KRAUS & NAIMER

BLUE LINE SWITCHGEAR

www.krausnaimer.com

SINCE 1907

Catalog 100

CL Switches 10 A-20 A
C, CA, CAD Switches 10 A-315 A
L Switches 350 A-2400 A



KRAUS & NAIMER

The development of the Blue Line rotary switch, contactor and motor starter product ranges is based on more than seventy-five 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, CAD and CL-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 A2. Captive plus-minus terminal screws and integrated screwdriver guides also reduce wiring.

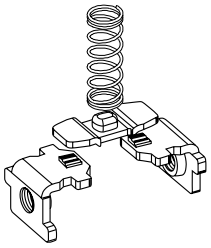
The switches of the new CL-series are supplied with IDC terminals (**I**nsulation **D**isplacement **C**onnection) instead of the conventional screw type terminals. The stripping or preparation of the insulation is no longer required. Eliminate errors due to i.e., stripped end of the conductor too long or too short, incorrect sleeves used, sleeves crimped incorrectly or wrong crimping tool is used, terminal screws not tightened properly etc. The CL switches reduce installation time by 60 %-70 % compared to the screw type terminals. This translates to significant cost savings. For connecting 2 conductors to a terminal an additional screw terminal with plus-minus screw is available.

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 L350-L2000 are continuous current rated for off-load switching. They may be used to switch resistive or low inductive loads.

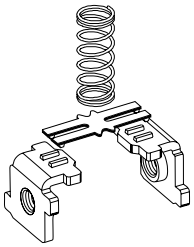
Special Contact Systems

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.

CAD11/CAD12



H-bridge with „cross-wire“ contact system, high contact reliability also at lower voltages. CAD11 with gold-plated contacts, CAD12 with silver contact.

Type	Size	Possible Switching Angles	Max. No. of Stages
CA4, CA4-1	S00	30°, 45°, 60°, 90°	9
CL4	S00	30°, 45°, 60°, 90°	8
CA10-CA25	S0	30°, 45°, 60°, 90°	12
CA10S-CA25S	S0	60°	on request
CAD11, CAD12	S0	30°, 45°, 60°, 90°	12
CL10	S0	30°, 45°, 60°, 90°	10
CA10B-CA25B	S1	30°, 45°, 60°, 90°	12
C26, C32, C42	S1	20°, 30°, 45°, 60°, 90°	12
C26S, C32S, C42S	S1	60°	on request
C43, C80, C125	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

CL Switches



CA and CAD Switches



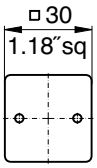
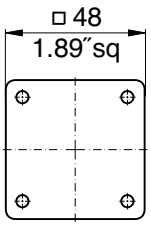
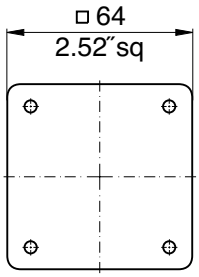
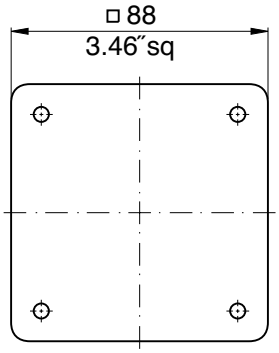
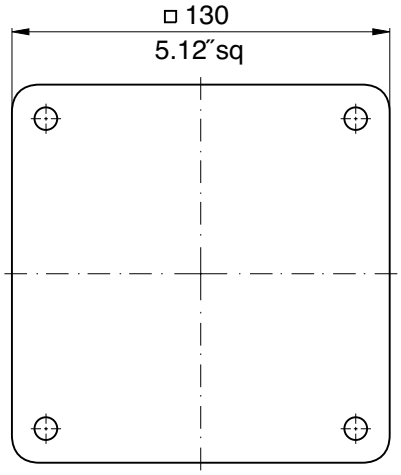
C Switches



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
		CL4	440	10	3	2,2
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	-	-
		CL10	690	20	7,5	5,5
S1		**CA10B**	690	20	7,5	5,5
		CA11B	690	20	7,5	5,5
		CA20B	690	25	11	7,5
		CA25B	690	32	15	11
		C26	690	32	15	11
		C32	690	50	22	15
		C42	690	63	30	18,5
S2		**C43**	690	63	30	18,5
		C80	690	115	45	30
		C125	690	150	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	CA10, CA11, CA20, CA25, CAD12
C	S1 switches with latching mechanism size S2	C26, C32
L	with lockout-relay w/o manual release for std. sw.	CA10, C26, C32, C42
M	with lockout-relay with manual release for std. sw.	C26, C32, C42
X	with power failure release	CA10, CA11, CA20, CA25, CAD12, C26, C32, C42
Y	with power failure release and trip-free release	CA10, CA11, CA20
S	with snap action	CA10, CA11, CA20, CA25, C26, C32, C42 with 60° 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.

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 with 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 with 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**.

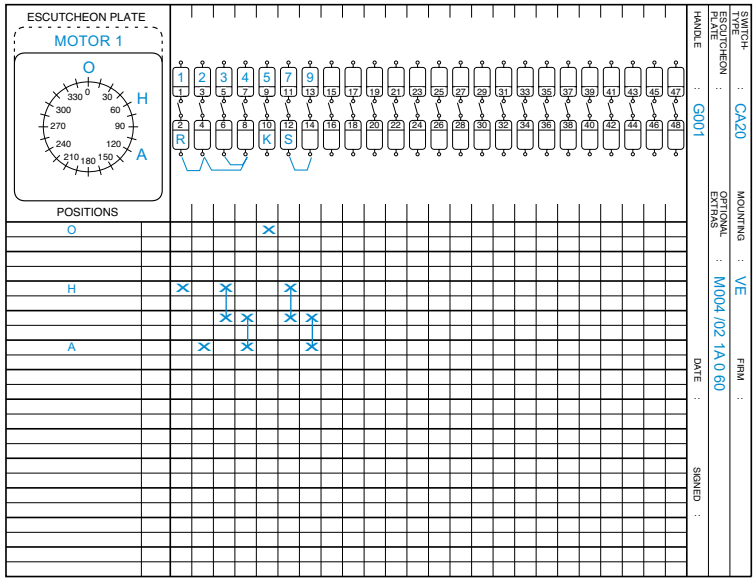
Switch Size

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.

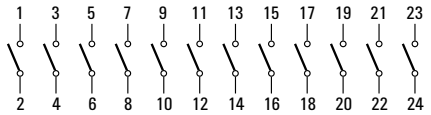
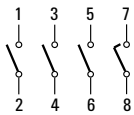
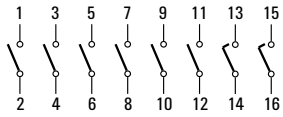
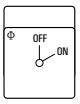
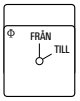
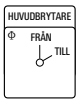
Ordering of Special Switches and Escutcheon Plates

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.

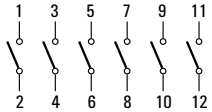
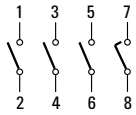
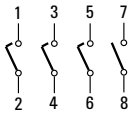
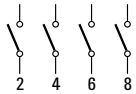
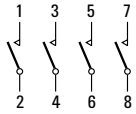
For technical reasons, it may not be possible to follow the sequence of contacts requested by the customer. The final contact development which is sent with every switch will show the customer's original terminal markings.



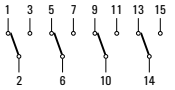
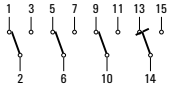
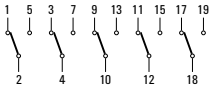
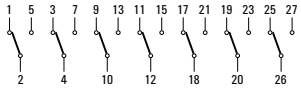
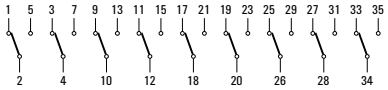
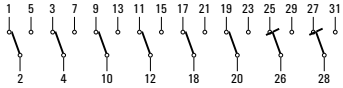
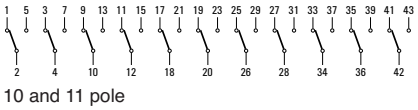
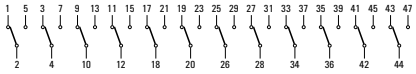
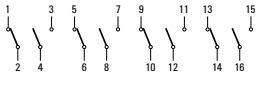
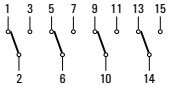
Order forms are available on request.

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26- 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	
3 pole	with V850 padlock attachment					A202-627	2	
4 pole						A203-600	2	
4 pole	1 pole preclose 6°[1]					A653-600	2	
5 pole						A341-600	3	
6 pole						A342-600	3	
7 pole						A343-600	4	
8 pole						A344-600	4	
8 pole	2 pole preclose 6°[1]					A654-600	4	
9 pole						A345-600	5	
10 pole						A346-600	5	
11 pole						A347-600	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]					A653-620	2	
5 pole						A341-620	3	
6 pole						A342-620	3	
7 pole						A343-620	4	
8 pole						A344-620	4	
8 pole	2 pole preclose 6°[1]					A654-620	4	
9 pole						A345-620	5	
10 pole						A346-620	5	
11 pole						A347-620	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]					A653-621	2	
5 pole						A341-621	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]					A653-622	2	
5 pole						A341-622	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]					A653-623	2	
5 pole						A341-623	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]					A653-624	2	
5 pole						A341-624	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]					A653-625	2	
5 pole						A341-625	3	
6 pole						A342-625	3	

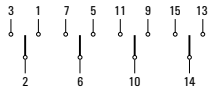
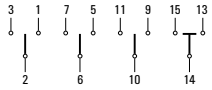
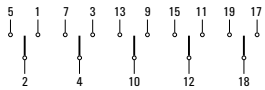
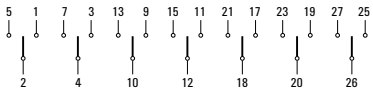
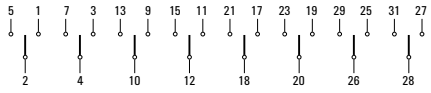
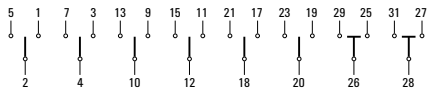
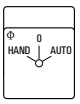
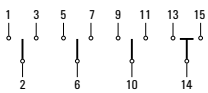
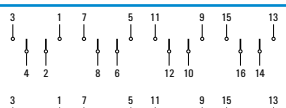
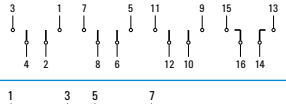
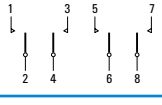
[1]for use in a three phase four-wire system with switched neutral

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26- C315	Code	Stages	Connection Diagram
ON/OFF Switches with 90° Switching								
1 pole contacts 2 pole preclose 30° 3 pole						A290-600 A291-600 A292-600	1 1 2	
4 pole 4 pole 1 pole preclose 60° 4 pole 3 pole preclose 30°						A324-600 A293-600 A327-600	2 2 2	 1, 2, 3, 4, 5 and 6 pole
5 pole contacts 6 pole preclose 30°						A325-600 A326-600	3 3	
1 pole contacts 2 pole preclose 30° 3 pole						A290-620 A291-620 A292-620	1 1 2	 4 pole 1 pole preclose 60°
4 pole 4 pole 1 pole preclose 60° 4 pole 3 pole preclose 30°						A324-620 A293-620 A327-620	2 2 2	
5 pole contacts 6 pole preclose 30°						A325-620 A326-620	3 3	 4 pole 3 pole preclose 30°
3 pole 360° rotation						A208-600	2	
						A208-620	2	
3 pole for foot operation					C26- C42	A386-600	2	
ON/OFF Switches with 30° Switching								
1 pole 2 pole 3 pole 4 pole						A100-600 A101-600 A102-600 A103-600	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 A206-600 A207-600	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 A206-620 A207-620	1 1 2 2	

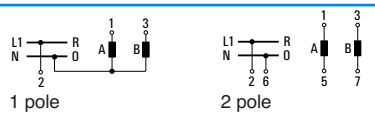
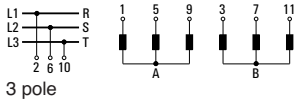
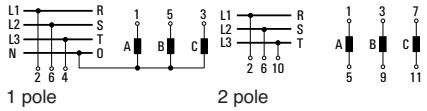
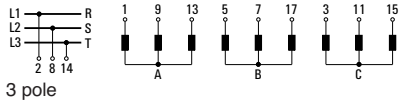
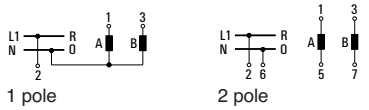
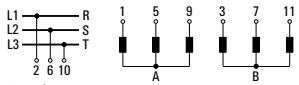
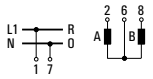
[1]not available for switch type CA25

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26- 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°
2 pole						A221-600	2	
3 pole						A222-600	3	
4 pole						A223-600	4	
4 pole 1 pole preclose 6°[3]						A673-600	4	
5 pole						A369-600	5	 5 pole
6 pole						A370-600	6	
7 pole						A371-600	7	 6 and 7 pole
8 pole						A372-600	8	
8 pole 2 pole preclose 6°[3]		[2]				A972-600	8	
9 pole						A373-600	9	
10 pole						A374-600	10	 8 and 9 pole
11 pole			[4]			A375-600	11	
12 pole			[4]			A376-600	12	 8 pole 2 pole preclose 6°
								 10 and 11 pole
								 12 pole
Double-throw Switches without „OFF“ with electrically isolated contacts								
1 pole						A720-600	1	 1-4 pole
2 pole						A721-600	2	
3 pole						A722-600	3	
4 pole						A723-600	4	
4 pole 1 pole preclose 6°[3]						A973-600	4	 4 pole 1 pole preclose 6°
1 pole with spring return						A795-600	1	 1 pole with spring return
Double-throw Switches without „OFF“ 30° Switching								
1 pole						A120-600	1	 1-4 pole
2 pole						A121-600	2	
3 pole						A122-600	3	
4 pole						A123-600	4	
1 pole with spring return						A295-600	1	
2 pole with spring return						A296-600	2	
3 pole with spring return			[1]			A297-600	3	 1-3 pole
1 pole with spring return						A295-620	1	
2 pole with spring return						A296-620	2	
3 pole with spring return			[1]			A297-620	3	

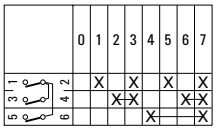
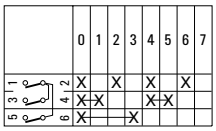
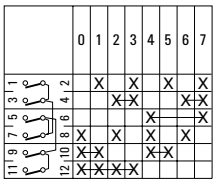
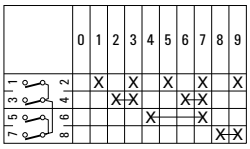
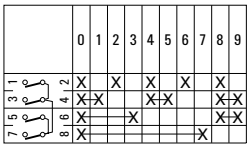
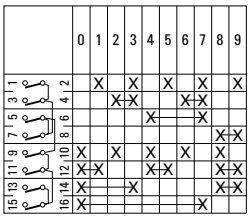
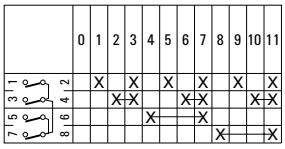
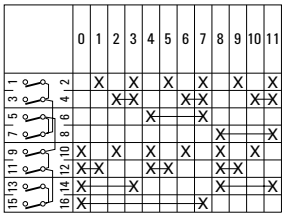
[1]not available for switch type CA25 [2]not available for switch type CL4 [3]for use in a three phase four-wire system with switched neutral
[4]not available for switch type CL10

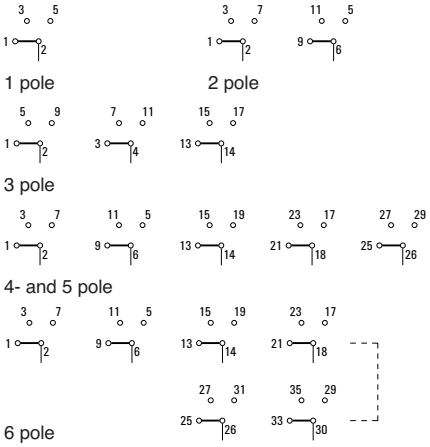
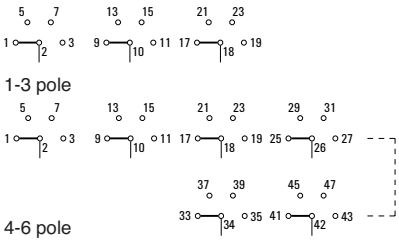
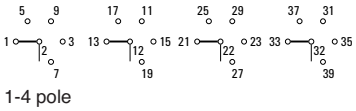
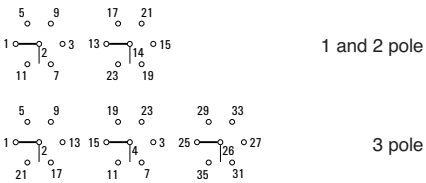
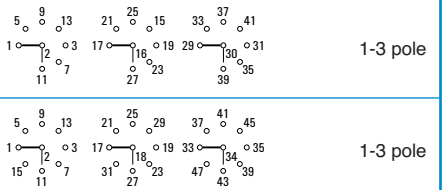
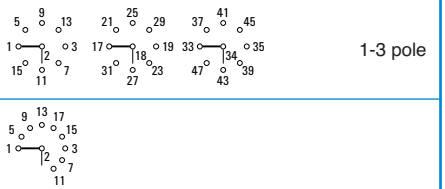
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C43	C80- C315	Code	Stages	Connection Diagram
Double-throw Switches with Center „OFF“ 60° Switching								
1 pole						A210-600	1	 1-4 pole  4 pole 1 pole preclose 6°  5 pole  6 and 7 pole  8 pole  8 pole 2 pole preclose 6°
2 pole						A211-600	2	
3 pole						A212-600	3	
4 pole						A213-600	4	
4 pole 1 pole preclose 6°[3]						A913-600	4	
5 pole						A361-600	5	
6 pole						A362-600	6	
7 pole						A363-600	7	
8 pole						A364-600	8	
8 pole 2 pole preclose 6°[3]						A664-600	8	
1 pole						A210-620	1	
2 pole						A211-620	2	
3 pole						A212-620	3	
4 pole						A213-620	4	
4 pole 1 pole preclose 6°[3]						A913-620	4	
5 pole						A361-620	5	
6 pole						A362-620	6	
7 pole						A363-620	7	
8 pole						A364-620	8	
8 pole 2 pole preclose 6°[3]						A664-620	8	
1 pole						A210-621	1	
2 pole						A211-621	2	
3 pole						A212-621	3	
1 pole						A210-622	1	
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]						A913-624	4	
Double-throw Switches with Center „OFF“ 90° Switching								
1 pole					[1]	A218-600	1	 1-4 pole
2 pole					[1]	A219-600	2	
3 pole					[1]	A299-600	3	
4 pole 1 pole preclose 60°					[1]	A294-600	4	
1 pole					[1]	A218-620	1	
2 pole					[1]	A219-620	2	
3 pole					[1]	A299-620	3	
4 pole 1 pole preclose 60°					[1]	A294-620	4	
Double-throw Switches with Center „OFF“ and electrically isolated contacts								
1 pole						A710-600	1	 1-4 pole  4 pole 1 pole preclose 6°
2 pole						A711-600	2	
3 pole						A712-600	3	
4 pole						A713-600	4	
4 pole 1 pole preclose 6°[3]						A963-600	4	
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

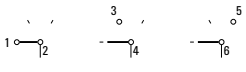
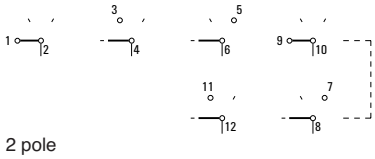
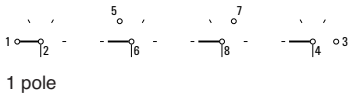
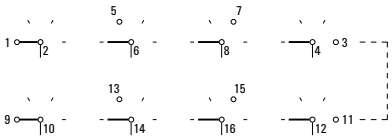
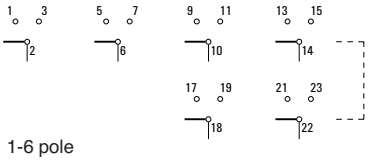
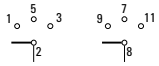
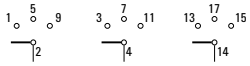
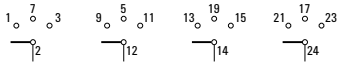
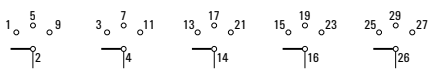
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26- C315	Code	Stages	Connection Diagram
Double-throw Switches with Spring Return to Center								
1 pole with spring return 2 pole to center 3 pole					[2] [3] [4]	A214-600 A215-600 A216-600	1 2 3	 1-3 pole
1 pole 2 pole 3 pole					[2] [3] [4]	A214-620 A215-620 A216-620	1 2 3	
1 pole with spring return 2 pole from left to center 3 pole						A320-600 A321-600 A322-600	1 2 3	 1-3 pole
1 pole 2 pole 3 pole						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 A314-600	1 2 3	 1 pole 2 pole
1 pole 2 pole 3 pole						A310-620 A312-620 A314-620	1 2 3	 3 pole
1 pole 3 Gang 2 pole Switching sequence: 3 pole 0, A, A+B, A+B+C						A311-600 A313-600 A315-600	2 3 5	 1 pole 2 pole
1 pole 2 pole 3 pole						A311-620 A313-620 A315-620	2 3 5	 3 pole
1 pole 2 Gang 2 pole Series switching 3 pole Switching sequence: 0, A, B, A+B						A330-600 A331-600 A332-600	1 2 3	 1 pole 2 pole
1 pole 2 pole 3 pole						A330-620 A331-620 A332-620	1 2 3	 3 pole
2 pole 2 Gang Series-parallel Switching Switching sequence: 0, A+B series, A, A+B parallel	 					A339-600 A339-620	2 2	

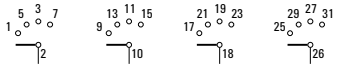
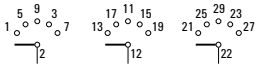
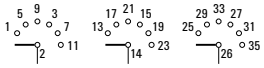
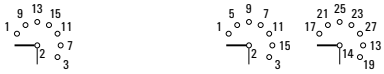
[1]not available for switch type CA25 [2]not available for switch type C315 [3]available only up to switch type C43 [4]available only for switch type C43

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CA10 CAD11 CAD12 CL10	CA10B- CA25B	C26- C315	Code	Stages	Connection Diagram
Coding Switches/Binary Code								
0 - 7 360° rotation						A540-600	2	
0 - 7 complement 360° rotation						A541-600	2	
0 - 7 + complement 360° rotation						A542-600	3	
0 - 9						A550-600	2	
0 - 9 complement						A551-600	2	
0 - 9 + complement						A552-600	4	
0 - 11 360° rotation						A543-600	2	
0 - 11 + complement 360° rotation						A545-600	4	

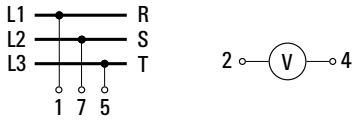
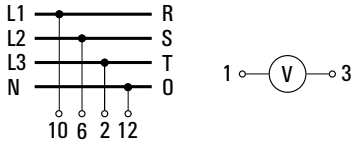
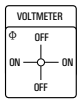
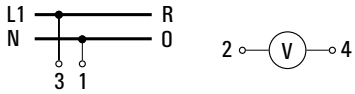
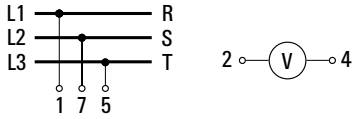
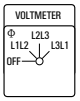
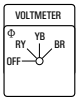
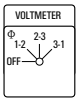
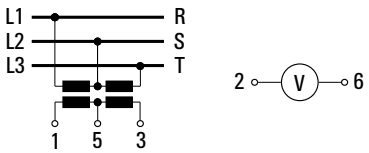
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C43	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches without „OFF“								
1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole		 [2]				A230-600 A250-600 A270-600 A476-600 A484-600 A489-600	2 3 5 6 8 9	 1 pole 2 pole 3 pole 4- and 5 pole 6 pole
1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole			 [4]			A231-600 A251-600 A271-600 A477-600 A485-600 A490-600	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 A272-600 A478-600	3 5 8 10	 1-4 pole
1 pole 6 Step 2 pole 3 pole		 [2]				A233-600 A253-600 A273-600	3 6 9	 1 and 2 pole 3 pole
1 pole 7 Step 2 pole 3 pole			 [4]			A234-600 A254-600 A274-600	4 7 11	 1-3 pole
1 pole 8 Step 2 pole 3 pole			 [4]			A235-600 A255-600 A275-600	4 8 12	 1-3 pole
1 pole 9 Step						A236-600	5	
1 pole 10 Step						A237-600	5	
1 pole 11 Step						A238-600	6	
1 pole 12 Step 1 pole 360° rotation				[3]	[1]	A239-600 A639-600	6 6	

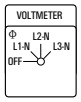
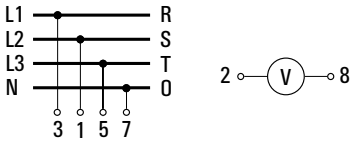
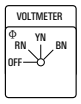
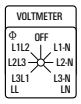
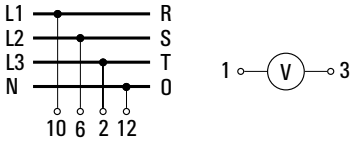
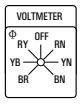
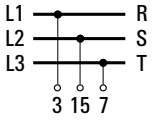
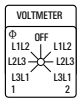
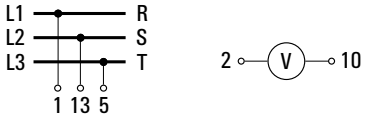
[1]switch type C315 with handle [2]not available for switch type CL4 [3]not available for switch type CA11B [4]not available for switch type CL10

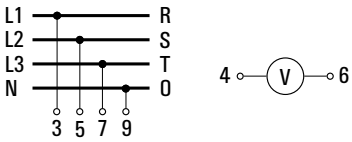
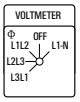
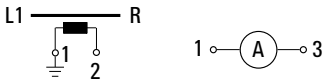
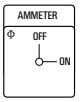
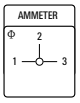
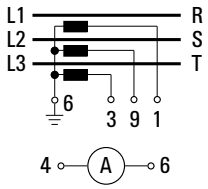
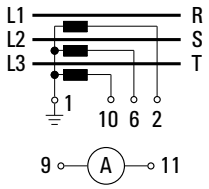
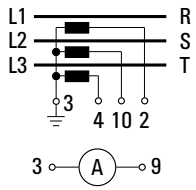
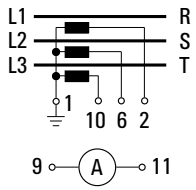
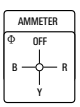
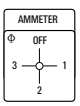
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C43	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches without „OFF“ with electrically isolated contacts								
1 pole 3 Step						A730-600	2	 1 pole
2 pole						A750-600	3	 2 pole
1 pole 4 Step						A731-600	2	 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						A480-600	4	
5 pole						A486-600	5	
6 pole						A491-600	6	
1 pole						A240-620	1	
2 pole						A260-620	2	
3 pole						A280-620	3	
4 pole						A480-620	4	
5 pole						A486-620	5	
6 pole						A491-620	6	
1 pole 3 Step						A241-600	2	 1 and 2 pole
2 pole						A261-600	3	
3 pole						A281-600	5	
4 pole						A481-600	6	
5 pole						A487-600	8	
1 pole						A241-620	2	 3 pole
2 pole						A261-620	3	
3 pole						A281-620	5	
4 pole						A481-620	6	
5 pole						A487-620	8	
1 pole						A241-621	2	 4 pole
2 pole						A261-621	3	 5 pole

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C43	C80- C315	Code	Stages	Connection Diagram
Multi-step Switches with „OFF“								
1 pole 4 Step						A242-600	2	
2 pole						A262-600	4	
3 pole						A282-600	6	
4 pole						A482-600	8	
1 pole						A242-620	2	
2 pole						A262-620	4	
3 pole						A282-620	6	1-4 pole
4 pole						A482-620	8	
1 pole 5 Step						A243-600	3	
2 pole						A263-600	5	
3 pole						A283-600	8	
1 pole						A243-620	3	
2 pole						A263-620	5	
3 pole						A283-620	8	1-3 pole
1 pole 6 Step						A244-600	3	
2 pole						A264-600	6	
3 pole		[1]				A284-600	9	
1 pole						A244-620	3	
2 pole						A264-620	6	
3 pole		[1]				A284-620	9	1-3 pole
1 pole 7 Step						A245-600	4	
2 pole						A265-600	7	
1 pole						A245-620	4	
2 pole						A265-620	7	1 pole 2 pole
1 pole 8 Step						A246-600	4	
1 pole						A246-620	4	
1 pole 9 Step						A247-600	5	
1 pole						A247-620	5	
1 pole 10 Step						A248-600	5	
1 pole						A248-620	5	
1 pole 11 Step						A249-600	6	
1 pole 360° rotation						A649-600	6	
1 pole						A249-620	6	
1 pole 360° rotation						A649-620	6	

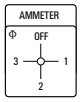
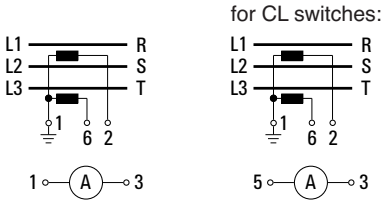
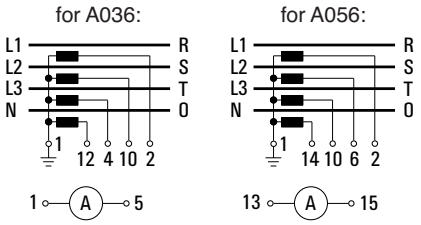
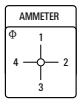
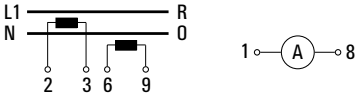
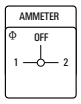
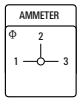
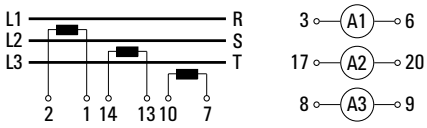
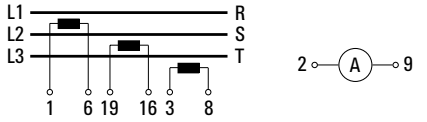
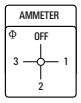
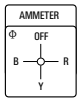
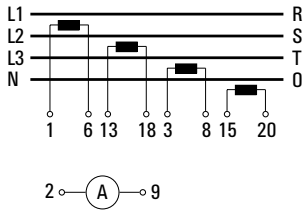
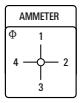
[1] not available for switch type CL4

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	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						A002-600	1	
3 phase 3 wire						A004-600	2	
						A004-620	2	
						A004-621	2	
						A004-622	2	
						A004-623	2	
						A004-624	2	
						A011-600	2	

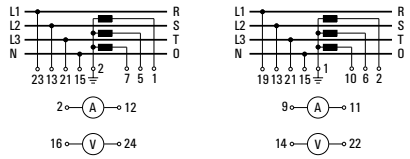
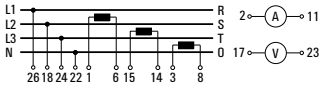
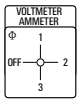
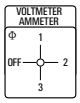
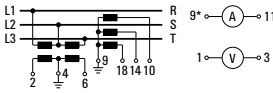
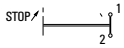
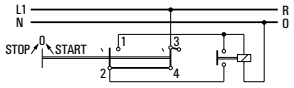
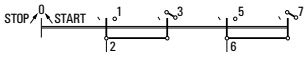
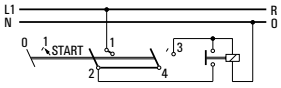
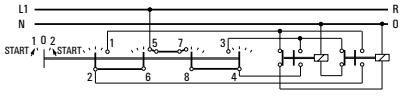
Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CA10- CA25	CAD.. CL10	CA10B- CA25B	Code	Stages	Connection Diagram
Voltmeter Switches with „OFF“								
3 phase to neutral						A005-600	2	
						A005-620	2	
						A005-621	2	
						A005-622	2	
						A005-623	2	
3 phase to phase and 3 phase to neutral						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“						A008-600	4	
						A008-620	4	
						A008-621	4	
						A008-622	4	

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C32	C43- C125	Code	Stages	Connection Diagram
Voltmeter Switches with „OFF“								
3 phase and 1 phase to neutral		▱	▱	▱[1]		A010-600	3	
		▱	▱	▱[1]		A010-620	3	
		▱	▱	▱[1]		A010-621	3	
		▱	▱	▱[1]		A010-622	3	
Ammeter Switches								
Single pole with one current transformer		▱[2]	▱[2]	▱	▱	A046-600	1	
		▱[2]	▱[2]	▱	▱	A046-620	1	
		▱[2]	▱[2]	▱	▱	A046-621	1	
Single pole with 3 current transformers without „OFF“		▱[2] CL4	▱[2] CL10	▱		A017-600 A059-600	3	for A017:  for A059: 
		▱[2] CL4	▱[2] CL10	▱		A017-620 A059-620	3	
Single pole with 3 current transformers with „OFF“ 360° rotation		▱[2] CL4	▱[2] CL10	▱		A048-600 A058-600	3	
		▱[2] CL4	▱[2] CL10	▱		A048-620 A058-620	3	for A048:  for A058: 
		▱[2] CL4	▱[2] CA10 CL10	▱		A048-621 A058-621	3	
		▱[2] CL4	▱[2] CL10	▱		A048-622 A058-622	3	
		▱[2] CL4	▱[2] CL10	▱		A048-623 A058-623	3	

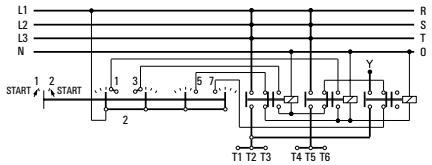
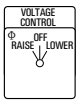
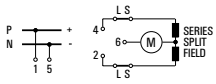
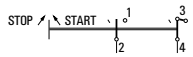
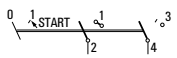
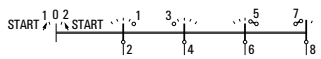
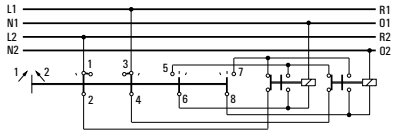
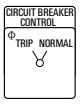
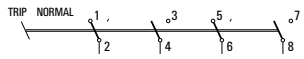
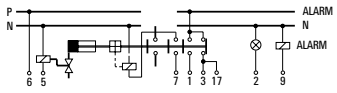
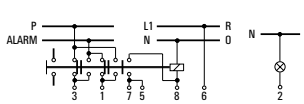
[1]available only up to switch type CA25B [2]not available for switch types CL4 and CL10

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- C42	C43- C125	Code	Stages	Connection Diagram
Ammeter Switches								
Single pole with 2 current transformers (3 readings)						A021-600	2	
						A021-620	2	
Single pole with 4 current transformers		[1] CL4	[1] CL10			A036-600 A056-600	4	
		[1] CL4	[1] CL10			A036-620 A056-620	4	
2 pole 2 current transformers						A037-600	3	
						A037-620	3	
						A037-621	3	
2 pole 3 current transformers						A019-600	5	
						A019-620	5	
		[1]	[1]			A038-600	5	
		[1]	[1]			A038-620	5	
		[1]	[1]			A038-621	5	
2 pole 4 current transformers		[1]	[1]			A039-600	6	
		[1]	[1]			A039-620	6	

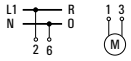
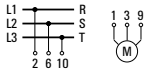
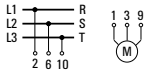
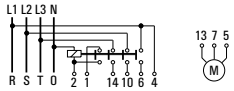
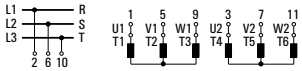
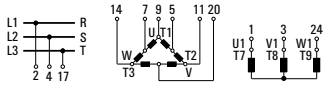
[1] not available for switch types CL4 and CL10

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	Type/Handle CAD.. CA10- CA25 CL10	Type/Handle CA10B- CA25B	Type/Handle C26- C43	Code	Stages	Connection Diagram
Volt-ammeter Switches								
3 phase - phase to phase 3 current		[1] CL4	[1] CL10			A027-600 A057-600	6	
		[1]	[1]			A028-600	7	
3 phase voltage 3 phase current 4 wire						A033-600	5	 for CL switches: *19 instead of 11
3 phase voltage 3 phase current 3 wire						A035-600	5	 for CL switches: *17 instead of 9
Control Switches								
Stop switch						A174-600	1	
Start switch						A175-600	1	
Stop start switch single pole						A176-600	1	
Stop start switch 2 pole						A183-600	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						A177-600	2	
						A177-620	2	

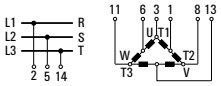
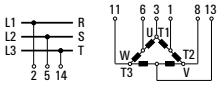
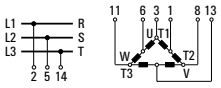
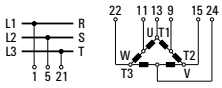
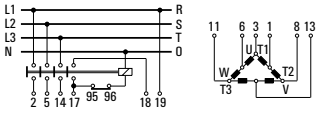
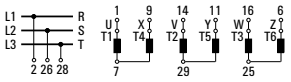
[1] not available for switch types CL4 and CL10

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26 C32	Code	Stages	Connection Diagram
Control Switches								
Stop start switch with spring return to run with contactor interlock contactors for 2 units						A182-600	2	
						A182-620	2	
Motor voltage control switch						A150-600	2	
Control Switches with electrically isolated contacts								
Stop start switch single pole						A789-600	1	
Stop start switch with spring return to 1						A791-600	1	
Stop start switch with spring return to run for 2 units						A790-600	2	
Contactor control with spring return to „OFF“						A179-600	2	
						A179-620	2	
Circuit breaker control						A537-600	2	
Control and Alarm Switches[1]								
With slip clutch and without indicator device			[2]	[2]		A190-600	5[3]	
Without indicator device			[2]			A192-600	2	

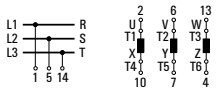
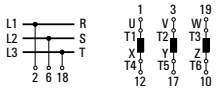
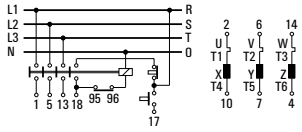
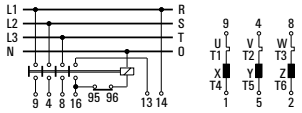
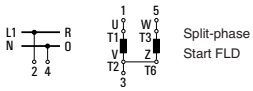
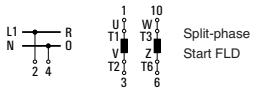
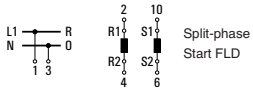
[1]Advise the indicator device, described in Catalog 101, page 7. [2]not available for switch types CL10, CA25 and CA25B [3]incl. slip clutch

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA..B C26- C43	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]		A402-600	4	
Motor Control Switches								
2 speed 2 winding 0-A-BY or Δ						A451-600	3	
						A451-620	3	
3 speed 2 winding 0-AΔ-BY-AYY						A457-600	6	
						A457-620	6	

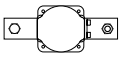
[1]not available for switch type CA25 [2]not available for switch types C26 and C32 [3]not available for switch types C42 and C43

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	C26- 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						A442-600	6	
						A442-620	6	
2 speed single winding for use with contactors						A444-600	5	
						A444-620	5	
2 speed reversing for 2 way operation with slip clutch for „OFF“ load use			[2]			A468-600	10[1]	
			[2]			A468-620	10[1]	

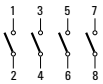
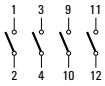
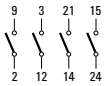
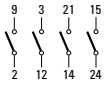
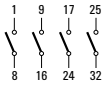
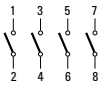
[1]incl. slip clutch [2]not available for switch type CL10

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA..B C26- C43	C80- C315	Code	Stages	Connection Diagram
Star-delta Switches								
OFF-star-delta						A410-600	4	
						A410-620	4	
Reversing						A413-600	5	
With auxiliary contact closed in „OFF“ position						A416-600	5	
For use with reversing contactors		[1]	[1]			A419-600	4	
Start and Run Switches								
Split-phase start						A425-600	2	 Split-phase Start FLD
						A425-620	2	
Split-phase start reversing			[2]			A426-600	3	 Split-phase Start FLD
			[2]			A426-620	3	
Split-phase reversing auto cutout of start field winding						A622-600	3	 Split-phase Start FLD

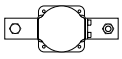
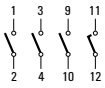
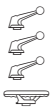
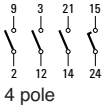
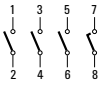
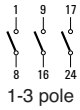
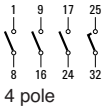
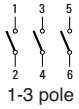
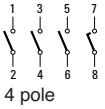
[1] not available for switch types CL4 and CL10 [2] not available for switch type CA25

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

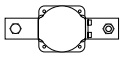
ON/OFF Switches with 60° Switching

1 pole L350/L351 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	1 2 3 4		 1-4 pole
1 pole 2 pole 3 pole 4 pole			A200-620 A201-620 A202-620 A203-620	1 2 3 4		
1 pole L400 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 2 4 4		 1-4 pole
3 pole with lugs suitable for protective cover			A302-600	3		
1 pole 2 pole 3 pole 4 pole			A200-620 A201-620 A202-620 A203-620	2 2 4 4		 A302
1 pole L600 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	3 3 6 6		 1-4 pole
1 pole L630/L631 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 4 6 8	● ●	 1-4 pole
1 pole L800 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 4 6 8		 1-4 pole
1 pole L1000/L1001 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	3 6 9 12	● ● ●	 1-4 pole
1 pole L1200 2 pole 3 pole			A200-600 A201-600 A202-600	3 6 9		 1-3 pole
1 pole L1250/L1251 2 pole 3 pole			A200-600 A201-600 A202-600	4 8 12	● ●	 1-3 pole
1 pole L1600 2 pole 3 pole			A200-600 A201-600 A202-600	4 8 12		 1-3 pole
1 pole L2000 2 pole			A200-600 A201-600	5 10	●	 1 and 2 pole

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

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°			A290-600 A291-600 A292-600 A293-600	1 2 3 4		 1-3 pole	
1 pole L400 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	2 2 4 4		 1-3 pole	 4 pole
3 pole with lugs suitable for protective cover			A307-600	3		 A307	
3 pole 360° rotation			A208-600	4			
1 pole L600 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	3 3 6 6	● ●	 1-3 pole	 4 pole
1 pole L630/L631 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	2 4 6 8	● ●	 1-3 pole	 4 pole
1 pole L800 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	2 4 6 8	● ● ●	 1-3 pole	 4 pole
1 pole L1000/L1001 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	3 6 9 12	● ● ●	 1-3 pole	 4 pole
1 pole L1200 2 pole 3 pole			A290-600 A291-600 A292-600	3 6 9	● ● ●		1-3 pole
1 pole L1250/L1251 2 pole 3 pole			A290-600 A291-600 A292-600	4 8 12	● ●		1-3 pole

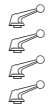
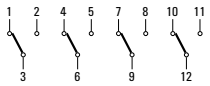
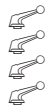
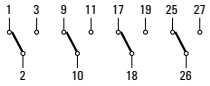
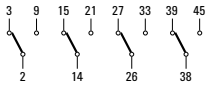
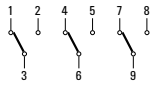
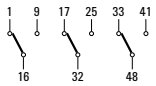
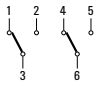
● Additional length for switches size S2 for mounting E/EF = 27 mm
Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

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

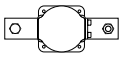
ON/OFF Switches with 90° Switching

1 pole 2 pole 3 pole	L1600			A290-600 A291-600 A292-600	4 8 12	● ● ●	 1-3 pole
1 pole 2 pole	L2000			A290-600 A291-600	5 10	● ●	 1- and 2 pole

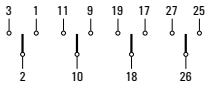
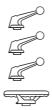
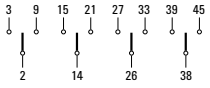
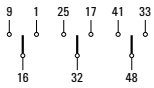
Double-throw Switches without „OFF“ 60° Switching

1 pole 2 pole 3 pole 4 pole	L350/L351			A220-600 A221-600 A222-600 A223-600	2 4 6 8		 1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			A220-600 A221-600 A222-600 A223-600	2 4 6 8		 1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			A220-600 A221-600 A222-600 A223-600	3 6 9 12	 ● ●	 1-4 pole
1 pole 2 pole 3 pole	L630/L631			A220-600 A221-600 A222-600	4 8 12	 ●	 1-3 pole
1 pole 2 pole 3 pole	L800			A220-600 A221-600 A222-600	4 8 12	 ●	 1-3 pole
1 pole 2 pole	L1000/L1001			A220-600 A221-600	6 12	 ●	 1 and 2 pole
1 pole	L1200			A220-600	6		
1 pole	L1250/L1251			A220-600	8		
1 pole	L1600			A220-600	8		
1 pole	L2000			A220-600	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 

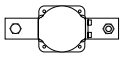
Double-throw Switches with Center „OFF“

1 pole 2 pole 3 pole 4 pole	L350/L351			A210-600 A211-600 A212-600 A213-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			A210-600 A211-600 A212-600 A213-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			A210-600 A211-600 A212-600 A213-600	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630/L631			A210-600 A211-600 A212-600	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800			A210-600 A211-600 A212-600	4 8 12	●		1-3 pole
1 pole 2 pole	L1000/L1001			A210-600 A211-600	6 12	●		1 and 2 pole
1 pole	L1200			A210-600	6			
1 pole	L1250/L1251			A210-600	8			
1 pole	L1600			A210-600	8			
1 pole	L2000			A210-600	10			

Multi-step Switches single pole without „OFF“

3 Step	L350/L351			A230-600	4		
3 Step	L400			A230-600	4		
4 Step	L350/L351			A231-600	4		
4 Step	L400			A231-600	4		
5 Step	L350/L351			A232-600	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			A232-600	6		
6 Step	L350/L351			A233-600	6		
6 Step	L400			A233-600	6		
7 Step	L350/L351			A234-600	8		
7 Step	L400			A234-600	8		
8 Step	L350/L351			A235-600	8		
8 Step	L400			A235-600	8		
9 Step	L350/L351			A236-600	10		
9 Step	L400			A236-600	10		
10 Step	L350/L351			A237-600	10		
10 Step	L400			A237-600	10		
11 Step	L350/L351			A238-600	12		
11 Step	L400			A238-600	12		
12 Step	L350/L351			A239-600	12		
12 Step	L400			A239-600	12		

Two Hole Panel Mounting or Mosaic Mounting	Terminals rotated 90°	Code	CA4 CA4-1 CL4
Panel mounting			
 Two hole panel mounting		E	●
	●	E-V	●
Panel mounting with shaft seal Protection IP 65			
 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 CL10	CA10B- C42	C43- C125 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 65	●	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	●	C26- C42	C80- C125	
Four hole panel mounting Protection IP 65		EGF	●	C26- C42	C80- C125	
Panel and base mounting						
 Four hole mounting		ER	CAD.. CA10- CA25	●	●	●
Four hole mounting Protection IP 65		ERF	CAD.. CA10- CA25	●	●	●

Two or Four Hole Panel Mounting	Code	CAD.. CA10- CA25 CL10	CA10B CA11B CA20B CA25B C26	C32 C42	C43
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 C26-C43	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 C26-C43	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			

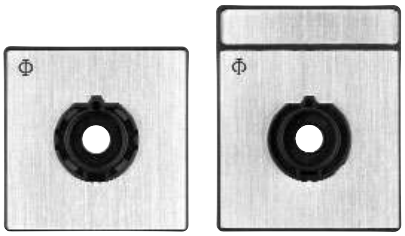
Single Hole Mounting	Terminals rotated 90°	Code	CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10
With locking nut and shaft seal, protection IP 65			mm	mm
 Without escutcheon plate		FS1	16/22	
	●	FS1-V	16/22	
		FT1		22
	●	FT1-V		22
		FT3		22/30
	●	FT3-V		22/30
 With square escutcheon plate		FS2	16/22	
	●	FS2-V	16/22	
		FT2		22
	●	FT2-V		22
		FT4		22/30
	●	FT4-V		22/30
 With rectangular escutcheon plate		FS4	16/22	
	●	FS4-V	16/22	
 With size S1 escutcheon plate and heavy duty latching		FH3		22
	●	FH3-V		22
 Mounting key for locking nut		S00 T170 09		

Base Mounting	Terminals rotated 90°	Code	CAD.. CA10- CA25 CL10	CA10B- C42	C43- L2000
Base mounting					
 Base mounting - four hole		VE	CAD..	●	●
	●	VE-V	CA10- CA25	●	
For four hole base mounting and with integrated simplified door clutch, protection IP 65		VF	CAD..		
	●	VF-V	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 50022		VE1	●	●	

Base Mounting	Code	CA4 CA4-1	CAD.. CA10- CA25 CL10
Base mounting			
 Snap-on base mounting for track EN 50022 with escutcheon plate for 45 mm standard knock-out.	VE2		●
 Snap-on base mounting for track EN 50022. Both the escutcheon plate for 45 mm standard knock-out and the handle are adjustable in height.	VE21	●	CAD.. CA10- CA25
 Snap-on base mounting for track EN 50022 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	●
 For multiple boxes	UE7	●

Escutcheon Plates

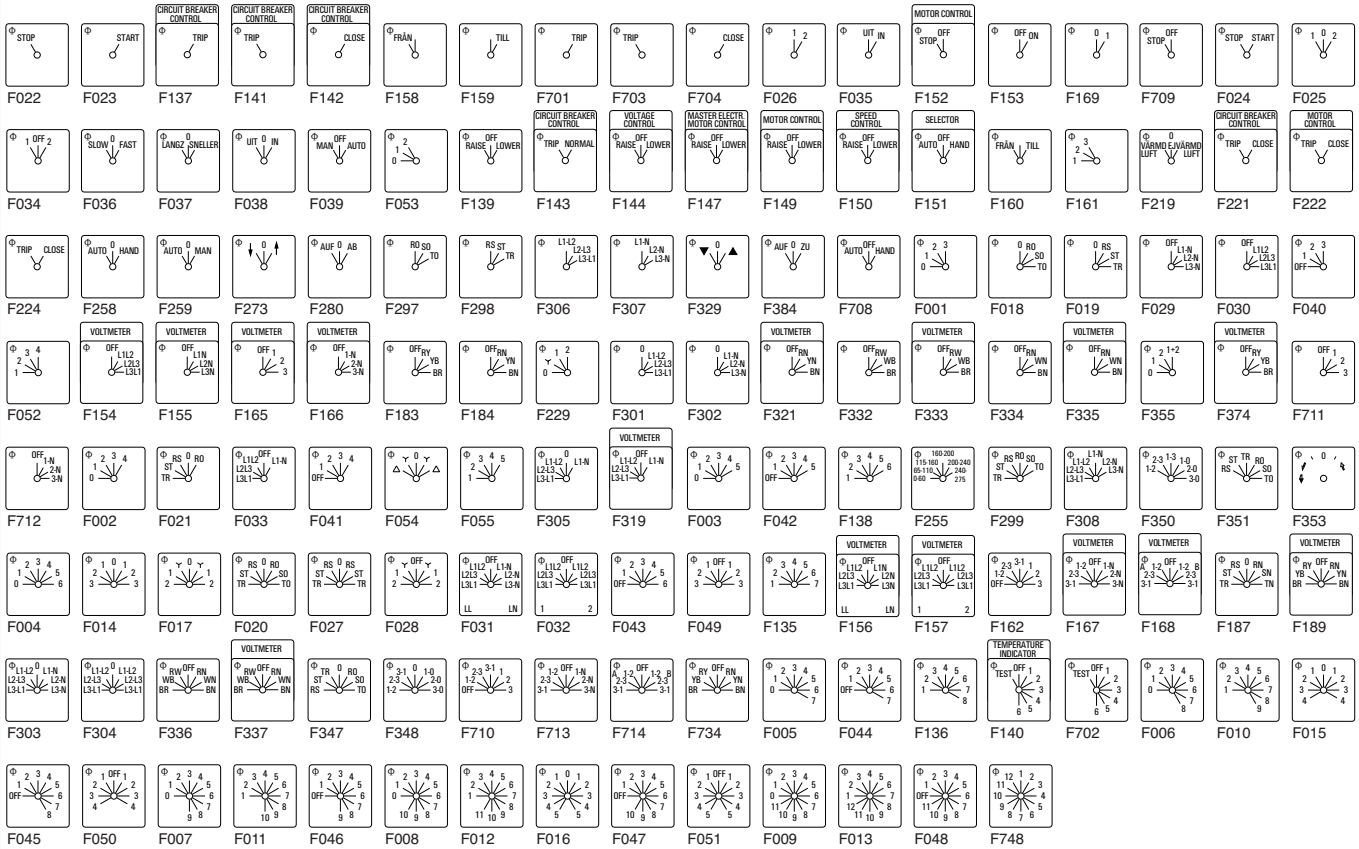


Square and rectangular escutcheon plates are available for each size of switch. The escutcheon plate consists of a frame and a faceplate having the switch positions which is than embossed with hot-foil backing. The escutcheon plate frame is an essential part of the switch and serves as a bearing surface 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.

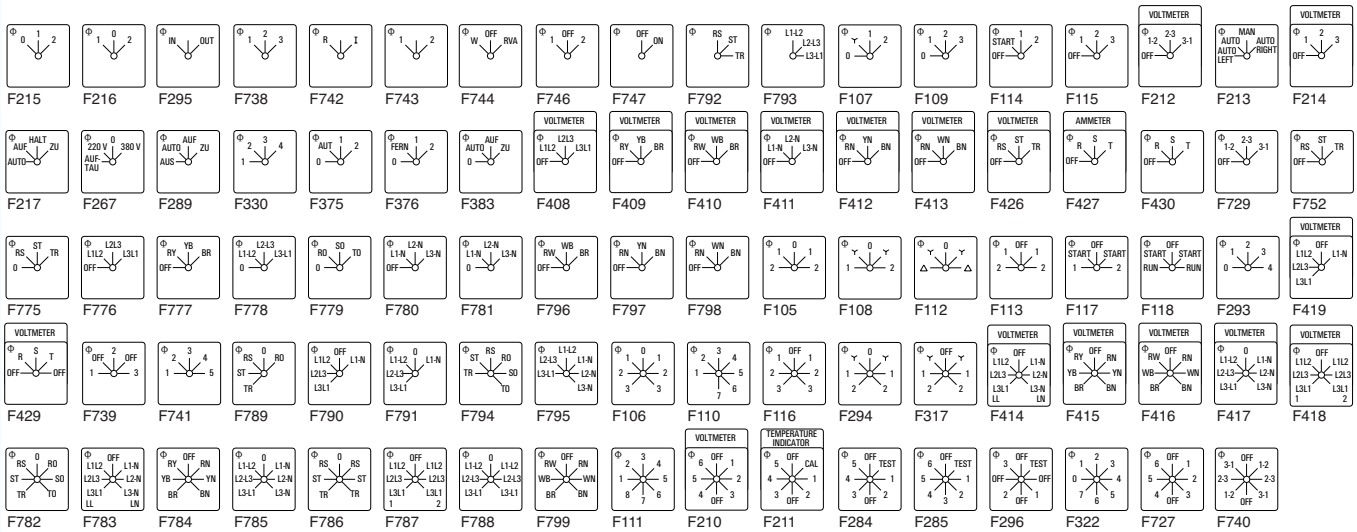
Standard Letterings Available

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

30° switching

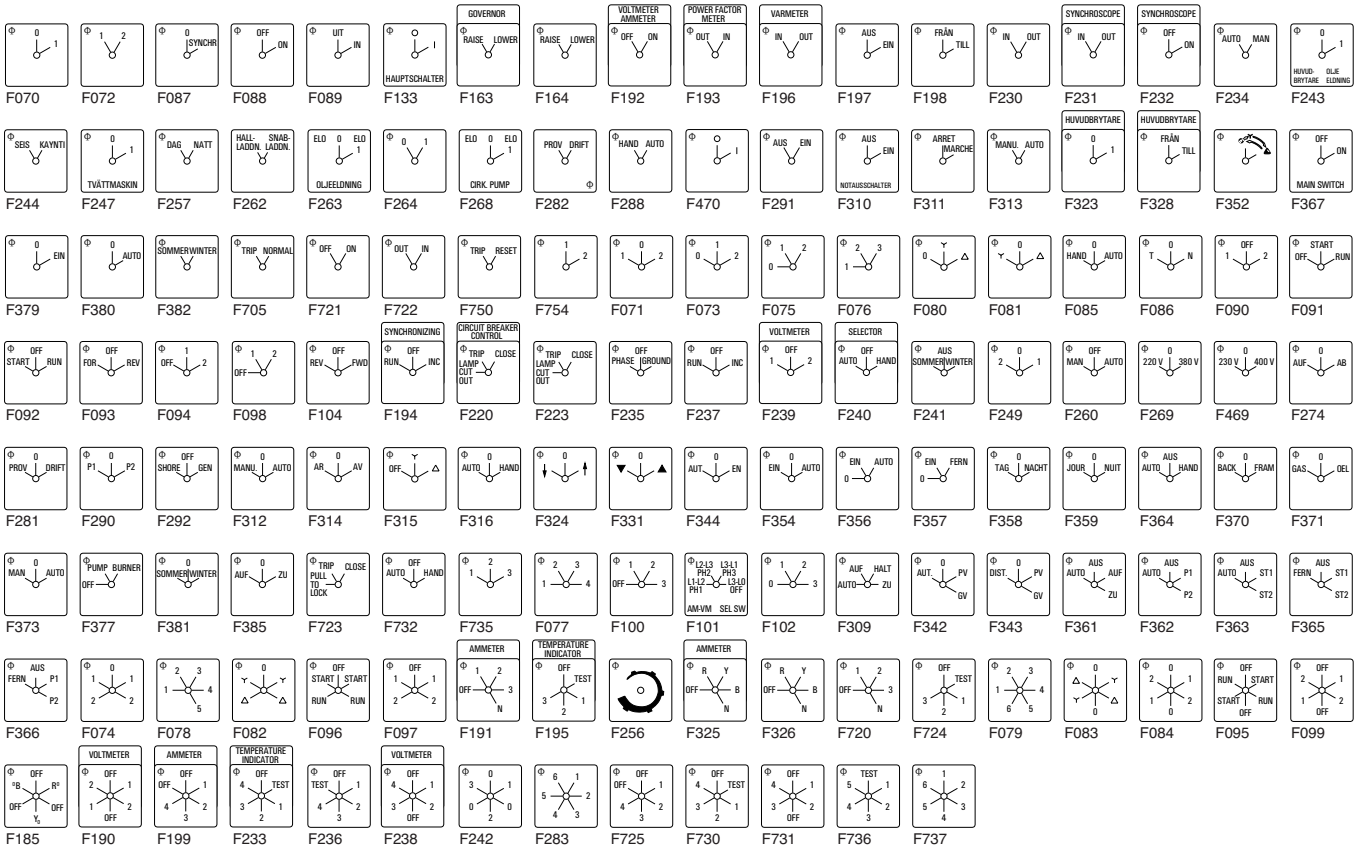


45° switching

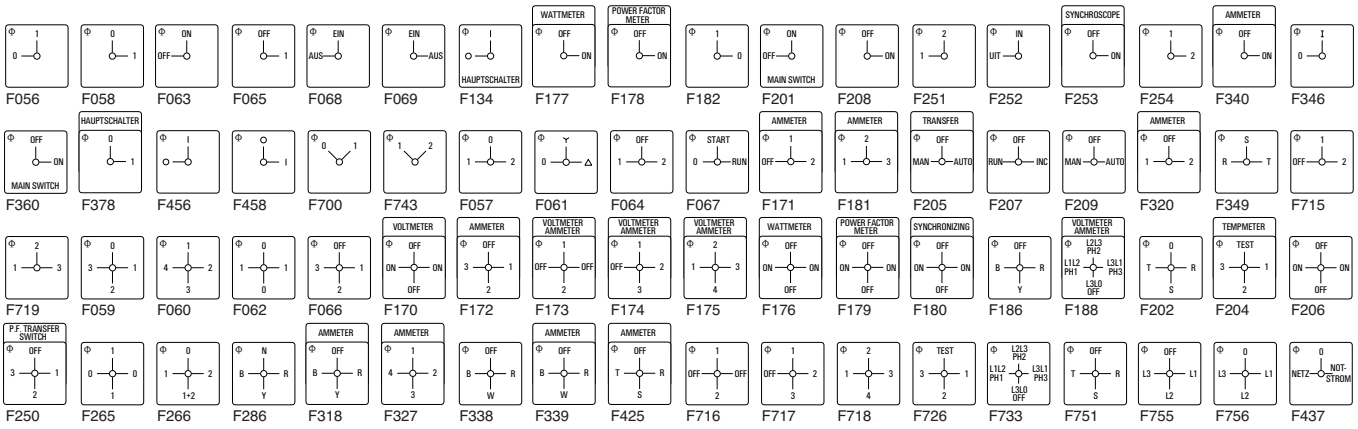


Escutcheon Plates

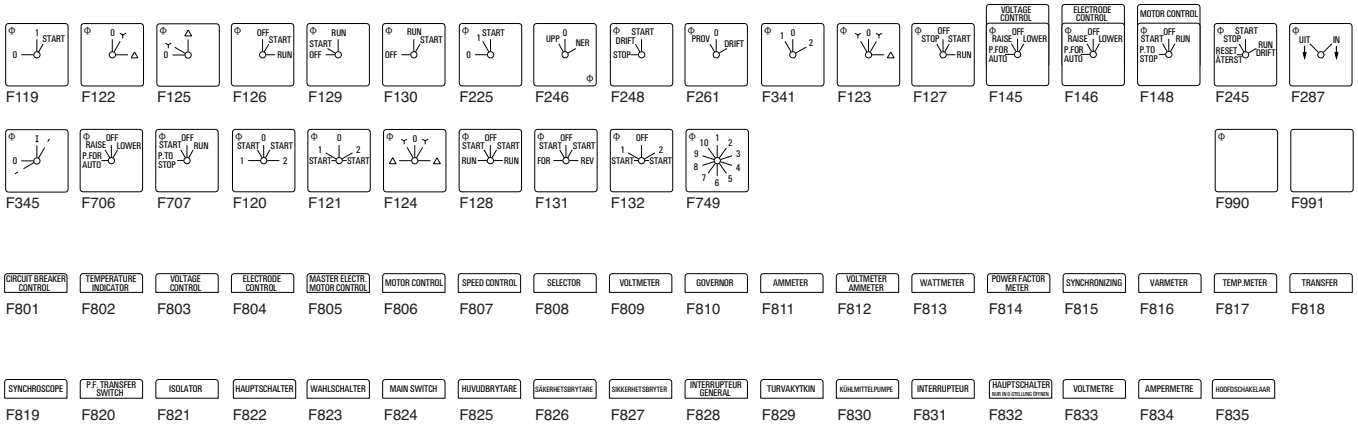
60° switching



90° switching



Miscellaneous



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	—	—	—	—	●
Capstan Handle 	black	G931	—	—	—	—	●

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	C26 C32 C42	C43 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	● ● ●	● ● ●	● ● ●	● ●	● ● ●	● ● ●	+ + +	+ ● +	+ + +	+ + +
Germanischer Lloyd			+ + +	+ + +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +	+ + +	+ + +
Lloyds Register of Shipping			+ + +	+ + +	+ + +	+ +	+ + +	+ + +	+ + +	+ + +	+ + +	+ + +

● 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. 13002, Class No. 3211-05 resp. 4652-04.
[7] If this approval is required, please request when ordering.

Selection Data

	CA4		CA10		CA11	CA20	CA25			C42			
	CA4-1	CL4	CA10B	CL10	CA11B	CA20B	CA25B	C26	C32	C43	C80	C125	C315/C316
Rated Insulation Voltage U_i													
IEC 60947-3, EN 60947-3[1]													
VDE 0660 part 107[1] V	440	440	690	690	690	690	690	690	690	690	690	690	690/1000
SEV[4] V	380	380	660	690	660	660	690	660	660	660	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	400	400	400	–	–
Rated Impulse Withstand Voltage U_{imp} kV	4	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	10	20	20	20	25	32	32	50	63	115	150	315
SEV[4] 380 V A	10	10	16	16	16	25	32	32	40	63	100	160	315
660 V A	–	–	12	12	12	25	32	32	40	63	–	–	315
UL/Canada A	10	–	20	–	20	30	30	40	50	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	10	20	20	20	25	32	32	40	63	100	150	315
AC-1 Resistive or low inductive loads; SEV[4] 380 V A	10	10	16	16	16	25	32	32	40	63	100	160	315
660 V A	–	–	12	12	12	20	32	32	40	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	10	20	20	20	25	32	32	40	63	100	150	315
660 V-690 V A	–	–	20	20	20	25	32	32	40	63	100	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	2,5	5	5	5	8	12	14	16	–	–	–	–
380 V-440 V A	1,5	1,5	4	4	4	5	6	6	7	–	–	–	–
Pilot Duty; UL/Canada[4] Heavy VAC	300	–	300	–	600	600	300	600	600	600	–	–	–
Ampere Rating Resistive or low inductive loads; UL/Canada[4] A	10	–	20	–	20	30	30	40	50	65	100	150	240
Resistive load/motor load; CEE A	4/2	–	10/6	–	10/6	16/10	–	25/10	32/10	40/10	63/10	–	–
NEMKO A	6/4[2]	–	10/6	–	–	20/10	–	–	–	–	–	–	–
Short Circuit Protection													
Max. fuse size (gL-characteristic) A	10	10	25	25	25	35	35	50	63	80	125	200	315
Rated short-time withstand current (1s-current) A	60	90	140	140	140	280	480	350	800	1000	1300	2000	4200

DC Switching Capacity

No. of series contacts	1	2	3	4	5	6	8	
	Voltage V							
Resistive loads	24	48	70	95	120	145	190	A
T ≤ 1 ms	48	95	140	190	240	290	350	
	60	120	180	240	300	360	450	
	110	220	330	440	550	660	–	
	220	440	660	–	–	–	–	
	440	660	–	–	–	–	–	
Inductive loads	24	48	70	95	120	145	190	A
T = 50 ms	30	60	90	120	150	180	240	
	48	95	140	190	240	290	350	
	60	120	180	240	300	360	450	
	110	220	330	440	550	660	–	

Rated Operational Current I_e

	CA4		CA10		CA11	CA20	CA25						C315[3]
	CA4-1	CL4	CA10B	CL10	CA11B	CA20B	CA25B	C26S	C32S	C42S	C80	C125	C316[3]
	10	10	20	20	20	25	32	–	50	–	115	–	315
	6	6	12	12	12	20	25	32	40	63	100	150	250
	2,5	2,5	4,5	4,5	4,5	7,5	10	23	27	30	–	–	–
	0,7	0,7	1	1	1	1,5	2	6,5	–	–	–	–	–
	0,3	0,3	0,4	0,4	0,4	0,5	0,6	1,2	–	–	–	–	–
	0,2	0,2	0,27	0,27	0,27	0,3	0,3	0,4	–	–	–	–	–
	6	6	12	12	12	20	25	32	40	63	100	150	250
	3	3	5	5	5	9	12	25	30	55	33	50	70
	1	1	2	2	2	3	3	16	20	–	–	–	–
	0,7	0,7	1	1	1	1,5	1,5	11	15	–	–	–	–
	0,3	0,3	0,4	0,4	0,4	0,5	0,5	3,2	3,5	–	–	–	–

Ambient Temperature of Stages[5]	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.

Selection Data					CA4 CA4-1	CL4	CA10 CA10B	CL10	CA11 CA11B	CA20 CA20B	CA25 CA25B	C26	C32	C42 C43	C80	C125	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-C32	3 phase 3 pole	220 V-240 V		2,5	2,5	4	4	4	5,5	7,5	8	10	18,5	30	37	55
			380 V-440 V	kW	4,5	4,5	7,5	7,5	7,5	11	15	15	18,5	30	45	55	90
			500 V		–	–	10	10	10	15	18,5	18,5	22	40	55	75	110
			660 V-690 V		–	–	10	10	10	13	15	15	22	37	55	55	55
AC-3	Direct-on-line starting, star-delta starting C42-C315	3 phase 3 pole	220 V-240 V		1,5	1,5	3	3	3	4	5,5	5,5	7,5	11	15	22	37
			380 V-440 V	kW	2,2	2,2	5,5	5,5	5,5	7,5	11	11	15	18,5	30	37	55
			500 V		–	–	5,5	5,5	5,5	7,5	11	11	15	18,5	30	37	55
			660 V-690 V		–	–	5,5	5,5	5,5	7,5	11	11	15	18,5	30	37	37
		1 phase 2 pole	110 V		0,3	0,3	0,6	0,6	0,6	1,5	2,2	2,2	2,5	3	3,7	5,5	11
			220 V-240 V	kW	0,55	0,55	2,2	2,2	2,2	3	4	4	5,5	6	7,5	11	22
			380 V-440 V		0,75	0,75	3	3	3	3,7	5,5	5,5	7,5	11	13	18,5	30
AC-4	Direct-on-line starting, reversing, plugging and inching	3 phase 3 pole	220 V-240 V		0,37	0,37	0,55	0,55	0,55	1,5	2,5	2,7	3,7	5,5	6	10	15
			380 V-440 V	kW	0,55	0,55	1,5	1,5	1,5	3	5,5	5,5	6	7,5	11	15	25
			500 V		–	–	1,5	1,5	1,5	3	5,5	5,5	6	7,5	11	15	25
			660 V-690 V		–	–	1,5	1,5	1,5	3	5,5	5,5	6	7,5	11	15	22
		1 phase 2 pole	110 V		0,15	0,15	0,3	0,3	0,3	0,45	0,75	0,75	1,1	1,2	1,5	2,2	4
			220 V-240 V	kW	0,25	0,25	0,75	0,75	0,75	1,1	1,5	1,5	2,2	2,4	3	4	7,5
			380 V-440 V		0,5	0,5	1,5	1,5	1,5	2,2	3	3	3,7	4	5,5	7,5	11
AC-23A	Frequent switching of motors or other high inductive loads	3 phase 3 pole	220 V-240 V		1,8	1,8	3,7	3,7	3,7	5,5	7,5	7,5	11	15	30	37	75
			380 V-440 V	kW	3	3	7,5	7,5	7,5	11	15	15	22	30	45	75	132
			500 V		–	–	7,5	7,5	7,5	11	15	15	30	45	55	90	132
			660 V-690 V		–	–	7,5	7,5	7,5	11	15	15	22	55	65	65	37
		1 phase 2 pole	110 V		0,37	0,37	0,75	0,75	0,75	1,5	2,2	2,2	2,5	4	5,5	11	18,5
			220 V-240 V	kW	0,75	0,75	2,5	2,5	2,5	3	4	4	5,5	10	15	22	37
			380 V-440 V		1,1	1,1	3,7	3,7	3,7	5,5	7,5	7,5	11	18,5	22	37	55
Ratings		UL/Canada															
	Standard motor load DOL-Rating (similar AC-3)	3 phase 3 pole	120 V		0,75	–	1,5	–	1,5	3	5	5	7,5	7,5	10	15	30
			240 V	HP	1	–	3	–	3	7,5	10	10	15	15	20	25	75
			480 V		–	–	–	–	5	10	–	20	25	25	30	40	75
			600 V		–	–	–	–	5	10	–	25	30	30	40	50	60
		1 phase 2 pole	120 V		0,33	–	0,5	–	0,5	1,5	2	2	3	3	5	7,5	15
			240 V		0,75	–	1	–	1	3	5	5	7,5	7,5	10	15	40
			277 V	HP	0,75	–	2	–	2	3	5	5	7,5	7,5	10	15	40
			480 V		–	–	–	–	2	5	–	10	15	15	20	25	50
			600 V		–	–	–	–	2	5	–	15	20	20	25	30	50
	Heavy motor load Reversing-Rating (similar AC-4)	3 phase 3 pole	120 V		–	–	0,5	–	0,5	1	2	2	3	5	7,5	10	15
			240 V	HP	–	–	1	–	1	2	3	3	5	7,5	15	20	30
			440 V-600 V		–	–	–	–	3	5	–	10	15	20	25	30	40
		1 phase 2 pole	120 V		–	–	0,17	–	0,17	0,33	1,5	1,5	1,5	2	3	5	7,5
			240 V	HP	–	–	0,5	–	0,5	0,75	3	3	3	5	7,5	10	15
			277 V		–	–	0,6	–	0,6	1	3	3	3	5	7,5	10	15
Max. Permissible Wire Gage - Use copper wire only					2x	1x[2]	2x	1x[2]	2x	2x	2x	2x	2x	2x			
Single-core or stranded wire				mm²	1,5	0,5-1,5	2,5	0,5-2,5	2,5	4	6	6	10	16	35	70	185[1]
				AWG	14	–	12	–	12	10	8	8	8	6	2	2/0	MCM 350
					2x	1x[2]	2x	1x[2]	2x	2x	2x	2x	2x	2x			
Flexible wire (sleeving in accordance with DIN 46228)				mm²	1,5	0,5-1,5	2,5	0,5-2,5	2,5	4	4	6	6	10	25	50	150[1]
					(–)	(–)	(2,5)	(–)	(2,5)	(2,5)	(4)	(4)	(6)	(10)	(25)	(50)	
Flexible AWG wires (without sleeve)				AWG	16	–	14	–	14	12	10	10	8	6	3	1/0	MCM 300

[1]Cable lug must accept M12 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. The permissible ambient temperature range when connecting the wires is 5-40 °C.

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
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	65	65	65	65	65	65	65	65	65	65
Short Circuit Protection													
Max. fuse size		(aR-characteristic)	A	400	500	800	630	1250	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]				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.

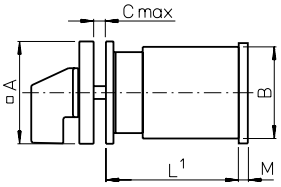
Selection Data				CAD11	CAD12
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3[1]				
	VDE 0660 part 107		V	600	600
	SEV[2]		V	600	600
	UL/Canada		V	300	300
	min. voltage		V	1[5]	6
Rated Impulse Withstand Voltage U_{imp}				on request	
Rated Thermal Current I_u/I_{th}	IEC 60947-3, EN 60947-3				
	VDE 0660 part 107		A	6	6
	SEV[2]		A	5	5
	UL/Canada		A	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	UL/Canada[3]	1 V/6 V	A	6/3	–/6
		12 V/24 V	A	2/1	5/5
		48 V/110 V	A	0,8/0,4	4/3
		220 V/400 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
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
Short Circuit Protection					
Max. fuse size		(gL-characteristic)	A	6	6
Rated short-time withstand current		(1s-current)	A	35	50
DC Switching Capacity	IEC 60947-3, EN 60947-3				
	VDE 0660 part 107				
DC-1 Resistive load T = 1 ms	SEV[2]	1 V/6 V	A	4/2,5	–/4
	UL/Canada[3]	12 V/24 V	A	1,5/0,8	3/2,2
		48 V/60 V	A	0,3/0,27	1,2/1
		110 V/220 V	A	0,2/0,1	0,6/0,3
		240 V/500 V	A	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
Single-core or stranded wire			mm^2	2,5	2,5
			AWG	12	12
				2x	2x
Flexible wire (sleeving in accordance with DIN 46228)			mm^2	2,5	2,5
				(2,5)	(2,5)
			AWG	14	14
Ambient Temperature of Stages[4]		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 lower voltages on request.

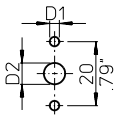
Dimensions

mm
inch

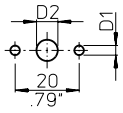
Two or Four Hole Panel Mounting



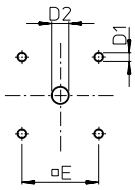
E
for CA4, CA4-1
E-V
for CL4



E-V
for CA4, CA4-1
E
for CL4

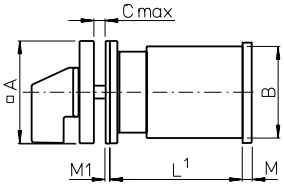


E
E-V
ER

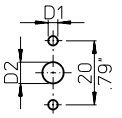


	CA4 CA4-1	CL4	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25[3]	CA10B CA11B CA20B	CA25B	C26	C32	C42[3]	C43	C80	C125	L switches Size S2	C315 L switches Size S3
A	30 1.18	30 1.18	48 1.89	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	88 3.46	130 5.12
B	29,5 1.16	35x46 1.38x1.81	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5,5 .22	5,5 .22	5,5 .22	5,5 .22	7 .28
D1	3,2 .13	3,2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	8-11 .31-.43	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	13-17 .51-.67	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 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09
M[2]	- -	- -	4,5 .18	- -	4,5 .18	5,5 .22	5 .20	5,5 .22	7,5 .30	7,5 .30	7,5 .30	7,5 .30	9,4 .37	9,4 .37	27,5 1.08	11,9 .47

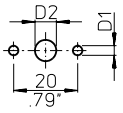
[2]M, additional length for mounting ER only
[3]Dimensions in ( ) for ER mounting plate only



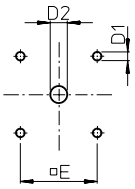
EF
for CA4, CA4-1
EF-V
for CL4



EF-V
for CA4, CA4-1
EF
for CL4



EF
EF-V
ERF



	CA4 CA4-1	CL4	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25[3]	CA10B CA11B CA20B	CA25B	C26	C32	C42[3]	C43	C80	C125	L switches Size S2	C315 L switches Size S3
A	30 1.18	30 1.18	48 1.89	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	88 3.46	130 5.12
B	29,5 1.16	35x46 1.38x1.81	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5,5 .22	5,5 .22	5,5 .22	5,5 .22	7 .28
D1	3,2 .13	3,2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	8-11 .31-.43	15-19 .59-.75	15-19 .59-.75	15-19 .59-.75	15-19 .59-.75	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	26-30 1.02-1.18	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 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09
M[2]	- -	- -	4,5 .18	- -	4,5 .18	5,5 .22	5 .20	5,5 .22	7,5 .30	7,5 .30	7,5 .30	7,5 .30	9,4 .37	9,4 .37	27,5 1.08	11,9 .47
M1	1 .04	1 .04	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

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

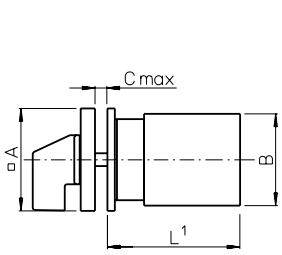
[1]see page 51

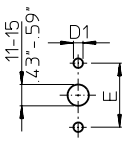
Dimensions

mm
inch

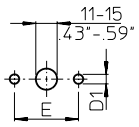
Two or Four Hole Panel Mounting

E22



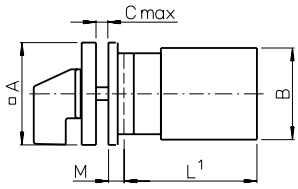


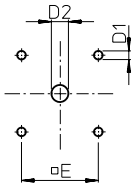
E22-V



	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20
E	30 1.17	30 1.17	30 1.17	30 1.17

EG
EGF





		CA10 CA11 CAD11 CAD12	CL10	CA20	CA25	C26	C32	C42	C80	C125 L switches Size S2
	A	64 2.52	64 2.52	64 2.52	64 2.52	88 3.46	88 3.46	88 3.46	130 5.12	130 5.12
	B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	58 2.28	60 2.36	66 2.60	84 3.30	88 3.46
	C	4 .16	4 .16	4 .16	4 .16	5,5 .22	5,5 .22	5,5 .22	7 .28	7 .28
	D1	5 .20	5 .20	5 .20	5 .20	6 .24	6 .24	6 .24	7 .28	7 .28
EG	**D2**	10-15 .39-.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	15,5-20 .61-.79
EGF	**D2**	19-22 .75-.87	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	22-25 .87-.98
	E	48 1.89	48 1.89	48 1.89	48 1.89	68 2.68	68 2.68	68 2.68	104 4.09	104 4.09
EG	**M**	6,7 .26	6,7 .26	6,7 .26	6,7 .26	0,5 .02	0,5 .02	0,5 .02	2 .08	2 .08
EGF	**M**	6,7 .26	6,7 .26	6,7 .26	6,7 .26	0,5 .02	0,5 .02	0,5 .02	2 .08	2 .08

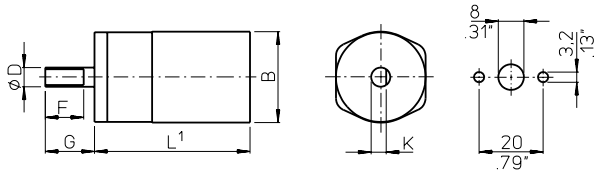
[1]see page 51

Dimensions

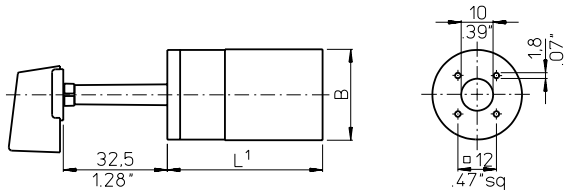
mm
inch

Four Hole Panel Mounting or Mosaic Mounting

E9
E91

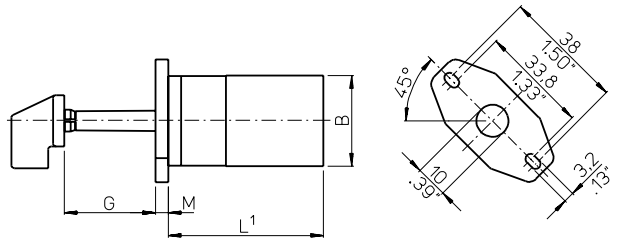


E92



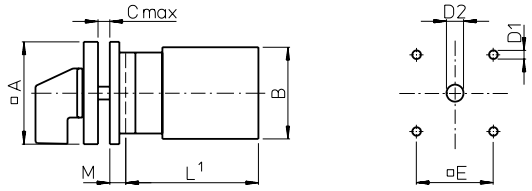
	CA4 CA4-1	CL4
B	29,5 1.16	35x46 1.38x1.81

E93
E94



CA4 CA4-1 CL4	**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	CL10	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59
E	36 1.42	36 1.42	36 1.42	36 1.42
M	5,2 .20	5,2 .20	5,2 .20	5,2 .20

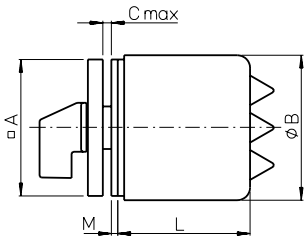
KN1 **KD1**	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25	CA10B CA11B CA20B	CA25B	C26	C32	C42
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	10-15 .39-.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	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	48 1.89	48 1.89	48 1.89
M	4,7 .19	4,7 .19	4,7 .19	4,7 .19	7 .28	7 .28	7 .28	7 .28	7 .28

[1] see page 51

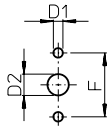
Dimensions

mm
inch

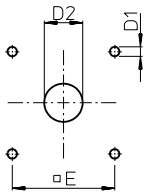
Two or Four Hole Panel Mounting



ED22



EC
ED
EC1
ED1



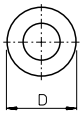
		CA10 CAD11 CAD12		CA11		CA20		CA25		CA10B		CA11B		CA20B CA25B		C26		C32	C42	C43
		EC ED	**ED22**	**EC ED**	**ED22**	**EC ED**	**ED22**	**EC ED**	**ED22**	**EC ED**	**EC1 ED1**	**EC ED**	**EC1 ED1**	**EC ED**	**EC1 ED1**	**EC ED**	**EC1 ED1**	**EC ED**	**EC ED**	**EC ED**
	A	48 1.89	48 1.89	48 1.89	48 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	64 2.52	64 2.52	88 3.46	88 3.46	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	88 3.46	74 2.91	108 4.25	108 4.25	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	4 .16	4 .16	4 .16	4 .16	4 .16
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	4 .16	4 .16	7,5 .30	7,5 .30	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	5 .20	5 .20	6 .24	6 .24	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	10-15 .39-.59	10-15 .39-.59	13-15 .51-.59	13-15 .51-.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	22-25 .87-.98	19-22 .75-.87	28-33 1.1-1.3	28-33 1.1-1.3	28-33 1.1-1.3
	E	36 1.42	- -	36 1.42	- -	48 1.89	- -	48 1.89	- -	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	68 2.68	68 2.68	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	- -	2,2 .09	2,2 .09	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	- -	73,7 2.90	101 3.98	101 3.98	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	- -	73,7 2.90	101 3.98	101 3.98	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	- -	93,7 3.69	101 3.98	139 5.47	139 5.47
	4	67,5 2.66	74,3 2.93	81,5 3.21	94,3 3.71	- -	94,3 3.71	- -	94,3 3.71	- -	93,7 3.69	- -	93,7 3.69	- -	93,7 3.69	- -	93,7 3.69	139 5.47	139 5.47	139 5.47
	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	- -	114,5 4.50	- -	139 5.47	177 6.97	177 6.97
	6	81,5 3.21	94,3 3.71	- -	- -	- -	- -	- -	- -	103 4.06	- -	127 5	- -	127 5	- -	127 5	- -	177 6.97	215 8.46	215 8.46
	7	- -	- -	- -	- -	- -	- -	- -	- -	127 5	- -	139,5 5.47	- -	139,5 5.47	- -	139,5 5.47	- -	177 6.97	215 8.46	215 8.46
	8	- -	- -	- -	- -	- -	- -	- -	- -	127 5	- -	152 5.98	- -	152 5.98	- -	152 5.98	- -	215 8.46	253 9.96	253 9.96
	9	- -	- -	- -	- -	- -	- -	- -	- -	139,5 5.47	- -	164,5 6.48	- -	164,5 6.48	- -	164,5 6.48	- -	215 8.46	253 9.96	253 9.96
	10	- -	- -	- -	- -	- -	- -	- -	- -	152 5.98	- -	177 6.97	- -	177 6.97	- -	177 6.97	- -	253 9.96	- -	291 11.46
	11	- -	- -	- -	- -	- -	- -	- -	- -	152 5.98	- -	- -	- -	- -	- -	- -	- -	253 9.96	- -	291 11.46
	12	- -	- -	- -	- -	- -	- -	- -	- -	164,5 6.48	- -	- -	- -	- -	- -	- -	- -	253 9.96	- -	329 12.95

Dimensions

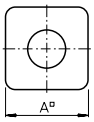
mm
inch

Single Hole Mounting or Base Mounting

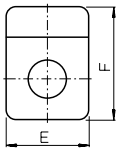
FS1...
FT1...
FT3...

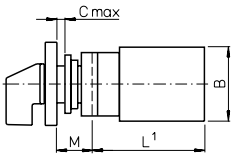


FH3...
FS2...
FT2...
FT4...

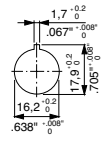


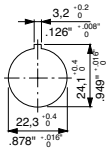
FS4...



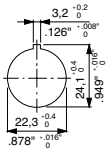


FS1...
FS2...
FS4...

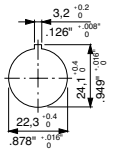


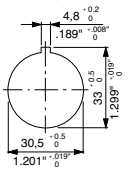


FH3...
FT1...
FT2...



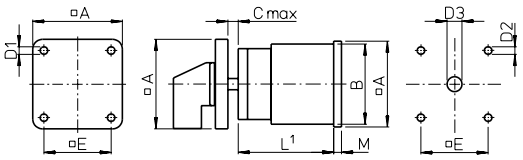
FT3...
FT4...



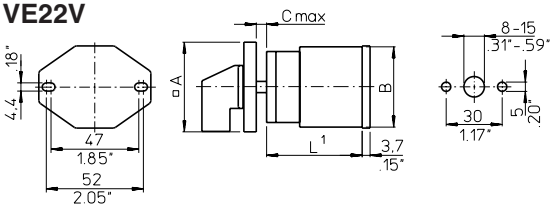


		CA4 CA4-1	CL4	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25
A/E		30 1.18	30 1.18	48 1.89	48 1.89	48 1.89	48 1.89
	FH3...	- -	- -	64 2.52	64 2.52	64 2.52	64 2.52
B		28 1.10	35x46 1.38x1.81	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C		5 .20	5 .20	6 .24	6 .24	6 .24	6 .24
D		29,5 1.16	29,5 1.16	39 1.54	39 1.54	39 1.54	39 1.54
F		39 1.54	39 1.54	- -	- -	- -	- -
M		12,5 .49	12,5 .49	18,2 .72	18,2 .72	18,2 .72	18,2 .72
	FH3...	- -	- -	25,2 .99	25,2 .99	25,2 .99	25,2 .99

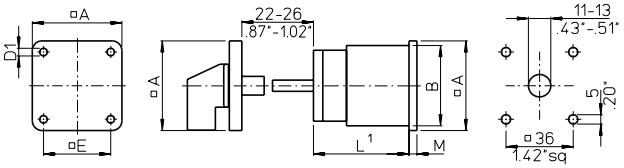
VE
VE-V



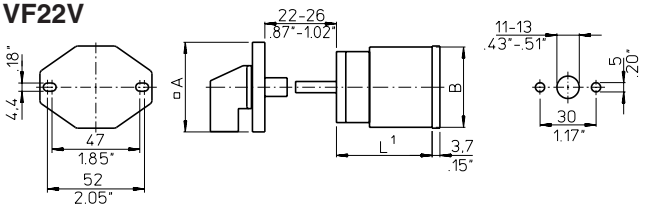
VE22
VE22V



VF
VF-V



VF22
VF22V



	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25[2]	CA10B CA11B CA20B	CA25B	C26	C32	C42[2]	C43	C80	C125	C315 L switches Size S2	C315 L switches Size S3
A	48 1.89	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	88 3.46	128 5.04
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	84 3.30	88 3.46	88 3.46	126 4.96
C	10,5 .41	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53	13,5 .53	13,5 .53	16 .63	16 .63	16 .63	16 .63	19,3 .76
D1	4,1 .16	- -	4,1 .16	4,1 .16	4,1 .16	4,1 .16	4,1 .16	4,1 .16	5,4 .21	5,4 .21	5,4 .21	5,4 .21	5,4 .21	7 .28
D2	5 .20	- -	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	6 .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	10-15 .39-.59	10-15 .39-.59	13-17 .51-.67	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 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09
M	2,2 .09	- -	2,2 .09	3,2 .13	2,5 .10	2,5 .10	5 .20	5 .20	5 .20	7 .28	8,9 .35	8,9 .35	27 1.06	11,4 .45

[2]Dimensions in ( ) for revertive mounting plate

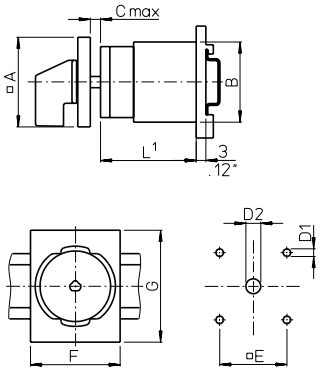
[1]see page 51

Dimensions

mm
inch

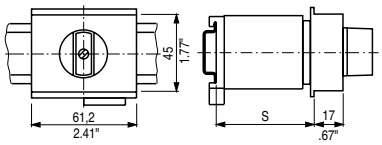
Base Mounting

VE1

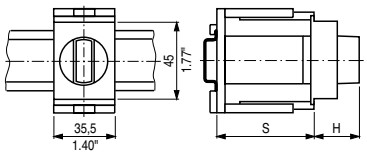


	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25	CA10B CA11B CA20B	CA25B	C26	C32	C42
A	48 1.89	48 1.89	48 1.89	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60
C	10,5 .41	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53	13,5 .53	13,5 .53
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
E	36 1.42	36 1.42	36 1.42	36 1.42	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
F	48 1.89	48 1.89	48 1.89	48 1.89	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76
G	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36

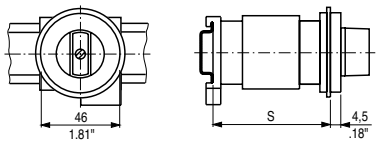
VE2



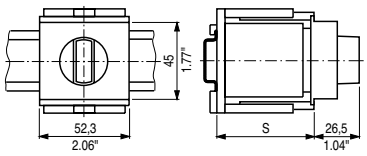
VE21 (for CA4 and CA4-1)



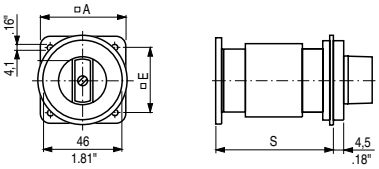
VE3



VE21 (for CA10-CA25)



VE4



	VE2			VE3		VE4			$S_{min.}$	H	VE21				
	CA10 CAD11 CAD12	CA11 CA20 CL10	CA25	CA10 CAD11 CAD12	CA11 CA20 CA25 CL10	CA10 CAD11 CAD12	CA11 CA20	CA25			CA4 CA4-1	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

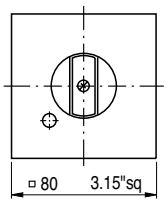
[1]see page 51 [2]not available for switch type CA20

Dimensions

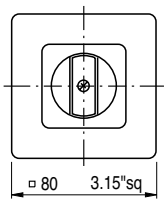
mm
inch

Wall Mounting, Escutcheon Plates and Additional Length

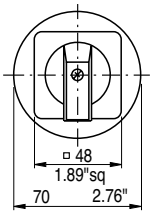
UE1
UE2
UE3



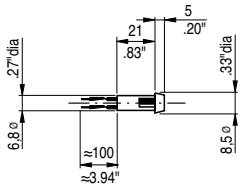
UE4
UE5
UE6



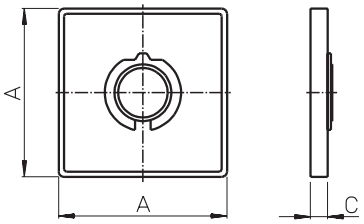
UE7



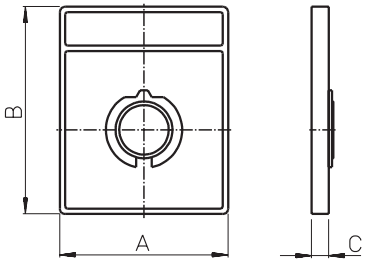
Lamp



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

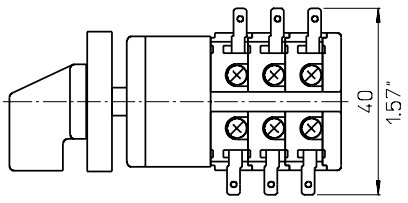


Size	A	B	C
S00	30 1.18	39 1.54	5,5 .22
S0	48 1.89	59 2.32	6,7 .26
S1	64 2.52	78 3.07	7,4 .29

Additional length for amendment (page 4)

	CA10 CA11 CAD11 CAD12	CA20 CA25	C26	C32	C42
Latching mechanism size S1	5,4 .21	5,4 .21	- -	- -	- -
Latching mechanism size S2	- -	- -	9,2 .36	9,2 .36	- -
Snap action	14,3 .56	14,3 .56	12,2 .48	12,2 .48	12,2 .48

Quick connects for switches CA4-4

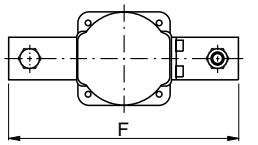


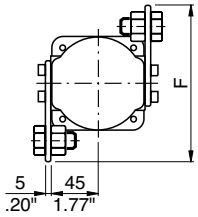
Dimensions

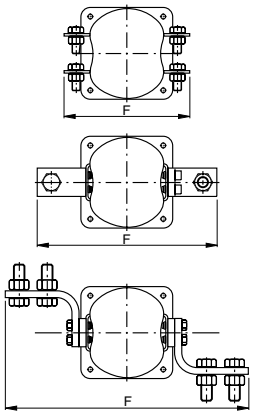
mm
inch

Additional Length

Terminal lugs for switches C315, C316 and L switches







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		CA10 CAD11														C125 L switches	C315 L switches
	CA4-1	CL4	CAD12	CL10	CA11	CA20	CA25	CA10B	CA11B	CA20B	CA25B	C26	C32	C42	C43	C80	Size S2	Size S3
1	30 1.18	34 1.34	33,5 1.32	37,2 1.46	36,7 1.44	37,7 1.48	39 1.51	38,9 1.53	42,1 1.66	43,1 1.70	44,4 1.75	42 1.65	46,8 1.84	50,8 2.00	59 2.32	61,5 2.42	67,5 2.66	78,6 3.09
2	38 1.50	46 1.81	43 1.69	49,9 1.96	49,4 1.94	50,4 1.98	53 2.09	48,4 1.91	54,8 2.16	55,8 2.20	58,4 2.30	54,7 2.15	64,3 2.51	72,3 2.85	80,5 3.17	88,0 3.46	100 3.94	117,2 4.61
3	46 1.81	58 2.28	52,5 2.07	62,6 2.46	62,1 2.44	63,1 2.48	67 2.64	57,9 2.28	67,5 2.66	68,5 2.70	72,4 2.85	67,4 2.65	81,8 3.22	93,8 3.69	102 4.02	114,5 4.51	132,5 5.22	155,8 6.13
4	54 2.13	70 2.76	62 2.44	75,3 2.96	74,8 2.94	75,8 2.98	81 3.19	67,4 2.65	80,2 3.16	81,2 3.20	86,4 3.40	80,1 3.15	99,3 3.91	115,3 4.54	123,5 4.86	141 5.55	165 6.50	194,4 7.65
5	62 2.44	82 3.23	71,5 2.81	88 3.46	87,5 3.44	88,5 3.48	95 3.74	76,9 3.03	92,9 3.66	93,9 3.70	100,4 3.95	92,8 3.65	116,8 4.60	136,8 5.39	145 5.71	167,5 6.59	197,5 7.78	233 9.17
6	70 2.76	94 3.70	81 3.19	100,7 3.96	100,2 3.94	101,2 3.98	109 4.29	86,4 3.40	105,6 4.16	106,6 4.20	114,4 4.50	105,5 4.15	134,3 5.29	158,3 6.23	166,5 6.56	194 7.64	230 9.06	271,6 10.69
7	78 3.07	106 4.17	90,5 3.56	113,4 4.46	112,9 4.44	113,9 4.48	123 4.84	95,9 3.78	118,3 4.66	119,3 4.70	128,4 5.05	118,2 4.65	151,8 5.98	179,8 7.08	188 7.40	220,5 8.68	262,5 10.33	310,2 12.21
8	86 3.39	118 4.65	100 3.94	126,1 4.96	125,6 4.94	126,6 4.98	137 5.39	105,4 4.15	131 5.16	132 5.20	142,4 5.60	130,9 5.15	169,3 6.67	201,3 7.93	209,5 8.25	247 9.72	295 11.61	348,8 13.73
9	94 3.70	- -	109,5 4.31	138,8 5.46	138,3 5.44	139,3 5.48	151 5.94	114,9 4.52	143,7 5.66	144,7 5.70	156,4 6.15	143,6 5.65	186,8 7.36	222,8 8.77	231 9.09	273,5 10.77	327,5 12.89	387,4 15.25
10	- -	- -	119 4.68	151,5 5.96	151 5.94	152 5.98	165 6.50	124,4 4.90	156,4 6.16	157,4 6.20	170,4 6.70	156,3 6.15	204,3 8.04	244,3 9.62	252,2 9.54	300 11.81	360 14.17	426 16.77
11	- -	- -	128,5 5.06	- -	163,7 6.44	164,7 6.48	179 7.05	133,9 5.27	169,1 6.66	170,1 6.70	184,4 7.25	169 6.65	221,8 8.73	265,8 10.46	274 10.79	326,5 12.85	392,5 15.45	464,6 18.29
12	- -	- -	138 5.43	- -	176,4 6.94	177,4 6.98	193 7.60	143,4 5.65	181,8 7.16	182,8 7.20	198,4 7.80	181,7 7.15	239,3 9.42	287,3 11.31	295,5 11.63	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**
CL Switches 10 A-20 A **C, CA and CAD Switches 10 A-315 A and L Switches 350 A-2400 A** C, CA and CAD switches are designed for universal application. They are recommended for instrument, isolator, double-throw and motor control. L switches are designed for load and off-load applications. They are used to switch resistive or low inductive loads.	**100**
Optional Extras and Enclosures The complete product line, a large number of optional extras is available, including door interlocks, push-pull devices, cylinder and padlock attachments, control and indicator devices, AC motor drives, as well as enclosures, both insulated and metal.	**101**
A and AD Switches 6 A-25 A A and AD switches have 4 contacts in each switching stage. These switches provide an extensive range of switch functions and require a minimum mounting depth. Up to 36 switching positions are possible, with availability of 48 contacts per 12 stage switch column.	**110**
CG, CH and CHR Switches 10 A-25 A Ultra compact CG, CH and CHR switches are ideally suited for control and instrumentation applications. Switch terminals are “finger-proof” and conveniently accessible for wiring and are delivered open. All CG4 switches offer specially designed gold plated contacts or H-bridges with “cross-wire” contact systems, which facilitates their use in electronic circuitry and chemically aggressive environments.	**120**
DH, DHR, DK and DKR Switches 6 A-16 A DH, DHR, DK and DKR switches incorporate unique corrosion resistant contacts that permit operation on system voltage as low as 1 V. They have fully enclosed and protected contacts which can be operated either by rotary and/or lateral handle movement. D switches are used in calibration and semiconductor circuits. They are also used for relay and contactor control.	**130**
X Switches 80 A-630 A X switches can be applied for load, tap and gang switching duties. They incorporate 6 contacts in each switching stage. Their compact design provides a minimum length dimension for mounting purposes.	**140**
KG Switches 20 A-315 A 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**
Contactors 16 A-115 A and Motor Starters 1,1 kW-55 kW These include control relays, motor contactors, two and four pole output contactors, heating contactors, thermal overload relays.	**200**
Push Buttons and Pilot Lights, 22,5 mm Ø A complete range of state-of-the-art push buttons and pilot lights represent an ideal combination of functional security and economical efficiency in a modular design.	**302**

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

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