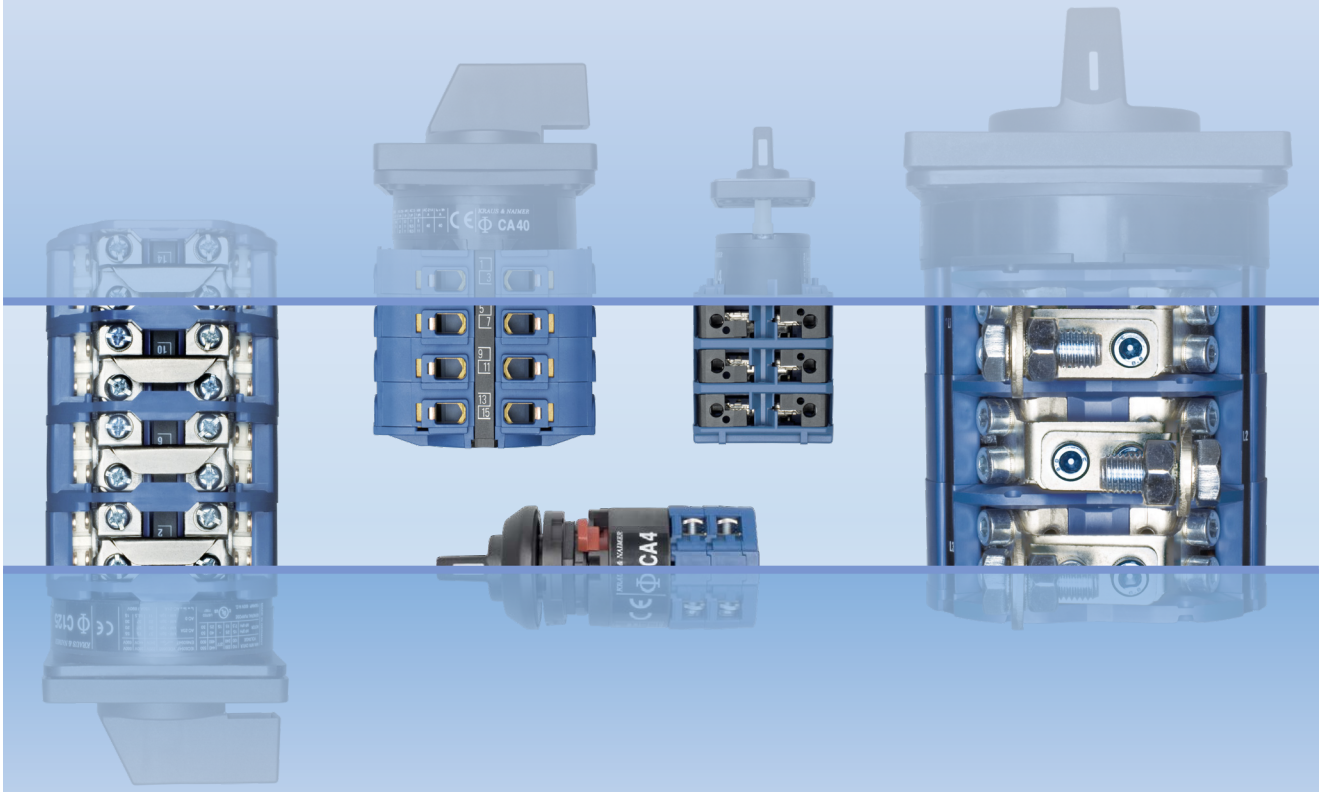
Kraus & Naimer

Catalog 100
03 / 2026

Control and Load Switches for higher Capacities

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



Kraus & Naimer

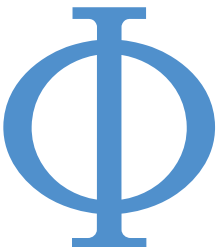
The development of the Blue Line rotary switch and motor starter product ranges is based on more than hundred years experience by Kraus & Naimer in the design and manufacture of electrical switchgear. Kraus & Naimer pioneered the introduction of the cam operated rotary switch and continues to be recognized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

BLUE LINE

Blue Line products are protected by numerous patents through-out 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

Contents

	Page
Construction Data	4
Dimensions and Nominal Ratings	5
How to order	6, 7
Switch Function and Configuration	
C, CA and CAD Switches 10 A-315 A	
ON/OFF Switches	9
Double-throw Switches	10-12
General Application Switches	12
Coding Switches	13
Multi-step Switches	14-16
Voltmeter Switches	17-18
Ammeter Switches	19-21
Volt-ammeter Switches	21
Control Switches	21, 22
Motor Switches	23-25
L Switches 350 A-2400 A	
ON/OFF Switches	26, 27
Double-throw Switches	28, 29
Multi-step Switches	30-32
Types of Mounting	
Panel Mounting	33-37
Base Mounting	38
Wall Mounting	39
Face Plates	40, 41
Handles	42
International Standards and Approvals	43
Technical Data	44-48
Dimensions	
Panel Mounting	49-53
Base Mounting	53, 54
Wall Mounting	55
Overall Switch Lengths	55, 56
Blue Line Switchgear: Summary	58

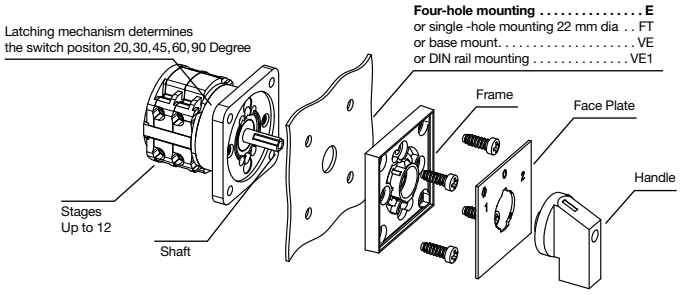
Construction Data

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 DGUV V3. 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.

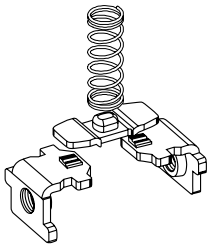
If a positive manual operation or a higher DC rating is required, many of these switches can be fitted with a snap action latching mechanism - suffix „S“ - to the switch type.

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.



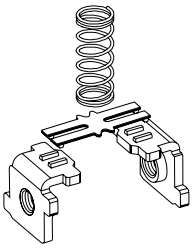
Special Contact Systems

CA4/CA4-1



High contact reliability by multiple cross-point contacts, electronic compatible.

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	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)

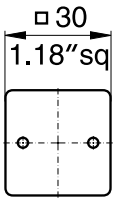
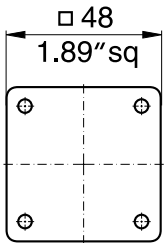
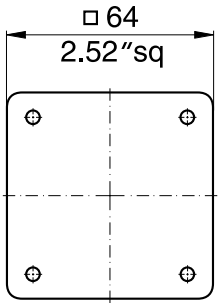
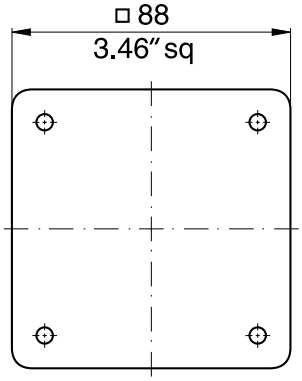
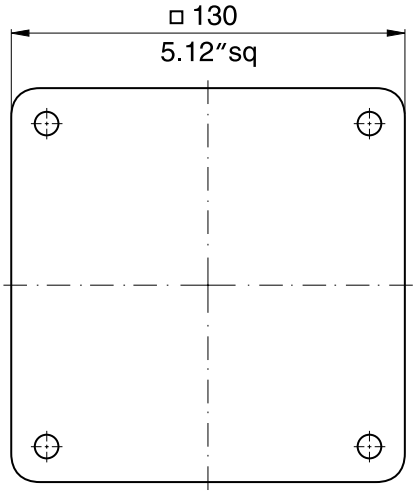
C Switches

L Switches

Above illustrates the standard terminal positions.

< back to table of contents >

< back to table of contents >

Switch Size	Type	According to IEC 60947-3/VDE 0660 part 107			
		Insulation Voltage[1]	Thermal Current	Motor Rating 3 x 380 V-440 V	
		U_i	I_u/I_{th}	AC-23	AC-3
		V	**A**	**kW**	**kW**
S00 	**CA4**	440	10	3	2,2
	CA4-1	440	10	3	2,2
	CAD4-1	440	5	-	-
S0 	**CA10**	690	20	7,5	5,5
	CA11	690	20	7,5	5,5
	CA20	690	25	11	7,5
	CA25	690	32	15	11
	CAD11	600	6	-	-
	CAD12	600	6	-	-
S1 	**CA10B**	690	20	7,5	5,5
	CA11B	690	20	7,5	5,5
	CA20B	690	25	11	7,5
	CA25B	690	32	15	11
	C26	690	32	15	11
	C32	690	50	22	15
	C42	690	63	30	18,5
	CA40	690	40	18,5	15
	CA50	690	50	22	18,5
	CA63	690	63	30	18,5
S2 	**C43**	690	63	30	18,5
	C80	690	115	45	30
	C125	690	150	75	37
	C200-4	690	200	75	37
	L350	690	350	90	37
	L351	690	350	90	37
	L630	690	630[2]	90	37
	L631	690	630[2]	90	37
	L1000	690	1000[2]	90	37
S3 	**C315**	690	315	132	55
	C316[3]	1000	315	132	55
	L400	690	500	132	55
	L600	690	800[2]	132	55
	L800	690	1100[2]	132	55
	L1200	690	1450[2]	132	55
	L1600	690	1900[2]	132	55
	L2000	690	2400[2]	132	55

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

[1]Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. [2]Ambient temperature 35 °C max. [3]Additional 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	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
-6	with ring cable lug	C26-6, C32-6, C42-6, C80-6, C125-6
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, CA25L, C26L
M	with lockout-relay with manual release for std. sw.	CA10M, CA25M, C26M, C42M
X	with power failure release	CA10X, CA20X, CA25X, C26X, C32X, C42X
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.**

Handles, Face Plates and Optional Extras

The handles for standard switches shown on pages 8-32 are suitable for mounting units with four hole mounting. Alternative types of handles available are illustrated on page 42, and mounting units on pages 31-37.
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.
The large number of optional extras and enclosures is covered in Catalog **101**.

Switch Size

Blue Line switches are available in sizes S00, S0, S1, S2 and S3. These size codes indicate the dimensions of the mounting, the face plate and the handle, as well as the size of optional devices and enclosures.
Page 5 lists these sizes and the various switch types they include.

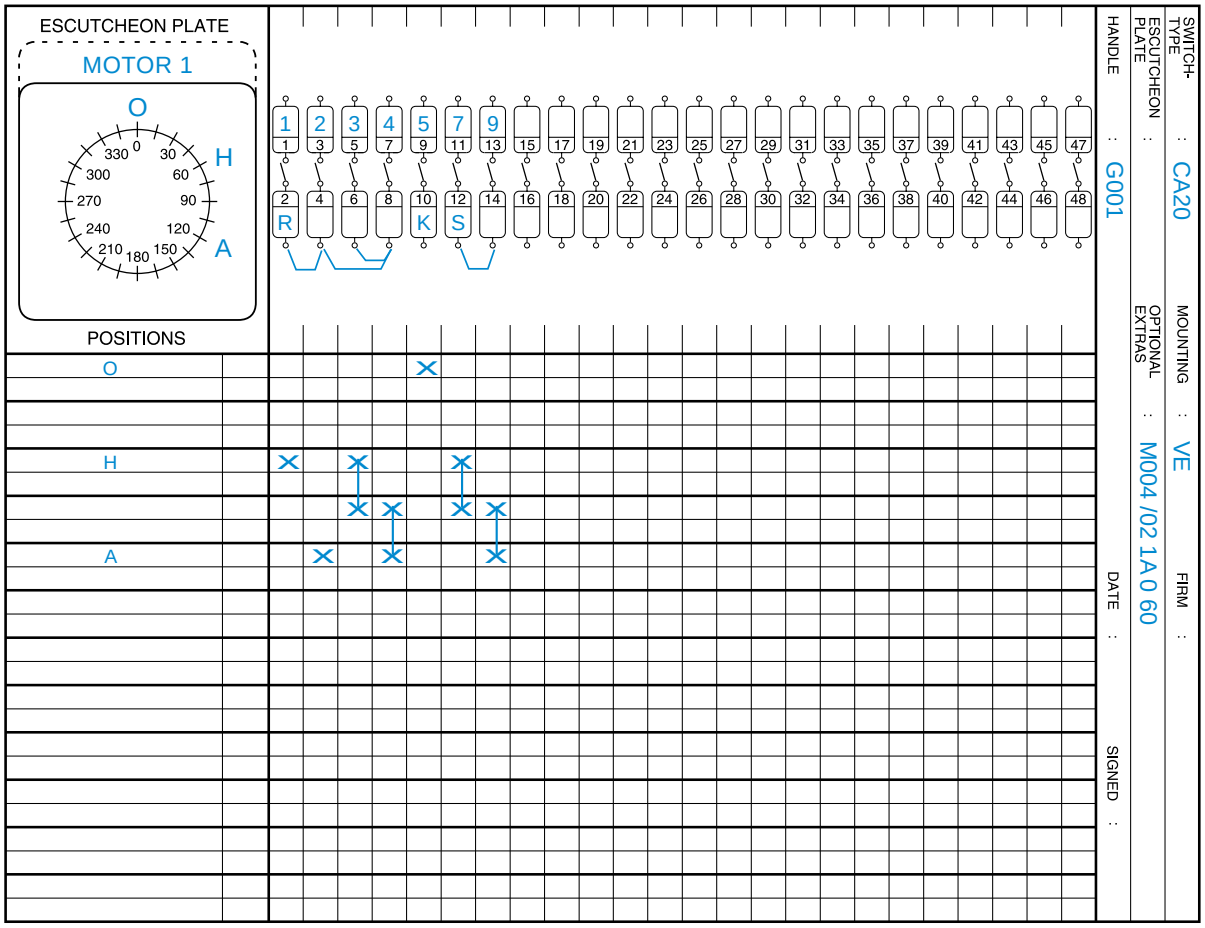
[1]Technical data on request. [2]Additional length for switches with B, C, S, amendments refer page 54.

< back to table of contents >

Ordering of Special Switches and Face Plates

When ordering special switches and face plates it is advisable to use our order form, as illustrated. The customer's requirements are shown in blue as an example.

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.



Order forms are available on request.

< back to table of contents >

Notes:

< back to table of contents >

< back to table of contents >

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

ON/OFF Switches with 60° Switching

Dimensions p. 56

Function	Escutch. Plate	Code	Stages	Connection Diagram
1 pole	F070	A200	1	1-12 pole
2 pole		A201	1	
3 pole		A202	2	
4 pole		A203	2	
4 pole 1 pole preclose 6°[1]		WAA653	2	4 pole 1 pole preclose 6°
5 pole		WAA341	3	
6 pole		A342	3	
7 pole		A343	4	
8 pole		A344	4	
8 pole 2 pole preclose 6°[1]		WAA654	4	8 pole 2 pole preclose 6°
9 pole		WAA345	5	
10 pole		A346	5	
11 pole		WAA347	6	
12 pole		A348	6	

ON/OFF Switches with 90° Switching

Function	Escutch. Plate	Code	Stages	Connection Diagram
1 pole contacts	F056	A290	1	1, 2, 3, 4, 5 and 6 pole
2 pole preclose 30°		A291	1	
3 pole		A292	2	
4 pole		A324	2	
4 pole 1 pole preclose 60°[1]		A293	2	
4 pole 3 pole preclose 30°		WAA327	2	
5 pole contacts		WAA325	3	
6 pole preclose 30°		A326	3	
3 pole 360° rotation	F062	WAA208	2	

ON/OFF Switches with 30° Switching

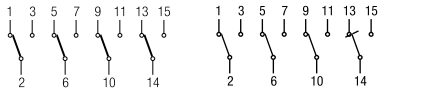
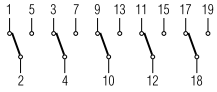
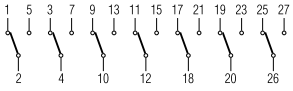
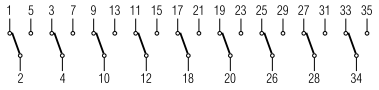
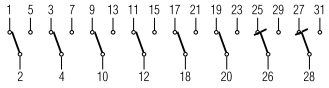
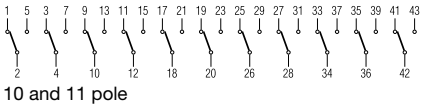
Function	Escutch. Plate	Code	Stages	Connection Diagram
1 pole	F169	WAA100	1	1-4 pole
2 pole		WAA101	1	
3 pole		WAA102	2	
4 pole		WAA103	2	
1 pole with spring return	F153	A204	1	1-4 pole
2 pole with spring return		A205	1	
3 pole with spring return		WAA206	2	
4 pole with spring return		WAA207	2	

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

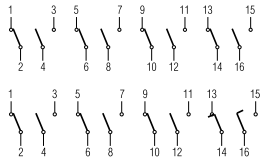
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram

Double-throw Switches without „OFF“ 60° Switching

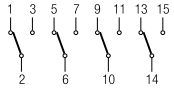
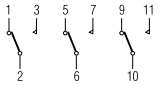
Dimensions p. 56

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram
1 pole	F072	●	●	●	●	A220	1	 1-4 pole; 4 pole 1 pole preclose 6°
2 pole		●	●	●	●	A221	2	
3 pole		●	●	●	●	A222	3	
4 pole		●	●	●	●	A223	4	
4 pole 1 pole preclose 6°[2]		●	●	●	●	WAA673	4	
5 pole		●	●	●	●	A369	5	 5 pole
6 pole		●	●	●	●	A370	6	 6 and 7 pole
7 pole		●	●	●	●	A371	7	
8 pole		●	●	●	●	A372	8	 8 and 9 pole
8 pole 2 pole preclose 6°[2]		●	●	●	●	WAA972	8	 8 pole 2 pole preclose 6°
9 pole		●	●	●	●	WAA373	9	 10 and 11 pole
10 pole		●	●	●	●	WAA374	10	
11 pole		●	●	●	●	WAA375	11	
12 pole		●	●	●	●	WAA376	12	12 pole

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

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram
1 pole	F072	●	●	●	●	A720	1	 1-4 pole; 4 pole 1 pole preclose 6°
2 pole		●	●	●	●	A721	2	
3 pole		●	●	●	●	A722	3	
4 pole		●	●	●	●	A723	4	
4 pole 1 pole preclose 6°[2]		●	●	●	●	WAA973	4	
1 pole with spring return	F026	●	●	●		A795	1	1 pole mit Rückzug

Double-throw Switches without „OFF“ 30° Switching

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram
1 pole	F026		●			WAA120	1	 1-4 pole
2 pole			●			WAA121	2	
3 pole			●			WAA122	3	
4 pole			●			WAA123	4	
1 pole with spring return	F026	●	●	●		A295	1	 1-3 pole
2 pole with spring return		●	●	●		A296	2	
3 pole with spring return		●	●[1]	●		WAA297	3	

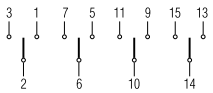
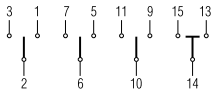
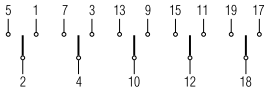
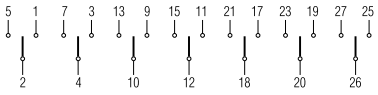
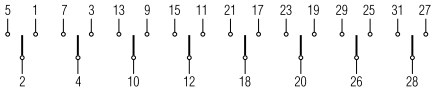
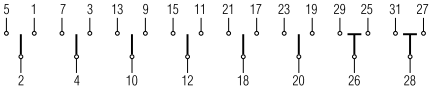
[1]not available for switch type CA25 [2]for use in a three phase four-wire system with switched neutral

< back to table of contents >

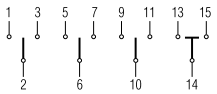
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram

Double-throw Switches with Center „OFF“ 60° Switching

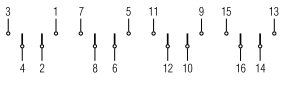
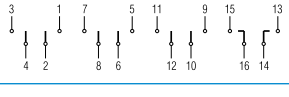
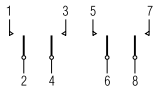
Dimensions p. 56

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
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]	F071					A210 A211 A212 A213 WAA913 A361 A362 WAA363 WAA364 WAA664	1 2 3 4 4 5 6 7 8 8	 1-4 pole  4 pole 1 pole preclose 6°  5 pole  6 and 7 pole  8 pole  8 pole 2 pole preclose 6°

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

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
1 pole 2 pole 3 pole 4 pole 1 pole preclose 60°[3]	F057				[1]	A218 A219 WAA299 WAA294	1 2 3 4	 1-4 pole

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

Function	Escutch. Plate	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6°[3]	F071					A710 A711 A712 A713 WAA963	1 2 3 4 4	 1-4 pole  4 pole 1 pole preclose 6°
1 pole with spring return 2 pole to center	F025				[2]	A714 A715	1 2	 1 and 2 pole

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

< back to table of contents >

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

Double-throw Switches with Spring Return to Center

Dimensions p. 56

1 pole with spring return 2 pole to center 3 pole	F025				[2] [3]	A214 A215 A216	1 2 3	1-3 pole
1 pole with spring return 2 pole from left to center 3 pole	F261					A320 A321 A322	1 2 3	1-3 pole

General Application Switches

1 pole 2 Gang 2 pole Switching sequence: 3 pole 0, A, A+B	F075					A310 A312 WAA314	1 2 3	1 pole 2 pole 3 pole
1 pole 3 Gang 2 pole Switching sequence: 3 pole 0, A, A+B, A+B+C	F001					A311 WAA313 WAA315	2 3 5	1 pole 2 pole 3 pole
1 pole 2 Gang 2 pole Series switching 3 pole Switching sequence: 0, A, B, A+B	F001					WAA330 WAA331 WAA332	1 2 3	1 pole 2 pole 3 pole
2 pole 2 Gang Series-parallel Switching Switching sequence: 0, A+B series, A, A+B parallel	F001					WAA339	2	

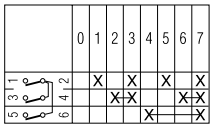
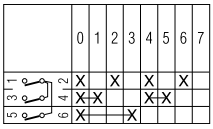
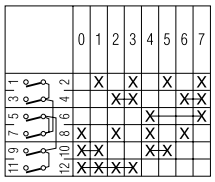
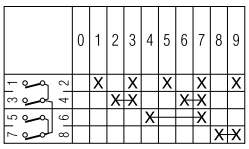
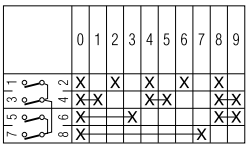
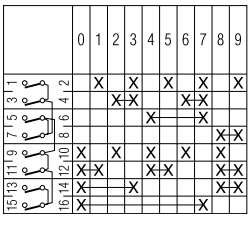
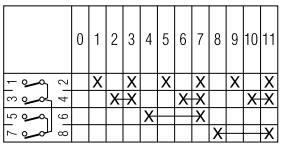
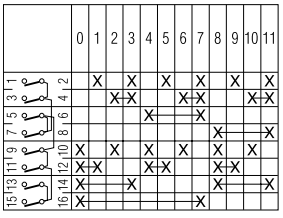
[1]not available for switch type CA25 [2]not available for switch type C315 [3]available only up to switch type CA63

< back to table of contents >

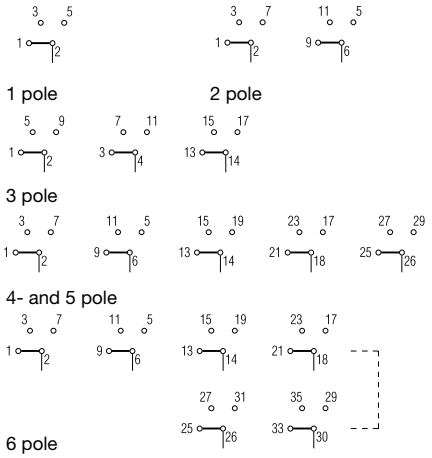
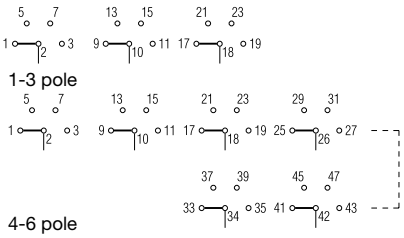
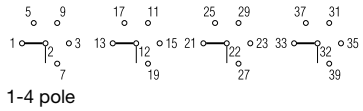
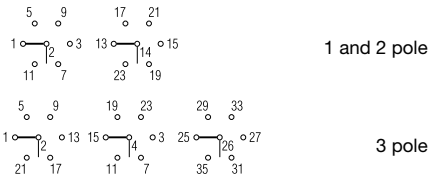
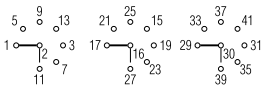
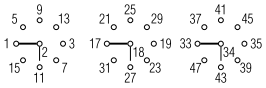
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CA10 CA11 CA12	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram

Coding Switches/Binary Code

Dimensions p. 56

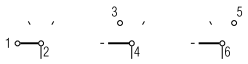
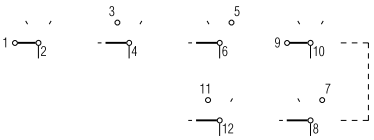
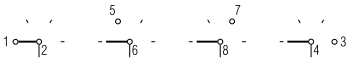
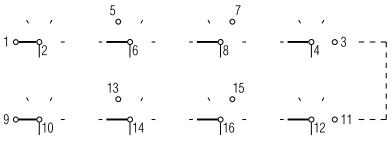
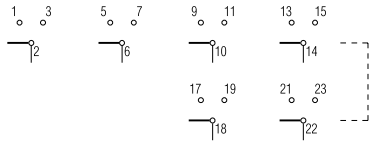
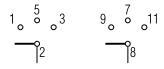
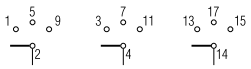
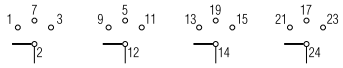
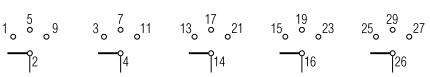
0 - 7 360° rotation	F322					A540	2	
0 - 7 complement 360° rotation	F322					WAA541	2	
0 - 7 + complement 360° rotation	F322					WAA542	3	
0 - 9	F007					A550	2	
0 - 9 complement	F007					WAA551	2	
0 - 9 + complement	F007					WAA552	4	
0 - 11 360° rotation	F009					A543	2	
0 - 11 + complement 360° rotation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

< back to table of contents >

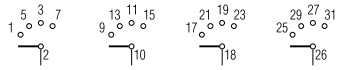
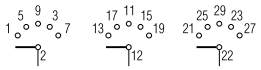
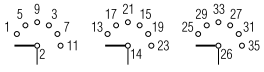
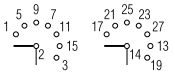
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches without „OFF“								Dimensions p. 56
1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole	F076					A230 A250 A270 A476 WAA484 WAA489	2 3 5 6 8 9	 1 pole 2 pole 3 pole 4- and 5 pole 6 pole
1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole	F077					A231 A251 A271 A477 WAA485 WAA490	2 4 6 8 10 12	 1-3 pole 4-6 pole
1 pole 5 Step 2 pole 3 pole 4 pole	F078					A232 A252 WAA272 WAA478	3 5 8 10	 1-4 pole
1 pole 6 Step 2 pole 3 pole	F079					A233 WAA253 WAA273	3 6 9	 1 and 2 pole 3 pole
1 pole 7 Step 2 pole 3 pole	F110					WAA234 WAA254 WAA274	4 7 11	 1-3 pole
1 pole 8 Step 2 pole 3 pole	F111					WAA235 WAA255 WAA275	4 8 12	 1-3 pole
1 pole 9 Step	F010					WAA236	5	
1 pole 10 Step	F011					WAA237	5	
1 pole 11 Step	F012					WAA238	6	
1 pole 12 Step 1 pole 360° rotation	F013				[1]	WAA239 WAA639	6 6	

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

< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches without „OFF“ with electrically isolated contacts Dimensions p. 56								
1 pole 3 Step	F076					A730	2	 1 pole
2 pole						A750	3	 2 pole
1 pole 4 Step	F077					A731	2	 1 pole
2 pole						A751	4	 2 pole
Multi-step Switches with „OFF“								
1 pole 2 Step 2 pole 3 pole 4 pole 5 pole 6 pole	F075					A240 A260 A280 WAA480 WAA486 WAA491	1 2 3 4 5 6	 1-6 pole
1 pole 3 Step 2 pole 3 pole 4 pole 5 pole	F109					A241 A261 A281 WAA481 WAA487	2 3 5 6 8	 1 and 2 pole  3 pole  4 pole  5 pole

< back to table of contents >

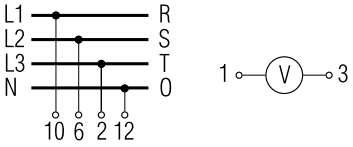
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches with „OFF“ Dimensions p. 56								
1 pole 4 Step 2 pole 3 pole 4 pole	F002					A242 WAA262 WAA282 WAA482	2 4 6 8	 1-4 pole
1 pole 5 Step 2 pole 3 pole	F003					A243 WAA263 WAA283	3 5 8	 1-3 pole
1 pole 6 Step 2 pole 3 pole	F004					A244 WAA264 WAA284	3 6 9	 1-3 pole
1 pole 7 Step 2 pole	F005					WAA245 WAA265	4 7	1 pole  2 pole
1 pole 8 Step	F006					WAA246	4	
1 pole 9 Step	F007					WAA247	5	
1 pole 10 Step	F008					WAA248	5	
1 pole 11 Step 1 pole 360° rotation	F009					WAA249 WAA649	6 6	

< back to table of contents >

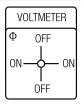
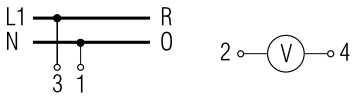
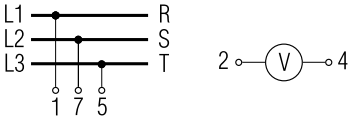
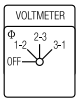
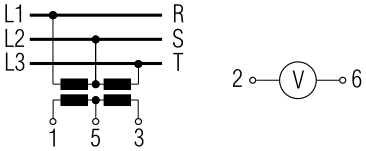
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CA10- CA25	CAD..	CA10B- CA25B	Code	Stages	Connection Diagram

Voltmeter Switches without „OFF“

Dimensions p. 56

3 phase 3 wire	F792					A023	2	
3 phase 3 wire 3 phase to phase and phase to neutral	F794					A025	3	

Voltmeter Switches with „OFF“

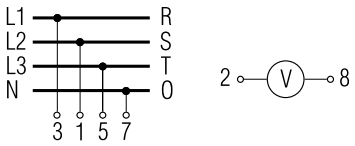
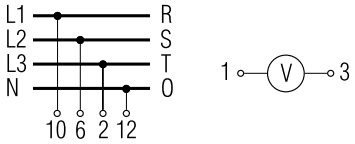
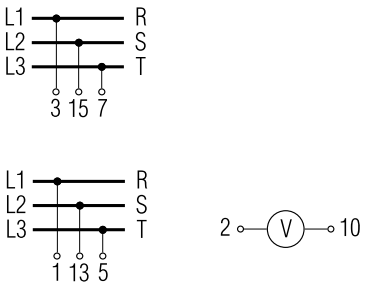
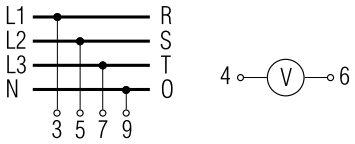
2 pole 360° rotation	 F170-PRL					WAA002	1	
3 phase 3 wire	F775					A004	2	
	 F212-PRL					WAA011	2	

< back to table of contents >

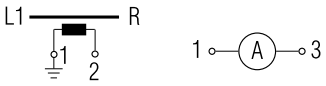
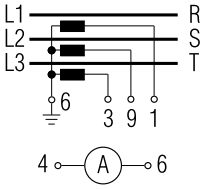
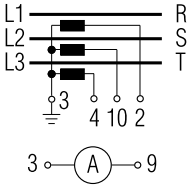
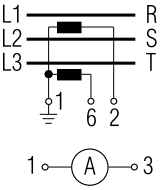
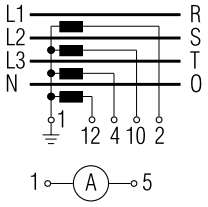
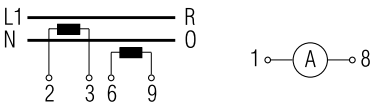
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CA10- CA25	CAD..	CA10B- CA25B	Code	Stages	Connection Diagram

Voltmeter Switches with „OFF“

Dimensions p. 56

3 phase to neutral	F779					WAA005	2	
3 phase to phase and 3 phase to neutral	F782					A007	3	
2 separate 3 phase with center „OFF“	F786					WAA008	4	
3 phase and 1 phase to neutral	F789			[1]		WAA010	3	

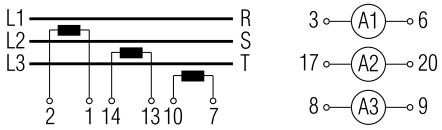
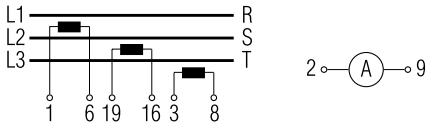
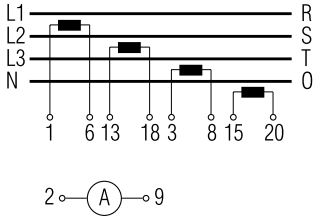
< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63 C32	C43- C125	Code	Stages	Connection Diagram
Ammeter Switches								
Single pole with one current transformer	F058					WAA046	1	
Single pole with 3 current transformers without „OFF“	F181-PRL					WAA017	3	
Single pole with 3 current transformers with „OFF“ 360° rotation	F059					A048	3	
Single pole with 2 current transformers (3 readings)	F172-PRL			[1]		WAA021	2	
Single pole with 4 current transformers	F060					WAA036	4	
2 pole 2 current transformers	F057					WAA037	3	

Dimensions p. 56

[1] available only up to switch type CA25B

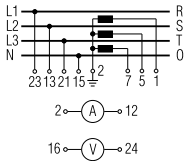
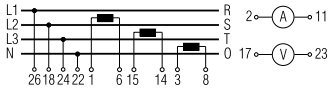
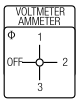
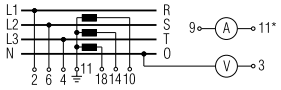
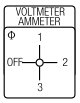
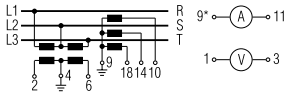
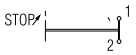
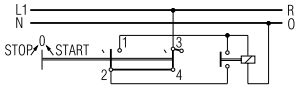
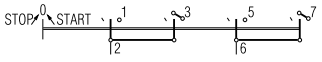
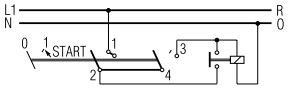
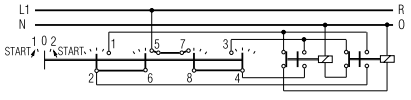
< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63- C42	C43- C125	Code	Stages	Connection Diagram
Ammeter Switches								
2 pole 3 current transformers	AMMETER F181-PRL			[1]		WAA019	5	
	F059					A038	5	
2 pole 4 current transformers	F060					WAA039	6	

[1]available only up to switch type CA25B

Dimensions p. 56

< back to table of contents >

Function	Escutch. Plate	Type/Griff CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- C43 CA40- CA63	Code	Stages	Connection Diagram
Volt-ammeter Switches								Dimensions p. 56
3 phase - phase to phase 3 current	F101					WAA027	6	
	F077				[1]	WAA028	7	
3 phase voltage 3 phase current 4 wire	 F174-PRL				[1]	WAA033	5	
3 phase voltage 3 phase current 3 wire	 F174-PRL				[1]	WAA035	5	
Control Switches								
Stop switch	F022				[1]	WAA174	1	
Start switch	F023				[1]	A175	1	
Stop start switch single pole	F024				[1]	A176	1	
Stop start switch 2 pole	F024					WAA183	2	
Stop start switch with spring return from start to run	F119					A178	1	
Stop start switch with spring return to run for 2 units	F121				[1]	WAA177	2	

[1] available only up to switch type CA25B

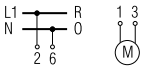
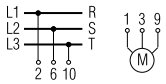
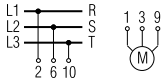
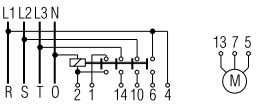
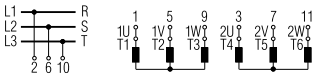
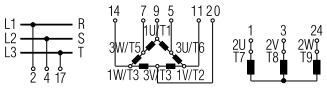
< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- C43 CA40- CA63	Code	Stages	Connection Diagram
Control Switches								
Stop start switch with spring return to run with contactor interlock contactors for 2 units	F121					WAA182	2	
Motor voltage control switch	F144-PRL					WAA150	2	
Control Switches with electrically isolated contacts								
Stop start switch single pole	F024				[4]	A789	1	
Stop start switch with spring return to 1	F119				[4]	A791	1	
Stop start switch with spring return to run for 2 units	F121				[4]	WAA790	2	
Contactor control with spring return to „OFF“	F025					WAA179	2	
Circuit breaker control	F143-PRL					WAA537	2	
Control and Alarm Switches[1]								
With slip clutch and without indicator device			[2]	[2]		WAA190	5[3]	
Without indicator device			[2]			WAA192	2	

Dimensions p. 56

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

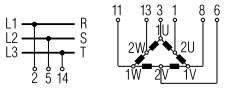
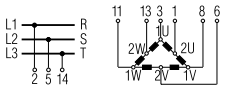
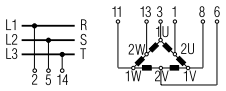
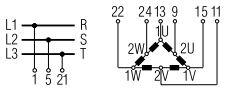
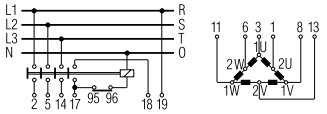
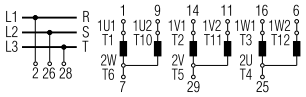
< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B C26-C43 CA40-CA63	C80- C315	Code	Stages	Connection Diagram
Motor Reversing Switches								
2 pole	F071					A400	2	
3 pole	F071					A401	3	
3 pole with spring return to „OFF“	F025		[1]	[2]		A228	3	
3 pole for use with reversing contactors	F121			[3]		WAA402	4	
Motor Control Switches								
2 speed 2 winding 0-A-BY or Δ	F073					WAA451	3	
3 speed 2 winding 0-A-BY or Δ	F109					WAA457	6	

Dimensions p. 56

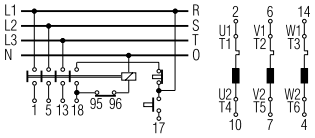
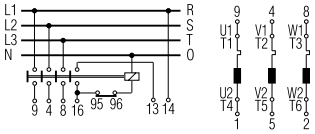
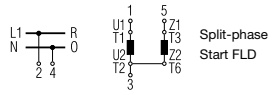
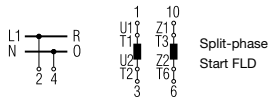
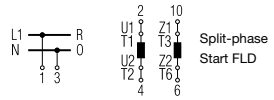
[1]not available for switch type CA25 [2]not available for switch types C26-C43, CA40-CA63 [3]available only up to switch type CA50

< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 C26- C315	Code	Stages	Connection Diagram
Motor Control Switches Dimensions p. 56								
2 speed single winding	F073					A440	4	
2 speed single winding without „OFF“	F072					A466	4	
2 speed single winding with center „OFF“	F071					A441	4	
2 speed single winding reversing	F105					A442	6	
2 speed single winding for use with contactors	F073					WAA444	5	
2 speed reversing for 2 way operation with slip clutch for „OFF“ load use	F294					WAA468	10[1]	

[1]incl. slip clutch

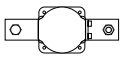
< back to table of contents >

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B C26-C43 CA40-CA63	C80- C315	Code	Stages	Connection Diagram
Star-delta Switches								
OFF-star-delta	F080	☐	☐	☐	☐	A410	4	
Reversing	F112	☐	☐	☐	☐	WAA413	5	
With auxiliary contact closed in „OFF“ position	F080	☐	☐	☐	☐	WAA416	5	
For use with reversing contactors	F061	☐	☐	☐	☐	A419	4	
Start and Run Switches								
Split-phase start	F119	☐	☐	☐		A425	2	
Split-phase start reversing	F120		☐[1]	☐		WAA426	3	
Split-phase reversing auto cutout of start field winding	F104	☐	☐	☐	☐	WAA622	3	

[1]not available for switch type CA25

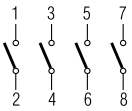
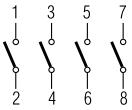
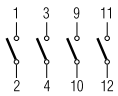
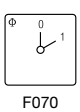
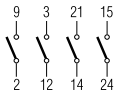
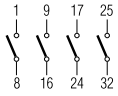
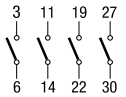
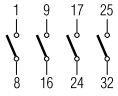
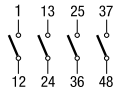
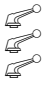
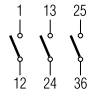
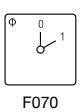
Dimensions p. 56

< back to table of contents >

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

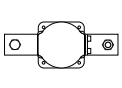
ON/OFF Switches with 60° Switching

Dimensions p. 56

1 pole 2 pole 3 pole 4 pole	L350	F070		WAA200 WAA201 WAA202 WAA203	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole	L351	F070		WAA200 WAA201 WAA202 WAA203	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400	F070		WAA200 WAA201 WAA202 WAA203	2 2 4 4			1-4 pole
3 pole	with lugs suitable for protective cover	F070		WAA302	3			WAA302
1 pole 2 pole 3 pole 4 pole	L600	 F070		WAA200 WAA201 WAA202 WAA203	3 3 6 6			1-4 pole
1 pole 2 pole 3 pole 4 pole	L630	F070		WAA200 WAA201 WAA202 WAA203	2 4 6 8	● ●		1-4 pole
1 pole 2 pole 3 pole 4 pole	L631	F070		WAA200 WAA201 WAA202 WAA203	2 4 6 8	● ●		1-4 pole
1 pole 2 pole 3 pole 4 pole	L800	F070		WAA200 WAA201 WAA202 WAA203	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L1000	F070		WAA200 WAA201 WAA202 WAA203	3 6 9 12	● ● ●		1-4 pole
1 pole 2 pole 3 pole	L1200	F070		WAA200 WAA201 WAA202	3 6 9			1-3 pole
1 pole 2 pole 3 pole	L1600	F070		WAA200 WAA201 WAA202	4 8 12			1-3 pole
1 pole 2 pole	L2000	 F070		WAA200 WAA201	5 10	●		1 and 2 pole

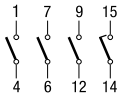
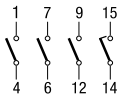
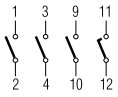
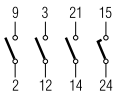
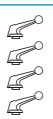
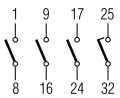
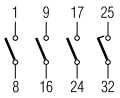
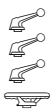
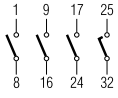
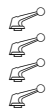
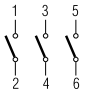
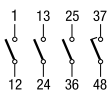
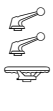
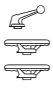
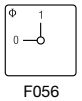
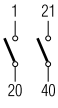
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

< back to table of contents >

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

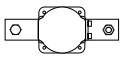
ON/OFF Switches with 90° Switching

Dimensions p. 56

1 pole 2 pole 3 pole 4 pole	L350 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole	L351 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole 3 pole 3 pole	L400 1 pole preclose 60° with lugs suitable for protective cover 360° rotation	F056 F056 F062	 	WAA290 WAA291 WAA292 WAA293 WAA307 WAA208	2 2 4 4 3 4		 	1-4 pole WAA307
1 pole 2 pole 3 pole 4 pole	L600 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	3 3 6 6		 1-3 pole	 4 pole
1 pole 2 pole 3 pole 4 pole	L630 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	2 4 6 8		 1-3 pole	 4 pole
1 pole 2 pole 3 pole 4 pole	L631 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	2 4 6 8		 1-3 pole	 4 pole
1 pole 2 pole 3 pole 4 pole	L800 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	2 4 6 8	● ● ●	 1-3 pole	 4 pole
1 pole 2 pole 3 pole 4 pole	L1000 1 pole preclose 60°	F056		WAA290 WAA291 WAA292 WAA293	3 6 9 12	● ● ●	 1-3 pole	 4 pole
1 pole 2 pole 3 pole	L1200 	F056		WAA290 WAA291 WAA292	3 6 9	● ● ●		1-3 pole
1 pole 2 pole 3 pole	L1600 	F056		WAA290 WAA291 WAA292	4 8 12	● ● ●		1-3 pole
1 pole 2 pole	L2000 	 F056		WAA290 WAA291	5 10	● ●		1- und 2 pole

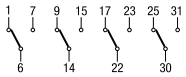
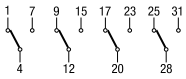
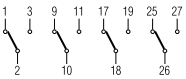
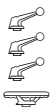
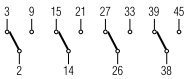
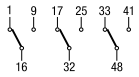
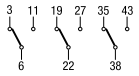
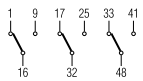
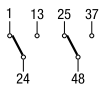
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

< back to table of contents >

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

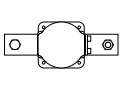
Double-throw Switches without „OFF“ 60° Switching

Dimensions p. 56

1 pole 2 pole 3 pole 4 pole	L350	F072		WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L351	F072		WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400	F072		WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600	F072		WAA220 WAA221 WAA222 WAA223	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630	F072		WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L631	F072		WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800	F072		WAA220 WAA221 WAA222	4 8 12	●		1-3 pole
1 pole 2 pole	L1000	F072		WAA220 WAA221	6 12	●		1 and 2 pole
1 pole	L1200	F072		WAA220	6			
1 pole	L1600	F072		WAA220	8			
1 pole	L2000	F072		WAA220	10			

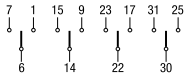
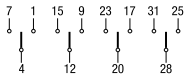
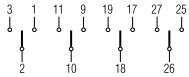
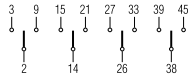
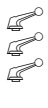
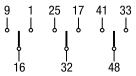
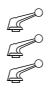
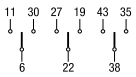
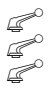
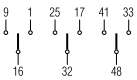
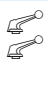
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

< back to table of contents >

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

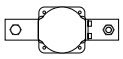
Double-throw Switches with Center „OFF" 60° Switching

Dimensions p. 56

1 pole 2 pole 3 pole 4 pole	L350	F071		WAA210 WAA211 WAA212 WAA213	2 4 6 8		 1-4 pole
1 pole 2 pole 3 pole 4 pole	L351	F071		WAA210 WAA211 WAA212 WAA213	2 4 6 8		 1-4 pole
1 pole 2 pole 3 pole 4 pole	L400	F071		WAA210 WAA211 WAA212 WAA213	2 4 6 8		 1-4 pole
1 pole 2 pole 3 pole 4 pole	L600	F071		WAA210 WAA211 WAA212 WAA213	3 6 9 12	● ●	 1-4 pole
1 pole 2 pole 3 pole	L630	F071		WAA210 WAA211 WAA212	4 8 12	●	 1-3 pole
1 pole 2 pole 3 pole	L631	F071		WAA210 WAA211 WAA212	4 8 12	●	 1-3 pole
1 pole 2 pole 3 pole	L800	F071		WAA210 WAA211 WAA212	4 8 12	●	 1-3 pole
1 pole 2 pole	L1000	F071		WAA210 WAA211	6 12	●	1 and 2 pole
1 pole	L1200	F071		WAA210	6		
1 pole	L1600	F071		WAA210	8		
1 pole	L2000	F071		WAA210	10		

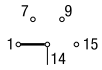
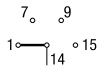
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

< back to table of contents >

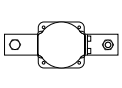
Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

Multi-step Switches single pole without „OFF“

Dimensions p. 56

3 Step	L350	F076		WAA230	4		
3 Step	L351	F076		WAA230	4		
3 Step	L400	F076		WAA230	4		
4 Step	L350	F077		WAA231	4		
4 Step	L351	F077		WAA231	4		
4 Step	L400	F077		WAA231	4		
5 Step	L350	F078		WAA232	6		
5 Step	L351	F078		WAA232	6		
5 Step	L400	F078		WAA232	6		
6 Step	L350	F079		WAA233	6		
6 Step	L351	F079		WAA233	6		

< back to table of contents >

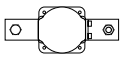
Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

Multi-step Switches single pole without „OFF“

Dimensions p. 56

6 Step	L400	F079		WAA233	6		
7 Step	L350	F110		WAA234	8		
7 Step	L351	F110		WAA234	8		
7 Step	L400	F110		WAA234	8		
8 Step	L350	F111		WAA235	8		
8 Step	L351	F111		WAA235	8		
8 Step	L400	F111		WAA235	8		
9 Step	L350	F010		WAA236	10		
9 Step	L351	F010		WAA236	10		
9 Step	L400	F010		WAA236	10		
10 Step	L350	F011		WAA237	10		

< back to table of contents >

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Lat-ching	Connection Diagram	L350 L630 L1000  L351 L631

Multi-step Switches single pole without „OFF“

Dimensions p. 56

10 Step	L351	F011		WAA237	10		
10 Step	L400	F011		WAA237	10		
11 Step	L350	F012		WAA238	12		
11 Step	L351	F012		WAA238	12		
11 Step	L400	F012		WAA238	12		
12 Step	L350	F013		WAA239	12		
12 Step	L351	F013		WAA239	12		
12 Step	L400	F013		WAA239	12		

< back to table of contents >

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	●

< back to table of contents >

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 S3
Panel Mount						
Four hole, Protection IP 40		E	●	●	●	●
	●	E-V	●	●		
Four hole, Protection IP 66/67/69k		EF	●	●	●	●
	●	EF-V	●	●		
Two hole, Protection IP 66/69k		E22	●			
	●	E22-V	●			
Panel mount using larger face plate, handle and heavy duty stop						
Four hole, Protection IP 40		EG	●	CA40-CA63	C80-C200-4	
Four hole, Protection IP 66/67/69k		EGF	●	CA40-CA63	C80-C200-4	
Double End Mount						
Four hole, Protection IP 40		ER	CAD.. CA10-CA25	●	●	●
Four hole, Protection IP 66/67/69k		ERF	CAD.. CA10-CA25	●	●	●

< back to table of contents >

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	KN2	●			
Four hole, Protection IP 40 64 x 64 Plate – S1	KN1	●	●	●	
Four hole, Protection IP 40 64 x 64 Plate – S1 complete with 6mm square metal shaft	KD1	●	●	●	
Panel mount with protective cover					
Four hole Protection front IP 40 rear IP 30	EC	CAD.. CA10- CA25	●		
Four hole with additional shaft seal Protection front IP 65 rear IP 30	ED	CAD.. CA10- CA25	●		
Four hole Protection front IP 40 rear IP 42	EC1		●		
Four hole with additional shaft seal Protection front IP 65 rear IP 42	ED1		●		
Two hole Protection front IP 66/69k rear IP 42	ED22	CAD.. CA10- CA25			

< back to table of contents >

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

< back to table of contents >

Base Mount	Terminals rotated 90°	Code	CAD.. CA10-CA25	CA10B-CA63 C42	C43 C80-L2000
Base Mount					
Four hole, Protection IP 40		VE	CAD..	●	●
	●	VE-V	CA10-CA25	●	
Four hole with integrated simplified door clutch, Protection IP 65		VF	CAD..		
	●	VF-V	CA10-CA25		
Two hole, Protection IP 40		VE22	●		
	●	VE22V	CAD.. CA10-CA25		
Two hole with integrated simplified door clutch, Protection IP 65		VF22	●		
	●	VF22V	CAD.. CA10-CA25		
Snap-on for DIN Rail EN 60715, Protection IP 40		VE1	●	●	
Snap-on base mounting for track EN 60715, Escutcheon plate can be fastened by screws at the switch, Protection IP 40		VE1E	●	●	

< back to table of contents >

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

< back to table of contents >

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

< back to table of contents >

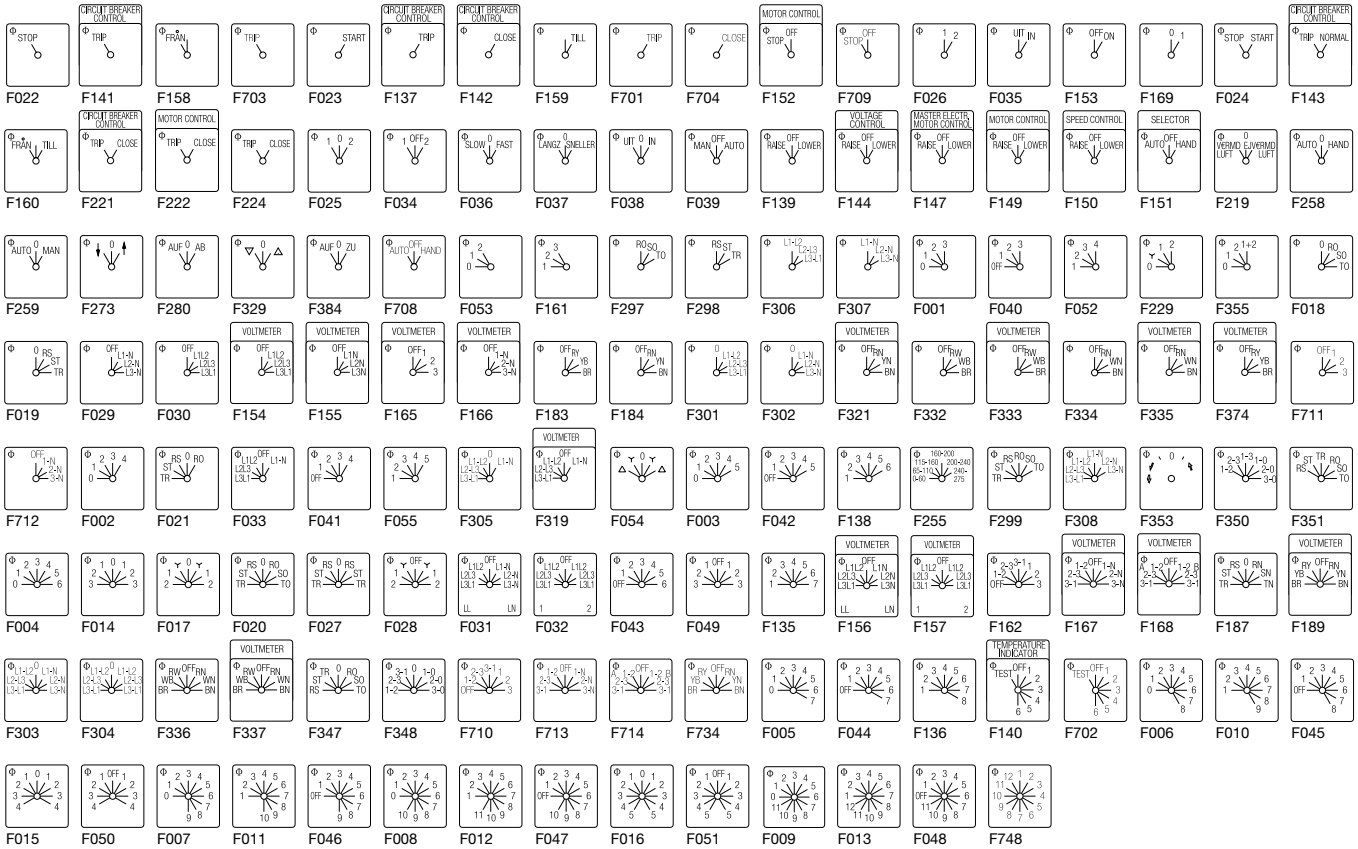
Face plates

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 than 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.

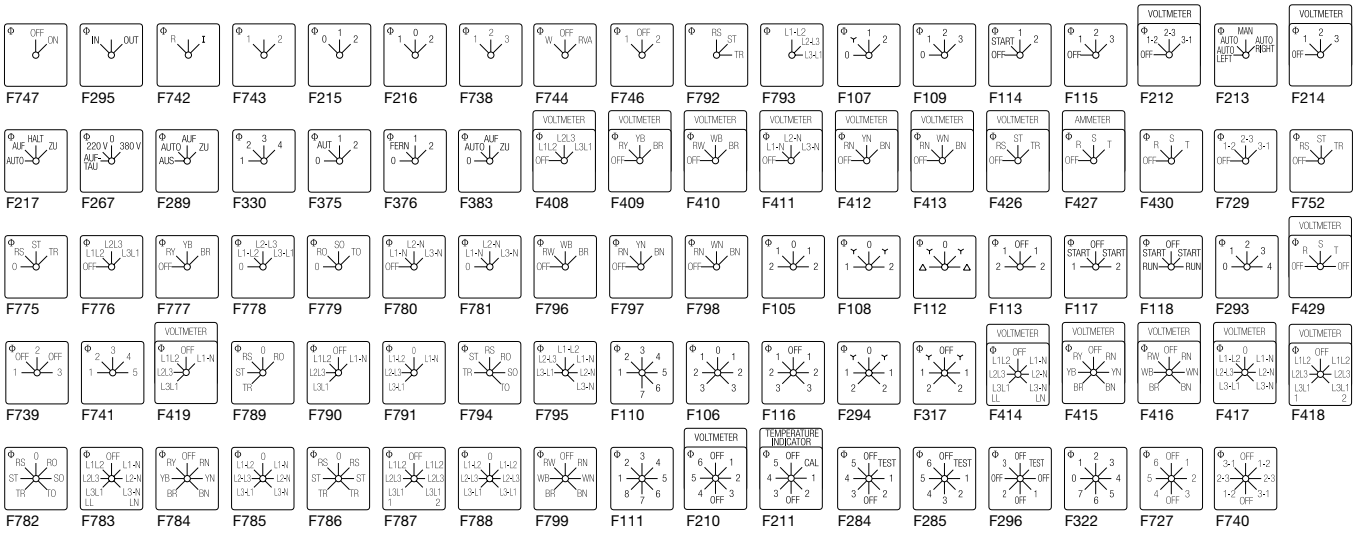
Standard Letterings Available

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

30° switching



45° switching



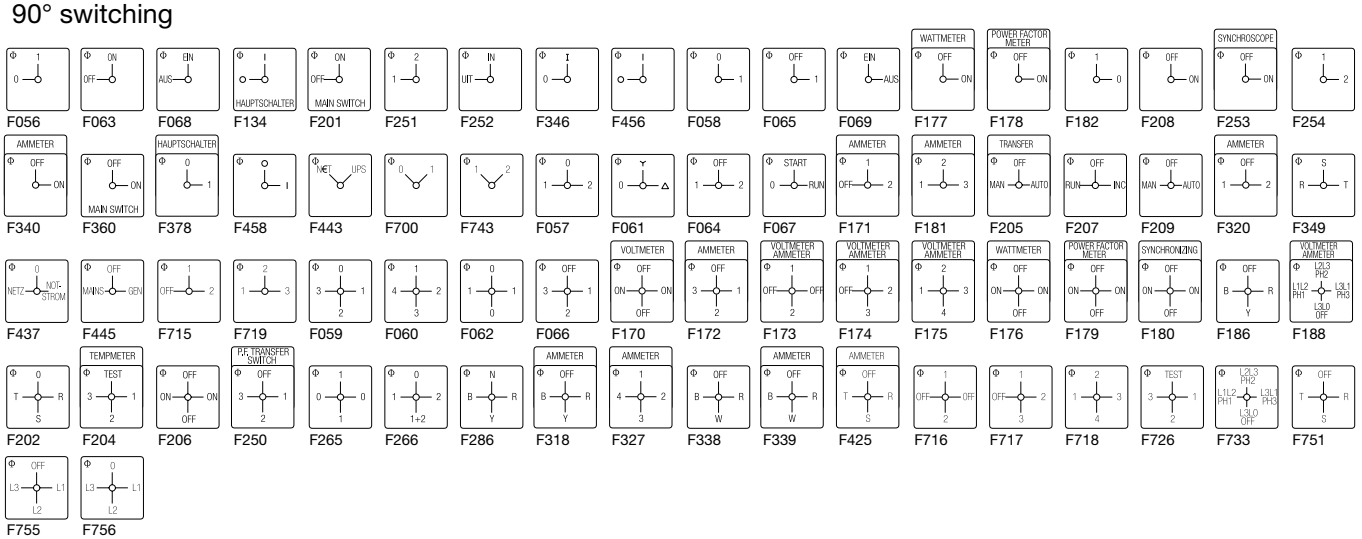
< back to table of contents >

Face plates

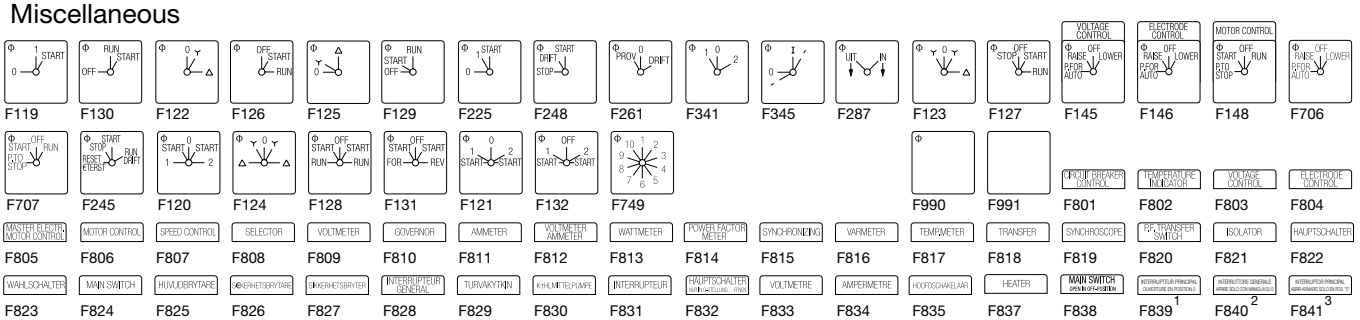
< back to table of contents >

60° switching

90° switching



Miscellaneous



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

Handles

Type	Color	Code	Size S00 S0 S1 S2 S3
R-Handle	black red	G001 G002	– ● ● ● ● – ● ● ● ●
F-Handle	black red	G221 G222	● ● ● ● – ● ● ● ● –
S-Handle S0 S1	black red	G301 G302	– ● ● – – – ● ● – –
P-Handle S0 S1-S3	black red	G211 G212	– ● ● ● ● – ● ● ● ●
Handwheel	black	G971	– – – – ●

Type	Color	Code	Size S00 S0 S1 S2 S3
I-Handle S00 S0-S3	black red	G251 G252	● ● ● ● ● ● ● ● ● ●
B-Handle	black red	G521 G522	– ● ● – – – ● ● – –
L-Handle	black red	G501 G502	– – ● – – – – ● – –
K-Handle	black red	G411 G412	– – ● ● ● – – ● ● ●
O-Handle	black red	G321 G322	– – ● – – – – ● – –

< back to table of contents >

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	C315 C316	L350/1 L630/1 L1000	L400 L600 L800	L1200 L1600 L2000
USA	Underwriters Laboratories Inc.	[1]								● ●	● ● ●	● ●	● ●
		[2] [3]	● ● ●	● ● ●	● ● ●	● ●	● ● ●	● ● ●	● ● ●			●	
Canada	UL investigated acc. to CSA	[5]	● ● ●	● ● ●	● ● ●	● ●	● ● ●		● ● ●	● ●	● ● ●	● ● ●	● ● ●
		c [1]								● ●	● ● ●	● ●	● ●
		c [2] [3]	● ● ●	● ● ●	● ● ●	● ●	● ● ●	● ● ●	● ● ●			●	
International Electrical Commission (IEC) Recommendation		IEC 60947[4]	+ + +	+ + +	+ + +	+ +	+ + +	+ + +	+ + +	+ +	+ + +	+ + +	+ + +
China	China Quality Certification Centre	GB/T14048.3	●	● ●	● ●	● ●	● ● ●		● ● ●	● ●			
Register EMEA		Lloyd's Register	●	●	●								

● Switch approved + Switch conforms to requirements

[1] Approved 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).
[2] Approved under the “Listing Program”. File No. E35541, Category Control No. NLRV (U.S.) resp. NLRV7 (Canada).
[3] Switch types CAD11/CAD12 approved under the “Listing Program”. File No. E60262, Category Control No. NRNT (U.S.) resp. NRNT7 (Canada).
[4] IEC does not operate an approval scheme.
[5] File No. 13002ass No. 3211-05 resp. 4652-04.

< back to table of contents >

Selection Data				CA4 CA4-1	CA10 CA10B	CA11 CA11B	CA20 CA20B	CA25 CA25B	C26	C32	C42 C43	CA40	CA50	CA63	C80	C125	C200-4	C315 C316
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3[1]																	
	VDE 0660 part 107[1]		V	440	690	690	690	690	690	690	690	690	690	690	690	690	690	690/1000
	SEV[4]		V	380	660	660	660	690	660	660	660	690	690	690	660	660	–	660
	UL/Canada		V	300	300	600	600	300	600	600	600	600	600	600	600	600	–	600
	CEE/NEMKO		V	400/380	380	400	400	–	400	400	400	–	–	–	400	–	–	–
	min. voltage									on request								
Rated Impulse Withstand Voltage U_{imp}			kV	4	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[3]	380 V	A	10	16	16	25	32	32	40	63	40	50	63	100	150	–	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	690 V	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	150	–	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 part 107	220 V-500 V	A	10	20	20	25	32	32	40	63	40	50	63	100	150	150	315
		660 V-690 V	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 part 200	220 V-240 V	A	2,5	6	6	8	12	14	16	–	14	16	16	–	–	–	–
		380 V-440 V	A	1,5	4	4	5	6	6	7	–	6	7	7	–	–	–	–
Pilot Duty	UL/Canada[3]	Heavy	VAC	A300	A300	A600	A600	A300	A600	A600	A600	A600	A600	A600	–	–	–	A600
Ampere Rating Resistive or low inductive loads	UL/Canada[3]		A	10	20	20	30	30	40	50	65	45	55	60	100	150	–	240
Resistive load/motor load	CEE		A	4/2	10/6	10/6	16/10	–	25/10	32/10	40/10	–	–	–	63/10	–	–	–
	NEMKO		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			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
Resistance to vibration				min. 4 g, 2-100 Hz, 1,6 mm									on request					
Resistance to shock				min. 5 g, 6 ms									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
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}				55 °C during 24 hours with peaks up to 60 °C														
enclosed at 100 % I_{the}				35 °C during 24 hours with peaks up to 40 °C														

[1]Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. [2]Valid for CA4 only. [3]International Standards and Approvals, refer to page 43. [4]For electromagnetic optional extras see additional data in Catalog 101. [5]Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

< back to table of contents >

Selection Data

					CA4 CA4-1	CA10 CA10B	CA11 CA11B	CA20 CA20B	CA25 CA25B	C26	C32	C42 C43	CA40	CA50	CA63	C80	C125	C200-4	C315 C316
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	7,5	10	15	–	40
			277 V		0,75	2	2	3	5	5	7,5	7,5	7,5	7,5	10	10	15	–	40
			440 V-480 V		–	–	2	5	–	10	15	15	15	15	15	20	25	–	50
			550 V-600 V		–	–	2	5	–	15	20	20	15	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

< back to table of contents >

Selection Data

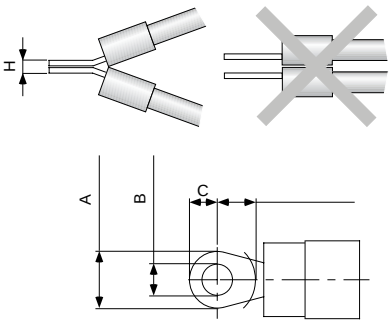
	CA4	CA10	CA11	CA20	CA25			C42							C315
	CA4-1	CA10B	CA11B	CA20B	CA25B	C26	C32	C43	CA40	CA50	CA63	C80	C125	C200-4	C316

Max. Permissible Wire Gage - Use copper wire only																
Single-core or stranded wire	mm²	2x 1,5	2x 2,5	2x 2,5	2x 4	2x 6	2x 6	2x 10	2x 16	16	16	16	35	70	95[1]	185[1]
	AWG	14	12	12	10	8	8	8	6	6	6	6	2	2/0	–	MCM 350
Flexible wire (sleeving in accordance with DIN 46228)	mm²	2x 1,5 (1)	2x 2,5 (2,5)	2x 2,5 (2,5)	2x 4 (2,5)	2x 4 (4)	2x 6 (4)	2x 6 (6)	2x 10 (10)	10 (10)	10 (10)	10 (10)	25 (25)	50 (50)	95[1]	150[1]
Flexible AWG wires (without sleeve)	AWG	16	14	14	12	10	10	8	6	6	6	6	3	1/0	–	MCM 300
Tightening torque of screws																
	Nm	0,4	0,6	0,6	1,3	1,3	1,3	2,2	3	1,8	1,8	1,8	4	4,5	8	14
	lb-in	3,5	5	5	12	12	12	19,5	26,4	16	16	16	35	39,8	70	125

DC Switching Capacity[2]									**Rated Operational Current I_e**										
contacts in series:	1	2	3	4	5	6	8		CA4	CA10	CA10S	CA20	CA20S	CA25	CA25S	CA40	CA40S	CA63S
	Permissible voltage in volts																	
Utilization category	24	48	72	96	120	144	192	A	10	16	16	21	24	26	32	35	40	63
DC-21A	48	96	144	192	240	288	384	A	6	14	15	18	24	25	32	32	40	63
Switching of resistive load	60	120	180	240	300	360	480	A	5	13	15	17	21	24	28	28	40	50
Time constant L/R≤1ms	110	220	330	440	550	660	–	A	4	6	7	6	7	7	9,3	–	–	–
	220	440	660	–	–	–	–	A	0,8	0,9	1	1	1	1	1	–	–	–
Utilization category	24	48	72	96	120	144	192	A	8	14	15	18	24	25	32	35	40	63
DC-22A	48	96	144	192	240	288	384	A	5	13	15	17	24	25	32	32	40	63
Switching of mixed resistive	60	120	180	240	300	360	480	A	4	12	15	16	19	24	25	–	20	25
and inductive load	110	220	330	440	550	660	–	A	1,5	1,9	2	2	2	2,25	3	–	–	–
f.e. shunt motors	220	440	660	–	–	–	–	A	0,3	0,3	0,35	0,3	0,35	0,35	0,35	–	–	–
Time constant L/R≤2,5ms																		
Utilization category	24	48	72	96	120	144	192	A	7	13	15	16	23	23	32	35	40	63
DC-23A	48	96	144	192	240	288	384	A	4	12	15	15	23	21	32	26	40	63
Switching of highly	60	120	180	240	300	360	480	A	3,5	10	13	14	16	18	25	–	–	–
inductive loads	110	220	330	440	550	660	–	A	1	1,5	1,75	1,7	1,75	2	2,5	–	–	–
f.e. series motors	220	440	660	–	–	–	–	A	0,2	0,2	0,3	0,2	0,3	0,2	0,3	–	–	–
Time constant L/R≤15ms																		
Utilization category	24	48	–	–	–	–	–	A	0,8	3	–	4	–	5	–	–	–	–
DC-13	48	96	–	–	–	–	–	A	0,5	1,7	–	2,4	–	3	–	–	–	–
Control of electromagnets	60	120	–	–	–	–	–	A	0,2	1,4	–	1,8	–	2,5	–	–	–	–
Time constant L/R≤100ms	110	220	–	–	–	–	–	A	–	0,7	–	1	–	1,5	–	–	–	–
	220	440	–	–	–	–	–	A	–	0,15	–	0,35	–	0,5	–	–	–	–

[1]Cable lug must accept M8 (C200-4) and M12 (C315/C316) screw. [2]Values for switches with spring return on request.

Ring cable lug – Dimensions



	A (mm)	B (mm)	C (mm)	H (mm)
C26-6	10	M4	5	3,7
C32-6	12,9	M5	6,1	3,8
C42-6	15,6	M6	7,1	4,1
C80-6	23,1	M6	9,1	5,4
C125-6	28,5	M6	11,8	4,9
C200-4	–	M8	–	4,8
C315	23,6	M12	18,3	3,4

< back to table of contents >

Selection Data

				L350 L351	L400	L600	L630 L631	L800	L1000	L1200	L1600	L2000
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3[1]		V	690	690	690	690	690	690	690	690	690
	VDE 0660 part 107[1]		V	690	690	690	690	690	690	690	690	690
	UL/Canada[2]		V	600	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	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			A	350	500	800	630	1100	1000	1450	1900	2400
Ambient temp. +55 °C during 24 hours with peaks up to +60 °C			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	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 moderate 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]	600 V	A	200	300	300	200	300	200	300	200	200
	CSA	600 V	A	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
Short Circuit Protection												
Max. fuse size		(aR-characteristic)	A	400	500	800	630	1100	1000	2x800	2x1000	2x1250
Rated short-time withstand current		(1s-current)	A	on request								
Terminals												
	for			Cable lug or copper bus								
	connection screw			M12	M12	M16	M16	M16	M16	M16	2xM16	4xM16
	length		mm	20	30	40	30	40	40	40	50	50
Tightening torque of screws			Nm	25	25	25	25	25	25	25	25	25
			lb-in	220	220	220	220	220	220	220	220	220
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.								

[1] Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request.
[2] International Standards and Approvals, refer to page 43. [3] For electromagnetic optional extras see additional data in Catalog 101. [4] Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

< back to table of contents >

Selection Data				CAD4-1	CAD11	CAD12
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
	Nordamerika		A	5	6	6
Rated Operational Current I_e	IEC 60947-3, EN 60947-3					
	VDE 0660 part 107					
AC-21A Switching of resistive loads, including moderate overloads	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					
DC-1 Resistive load T = 1 ms	SEV[2]	1 V/6 V	A	3/1,2	4/2,5	–/4
	North America[3]	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
		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				2x	2x	2x
Single-core or stranded wire			mm^2	1,5	2,5	2,5
			AWG	14	12	12
				2x	2x	2x
Flexible wire			mm^2	1,5	2,5	2,5
(sleeving in accordance with DIN 46228)				(1)	(2,5)	(2,5)
Flexible AWG wires (without sleeve)			AWG	16	14	14
Tightening torque of screws						
			Nm	0,4	0,6	0,6
			lb-in	3,5	5	5
Min. Ambient Temperature of Stages				-25 °C (valid only without optional extra)		
Max. Ambient Temperature of Stages[4, 6]		open at 100 % I_u/I_{th}		55 °C during 24 hours with peaks up to 60 °C		
		enclosed at 100 % I_{the}		35 °C during 24 hours with peaks up to 40 °C		

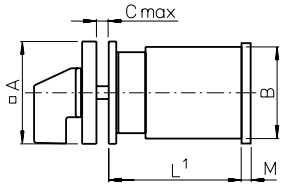
[1]Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request.
[2]International Standards and Approvals, refer to page 43. [3]Max. 300 V. [4]For electromagnetic optional extras see additional data in Catalog 101.
[5]Values for switches with spring return on request. [6]Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).
[7]Values with lower voltages on request.

< back to table of contents >

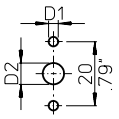
Dimensions

mm
inch

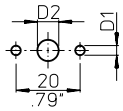
Two or Four Hole Panel Mounting



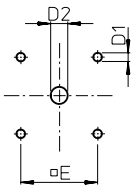
E
for CA4, CA4-1, CAD4-1



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

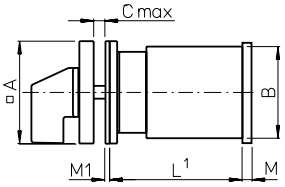


E
E-V
ER

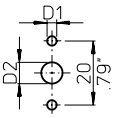


	CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25[3]	CA20B	CA10B CA11B CA25B	C26	C32	C42[3]	C43	CA40[3] CA50[3] CA63[3]	C125 C80	C200-4	L switches Size S2	C315[4] L switches Size S3
A	0 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	64 (88) 2.52	88 (3.46)	88 3.46	88 3.46	130 3.46 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
M[2]	- -	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	27,5 1.08	27,5 1.08	11,9 (32) .47 (1.26)

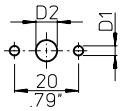
[2]M, additional length for mounting ER only
[3]Dimensions in ( ) for ER mounting plate only
[4]Dimensions in ( ) for L800, L1200, L1600



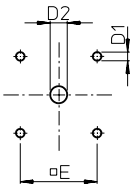
EF
for CA4, CA4-1, CAD4-1



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



EF
EF-V
ERF



	CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25[3]	CA10B CA11B CA20B	CA25B	C26	C32	C42[3]	C43	CA40[3] CA50[3] CA63[3]	C80	C125 C200-4	L switches Size S2	C315[4] 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
M[2]	- -	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	27,5 1.08	27,5 1.08	11,9 (32) .47 (1.26)
M1	1 .04	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

[2]M, additional length for mounting ERF only
[3]Dimensions in ( ) for ERF mounting plate only
[4]Dimensions in ( ) for L800, L1200, L1600

[1]see page 56

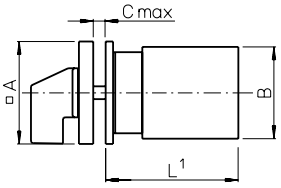
< back to table of contents >

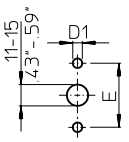
Dimensions

mm
inch

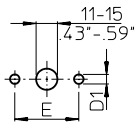
Two or Four Hole Panel Mounting

E22



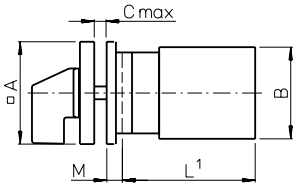


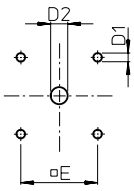
E22-V



	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
E	30 1.17	30 1.17	30 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 2.52	64 2.52	64 2.52	88 3.46	88 3.46	88 3.46	88 3.46	130 5.12	130 5.12
	B	43 1.69	45 1.77	46 1.81	58 2.28	60 2.36	66 2.60	55,5x64 2.19x2.52	84 3.30	88 3.46
	C	4 .16	4 .16	4 .16	5,5 .22	5,5 .22	5,5 .22	5,5 .22	7 .28	7 .28
	D1	5 .20	5 .20	5 .20	6 .24	6 .24	6 .24	6 .24	7 .28	7 .28
EG	**D2**	10-22 .39-.87	10-22 .39-.87	10-22 .39-.87	13-30 .51-1.18	13-30 .51-1.18	13-30 .51-1.18	13-30 .51-1.18	15,5-25 .61-.98	15,5-25 .61-.98
EGF	**D2**	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	22-25 .87-.98	22-25 .87-.98
	E	48 1.89	48 1.89	48 1.89	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09	104 4.09
	M	6,7 .26	6,7 .26	6,7 .26	0,5 .02	0,5 .02	0,5 .02	0,5 .02	2 .08	2 .08

[1] see page 56

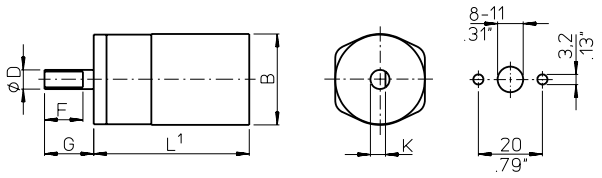
< back to table of contents >

Dimensions

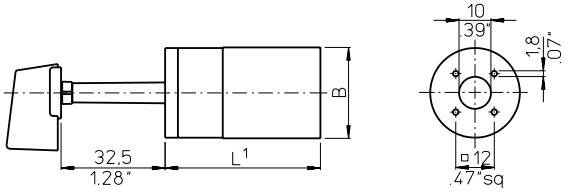
mm
inch

Four Hole Panel Mounting or Mosaic Mounting

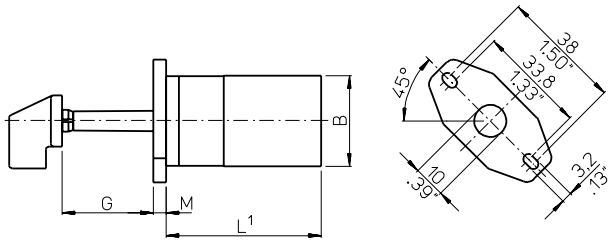
E9
E91



E92

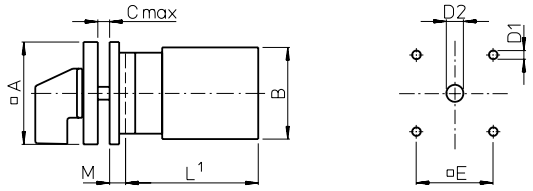


E93
E94



	CA4 CA4 CAD4-1	CA4 CA4-1 CAD4-1			
	E9	**E91**	**E92**	**E93**	**E94**
B	29,5 1.16				
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

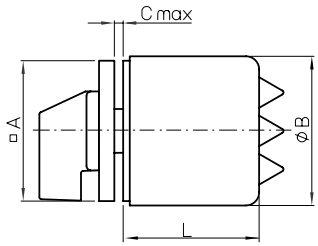
[1]see page 56

< back to table of contents >

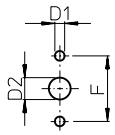
Dimensions

mm
inch

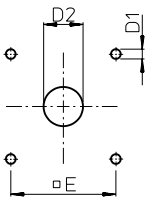
Two or Four Hole Panel Mounting



ED22



EC
ED
EC1
ED1



		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**
	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
EC/EC1	**C**	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	**C**	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	 .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	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
EC/EC1	**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
ED/ED1/ ED22	**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
	F	- -	30 1.17	- -	30 1.17	- -	30 1.17	- -	30 1.17	- -	- -	- -	- -	- -	- -	- -	- -
ED/ED22	**M**	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Stages L	**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
	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	- -	- -	- -	- -	- -	- -	- -

< back to table of contents >

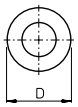
Dimensions

mm
inch

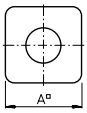
< back to table of contents >

Single Hole Mounting or Base Mounting

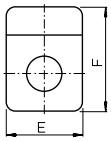
FS1...
FT1...
FT3...

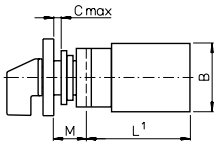


FH3...
FS2...
FT2...
FT4...

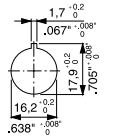


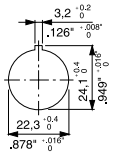
FH4...
FS4...
FT6...



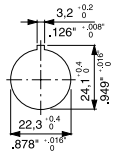


FS1...
FS2...
FS4...

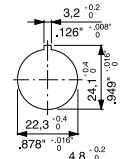


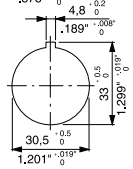


FH3...
FH4...
FT1...
FT2...
FT6...



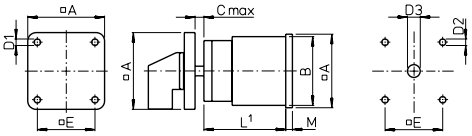
FT3...
FT4...



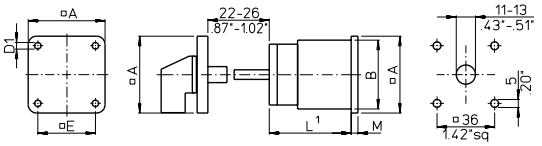


		CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25
A/E		30 1.18	48 1.89	48 1.89	48 1.89
	FH3...	- -	64 2.52	64 2.52	64 2.52
	FH4...	- -	64 2.52	64 2.52	64 2.52
B		28 1.10	43 1.69	45 1.77	46 1.81
C		5 .20	6 .24	6 .24	6 .24
D		29,5 1.16	39,4 1.55	39,4 1.55	39,4 1.55
F		39 1.54	59 2.32	59 2.32	59 2.32
	FH4...	- -	78,5 3.09	78,5 3.09	78,5 3.09
M		12,5 .49	18,2 .72	18,2 .72	18,2 .72
	FH3...	- -	25,2 .99	25,2 .99	25,2 .99
	FH4...	- -	25,2 .99	25,2 .99	25,2 .99

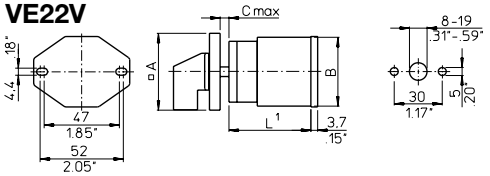
VE
VE-V



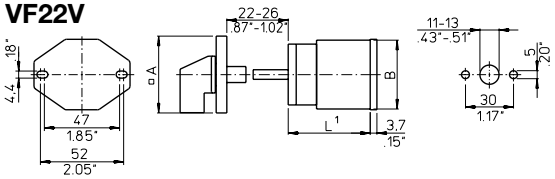
VF
VF-V



VE22
VE22V



VF22
VF22V



	CA10 CA11 CAD11 CAD12	CA20	CA25[2]	CA10B CA11B CA20B	CA25B	C26	C32	C42[2]	C43	CA40[2] CA50[2] CA63[2]	C80	C125 C200-4	L switches Size S2	C315[3] 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)

[2]Dimensions in ( ) for revertive mounting plate

[3]Dimensions in ( ) for L800, L1200, L1600

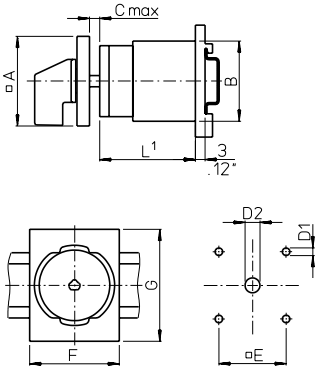
[1]see page 56

Dimensions

mm
inch

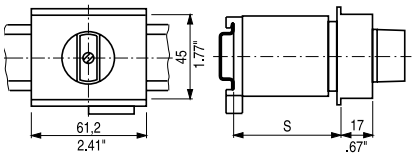
Base Mounting

VE1

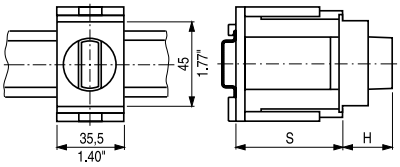


	CA10 CA11 CAD11 CAD12	CA20	CA25	CA10B CA11B CA20B	CA25B	C26	C32	C42	CA40 CA50 CA63
A	48 1.89	48 1.89	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	55,5x64 2.19x2.52
C	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53	13,5 .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

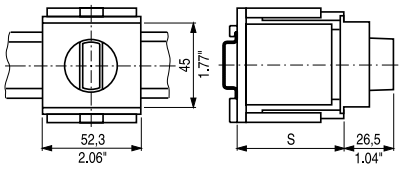
VE2



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



VE21 (for CA10-CA20)
VE21V (for CA25)



	VE2 CA10 CAD11 CAD12	CA11 CA20	CA25	$S_{min.}$	H	VE21, VE21V CA4 CA4-1 CAD4-1	CA10 CAD11 CAD12	CA11	CA20	CA25
	Max. no. of stages					No. of stages				
S = 46 1.81	3	1	-	44 1.73	21 .83	1/2	1/2	1/2	1/2	1
S = 50 1.97	-	-	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	-	-	56 2.20	- -	-	-	3	3	-
S = 69 2.70	-	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

[1] see page 56 [2] not available for switch type CA20

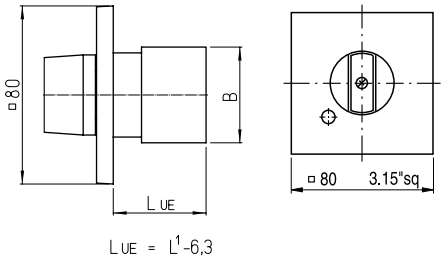
< back to table of contents >

Dimensions

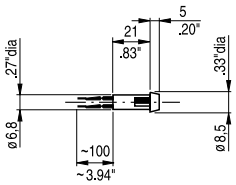
mm
inch

Wall Mounting, Face plates and Additional Length

UE1
UE2
UE3

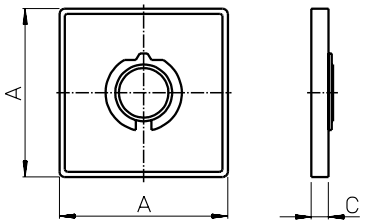


Lamp

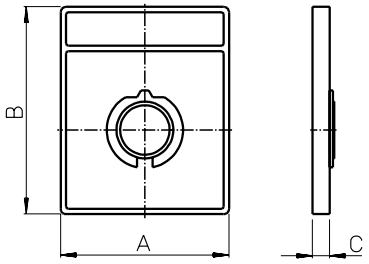


	CA10 CA11 CAD11 CAD12	CA20	CA25
B	43 1.69	45 1.77	46 1.81

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	6,7 .26
S1	64 2.52	7,4 .29
S2	88 3.46	8,5 .33
S3	130 5.12	11,5 .45

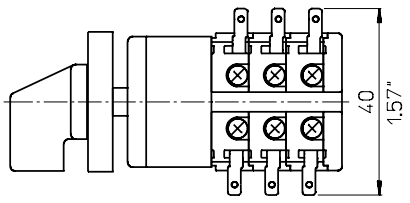


Size	A	B	C
S00	30 1.18	39 1.54	5,5 .22
S0	48 1.89	59 2.32	6,7 .26
S1	64 2.52	78 3.07	7,4 .29

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



[1]see page 56

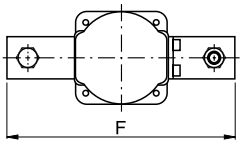
< back to table of contents >

Dimensions

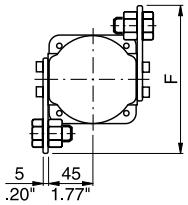
mm
inch

Additional Length

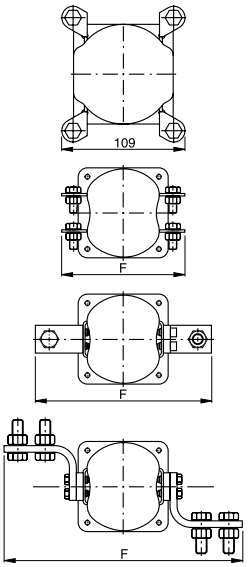
Terminal lugs for switches C200-4-, C315, C316 and L switches



L350
L630
L1000



L351
L631



C200-4

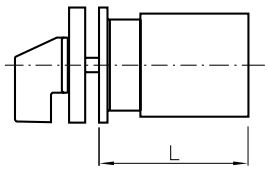
C315
C316
L400
L600

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 CAD11 CAD12	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

< back to table of contents >

Notes:

< back to table of contents >

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**
CL Switches 10 A-20 A **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 36 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 80 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 KG 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**

We reserve the right to make technical and dimensional changes without prior notice.

SALES AND SERVICE ORGANIZATION

Australia
Kraus & Naimer Pty. Ltd.
379 Liverpool Road, ASHFIELD, N.S.W. 2131
P: 1800 567 948
E: sales-au@krausnaimer.com

Austria
Kraus & Naimer GmbH
Schumanngasse 39
1180 WIEN
P: +43 1 404 06 0
E: sales-at@krausnaimer.com

Belgium, Luxembourg
Kraus & Naimer B.V.
Ikaros Business Park
Ikaroslaan 83
1930 ZAVENTHEM
P: +32 2 757 0141
F: +32 2 757 1640
E: sales-be@krausnaimer.com

Brazil
Central and South America
Kraus & Naimer Ind. Com. Ltda.
Rua Santa Monica, 1061
Parque Industrial San Jose
P: +55 11 2198 1288
F: +55 11 2198 1251
E: knbrasil@krausnaimer.com.br

Canada
Kraus & Naimer Ltd.
219 Connie Crescent, Unit 13A
CONCORD, Ontario, L4K 1L4
P: +1 905 738 1666
E: sales-ca@krausnaimer.com

Cyprus
ELECTROMATIC CONSTRUCTIONS LTD.
72, Evagoras Pallikarides Str., 2235 LATSIA-Nicosia
P. O. Box 12630, 2251 LATSIA-Nicosia
P: +357 2 48 41 41
F: +357 2 48 57 47
E: electromatic@cytanet.com.cy

Czech Republic
OBZOR, výrobní družstvo Zlín
Na Slanici 378
763 02 ZLÍN
P: +420 577 195 150
F: +420 577 195 152
E: odbyt@obzor.cz

Denmark
THIIM A/S
Transformervej 31
2860 SOEBORG
P: +45 4485 8000
F: +45 4485 8005
E: thiim@thiim.com

Finland
Kraus & Naimer Oy
Kiitoradankuja 8
01530 VANTAA
P: +358 9 825 424 0
E: sales-fi@krausnaimer.com

France
Kraus & Naimer s.a.s.
33, rue Bobillot
75013 PARIS
P: +33 1 58 40 80 80
E: sales-fr@krausnaimer.com

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

Great Britain
Kraus & Naimer Ltd.
115 London Road
NEWBURY/BERKSHIRE RG14 2AH
P: +44 1635 262626
F: +44 1635 37807
E: sales-uk@krausnaimer.com

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

Hungary
GANZ KK KFT.
X. Kőbányai út 41/c, Postfach 87
1475 BUDAPEST
P: +36 1 261 5479
E: ganzkk@ganzkk.hu

Iceland
JOHAN RÖNNING LTD.
Klettagarðar 25
104 REYKJAVIK
P: +354 5200 800
E: ronning@ronning.is

Republic of Ireland
Kraus & Naimer Ltd.
4235 Atlantic Avenue
Westpark Business Campus
Shannon, Co. Clare
P: +353 61 704700
F: +353 61 471084
E: sales-ie@krausnaimer.com

Italy
Kraus & Naimer s.r.l.
Via Terracini, 9
24047 TREVIGLIO (BG)
P: +39 0363 30 11 12
E: sales-it@krausnaimer.com

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

Mexico
JC INGENIERÍA Y CONTROL, SA DE CV.
Ángel Gaviño 30.
C. Satélite, C. Medicos,
Naucalpan Edo. de Mexico, C.P. 53100
P: +52 55 55 62 75 77
F: +52 55 55 62 04 34
E: ventas@jcingenieriaycontrol.com

Netherlands
Kraus & Naimer B.V.
Wegtersweg 38
7556 BR HENGELO
P: +31 74 291 9441
F: +31 74 291 98380
E: sales-nl@krausnaimer.com

New Zealand
Kraus & Naimer Ltd.
42 Miramar Avenue, WELLINGTON 6022
P. O. Box 15-009, WELLINGTON 6243
P: + 64 0800 736 522
E: sales-nz@krausnaimer.com

Norway
Kraus & Naimer AB Avd. Norge
c/o Tim Figved
Gurinestubben 27
0584 Olso
T: +47 22 64 44 20
E: sales-no@krausnaimer.com

Poland
ASTAT LOGISTYKA SP. Z O.O.
Dąbrowskiego 441
60451 POZNAŃ
P: +48 61 849 80 89
E: k.swiderski@astat.pl

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

Singapore, India, Middle East – UAE
Kraus & Naimer Pte. Ltd.
988 Toa Payoh North
#05-01/02/07/08
SINGAPORE 319002
T: +65 6473 8166
E: sales-sg@krausnaimer.com

Slovenia
SCHRACK TECHNIK D.O.O.
Pameče 175
SI-2380 SLOVENJ GRADEC
P: +386 2 88 392 00
F: +386 2 88 434 71
E: d.goljat@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
P: +27 11 608 6060
E: sales-za@krausnaimer.com

Spain
Kraus & Naimer B.V.
P: +34 662 696 014
E: sales-es@krausnaimer.com

Sweden
Kraus & Naimer AB
Dr. Widerströms Gata 11, Hägersten
Box 42097, 126 14 STOCKHOLM
P: +46 8 97 00 80
E: sales-se@krausnaimer.com

Switzerland
AWAG Elektrotechnik AG
Sandbüelstraße 2
CH-8604 VOLKETSWIL
P: +41 44 908 19 19
E: info@awag.ch

Turkey
KARDES ELEKTRIK SANAYI VE TICARET A.S.
Yassioren Mah. Hifa Sok. No: 4
34277 Arnavutkoy-Istanbul-Turkey
P: +90 212 624 92 04 118
F: +90 212 592 48 10
E: info@unalkardes.com.tr

USA
Kraus & Naimer Inc.
760 New Brunswick Road
SOMERSET, NJ 08873
P: +1 732 560 1240
E: sales-us@krausnaimer.com

Kraus & Naimer

Contact us:

www.krausnaimer.com