Kraus & Naimer

BLUE LINE switchgear

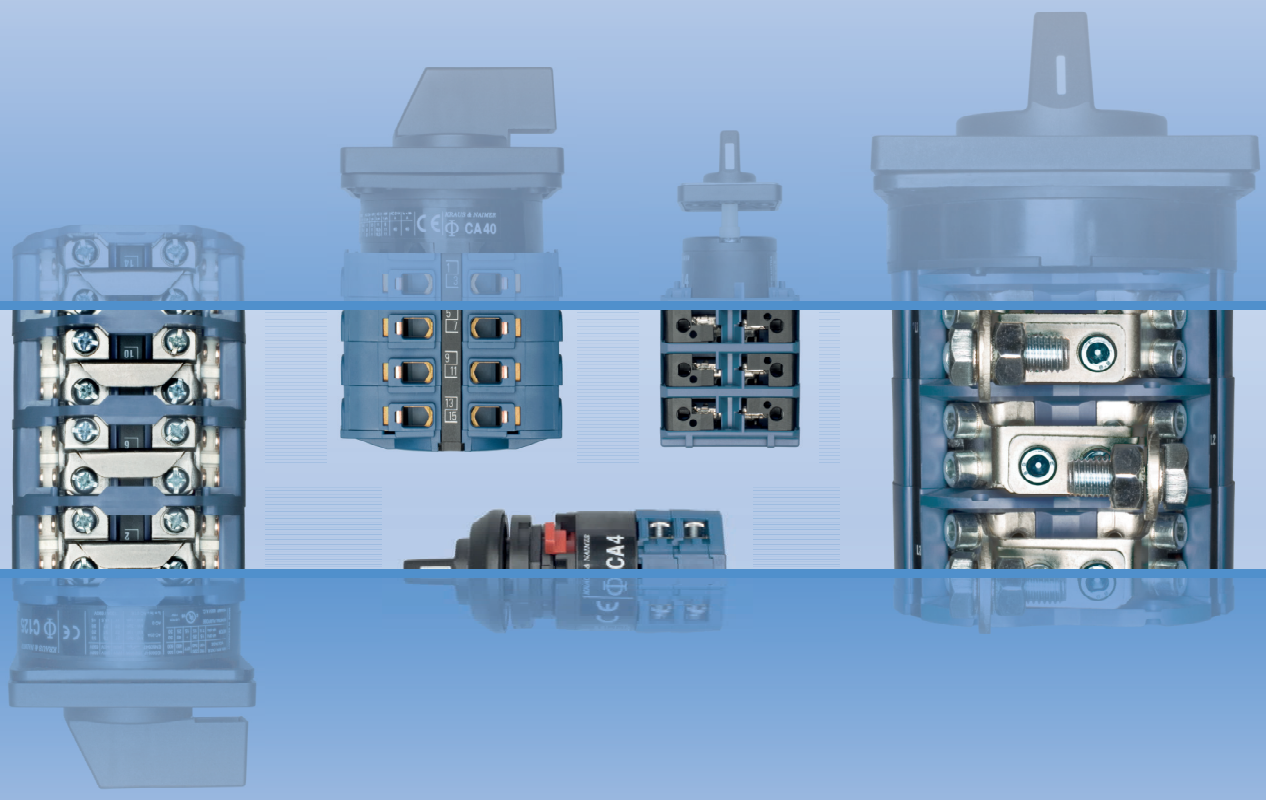
since 1907

Catalog 100

03/2011

Control and Load Switches for higher Capacities

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



Kraus & Naimer

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

BLUE LINE

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

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

The Kraus & Naimer Registered Trademark

WORLDWIDE SYMBOL FOR QUALITY SWITCHGEAR

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

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Construction Data

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

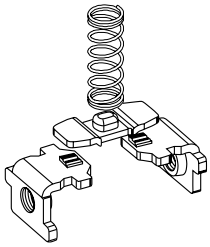
The stage is the basis for all switches and can be supplied with a maximum of 2 contacts. The terminals are accessible from the side. CA and CAD switches are supplied with open terminals to facilitate wiring and are protected against accidental finger contact according to EN 50274, VDE 0660 part 514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

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

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

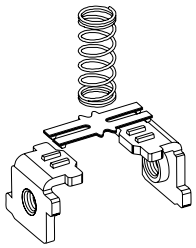
Special Contact Systems

CA4/CA4-1



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

CAD4-1/CAD11/CAD12



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

Type	Size	Possible Switching Angles	Max. No. of Stages
CA4, CA4-1, CAD4-1	S00	30°, 45°, 60°, 90°	9
CA10-CA25	S0	30°, 45°, 60°, 90°	12
CA10S-CA25S	S0	60°	on request
CAD11, CAD12	S0	30°, 45°, 60°, 90°	12
CA10B-CA25B	S1	30°, 45°, 60°, 90°	12
CA40, CA50, CA63	S1	30°, 45°, 60°, 90°	12
C80, C125, C200-4	S2	20°, 30°, 45°, 60°, 90°	12
C315	S3	20°, 30°, 45°, 60°, 90°	12
L350/51, L630/31, L1000/01, L1250/51	S2	30°, 45°, 60°, 90°	12
L400, L600, L800, L1200, L1600, L2000	S3	30°, 45°, 60°, 90°	12

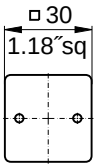
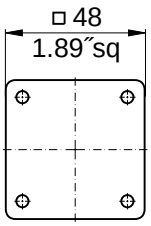
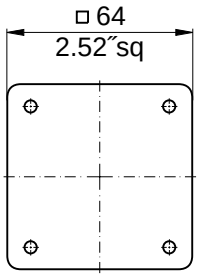
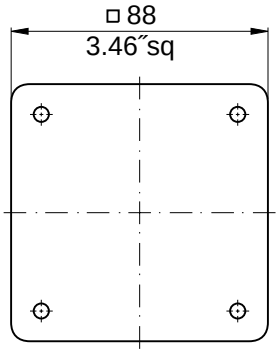
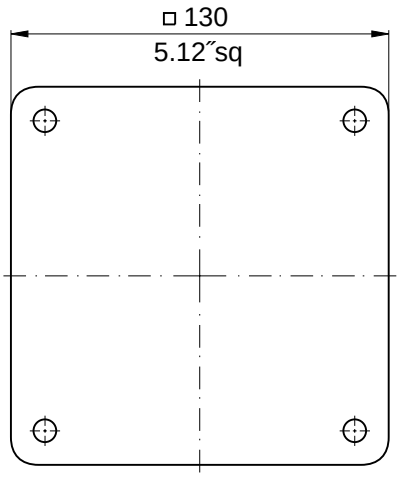
CA and CAD Switches (CA4-CA25B)

CA Switches (CA40-CA63)

C Switches

L Switches

Above illustrates the standard terminal positions.

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			
	CA11B	690	20	7,5	5,5
	CA20B	690	20	7,5	5,5
	CA25B	690	25	11	7,5
	CA40	690	32	15	11
	CA50	690	40	18,5	15
	CA63	690	50	22	18,5
			63	30	18,5
S2 	**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
	L1001	690	1000[2]	90	37
	L1250	690	1250[2]	90	37
	L1251	690	1250[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 40-43.
To furnish with gold contacts and quick connects see page 4.

[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 3 which shows the thermal current, power rating and dimensions of each switch. For further technical details, refer to pages 40-43. Variations of contacts and terminals are shown below.

2. Switch Function

The code numbers for standard switches shown on pages 6-28 indicate the switch function, escutcheon plate, handle and any optional extras.

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

3. Type of Mounting

Types of mounting are shown on pages 29-35. Catalog **101** describes enclosures and optional extras.

Specify the mounting code to indicate required mounting.

CA10	A202-600	VE

Type of Switch

Extending the switch type coding the following combinations will define:

Amendment	Definition	For switch types
-1	with gold contacts[1]	CA10, CA11, CA10B, CA11B
-4	with quick connects	CA4
B	S0 switches with latching mechanism size S1	CAD11, CAD12
C	S1 switches with latching mechanism size S2	CA40, CA50, CA63
L	with lockout-relay w/o manual release for std. sw.	CA10, CA40[2], CA50[2], CA63[2]
M	with lockout-relay with manual release for std. sw.	CA10, CA40[2], CA50[2], CA63[2]
X	with power failure release	CA10, CA11, CA20, CA25, CAD12, CA40[2], CA50[2], CA63[2]
Y	with power failure release and trip-free release	CA10, CA11, CA20
S	with snap action	CA10, CA11, CA20, CA25, CA40, CA50, CA63 with 60° or 90° switching
R	with spring return latching mechanism	CA10

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

Modification of Switches

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

Switch Size	Escutcheon Plate Frame	Handle	Escutcheon Plate Backing	Escutcheon Plate Lettering	Dash Number
S0, S1, S2, S3	electro-gray	electro-gray	brushed alu	black	-100
S0, S1, S2, S3	electro-gray	electro-gray	black	mat silver	-500
S00, S0, S1, S2, S3	black	black	brushed alu	black	-600
S00, S0, S1, S2, S3	black	black	black	mat silver	-700

[1]Technical data on request. [2]In preparation.

How to order

Modification of Switches

Color combinations of escutcheon plate and handle

The standard switch consists of a transparent escutcheon plate with brushed aluminum backing and black inscription. The escutcheon plate frame is black as well as the handle. Page 4 shows further color combinations of escutcheon plate and handle which are available. The appropriate dash number must be substituted in the switch function coding to specify other color combinations as required.

Example: The complete coding for switch type CA10 with a 3 pole ON/OFF switch function, electro-gray handle and electro-gray escutcheon plate frame with brushed aluminum backing and black inscription which reads 0-1 is as follows: **CA10 A202-100 E**.

The following is a list of special programs for escutcheon plate and handle combinations. They may be obtained by specifying any one of the following two (2) digit dash numbers as a part of the overall dash number. It is still necessary to prefix these two digit numbers with the first digit which represents the color combination desired.

Special programs for escutcheon plate and handle combinations

-000 = without escutcheon plate, without handle
- .01 = without escutcheon plate
- .02 = without handle
- .03 = with square escutcheon plate without lettering
- .04 = with rectangular escutcheon plate without lettering
- .05 = with square escutcheon plate without lettering and without handle
- .06 = with rectangular escutcheon plate without lettering and without handle
- .07 = standard escutcheon plate, without lettering on rectangular section
- .08 = with F-handle
- .09 = with P-handle
- .10 = escutcheon plate frame and fixation ring only (if using switches with single hole mounting: **- .16**)
- .11 = without escutcheon plate, but with handle bearing plate
- .12 = with yellow escutcheon plate backing and red handle
- .14 = with B-handle
- .16 = escutcheon plate frame and fixation ring only, if using switches with single hole mounting
- .17 = standard escutcheon plate and rectangular add-on escutcheon plate, if using switches with single hole mounting FT2

Example: The complete coding for switch type CA10 with a 3 pole ON/OFF switch function with electro-gray escutcheon plate frame, square escutcheon plate without lettering, brushed aluminum plate backing and electro-gray handle reads as follows: **CA10 A202-103 E**.

Handles, Escutcheon Plates and Optional Extras

The handles for standard switches shown on pages 6-28 are suitable for mounting units with four hole mounting. Alternative types of handles available are illustrated on pages 29-35.
When a handle, escutcheon 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 escutcheon plates is illustrated on pages 36 and 37. Non-standard or special escutcheon plate engravings are available at extra cost.
The large number of optional extras and enclosures is covered in Catalog **101**.

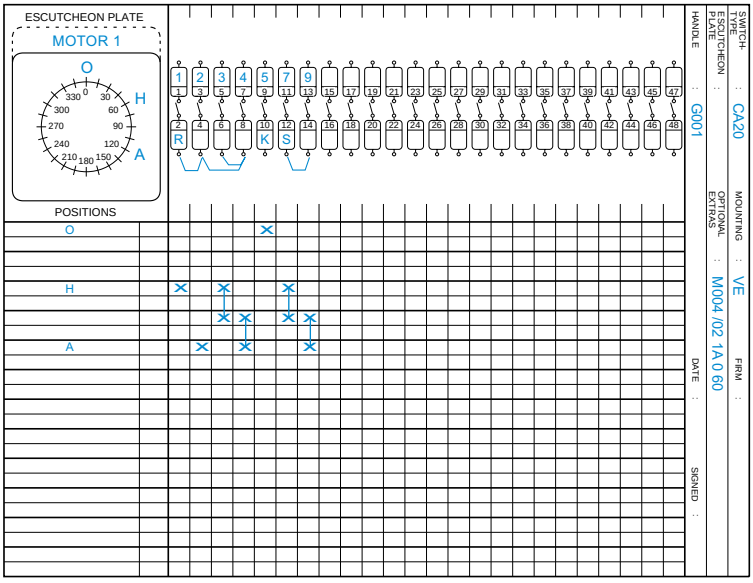
Switch Size

Blue Line switches are available in sizes S00, S0, S1, S2 and S3. These size codes indicate the dimensions of the mounting, the escutcheon plate and the handle, as well as the size of optional devices and enclosures.
Page 3 lists these sizes and the various switch types they include.

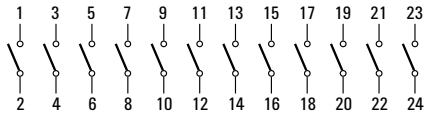
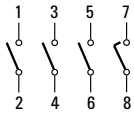
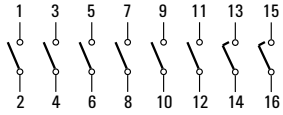
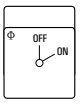
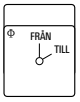
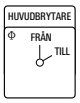
Ordering of Special Switches and Escutcheon Plates

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

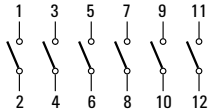
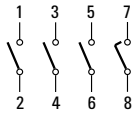
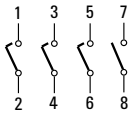
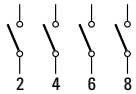
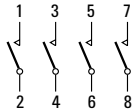
For technical reasons, it may not be possible to follow the sequence of contacts requested by the customer. The final contact development which is sent with every switch will show the customer's original terminal markings.



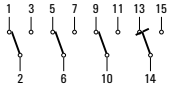
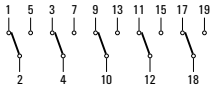
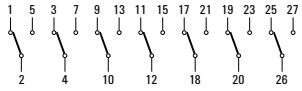
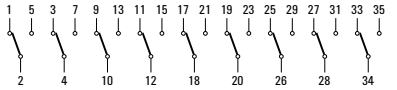
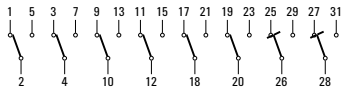
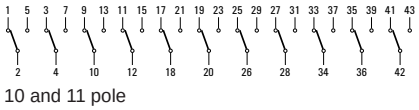
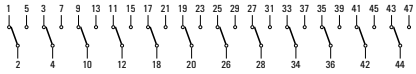
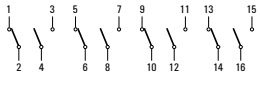
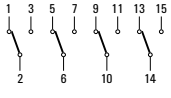
Order forms are available on request.

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- C315	Code	Stages	Connection Diagram
ON/OFF Switches with 60° Switching								
1 pole						A200-600	1	 1-12 pole  4 pole 1 pole preclose 6°  8 pole 2 pole preclose 6°
2 pole						A201-600	1	
3 pole						A202-600	2	
3 pole with red handle						A202-626	2	
4 pole						A203-600	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-600	3	
7 pole						A343-600	4	
8 pole						A344-600	4	
8 pole 2 pole preclose 6°[1]						WAA654	4	
9 pole						WAA345	5	
10 pole						A346-600	5	
11 pole						WAA347	6	
12 pole						A348-600	6	
1 pole						A200-620	1	
2 pole						A201-620	1	
3 pole						A202-620	2	
4 pole						A203-620	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-620	3	
7 pole						A343-600	4	
8 pole						A344-620	4	
8 pole 2 pole preclose 6°[1]						WAA654	4	
9 pole						WAA345	5	
10 pole						A346-620	5	
11 pole						WAA347	6	
12 pole						A348-620	6	
1 pole						A200-621	1	
2 pole						A201-621	1	
3 pole						A202-621	2	
4 pole						A203-621	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-621	3	
1 pole						A200-622	1	
2 pole						A201-622	1	
3 pole						A202-622	2	
4 pole						A203-622	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-622	3	
1 pole						A200-623	1	
2 pole						A201-623	1	
3 pole						A202-623	2	
4 pole						A203-623	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-623	3	
1 pole						A200-624	1	
2 pole						A201-624	1	
3 pole						A202-624	2	
4 pole						A203-624	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-624	3	
1 pole						A200-625	1	
2 pole						A201-625	1	
3 pole						A202-625	2	
4 pole						A203-625	2	
4 pole 1 pole preclose 6°[1]						WAA653	2	
5 pole						WAA341	3	
6 pole						A342-625	3	

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

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- C315	Code	Stages	Connection Diagram
ON/OFF Switches with 90° Switching								
1 pole contacts 2 pole preclose 30° 3 pole 4 pole 4 pole 1 pole preclose 60°[1] 4 pole 3 pole preclose 30° 5 pole contacts 6 pole preclose 30°						A290-600 A291-600 A292-600 A324-600 A293-600 WAA327 WAA325 A326-600	1 1 2 2 2 2 3 3	 1, 2, 3, 4, 5 and 6 pole
1 pole contacts 2 pole preclose 30° 3 pole 4 pole 4 pole 1 pole preclose 60°[1] 4 pole 3 pole preclose 30° 5 pole contacts 6 pole preclose 30°						A290-620 A291-620 A292-620 A324-620 A293-620 WAA327 WAA325 A326-620	1 1 2 2 2 2 3 3	 4 pole 1 pole preclose 60°  4 pole 3 pole preclose 30°
3 pole 360° rotation	 					WAA208 WAA208	2 2	
3 pole for foot operation					CA40- CA63	WAA386	2	
ON/OFF Switches with 30° Switching								
1 pole 2 pole 3 pole 4 pole						WAA100 WAA101 WAA102 WAA103	1 1 2 2	 1-4 pole
1 pole with spring return 2 pole with spring return 3 pole with spring return 4 pole with spring return						A204-600 A205-600 WAA206 WAA207	1 1 2 2	 1-4 pole
1 pole with spring return 2 pole with spring return 3 pole with spring return 4 pole with spring return						A204-620 A205-620 WAA206 WAA207	1 1 2 2	

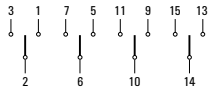
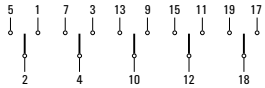
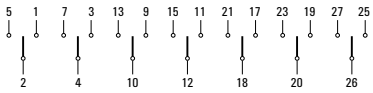
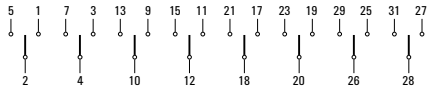
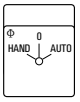
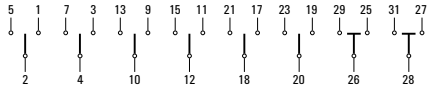
[1]for use in a three phase four-wire system with switched neutral [2]not available for switch type CA25 [3]not available for switch type C315

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- C315	Code	Stages	Connection Diagram
Double-throw Switches without „OFF“ 60° Switching								
1 pole						A220-600	1	 1-4 pole  4 pole 1 pole preclose 6°  5 pole  6 and 7 pole  8 and 9 pole  8 pole 2 pole preclose 6°  10 and 11 pole  12 pole
2 pole						A221-600	2	
3 pole						A222-600	3	
4 pole						A223-600	4	
4 pole 1 pole preclose 6°[2]						WAA673	4	
5 pole						A369-600	5	
6 pole						A370-600	6	
7 pole						A371-600	7	
8 pole						A372-600	8	
8 pole 2 pole preclose 6°[2]						WAA972	8	
9 pole						WAA373	9	
10 pole						WAA374	10	
11 pole						WAA375	11	
12 pole						WAA376	12	
Double-throw Switches without „OFF“ with electrically isolated contacts								
1 pole						A720-600	1	 1-4 pole  4 pole 1 pole preclose 6°
2 pole						A721-600	2	
3 pole						A722-600	3	
4 pole						A723-600	4	
4 pole 1 pole preclose 6°[2]						WAA973	4	
1 pole with spring return						A795-600	1	 1 pole with spring return
Double-throw Switches without „OFF“ 30° Switching								
1 pole						WAA120	1	 1-4 pole
2 pole						WAA121	2	
3 pole						WAA122	3	
4 pole						WAA123	4	
1 pole with spring return						A295-600	1	 1-3 pole
2 pole with spring return						A296-600	2	
3 pole with spring return			[1]			WAA297	3	
1 pole with spring return						A295-620	1	
2 pole with spring return						A296-620	2	
3 pole with spring return			[1]			WAA297	3	

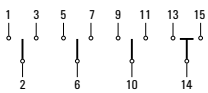
[1]not available for switch type CA25 [2]for use in a three phase four-wire system with switched neutral

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

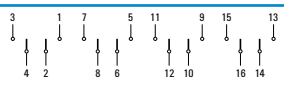
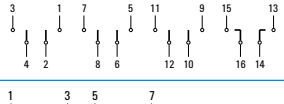
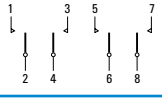
Double-throw Switches with Center „OFF“ 60° Switching

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

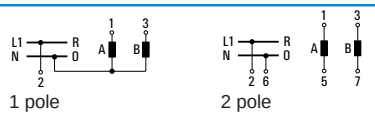
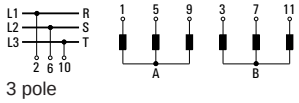
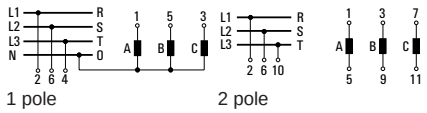
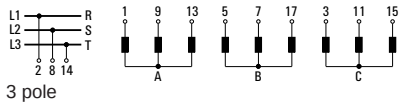
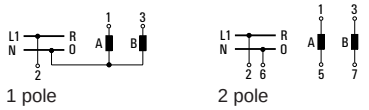
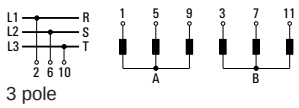
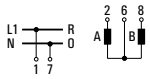
Double-throw Switches with Center „OFF“ 90° Switching

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

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

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

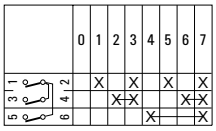
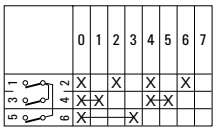
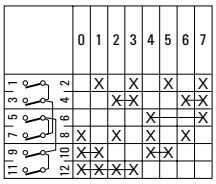
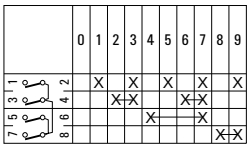
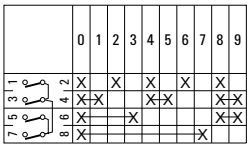
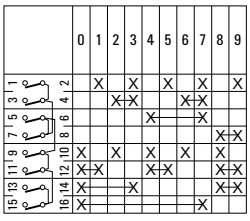
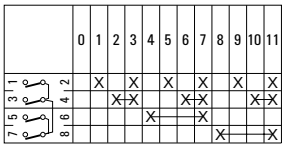
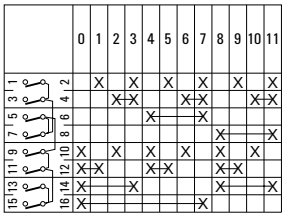
[1]switch type C315 with handle [2]not available for switch type C315 [3]for use in a three phase four-wire system with switched neutral

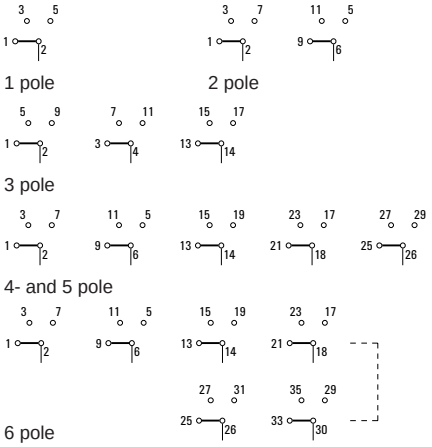
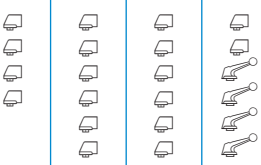
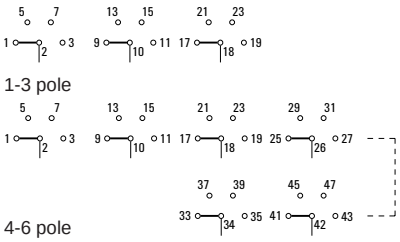
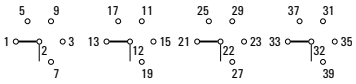
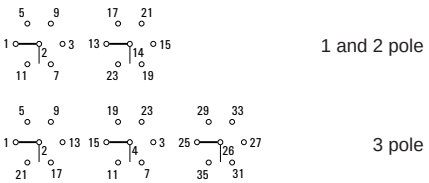
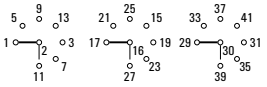
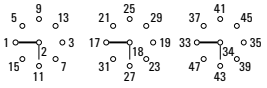
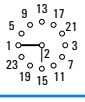
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- C315	Code	Stages	Connection Diagram
Double-throw Switches with Spring Return to Center								
1 pole with spring return 2 pole to center 3 pole					[2]	A214-600 A215-600 A216-600	1 2 3	 1-3 pole
1 pole 2 pole 3 pole			[1]		[2]	A214-620 A215-620 A216-620	1 2 3	
1 pole with spring return 2 pole from left to center 3 pole			[1]			A320-600 A321-600 A322-600	1 2 3	 1-3 pole
1 pole 2 pole 3 pole			[1]			A320-621 A321-621 A322-621	1 2 3	
General Application Switches								
1 pole 2 Gang 2 pole Switching sequence: 3 pole 0, A, A+B						A310-600 A312-600 WAA314	1 2 3	 1 pole 2 pole
1 pole 2 pole 3 pole						A310-620 A312-620 WAA314	1 2 3	 3 pole
1 pole 3 Gang 2 pole Switching sequence: 3 pole 0, A, A+B, A+B+C						A311-600 WAA313 WAA315	2 3 5	 1 pole 2 pole
1 pole 2 pole 3 pole						A311-620 WAA313 WAA315	2 3 5	 3 pole
1 pole 2 Gang 2 pole Series switching 3 pole Switching sequence: 0, A, B, A+B						WAA330 WAA331 WAA332	1 2 3	 1 pole 2 pole
1 pole 2 pole 3 pole						WAA330 WAA331 WAA332	1 2 3	 3 pole
2 pole 2 Gang Series-parallel Switching Switching sequence: 0, A+B series, A, A+B parallel						WAA339	2	
						WAA339	2	

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

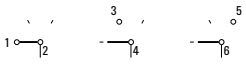
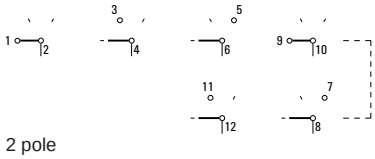
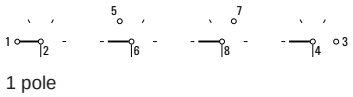
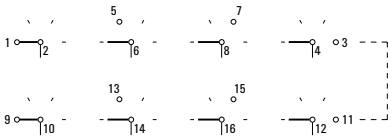
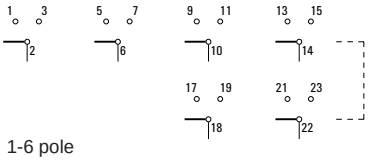
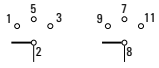
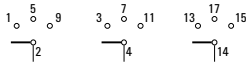
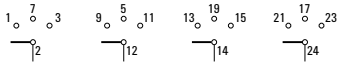
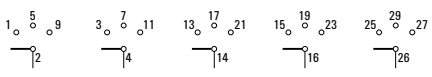
Function	Escutch. Plate	Type/Handle CA4 CA10 CA4-1 CAD11 CA10B- CA40- CAD4-1 CAD12 CA25B C315	Code	Stages	Connection Diagram

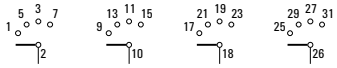
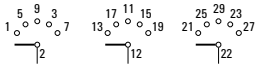
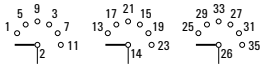
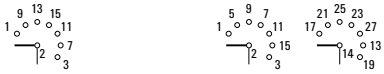
Coding Switches/Binary Code

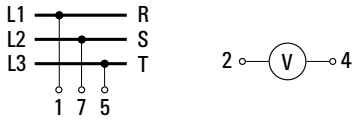
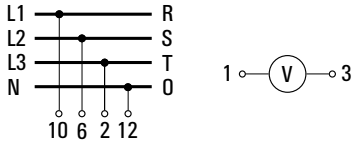
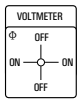
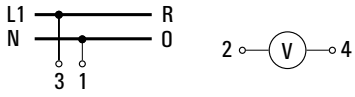
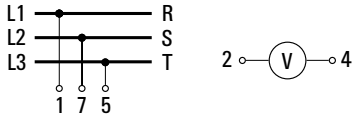
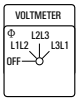
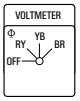
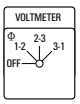
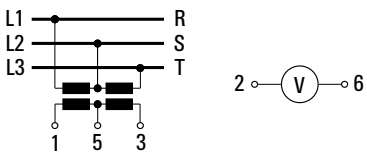
0 - 7 360° rotation						A540-600	2	
0 - 7 complement 360° rotation						WAA541	2	
0 - 7 + complement 360° rotation						WAA542	3	
0 - 9						A550-600	2	
0 - 9 complement						WAA551	2	
0 - 9 + complement						WAA552	4	
0 - 11 360° rotation						A543-600	2	
0 - 11 + complement 360° rotation						WAA545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

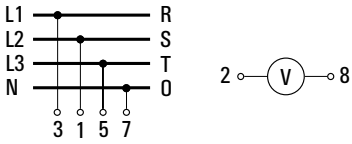
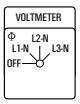
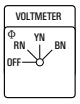
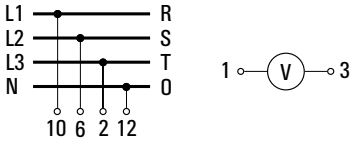
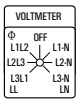
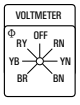
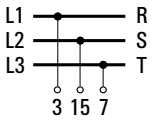
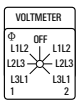
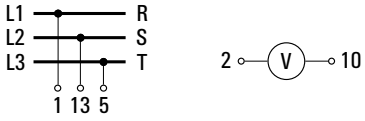
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches without „OFF“								
1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole						A230-600 A250-600 A270-600 A476-600 WAA484 WAA489	2 3 5 6 8 9	 1 pole 2 pole 3 pole 4- and 5 pole 6 pole
1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole						A231-600 A251-600 A271-600 A477-600 WAA485 WAA490	2 4 6 8 10 12	 1-3 pole 4-6 pole
1 pole 5 Step 2 pole 3 pole 4 pole						A232-600 A252-600 WAA272 WAA478	3 5 8 10	 1-4 pole
1 pole 6 Step 2 pole 3 pole						A233-600 WAA253 WAA273	3 6 9	 1 and 2 pole 3 pole
1 pole 7 Step 2 pole 3 pole						WAA234 WAA254 WAA274	4 7 11	 1-3 pole
1 pole 8 Step 2 pole 3 pole						WAA235 WAA255 WAA275	4 8 12	 1-3 pole
1 pole 9 Step						WAA236	5	
1 pole 10 Step						WAA237	5	
1 pole 11 Step						WAA238	6	
1 pole 12 Step 1 pole 360° rotation						WAA239 WAA639	6 6	

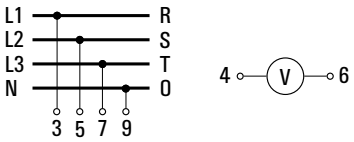
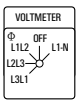
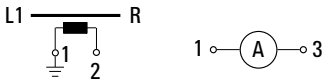
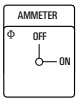
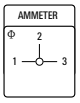
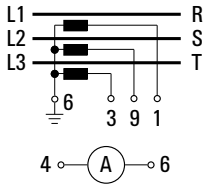
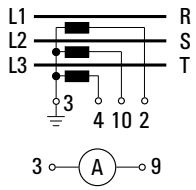
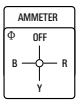
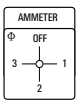
[1]switch type C315 with handle [2]not available for switch type CA11B

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								
1 pole 3 Step						A730-600	2	 1 pole
2 pole						A750-600	3	 2 pole
1 pole 4 Step						A731-600	2	 1 pole
2 pole						A751-600	4	 2 pole
Multi-step Switches with „OFF“								
1 pole 2 Step						A240-600	1	 1-6 pole
2 pole						A260-600	2	
3 pole						A280-600	3	
4 pole						WAA480	4	
5 pole						WAA486	5	
6 pole						WAA491	6	
1 pole						A240-620	1	
2 pole						A260-620	2	
3 pole						A280-620	3	
4 pole						WAA480	4	
5 pole						WAA486	5	
6 pole						WAA491	6	
1 pole 3 Step						A241-600	2	 1 and 2 pole
2 pole						A261-600	3	
3 pole						A281-600	5	
4 pole						WAA481	6	
5 pole						WAA487	8	
1 pole						A241-620	2	 3 pole
2 pole						A261-620	3	
3 pole						A281-620	5	
4 pole						WAA481	6	
5 pole						WAA487	8	
1 pole						A241-621	2	 4 pole
2 pole						A261-621	3	 5 pole

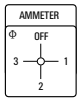
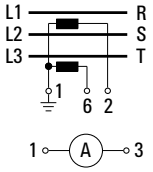
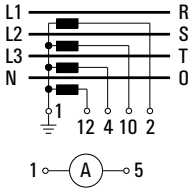
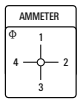
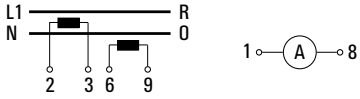
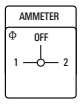
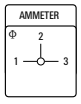
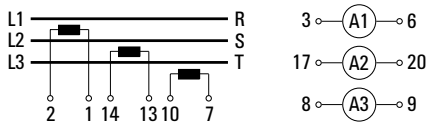
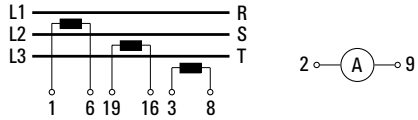
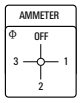
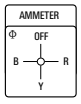
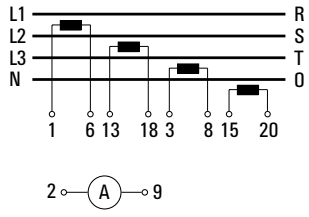
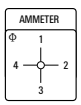
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA63	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches with „OFF“								
1 pole 4 Step						A242-600	2	
2 pole						WAA262	4	
3 pole						WAA282	6	
4 pole						WAA482	8	
1 pole						A242-620	2	
2 pole						WAA262	4	1-4 pole
3 pole						WAA282	6	
4 pole						WAA482	8	
1 pole 5 Step						A243-600	3	
2 pole						WAA263	5	
3 pole						WAA283	8	
1 pole						A243-620	3	
2 pole						WAA263	5	1-3 pole
3 pole						WAA283	8	
1 pole 6 Step						A244-600	3	
2 pole						WAA264	6	
3 pole						WAA284	9	
1 pole						A244-620	3	
2 pole						WAA264	6	1-3 pole
3 pole						WAA284	9	
1 pole 7 Step						WAA245	4	
2 pole						WAA265	7	
1 pole						WAA245	4	
2 pole						WAA265	7	1 pole 2 pole
1 pole 8 Step						WAA246	4	
1 pole						WAA246	4	
1 pole 9 Step						WAA247	5	
1 pole						WAA247	5	
1 pole 10 Step						WAA248	5	
1 pole						WAA248	5	
1 pole 11 Step						WAA249	6	
1 pole 360° rotation						WAA649	6	
1 pole						WAA249	6	
1 pole 360° rotation						WAA649	6	

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CA10- CA25	CAD.. CL10	CA10B- CA25B	Code	Stages	Connection Diagram
Voltmeter Switches without „OFF“								
3 phase 3 wire						A023-600	2	
						A023-620	2	
3 phase 3 wire 3 phase to phase and phase to neutral						A025-600	3	
						A025-620	3	
Voltmeter Switches with „OFF“								
2 pole 360° rotation						WAA002	1	
3 phase 3 wire						A004-600	2	
						A004-620	2	
						A004-621	2	
						A004-622	2	
						A004-623	2	
						A004-624	2	
						WAA011	2	

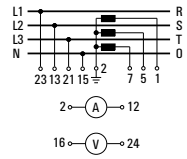
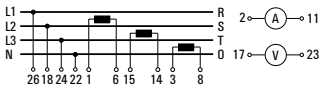
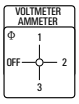
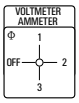
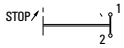
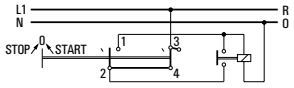
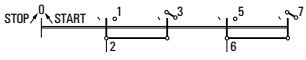
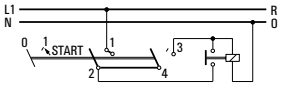
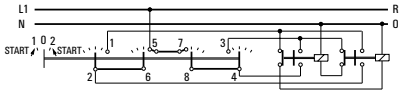
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CA10- CA25	CAD.. CL10	CA10B- CA25B	Code	Stages	Connection Diagram
Voltmeter Switches with „OFF“								
3 phase to neutral						WAA005	2	
						WAA005	2	
						WAA005	2	
						WAA005	2	
						WAA005	2	
3 phase to phase and 3 phase to neutral						A007-600	3	
						A007-620	3	
						A007-621	3	
						A007-622	3	
						A007-623	3	
						A007-624	3	
2 separate 3 phase with center „OFF“						WAA008	4	
						WAA008	4	
						WAA008	4	
						WAA008	4	

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA50	CA63- C125	Code	Stages	Connection Diagram
Voltmeter Switches with „OFF“								
3 phase and 1 phase to neutral		●	●	●[1]		WAA010	3	
		●	○	○[1]		WAA010	3	
		●	○	○[1]		WAA010	3	
		●	●	●[1]		WAA010	3	
Ammeter Switches								
Single pole with one current transformer		●	●	●	●	WAA046	1	
		●	○	○	●	WAA046	1	
		●	○	○	●	WAA046	1	
Single pole with 3 current transformers without „OFF“		●	○	○		A017-600	3	
		●	○	○		A017-620	3	
Single pole with 3 current transformers with „OFF“ 360° rotation		●	●	●		A048-600	3	
		●	○	○		A048-620	3	
		●	●	●		A048-621	3	
		●	●	●		A048-622	3	
		●	○	○		A048-623	3	

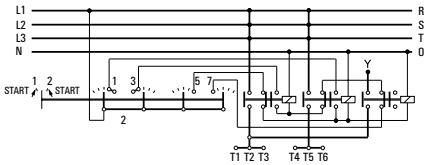
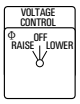
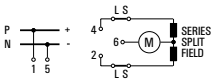
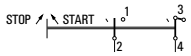
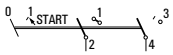
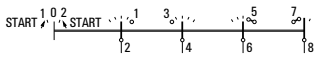
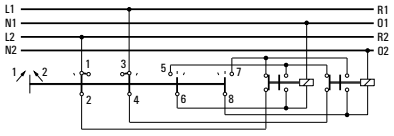
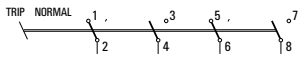
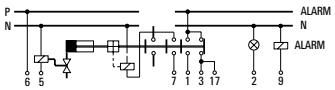
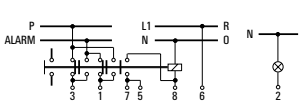
[1]available only up to switch type CA25B

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA50	CA63- C125	Code	Stages	Connection Diagram
Ammeter Switches								
Single pole with 2 current transformers (3 readings)		●	●	●[1]		A021-600	2	
		●	●	●[1]		A021-620	2	
Single pole with 4 current transformers		●	●	●		WAA036	4	
		●	●	●		WAA036	4	
2 pole 2 current transformers		●	●	●	●	WAA037	3	
		●	●	●	●	WAA037	3	
		●	●	●	●	WAA037	3	
2 pole 3 current transformers		●	●	●[1]		WAA019	5	
		●	●	●[1]		WAA019	5	
		●	●	●	●	A038-600	5	
		●	●	●	●	A038-620	5	
		●	●	●	●	A038-621	5	
2 pole 4 current transformers		●	●	●	●	WAA039	6	
		●	●	●	●	WAA039	6	

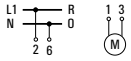
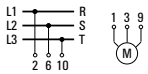
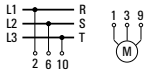
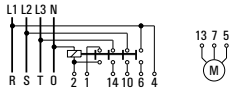
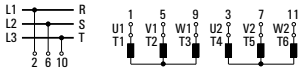
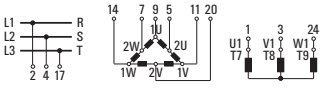
[1]available only up to switch type CA25B

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- CA63	Code	Stages	Connection Diagram
Volt-ammeter Switches								
3 phase - phase to phase 3 current						WAA027	6	
					[1]	WAA028	7	
3 phase voltage 3 phase current 4 wire					[1]	WAA033	5	
3 phase voltage 3 phase current 3 wire					[1]	WAA035	5	
Control Switches								
Stop switch					[1]	WAA174	1	
Start switch					[1]	A175-600	1	
Stop start switch single pole					[1]	A176-600	1	
Stop start switch 2 pole						WAA183	2	
Stop start switch with spring return from start to run						A178-600	1	
						A178-620	1	
Stop start switch with spring return to run for 2 units					[1]	WAA177	2	
					[1]	WAA177	2	

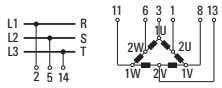
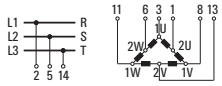
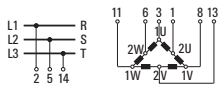
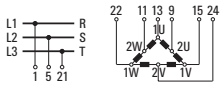
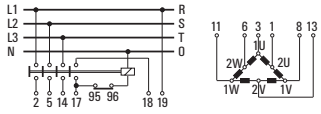
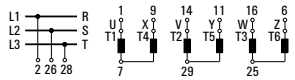
[1] available only up to switch type CA50

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40 CA50	Code	Stages	Connection Diagram
Control Switches								
Stop start switch with spring return to run with contactor interlock contactors for 2 units						WAA182	2	
						WAA182	2	
Motor voltage control switch						WAA150	2	
Control Switches with electrically isolated contacts								
Stop start switch single pole					[4]	A789-600	1	
Stop start switch with spring return to 1					[4]	A791-600	1	
Stop start switch with spring return to run for 2 units					[4]	WAA790	2	
Contactor control with spring return to „OFF“						WAA179	2	
						WAA179	2	
Circuit breaker control						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	

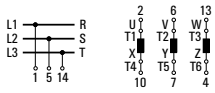
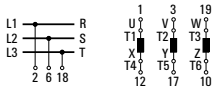
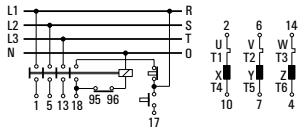
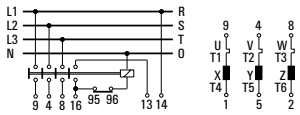
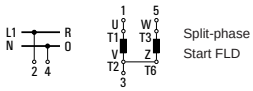
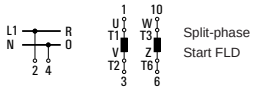
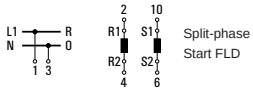
[1]Advise the indicator device, described in Catalog 101, page 7. [2]not available for switch types CA25 and CA25B [3]incl. slip clutch
[4]available only up to switch type CA40

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B CA40- CA63	C80- C315	Code	Stages	Connection Diagram
Motor Reversing Switches								
2 pole						A400-600	2	
						A400-620	2	
						A400-621	2	
3 pole						A401-600	3	
						A401-620	3	
						A401-621	3	
3 pole with spring return to „OFF“			[1]	[2]		A228-600	3	
			[1]	[2]		A228-620	3	
3 pole for use with reversing contactors				[3]		WAA402	4	
Motor Control Switches								
2 speed 2 winding 0-A-BY or Δ						WAA451	3	
						WAA451	3	
3 speed 2 winding 0-AΔ-BY-AYY						WAA457	6	
						WAA457	6	

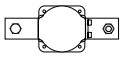
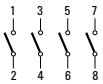
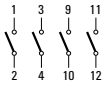
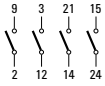
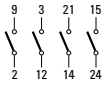
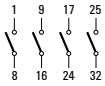
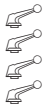
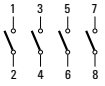
[1]not available for switch type CA25 [2]not available for switch types CA40-CA63 [3]available only up to switch type CA50

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA10B- CA25B	CA40- C315	Code	Stages	Connection Diagram
Motor Control Switches								
2 speed single winding						A440-600	4	
						A440-620	4	
2 speed single winding without „OFF“						A466-600	4	
2 speed single winding with center „OFF“						A441-600	4	
						A441-620	4	
2 speed single winding reversing						WAA442	6	
						WAA442	6	
2 speed single winding for use with contactors						WAA444	5	
						WAA444	5	
2 speed reversing for 2 way operation with slip clutch for „OFF“ load use						WAA468	10[1]	
						WAA468	10[1]	

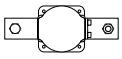
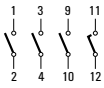
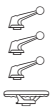
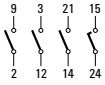
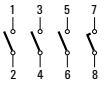
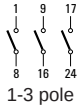
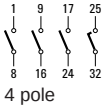
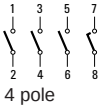
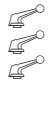
[1]incl. slip clutch

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CAD4-1	CAD.. CA10- CA25	CA..B CA40- CA63	C80- C315	Code	Stages	Connection Diagram
Star-delta Switches								
OFF-star-delta						A410-600	4	
						A410-620	4	
Reversing						WAA413	5	
With auxiliary contact closed in „OFF“ position						WAA416	5	
For use with reversing contactors						A419-600	4	
Start and Run Switches								
Split-phase start						A425-600	2	 Split-phase Start FLD
						A425-620	2	
Split-phase start reversing			[1]			WAA426	3	 Split-phase Start FLD
			[1]			WAA426	3	
Split-phase reversing auto cutout of start field winding						WAA622	3	 Split-phase Start FLD

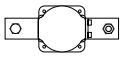
[1] not available for switch type CA25

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250  L351 L631 L1001 L1251 
ON/OFF Switches with 60° Switching							
1 pole L350/L351			WAA200	1			1-4 pole
2 pole			WAA201	2			
3 pole			WAA202	3			
4 pole			WAA203	4			
1 pole			WAA200	1			
2 pole			WAA201	2			
3 pole			WAA202	3			
4 pole			WAA203	4			
1 pole L400			WAA200	2			1-4 pole
2 pole			WAA201	2			
3 pole			WAA202	4			
4 pole			WAA203	4			
3 pole with lugs suitable for protective cover			WAA302	3			A302
1 pole			WAA200	2			
2 pole			WAA201	2			
3 pole			WAA202	4			
4 pole			WAA203	4			
1 pole L600			WAA200	3			1-4 pole
2 pole			WAA201	3			
3 pole			WAA202	6			
4 pole			WAA203	6			
1 pole L630/L631			WAA200	2			1-4 pole
2 pole			WAA201	4			
3 pole			WAA202	6	●		
4 pole			WAA203	8	●		
1 pole L800			WAA200	2			1-4 pole
2 pole			WAA201	4			
3 pole			WAA202	6			
4 pole			WAA203	8			
1 pole L1000/L1001			WAA200	3			1-4 pole
2 pole			WAA201	6	●		
3 pole			WAA202	9	●		
4 pole			WAA203	12	●		
1 pole L1200			WAA200	3			1-3 pole
2 pole			WAA201	6			
3 pole			WAA202	9			
1 pole L1250/L1251			WAA200	4			1-3 pole
2 pole			WAA201	8	●		
3 pole			WAA202	12	●		
1 pole L1600			WAA200	4			1-3 pole
2 pole			WAA201	8			
3 pole			WAA202	12			
1 pole L2000			WAA200	5			1 and 2 pole
2 pole			WAA201	10	●		

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

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250  L351 L631 L1001 L1251 
ON/OFF Switches with 90° Switching							
1 pole L350/L351 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	1 2 3 4		 1-3 pole	
1 pole L400 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 2 4 4		 1-3 pole	 4 pole
3 pole with lugs suitable for protective cover			WAA307	3		 A307	
3 pole 360° rotation			WAA208	4			
1 pole L600 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	3 3 6 6		 1-3 pole	 4 pole
1 pole L630/L631 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 4 6 8		 1-3 pole	 4 pole
1 pole L800 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	2 4 6 8	● ● ●	 1-3 pole	 4 pole
1 pole L1000/L1001 2 pole 3 pole 4 pole 1 pole preclose 60°			WAA290 WAA291 WAA292 WAA293	3 6 9 12	● ● ●	 1-3 pole	 4 pole
1 pole L1200 2 pole 3 pole			WAA290 WAA291 WAA292	3 6 9	● ● ●		1-3 pole
1 pole L1250/L1251 2 pole 3 pole			WAA290 WAA291 WAA292	4 8 12	● ●		1-3 pole

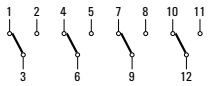
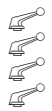
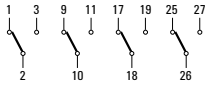
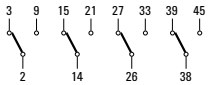
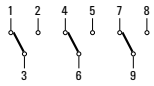
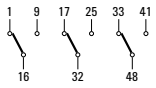
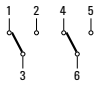
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250  L351 L631 L1001 L1251 

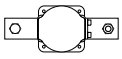
ON/OFF Switches with 90° Switching

1 pole 2 pole 3 pole	L1600			WAA290 WAA291 WAA292	4 8 12	● ● ●		1-3 pole
1 pole 2 pole	L2000			WAA290 WAA291	5 10	● ●		1- and 2 pole

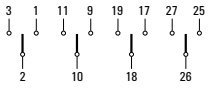
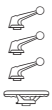
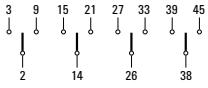
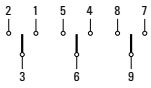
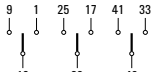
Double-throw Switches without „OFF“ 60° Switching

1 pole 2 pole 3 pole 4 pole	L350/L351			WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			WAA220 WAA221 WAA222 WAA223	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			WAA220 WAA221 WAA222 WAA223	3 6 9 12	 ● ●		1-4 pole
1 pole 2 pole 3 pole	L630/L631			WAA220 WAA221 WAA222	4 8 12	 ●		1-3 pole
1 pole 2 pole 3 pole	L800			WAA220 WAA221 WAA222	4 8 12	 ●		1-3 pole
1 pole 2 pole	L1000/L1001			WAA220 WAA221	6 12	 ●		1 and 2 pole
1 pole	L1200			WAA220	6			
1 pole	L1250/L1251			WAA220	8			
1 pole	L1600			WAA220	8			
1 pole	L2000			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

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250  L351 L631 L1001 L1251 

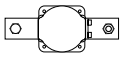
Double-throw Switches with Center „OFF“

1 pole 2 pole 3 pole 4 pole	L350/L351			WAA210 WAA211 WAA212 WAA213	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			WAA210 WAA211 WAA212 WAA213	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			WAA210 WAA211 WAA212 WAA213	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630/L631			WAA210 WAA211 WAA212	4 8 12	 ●		1-3 pole
1 pole 2 pole 3 pole	L800			WAA210 WAA211 WAA212	4 8 12	 ●		1-3 pole
1 pole 2 pole	L1000/L1001			WAA210 WAA211	6 12	 ●		1 and 2 pole
1 pole	L1200			WAA210	6			
1 pole	L1250/L1251			WAA210	8			
1 pole	L1600			WAA210	8			
1 pole	L2000			WAA210	10			

Multi-step Switches single pole without „OFF“

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

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

Function/Type		Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250  L351 L631 L1001 L1251 
Multi-step Switches single pole without „OFF“								
5 Step	L400			WAA232	6			
6 Step	L350/L351			WAA233	6			
6 Step	L400			WAA233	6			
7 Step	L350/L351			WAA234	8			
7 Step	L400			WAA234	8			
8 Step	L350/L351			WAA235	8			
8 Step	L400			WAA235	8			
9 Step	L350/L351			WAA236	10			
9 Step	L400			WAA236	10			
10 Step	L350/L351			WAA237	10			
10 Step	L400			WAA237	10			
11 Step	L350/L351			WAA238	12			
11 Step	L400			WAA238	12			
12 Step	L350/L351			WAA239	12			
12 Step	L400			WAA239	12			

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

Two or Four Hole Panel Mounting	Terminals rotated 90°	Code	CAD.. CA10-CA25	CA10B-CA63	C80-C200-4 L350-L1251 Size S2	C315 L400-L2000 Size S3
Panel mounting						
 Four hole panel mounting		E	●	●	●	●
	●	E-V	●	●		
Four hole panel mounting		EF	●	●	●	●
Protection IP 66	●	EF-V	●	●		
Two hole panel mounting		E22	●			
Protection IP 65	●	E22-V	●			
Panel mounting using larger escutcheon plate and handle and with heavy duty latching						
 Four hole panel mounting		EG	●	CA40-CA63	C80-C200-4	
Four hole panel mounting Protection IP 66		EGF	●	CA40-CA63	C80-C200-4	
Panel and base mounting						
 Four hole mounting		ER	CAD.. CA10-CA25	●	●	●
Four hole mounting Protection IP 66		ERF	CAD.. CA10-CA25	●	●	●

Two or Four Hole Panel Mounting	Code	CAD.. CA10-CA25	CA10B CA11B CA20B CA25B	CA40 CA50 CA63
 Panel mounting with heavy duty latching and metal shaft				
Four screw panel mounting Mounting plate, escutcheon plate and handle of size S0	KN2	●		
 Four screw panel mounting Mounting plate, escutcheon plate and handle of size S1	KN1	●	●	●
Four screw panel mounting Mounting plate, escutcheon plate and handle of size S1 and 6 mm square metal shaft	KD1	●	●	●
Panel mounting with protective cover				
 Four screw panel mounting Protection front IP 40 rear IP 30 for CA and CAD IP 42 for CA40-CA63	EC	CAD.. CA10-CA25	●	●
Four screw panel mounting with additional shaft seal Protection front IP 65 rear IP 30 for CA and CAD IP 42 for CA40-CA63	ED	CAD.. CA10-CA25	●	●
 Four screw panel mounting Protection front IP 40 rear IP 42	EC1		●	
Four screw panel mounting with additional shaft seal Protection front IP 65 rear IP 42	ED1		●	
Two screw panel mounting Protection front IP 65 rear IP 42	ED22	CAD.. CA10-CA25		

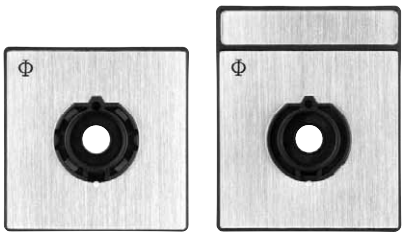
Single Hole Mounting	Terminals rotated 90°	Code	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25
With locking nut and shaft seal, protection IP 66			mm	mm
 Without escutcheon plate		FS1	16/22	
	●	FS1-V	16/22	
		FT1		22
	●	FT1-V		22
		FT3		22/30
	●	FT3-V		22/30
 With square escutcheon plate		FS2	16/22	
	●	FS2-V	16/22	
		FT2		22
	●	FT2-V		22
		FT4		22/30
	●	FT4-V		22/30
With size S1 square escutcheon plate and heavy duty latching		FH3		22
	●	FH3-V		22
 With rectangular escutcheon plate		FS4	16/22	
	●	FS4-V	16/22	
		FT6		22
	●	FT6-V		22
With size S1 rectangular escutcheon plate and heavy duty latching		FH4		22
	●	FH4-V		22
 Mounting key for locking nut		S00 T170 09		

Base Mounting	Terminals rotated 90°	Code	CAD.. CA10-CA25	CA10B-CA63	C80-L2000
Base mounting					
 Base mounting - four hole	●	VE VE-V	CAD.. CA10-CA25	● ●	●
For four hole base mounting and with integrated simplified door clutch, protection IP 65	●	VF VF-V	CAD.. CA10-CA25		
 For two hole base mounting	●	VE22 VE22V	● CAD.. CA10-CA25		
For two hole base mounting and with integrated simplified door clutch, protection IP 65	●	VF22 VF22V	● CAD.. CA10-CA25		
 Snap-on base mounting for track EN 60715		VE1	●	●	

Base Mounting	Code	CA4 CA4-1 CAD4-1	CAD.. CA10- CA25
Base mounting			
 Snap-on base mounting for track EN 60715 with escutcheon plate for 45 mm standard knock-out.	VE2		●
 Snap-on base mounting for track EN 60715. Both the escutcheon plate for 45 mm standard knock-out and the handle are adjustable in height.	VE21	●	CAD.. CA10- CA20
	VE21V		CA25
 Snap-on base mounting for track EN 60715 with circular escutcheon plate for 46 mm knock-out.	VE3		●
 Base mounting - four hole - for circular escutcheon plate with 46 mm knock-out.	VE4		CAD.. CA10- CA25

Mounting Plates for Plaster Depth Boxes acc. to DIN 49070 and ÖNORM E6508		Code	CAD.. CA10-CA25
	Plaster depth trim	UE1	●
	With light	UE2	●
	With facility for light addition	UE3	●
	Plaster depth trim	UE4	●
	With light	UE5	●
	With facility for light addition	UE6	●

Escutcheon Plates

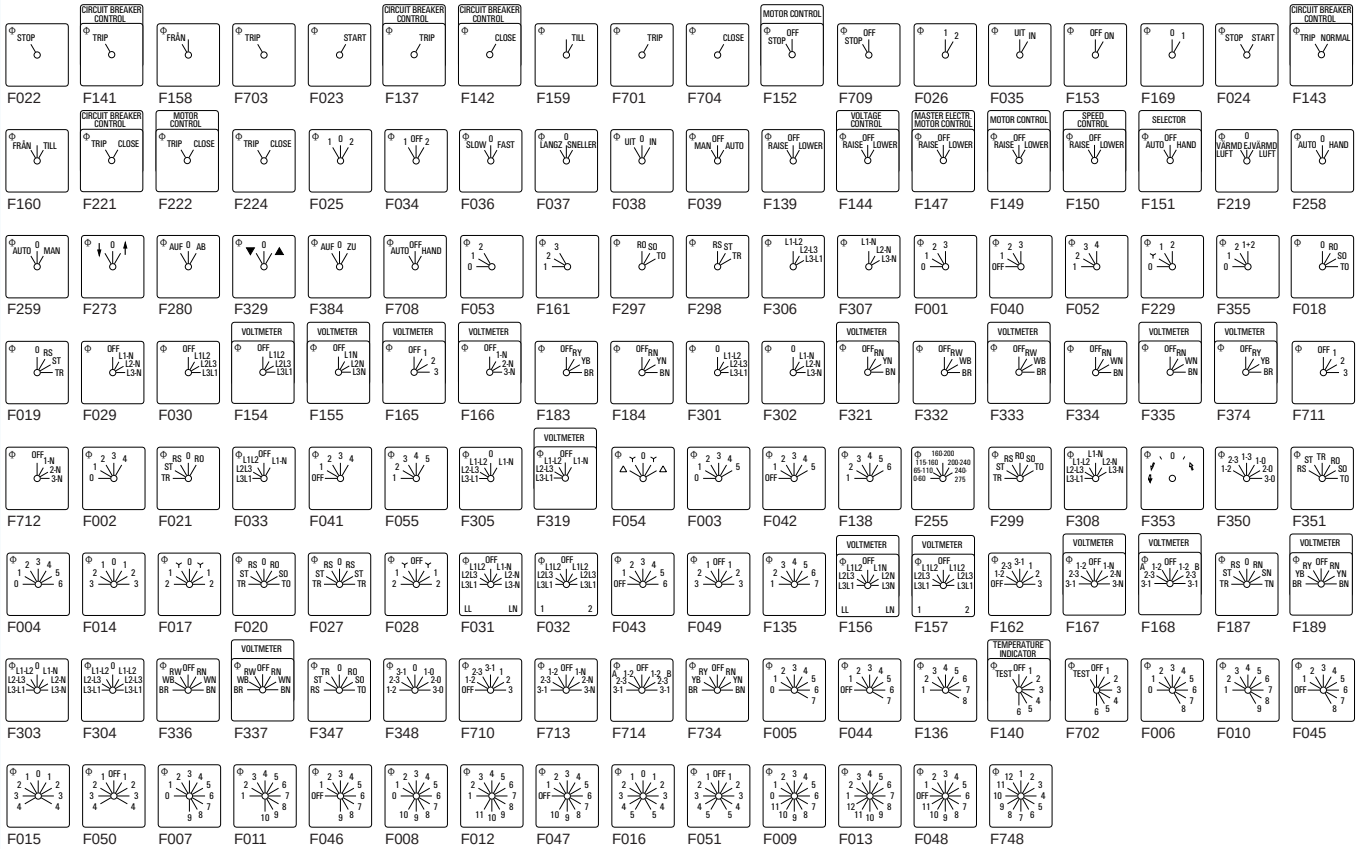


Square and rectangular escutcheon plates are available for each size of switch. The escutcheon plate consists of a frame and a faceplate having the switch positions which is than embossed with hot-foil backing. The escutcheon plate frame is an essential part of the switch and serves as a bearing surface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

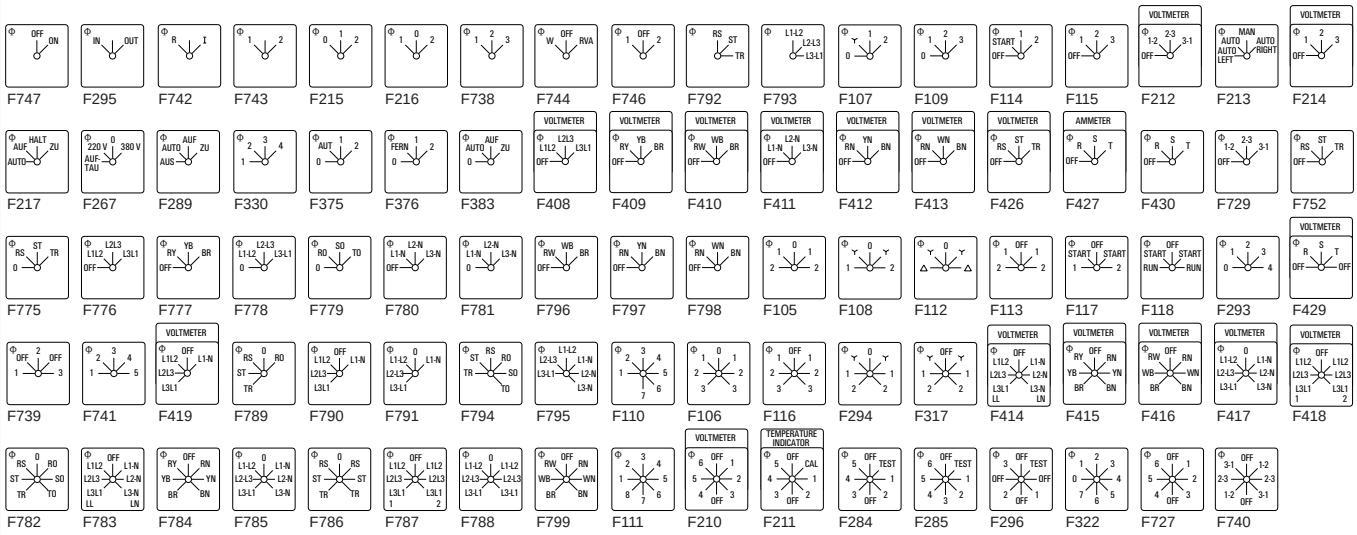
Standard Letterings Available

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

30° switching



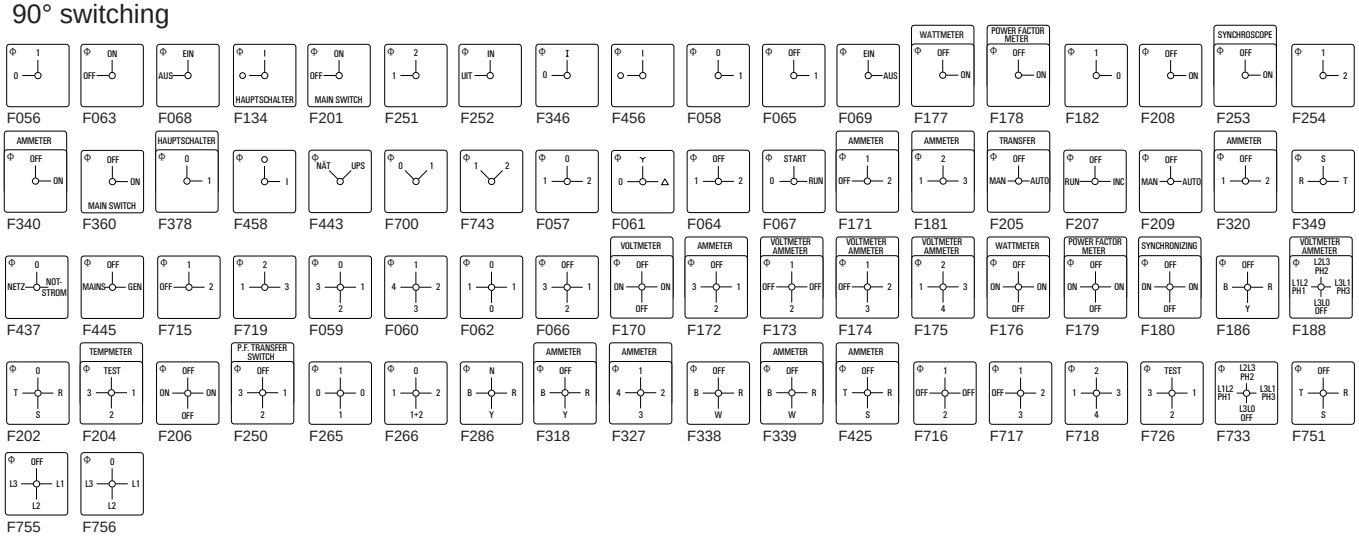
45° switching



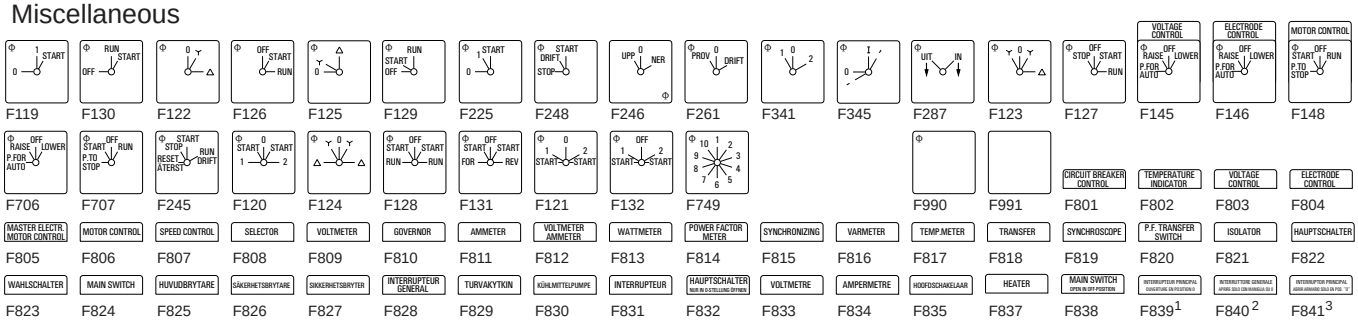
Escutcheon Plates

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

Type	Color	Code	Size S00	S0	S1	S2	S3
I-Handle  S00 S0-S3	black red white electro-gray	G251 G252 G253 G257	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
B-Handle 	black red white electro-gray	G521 G522 G523 G527	— — — —	● ● ● ●	● ● ● ●	— — — —	— — — —
L-Handle 	black red white electro-gray	G501 G502 G503 G507	— — — —	— — — —	● ● ● ●	— — — —	— — — —
K-Handle 	black red white electro-gray	G411 G412 G413 G417	— — — —	— — — —	● ● ● ●	● ● ● ●	● ● ● ●
O-Handle 	black red white electro-gray	G321 G322 G323 G327	— — — —	— — — —	● ● ● ●	— — — —	— — — —

International Standards and Approvals

Country	Authority	Mark or Standard	CAD11/12 CA4 CA4-1	CA10 CA11 CA20	CA10B CA11B CA20B	CA25 CA25B	CA40 CA50 CA63	C80 C125	L350/1 L630/1 L1000/1	L1250/1 C315 C316	L400 L600 L800	L1200 L1600 L2000
USA	Underwriters Laboratories Inc.	[1]							● ● ●	● ● ●	● ●	●
		[2] [3]	● ● ●	● ● ●	● ● ●	● ●	● ● ●	● ●			●	
Canada	UL investigated acc. to CSA	[6]	● ● ●	● ● ●	● ● ●	● ●		● ●	● ● ●	● ● ●	● ● ●	● ● ●
		[1]							● ● ●	● ● ●	● ●	●
		[2] [3]	● ● ●	● ● ●	● ● ●	● ●	● ● ●	● ●			●	
Switzerland	Schweizerischer Elektrotechnischer Verein		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Denmark	Danmarks Elektriske Materiellkontrol		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Norway	Norges Elektriske Materiellkontroll		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Sweden	Svenska Elektriska Materielkontroll-anstalten		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Finland	Sähkötar-kastuskeskus		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Austria	Österreichischer Verband für Elektrotechnik		+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Federal Republic of Germany	Verband Deutscher Elektrotechniker	VDE 0660[4]	+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Great Britain	British Standards Institution	BS EN 60947[4]	+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
International Electrical Commission (IEC) Recommendation		IEC 60947[5]	+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
China	China Quality Certification Centre	[7] GB14048.3	●	● ●	● ●							
Russian Federation	GOST	[7] CH01	● ● ●	● ● ●	● ● ●	● ●		● ●	+ + +	● ● ●	+ + +	+ + +
Russian Federation	Russian Maritime Register of Shipping		● ●	● ● ●	● ● ●	● ●						
Germanischer Lloyd			+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +
Lloyds Register EMEA			+ + +	+ + +	+ + +	+ +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +

● Switch approved + Switch conforms to requirements + No approval required

[1] Approved under the “Component Program” (UL-Recognized Industrial Component). File No. E35541, Category Control No. NLRV2 (U.S.) resp. NLRV8 (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] It is not required for Industrial Switchgear to bear a symbol but must conform to requirements. By stating the specific standard no. on the product the manufacturer declares that all requirements of the product standard are met.
[5] IEC does not operate an approval scheme.
[6] File No. 13002ass No. 3211-05 resp. 4652-04.
[7] If this approval is required, please request when ordering.

Selection Data

	CA4 CA4-1	CA10 CA10B	CA11 CA11B	CA20 CA20B	CA25 CA25B	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	690/1000
SEV[4] V	380	660	660	660	690	690	690	690	660	660	–	660
UL/Canada V	300	300	600	600	300	600	600	600	600	600	–	600
CEE/NEMKO V	400/380	380	400	400	–	–	–	–	400	–	–	–
min. voltage V						on request						
Rated Impulse Withstand Voltage U_{imp} kV	4	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	40	50	63	115	150	200	315
SEV[4] 380 V A	10	16	16	25	32	40	50	63	100	160	–	315
660 V A	–	12	12	25	32	40	50	63	–	–	–	315
UL/Canada A	10	20	20	30	30	45	55	65	100	150	–	240
Rated Operational Current I_e												
AC-21A Switching of resistive loads, including moderate overloads; IEC 60947-3, VDE 0660 part 107 A	10	20	20	25	32	40	50	63	100	150	200	315
AC-1 Resistive or low inductive loads; SEV[4] 380 V A	10	16	16	25	32	40	50	63	100	160	–	315
660 V A	–	12	12	20	32	40	50	63	–	–	–	315
AC-22A Switching of combined resistive or low inductive loads including moderate overloads; IEC 60947-3, VDE 0660 part 107 220 V-500 V A	10	20	20	25	32	40	50	63	100	150	150	315
660 V-690 V A	–	20	20	25	32	40	50	63	100	125	125	125
AC-15 Switching of control devices, contactors, valves etc.; IEC 60947-3, VDE 0660 part 107 220 V-240 V A	2,5	5	5	8	12	14	16	16	–	–	–	–
380 V-440 V A	1,5	4	4	5	6	6	7	7	–	–	–	–
Pilot Duty; UL/Canada[4] Heavy	A300	A300	A600	A600	A300	A600	A600	A600	–	–	–	A600
Ampere Rating Resistive or low inductive loads; UL/Canada[4] A	10	20	20	30	30	45	55	60	100	150	–	240
Resistive load/motor load; CEE A	4/2	10/6	10/6	16/10	–	–	–	–	63/10	–	–	–
NEMKO A	6/4[2]	10/6	–	20/10	–	–	–	–	–	–	–	–
Breaking capacity 220 V-240 V A	50	150	150	200	280	290	330	440	860	1100	1100	2000
380 V-440 V A	50	150	150	200	250	290	330	440	860	1100	1100	2000
660 V-690 V A	–	80	80	125	150	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	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 (gL/gG-characteristic) A	10	25	25	35	35	50	63	63	125	200	200	315
Rated short-time withstand current (1s-current) A	60	140	140	280	480	950	950	950	1300	2000	2000	4200

DC Switching Capacity[6]

Rated Operational Current I_e

No. of series contacts	1	2	3	4	5	6	8		CA4 CA4-1	CA10 CA10B	CA11 CA11B	CA20 CA20B	CA25 CA25B	C26S	C32S	C42S	C80	C125	C315[3] C316[3]
	Voltage V																		
Resistive loads	24	48	70	95	120	145	190	A	10	20	20	25	32	–	50	–	115	–	315
T ≤ 1 ms	48	95	140	190	240	290	350		6	12	12	20	25	32	40	63	100	150	250
	60	120	180	240	300	360	450		2,5	4,5	4,5	7,5	10	23	27	30	–	–	–
	110	220	330	440	550	660	–		0,7	1	1	1,5	2	6,5	–	–	–	–	–
	220	440	660	–	–	–	–		0,3	0,4	0,4	0,5	0,6	1,2	–	–	–	–	–
	440	660	–	–	–	–	–		0,2	0,27	0,27	0,3	0,3	0,4	–	–	–	–	–
Inductive loads	24	48	70	95	120	145	190	A	6	12	12	20	25	32	40	63	100	150	250
T = 50 ms	30	60	90	120	150	180	240		3	5	5	9	12	25	30	55	33	50	70
	48	95	140	190	240	290	350		1	2	2	3	3	16	20	–	–	–	–
	60	120	180	240	300	360	450		0,7	1	1	1,5	1,5	11	15	–	–	–	–
	110	220	330	440	550	660	–		0,3	0,4	0,4	0,5	0,5	3,2	3,5	–	–	–	–

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]DC switching capacity applies to ON/OFF switches. Switching capacity for other configurations on request. [4]International Standards and Approvals, refer to page 39. [5]For electromagnetic optional extras see additional data in Catalog 101. [6]Values for switches with spring return on request. [7]Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

Selection Data					CA4 CA4-1	CA10 CA10B	CA11 CA11B	CA20 CA20B	CA25 CA25B	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	10	11	18,5	30	37	37	55
			380 V-440 V		4,5	7,5	7,5	11	15	18,5	22	30	45	55	55	90
			500 V		–	10	10	15	18,5	22	30	40	55	75	75	110
			660 V-690 V		–	10	10	13	15	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	7,5	11	11	15	22	22	37
			380 V-440 V		2,2	5,5	5,5	7,5	11	15	18,5	18,5	30	37	37	55
			500 V		–	5,5	5,5	7,5	11	15	18,5	18,5	30	37	37	55
			660 V-690 V		–	5,5	5,5	7,5	11	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	2,5	3	3	3,7	5,5	5,5	11
			220 V-240 V		0,55	2,2	2,2	3	4	5,5	6	6	7,5	11	11	22
			380 V-440 V		0,75	3	3	3,7	5,5	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	3,7	4	5,5	6	10	10	15
			380 V-440 V		0,55	1,5	1,5	3	5,5	6	7	7,5	11	15	15	25
			500 V		–	1,5	1,5	3	5,5	6	7	7,5	11	15	15	25
			660 V-690 V		–	1,5	1,5	3	5,5	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	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	2,2	2,4	2,4	3	4	4	7,5
			380 V-440 V		0,5	1,5	1,5	2,2	3	3,7	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	30	37	37	75
			380 V-440 V		3	7,5	7,5	11	15	18,5	22	30	45	75	75	132
			500 V		–	7,5	7,5	11	15	18,5	22	30	55	90	90	132
			660 V-690 V		–	7,5	7,5	11	15	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	5,5	11	11	18,5
			220 V-240 V		0,75	2,5	2,5	3	4	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	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	7,5	7,5	7,5	10	15	–	30
			220 V-240 V		1	3	3	7,5	10	15	15	15	20	25	–	75
			440 V-480 V		–	–	5	10	–	25	25	30	30	40	–	75
			550 V-600 V		–	–	5	10	–	25	30	30	40	50	–	60
		1 phase 2 pole	110 V-120 V	HP	0,33	0,5	0,5	1,5	2	3	3	3	5	7,5	–	15
			220 V-240 V		0,75	1	1	3	5	7,5	7,5	7,5	10	15	–	40
			277 V		0,75	2	2	3	5	7,5	7,5	10	10	15	–	40
			440 V-480 V		–	–	2	5	–	15	15	15	20	25	–	50
			550 V-600 V		–	–	2	5	–	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	–	–	–	7,5	10	–	15
			220 V-240 V		–	1	1	2	3	–	–	–	15	20	–	30
			440 V-600 V		–	–	3	5	–	–	–	–	25	30	–	40
		1 phase 2 pole	110 V-120 V	HP	–	0,17	0,17	0,33	1,5	–	–	–	3	5	–	7,5
			220 V-240 V		–	0,5	0,5	0,75	3	–	–	–	7,5	10	–	15
			277 V		–	0,6	0,6	1	3	–	–	–	7,5	10	–	15
Max. Permissible Wire Gage - Use copper wire only					2x	2x	2x	2x	2x							
Single-core or stranded wire				mm^2	1,5	2,5	2,5	4	6	16	16	16	35	70	95[1]	185[1]
				AWG	14	12	12	10	8	6	6	6	2	2/0	–	MCM 350
Flexible wire (sleeving in accordance with DIN 46228)				mm^2	2x 1,5 (1)	2x 2,5 (2,5)	2x 2,5 (2,5)	2x 4 (2,5)	2x 4 (4)	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	6	6	6	3	1/0	–	MCM 300

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

Selection Data				L350 L351	L400	L600	L630 L631	L800	L1000 L1001	L1200	L1250 L1251	L1600	L2000
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3[1]												
	VDE 0660 part 107[1]		V	690	690	690	690	690	690	690	690	690	690
	UL/Canada[2]		V	600	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	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	1250	1900	2400
	Ambient temp. +55 °C during 24 hours with peaks up to +60 °C		A	350	500	750	600	950	920	1300	1100	1700	2000
	UL/Canada[2]		A	350	400	630	630	800	1000	1200	1250	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	1250	1900	2400
Occasional switching under load cos φ 0,8 (AC-20B)	3 phase, 3 pole and 1 phase, 2 pole	220 V-440 V	A	350	500	800	500	1000	630	1200	630	1200	1200
		500 V	A	350	450	500	450	630	500	800	500	800	800
		660 V-690 V	A	315	350	400	360	400	400	400	400	400	400
AC-21B Switching of resistive loads, including moderate overloads	3 phase, 3 pole and 1 phase, 2 pole	220 V-440 V	A	250	450	500	350	630	400	800	400	800	800
		500 V	A	250	400	450	315	500	350	630	350	630	630
		660 V-690 V	A	200	300	350	250	350	300	350	300	350	350
Interrupting Rating	UL/Canada[2]	600 V	A	200	300	300	200	300	200	300	200	200	200
	CSA	600 V	A	200	200	200	200	200	200	200	200	200	200
Rated Utilization Category	IEC 60947-3, EN 60947-3 VDE 0660 part 107												
AC-23B Occasional switching of motors or other high inductive loads	3 phase 3 pole	220 V-240 V	kW	45	75	75	45	75	45	75	45	75	75
		380 V-440 V	kW	90	132	132	90	132	90	132	90	132	132
		500 V	kW	110	132	132	110	132	110	132	110	132	132
		660 V-690 V	kW	55	55	65	65	65	65	65	65	65	65
Short Circuit Protection													
Max. fuse size	(aR-characteristic)		A	400	500	800	630	1100	1000	2x800	1250	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	M16	2xM16	4xM16
	length		mm	20	30	40	30	40	40	40	50	50	50
Ambient Temperature of Stages[3, 4]				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 39. [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).

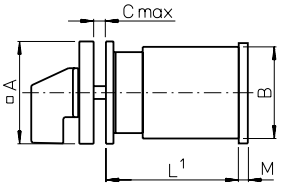
Selection Data				CAD4-1	CAD11	CAD12
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3[1]					
	VDE 0660 part 107		V	440	600	600
	SEV[2]		V	–	600	600
	North America		V	300	300	300
	min. voltage		V	1[7]	1	6
Rated Impulse Withstand Voltage U_{imp}					on request	
Rated Thermal Current I_u/I_{th}	IEC 60947-3, EN 60947-3					
	VDE 0660 part 107		A	5	6	6
	SEV[2]		A	–	5	5
	North America		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		(gL-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
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 39. [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.

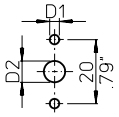
Dimensions

mm
inch

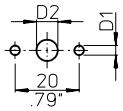
Two or Four Hole Panel Mounting



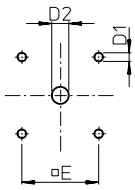
E
for CA4, CA4-1, CAD4-1



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

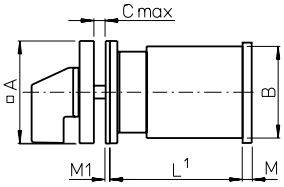


E
E-V
ER

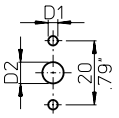


	CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25[3]	CA20B	CA10B CA11B CA25B	CA63[3]	CA40[3] CA50[3] C80	C125 C200-4	L switches Size S2	C315 L switches Size S3
A	30 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 (88) 2.52	88 (3.46)	88 3.46	88 3.46	130 3.46 5.12
B	29,5 1.16	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	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	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 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	13-17 .51-.67	13-17 .51-.67	13-17 .51-.67	15,5-20 .61-.79
E	- -	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	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	7,6 .30	9,4 .37	9,4 .37	27,5 1.08	11,9 .47

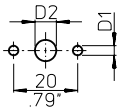
[2]M, additional length for mounting ER only
[3]Dimensions in ( ) for ER mounting plate only



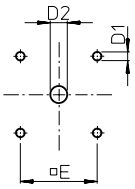
EF
for CA4, CA4-1, CAD4-1



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	CA40[3] CA50[3] CA63[3]	C80	C125 C200-4	L switches Size S2	C315 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 (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	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	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 (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	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 (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	7,6 .30	9,4 .37	9,4 .37	27,5 1.08	11,9 .47
M1	1 .04	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

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

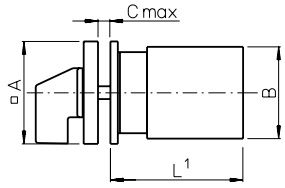
[1]see page 51

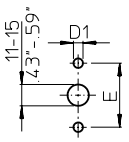
Dimensions

mm
inch

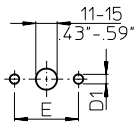
Two or Four Hole Panel Mounting

E22



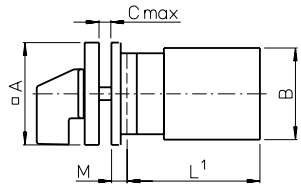


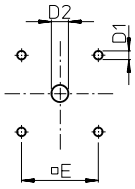
E22-V



	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	CA40 CA50 CA63	C80	C125 C200-4 L switches Size S2
	A	64 2.52	64 2.52	64 2.52	88 3.46	130 5.12	130 5.12
	B	43 1.69	45 1.77	46 1.81	55,5x64 2.19x2.52	84 3.30	88 3.46
	C	4 .16	4 .16	4 .16	5,5 .22	7 .28	7 .28
	D1	5 .20	5 .20	5 .20	6 .24	7 .28	7 .28
EG	**D2**	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	13-17 .51-.67	15,5-20 .61-.79	15,5-20 .61-.79
EGF	**D2**	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	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	104 4.09	104 4.09
	M	6,7 .26	6,7 .26	6,7 .26	0,5 .02	2 .08	2 .08

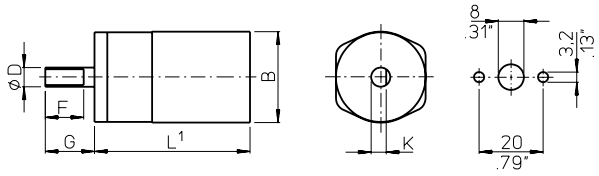
[1]see page 51

Dimensions

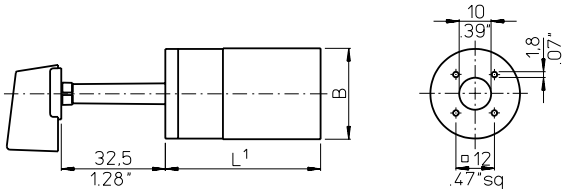
mm
inch

Four Hole Panel Mounting or Mosaic Mounting

E9
E91

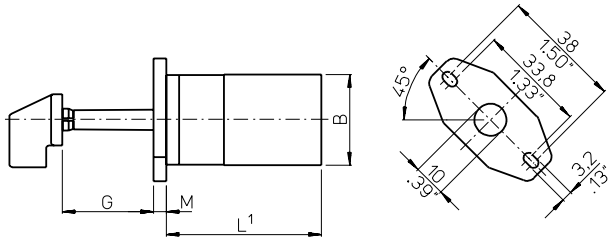


E92



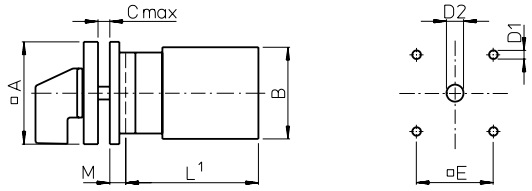
	CA4 CA4 CAD4-1
B	29,5 1.16

E93
E94



	CA4 CA4-1 CAD4-1	**E9**	**E91**	**E92**	**E93**	**E94**
D		6 .24	6,35 .25	- -	- -	- -
F		12 .47	12,8 .50	- -	- -	- -
G		15,4 .61	17,4 .69	32,5 1.28	28,5 1.12	32,5 1.28
K		4,7 .19	5,5 .22	- -	- -	- -
M		- -	- -	- -	4 .16	- -

KN1
KD1
KN2



KN2	CA10 CA11 CAD11 CAD12	CA20	CA25
A	48 1.89	48 1.89	48 1.89
B	43 1.69	45 1.77	46 1.81
C	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59
E	36 1.42	36 1.42	36 1.42
M	5,2 .20	5,2 .20	5,2 .20

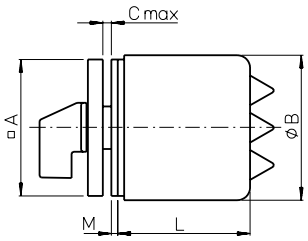
KN1 **KD1**	CA10 CA11 CAD11 CAD12	CA20	CA25	CA10B CA11B CA20B	CA25B	CA40 CA50 CA63
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	55,5x64 2.19x2.52
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
E	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

[1]see page 51

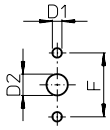
Dimensions

mm
inch

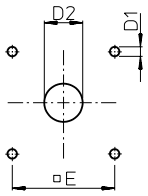
Two or Four Hole Panel Mounting



ED22



EC
ED
EC1
ED1



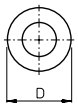
		CA10 CAD11 CAD12		CA11		CA20		CA25		CA10B		CA11B		CA20B CA25B		CA40 CA50 CA63
		EC ED	**ED22**	**EC ED**	**ED22**	**EC ED**	**ED22**	**EC ED**	**ED22**	**EC ED**	**EC1 ED1**	**EC ED**	**EC1 ED1**	**EC ED**	**EC1 ED1**	**EC ED**
	A	48 1.89	48 1.89	48 1.89	48 1.89	64 2.52	48 1.89	64 2.52	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	88 3.46
	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	108 4.25
EC/EC1	**C**	4 .16	- -	4 .16	- -	4 .16	- -	4 .16	- -	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5,5 .22
ED/ED1/ ED22	**C**	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	4 .16	4 .16	4 .16	4 .16	7,5 .30
	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	6 .24
EC/EC1	**D2**	8-15 .31-.59	- -	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	13-15 .51-.59
ED/ED1/ ED22	**D2**	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	22-25 .87-.98	19-22 .75-.87	22-25 .87-.98	19-22 .75-.87	22-25 .87-.98	19-22 .75-.87	28-33 1.10-1.30
	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	68 2.68
	F	- -	30 1.17	- -	30 1.17	- -	30 1.17	- -	30 1.17	- -	- -	- -	- -	- -	- -	- -
ED/ED22	**M**	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	- -	2 .08	- -	2 .08	- -	2,2 .09
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	101 3.98
	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	101 3.98
	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	101 3.98
	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	101 3.98
	5	81,5 3.21	94,3 3.71	- -	- -	103 4.06	- -	103 4.06	- -	- -	93,7 3.69	103 4.06	- -	103 4.06	- -	139 5.47
	6	81,5 3.21	94,3 3.71	- -	- -	- -	- -	- -	- -	103 4.06	- -	127 5	- -	127 5	- -	139 5.47
	7	- -	- -	- -	- -	- -	- -	- -	- -	127 5	- -	139,5 5.47	- -	139,5 5.47	- -	139 5.47
	8	- -	- -	- -	- -	- -	- -	- -	- -	127 5	- -	152 5.98	- -	152 5.98	- -	177 6.97
	9	- -	- -	- -	- -	- -	- -	- -	- -	139,5 5.47	- -	164,5 6.48	- -	164,5 6.48	- -	177 6.97
	10	- -	- -	- -	- -	- -	- -	- -	- -	152 5.98	- -	177 6.97	- -	177 6.97	- -	177 6.97
	11	- -	- -	- -	- -	- -	- -	- -	- -	152 5.98	- -	- -	- -	- -	- -	215 8.46
	12	- -	- -	- -	- -	- -	- -	- -	- -	164,5 6.48	- -	- -	- -	- -	- -	215 8.46

Dimensions

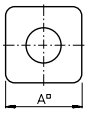
mm
inch

Single Hole Mounting or Base Mounting

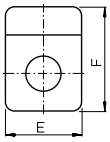
FS1...
FT1...
FT3...

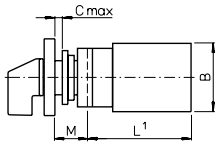


FH3...
FS2...
FT2...
FT4...

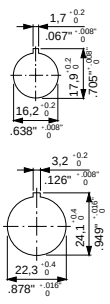


FH4...
FS4...
FT6...

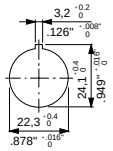




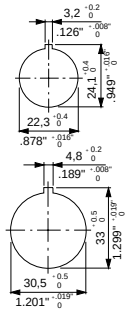
FS1...
FS2...
FS4...



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

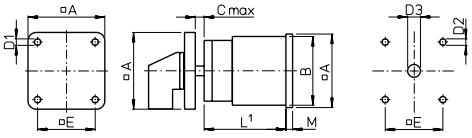


FT3...
FT4...

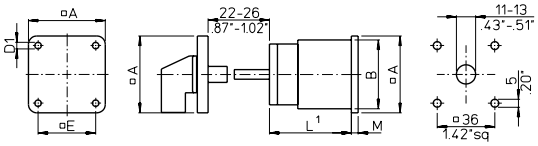


		CA4 CA4-1 CAD4-1	CA10 CA11 CAD11 CAD12	CA20	CA25
A/E		30 1.18	48 1.89	48 1.89	48 1.89
	FH3...	- -	64 2.52	64 2.52	64 2.52
	FH4...	- -	64 2.52	64 2.52	64 2.52
B		28 1.10	43 1.69	45 1.77	46 1.81
C		5 .20	6 .24	6 .24	6 .24
D		29,5 1.16	39 1.54	39 1.54	39 1.54
F		39 1.54	59 2.32	59 2.32	59 2.32
	FH4...	- -	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

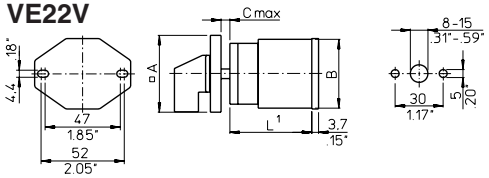
VE
VE-V



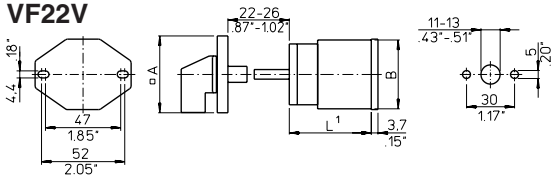
VF
VF-V



VE22
VE22V



VF22
VF22V



	CA10 CA11 CAD11 CAD12	CA20	CA25[2]	CA10B CA11B CA20B	CA25B	CA40[2] CA50[2] CA63[2]	C80	C125 C200-4	L switches Size S2	C315 L switches Size S3
A	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	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	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	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	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 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D3	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	13-17 .51-.67	13-17 .51-.67	13-17 .51-.67	15,5-20 .61-.79
E	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	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	5,1 .21	8,9 .35	8,9 .35	27 1.06	11,4 .45

[2]Dimensions in ( ) for revertive mounting plate

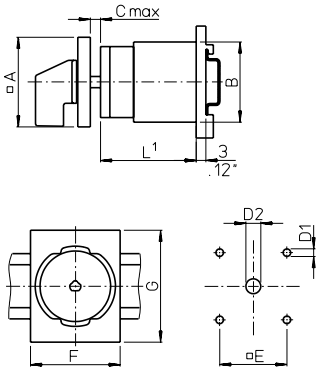
[1]see page 51

Dimensions

mm
inch

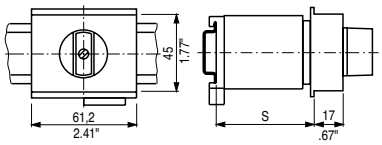
Base Mounting

VE1

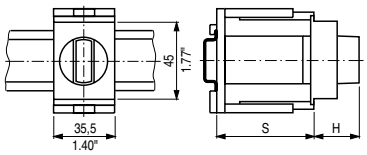


	CA10 CA11 CAD11 CAD12	CA20	CA25	CA10B CA11B CA20B	CA25B	CA40 CA50 CA63
A	48 1.89	48 1.89	48 1.89	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	55,5x64 2.19x2.52
C	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59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

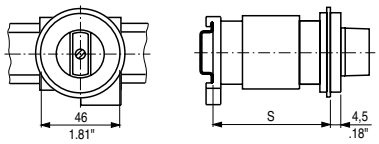
VE2



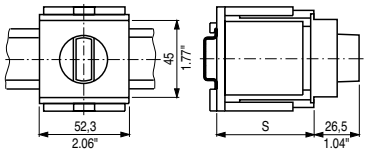
VE21 (for CA4, CA4-1 and CAD4-1)



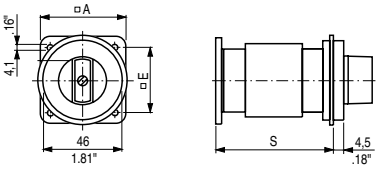
VE3



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



VE4



	VE2			VE3		VE4					VE21, VE21V				
	CA10 CAD11 CAD12	CA11 CA20 CL10	CA25	CA10 CAD11 CAD12	CA11 CA20 CA25 CL10	CA10 CAD11 CAD12	CA11 CA20	CA25	$S_{min.}$	H	CA4 CA4-1 CAD4-1	CA10 CAD11 CAD12	CA11	CA20	CA25
	Max. no. of stages			Max. no. of stages		Max. no. of stages					No. of stages				
S = 46 1.81	3	1	-	1	1	1	2	-	44 1.73	21 .83	1/2	1/2	1/2	1/2	1
S = 50 1.97	3	1	1	2	1	2	2	1	46 1.81	26,5 1.04	3	3	-	-	2
S = 61 2.40	4	2	2	3	2	3	3	2	54 2.13	26,5 1.04	4	-	-	-	-
S = 67 2.64	5	2	2	3	2	3	3	2	56 2.20	- -	-	-	3	3	-
S = 69 2.70	5	3[2]	3	4	3	4	4	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

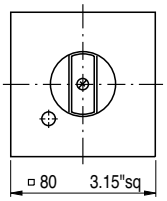
[1]see page 51 [2]not available for switch type CA20

Dimensions

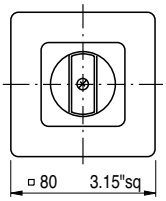
mm
inch

Wall Mounting, Escutcheon Plates and Additional Length

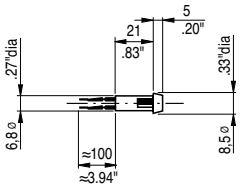
UE1
UE2
UE3



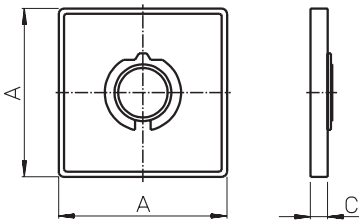
UE4
UE5
UE6



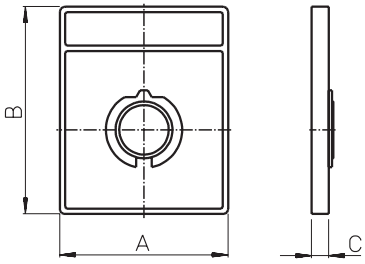
Lamp



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



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

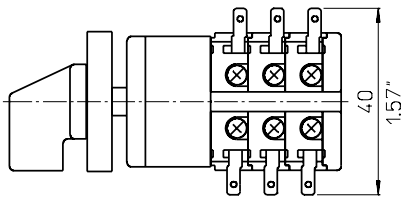


Size	A	B	C
S00	30 1.18	39 1.54	5,5 .22
S0	48 1.89	59 2.32	6,7 .26
S1	64 2.52	78 3.07	7,4 .29

Additional length for amendment (page 4)

	CAD11 CAD12	CA10 CA11 CA20 CA25	CA40 CA50 CA63
S0 switches with latching mechanism size S1	5,4 .21	- -	- -
S1 switches with latching mechanism size S2	- -	- -	8,2 .32
with snap action	- -	14,3 .56	in preparation

Quick connects for switches CA4-4

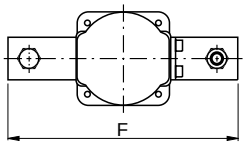


Dimensions

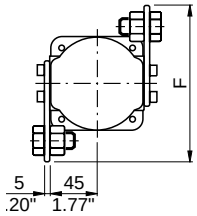
mm
inch

Additional Length

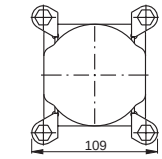
Terminal lugs for switches C200-4-, C315, C316 and L switches



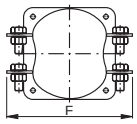
L350
L630
L1200
L1250



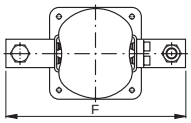
L351
L361
L1001
L1251



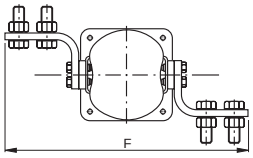
C200-4



C315
C316
L400
L600



L800
L1200
L1600



L2000

	L350	L630	L1000	L1250	L351	L631	L1001	L1251	C315 C316	L400	L600	L800 L1200	L1600 L2000
F	190 7.48	220 8.66	230 9.06	240 9.45	138 5.43	148 5.83	148 5.83	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	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	42,5 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	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	67,9 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	80,6 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	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	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	118,7 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	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	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	156,8 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	169,5 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	182,2 7.17	353 13.90	425 16.73	503,2 19.81

The Range of “Blue Line” Switchgear

Technical literature covering the following products is available on request.

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

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