4 6.20	170,4 6.70	156,3 6.15	204,3 8.04	244,3 9.62	252,2 9.54	156,8 6.17	300 11.81	360 14.17	426 16.77
11	-	128,5 5.06	163,7 6.44	164,7 6.48	179 7.05	133,9 5.27	169,1 6.66	170,1 6.70	184,4 7.25	169 6.65	221,8 8.73	265,8 10.46	274 10.79	169,5 6.67	326,5 12.85	392,5 15.45	464,6 18.29
12	-	138 5.43	176,4 6.94	177,4 6.98	193 7.60	143,4 5.65	181,8 7.16	182,8 7.20	198,4 7.80	181,7 7.15	239,3 9.42	287,3 11.31	295,5 11.63	182,2 7.17	353 13.90	425 16.73	503,2 19.81

Notes:

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The Range of “Blue Line” Switchgear

Technical literature covering the following products is available on request.

	Catalog Number
Main Switches and Main Switches with Emergency Function 16 A-315 A Maintenance Switches 20 A-315 A Switch Disconnectors 20 A-315 A According to IEC 60947-3, EN 60947-3, VDE 0660 part 107, IEC 60204, EN 60204 and VDE 0113	500
C, CA and CAD Switches 10 A-315 A and L Switches 350 A-2400 A C, CA and CAD switches are designed for universal application. They are recommended for instrument, isolator, double-throw and motor control. L switches are designed for load and off-load applications. They are used to switch resistive or low inductive loads.	100
Optional Extras and Enclosures The complete product line, a large number of optional extras is available, including door interlocks, push-pull devices, cylinder and padlock attachments, control and indicator devices, AC motor drives, as well as enclosures, both insulated and metal.	101
A and AD Switches 6 A-25 A A and AD switches have 4 contacts in each switching stage. These switches provide an extensive range of switch functions and require a minimum mounting depth. Up to 24 switching positions are possible, with availability of 48 contacts per 12 stage switch column.	110
CG, CH and CHR Switches 10 A-25 A Ultra compact CG, CH and CHR switches are ideally suited for control and instrumentation applications. Switch terminals are “finger-proof” and conveniently accessible for wiring and are delivered open. All CG4 switches offer specially designed gold plated contacts or H-bridges with “cross-wire” contact systems, which facilitates their use in electronic circuitry and chemically aggressive environments.	120
DH, DHR, DK and DKR Switches 6 A-16 A DH, DHR, DK and DKR switches incorporate unique corrosion resistant contacts that permit operation on system voltage as low as 1 V. They have fully enclosed and protected contacts which can be operated either by rotary and/or lateral handle movement. D switches are used in calibration and semiconductor circuits. They are also used for relay and contactor control.	130
X Switches 200 A-630 A X switches can be applied for load, tap and gang switching duties. They incorporate 6 contacts in each switching stage. Their compact design provides a minimum length dimension for mounting purposes.	140
KG Switches 20 A-315 A and KH and KHR Switches 16 A-80 A KG, KH and KHR switches are excellent circuit interruptors. They have high through fault and fault making capacities and are especially designed for use as isolators and safety switches for machine tools, distribution panels and switchboards. KG ON/OFF switches offer unusually high dimensioned air and creepage distances between terminals which are designed for time saving “straight-line” wiring. ON/OFF switches are available with up to 8 poles and double-throw switches are available with up to 4 poles.	150
Push Buttons and Pilot Lights, 22,5 mm Ø A complete range of state-of-the-art push buttons and pilot lights represent an ideal combination of functional security and economical efficiency in a modular design.	302

SALES AND SERVICE ORGANIZATION

Australia

Kraus & Naimer Pty. Ltd.
379 Liverpool Road, ASHFIELD, N.S.W. 2131
Tel: +61 2 9797-7333, Fax: 0092
salesaus@krausnaimer.com

Austria

Kraus & Naimer GmbH
Schumannsgasse 35
1180 WIEN
Tel: +43 1 404 06-0, Fax: 404 06-190
aso@krausnaimer.com

Belgium, Luxembourg

Kraus & Naimer B.V.
Ikaros Business Park
Ikaroslaan 2
1930 ZAVENTHEM
Tel: +32 2 757-0141, Fax: 1640
sales.be@krausnaimer.com

Brazil

Central and South America
Kraus & Naimer Ind. Com. Ltda.
Rua Santa Monica, 1061
Parque Industrial San Jose
06715-865 Cotia - SP
Tel: +55 11 2198-1288, Fax: 1251
knbrasil@krausnaimer.com.br

Canada

Kraus & Naimer Ltd.
219 Connie Crescent, Unit: 13A
CONCORD, Ontario, L4K 1L4
Tel: +1 905 738-1666, Fax: 9327
salescan@krausnaimer.com

Cyprus

ELECTROMATIC CONSTRUCTIONS LTD.
72, Evagoras Pellikarides Str., 2235 LATSIA-Nicosia
P. O. Box 12630, 2251 LATSIA-Nicosia
Tel: +357 2 48 41 41, Fax: 48 57 47

Czech Republic

OBZOR, výrobní družstvo Zlín
Na Slanici 378
76413 ZLÍN
Tel: +420 57 7195-111/-153 (Techn. Supp.)
Fax: +420 57 7195-152/-138
ots@obzor.cz

Denmark

THIIM A/S
Transformervej 31
2730 HERLEV
Tel: +45 4485 8000, Fax: 8005
thiim@thiim.com

Finland

Kraus & Naimer Oy
Kiitoradankuja 8
01530 VANTAA
Tel: +358 9 825-424-0, Fax: 424-10
myynti@krausnaimer.com

France

Kraus & Naimer s.a.s.
33, rue Bobillot
75013 PARIS
Tél: +33 1 58 40 80 80, Fax: 45 80 91 19
ventes@krausnaimer.com

Germany

Kraus & Naimer GmbH
Wikingerstraße 20-28, 76189 KARLSRUHE
Postfach 10 01 24, 76231 KARLSRUHE
Tel: +49 721 59 88-0, Fax: 59 28 28
sales.ger@krausnaimer.com

Great Britain

Kraus & Naimer Ltd.
115 London Road
NEWBURY/BERKSHIRE RG14 2AH
Tel: +44 1635 262626, Fax: 37807
sales-uk@krausnaimer.com

Greece

KALAMARAKIS-SAPOUNAS S. A.
Ionias & Neromilou Str., P. O. Box 46566
13671 ACHARNES/ATHENS
Tel: +30 2 10 240-6000-6, Fax: 240-6007
kalamarakis.sapounas@ksa.gr

Hungary

GANZ, Schalter- u. Gerätefabrik
X. Kőbányai út 41/c, Postfach 87
1475 BUDAPEST
Tel: +36 1 261-5479, Fax: 4685
ganzkk@ganzkk.hu

Iceland

JOHAN RÖNNING LTD.
Klettagarðar 25
104 REYKJAVÍK
Tel: +354 5200 800
ronning@ronning.is

India

BLISS ELECTRICALS Pvt. Ltd.
SA42 A&B, 2nd Flr, Lake City Mall,
Kapurbavdi Junction,
THANE (W) - 400 607
Tel: +91-22-25368609
kane.shriram@blisselectricals.com

Republic of Ireland

Kraus & Naimer Ltd.
4235 Atlantic Avenue
Westpark Business Campus
Shannon, Co. Clare
Tel: +353 61 704700, Fax: 471084
sales-ie@krausnaimer.com

Italy

Kraus & Naimer s.r.l.
Via Terracini, 9
24047 TREVIGLIO (BG)
Tel: +39 0363-30 11 12, Fax: 30 21 13
SalesItaly@krausnaimer.com

Japan

Kraus & Naimer Ltd.
Yoshiwada Building 2F
1-11-6 Hamamatsucho
Minato-Ku, TOKYO 105-0013
Tel: +81 3 3436-6151, Fax: 6325
sales-jpn@krausnaimer.com

Mexico

JC Ingeniería y Control, SA de CV.
Ángel Gavino 30.
C. Satélite, C. Medicos,
Naucalpan Edo. de Mexico, C.P. 53100
Tel. (+52 55) 55 62 75 77, Fax. 55 62 04 34
ventas@cingenieriacontrol.com

Middle East - UAE

Branch Office, **Kraus & Naimer Pte. Ltd.**
SAIF Zone, P. O. Box 121607,
Sharjah, UAE
Tel: +971 6 557 8886
Fax: +971 6 557 8088
uae@krausnaimer.com

Netherlands

Kraus & Naimer B.V.
Wegtersweg 38-40, Postbus 199
7556 BR HENGEL0 (Ov.)
Tel: +31 74 291-9441, Fax: 8380
sales.nl@krausnaimer.com

New Zealand

Kraus & Naimer Ltd.
42 Miramar Avenue, WELLINGTON 6022
P. O. Box 15-009, WELLINGTON 6243
Tel: +64 4 380-9888, Fax: 9877
sales-nz@krausnaimer.com

Norway

Kraus & Naimer AS
Hjalmar Brantings vei 8, P. O. Box 21, Økern
0508 OSLO
Tel: +47 22 64 44 20, Fax: 65 39 49
ordre.no@krausnaimer.com

Poland

ASTAT sp. z o.o.
ul. Dąbrowskiego 461
60451 POZNAN
Tel: +48 61 848-8871/72, Fax: 8276
info@astat.com.pl

Portugal

ELECTRICOL-DAMAS, FERREIRA & DAMASCENO, LDA.
Apartado 1063, S. Ant. Cavaleiros
2670 LOURES
Tel: +351 21 989-8939, Fax: 988-6464
electricol@electricol.pt

Singapore

Kraus & Naimer Pte. Ltd.
Blk 115A, Commonwealth Drive
#03-17/23
SINGAPORE 149 596
Tel: +65 6473-8166, Fax: 8643
sgp@krausnaimer.com

Slovenia

SCHRACK Technik d.o.o.
Pameče 175
2380 Slovenj Gradec
Tel: +386 2 883 92 00, Fax: +386 2 884 34 71
m.abeln@schrack.si

Republic of South Africa

Kraus & Naimer Pty. Ltd.
7 Village Crescent, Linbro Village
Linbro Business Park, SANDTON 2065
P. O. Box 511, KELVIN 2054
Tel: +27 11 608-6060, Fax: 608-2874
salesZAF@krausnaimer.com

Spain

Kraus & Naimer B.V.
Tel: +34 662 696 014
sales.es@krausnaimer.com

Sweden

Kraus & Naimer AB
Dr. Widerströms Gata 11, FRUÅNGEN
Box 42097, 126 14 STOCKHOLM
Tel: +46 8 97 00 80, Fax: 97 87 33
order.se@krausnaimer.com

Switzerland

AWAG Elektrotechnik AG
Sandbühlstraße 2, Postfach
8604 VOLKETSCHIL
Tel: +41 44 908 19 19, Fax: 19 99
info@awag.ch, www.awag.ch

Turkey

KARDEŞ ELEKTRİK SANAYİ VE TİCARET ANONİM ŞİRKETİ
Beşyol, Eski Londra Asfaltı-6
34295 İSTANBUL-Sefaköy
Tel: +90 212 624-9204, Fax: 592-4810
info@unalkardes.com.tr

USA

Kraus & Naimer Inc.
760 New Brunswick Road
SOMERSET, NJ 08873
Tel: +1 732 560-1240, Fax: 8823
salesusa@krausnaimer.com



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Contact us:

www.krausnaimer.com