



# Kraus & Naimer

BLUE LINE switchgear

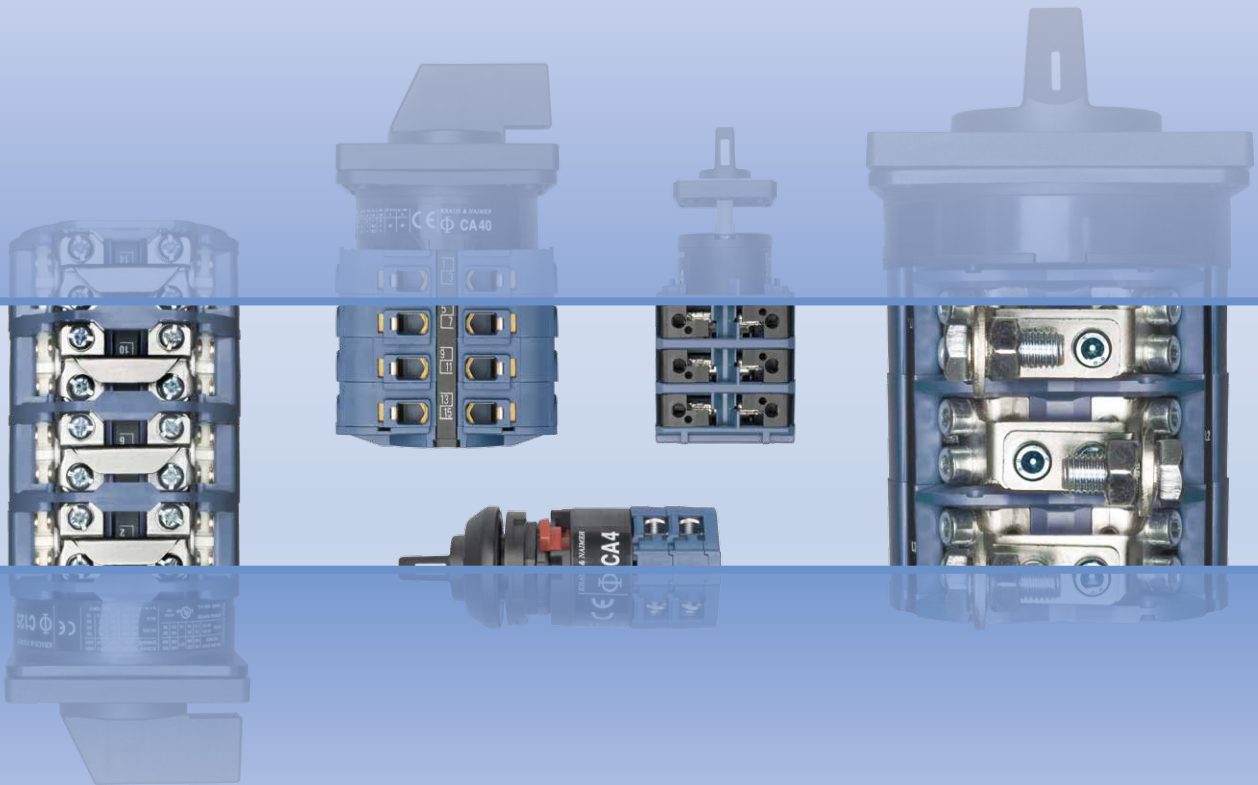
since 1907

## Catalog 100

04/2016

## Control and Load Switches for higher Capacities

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



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# Kraus & Naimer

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

## BLUE LINE

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

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

The Kraus & Naimer Registered Trademark



WORLDWIDE SYMBOL  
FOR QUALITY SWITCHGEAR

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

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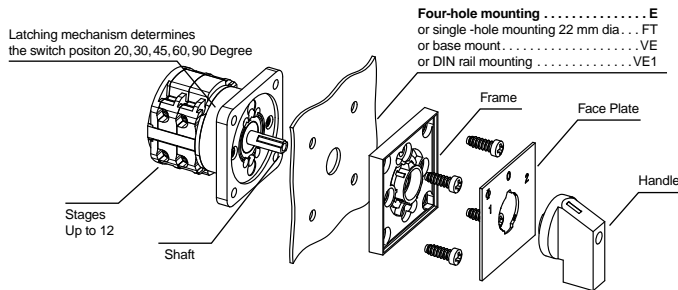
## Construction Data

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

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

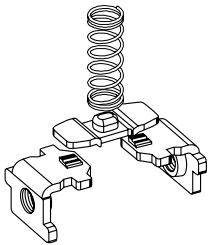
If a positive manual operation or a higher DC rating is required, many of these switches can be fitted with a snap action latching mechanism - suffix „S“ - to the switch type.

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



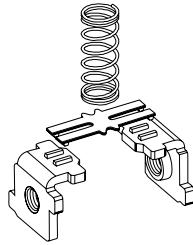
### Special Contact Systems

#### CA4/CA4-1



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

#### CAD4-1/CAD11/CAD12



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

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

### CA and CAD Switches (CA4-CA25B)



### CA Switches (CA40-CA63)



### C Switches

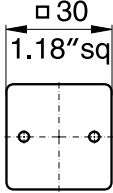
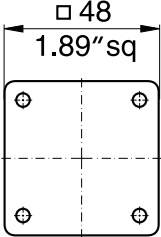
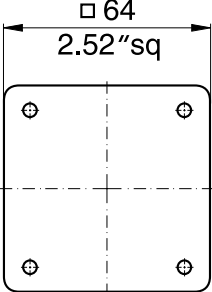
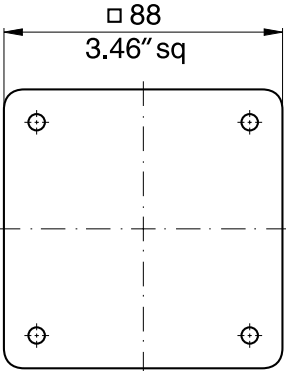
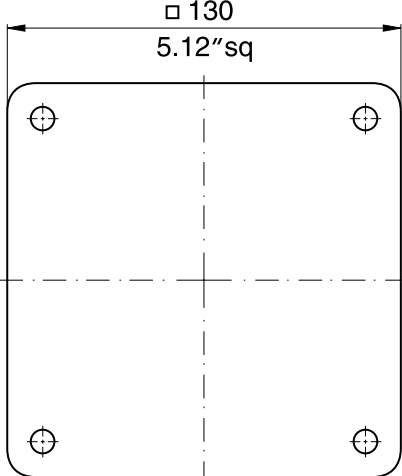


### L Switches



Above illustrates the standard terminal positions.

## Nominal Ratings

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

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

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

## How to order

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

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

### 1. Type of Switch

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

### 2. Switch Function

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

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

### 3. Type of Mounting

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

Specify the mounting code to indicate required mounting.

**CA10**

**A202-600**

**VE**

## Type of Switch

Extending the switch type coding the following combinations will define:

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

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

## Modification of Switches

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

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

Other colour combinations available on request.

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

# How to order

## Modification of Switches

### Color combinations of face plate and handle

The standard switch consists of a transparent face plate with brushed aluminum backing and black inscription. The face plate frame is black as well as the handle. Page 6 shows further color combinations of face 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, black handle and face plate frame with brushed aluminum backing and black inscription which reads 0-1 is as follows: **CA10 A202-600 E**.

The following is a list of special programs for face 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 face plate and handle combinations

- **.00** = without face plate, without handle
- **.01** = without face plate
- **.02** = without handle
- **.03** = with square face plate without lettering
- **.04** = with rectangular face plate without lettering
- **.05** = with square face plate without lettering and without handle
- **.06** = with rectangular face plate without lettering and without handle
- **.07** = standard face plate, without lettering on rectangular section
- **.08** = with F-handle
- **.09** = with P-handle
- **.10** = face plate frame and fixation ring only (if using switches with single hole mounting: - **.16**)
- **.11** = without face plate, but with handle bearing plate
- **.12** = with yellow face plate backing and red handle
- **.14** = with B-handle
- **.16** = face plate frame and fixation ring only, if using switches with single hole mounting
- **.17** = standard face plate and rectangular add-on face 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 black face plate frame, square face plate without lettering, brushed aluminum plate backing and black handle reads as follows: **CA10 A202-603 E**.

## Handles, Face Plates and Optional Extras

The handles for standard switches shown on pages 8-32 are suitable for mounting units with four hole mounting. Alternative types of handles available are illustrated on page 42, and mounting units on pages 31-37.

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

The large number of optional extras and enclosures is covered in Catalog **101**.

## Switch Size

Blue Line switches are available in sizes S00, S0, S1, S2 and S3. These size codes indicate the dimensions of the mounting, the face plate and the handle, as well as the size of optional devices and enclosures.

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

## Ordering of Special Switches and Face Plates

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

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

Order forms are available on request.

The form consists of a diagram of a motor with positions O, H, and A, and a grid for specifying contact configurations. The form is filled with blue markings for example purposes.

| POSITIONS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| O         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| H         |   | X |   |   |   |   | X |   |   |    | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A         |   |   | X |   |   |   | X |   |   |    | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

ESCUITCHEON PLATE  
MOTOR 1  
POSITIONS  
O  
H  
A












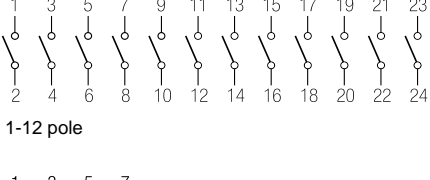





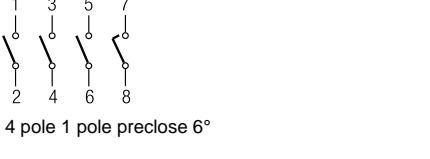





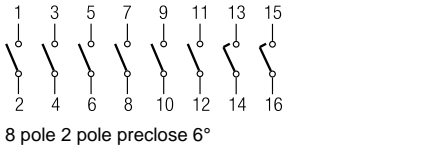















SWITCH : CA20  
MOUNTING : VE  
FACE PLATE : G001  
EXTRAS : M004/02-1A 0 60  
DATE :  
SIGNED :



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

## ON/OFF Switches with 60° Switching

[Dimensions p. 56](#)

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


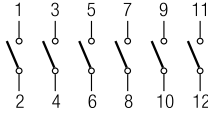

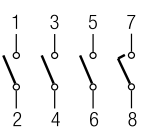
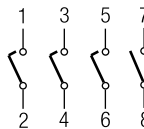


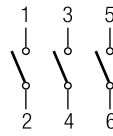
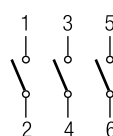
<sup>1</sup>for use in a three phase four-wire system with switched neutral



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


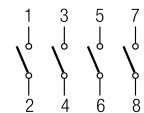

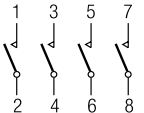

ON/OFF Switches with 90° Switching

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|   |  |  |  |  |               |  |                                      |   |
|---|--|--|--|--|---------------|--|--------------------------------------|---|
| 1 pole contacts<br>2 pole preclose 30°<br>3 pole<br>4 pole<br>4 pole 1 pole preclose 60° <sup>1</sup><br>4 pole 3 pole preclose 30°<br>5 pole contacts<br>6 pole preclose 30° |  <p>F056</p>  |  |  |  |               | A290-600<br>A291-600<br>A292-600<br>A324-600<br>A293-600<br>WAA327<br>WAA325<br>A326-600 | 1<br>1<br>2<br>2<br>2<br>2<br>3<br>3 |  <p>1, 2, 3, 4, 5 and 6 pole</p>   |
| 1 pole contacts<br>2 pole preclose 30°<br>3 pole<br>4 pole<br>4 pole 1 pole preclose 60° <sup>1</sup><br>4 pole 3 pole preclose 30°<br>5 pole contacts<br>6 pole preclose 30° |  <p>F063</p>  |  |  |  |               | A290-620<br>A291-620<br>A292-620<br>A324-620<br>A293-620<br>WAA327<br>WAA325<br>A326-620 | 1<br>1<br>2<br>2<br>2<br>2<br>3<br>3 |  <p>4 pole 1 pole preclose 60°</p><br> <p>4 pole 3 pole preclose 30°</p> |
| 3 pole 360° rotation  |  <p>F062</p><br> <p>F206</p> |  |  |  |               | WAA208<br>WAA208   | 2<br>2                               |    |
| 3 pole for foot operation   |  |  |  |  | CA40-<br>CA63 | WAA386   | 2                                    |    |

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ON/OFF Switches with 30° Switching













































































|  |   |  |  |  |  |  |                  |   |
|--|---|--|--|--|--|--|------------------|---|
| 1 pole<br>2 pole<br>3 pole<br>4 pole   |  <p>F169</p> |  |  |  |  | WAA100<br>WAA101<br>WAA102<br>WAA103     | 1<br>1<br>2<br>2 |  <p>1-4 pole</p> |
| 1 pole with spring return<br>2 pole with spring return<br>3 pole with spring return<br>4 pole with spring return |  <p>F153</p> |  |  |  |  | A204-600<br>A205-600<br>WAA206<br>WAA207 | 1<br>1<br>2<br>2 |  <p>1-4 pole</p> |
| 1 pole with spring return<br>2 pole with spring return<br>3 pole with spring return<br>4 pole with spring return |  <p>F169</p> |  |  |  |  | A204-620<br>A205-620<br>WAA206<br>WAA207 | 1<br>1<br>2<br>2 |   |

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

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
































Double-throw Switches without „OFF“ 60° Switching

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




















































|  |   |   |   |   |   |          |   |   |                           |
|--|---|---|---|---|---|----------|---|---|---------------------------|
| 1 pole                                 |  <p>F072</p> |  |  |  |  | A220-600 | 1   |    |                           |
| 2 pole                                 |   |  |  |  |  | A221-600 | 2   |    |                           |
| 3 pole                                 |   |  |  |  |  | A222-600 | 3   |    |                           |
| 4 pole                                 |   |  |  |  |  | A223-600 | 4   |    |                           |
| 4 pole 1 pole preclose 6° <sup>2</sup> |   |  |  |  |  | WAA673   | 4   |    | 4 pole 1 pole preclose 6° |
| 5 pole                                 |   |  |  |  |  | A369-600 | 5   |    |                           |
| 6 pole                                 |   |  |  |  |  | A370-600 | 6   |    |                           |
| 7 pole                                 |   |  |  |  |  | A371-600 | 7   |    |                           |
| 8 pole                                 |   |  |  |  |  | A372-600 | 8   |    |                           |
| 8 pole 2 pole preclose 6° <sup>2</sup> |   |  |  |  |  | WAA972   | 8   |    | 5 pole                    |
| 9 pole                                 |   |  |  |  |  | WAA373   | 9   |    |                           |
| 10 pole                                |   |  |  |  |  | WAA374   | 10  |    |                           |
| 11 pole                                |              |  |  |  | WAA375  | 11       |  |   |                           |
| 12 pole                                |              |  |  |  | WAA376  | 12       |  |   |                           |
|  |   |   |   |   |   |          |   |    | 6 and 7 pole              |
|  |   |   |   |   |   |          |   |    | 8 and 9 pole              |
|  |   |   |   |   |   |          |   |    | 8 pole 2 pole preclose 6° |
|  |   |   |   |   |   |          |   |   | 10 and 11 pole            |
|  |   |   |   |   |   |          |   |  | 12 pole                   |

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

|  |   |   |   |   |   |          |   |   |                           |
|--|---|---|---|---|---|----------|---|---|---------------------------|
| 1 pole                                 |  <p>F072</p> |  |  |  |  | A720-600 | 1 |  |                           |
| 2 pole                                 |   |  |  |  |  | A721-600 | 2 |  |                           |
| 3 pole                                 |   |  |  |  |  | A722-600 | 3 |  | 1-4 pole                  |
| 4 pole                                 |   |  |  |  |  | A723-600 | 4 |  |                           |
| 4 pole 1 pole preclose 6° <sup>2</sup> |   |  |  |  |  | WAA973   | 4 |  | 4 pole 1 pole preclose 6° |
| 1 pole with spring return              |  <p>F026</p> |  |  |  |   | A795-600 | 1 |  | 1 pole with spring return |

Double-throw Switches without „OFF“ 30° Switching

|                           |   |   |   |   |   |          |   |   |          |
|---------------------------|---|---|---|---|---|----------|---|---|----------|
| 1 pole                    |  <p>F026</p> |  |  |  |  | WAA120   | 1 |  |          |
| 2 pole                    |   |  |  |  |  | WAA121   | 2 |  |          |
| 3 pole                    |   |  |  |  |  | WAA122   | 3 |  | 1-4 pole |
| 4 pole                    |   |  |  |  |  | WAA123   | 4 |  |          |
| 1 pole with spring return |  <p>F026</p> |  |  |  |  | A295-600 | 1 |  |          |
| 2 pole with spring return |   |  |  |  |  | A296-600 | 2 |  |          |
| 3 pole with spring return |   |  |  |  |  | WAA297   | 3 |  | 1-3 pole |
| 1 pole with spring return |  <p>F153</p> |  |  |  |  | A295-620 | 1 |  |          |
| 2 pole with spring return |   |  |  |  |  | A296-620 | 2 |  |          |
| 3 pole with spring return |   |  |  |  |  | WAA297   | 3 |  |          |

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

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

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

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

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

|  |  |  |  |  |  |  |                  |  |
|--|--|--|--|--|--|--|------------------|--|
| 1 pole<br>2 pole<br>3 pole<br>4 pole 1 pole preclose 60° |  |  |  |  |  | A218-600<br>A219-600<br>WAA299<br>WAA294 | 1<br>2<br>3<br>4 |  |
| 1 pole<br>2 pole<br>3 pole<br>4 pole 1 pole preclose 60° |  |  |  |  |  | A218-620<br>A219-620<br>WAA299<br>WAA294 | 1<br>2<br>3<br>4 |  |

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

|  |  |  |  |  |  |  |                       |  |
|--|--|--|--|--|--|--|-----------------------|--|
| 1 pole<br>2 pole<br>3 pole<br>4 pole<br>4 pole 1 pole preclose 6° <sup>3</sup> |  |  |  |  |  | A710-600<br>A711-600<br>A712-600<br>A713-600<br>WAA963 | 1<br>2<br>3<br>4<br>4 |  |
| 1 pole with spring return<br>2 pole to center                                  |  |  |  |  |  | A714-600<br>A715-600                                   | 1<br>2                |  |

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

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

## Double-throw Switches with Spring Return to Center

[Dimensions p.56](#)

|   |  |  |  |  |  |          |   |                 |
|---|--|--|--|--|--|----------|---|-----------------|
| 1 pole with spring return to center<br>2 pole<br>3 pole           |  |  |  |  |  | A214-600 | 1 | <p>1-3 pole</p> |
|   |  |  |  |  |  | A215-600 | 2 |                 |
|   |  |  |  |  |  | A216-600 | 3 |                 |
| 1 pole<br>2 pole<br>3 pole  |  |  |  |  |  | A214-620 | 1 |                 |
|   |  |  |  |  |  | A215-620 | 2 |                 |
|   |  |  |  |  |  | A216-620 | 3 |                 |
| 1 pole with spring return from left to center<br>2 pole<br>3 pole |  |  |  |  |  | A320-600 | 1 | <p>1-3 pole</p> |
|   |  |  |  |  |  | A321-600 | 2 |                 |
|   |  |  |  |  |  | A322-600 | 3 |                 |
| 1 pole<br>2 pole<br>3 pole  |  |  |  |  |  | A320-621 | 1 |                 |
|   |  |  |  |  |  | A321-621 | 2 |                 |
|   |  |  |  |  |  | A322-621 | 3 |                 |

## General Application Switches

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

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


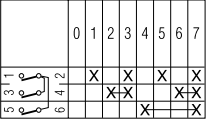



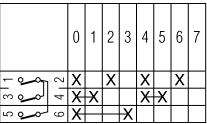



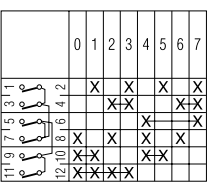



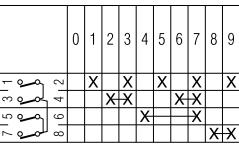



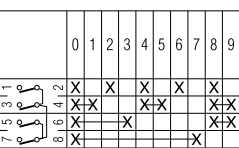



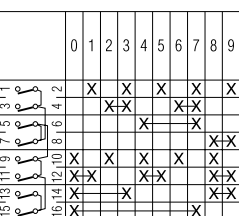



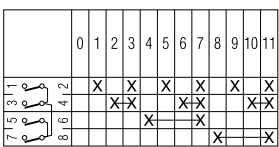



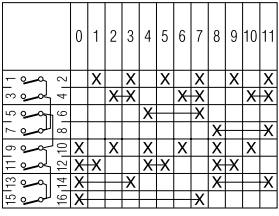
<sup>1</sup>not available for switch type CA25    <sup>2</sup>not available for switch type C315    <sup>3</sup>available only up to switch type CA63

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

Coding Switches/Binary Code

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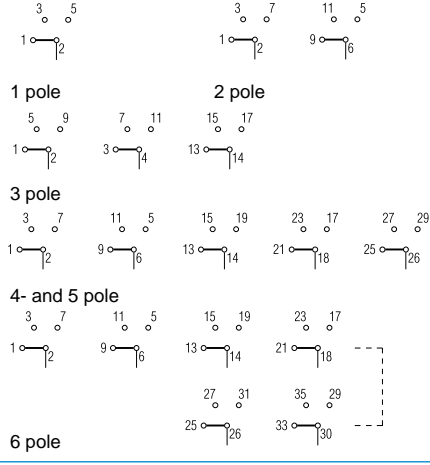

























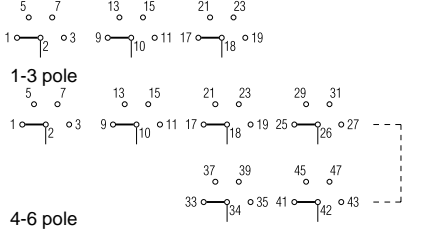

















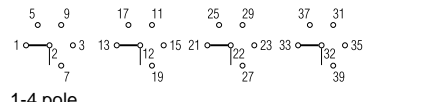













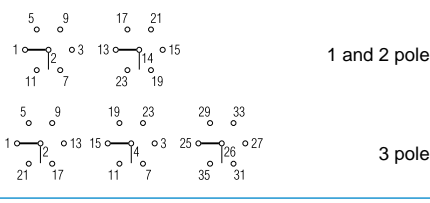













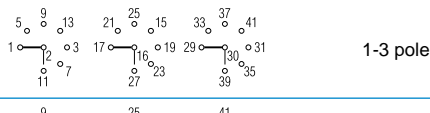













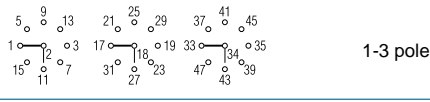









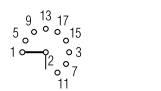









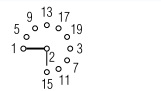




















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|                                      |   |   |   |  |          |   |   |
|--------------------------------------|---|---|---|--|----------|---|---|
| 0 - 7<br>360° rotation               | <br>F322   |    |    |  | A540-600 | 2 |    |
| 0 - 7 complement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


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

Multi-step Switches without „OFF“

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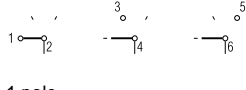




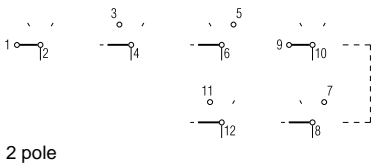





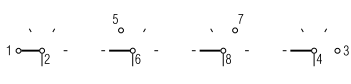




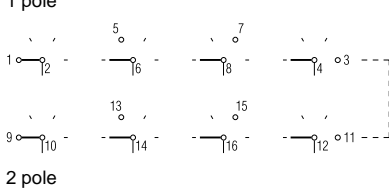
|   |   |   |   |   |   |  |                              |   |
|---|---|---|---|---|---|--|------------------------------|---|
| 1 pole 3 Step<br>2 pole<br>3 pole<br>4 pole<br>5 pole<br>6 pole | <br>F076   | <br><br><br><br><br>        | <br><br><br><br><br>        | <br><br><br><br><br>        | <br><br><br><br><br>        | A230-600<br>A250-600<br>A270-600<br>A476-600<br>WAA484<br>WAA489 | 2<br>3<br>5<br>6<br>8<br>9   |    |
| 1 pole 4 Step<br>2 pole<br>3 pole<br>4 pole<br>5 pole<br>6 pole | <br>F077   | <br><br><br><br><br> | <br><br><br><br><br> | <br><br><br><br><br> | <br><br><br><br><br> | A231-600<br>A251-600<br>A271-600<br>A477-600<br>WAA485<br>WAA490 | 2<br>4<br>6<br>8<br>10<br>12 |   |
| 1 pole 5 Step<br>2 pole<br>3 pole<br>4 pole                     | <br>F078 | <br><br><br>  | <br><br><br>  | <br><br><br>  | <br><br><br>  | A232-600<br>A252-600<br>WAA272<br>WAA478                         | 3<br>5<br>8<br>10            |  |
| 1 pole 6 Step<br>2 pole<br>3 pole                               | <br>F079 | <br><br>   | <br><br>   | <br><br>   | <br><br>   | A233-600<br>WAA253<br>WAA273                                     | 3<br>6<br>9                  |  |
| 1 pole 7 Step<br>2 pole<br>3 pole                               | <br>F110 | <br><br>   | <br><br>   | <br><br>   | <br><br>   | WAA234<br>WAA254<br>WAA274                                       | 4<br>7<br>11                 |  |
| 1 pole 8 Step<br>2 pole<br>3 pole                               | <br>F111 | <br><br>   | <br><br>   | <br><br>   | <br><br>   | WAA235<br>WAA255<br>WAA275                                       | 4<br>8<br>12                 |  |
| 1 pole 9 Step   | <br>F010 | <br>  | <br>  | <br>  | <br>  | WAA236   | 5                            |  |
| 1 pole 10 Step  | <br>F011 | <br>  | <br>  | <br>  | <br>  | WAA237   | 5                            |  |
| 1 pole 11 Step  | <br>F012 | <br>  | <br>  | <br>  | <br>  | WAA238   | 6                            |  |
| 1 pole 12 Step<br>1 pole 360° rotation                          | <br>F013 | <br>  | <br>  | <br>  | <br>  | WAA239<br>WAA639   | 6<br>6                       |  |

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




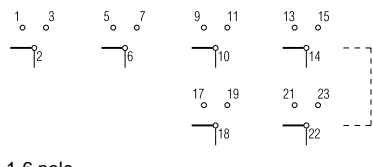


















































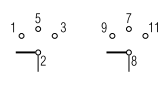











































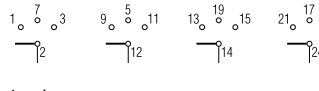








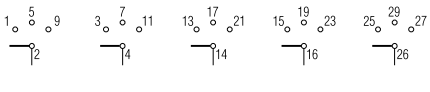
<sup>1</sup>switch type C315 with  handle    <sup>2</sup>not available for switch type CA11B

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

Multi-step Switches without „OFF“ with electrically isolated contacts [Dimensions p.56](#)

|               |   |   |   |   |   |          |   |  |
|---------------|---|---|---|---|---|----------|---|--|
| 1 pole 3 Step | <br>F076 |  |  |  |  | A730-600 | 2 |   |
| 2 pole        |   |  |  |  |  | A750-600 | 3 |   |
| 1 pole 4 Step | <br>F077 |  |  |  |  | A731-600 | 2 |   |
| 2 pole        |   |  |  |  |  | A751-600 | 4 |  |

Multi-step Switches with „OFF“

|               |   |   |   |   |   |          |   |   |
|---------------|---|---|---|---|---|----------|---|---|
| 1 pole 2 Step | <br>F075 |  |  |  |  | A240-600 | 1 |  |
| 2 pole        |   |  |  |  |  | A260-600 | 2 |   |
| 3 pole        |   |  |  |  |  | A280-600 | 3 |   |
| 4 pole        |   |  |  |  |  | WAA480   | 4 |   |
| 5 pole        |   |  |  |  |  | WAA486   | 5 |   |
| 6 pole        |   |  |  |  |  | WAA491   | 6 |   |
| 1 pole        | <br>F098 |  |  |  |  | A240-620 | 1 | 1-6 pole  |
| 2 pole        |   |  |  |  |  | A260-620 | 2 |   |
| 3 pole        |   |  |  |  |  | A280-620 | 3 |   |
| 4 pole        |   |  |  |  |  | WAA480   | 4 |   |
| 5 pole        |   |  |  |  |  | WAA486   | 5 |   |
| 6 pole        |   |  |  |  |  | WAA491   | 6 |   |
| 1 pole 3 Step | <br>F109 |  |  |  |  | A241-600 | 2 |  |
| 2 pole        |   |  |  |  |  | A261-600 | 3 |   |
| 3 pole        |   |  |  |  |  | A281-600 | 5 |   |
| 4 pole        |   |  |  |  |  | WAA481   | 6 |   |
| 5 pole        |   |  |  |  |  | WAA487   | 8 |   |
| 1 pole        | <br>F115 |  |  |  |  | A241-620 | 2 |  |
| 2 pole        |   |  |  |  |  | A261-620 | 3 |   |
| 3 pole        |   |  |  |  |  | A281-620 | 5 |   |
| 4 pole        |   |  |  |  |  | WAA481   | 6 |   |
| 5 pole        |   |  |  |  |  | WAA487   | 8 |   |
| 1 pole        | <br>F289 |  |  |  |  | A241-621 | 2 |  |
| 2 pole        |   |  |  |  |  | A261-621 | 3 |   |
|               |   |  |  |  |  |          |   |  |

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

Multi-step Switches with „OFF“

[Dimensions p.56](#)






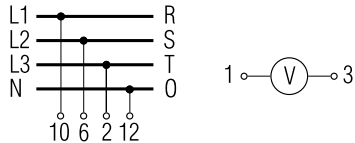
|   |                                      |  |  |  |  |  |                  |  |
|---|--------------------------------------|--|--|--|--|--|------------------|--|
| 1 pole 4 Step<br>2 pole<br>3 pole<br>4 pole |                                      |  |  |  |  | A242-600<br>WAA262<br>WAA282<br>WAA482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

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

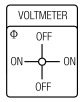
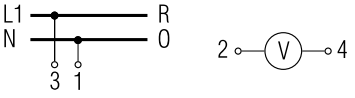








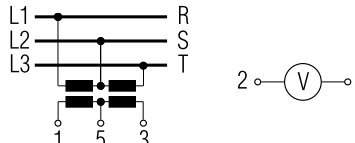
Voltmeter Switches without „OFF“

[Dimensions p.56](#)

|  |   |   |  |  |  |          |   |   |
|--|---|---|--|--|--|----------|---|---|
| 3 phase 3 wire   | <br>F792 |  |  |  |  | A023-600 | 2 |  |
|  |   |   |  |  |  | A023-620 | 2 |   |
| 3 phase 3 wire<br>3 phase to phase and<br>phase to neutral | <br>F794 |  |  |  |  | A025-600 | 3 |  |
|  |   |   |  |  |  | A025-620 | 3 |   |

Voltmeter Switches with „OFF“






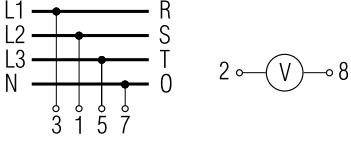

























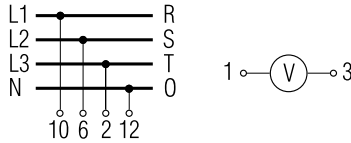

























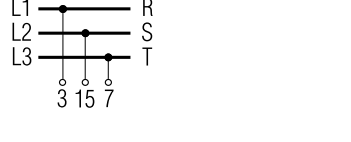





















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|                         |   |  |  |  |  |          |   |   |
|-------------------------|---|--|--|--|--|----------|---|---|
| 2 pole<br>360° rotation | <br>F170-PRL  |  |  |  |  | WAA002   | 1 |   |
| 3 phase 3 wire          | <br>F775     |  |  |  |  | A004-600 | 2 |  |
|                         | <br>F776     |  |  |  |  | A004-620 | 2 |   |
|                         | <br>F408-PRL |  |  |  |  | A004-621 | 2 |   |
|                         | <br>F777     |  |  |  |  | A004-622 | 2 |   |
|                         | <br>F409-PRL |  |  |  |  | A004-623 | 2 |   |
|                         | <br>F778     |  |  |  |  | A004-624 | 2 |   |
|                         | <br>F212-PRL |  |  |  |  | WAA011   | 2 |  |

| Function | Escutch. Plate | Type/Handle |       |                 |                         | Code | Stages | Connection Diagram |
|----------|----------------|-------------|-------|-----------------|-------------------------|------|--------|--------------------|
|          |                | CA4         | CA4-1 | CA10-<br>CAD4-1 | CA10B-<br>CA25<br>CAD.. |      |        |                    |

Voltmeter Switches with „OFF“

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|   |   |   |   |   |   |          |   |   |
|---|---|---|---|---|---|----------|---|---|
| 3 phase to neutral                      | <br>F779       |    |    |    |    | WAA005   | 2 |    |
|   | <br>F780       |    |    |    |    | WAA005   | 2 |   |
|   | <br>F411-PRL   |    |    |    |    | WAA005   | 2 |   |
|   | <br>F412-PRL   |    |    |    |    | WAA005   | 2 |   |
|   | <br>F781       |    |    |    |    | WAA005   | 2 |   |
| 3 phase to phase and 3 phase to neutral | <br>F782      |   |   |   |   | A007-600 | 3 |  |
|   | <br>F783     |  |  |  |  | A007-620 | 3 |   |
|   | <br>F414-PRL |  |  |  |  | A007-621 | 3 |   |
|   | <br>F784     |  |  |  |  | A007-622 | 3 |   |
|   | <br>F415-PRL |  |  |  |  | A007-623 | 3 |   |
| 2 separate 3 phase with center „OFF“    | <br>F785     |  |  |  |  | A007-624 | 3 |  |
|   | <br>F786     |  |  |  |  | WAA008   | 4 |   |
|   | <br>F787     |  |  |  |  | WAA008   | 4 |   |
|   | <br>F418-PRL |  |  |  |  | WAA008   | 4 |  |
|   | <br>F788     |  |  |  |  | WAA008   | 4 |   |

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

## Voltmeter Switches with „OFF“

[Dimensions p.56](#)

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

## Ammeter Switches

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

<sup>1</sup>available only up to switch type CA25B

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

Ammeter Switches

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

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<sup>1</sup>available only up to switch type CA25B






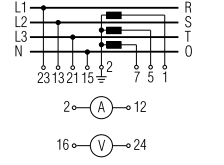





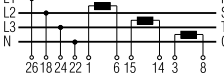





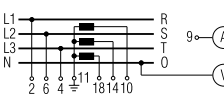





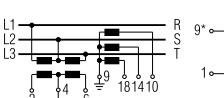
# Switch Function and Configuration

# C, CA, CAD Switches






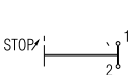





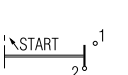





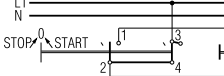





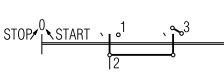





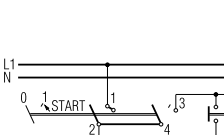










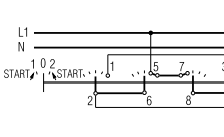





| Function | Escutch. Plate | Type/Handle             | C26-C43<br>C43<br>CA40-CA63       | Code | Stages | Connection Diagram |
|----------|----------------|-------------------------|-----------------------------------|------|--------|--------------------|
|          |                | CA4<br>CAD4-1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

## Volt-ammeter Switches

Dimensions p.56

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

## Control Switches

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

<sup>1</sup>available only up to switch type CA25B

| Function | Escutch. Plate | Type/Handle | C26-C43 CA40-CA63 | Code | Stages | Connection Diagram |
|----------|----------------|-------------|-------------------|------|--------|--------------------|
|----------|----------------|-------------|-------------------|------|--------|--------------------|

Control Switches

Dimensions p. 56

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

Control Switches with electrically isolated contacts

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

Control and Alarm Switches<sup>1</sup>

|   |  |  |  |  |        |                |  |
|---|--|--|--|--|--------|----------------|--|
| With slip clutch and without indicator device |  |  |  |  | WAA190 | 5 <sup>3</sup> |  |
| Without indicator device                      |  |  |  |  | WAA192 | 2              |  |

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



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

Motor Reversing Switches

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

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Motor Control Switches

|  |  |  |  |  |  |        |   |  |
|--|--|--|--|--|--|--------|---|--|
| 2 speed<br>2 winding<br>0-A-B $\Upsilon$ or $\Delta$                     |  |  |  |  |  | WAA451 | 3 |  |
|  |  |  |  |  |  | WAA451 | 3 |  |
| 3 speed<br>2 winding<br>0-A $\Delta$ -B $\Upsilon$ -A $\Upsilon\Upsilon$ |  |  |  |  |  | WAA457 | 6 |  |
|  |  |  |  |  |  | WAA457 | 6 |  |

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

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

Motor Control Switches

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|   |  |  |  |  |  |          |                 |  |
|---|--|--|--|--|--|----------|-----------------|--|
| 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                            |  |  |  |  |  | WAA444   | 5               |  |
|   |  |  |  |  |  | WAA444   | 5               |  |
| 2 speed reversing for 2 way operation with slip clutch for „OFF“ load use |  |  |  |  |  | WAA468   | 10 <sup>1</sup> |  |
|   |  |  |  |  |  | WAA468   | 10 <sup>1</sup> |  |

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<sup>1</sup>incl. slip clutch

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

## Star-delta Switches

Dimensions p. 56

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

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## Start and Run Switches

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

<sup>1</sup>not available for switch type CA25

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

## ON/OFF Switches with 60° Switching

[Dimensions p. 56](#)

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

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

## ON/OFF Switches with 90° Switching

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

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● 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

# Switch Function and Configuration

# L Switches

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

## Double-throw Switches without „OFF“ 60° Switching [Dimensions p. 56](#)

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

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# Switch Function and Configuration

# L Switches

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

## Double-throw Switches with Center „OFF" 60° Switching Dimensions p.56

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

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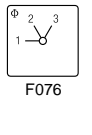


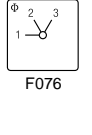


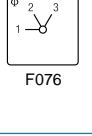


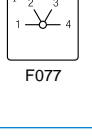


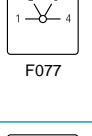


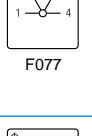


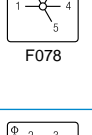


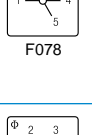


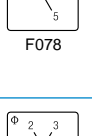


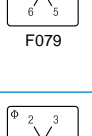





● Additional length for switches size S2 for mounting E/EF = 27 mm  
 ● Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm



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

Multi-step Switches single pole without „OFF“

[Dimensions p.56](#)

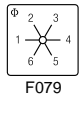


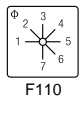


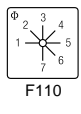

















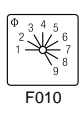








|        |      |   |   |        |   |  |  |  |
|--------|------|---|---|--------|---|--|--|--|
| 3 Step | L350 |    |    | WAA230 | 4 |  |    |  |
| 3 Step | L351 |    |    | WAA230 | 4 |  |    |  |
| 3 Step | L400 |    |    | WAA230 | 4 |  |    |  |
| 4 Step | L350 |   |    | WAA231 | 4 |  |    | 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

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

Multi-step Switches single pole without „OFF“

[Dimensions p.56](#)

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

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









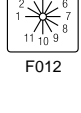











# Switch Function and Configuration

# L Switches

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

## Multi-step Switches single pole without „OFF“

[Dimensions p. 56](#)

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

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|                                      |                       |             |                        |
|--------------------------------------|-----------------------|-------------|------------------------|
| Two Hole Panel Mount or Mosaic Mount | Terminals rotated 90° | <b>Code</b> | CA4<br>CA4-1<br>CAD4-1 |
|--------------------------------------|-----------------------|-------------|------------------------|

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| <p><b>Panel Mount</b></p>   |  |   |            |        |
|---|--|---|------------|--------|
|    | <p>Two hole, Protection IP 40</p>  | ● | E<br>E-V   | ●<br>● |
|   | <p>Two hole<br/>Protection IP 66/67/69k</p>  | ● | EF<br>EF-V | ●<br>● |
|  | <p>Two hole with shaft for radio knobs, Protection IP 40<br/>Shaft diam. 6 mm/.24 inch</p>               |   | E9         | ●      |
|  | <p>Shaft diam. 6.35 mm/.25 inch, Protection IP 40</p>  |   | E91        | ●      |
| <p><b>Mosaic Mount</b></p>  |  |   |            |        |
|  | <p>For Siemens-Mosaic 30 mm grid depth, Protection IP 40</p>   |   | E92        | ●      |
|  | <p>For Subklew-, Kreutzenbeck-, Symo-Mosaic, Protection IP 40<br/>28 mm    25 mm    25 mm grid depth</p> |   | E93        | ●      |
|  | <p>For Mauell-Mosaic 30 mm grid depth, Protection IP 40</p>  |   | E94        | ●      |

|                                     |                       |             |                       |                       |  |                                   |
|-------------------------------------|-----------------------|-------------|-----------------------|-----------------------|--|-----------------------------------|
| <b>Two or Four Hole Panel Mount</b> | Terminals rotated 90° | <b>Code</b> | CAD.<br>CA10-<br>CA25 | CA10B-<br>CA63<br>C42 | C43<br>C80-<br>C200-4<br>L350<br>Size S2 | C315<br>L400-<br>L2000<br>Size S2 |
|-------------------------------------|-----------------------|-------------|-----------------------|-----------------------|--|-----------------------------------|

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| <div data-bbox="114 546 347 763"> </div> <p data-bbox="429 450 593 481"><b>Panel Mount</b></p> <p data-bbox="429 551 606 609">Four hole,<br/>Protection IP 40</p> <p data-bbox="429 647 686 705">Four hole,<br/>Protection IP 66/67/69k</p> <p data-bbox="429 743 651 801">Two hole,<br/>Protection IP 66/69k</p><br><p data-bbox="429 1025 753 1122"><b>Panel mount using larger face plate, handle and heavy duty stop</b></p> <div data-bbox="114 1137 347 1384"> </div> <p data-bbox="429 1223 606 1281">Four hole,<br/>Protection IP 40</p> <p data-bbox="429 1319 686 1377">Four hole,<br/>Protection IP 66/67/69k</p> |  |  |  |  |  |  |
| <div data-bbox="98 1659 347 1906"> </div> <p data-bbox="429 1601 671 1632"><b>Double End Mount</b></p> <p data-bbox="429 1731 606 1789">Four hole,<br/>Protection IP 40</p> <p data-bbox="429 1856 686 1915">Four hole,<br/>Protection IP 66/67/69k</p>  |  |  |  |  |  |  |

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|                                     |             |                        |                                  |                                    |     |
|-------------------------------------|-------------|------------------------|----------------------------------|------------------------------------|-----|
| <b>Two or Four Hole Panel Mount</b> | <b>Code</b> | CAD..<br>CA10-<br>CA25 | CA10B<br>CA11B<br>CA20B<br>CA25B | C32<br>C42<br>CA40<br>CA50<br>CA63 | C43 |
|-------------------------------------|-------------|------------------------|----------------------------------|------------------------------------|-----|

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|   |  |                 |                        |   |                        |  |
|---|--|-----------------|------------------------|---|------------------------|--|
|    | <p><b>Panel mount with heavy duty latching and metal shaft</b></p> <p>Four hole, Protection IP 40<br/>48 x 48 Plate – S0</p>                               | KN2             | ●                      |   |                        |  |
|    | <p>Four hole, Protection IP 40<br/>64 x 64 Plate – S1</p>  | KN1             | ●                      | ● | ●                      |  |
|   | <p>Four hole, Protection IP 40<br/>64 x 64 Plate – S1 complete with 6mm square metal shaft</p>   | KD1             | ●                      | ● | ●                      |  |
| <b>Panel mount with protective cover</b>  |  |                 |                        |   |                        |  |
|  | <p>Four hole<br/>Protection front IP 40<br/>rear IP 40</p>   | EC              | CAD..<br>CA10-<br>CA25 | ● |                        |  |
|  | <p>Four hole with additional shaft seal<br/>Protection front IP 66/67/69k<br/>rear IP 40</p>   | ED              | CAD..<br>CA10-<br>CA25 | ● |                        |  |
|  | <p>Four hole<br/>Protection front IP 40<br/>rear IP 42</p>   | EC1             |                        | ● |                        |  |
|  | <p>Four hole with additional shaft seal<br/>Protection front IP 66/67/69k<br/>rear IP 42</p> <p>Two hole<br/>Protection front IP 66/69k<br/>rear IP 42</p> | ED1<br><br>ED22 |                        | ● | CAD..<br>CA10-<br>CA25 |  |

|                   |                       |      |                        |                        |
|-------------------|-----------------------|------|------------------------|------------------------|
| Single Hole Mount | Terminals rotated 90° | Code | CA4<br>CA4-1<br>CAD4-1 | CAD..<br>CA10-<br>CA25 |
|-------------------|-----------------------|------|------------------------|------------------------|





|  |   | Code         | mm             | mm             |
|--|---|--------------|----------------|----------------|
|  <p><b>Single Hole Mount complete with lock nut and shaft seal</b><br/>Bezel mount,<br/>Protection IP 66/67/69k</p> | ● | FS1<br>FS1-V | 16/22<br>16/22 | 22             |
|  | ● | FT1<br>FT1-V |                | 22             |
|  <p>Square face plate, Protection IP 66/67/69k</p>   | ● | FS2<br>FS2-V | 16/22<br>16/22 | 22             |
|  | ● | FT2<br>FT2-V |                | 22             |
|  | ● | FT3<br>FT3-V |                | 22/30<br>22/30 |
| <p>S1 square face plate and heavy duty stop, Protection IP 66/67/69k</p>   | ● | FH3<br>FH3-V |                | 22<br>22       |
|  <p>Rectangular face plate, Protection IP 66/67/69k</p>   | ● | FS4<br>FS4-V | 16/22<br>16/22 | 22             |
|  | ● | FT6<br>FT6-V |                | 22             |
| <p>S1 rectangular face plate and heavy duty stop, Protection IP 66/67/69k</p>  | ● | FH4<br>FH4-V |                | 22<br>22       |
|  <p>Lock nut spanner</p>  |   | S00 T170 09  |                |                |

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

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| Base Mount  |   |   |               |                  |     |   |
|---|---|---|---------------|------------------|-----|---|
|    | <p>Four hole, Protection IP 40</p>  | ● | VE<br>VE-V    | CAD.. CA10- CA25 | ● ● | ● |
|   | <p>Four hole with integrated simplified door clutch, Protection IP 65</p> | ● | VF<br>VF-V    | CAD.. CA10- CA25 |     |   |
|  | <p>Two hole, Protection IP 40</p>   | ● | VE22<br>VE22V | CAD.. CA10- CA25 | ●   |   |
|  | <p>Two hole with integrated simplified door clutch, Protection IP 65</p>  | ● | VF22<br>VF22V | CAD.. CA10- CA25 | ●   |   |
|  | <p>Snap-on for DIN Rail EN 60715, Protection IP 40</p>                    |   | VE1           |                  | ● ● |   |

|                   |             |                        |                        |
|-------------------|-------------|------------------------|------------------------|
| <b>Base Mount</b> | <b>Code</b> | CA4<br>CA4-1<br>CAD4-1 | CAD..<br>CA10-<br>CA25 |
|-------------------|-------------|------------------------|------------------------|

**DIN Rail Mount**



Snap-on for DIN Rail EN 60715 with face plate for 45 mm standard knock-out.

VE2



Snap-on for DIN Rail EN 60715. With face plate for 45 mm standard knock-out. The handle and plate are adjustable in height.

VE21





CAD..  
CA10-  
CA20

VE21V

CA25

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|   |                    |                                 |
|---|--------------------|---------------------------------|
| <p><b>Mounting Plates for Plaster Depth Boxes acc. to DIN 49073 and ÖNORM E8608</b></p> | <p><b>Code</b></p> | <p>CAD..<br/>CA10-<br/>CA25</p> |
|---|--------------------|---------------------------------|

|  |   |            |          |
|--|---|------------|----------|
|   | <p>Plaster depth trim, Protection IP 40</p>               | <p>UE1</p> | <p>●</p> |
|  | <p>With light, Protection IP 40</p>                       | <p>UE2</p> | <p>●</p> |
|  | <p>With facility for light addition, Protection IP 40</p> | <p>UE3</p> | <p>●</p> |

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# Face plates



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

## Standard Letterings Available

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

### 30° switching

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| F022 | F141 | F158 | F703 | F023 | F137 | F142 | F159 | F701 | F704 | F152 | F709 | F026 | F035 | F153 | F169 | F024 | F143 |
| F160 | F221 | F222 | F224 | F025 | F034 | F036 | F037 | F038 | F039 | F139 | F144 | F147 | F149 | F150 | F151 | F219 | F258 |
| F259 | F273 | F280 | F329 | F384 | F708 | F053 | F161 | F297 | F298 | F306 | F307 | F001 | F040 | F052 | F229 | F355 | F018 |
| F019 | F029 | F030 | F154 | F155 | F165 | F166 | F183 | F184 | F301 | F302 | F321 | F332 | F333 | F334 | F335 | F374 | F711 |
| F712 | F002 | F021 | F033 | F041 | F055 | F305 | F319 | F054 | F003 | F042 | F138 | F255 | F299 | F308 | F353 | F350 | F351 |
| F004 | F014 | F017 | F020 | F027 | F028 | F031 | F032 | F043 | F049 | F135 | F156 | F157 | F162 | F167 | F168 | F187 | F189 |
| F303 | F304 | F336 | F337 | F347 | F348 | F710 | F713 | F714 | F734 | F005 | F044 | F136 | F140 | F702 | F006 | F010 | F045 |
| F015 | F050 | F007 | F011 | F046 | F008 | F012 | F047 | F016 | F051 | F009 | F013 | F048 | F748 |      |      |      |      |

### 45° switching

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| F747 | F295 | F742 | F743 | F215 | F216 | F738 | F744 | F746 | F792 | F793 | F107 | F109 | F114 | F115 | F212 | F213 | F214 |
| F217 | F267 | F289 | F330 | F375 | F376 | F383 | F408 | F409 | F410 | F411 | F412 | F413 | F426 | F427 | F430 | F729 | F752 |
| F775 | F776 | F777 | F778 | F779 | F780 | F781 | F796 | F797 | F798 | F105 | F108 | F112 | F113 | F117 | F118 | F293 | F429 |
| F739 | F741 | F419 | F789 | F790 | F791 | F794 | F795 | F110 | F106 | F116 | F294 | F317 | F414 | F415 | F416 | F417 | F418 |
| F782 | F783 | F784 | F785 | F786 | F787 | F788 | F799 | F111 | F210 | F211 | F284 | F285 | F296 | F322 | F727 | F740 |      |

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# Face plates

## 60° switching

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F707 | F087 | F088 | F089 | F133 | F197 | F198 | F232 | F243 | F247 | F263 | F268 | F310 | F311 | F323 | F328 | F352 | F367 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F379 | F380 | F470 | F754 | F072 | F163 | F164 | F192 | F193 | F196 | F230 | F231 | F234 | F244 | F257 | F262 | F264 | F282 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F288 | F291 | F313 | F382 | F441 | F705 | F721 | F722 | F750 | F757 | F758 | F075 | F076 | F098 | F220 | F223 | F356 | F357 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F377 | F723 | F071 | F073 | F080 | F081 | F085 | F086 | F090 | F091 | F092 | F093 | F094 | F104 | F194 | F235 | F237 | F239 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F240 | F241 | F249 | F260 | F269 | F274 | F281 | F290 | F292 | F312 | F314 | F315 | F316 | F324 | F331 | F344 | F354 | F358 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F359 | F364 | F370 | F371 | F373 | F381 | F385 | F442 | F444 | F469 | F732 | F735 | F759 | F077 | F100 | F101 | F102 | F309 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F342 | F343 | F361 | F362 | F363 | F365 | F366 | F078 | F191 | F325 | F326 | F720 | F074 | F082 | F096 | F097 | F195 | F724 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F256 | F079 | F083 | F084 | F095 | F099 | F185 | F190 | F199 | F233 | F236 | F238 | F242 | F283 | F725 | F730 | F731 | F736 |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| F737 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

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## 90° switching

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

## Miscellaneous

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





<sup>1</sup>INTERRUPTEUR PRINCIPAL, OUVERTURE EN POSITION 0 <sup>2</sup>INTERRUPTORE GENERALE, APRIRE SOLO CON MANIGLIA SU 0  
<sup>3</sup>INTERRUPTOR PRINCIPAL, ABRIR ARMARIO SOLO EN POS. "0"






# Handles

| Type | Color | Code | Size<br>S00 S0 S1 S2 S3 |
|------|-------|------|-------------------------|
|------|-------|------|-------------------------|

| Type | Color | Code | Size<br>S00 S0 S1 S2 S3 |
|------|-------|------|-------------------------|
|------|-------|------|-------------------------|

















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

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

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

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## International Standards and Approvals

| Country  | Authority                                    | Mark or Standard  | CAD11/12 | CA10 | CA10B |       | C26 | CA40 | C43  | L350/1 |      | L400 | L1200 |   |
|--|--|---|----------|------|-------|-------|-----|------|------|--------|------|------|-------|---|
|  |  |   | CA4      | CA11 | CA11B | CA25  | C32 | CA50 | C80  | L630/1 | C315 | L600 | L1600 |   |
|  |  |   | CA4-1    | CA20 | CA20B | CA25B | C42 | CA63 | C125 | L1000  | C316 | L800 | L2000 |   |
| USA  | Underwriters Laboratories Inc.               |  <sup>1</sup>                      |          |      |       |       |     |      |      | ●      | ●    | ●    | ●     |   |
|  |  |  <sup>2</sup><br><sup>3</sup>      | ●        | ●    | ●     | ●     | ●   | ●    | ●    | ●      |      |      | ●     |   |
| Canada   | UL investigated acc. to CSA                  |  <sup>6</sup>                      | ●        | ●    | ●     | ●     | ●   | ●    | ●    | ●      | ●    | ●    | ●     |   |
|  |  |  <sup>1</sup><br>c                 |          |      |       |       |     |      |      |        | ●    | ●    | ●     | ● |
|  |  |  <sup>2</sup><br><sup>3</sup><br>c | ●        | ●    | ●     | ●     | ●   | ●    | ●    | ●      |      |      | ●     |   |
| Switzerland  | Schweizerischer Elektrotechnischer Verein    |                                    | +        | +    | +     |       | +   | +    | +    | +      | +    | +    | +     |   |
| Denmark  | Danmarks Elektriske Materielkontrol          |                                    | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Norway   | Norges Elektriske Materielkontrol            |                                    | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Sweden   | Svenska Elektriska Materielkontrollanstalten |                                   | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Finland  | Sähkötarkastuskeskus                         |                                  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Austria  | Österreichischer Verband für Elektrotechnik  |                                  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Federal Republic of Germany                              | Verband Deutscher Elektrotechniker           | VDE 0660 <sup>4</sup>   | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Great Britain  | British Standards Institution                | BS EN 60947 <sup>4</sup>  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| International Electrical Commission (IEC) Recommendation |  | IEC 60947 <sup>5</sup>  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| China  | China Quality Certification Centre           | <br>GB14048.3                    | ●        | ●    | ●     |       |     |      |      |        |      |      |       |   |
| Russia Belarus Kazakhstan                                | Eurasian Conformity                          |                                  | ●        | ●    | ●     | ●     | ●   | ●    | ●    | +      | +    | +    | +     |   |
| Russian Federation                                       | Russian Maritime Register of Shipping        |                                  | ●        | ●    | ●     | ●     |     |      |      |        |      |      |       |   |
| Germanischer Lloyd                                       |  |                                  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |
| Lloyds Register EMEA                                     |  |                                  | +        | +    | +     | +     | +   | +    | +    | +      | +    | +    | +     |   |

● Switch approved

+ Switch conforms to requirements

+ No approval required

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

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

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

<sup>4</sup> 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.

<sup>5</sup> IEC does not operate an approval scheme.

<sup>6</sup> File No. 13002ass No. 3211-05 resp. 4652-04.

|                       |   |
|-----------------------|---|
| <b>Selection Data</b> | CA4 CA10 CA11 CA20 CA25 C42 C315  |
|                       | CA4-1 CA10B CA11B CA20B CA25B C26 C32 C43 CA40 CA50 CA63 C80 C125 C200-4 C316 |

|  |  |     |  |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
|--|--|-----|--|------|------|-------|------|-------|-------|-------|------|-----------------|------|-------|------|------|------|------|
| <b>Rated Insulation Voltage <math>U_i</math></b>   | IEC 60947-3, EN 60947-3 <sup>1</sup><br>VDE 0660 part 107 <sup>1</sup><br>SEV <sup>4</sup><br>UL/Canada<br>CEE/NEMKO<br>min. voltage | V   | 440  | 690  | 690  | 690   | 690  | 690   | 690   | 690   | 690  | 690             | 690  | 690   | 690  | 690  | 690  | 1000 |
|  |  | V   | 380  | 660  | 660  | 660   | 690  | 660   | 660   | 660   | 690  | 690             | 690  | 660   | 660  | –    | 660  |      |
|  |  | V   | 300  | 300  | 600  | 600   | 300  | 600   | 600   | 600   | 600  | 600             | 600  | 600   | 600  | –    | 600  |      |
|  |  | V   | 400/380  | 380  | 400  | 400   | –    | 400   | 400   | 400   | –    | –               | –    | 400   | –    | –    | –    |      |
|  |  |     | on request   |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| <b>Rated Impulse Withstand Voltage <math>U_{imp}</math></b>                                |  | kV  | 4  | 6    | 6    | 6     | 6    | 6     | 6     | 6     | 6    | 6               | 6    | 6     | 6    | 6    | 6    | 6/8  |
| <b>Rated Thermal Current <math>I_U/I_{th}</math></b>                                       | IEC 60947-3, EN 60947-3<br>VDE 0660 part 107   | A   | 10   | 20   | 20   | 25    | 32   | 32    | 50    | 63    | 40   | 50              | 63   | 115   | 150  | 200  | 315  |      |
|  | SEV <sup>4</sup> 380 V   | A   | 10   | 16   | 16   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | 100   | 160  | –    | 315  |      |
|  | 660 V  | A   | –  | 12   | 12   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | –     | –    | –    | 315  |      |
|  | UL/Canada  | A   | 10   | 20   | 20   | 30    | 30   | 40    | 50    | 65    | 45   | 55              | 65   | 100   | 150  | –    | 240  |      |
| <b>Rated Operational Current <math>I_e</math></b>  |  |     |  |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| AC-21A Switching of resistive loads, including moderate overloads                          | IEC 60947-3, EN 60947-3<br>VDE 0660 part 107   | A   | 10   | 20   | 20   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | 100   | 150  | 200  | 315  |      |
| AC-1 Resistive or low inductive loads  | SEV <sup>4</sup> 380 V   | A   | 10   | 16   | 16   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | 100   | 160  | –    | 315  |      |
|  | 660 V  | A   | –  | 12   | 12   | 20    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | –     | –    | –    | 315  |      |
| AC-22A Switching of combined resistive or low inductive loads including moderate overloads | IEC 60947-3, EN 60947-3<br>VDE 0660 220 V-500 V<br>part 107 660 V-690 V  | A   | 10   | 20   | 20   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | 100   | 150  | 150  | 315  |      |
|  |  | A   | –  | 20   | 20   | 25    | 32   | 32    | 40    | 63    | 40   | 50              | 63   | 100   | 125  | 125  | 125  |      |
| AC-15 Switching of control devices, contactors, valves etc.                                | IEC 60947-5-1, EN 60947-5-1<br>VDE 0660 220 V-240 V<br>part 200 380 V-440 V  | A   | 2,5  | 5    | 5    | 8     | 12   | 14    | 16    | –     | 14   | 16              | 16   | –     | –    | –    | –    |      |
|  |  | A   | 1,5  | 4    | 4    | 5     | 6    | 6     | 7     | –     | 6    | 7               | 7    | –     | –    | –    | –    |      |
| Pilot Duty   | UL/Canada <sup>4</sup> Heavy   | VAC | A300   | A300 | A600 | A600  | A300 | A600  | A600  | A600  | A600 | A600            | A600 | –     | –    | –    | A600 |      |
| Ampere Rating Resistive or low inductive loads   | UL/Canada <sup>4</sup>   | A   | 10   | 20   | 20   | 30    | 30   | 40    | 50    | 65    | 45   | 55              | 60   | 100   | 150  | –    | 240  |      |
| Resistive load/motor load  | CEE<br>NEMKO   | A   | 4/2  | 10/6 | 10/6 | 16/10 | –    | 25/10 | 32/10 | 40/10 | –    | –               | –    | 63/10 | –    | –    | –    |      |
|  |  | A   | 6/4 <sup>2</sup>   | 10/6 | –    | 20/10 | –    | –     | –     | –     | –    | –               | –    | –     | –    | –    | –    |      |
| <b>Breaking capacity</b>   | 220 V-240 V<br>380 V-440 V<br>660 V-690 V  | A   | 50   | 150  | 150  | 200   | 280  | 280   | 380   | 550   | 290  | 330             | 440  | 860   | 1100 | 1100 | 2000 |      |
|  |  | A   | 50   | 150  | 150  | 200   | 250  | 250   | 360   | 550   | 290  | 330             | 440  | 860   | 1100 | 1100 | 2000 |      |
|  |  | A   | –  | 80   | 80   | 125   | 150  | 150   | 270   | 365   | 170  | 200             | 260  | 400   | 490  | 490  | 340  |      |
| Power loss per contact at $I_U$  |  | W   | 0,4/0,9  | 0,9  | 0,9  | 0,9   | 0,7  | 1,3   | 1,3   | 1,7   | 1    | 1,8             | 2,8  | 5,8   | 3,8  | 6,7  | 17   |      |
| Resistance to vibration  |  |     | min. 4 g, 2-100 Hz, 1,6 mm   |      |      |       |      |       |       |       |      | on request      |      |       |      |      |      |      |
| Resistance to shock  |  |     | min. 5 g, 6 ms   |      |      |       |      |       |       |       |      | min. 5 g, 30 ms |      |       |      |      |      |      |
| <b>Short Circuit Protection</b>  |  |     |  |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| Max. fuse size (gG-characteristic)   |  | A   | 10   | 25   | 25   | 35    | 35   | 50    | 63    | 80    | 50   | 63              | 63   | 125   | 200  | 200  | 315  |      |
| Rated short-time withstand current (1s-current)  |  | A   | 60   | 140  | 140  | 280   | 480  | 350   | 800   | 1000  | 950  | 950             | 950  | 1300  | 2000 | 2000 | 4200 |      |
| <b>DC Switching Capacity<sup>6</sup></b>   |  |     |  |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| No. of series contacts   | 1 2 3 4 5 6 8  |     |  |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| Resistive loads  | Voltage V  | A   | 10   | 20   | 20   | 25    | 32   | –     | 50    | –     | 115  | –               | 315  |       |      |      |      |      |
| $T \leq 1$ ms  |  | A   | 6  | 12   | 12   | 20    | 25   | 32    | 40    | 63    | 100  | 150             | 250  |       |      |      |      |      |
|  |  | A   | 2,5  | 4,5  | 4,5  | 7,5   | 10   | 23    | 27    | 30    | –    | –               | –    |       |      |      |      |      |
|  |  | A   | 0,7  | 1    | 1    | 1,5   | 2    | 6,5   | –     | –     | –    | –               | –    |       |      |      |      |      |
|  |  | A   | 0,3  | 0,4  | 0,4  | 0,5   | 0,6  | 1,2   | –     | –     | –    | –               | –    |       |      |      |      |      |
|  |  | A   | 0,2  | 0,27 | 0,27 | 0,3   | 0,3  | 0,4   | –     | –     | –    | –               | –    |       |      |      |      |      |
| Inductive loads  |  | A   | 6  | 12   | 12   | 20    | 25   | 32    | 40    | 63    | 100  | 150             | 250  |       |      |      |      |      |
| $T = 50$ ms  |  | A   | 3  | 5    | 5    | 9     | 12   | 25    | 30    | 55    | 33   | 50              | 70   |       |      |      |      |      |
|  |  | A   | 1  | 2    | 2    | 3     | 3    | 16    | 20    | –     | –    | –               | –    |       |      |      |      |      |
|  |  | A   | 0,7  | 1    | 1    | 1,5   | 1,5  | 11    | 15    | –     | –    | –               | –    |       |      |      |      |      |
|  |  | A   | 0,3  | 0,4  | 0,4  | 0,5   | 0,5  | 3,2   | 3,5   | –     | –    | –               | –    |       |      |      |      |      |
| <b>Min. Ambient Temperature of Stages</b>  |  |     | -25 °C (valid only without optional extra, C315/C316 on request)                             |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |
| <b>Max. Ambient Temperature of Stages<sup>5,7</sup></b>                                    | open at 100 % $I_U/I_{th}$<br>enclosed at 100 % $I_{the}$  |     | 55 °C during 24 hours with peaks up to 60 °C<br>35 °C during 24 hours with peaks up to 40 °C |      |      |       |      |       |       |       |      |                 |      |       |      |      |      |      |

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



|                       |   |
|-----------------------|---|
| <b>Selection Data</b> | CA4 CA10 CA11 CA20 CA25 C42 C315  |
|                       | CA4-1 CA10B CA11B CA20B CA25B C26 C32 C43 CA40 CA50 CA63 C80 C125 C200-4 C316 |

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

<sup>1</sup>Cable lug must accept M8 (C200-4) and M12 (C315/C316) screw. <sup>2</sup>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.

|                       |      |      |      |      |      |       |       |       |       |  |  |  |
|-----------------------|------|------|------|------|------|-------|-------|-------|-------|--|--|--|
| <b>Selection Data</b> | L350 |      |      |      | L630 |       |       |       |       |  |  |  |
|                       | L351 | L400 | L600 | L631 | L800 | L1000 | L1200 | L1600 | L2000 |  |  |  |

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

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

|                       |        |       |       |
|-----------------------|--------|-------|-------|
| <b>Selection Data</b> | CAD4-1 | CAD11 | CAD12 |
|-----------------------|--------|-------|-------|

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|   |  |                  |  |                        |                        |
|---|--|------------------|--|------------------------|------------------------|
| <b>Rated Insulation Voltage <math>U_i</math></b>            | IEC 60947-3, EN 60947-3 <sup>1</sup><br>VDE 0660 part 107<br>SEV <sup>2</sup><br>North America<br>min. voltage | V<br>V<br>V<br>V | 440<br>–<br>300<br>1 <sup>7</sup>  | 600<br>600<br>300<br>1 | 600<br>600<br>300<br>6 |
| <b>Rated Impulse Withstand Voltage <math>U_{imp}</math></b> |  |                  |  | on request             |                        |
| <b>Rated Thermal Current <math>I_U/I_{th}</math></b>        | IEC 60947-3, EN 60947-3<br>VDE 0660 part 107<br>SEV <sup>2</sup><br>North America                              | A<br>A<br>A      | 5<br>–<br>5  | 6<br>5<br>6            | 6<br>5<br>6            |
| <b>Rated Operational Current <math>I_e</math></b>           | IEC 60947-3, EN 60947-3<br>VDE 0660 part 107<br>North America <sup>3</sup>                                     |                  |  |                        |                        |
| AC-21A  | Switching of resistive loads, including moderate overloads   |                  |  |                        |                        |
|   | 1 V/6 V  | A                | 5/2  | 6/3                    | –/6                    |
|   | 12 V/24 V  | A                | 1,2/0,7  | 2/1                    | 5/5                    |
|   | 48 V/110 V   | A                | 0,45/0,25  | 0,8/0,4                | 4/3                    |
|   | 220 V/400 V  | A                | 0,15/–   | 0,2/0,13               | 2/1,3                  |
|   | 440 V/500 V  | A                | 0,1/–  | 0,1/0,08               | 1/0,8                  |
|   | 600 V  | A                | –  | 0,05                   | 0,5                    |
| AC-1  | Resistive or low inductive loads   |                  |  |                        |                        |
|   | SEV <sup>2</sup> 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                    |
| <b>Power loss per contact at <math>I_u</math></b>           |  | W                | 0,4  | 0,5                    | 0,2                    |
| <b>Short Circuit Protection</b>                             |  |                  |  |                        |                        |
|   | Max. fuse size (gG-characteristic)   | A                | 5  | 6                      | 6                      |
|   | Rated short-time withstand current (1s-current)  | A                | 30   | 35                     | 50                     |
| <b>DC Switching Capacity<sup>5</sup></b>                    | IEC 60947-3, EN 60947-3<br>VDE 0660 part 107<br>SEV <sup>2</sup><br>North America <sup>3</sup>                 |                  |  |                        |                        |
| DC-1  | Resistive load<br>T = 1 ms   |                  |  |                        |                        |
|   | 1 V/6 V  | A                | 3/1,2  | 4/2,5                  | –/4                    |
|   | 12 V/24 V  | A                | 0,7/0,4  | 1,5/0,8                | 3/2,2                  |
|   | 48 V/60 V  | A                | 0,25/0,2   | 0,3/0,27               | 1,2/1                  |
|   | 110 V/220 V  | A                | 0,13/–   | 0,2/0,1                | 0,6/0,3                |
|   | 240 V/500 V  | A                | 0,08/–   | 0,08/0,03              | 0,25/0,1               |
|   | 600 V  | A                |  | 0,02                   | 0,1                    |
| <b>Max. Permissible Wire Gage - Use copper wire only</b>    |  |                  |  |                        |                        |
|   | Single-core or stranded wire   |                  |  |                        |                        |
|   |  | mm <sup>2</sup>  | 2x<br>1,5  | 2x<br>2,5              | 2x<br>2,5              |
|   |  | AWG              | 14   | 12                     | 12                     |
|   | Flexible wire (sleeving in accordance with DIN 46228)  | mm <sup>2</sup>  | 2x<br>1,5  | 2x<br>2,5              | 2x<br>2,5              |
|   | Flexible AWG wires (without sleeve)  | AWG              | (1)<br>16  | (2,5)<br>14            | (2,5)<br>14            |
| <b>Min. Ambient Temperature of Stages</b>                   |  |                  | –25 °C (valid only without optional extra)   |                        |                        |
| <b>Max. Ambient Temperature of Stages<sup>4,6</sup></b>     | open at 100 % $I_U/I_{th}$<br>enclosed at 100 % $I_{the}$  |                  | 55 °C during 24 hours with peaks up to 60 °C<br>35 °C during 24 hours with peaks up to 40 °C |                        |                        |

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

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

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

<sup>7</sup>Values with lower voltages on request.

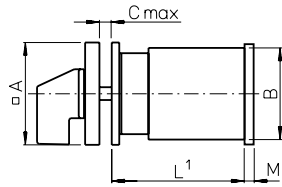
## Tightening torque of screws

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

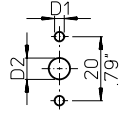
| Type   | Tightening torque |           |
|--------|-------------------|-----------|
| CA25B  | 1,3 Nm            | 12 lb-in  |
| CA25R  | 1,3 Nm            | 12 lb-in  |
| CA25S  | 1,3 Nm            | 12 lb-in  |
| CA25X  | 1,3 Nm            | 12 lb-in  |
| CA25Y  | 1,3 Nm            | 12 lb-in  |
| CA40   | 1,8 Nm            | 16 lb-in  |
| CA40C  | 1,8 Nm            | 16 lb-in  |
| CA40L  | 1,8 Nm            | 16 lb-in  |
| CA40M  | 1,8 Nm            | 16 lb-in  |
| CA40S  | 1,8 Nm            | 16 lb-in  |
| CA40X  | 1,8 Nm            | 16 lb-in  |
| CA50   | 1,8 Nm            | 16 lb-in  |
| CA50C  | 1,8 Nm            | 16 lb-in  |
| CA50L  | 1,8 Nm            | 16 lb-in  |
| CA50M  | 1,8 Nm            | 16 lb-in  |
| CA50S  | 1,8 Nm            | 16 lb-in  |
| CA50X  | 1,8 Nm            | 16 lb-in  |
| CA63   | 1,8 Nm            | 16 lb-in  |
| CA63C  | 1,8 Nm            | 16 lb-in  |
| CA63L  | 1,8 Nm            | 16 lb-in  |
| CA63M  | 1,8 Nm            | 16 lb-in  |
| CA63S  | 1,8 Nm            | 16 lb-in  |
| CA63X  | 1,8 Nm            | 16 lb-in  |
| CAD11  | 0,8 Nm            | 7 lb-in   |
| CAD11B | 0,8 Nm            | 7 lb-in   |
| CAD11R | 0,8 Nm            | 7 lb-in   |
| CAD12  | 0,8 Nm            | 7 lb-in   |
| CAD12B | 0,8 Nm            | 7 lb-in   |
| CAD12R | 0,8 Nm            | 7 lb-in   |
| CAD4-1 | 0,6 Nm            | 5 lb-in   |
| L350   | 25 Nm             | 220 lb-in |
| L351   | 25 Nm             | 220 lb-in |
| L400   | 25 Nm             | 220 lb-in |
| L600   | 25 Nm             | 220 lb-in |
| L630   | 25 Nm             | 220 lb-in |
| L631   | 25 Nm             | 220 lb-in |
| L800   | 25 Nm             | 220 lb-in |
| L1000  | 25 Nm             | 220 lb-in |
| L1200  | 25 Nm             | 220 lb-in |
| L1600  | 25 Nm             | 220 lb-in |
| L2000  | 25 Nm             | 220 lb-in |

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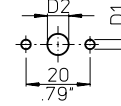
**Two or Four Hole Panel Mounting**



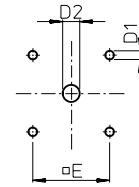
**E**  
for CA4, CA4-1,  
CAD4-1



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



**E-V**  
**ER**

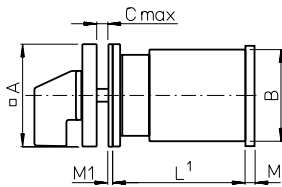


|                      | CA10    | CA4     | CA11    | CA20    | CA25 <sup>3</sup> | CA20B   | CA10B   | CA25B   | C26     | C32     | C42 <sup>3</sup> | C43      | CA40 <sup>3</sup> | CA50 <sup>3</sup> | CA63 <sup>3</sup> | C125     | C200-4   | L switches | L switches |
|----------------------|---------|---------|---------|---------|-------------------|---------|---------|---------|---------|---------|------------------|----------|-------------------|-------------------|-------------------|----------|----------|------------|------------|
|                      | CAD4-1  | CAD12   | CAD11   |         |                   |         | CA11B   |         |         |         |                  |          |                   |                   |                   |          |          | Size S2    | Size S3    |
| <b>A</b>             | 0       | 48      | 48      | 48      | (64)              | 64      | 64      | 64      | 64      | 64      | (88)             | 88       | 64                | (88)              | 88                | 88       | 88       | 88         | 130        |
|                      | 1.18    | 1.89    | 1.89    | 1.89    | (2.52)            | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | (3.46)           | 3.46     | 2.52              | (3.46)            | 3.46              | 3.46     | 3.46     | 3.46       | 5.12       |
| <b>B</b>             | 29,5    | 43      | 45      | 46      |                   | 56      | 56      | 58      | 60      | 66      | 84               | 84       | 55,5x64           | 84                | 88                | 88       | 88       | 88         | 126        |
|                      | 1.16    | 1.69    | 1.77    | 1.81    |                   | 2.20    | 2.20    | 2.28    | 2.36    | 2.60    | 3.30             | 3.30     | 2.19x2.52         | 3.30              | 3.46              | 3.46     | 3.46     | 3.46       | 4.96       |
| <b>C</b>             | 4       | 4       | 4       | 4       |                   | 4       | 4       | 4       | 4       | 4       | 5,5              | 4        | 5,5               | 5,5               | 5,5               | 5,5      | 5,5      | 5,5        | 7          |
|                      | .16     | .16     | .16     | .16     |                   | .16     | .16     | .16     | .16     | .16     | .22              | .16      | .22               | .22               | .22               | .22      | .22      | .22        | .28        |
| <b>D1</b>            | 3,2     | 5       | 5       | 5       |                   | 5       | 5       | 5       | 5       | 5       | (6)              | 6        | 5                 | (6)               | 6                 | 6        | 6        | 6          | 7          |
|                      | .13     | .20     | .20     | .20     |                   | .20     | .20     | .20     | .20     | .20     | (.24)            | .24      | .20               | (.24)             | .24               | .24      | .24      | .24        | .28        |
| <b>D2</b>            | 8-11    | 8-19    | 8-19    | 8-19    |                   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22            | 13-30    | 10-22             | 13-30             | 13-30             | 13-30    | 13-30    | 13-30      | 15,5-25    |
|                      | .31-.43 | .31-.75 | .31-.75 | .31-.75 |                   | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87          | .51-1.18 | .39-.87           | .51-1.18          | .51-1.18          | .51-1.18 | .51-1.18 | .51-1.18   | .61-.98    |
| <b>E</b>             | -       | 36      | 36      | 36      | (48)              | 48      | 48      | 48      | 48      | 48      | (68)             | 68       | 48                | (68)              | 68                | 68       | 68       | 68         | 104        |
|                      | -       | 1.42    | 1.42    | 1.42    | (1.89)            | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | (2.68)           | 2.68     | 1.89              | (2.68)            | 2.68              | 2.68     | 2.68     | 2.68       | 4.09       |
| <b>M<sup>2</sup></b> | -       | 4,5     | 4,5     | 5,5     |                   | 5       | 5,5     | 7,5     | 7,5     | 7,5     | 7,5              | 7,5      | 7,6               | 9,4               | 9,4               | 9,4      | 9,4      | 27,5       | 11,9 (32)  |
|                      | -       | .18     | .18     | .22     |                   | .20     | .22     | .30     | .30     | .30     | .30              | .30      | .30               | .37               | .37               | .37      | .37      | 1.08       | .47 (1.26) |

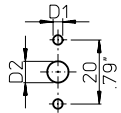
<sup>2</sup>M, additional length for mounting ER only  
<sup>3</sup>Dimensions in ( ) for ER mounting plate only

<sup>4</sup>Dimensions in ( ) for L800, L1200, L1600

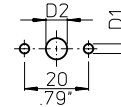
[< back to table of contents >](#)



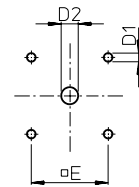
**EF**  
for CA4, CA4-1,  
CAD4-1



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



**EF**  
**EF-V**  
**ERF**



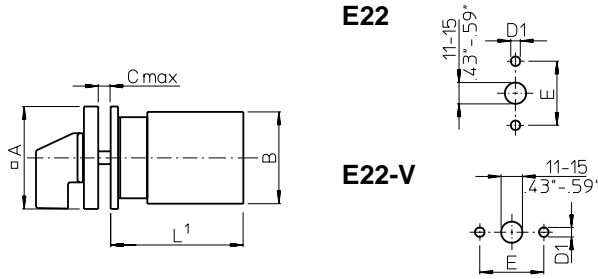
|                      | CA10    | CA4     | CA11    | CA20    | CA25 <sup>3</sup> | CA20B   | CA10B   | CA25B   | C26     | C32     | C42 <sup>3</sup> | C43       | CA40 <sup>3</sup> | CA50 <sup>3</sup> | CA63 <sup>3</sup> | C125      | C200-4    | L switches | L switches |
|----------------------|---------|---------|---------|---------|-------------------|---------|---------|---------|---------|---------|------------------|-----------|-------------------|-------------------|-------------------|-----------|-----------|------------|------------|
|                      | CAD4-1  | CAD12   | CAD11   |         |                   |         | CA11B   |         |         |         |                  |           |                   |                   |                   |           |           | Size S2    | Size S3    |
| <b>A</b>             | 30      | 48      | 48      | 48      | (64)              | 64      | 64      | 64      | 64      | 64      | (88)             | 88        | 64                | (88)              | 88                | 88        | 88        | 88         | 130        |
|                      | 1.18    | 1.89    | 1.89    | 1.89    | (2.52)            | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | (3.46)           | 3.46      | 2.52              | (3.46)            | 3.46              | 3.46      | 3.46      | 3.46       | 5.12       |
| <b>B</b>             | 29,5    | 43      | 45      | 46      |                   | 56      | 56      | 58      | 60      | 66      | 84               | 84        | 55,5x64           | 84                | 88                | 88        | 88        | 88         | 126        |
|                      | 1.16    | 1.69    | 1.77    | 1.81    |                   | 2.20    | 2.20    | 2.28    | 2.36    | 2.60    | 3.30             | 3.30      | 2.19x2.52         | 3.30              | 3.46              | 3.46      | 3.46      | 3.46       | 4.96       |
| <b>C</b>             | 4       | 4       | 4       | 4       |                   | 4       | 4       | 4       | 4       | 4       | 5,5              | 4         | 5,5               | 5,5               | 5,5               | 5,5       | 5,5       | 5,5        | 7          |
|                      | .16     | .16     | .16     | .16     |                   | .16     | .16     | .16     | .16     | .16     | .22              | .16       | .22               | .22               | .22               | .22       | .22       | .22        | .28        |
| <b>D1</b>            | 3,2     | 5       | 5       | 5       |                   | 5       | 5       | 5       | 5       | 5       | (6)              | 6         | 5                 | (6)               | 6                 | 6         | 6         | 6          | 7          |
|                      | .13     | .20     | .20     | .20     |                   | .20     | .20     | .20     | .20     | .20     | (.24)            | .24       | .20               | (.24)             | .24               | .24       | .24       | .24        | .28        |
| <b>D2</b>            | 8-11    | 15-19   | 15-19   | 15-19   |                   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22            | 26-30     | 19-22             | 26-30             | 26-30             | 26-30     | 26-30     | 26-30      | 22-25      |
|                      | .31-.43 | .59-.75 | .59-.75 | .59-.75 |                   | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87          | 1.02-1.18 | .75-.87           | 1.02-1.18         | 1.02-1.18         | 1.02-1.18 | 1.02-1.18 | 1.02-1.18  | .87-.98    |
| <b>E</b>             | -       | 36      | 36      | 36      | (48)              | 48      | 48      | 48      | 48      | 48      | (68)             | 68        | 48                | (68)              | 68                | 68        | 68        | 68         | 104        |
|                      | -       | 1.42    | 1.42    | 1.42    | (1.89)            | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | (2.68)           | 2.68      | 1.89              | (2.68)            | 2.68              | 2.68      | 2.68      | 2.68       | 4.09       |
| <b>M<sup>2</sup></b> | -       | 4,5     | 4,5     | 5,5     |                   | 5       | 5,5     | 7,5     | 7,5     | 7,5     | 7,5              | 7,5       | 7,6               | 9,4               | 9,4               | 9,4       | 9,4       | 27,5       | 11,9 (32)  |
|                      | -       | .18     | .18     | .22     |                   | .20     | .22     | .30     | .30     | .30     | .30              | .30       | .30               | .37               | .37               | .37       | .37       | 1.08       | .47 (1.26) |
| <b>M1</b>            | 1       | -       | -       | -       |                   | -       | -       | -       | -       | -       | -                | -         | -                 | -                 | -                 | -         | -         | -          | -          |
|                      | .04     | -       | -       | -       |                   | -       | -       | -       | -       | -       | -                | -         | -                 | -                 | -                 | -         | -         | -          | -          |

<sup>2</sup>M, additional length for mounting ERF only  
<sup>3</sup>Dimensions in ( ) for ERF mounting plate only

<sup>4</sup>Dimensions in ( ) for L800, L1200, L1600

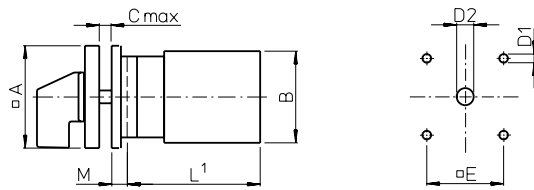
<sup>1</sup>see page 56

**Two or Four Hole Panel Mounting**



|           | CA10       | CA11       | CAD11 | CA20       | CA25       |
|-----------|------------|------------|-------|------------|------------|
| <b>A</b>  | 48<br>1.89 | 48<br>1.89 |       | 48<br>1.89 | 48<br>1.89 |
| <b>B</b>  | 43<br>1.69 | 45<br>1.77 |       | 46<br>1.81 | 46<br>1.81 |
| <b>C</b>  | 4<br>.16   | 4<br>.16   |       | 4<br>.16   | 4<br>.16   |
| <b>D1</b> | 5<br>.20   | 5<br>.20   |       | 5<br>.20   | 5<br>.20   |
| <b>E</b>  | 30<br>1.17 | 30<br>1.17 |       | 30<br>1.17 | 30<br>1.17 |

**EG  
EGF**

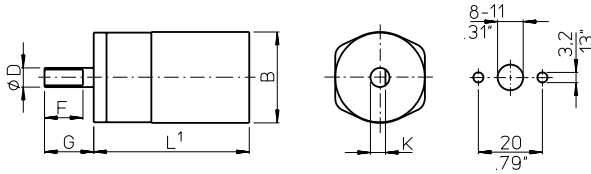


|            | CA10             | CA11             | CAD11 | CA20             | CA25             | C26                | C32                | C42                | CA40                 | CA50               | CA63               | C80                | C125               | C200-4             |
|------------|------------------|------------------|-------|------------------|------------------|--------------------|--------------------|--------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|            |                  |                  |       |                  |                  |                    |                    |                    |                      |                    |                    |                    | L switches         | Size S2            |
| <b>A</b>   | 64<br>2.52       | 64<br>2.52       |       | 64<br>2.52       | 64<br>2.52       | 88<br>3.46         | 88<br>3.46         | 88<br>3.46         | 88<br>3.46           | 88<br>3.46         | 88<br>3.46         | 130<br>5.12        | 130<br>5.12        | 130<br>5.12        |
| <b>B</b>   | 43<br>1.69       | 45<br>1.77       |       | 46<br>1.81       | 46<br>1.81       | 58<br>2.28         | 60<br>2.36         | 66<br>2.60         | 55,5x64<br>2.19x2.52 | 84<br>3.30         | 84<br>3.30         | 84<br>3.30         | 88<br>3.46         | 88<br>3.46         |
| <b>C</b>   | 4<br>.16         | 4<br>.16         |       | 4<br>.16         | 4<br>.16         | 5,5<br>.22         | 5,5<br>.22         | 5,5<br>.22         | 5,5<br>.22           | 5,5<br>.22         | 5,5<br>.22         | 7<br>.28           | 7<br>.28           | 7<br>.28           |
| <b>D1</b>  | 5<br>.20         | 5<br>.20         |       | 5<br>.20         | 5<br>.20         | 6<br>.24           | 6<br>.24           | 6<br>.24           | 6<br>.24             | 6<br>.24           | 6<br>.24           | 7<br>.28           | 7<br>.28           | 7<br>.28           |
| <b>EG</b>  |                  |                  |       |                  |                  |                    |                    |                    |                      |                    |                    |                    |                    |                    |
| <b>D2</b>  | 10-22<br>.39-.87 | 10-22<br>.39-.87 |       | 10-22<br>.39-.87 | 10-22<br>.39-.87 | 13-30<br>.51-1.18  | 13-30<br>.51-1.18  | 13-30<br>.51-1.18  | 13-30<br>.51-1.18    | 13-30<br>.51-1.18  | 13-30<br>.51-1.18  | 15,5-25<br>.61-.98 | 15,5-25<br>.61-.98 | 15,5-25<br>.61-.98 |
| <b>EGF</b> |                  |                  |       |                  |                  |                    |                    |                    |                      |                    |                    |                    |                    |                    |
| <b>D2</b>  | 19-22<br>.75-.87 | 19-22<br>.75-.87 |       | 19-22<br>.75-.87 | 19-22<br>.75-.87 | 26-30<br>1.02-1.18 | 26-30<br>1.02-1.18 | 26-30<br>1.02-1.18 | 26-30<br>1.02-1.18   | 26-30<br>1.02-1.18 | 26-30<br>1.02-1.18 | 22-25<br>.87-.98   | 22-25<br>.87-.98   | 22-25<br>.87-.98   |
| <b>E</b>   | 48<br>1.89       | 48<br>1.89       |       | 48<br>1.89       | 48<br>1.89       | 68<br>2.68         | 68<br>2.68         | 68<br>2.68         | 68<br>2.68           | 68<br>2.68         | 68<br>2.68         | 104<br>4.09        | 104<br>4.09        | 104<br>4.09        |
| <b>M</b>   | 6,7<br>.26       | 6,7<br>.26       |       | 6,7<br>.26       | 6,7<br>.26       | 0,5<br>.02         | 0,5<br>.02         | 0,5<br>.02         | 0,5<br>.02           | 0,5<br>.02         | 0,5<br>.02         | 2<br>.08           | 2<br>.08           | 2<br>.08           |

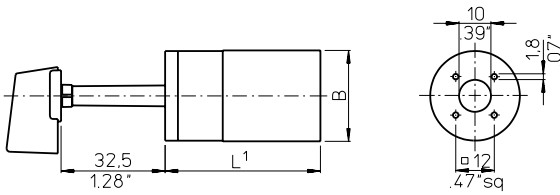
<sup>1</sup>see page 56

**Four Hole Panel Mounting or Mosaic Mounting**

**E9  
E91**



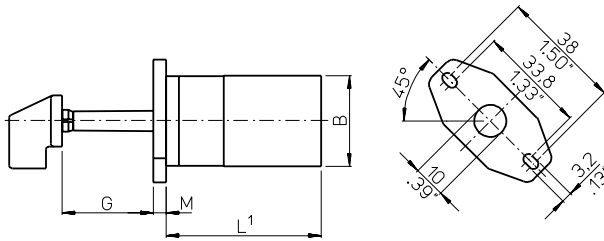
**E92**



CA4  
CA4  
CAD4-1  
29,5  
1.16

**B**

**E93  
E94**

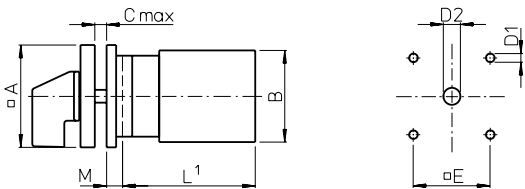


CA4  
CA4-1  
CAD4-1

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

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**KN1  
KD1  
KN2**

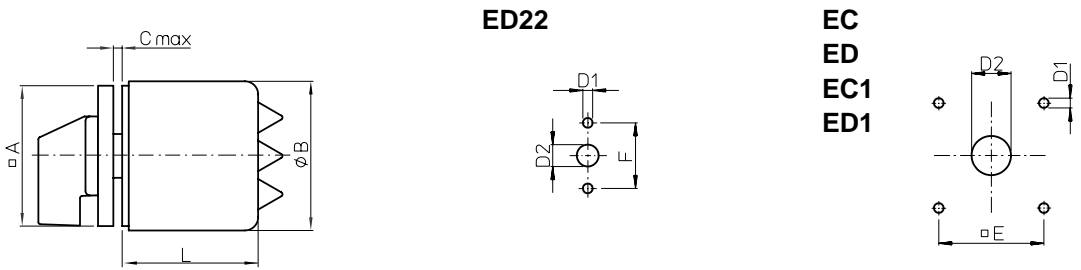


| <b>KN2</b> | CA10<br>CA11<br>CAD11<br>CAD12 | CA20            | CA25            |
|------------|--------------------------------|-----------------|-----------------|
| <b>A</b>   | 48<br>1.89                     | 48<br>1.89      | 48<br>1.89      |
| <b>B</b>   | 43<br>1.69                     | 45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

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

<sup>1</sup>see page 56

**Two or Four Hole Panel Mounting**



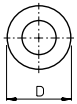
|                 | CA10    |         |         |         |         |         |         |         |         |         | CA20B   |         |         |         |         |         |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                 | CAD11   |         | CA11    |         | CA20    |         | CA25    |         | CA10B   |         | CA11B   |         | CA25B   |         | C26     |         |
|                 | EC      |         | EC      |         | EC      |         | EC      |         | EC      | EC1     | EC      | EC1     | EC      | EC1     | EC      | EC1     |
|                 | ED      | ED22    | ED      | ED22    | ED      | ED22    | ED      | ED22    | ED      | ED1     | ED      | ED1     | ED      | ED1     | ED      | ED1     |
| A               | 48      | 48      | 48      | 48      | 64      | 48      | 64      | 48      | 64      | 64      | 64      | 64      | 64      | 64      | 64      | 64      |
|                 | 1.89    | 1.89    | 1.89    | 1.89    | 2.52    | 1.89    | 2.52    | 1.89    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    |
| B               | 50      | 74      | 50      | 74      | 68      | 74      | 68      | 74      | 88      | 74      | 88      | 74      | 88      | 74      | 88      | 74      |
|                 | 1.97    | 2.91    | 1.97    | 2.91    | 2.68    | 2.91    | 2.68    | 2.91    | 3.46    | 2.91    | 3.46    | 2.91    | 3.46    | 2.91    | 3.46    | 2.91    |
| C               | 4       | -       | 4       | -       | 4       | -       | 4       | -       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       |
|                 | .16     | -       | .16     | -       | .16     | -       | .16     | -       | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     |
| ED/ED1/<br>ED22 | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       | 4       |
|                 | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     | .16     |
| D1              | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       | 5       |
|                 | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     | .20     |
| EC/EC1          | 8-19    | -       | 8-19    | -       | 10-22   | -       | 10-22   | -       | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   |
|                 | .31-.75 | -       | .31-.75 | -       | .39-.87 | -       | .39-.87 | -       | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 |
| ED/ED1/<br>ED22 | 15-19   | 11-15   | 15-19   | 11-15   | 19-22   | 11-15   | 19-22   | 11-15   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22   | 19-22   |
|                 | .43-.75 | .43-.59 | .43-.75 | .43-.59 | .75-.87 | .43-.59 | .75-.87 | .43-.59 | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87 | .75-.87 |
| E               | 36      | -       | 36      | -       | 48      | -       | 48      | -       | 48      | 48      | 48      | 48      | 48      | 48      | 48      | 48      |
|                 | 1.42    | -       | 1.42    | -       | 1.89    | -       | 1.89    | -       | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    |
| F               | -       | 30      | -       | 30      | -       | 30      | -       | 30      | -       | -       | -       | -       | -       | -       | -       | -       |
|                 | -       | 1.17    | -       | 1.17    | -       | 1.17    | -       | 1.17    | -       | -       | -       | -       | -       | -       | -       | -       |
| ED/ED22         | M       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Stages L        | 1       | 53,5    | 74,3    | 53,5    | 74,3    | -       | 74,3    | -       | 74,3    | -       | 73,7    | -       | 73,7    | -       | 73,7    | -       |
|                 | 2,10    | 2,93    | 2,10    | 2,93    | -       | 2,93    | -       | 2,93    | -       | 2,90    | -       | 2,90    | -       | 2,90    | -       | 2,90    |
| 2               | 53,5    | 74,3    | 53,5    | 74,3    | -       | 74,3    | -       | 74,3    | -       | 73,7    | -       | 73,7    | -       | 73,7    | -       | 73,7    |
|                 | 2,10    | 2,93    | 2,10    | 2,93    | -       | 2,93    | -       | 2,93    | -       | 2,90    | -       | 2,90    | -       | 2,90    | -       | 2,90    |
| 3               | 67,5    | 74,3    | 67,5    | 94,3    | -       | 74,3    | -       | 94,3    | -       | 73,7    | -       | 93,7    | -       | 93,7    | -       | 93,7    |
|                 | 2,66    | 2,93    | 2,66    | 3,71    | -       | 2,93    | -       | 3,71    | -       | 2,90    | -       | 3,69    | -       | 3,69    | -       | 3,69    |
| 4               | 67,5    | 74,3    | 81,5    | 94,3    | -       | 94,3    | -       | 94,3    | -       | 93,7    | -       | 93,7    | -       | 93,7    | -       | 93,7    |
|                 | 2,66    | 2,93    | 3,21    | 3,71    | -       | 3,71    | -       | 3,71    | -       | 3,69    | -       | 3,69    | -       | 3,69    | -       | 3,69    |
| 5               | 81,5    | 94,3    | -       | -       | 104     | -       | 104     | -       | -       | 93,7    | 104     | -       | 127     | -       | 114,5   | -       |
|                 | 3,21    | 3,71    | -       | -       | 4,10    | -       | 4,10    | -       | -       | 3,69    | 4,10    | -       | 5       | -       | 4,50    | -       |
| 6               | 81,5    | 94,3    | -       | -       | -       | -       | -       | -       | 104     | -       | 127     | -       | 139,5   | -       | 127     | -       |
|                 | 3,21    | 3,71    | -       | -       | -       | -       | -       | -       | 4,10    | -       | 5       | -       | 5,47    | -       | 5       | -       |
| 7               | -       | -       | -       | -       | -       | -       | -       | -       | 127     | -       | 139,5   | -       | 152     | -       | 139,5   | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 5       | -       | 5,47    | -       | 5,98    | -       | 5,47    | -       |
| 8               | -       | -       | -       | -       | -       | -       | -       | -       | 127     | -       | 152     | -       | 164,5   | -       | 152     | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 5       | -       | 5,98    | -       | 6,48    | -       | 5,98    | -       |
| 9               | -       | -       | -       | -       | -       | -       | -       | -       | 139,5   | -       | 164,5   | -       | 177     | -       | 164,5   | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 5,47    | -       | 6,48    | -       | 6,97    | -       | 6,48    | -       |
| 10              | -       | -       | -       | -       | -       | -       | -       | -       | 152     | -       | 177     | -       | -       | -       | 177     | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 5,98    | -       | 6,97    | -       | -       | -       | 6,97    | -       |
| 11              | -       | -       | -       | -       | -       | -       | -       | -       | 152     | -       | -       | -       | -       | -       | -       | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 5,98    | -       | -       | -       | -       | -       | -       | -       |
| 12              | -       | -       | -       | -       | -       | -       | -       | -       | 164,5   | -       | -       | -       | -       | -       | -       | -       |
|                 | -       | -       | -       | -       | -       | -       | -       | -       | 6,48    | -       | -       | -       | -       | -       | -       | -       |

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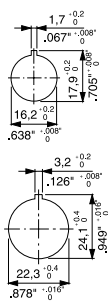


Single Hole Mounting or Base Mounting

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



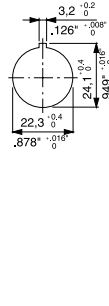
FS1...  
FS2...  
FS4...



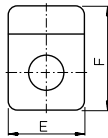
FH3...  
FS2...  
FT2...  
FT4...



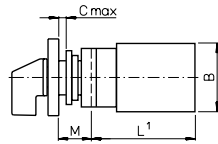
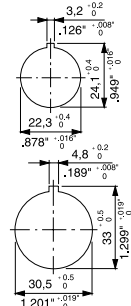
FH3...  
FH4...  
FT1...  
FT2...  
FT6...



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



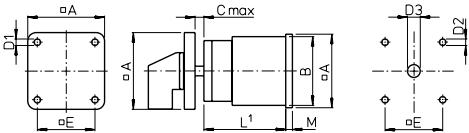
FT3...  
FT4...



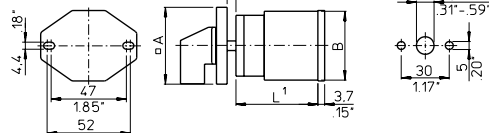
|        | CA4  | CA10 | CA11 | CAD11 | CA20 | CA25 |
|--------|------|------|------|-------|------|------|
| A/E    | 30   | 48   | 48   | 48    | 48   | 48   |
| FH3... | 1.18 | 1.89 | 1.89 | 1.89  | 1.89 | 1.89 |
| FH4... | -    | 64   | 64   | 64    | 64   | 64   |
|        | -    | 2.52 | 2.52 | 2.52  | 2.52 | 2.52 |
| B      | 28   | 43   | 45   | 46    | 46   | 46   |
| C      | 1.10 | 1.69 | 1.77 | 1.81  | 1.81 | 1.81 |
| D      | 5    | 6    | 6    | 6     | 6    | 6    |
| F      | .20  | .24  | .24  | .24   | .24  | .24  |
| FH4... | 29.5 | 39   | 39   | 39    | 39   | 39   |
| M      | 1.16 | 1.54 | 1.54 | 1.54  | 1.54 | 1.54 |
| FH3... | 39   | 59   | 59   | 59    | 59   | 59   |
| FH4... | 1.54 | 2.32 | 2.32 | 2.32  | 2.32 | 2.32 |
|        | -    | 78.5 | 78.5 | 78.5  | 78.5 | 78.5 |
|        | -    | 3.09 | 3.09 | 3.09  | 3.09 | 3.09 |
|        | 12.5 | 18.2 | 18.2 | 18.2  | 18.2 | 18.2 |
|        | .49  | .72  | .72  | .72   | .72  | .72  |
|        | -    | 25.2 | 25.2 | 25.2  | 25.2 | 25.2 |
|        | -    | .99  | .99  | .99   | .99  | .99  |
|        | -    | 25.2 | 25.2 | 25.2  | 25.2 | 25.2 |
|        | -    | .99  | .99  | .99   | .99  | .99  |

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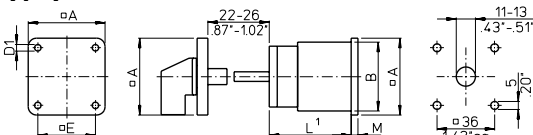
VE  
VE-V



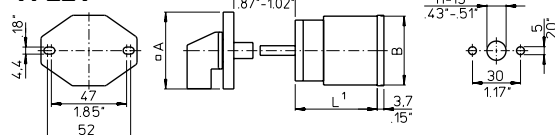
VE22  
VE22V



VF  
VF-V



VF22  
VF22V

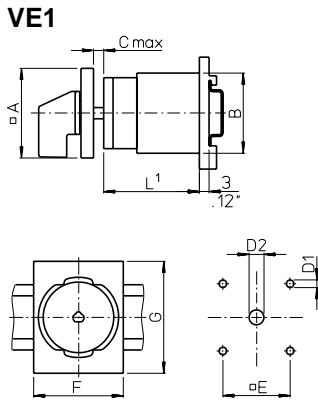


|    | CA10    | CA11    | CAD11       | CA20        | CA25 <sup>2</sup> | CA10B   | CA11B   | CA20B   | CA25B   | C26     | C32     | C42 <sup>2</sup> | C43      | CA40 <sup>2</sup> | CA50 <sup>2</sup> | CA63 <sup>2</sup> | C125     | C80      | C200-4   | L switches | L switches  |
|----|---------|---------|-------------|-------------|-------------------|---------|---------|---------|---------|---------|---------|------------------|----------|-------------------|-------------------|-------------------|----------|----------|----------|------------|-------------|
|    |         |         |             |             |                   |         |         |         |         |         |         |                  |          |                   |                   |                   |          |          |          | Size S2    | Size S3     |
| A  | 48      | 48      | 48          | 48 (64)     | 48 (64)           | 64      | 64      | 64      | 64      | 64      | 64      | 64 (88)          | 88       | 64 (88)           | 88                | 88                | 88       | 88       | 88       | 88         | 128         |
| B  | 1.89    | 1.89    | 1.89        | 1.89 (2.52) | 1.89 (2.52)       | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52    | 2.52 (3.46)      | 3.46     | 2.52 (3.46)       | 3.46              | 3.46              | 3.46     | 3.46     | 3.46     | 3.46       | 5.04        |
| C  | 43      | 45      | 46          | 46          | 46                | 56      | 56      | 56      | 56      | 58      | 60      | 66               | 84       | 55,5x64           | 84                | 88                | 88       | 88       | 88       | 88         | 126         |
| D  | 1.69    | 1.77    | 1.81        | 1.81        | 1.81              | 2.20    | 2.20    | 2.20    | 2.20    | 2.28    | 2.36    | 2.60             | 3.30     | 2.19x2.52         | 3.30              | 3.46              | 3.46     | 3.46     | 3.46     | 3.46       | 4.96        |
| D1 | 10.5    | 10.5    | 10.5        | 10.5        | 10.5              | 13.5    | 13.5    | 13.5    | 13.5    | 13.5    | 13.5    | 16               | 16       | 13.5              | 16                | 16                | 16       | 16       | 16       | 16         | 19.3        |
| D2 | .41     | .41     | .41         | .41         | .41               | .53     | .53     | .53     | .53     | .53     | .53     | .53              | .63      | .53               | .63               | .63               | .63      | .63      | .63      | .63        | .76         |
| D3 | 4.1     | 4.1     | 4.1         | 4.1         | 4.1               | 4.1     | 4.1     | 4.1     | 4.1     | 4.1     | 4.1     | 5.4              | 5.4      | 5.4               | 5.4               | 5.4               | 5.4      | 5.4      | 5.4      | 5.4        | 7           |
| E  | 1.16    | 1.16    | 1.16        | 1.16        | 1.16              | 1.16    | 1.16    | 1.16    | 1.16    | 1.16    | 1.16    | .21              | .21      | .21               | .21               | .21               | .21      | .21      | .21      | .21        | .28         |
| M  | 5       | 5       | 5           | 5           | 5                 | 5       | 5       | 5       | 5       | 5       | 5       | 5                | 6        | 5 (6)             | 6                 | 6                 | 6        | 6        | 6        | 6          | 7           |
|    | .20     | .20     | .20         | .20         | .20               | .20     | .20     | .20     | .20     | .20     | .20     | .20              | .24      | .20 (.24)         | .24               | .24               | .24      | .24      | .24      | .24        | .28         |
|    | 8-19    | 8-19    | 8-19        | 8-19        | 8-19              | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22   | 10-22            | 13-30    | 10-22             | 13-30             | 13-30             | 13-30    | 13-30    | 13-30    | 13-30      | 15.5-25     |
|    | .31-.75 | .31-.75 | .31-.75     | .31-.75     | .31-.75           | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87 | .39-.87          | .51-1.18 | .39-.87           | .51-1.18          | .51-1.18          | .51-1.18 | .51-1.18 | .51-1.18 | .51-1.18   | .61-.98     |
|    | 36      | 36      | 36 (48)     | 48          | 48                | 48      | 48      | 48      | 48      | 48      | 48      | 48 (68)          | 68       | 48 (68)           | 68                | 68                | 68       | 68       | 68       | 68         | 104         |
|    | 1.42    | 1.42    | 1.42 (1.89) | 1.89        | 1.89              | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | 1.89    | 1.89 (2.68)      | 2.68     | 1.89 (2.68)       | 2.68              | 2.68              | 2.68     | 2.68     | 2.68     | 2.68       | 4.09        |
|    | 2.2     | 2.2     | 3.2         | 2.5         | 2.5               | 5       | 5       | 5       | 5       | 5       | 5       | 7                | 7        | 5.1               | 8.9               | 8.9               | 8.9      | 8.9      | 8.9      | 27         | 11.4 (31.9) |
|    | .09     | .09     | .13         | .10         | .10               | .20     | .20     | .20     | .20     | .20     | .20     | .28              | .28      | .21               | .35               | .35               | .35      | .35      | .35      | 1.06       | .45 (1.25)  |

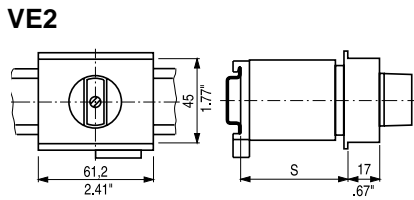
<sup>2</sup>Dimensions in ( ) for revertive mounting plate

<sup>3</sup>Dimensions in ( ) for L800, L1200, L1600

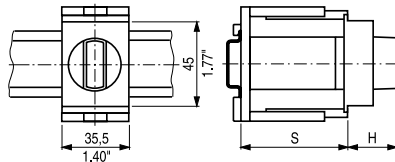
**Base Mounting**



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

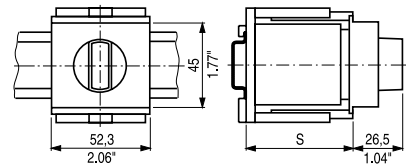


**VE21 (for CA4, CA4-1 and CAD4-1)**



**VE21 (for CA10-CA20)**

**VE21V (for CA25)**

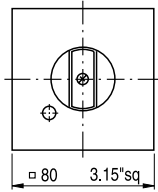


|                       | <b>VE2</b>             |                      |      |                    | <b>S<sub>min.</sub></b> | <b>H</b>     | <b>VE21, VE21V</b> |                       |      |      |               |
|-----------------------|------------------------|----------------------|------|--------------------|-------------------------|--------------|----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

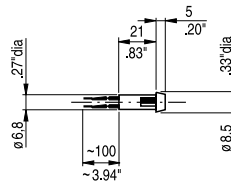
<sup>1</sup>see page 56    <sup>2</sup>not available for switch type CA20

**Wall Mounting, Face plates and Additional Length**

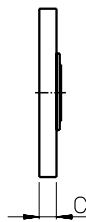
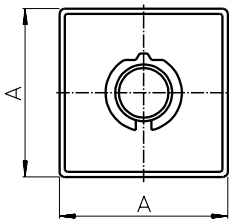
UE1  
UE2  
UE3



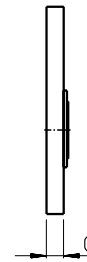
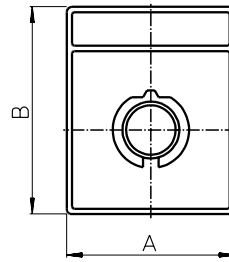
**Lamp**



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



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



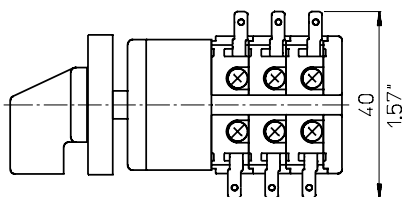
| Size       | A          | B          | C          |
|------------|------------|------------|------------|
| <b>S00</b> | 30<br>1.18 | 39<br>1.54 | 5,5<br>.22 |
| <b>S0</b>  | 48<br>1.89 | 59<br>2.32 | 6,7<br>.26 |
| <b>S1</b>  | 64<br>2.52 | 78<br>3.07 | 7,4<br>.29 |

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**Additional length for amendment (page 6)**

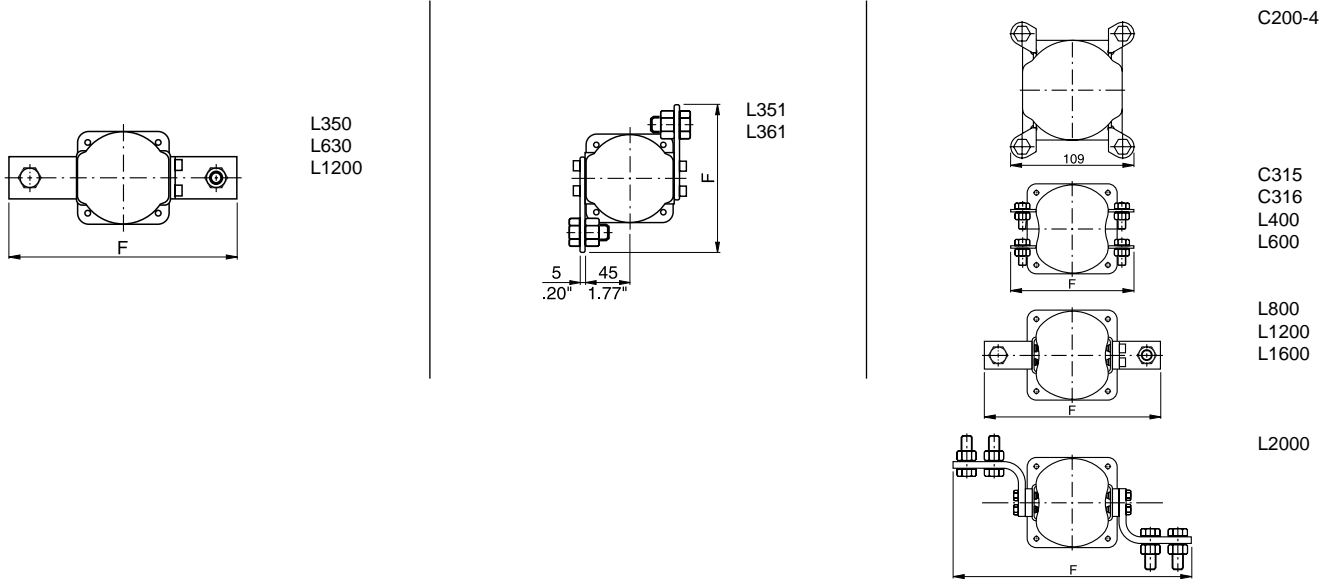
| Amendment |   | Amendment      |                              |             |             |             |                      |
|-----------|---|----------------|------------------------------|-------------|-------------|-------------|----------------------|
|           |   | CAD11<br>CAD12 | CA10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

**Quick connects for switches CA4-4**



**Additional Length**

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



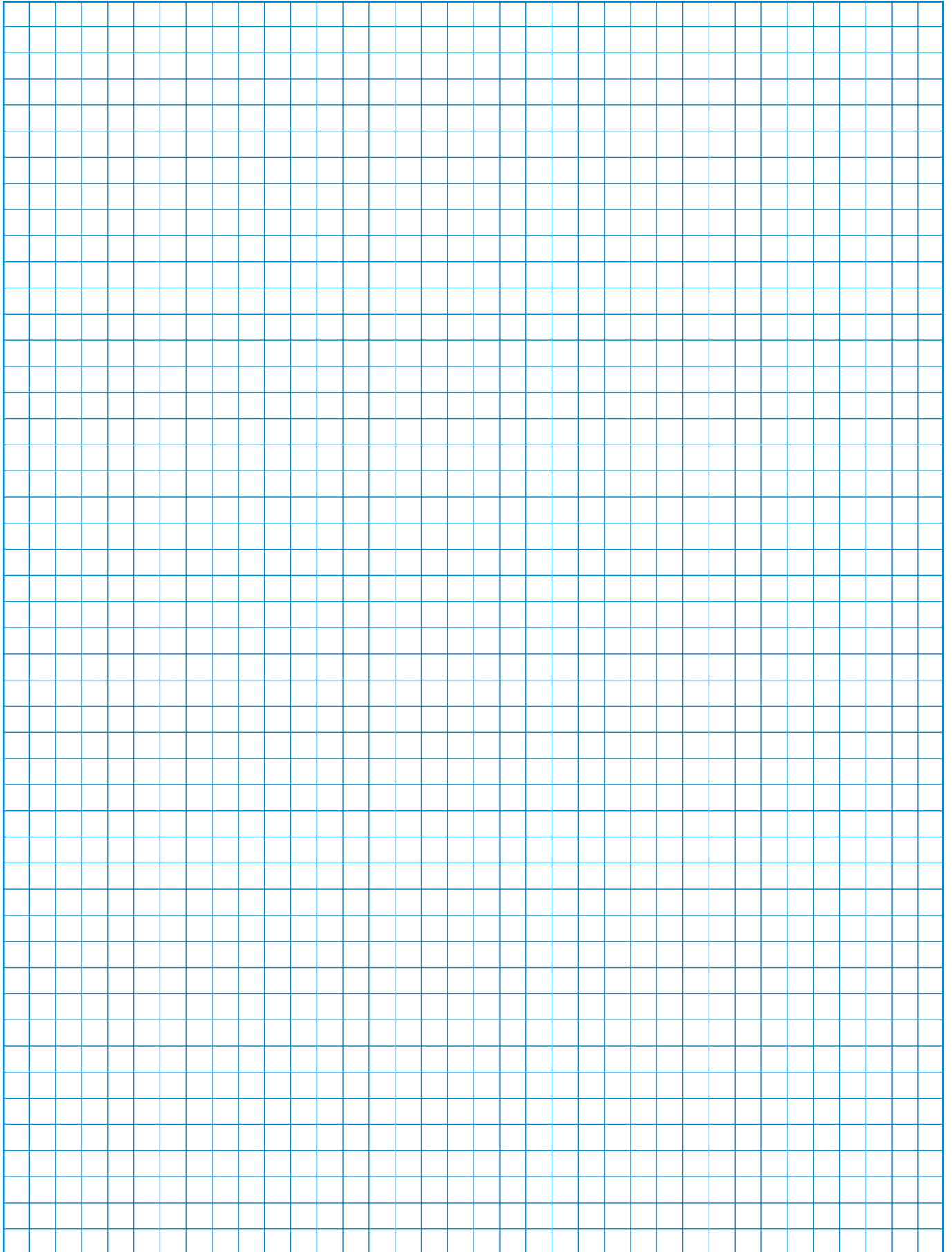
| F | L350 |      | L630 |      | L1000 |      | L351 |      | L631 |      | C315 |      | C316 |      | L400 |      | L600 |       | L800 |       | L1600 |      |
|---|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-------|-------|------|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

**Length L**

| Stages    | CA4        |               | CA10          |               |             |               |               |               |               |               |               |                |                |               | CA40           |                | C125           |            | C315 |  |
|-----------|------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|----------------|----------------|------------|------|--|
|           | CA4-1      | CAD11         | CAD12         | CA11          | CA20        | CA25          | CA10B         | CA11B         | CA20B         | CA25B         | C26           | C32            | C42            | C43           | CA63           | C80            | L switches     | L switches |      |  |
|           | CAD4-1     | CAD12         | CA11          | CA20          | CA25        | CA10B         | CA11B         | CA20B         | CA25B         | C26           | C32           | C42            | C43            | CA63          | C80            | Size S2        | Size S3        |            |      |  |
| <b>1</b>  | 30<br>1.18 | 33,5<br>1.32  | 36,7<br>1.44  | 37,7<br>1.48  | 39<br>1.51  | 38,9<br>1.53  | 42,1<br>1.66  | 43,1<br>1.70  | 44,4<br>1.75  | 42<br>1.65    | 46,8<br>1.84  | 50,8<br>2.00   | 59<br>2.32     | 42,5<br>1.67  | 61,5<br>2.42   | 67,5<br>2.66   | 78,6<br>3.09   |            |      |  |
| <b>2</b>  | 38<br>1.50 | 43<br>1.69    | 49,4<br>1.94  | 50,4<br>1.98  | 53<br>2.09  | 48,4<br>1.91  | 54,8<br>2.16  | 55,8<br>2.20  | 58,4<br>2.30  | 54,7<br>2.15  | 64,3<br>2.51  | 72,3<br>2.85   | 80,5<br>3.17   | 55,2<br>2.17  | 88,0<br>3.46   | 100<br>3.94    | 117,2<br>4.61  |            |      |  |
| <b>3</b>  | 46<br>1.81 | 52,5<br>2.07  | 62,1<br>2.44  | 63,1<br>2.48  | 67<br>2.64  | 57,9<br>2.28  | 67,5<br>2.66  | 68,5<br>2.70  | 72,4<br>2.85  | 67,4<br>2.65  | 81,8<br>3.22  | 93,8<br>3.69   | 102<br>4.02    | 67,9<br>2.67  | 114,5<br>4.51  | 132,5<br>5.22  | 155,8<br>6.13  |            |      |  |
| <b>4</b>  | 54<br>2.13 | 62<br>2.44    | 74,8<br>2.94  | 75,8<br>2.98  | 81<br>3.19  | 67,4<br>2.65  | 80,2<br>3.16  | 81,2<br>3.20  | 86,4<br>3.40  | 80,1<br>3.15  | 99,3<br>3.91  | 115,3<br>4.54  | 123,5<br>4.86  | 80,6<br>3.17  | 141<br>5.55    | 165<br>6.50    | 194,4<br>7.65  |            |      |  |
| <b>5</b>  | 62<br>2.44 | 71,5<br>2.81  | 87,5<br>3.44  | 88,5<br>3.48  | 95<br>3.74  | 76,9<br>3.03  | 92,9<br>3.66  | 93,9<br>3.70  | 100,4<br>3.95 | 92,8<br>3.65  | 116,8<br>4.60 | 136,8<br>5.39  | 145<br>5.71    | 93,3<br>3.67  | 167,5<br>6.59  | 197,5<br>7.78  | 233<br>9.17    |            |      |  |
| <b>6</b>  | 70<br>2.76 | 81<br>3.19    | 100,2<br>3.94 | 101,2<br>3.98 | 109<br>4.29 | 86,4<br>3.40  | 105,6<br>4.16 | 106,6<br>4.20 | 114,4<br>4.50 | 105,5<br>4.15 | 134,3<br>5.29 | 158,3<br>6.23  | 166,5<br>6.56  | 106<br>4.17   | 194<br>7.64    | 230<br>9.06    | 271,6<br>10.69 |            |      |  |
| <b>7</b>  | 78<br>3.07 | 90,5<br>3.56  | 112,9<br>4.44 | 113,9<br>4.48 | 123<br>4.84 | 95,9<br>3.78  | 118,3<br>4.66 | 119,3<br>4.70 | 128,4<br>5.05 | 118,2<br>4.65 | 151,8<br>5.98 | 179,8<br>7.08  | 188<br>7.40    | 118,7<br>4.67 | 220,5<br>8.68  | 262,5<br>10.33 | 310,2<br>12.21 |            |      |  |
| <b>8</b>  | 86<br>3.39 | 100<br>3.94   | 125,6<br>4.94 | 126,6<br>4.98 | 137<br>5.39 | 105,4<br>4.15 | 131<br>5.16   | 132<br>5.20   | 142,4<br>5.60 | 130,9<br>5.15 | 169,3<br>6.67 | 201,3<br>7.93  | 209,5<br>8.25  | 131,4<br>5.17 | 247<br>9.72    | 295<br>11.61   | 348,8<br>13.73 |            |      |  |
| <b>9</b>  | 94<br>3.70 | 109,5<br>4.31 | 138,3<br>5.44 | 139,3<br>5.48 | 151<br>5.94 | 114,9<br>4.52 | 143,7<br>5.66 | 144,7<br>5.70 | 156,4<br>6.15 | 143,6<br>5.65 | 186,8<br>7.36 | 222,8<br>8.77  | 231<br>9.09    | 144,1<br>5.67 | 273,5<br>10.77 | 327,5<br>12.89 | 387,4<br>15.25 |            |      |  |
| <b>10</b> | -          | 119<br>4.68   | 151<br>5.94   | 152<br>5.98   | 165<br>6.50 | 124,4<br>4.90 | 156,4<br>6.16 | 157,4<br>6.20 | 170,4<br>6.70 | 156,3<br>6.15 | 204,3<br>8.04 | 244,3<br>9.62  | 252,2<br>9.54  | 156,8<br>6.17 | 300<br>11.81   | 360<br>14.17   | 426<br>16.77   |            |      |  |
| <b>11</b> | -          | 128,5<br>5.06 | 163,7<br>6.44 | 164,7<br>6.48 | 179<br>7.05 | 133,9<br>5.27 | 169,1<br>6.66 | 170,1<br>6.70 | 184,4<br>7.25 | 169<br>6.65   | 221,8<br>8.73 | 265,8<br>10.46 | 274<br>10.79   | 169,5<br>6.67 | 326,5<br>12.85 | 392,5<br>15.45 | 464,6<br>18.29 |            |      |  |
| <b>12</b> | -          | 138<br>5.43   | 176,4<br>6.94 | 177,4<br>6.98 | 193<br>7.60 | 143,4<br>5.65 | 181,8<br>7.16 | 182,8<br>7.20 | 198,4<br>7.80 | 181,7<br>7.15 | 239,3<br>9.42 | 287,3<br>11.31 | 295,5<br>11.63 | 182,2<br>7.17 | 353<br>13.90   | 425<br>16.73   | 503,2<br>19.81 |            |      |  |

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**Notes:**



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# The Range of “Blue Line” Switchgear

Technical literature covering the following products is available on request.

|  | Catalog<br>Number |
|--|-------------------|
| <b>Main Switches and Main Switches with Emergency Function 16 A-315 A<br/>Maintenance Switches 20 A-315 A<br/>Switch Disconnectors 20 A-315 A</b><br>According to IEC 60947-3, EN 60947-3, VDE 0660 part 107, IEC 60204, EN 60204 and VDE 0113   | <b>500</b>        |
| <b>C, CA and CAD Switches 10 A-315 A and L Switches 350 A-2400 A</b><br>C, CA and CAD switches are designed for universal application. They are recommended for instrument, isolator, double-throw and motor control.<br>L switches are designed for load and off-load applications. They are used to switch resistive or low inductive loads.   | <b>100</b>        |
| <b>Optional Extras and Enclosures</b><br>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.   | <b>101</b>        |
| <b>A and AD Switches 6 A-25 A</b><br>A and AD switches have 4 contacts in each switching stage. These switches provide an extensive range of switch functions and require a minimum mounting depth. Up to 24 switching positions are possible, with availability of 48 contacts per 12 stage switch column.  | <b>110</b>        |
| <b>CG, CH and CHR Switches 10 A-25 A</b><br>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.   | <b>120</b>        |
| <b>DH, DHR, DK and DKR Switches 6 A-16 A</b><br>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.  | <b>130</b>        |
| <b>X Switches 200 A-630 A</b><br>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.   | <b>140</b>        |
| <b>KG Switches 20 A-315 A and KH and KHR Switches 16 A-80 A</b><br>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. | <b>150</b>        |
| <b>Push Buttons and Pilot Lights, 22,5 mm Ø</b><br>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.   | <b>302</b>        |

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