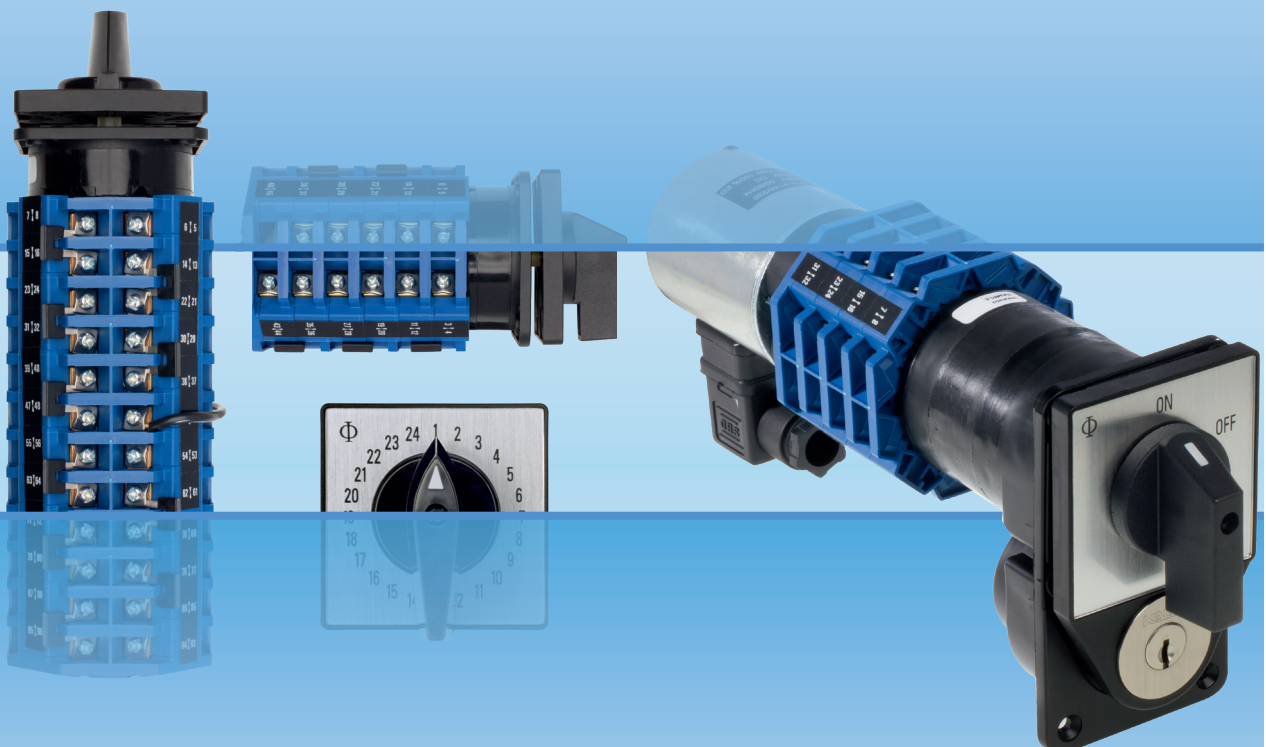


Control Switches for Special Applications

A type up to 25 A
AD type up to 6 A



Kraus & Naimer

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

BLUE LINE

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

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

The Kraus & Naimer Registered Trademark



WORLDWIDE SYMBOL
FOR QUALITY SWITCHGEAR

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

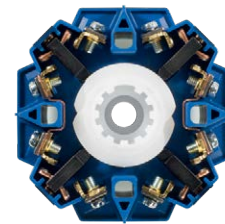
| Contents | Page |
|---------------------------------------|-------------|
| Construction Data | 4 |
| Dimensions and Nominal Ratings | 4 |
| How to order | 5, 6 |
| Switch Function and Configuration | |
| ON/OFF Switches | 8 |
| Double-throw Switches | 9, 10 |
| Multi-step Switches | 11-13 |
| General Application Switches | 14 |
| Voltmeter Switches | 15 |
| Ammeter Switches | 16 |
| Control Switches | 17 |
| Motor Switches | 18 |
| Types of Mounting | |
| Panel Mounting | 19 |
| Base Mounting | 20 |
| Handles | 21 |
| Face Plates | 22, 23 |
| Technical Data | 24, 25 |
| Tightening torque of screws | 26 |
| International Standards and Approvals | 26 |
| Dimensions | |
| Handles and Escutcheon Plates | 27 |
| Panel Mounting | 28 |
| Base Mounting | 29 |
| Overall Switch Lengths | 29 |
| Blue Line Switchgear: Summary | 30 |

Construction Data

A Switches

A switches are used in applications where available depths behind the mounting plates are limited and the switching programs require a large number of contacts. They are used when more than 12 switching positions are required. Typical applications for A switches are multi-step switches, multi-pole step switches, instrumentation switches and control switches where depth problems exist. The A switch has 4 double-break contacts which are controlled by two independent cams.

The switch column can contain up to 12 stages representing a total of 48 contacts. Additional contacts can be added by using a tandem drive to operate more than one switch column with a single handle.

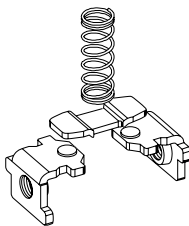


| Switch type | Switching angle | Max. number of switch positions |
|-----------------|------------------------------|---------------------------------|
| A11, AD11, AD12 | 15°, 20°, 30°, 45°, 60°, 90° | 24 |
| A25 | 15°, 20°, 30°, 45°, 60°, 90° | 24 |

A wide range of optional extras, escutcheon plates, handles, mountings and enclosures is available.

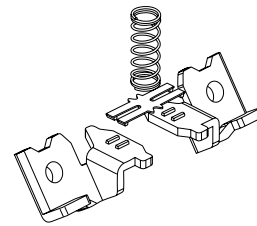
2 different Contact Systems are available

A11 and A25



A rigid, double-break bridge with silver alloy contacts provides high making and breaking capabilities for regular control applications.

AD11 and AD12



High contact reliability by H-bridge design with self-cleaning "cross-wire" contacts. The contact system with gold-plated contacts (AD12 with silver contact) allows for low voltages, electronic compatible.

Switch Size

Type

Rated Values

| Switch Size | Type | According to IEC 60947-3/VDE 0660 part 107 | | | |
|-------------|----------------------------|---|--|--|-------------------------|
| | | Thermal Current I_u/I_{th} A | Motor Rating 3 x 380 V/440 V AC-23A kW | Operational Current I_e | |
| | | | | AC-21A | AC-15/220 V A |
| S1 | AD11 | 6 | - | 1 V/ 6 A 24 V/ 1 A 110 V/ 0,4 A 220 V/ 0,2 A 380 V/ 0,13 A | - |
| | | - | - | 6 V/ 6 A 24 V/ 5 A 110 V/ 3 A 220 V/ 2 A 380 V/ 1,3 A | - |
| | AD12 | 6 | - | 20 A 25 A | - |
| | | - | - | 20 A 25 A | 6 8 |
| S2 | A11 A25 | 20 | 7,5 | 20 A | 6 |
| | | 25 | 11 | 25 A | 8 |
| | A11C A25C | 20 | 7,5 | 20 A | 6 |
| | | 25 | 11 | 25 A | 8 |

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 4 which shows the thermal current, power rating and dimensions of each switch. For further technical details, refer to pages 24 and 25. Variations of contacts and terminals are shown below.

2. Switch Function

The code numbers for standard switches shown on pages 7-18 indicate the switch function, escutcheon plate, handle and any optional extras. Additional coding to modify type and color of handle and escutcheon plate is explained below.

3. Type of Mounting

Types of mounting are shown on pages 19 and 20. Catalog **101** describes enclosures and optional extras. Specify the mounting code to indicate required mounting.

A11

A202

VE

Type of Switch

Extending the switch type coding the following combinations will define:

| Amendment | Definition | For switch types |
|-----------|--|----------------------|
| -1 | with gold contacts ¹ | A11-1 |
| -4 | with quick connects | A11-4, A25-4, A25C-4 |
| -5 | with quick connects and gold contacts | A11-5 |
| C | S1 switches with latching mechanism size S2 | A11C, AD11C, A25C |
| L | with lockout-relay w/o manual release for std. switches | A11L, A25L |
| M | with lockout-relay with manual release for std. switches | A11M, A25M |
| X | with power failure release | A25X |

Example: Coding for switch type **A11** with gold contacts is **A11-1**.

¹Technical data on request.

Handles, Escutcheon Plates and Optional Extras

The handles for standard switches shown on pages 7-18 are suitable for mounting units with four hole panel mounting. Alternative types of handles available are illustrated on pages 19-21.

When a handle, escutcheon plate or optional extra is required but not covered by the dash-number, the code number for the selected component should be entered separately. A comprehensive range of available standard escutcheon plates is illustrated on pages 23-25. Non-standard or special escutcheon plate engravings are available at extra cost.

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

Switch Size

Blue Line A switches are available in sizes S1 and S2. These size codes indicate the dimensions of the mounting, the escutcheon plate and the handle as well as the size of the optional devices and enclosures. Page 4 lists these sizes and the various switch types they include.

How to order

Ordering of Special Switches and Escutcheon Plates

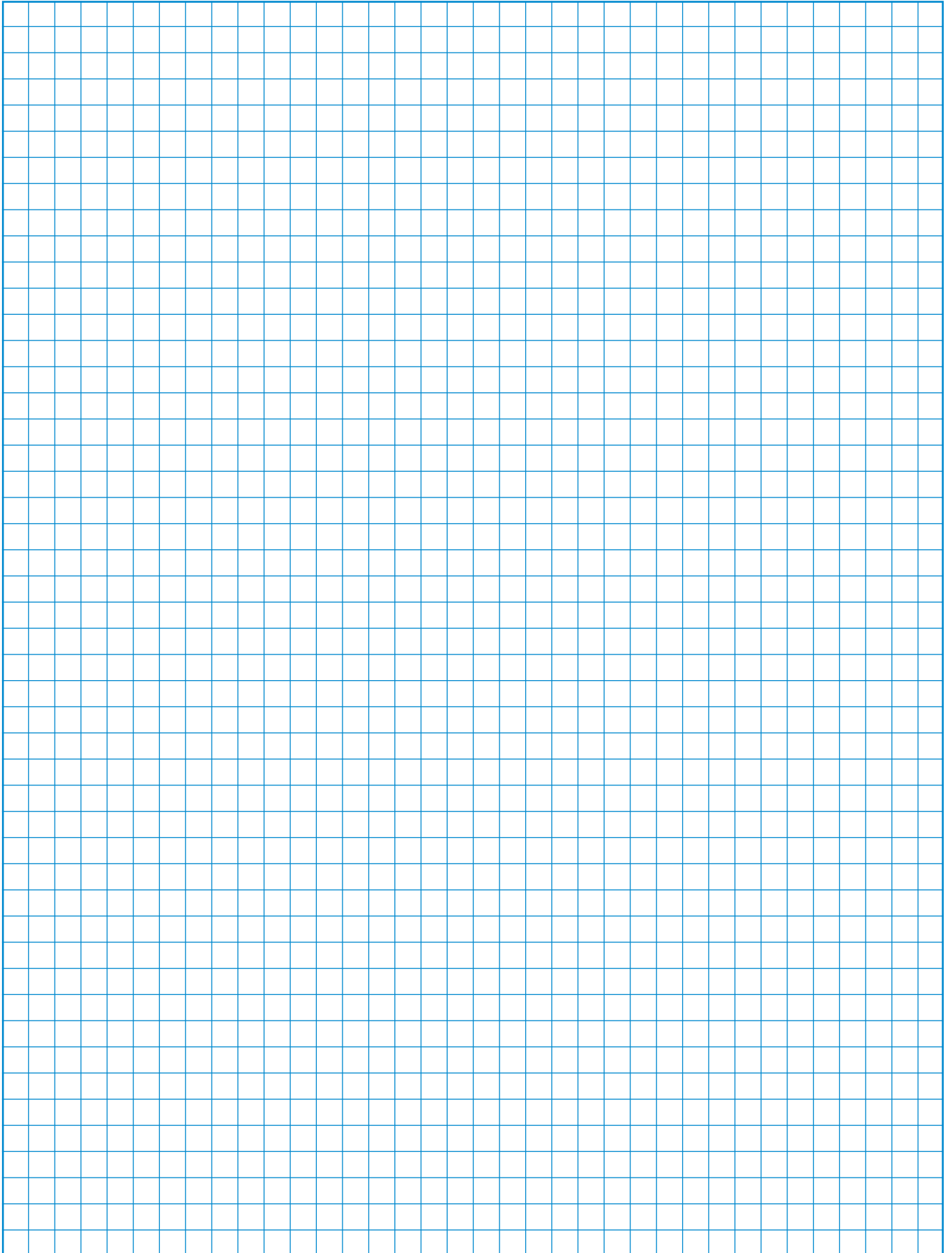
When ordering special switches and escutcheon plates it is advisable to use our order form, as illustrated. The customer's requirements are shown in blue as an example.

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

| POSITIONS | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------|---|---|---|---|---|---|---|
| 1 | | X | X | | | | |
| 2 | | | | | | X | |
| 3 | | X | | X | | | |
| 4 | | | | | X | | |
| 5 | | X | | | X | X | |
| 6 | | | | | X | | X |
| 7 | | X | | | | X | |

Order forms are available on request.

Notes:





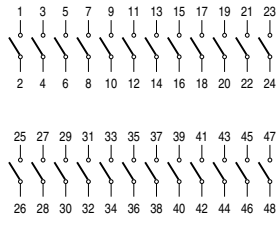
[< back to table of contents >](#)

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|



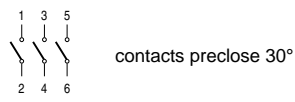
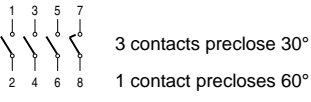
ON/OFF Switches with 60° Switching

Dimensions p. 29



| | | | | | |
|---------|---|---|--------|---|--|
| 1 pole |  F070 |  | A200 | 1 |  <p>1-24 pole</p> |
| 2 pole | | | A201 | 1 | |
| 3 pole | | | A202 | 1 | |
| 4 pole | | | A203 | 1 | |
| 5 pole | | | WAA341 | 2 | |
| 6 pole | | | A342 | 2 | |
| 8 pole | | | A344 | 2 | |
| 10 pole | | | A346 | 3 | |
| 12 pole | | | A348 | 3 | |
| 14 pole | | | WAA350 | 4 | |
| 16 pole | | | WAA352 | 4 | |
| 18 pole | | | WAA354 | 5 | |
| 20 pole | | | WAA356 | 5 | |
| 22 pole | | | WAA358 | 6 | |
| 24 pole | | | WAA360 | 6 | |



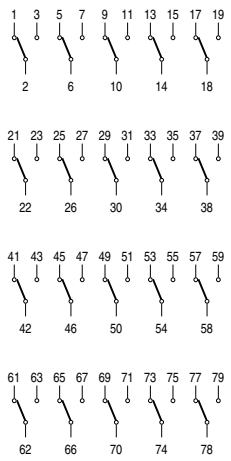
ON/OFF Switches with 90° Switching

| | | | | | |
|---|---|--|------|---|--|
| 1 pole contacts preclose 30° |  F056 |  | A290 | 1 |  <p>contacts preclose 30°</p> <p>1-3 pole</p>  <p>3 contacts preclose 30°</p> <p>1 contact precloses 60°</p> <p>4 pole</p> |
| 2 pole contacts preclose 30° | | | A291 | 1 | |
| 3 pole contacts preclose 30° | | | A292 | 1 | |
| 4 pole 1 contact precloses 60° 3 contacts preclose 30° | | | A293 | 1 | |

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|



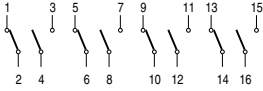
Double-throw Switches without „OFF“ 60° Switching

[Dimensions p.29](#)



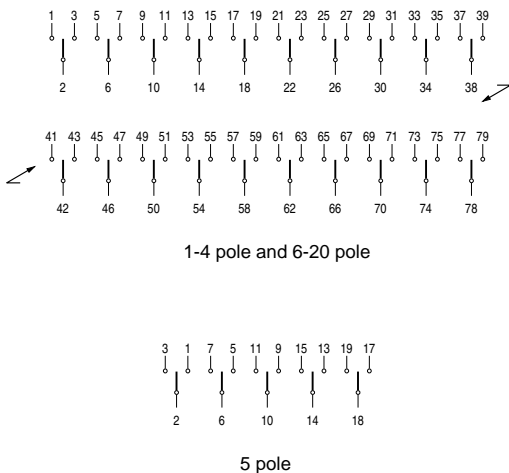
| | | | | | |
|---------|---|---|---------|---|--|
| 1 pole |  <p>F072</p> |  | A220 | 1 |  <p>1-20 pole</p> |
| 2 pole | | | A221 | 1 | |
| 3 pole | | | A222 | 2 | |
| 4 pole | | | A223 | 2 | |
| 6 pole | | | A370 | 3 | |
| 8 pole | | | A372 | 4 | |
| 10 pole | | | WAA 374 | 5 | |
| 12 pole | | | WAA 376 | 6 | |
| 14 pole | | | WAA 660 | 7 | |
| 16 pole | | | WAA 661 | 8 | |
| 18 pole | WAA 662 | 9 | | | |
| 20 pole | WAA 663 | 10 | | | |

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

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



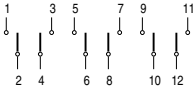



| | | | | | |
|--------|---|---|------|---|---|
| 1 pole |  <p>F072</p> |  | A720 | 1 |  <p>1-4 pole</p> |
| 2 pole | | | A721 | 1 | |
| 3 pole | | | A722 | 2 | |
| 4 pole | | | A723 | 2 | |

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



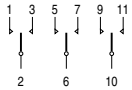
| | | | | | |
|---------|---|---|---------|---|--|
| 1 pole |  <p>F071</p> |  | A210 | 1 |  <p>1-4 pole and 6-20 pole</p> <p>5 pole</p> |
| 2 pole | | | A211 | 1 | |
| 3 pole | | | A212 | 2 | |
| 4 pole | | | A213 | 2 | |
| 5 pole | | | A361 | 3 | |
| 6 pole | | | A362 | 3 | |
| 8 pole | | | WAA 364 | 4 | |
| 10 pole | | | WAA 366 | 5 | |
| 12 pole | | | WAA 368 | 6 | |
| 14 pole | | | WAA 655 | 7 | |
| 16 pole | WAA 656 | 8 | | | |
| 18 pole | WAA 657 | 9 | | | |
| 20 pole | WAA 658 | 10 | | | |

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Double-throw Switches with Center „OFF“ and electrically isolated contacts [Dimensions p.29](#)

| | | | | | |
|---|---|---|-------------------------|-------------|---|
| 1 pole 2 pole 3 pole |  F071 |  | A710 A711 A712 | 1 1 2 |  1-3 pole |
| 1 pole with spring return to center 2 pole with spring return to center 3 pole with spring return to center |  F025 |  | A714 A715 WAA 716 | 1 1 2 |  1-3 pole |

Double-throw Switches with Spring Return to Center



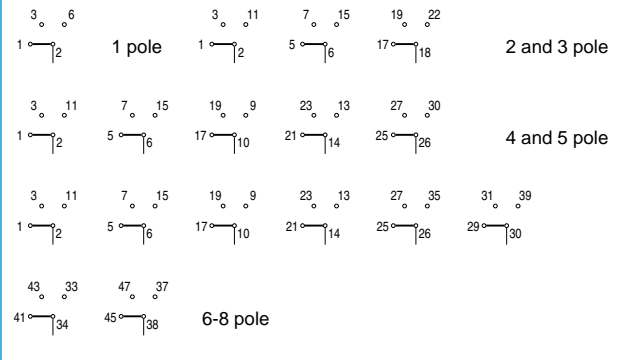


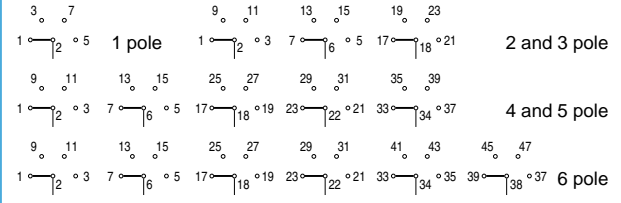


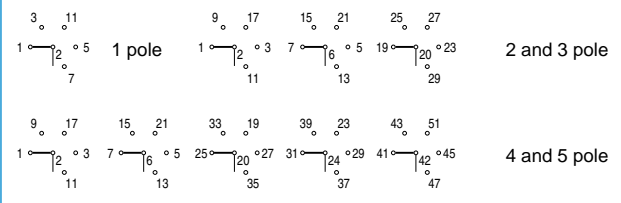


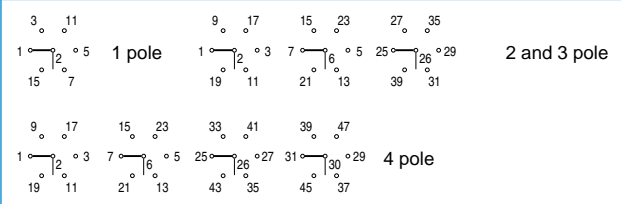


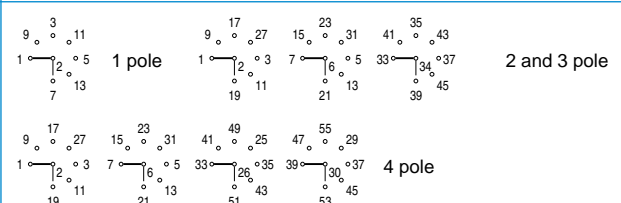


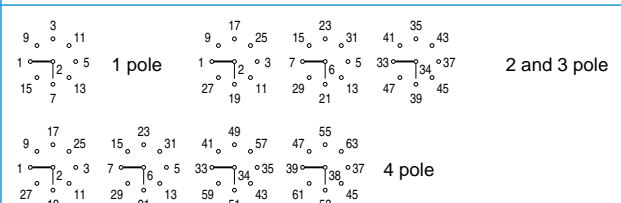


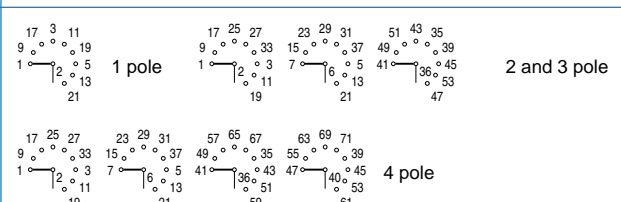
| | | | | | |
|---|---|---|----------------------|-------------|---|
| 1 pole with spring return to center 2 pole with spring return to center 3 pole with spring return to center |  F025 |  | A214 A215 A216 | 1 1 2 |  1-3 pole |
|---|---|---|----------------------|-------------|---|

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Multi-step Switches without „OFF“

[Dimensions p.29](#)

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

| | | | | | |
|---|---|---|--|----------------------------|--|
| 1 pole 3 Step 2 pole 3 pole |  <p>F076</p> |  | A230 A250 A270 | 1 2 3 |  |
| 1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole |  <p>F077</p> |  | A231 A251 A271 A477 WAA 485 WAA 490 | 1 2 3 4 5 6 |  |
| 1 pole 5 Step 2 pole 3 pole 4 pole 5 pole |  <p>F078</p> |  | A232 A252 WAA 272 WAA 478 WAA 676 | 2 3 4 5 7 |  |
| 1 pole 6 Step 2 pole 3 pole 4 pole |  <p>F079</p> |  | A233 WAA 253 WAA 273 WAA 479 | 2 3 5 6 |  |
| 1 pole 7 Step 2 pole 3 pole 4 pole |  <p>F110</p> |  | WAA 234 WAA 254 WAA 274 WAA 670 | 2 4 6 7 |  |
| 1 pole 8 Step 2 pole 3 pole 4 pole |  <p>F111</p> |  | WAA 235 WAA 255 WAA 275 WAA 671 | 2 4 6 8 |  |
| 1 pole 9 Step 2 pole 3 pole 4 pole |  <p>F010</p> |  | WAA 236 WAA 256 WAA 276 WAA 672 | 3 5 7 9 |  |

Switch Function and Configuration

A Switches

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Multi-step Switches without „OFF“

Dimensions p. 29



| | | | | | | |
|----------------------------|--|--|-------------------------------|-------------|----------|--------------|
| 1 pole 2 pole 3 pole | | | WAA 237 WAA 257 WAA 277 | 3 5 8 | | 2 and 3 pole |
| 1 pole 2 pole 3 pole | | | WAA 238 WAA 258 WAA 278 | 3 6 9 | | 2 and 3 pole |
| 1 pole 2 pole 3 pole | | | WAA 239 WAA 259 WAA 279 | 3 6 9 | | 2 and 3 pole |

Multi-step Switches with „OFF“




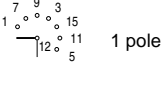
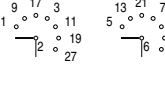
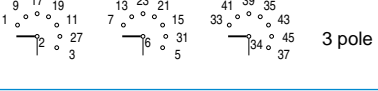



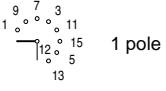
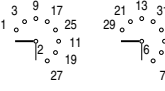
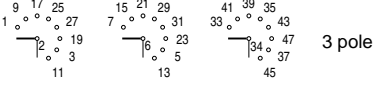



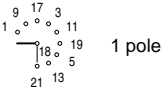
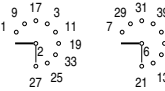
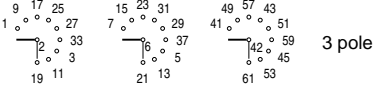



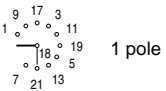
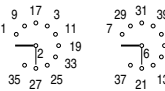
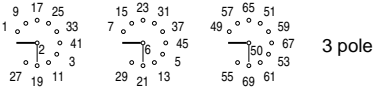



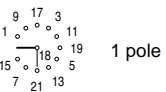
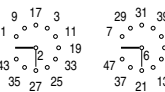
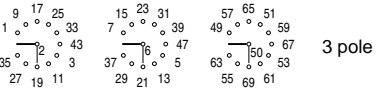



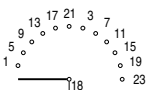
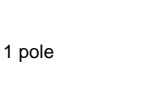
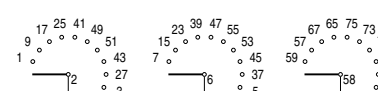


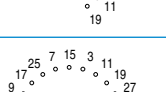


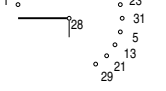
| | | | | | | |
|--------------------------------------|--|--|---|------------------|--------------|-----------------------------------|
| 1 pole 2 pole 3 pole 5 pole | | | A240-600 A260-600 A280-600 WAA 486 | 1 1 2 3 | | 1- and 2 pole 3 and 5 pole |
| 1 pole 2 pole 3 pole 5 pole | | | A241-600 A261-600 A281-600 WAA 487 | 1 2 3 4 | | 2 and 3 pole 5 pole |
| 1 pole 2 pole 3 pole | | | A242-600 WAA 262 WAA 282 | 1 2 3 | | 2 and 3 pole |
| 1 pole 2 pole 3 pole | | | A243-600 WAA 263 WAA 283 | 2 3 5 | | 2 and 3 pole |
| 1 pole 2 pole 3 pole | | | A244-600 WAA 264 WAA 284 | 2 3 5 | | 2 and 3 pole |

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

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Multi-step Switches with „OFF“

[Dimensions p.29](#)



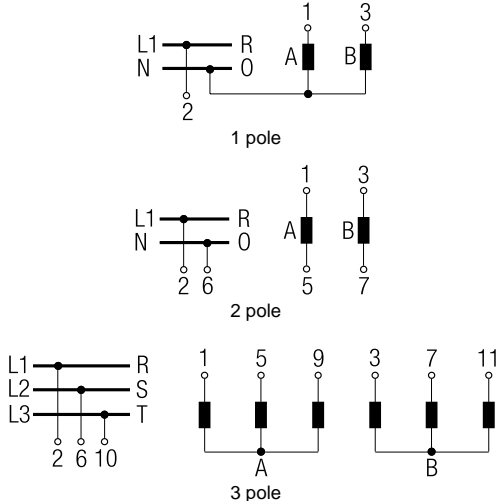


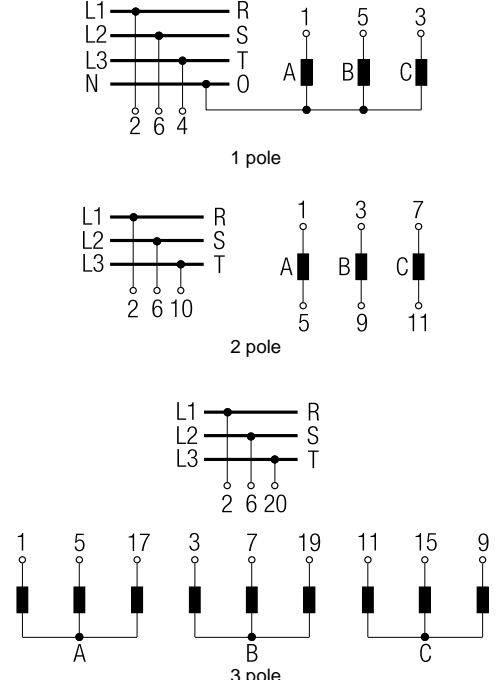
| | | | | | |
|----------------------------|--|---|--|--------------|--|
| 1 pole 2 pole 3 pole |   |  | WAA 245 WAA 265 WAA 285 | 2 4 6 |  1 pole  2 pole  3 pole |
| 1 pole 2 pole 3 pole |   |  | WAA 246 WAA 266 WAA 286 | 2 4 6 |  1 pole  2 pole  3 pole |
| 1 pole 2 pole 3 pole |   |  | WAA 247 WAA 267 WAA 287 | 3 5 8 |  1 pole  2 pole  3 pole |
| 1 pole 2 pole 3 pole |   |  | WAA 248 WAA 268 WAA 288 | 3 5 9 |  1 pole  2 pole  3 pole |
| 1 pole 2 pole 3 pole |   |  | WAA 249 WAA 269 WAA 289 | 3 6 9 |  1 pole  2 pole  3 pole |
| 1 pole 2 pole 3 pole |   |  | WAA 630 WAA 635 WAA 644 | 3 7 11 |  1 pole  2 pole  2 and 3 pole |
| 1 pole |  |  | WAA 631 | 4 |  1 pole |
| 1 pole |  |  | WAA 632 | 5 |  1 pole |

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

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

General Application Switches

[Dimensions p.29](#)



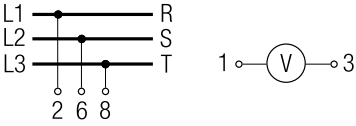


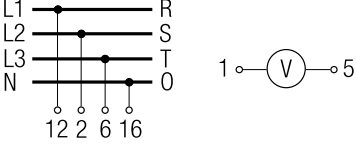


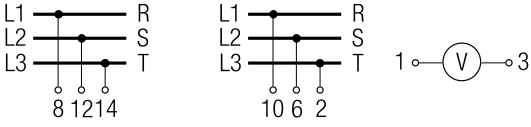
| | | | | | |
|--|--|--|--|----------------------|---|
| <p>1 pole 2 Gang 2 pole 3 pole</p> <p>Switching sequence: 0, A, A+B</p> |  <p>F075</p> |  | <p>A310-600 A312-600 WAA 314</p> | <p>1 1 2</p> |  <p>1 pole</p> <p>2 pole</p> <p>3 pole</p> |
| <p>1 pole 3 Gang 2 pole 3 pole</p> <p>Switching sequence: 0, A, A+B, A+B+C</p> |  <p>F001</p> |  | <p>A311-600 WAA 313 WAA 315</p> | <p>1 2 3</p> |  <p>1 pole</p> <p>2 pole</p> <p>3 pole</p> |

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

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Voltmeter Switches with „OFF“

[Dimensions p.29](#)

| | | | | | |
|--|---|---|--------|---|---|
| 3 phase to phase |  |  | A004 | 1 |  |
| 3 phase to phase and 3 phase to neutra |  |  | A007 | 2 |  |
| 2 separate 3 phase with center „OFF“ |  |  | WAA008 | 2 |  |



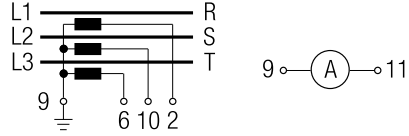
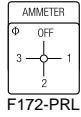

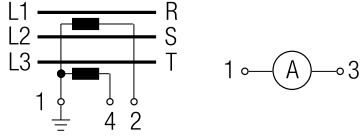
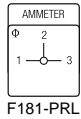

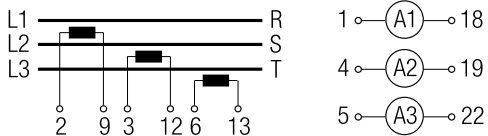


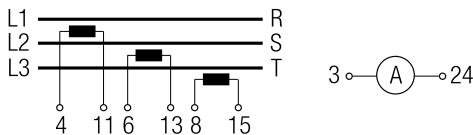
< back to table of contents >

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Ammeter Switches

[Dimensions p.29](#)





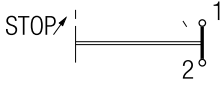





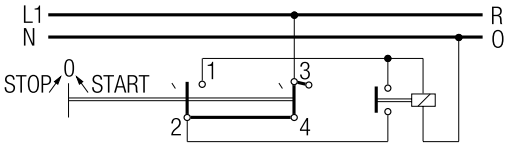


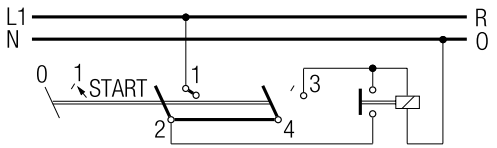


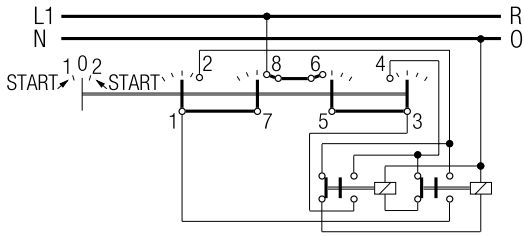
| | | | | | |
|--|---|---|--------|---|--|
| Single pole with 3 current transformers with „OFF“ 360° rotation |  F059 |  | A048 | 2 |  |
| Single pole with 2 current transformers (3 readings) |  F172-PRL |  | WAA021 | 1 |  |
| 2 pole, 3 current transformers |  F181-PRL |  | WAA019 | 3 |  |
| |  F059 |  | A038 | 3 |  |

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

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|

Control Switches

[Dimensions p.29](#)

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



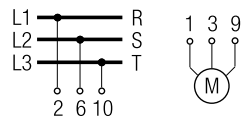
< back to table of contents >

| Function | Escutch. Plate | Handle | Code | Stages | Connection Diagram |
|----------|----------------|--------|------|--------|--------------------|
|----------|----------------|--------|------|--------|--------------------|



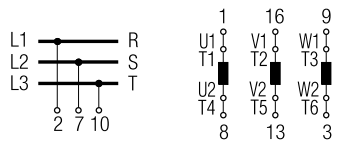


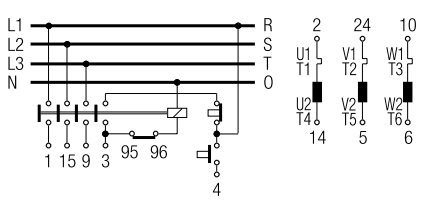
Motor Reversing Switches

Dimensions p. 29



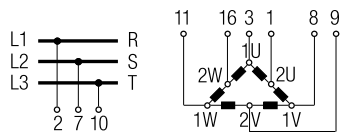


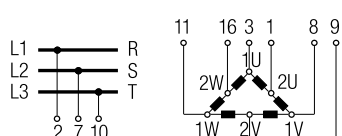


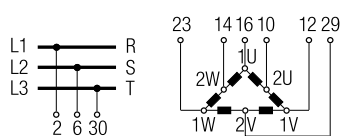


| | | | | | |
|---------|---|---|------|---|---|
| 3-polig |  |  | A401 | 2 |  |
|---------|---|---|------|---|---|



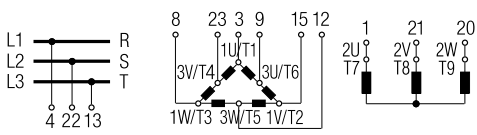
Star-delta Switches

| | | | | | |
|---|---|---|--------|---|---|
| Off-star-delta |  |  | A410 | 2 |  |
| With auxiliary contact closed in „OFF“ position |  |  | WAA416 | 3 |  |

Motor Control Switches





| | | | | | |
|--|---|---|------|---|--|
| 2 speed single winding |  |  | A440 | 2 |  |
| 2 speed single winding with center „OFF“ |  |  | A441 | 2 |  |
| 2 speed single winding reversing |  |  | A442 | 4 |  |

Polumschalter



| | | | | | |
|---------------------------------------|---|---|--------|---|--|
| 3 speed 2 winding 0 - AΔ - BY - AY |  |  | WAA457 | 3 |  |
|---------------------------------------|---|---|--------|---|--|

| | | | | |
|---------------------------------|-------------|---------------------|-----|--------------|
| Four Hole Panel Mounting | Code | A11 AD11 AD12 | A25 | A11C A25C |
|---------------------------------|-------------|---------------------|-----|--------------|

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

| | | | | | |
|---|---|------------|--------|--------|--------|
|  | <p>Panel Mounting</p> <p>Four hole panel mounting, Protection IP 40</p> <p>Four hole panel mounting, Protection IP 65/67/69k</p> | E EF | ● ● | ● ● | ● ● |
|  | <p>Panel and base mounting</p> <p>Four hole panel mounting, Protection IP 40</p> <p>Four hole panel mounting, Protection IP 65/67/69k</p> | ER ERF | ● ● | ● ● | ● ● |
|  | <p>Panel mounting using larger escutcheon plate and handle</p> <p>Four hole panel mounting, Protection IP 40</p> <p>Four hole panel mounting, Protection IP 65/67/69k</p> | EG EGF | ● ● | ● ● | |
|  | <p>Panel mounting with heavy duty stop and metal shaft</p> <p>Four hole panel mounting, Protection IP 40 Mounting plate, escutcheon plate and handle of size S1</p> <p>Four hole panel mounting, Protection IP 40 Mounting plate, escutcheon plate and handle of size S1 and 6 mm square metal shaft</p> | KN1 KD1 | ● ● | ● ● | |

| | | | | |
|----------------------|-------------|---------------------|-----|--------------|
| Base Mounting | Code | A11 AD11 AD12 | A25 | A11C A25C |
|----------------------|-------------|---------------------|-----|--------------|

| | | | | | |
|---|--|-----|---|---|---|
|  <p>Base mounting</p> <p>Base mounting - four hole, Protection IP 40</p> | | VE | ● | ● | ● |
|  <p>Snap-on base mounting for track EN 50022, Protection IP 40</p> | | VE1 | ● | ● | |

Handles

| Type | Color | Code | Size | |
|------|-------|------|------|----|
| | | | S1 | S2 |

| Type | Color | Code | Size | |
|------|-------|------|------|----|
| | | | S1 | S2 |

| | | | | |
|---|--------------|--------------|------------|--|
| <p>R-Handle</p>  | black red | G001 G002 | ● ● ● ● | |
| <p>F-Handle</p>  | black red | G221 G222 | ● ● ● ● | |
| <p>S-Handle</p>  | black red | G301 G302 | ● — ● — | |
| <p>P-Handle</p>  | black red | G211 G212 | ● ● ● ● | |
| <p>O-Handle</p>  | black red | G321 G322 | ● — ● — | |

| | | | | |
|--|--------------|--------------|------------|--|
| <p>I-Handle</p>  | black red | G251 G252 | ● ● ● ● | |
| <p>B-Handle</p>  | black red | G521 G522 | ● — ● — | |
| <p>L-Handle</p>  | black red | G501 G502 | ● — ● — | |
| <p>K-Handle</p>  | black red | G411 G412 | ● ● ● ● | |

< back to table of contents >

Escutcheon Plates



Square and rectangular escutcheon plates are available for each size of switch. The escutcheon plate consists of a frame and a faceplate having the switch positions which is then embossed with hot-foil backing. The escutcheon plate frame is an essential part of the switch and serves as a bearing surface for the handle. If the switch is to be mounted without an escutcheon plate we would recommend 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 | F334 | F335 |
| 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 | |

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

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 | | | | | | | | | | | | | | | | | |

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

90° switching

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

Miscellaneous

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

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

| | | | | |
|-----------------------|-------------|---------------|---------------|-------------|
| Selection Data | A11 A11C | AD11 AD11C | AD12 AD12C | A25 A25C |
|-----------------------|-------------|---------------|---------------|-------------|

| | | | | | | | |
|---|--|------------------------------------|---|--------------------------------------|--|---|--|
| Rated Insulation Voltage U_i | IEC 60947-3 ¹ VDE 0660 part 107 ¹ UL/Canada min. operational voltage | V V V | 690 600 20 | 600 600 1 | 600 600 6 | 690 600 20 | |
| Rated Impulse Withstand Voltage U_{imp} | | kV | 6 | on request | on request | 6 | |
| Rated Thermal Current I_u/I_{th} | IEC 60947-3 VDE 0660 part 107 UL/Canada | A A | 20 10 | 6 6 | 6 6 | 25 25 ⁵ | |
| Rated Operational Current I_e | | | | | | | |
| AC-21A | Switching of resistive loads, including moderate overloads | IEC 60947-3 VDE 0660 part 107 | 1 V 6 V 12 V 24/48 V 110/220 V 380/440 V 500/600 V 660/690 V | A A A A A A A A | – 6 3 2 20 20 20 20 20 | – – 6 6 5/4 3/2 1,3/1 0,8/0,5 – | – – – – 25 25 25 25 25 |
| AC-22A | Switching of combined resistive or low inductive loads including moderate overloads | IEC 60947-3 VDE 0660 part 107 | 220 V-500 V 660 V-690 V | A A | 20 16 | – – | 25 25 |
| AC-15 | Switching of control devices, contactors, valves etc. | IEC 60947-5-1 VDE 0660 part 200 | 220 V-240 V 380 V-440 V | A A | 6 4 | – – | 8 5 |
| Pilot Duty | UL/Canada | Heavy | VAC | 600 | – | – | 600 |
| Ampere Rating Resistive or low inductive loads | UL/Canada | | A | 10 | see AC-21A | see AC-21A | 25 |
| Power loss per contact at I_u Resistance to vibration Resistance to shock | | | W | 0,9 | 0,5 on request on request | 0,2 | 0,7 |
| Short Circuit Protection Max. fuse size Rated short-time withstand current | (gG-characteristic) (1s-current) | A A | 20 120 | 6 45 | 6 75 | 35 220 | |
| DC Switching Capacity² | | | | | | Rated Operational Current I_e | |
| No. of series contacts | 1 2 3 4 5 6 8 | | | | | | A11 AD11 AD12 A25 |
| Resistive loads $T \leq 1$ ms, DC-1 | 1 2 3 4 5 6 8 6 12 18 24 30 36 48 12 24 36 48 60 72 96 24 48 72 96 120 144 190 48 96 140 190 240 290 360 60 120 180 240 300 360 450 110 220 330 440 550 660 – 220 440 660 – – – – 240 480 – – – – – 440 660 – – – – – 550 – – – – – – 600 – – – – – – | | | | | | – 4 – – – 2,5 4 – – 1,5 3 – – 0,8 2,2 16 10 0,3 1,2 15 3,5 0,27 1 5 0,8 0,2 0,6 1,2 0,35 0,1 0,3 0,38 0,3 0,08 0,25 0,35 0,25 0,05 0,15 0,25 0,15 0,03 0,1 0,2 0,1 0,02 0,1 – |
| Inductive loads $T = 50$ ms | 24 48 72 96 120 144 190 30 60 90 120 150 180 240 48 95 140 190 240 290 350 60 120 180 240 300 360 450 110 220 330 440 550 660 – | | | | | | 10 – – 16 5 – – 7 A 1,8 – – 2,5 0,7 – – 1 0,3 – – 0,4 |
| Min. Ambient Temperature of Stage Max. Ambient Temperature of Stages^{3,4} | open at 100 % I_u/I_{th} enclosed at 100 % I_{the} | | | | | | –25 °C (valid only without optional extra) 55 °C during 24 hours with peaks up to 60 °C 35 °C during 24 hours with peaks up to 40 °C |

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

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. ²DC switching capacity applies to ON/OFF switches. Switching capacity for other configurations on request. ³For electromagnetic optional extras see additional data in Catalog 101. ⁴Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible). ⁵A25-4 and A25C-4: 22A

| | | | | |
|-----------------------|-------------|---------------|---------------|-------------|
| Selection Data | A11 A11C | AD11 AD11C | AD12 AD12C | A25 A25C |
|-----------------------|-------------|---------------|---------------|-------------|



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

| Rated Utilization Category | | IEC 60947-3 VDE 0660 part 107 | | | | | | |
|--|---|----------------------------------|-----------------|-------|-------|-------|-------|-----|
| AC-2 | Slip ring motor starting, reversing and plugging, star-delta starting | 3 phase | 220 V-240 V | kW | 4 | – | – | 5,5 |
| | | 3 pole | 380 V-440 V | | 7,5 | – | – | 11 |
| | | | 500 V | | 10 | – | – | 15 |
| | | | 660 V-690 V | | 10 | – | – | 13 |
| AC-3 | Direct-on-line starting, star-delta starting A11, A25 | 3 phase | 220 V-240 V | kW | 3 | – | – | 4 |
| | | 3 pole | 380 V-440 V | | 5,5 | – | – | 7,5 |
| | | | 500 V | | 5,5 | – | – | 7,5 |
| | | | 660 V-690 V | | 5,5 | – | – | 7,5 |
| | | 1 phase | 110 V | kW | 0,6 | – | – | 1,5 |
| | | 2 pole | 220 V-240 V | | 2,2 | – | – | 3 |
| | 380 V-440 V | 3 | – | – | 3,7 | | | |
| AC-4 | Direct-on-line starting, reversing, plugging and inching | 3 phase | 220 V-240 V | kW | 0,55 | – | – | 1 |
| | | 3 pole | 380 V-440 V | | 1,5 | – | – | 2,2 |
| | | | 500 V | | 1,5 | – | – | 2,5 |
| | | | 660 V-690 V | | 1,5 | – | – | 2,5 |
| | | 1 phase | 110 V | kW | 0,15 | – | – | 0,2 |
| | | 2 pole | 220 V-240 V | | 0,25 | – | – | 0,5 |
| | 380 V-440 V | 0,55 | – | – | 0,8 | | | |
| AC-23A | Frequent switching of motors or other high inductive loads | 3 phase | 220 V-240 V | kW | 3,7 | – | – | 5,5 |
| | | 3 pole | 380 V-440 V | | 7,5 | – | – | 11 |
| | | | 500 V | | 7,5 | – | – | 11 |
| | | | 660 V-690 V | | 7,5 | – | – | 11 |
| | | 1 phase | 110 V | kW | 0,75 | – | – | 1,5 |
| | | 2 pole | 220 V-240 V | | 2,2 | – | – | 3 |
| | 380 V-440 V | 3,7 | – | – | 5,5 | | | |
| Ratings | | UL/Canada | | | | | | |
| | Standard motor load DOL-Rating (similar AC-3) | 120 V | HP | 1 | – | – | 1,5 | |
| | | 240 V | | 1 | – | – | 3 | |
| | | 480 V | | 1 | – | – | 7,5 | |
| | | 600 V | | 1 | – | – | 10 | |
| | | 120 V | HP | 0,5 | – | – | 0,75 | |
| | | 240 V | | 1 | – | – | 1,5 | |
| | | 277 V | | 1 | – | – | 2 | |
| | | 480 V | | 1 | – | – | 3 | |
| | | 600 V | | 1 | – | – | 5 | |
| | | | | | | | | |
| Max. Permissible Wire Gage - Use copper wire only | | | | | | | | |
| Single-core or stranded wire | | | mm ² | 2,5 | 2,5 | 2,5 | 4 | |
| | | | AWG | 12 | 12 | 12 | 10 | |
| Flexible wire (sleeving in accordance with DIN 46228) | | | mm ² | 2,5 | 2,5 | 2,5 | 2,5 | |
| | | | AWG | (2,5) | (2,5) | (2,5) | (2,5) | |
| Flexible AWG wires (without sleeve) | | | AWG | 14 | 14 | 14 | 12 | |

Tightening torque of screws

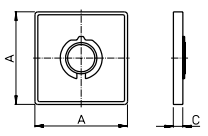
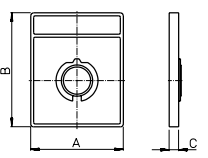
| Type | Tightening torque | | Type | Tightening torque | | Type | Tightening torque | |
|-------|-------------------|---------|--------|-------------------|----------|-------|-------------------|----------|
| A11 | 0,8 Nm | 7 lb-in | A25 | 1,3 Nm | 12 lb-in | A25M | 1,3 Nm | 12 lb-in |
| A11-1 | 0,8 Nm | 7 lb-in | A25-4 | 1,3 Nm | 12 lb-in | A25X | 1,3 Nm | 12 lb-in |
| A11C | 0,8 Nm | 7 lb-in | A25C | 1,3 Nm | 12 lb-in | AD11 | 0,8 Nm | 7 lb-in |
| A11L | 0,8 Nm | 7 lb-in | A25C-4 | 1,3 Nm | 12 lb-in | AD11C | 0,8 Nm | 7 lb-in |
| A11M | 0,8 Nm | 7 lb-in | A25L | 1,3 Nm | 12 lb-in | AD12 | 0,8 Nm | 7 lb-in |

International Standards and Approvals

| Country | Authority | Mark or Standard | A11 | AD11 | AD12 | A25 |
|---|---------------------------|--|-----|------|------|-----|
| USA/Canada | Underwriters Laboratories |  ¹ | | ● | ● | |
| | |  ³ | ● | | | ● |
| Europe | | EN 60947 ² | + | + | + | + |
| International Electrical Commission (IEC) Recommendation | | IEC 60947 ² | + | + | + | + |
| ● Switch approved + Switch conforms to requirements | | | | | | |
| ¹ Approved under the "Component Program" (UL-Recognized Industrial Component). File No. E60262, Category Control Number NRNT2 and NRNT8. ² Industrial switchgear is not required to bear a symbol but must conform to requirements. By referring to the specific specification on the product the manufacturer implies that these requirements have been met. ³ Approved under the "Listing-Program". File No. E35541, Guide No. NLRV and NLRV7. | | | | | | |

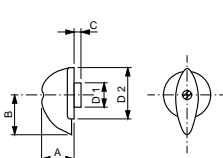
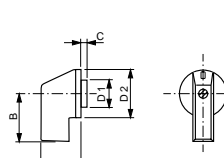
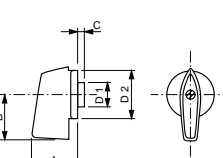
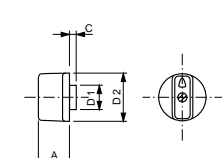
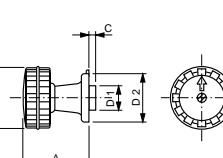
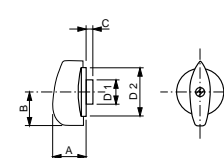
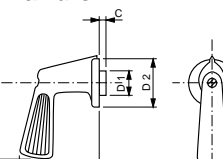
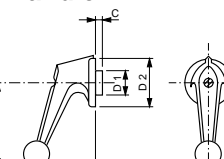
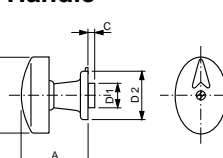
Dimensions mm
 inch

| Escutcheon Plates and Handles | Size | A | B | C | D1ø | D2ø | Escutcheon Plates and Handles | Size | A | B | C | D1ø | D2ø |
|-------------------------------|------|---|---|---|-----|-----|-------------------------------|------|---|---|---|-----|-----|
|-------------------------------|------|---|---|---|-----|-----|-------------------------------|------|---|---|---|-----|-----|

| PE-Escutcheon Plate | | | | | | | PR-Escutcheon Plate | | | | | | |
|---|-----------|------|--|-----|--|--|--|-----------|------|------|-----|--|--|
|  | S1 | 64 | | 7,4 | | |  | S1 | 64 | 78,8 | 7,4 | | |
| | | 2.52 | | .29 | | | | | 2.52 | 3.10 | .29 | | |
| | S2 | 88 | | 8,5 | | | | | | | | | |
| | | 3.46 | | .34 | | | | | | | | | |

Dimensions for the E, EF, ER, ERF, EG, EGF, KN1, KD1, VE and VE1 escutcheon plates.
Dimensions of the escutcheon plates used for other mounting, refer to page 29.

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

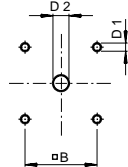
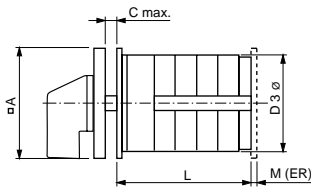
| | | | |
|--|---|---|---|
| R-Handle  | S1 23 31,5 5 18,2 36 0.91 1.24 .20 .72 1.42 <hr/> S2 30 42 5 25,4 50,0 1.18 1.65 .20 1.00 1.97 | I-Handle  | S1 27 31,8 2,5 18,2 36 1.06 1.25 .10 .72 1.42 |
| F-Handle  | S1 34 34 5 18,2 36 1.34 1.34 .20 .72 1.42 <hr/> S2 44,7 45 5 25,4 50 1.76 1.77 .20 1.00 1.97 | B-Handle  | S1 23 5 18,2 36 .91 .20 .72 1.42 |
| S-Handle  | S1 50 45 5 18,2 36 1.97 1.77 .20 .72 1.42 | L-Handle  | S1 24 24,1 5 18,2 36 .95 .95 .20 .72 1.42 |
| P-Handle  | S1 58 57,5 5 18,2 36 2.28 2.26 .20 .72 1.42 <hr/> S2 70 68 5 25,4 50 2.76 2.68 .20 1.00 1.97 | K-Handle  | S1 54 64 5 18,2 36 2.13 2.52 .20 .72 1.42 <hr/> S2 55 71 5 25,4 50 2.17 2.80 .20 1.00 1.97 |
| O-Handle  | S1 50 56 5 18,2 36 1.97 2.2 .20 .72 1.42 | | |

Dimensions mm
 inch

| | | | |
|---------------------------------|-------------|------------|-------------|
| Four Hole Panel Mounting | A11 | | |
| | AD11 | | A11C |
| | AD12 | A25 | A25C |

Dimensions in brackets for rear mounting plate with ER

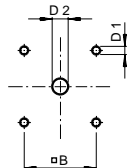
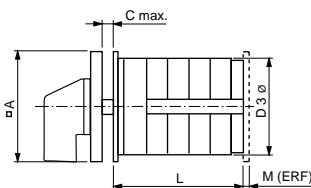
E, ER



| | E | | |
|----|------------------|------------------|------------------|
| A | 64 2.52 | 64 (88) 2.52 | 88 3.46 |
| B | 48 1.89 | 48 (68) 1.89 | 68 2.68 |
| C | 4 .16 | 4 .16 | 5.5 .22 |
| D1 | 5 (4.1) .20 | 5 (5.4) .20 | 6 (5.4) .24 |
| D2 | 10-22 .39-.87 | 10-22 .39-.87 | 13-17 .51-.67 |
| D3 | 60 2.36 | 70 2.76 | 84 3.31 |

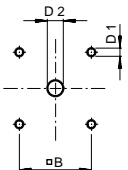
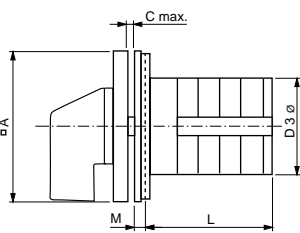
Dimensions in brackets for rear mounting plate with ERF

EF, ERF



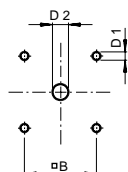
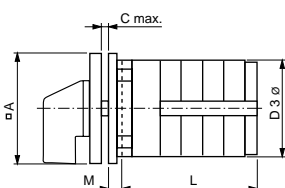
| | | | |
|----|------------------|------------------|--------------------|
| A | 4 2.52 | 64 (88) 2.52 | 88 3.46 |
| B | 48 1.89 | 48 (68) 1.89 | 68 2.68 |
| C | 4 .16 | 4 .16 | 5.5 .22 |
| D1 | 5 (4.1) .20 | 5 (5.4) .20 | 6 (5.4) .24 |
| D2 | 19-22 .75-.87 | 19-22 .75-.87 | 26-30 1.02-1.18 |
| D3 | 60 2.36 | 70 2.76 | 84 3.31 |

EG, EGF



| | | | |
|----|--------------------------|---------------------------|---|
| A | 88 3.46 | 88 3.46 | - |
| B | 68 2.68 | 68 2.68 | - |
| C | 5.5 .22 | 5.5 .22 | - |
| D1 | 6 .24 | 6 .24 | - |
| D2 | 13-30 .51-1.18 | 13-30 .51-1.18 | - |
| D2 | EG 26-30 1.02-1.18 | EGF 26-30 1.02-1.18 | - |
| D3 | 60 2.36 | 70 2.76 | - |

KN1, KD1



| | | |
|----|------------------|------------------|
| A | 60 2.36 | 60 2.36 |
| B | 48 1.89 | 48 1.89 |
| C | 4 .16 | 4 .16 |
| D1 | 5 .20 | 5 .20 |
| D2 | 10-22 .39-.87 | 10-22 .39-.87 |
| D3 | 60 2.36 | 70 2.76 |

< back to table of contents >

Dimensions mm
inch

| | | | |
|----------------------|------|-----|------|
| Base Mounting | A11 | | |
| | AD11 | | A11C |
| | AD12 | A25 | A25C |

Dimensions in brackets for rear mounting plate with VE

| | | | |
|----|------------------|------------------|-------------------|
| A | 64 2.52 | 64 (88) 2.52 | 88 3.46 |
| B | 48 1.89 | 48 (68) 1.89 | 68 2.68 |
| C | 13,5 .53 | 13,5 .53 | 16 .63 |
| D1 | 5 (4.1) .20 | 5 (5.4) .20 | 6 (5.4) .24 |
| D2 | 10-22 .39-.87 | 10-22 .39-.87 | 13-30 .51-1.18 |
| D3 | 60 2.36 | 70 2.76 | 84 3.31 |
| D4 | 4,1 .16 | 4,1 .16 | 5,4 .21 |
| E | 70 2.76 | 70 2.76 | - |
| G | 30 1.18 | 30 1.18 | - |
| K | 30 1.18 | 30 1.18 | - |
| H | 64 2.52 | 88 3.46 | 88 3.46 |

| | | | | | | |
|---------------|---------------------|---------------|----------------------------------|--|------------|------------|
| Length L | A11 AD11 AD12 | A25 | Additional Length M ¹ | A11 AD11 AD12 | A25 | |
| Mounting E | | | Mounting + | switch with latching mechanism size S2 | | |
| No. of stages | | | | ER/ERF | 6,5 .26 | 8,7 .34 |
| 1 | 42,5 1.67 | 43,5 1.71 | | EG/EGF | 0,5 .02 | 0,5 .02 |
| 2 | 55,2 2.17 | 56,2 2.21 | | KN1/KD1 | 7 .28 | 7 .28 |
| 3 | 67,9 2.67 | 68,9 2.71 | | VE | 5 .20 | 5 .20 |
| 4 | 80,6 3.17 | 81,6 3.21 | | EL1 | 11 .43 | 11 .43 |
| 5 | 93,3 3.67 | 94,3 3.71 | | EL2 | 11 .43 | 11 .43 |
| 6 | 106 4.17 | 107 4.21 | | EL4 | 11 .43 | 11 .43 |
| 7 | 118,7 4.67 | 119,7 4.71 | | A11C/A25C | 8,2 .32 | 8,2 .32 |
| 8 | 131,4 5.17 | 132,4 5.21 | | | | |
| 9 | 144,1 5.67 | 145,1 5.71 | | | | |
| 10 | 156,8 6.17 | 157,8 6.21 | | | | |
| 11 | 169,5 6.67 | 170,5 6.71 | | | | |
| 12 | 182,2 7.17 | 183,2 7.21 | | | | |

¹Additional length plus length shown in the E mounting table = overall length

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

The Range of “Blue Line” Switchgear

Technical literature covering the following products is available on request.

| | Catalog Number |
|--|---------------------------|
| Main Switches and Main Switches with Emergency Function 16 A-315 A Maintenance Switches 20 A-315 A Switch Disconnectors 20 A-315 A According to IEC 60947-3, EN 60947-3, VDE 0660 part 107, IEC 60204, EN 60204 and VDE 0113 | 500 |
| CL Switches 10 A-20 A C, CA and CAD Switches 10 A-315 A and L Switches 350 A-2400 A C, CA and CAD switches are designed for universal application. They are recommended for instrument, isolator, double-throw and motor control. L switches are designed for load and off-load applications. They are used to switch resistive or low inductive loads. | 100 |
| Optional Extras and Enclosures The complete product line, a large number of optional extras is available, including door interlocks, push-pull devices, cylinder and padlock attachments, control and indicator devices, AC motor drives, as well as enclosures, both insulated and metal. | 101 |
| A and AD Switches 6 A-25 A A and AD switches have 4 contacts in each switching stage. These switches provide an extensive range of switch functions and require a minimum mounting depth. Up to 36 switching positions are possible, with availability of 48 contacts per 12 stage switch column. | 110 |
| CG, CH and CHR Switches 10 A-25 A Ultra compact CG, CH and CHR switches are ideally suited for control and instrumentation applications. Switch terminals are “finger-proof” and conveniently accessible for wiring and are delivered open. All CG4 switches offer specially designed gold plated contacts or H-bridges with “cross-wire” contact systems, which facilitates their use in electronic circuitry and chemically aggressive environments. | 120 |
| DH, DHR, DK and DKR Switches 6 A-16 A DH, DHR, DK and DKR switches incorporate unique corrosion resistant contacts that permit operation on system voltage as low as 1 V. They have fully enclosed and protected contacts which can be operated either by rotary and/or lateral handle movement. D switches are used in calibration and semiconductor circuits. They are also used for relay and contactor control. | 130 |
| X Switches 80 A-630 A X switches can be applied for load, tap and gang switching duties. They incorporate 6 contacts in each switching stage. Their compact design provides a minimum length dimension for mounting purposes. | 140 |
| KG Switches 20 A-315 A and KH and KHR Switches 16 A-80 A KG, KH and KHR switches are excellent circuit interruptors. They have high through fault and fault making capacities and are especially designed for use as isolators and safety switches for machine tools, distribution panels and switchboards. KG ON/OFF switches offer unusually high dimensioned air and creepage distances between terminals which are designed for time saving “straight-line” wiring. ON/OFF switches are available with up to 8 poles and double-throw switches are available with up to 4 poles. | 150 |
| Push Buttons and Pilot Lights, 22,5 mm Ø A complete range of state-of-the-art push buttons and pilot lights represent an ideal combination of functional security and economical efficiency in a modular design. | 302 |

Australia

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

Austria

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

Belgium, Luxembourg

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

Brazil

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

Canada

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

Cyprus

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

Czech Republic

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

Denmark

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

Finland

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

France

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

Germany

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

Great Britain

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

Greece

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

Hungary

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

Iceland

JOHAN RÖNNING LTD.
Klettgarðar 25
104 REYKJAVÍK
P: +354 5200 800
E: ronning@ronning.is

Republic of Ireland

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

Italy

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

Japan

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

Mexico

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

Netherlands

Kraus & Naimer B.V.
Wegtersweg 38-40, Postbus 199
7556 BR HENGEL0 (Ov.)
P: +31 74 291 9441
F: +31 74 291 98380
E: sales-nl@krausnaimer.com

New Zealand

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

Norway

Kraus & Naimer AB Avd. Norge
Postboks 27 Vollebekk
0516 Oslo
P: +47 22 64 44 20
E: sales-no@krausnaimer.com

Poland

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

Portugal

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

Singapore, India, Middle East – UAE

Kraus & Naimer Pte. Ltd.
115A, Commonwealth Drive
#03-17/23
SINGAPORE 149 596
P: +65 6473 8166
E: sales-sg@krausnaimer.com

Slovenia

SCHRACK TECHNIK D.O.O.
Pameče 175
SI-2380 SLOVENJ GRADEC
P: +386 2 88 392 00
F: +386 2 88 434 71
E: d.goljat@schrack.si

Republic of South Africa

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

Spain

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

Sweden

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

Switzerland

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

Turkey

KARDES ELEKTRİK SANAYİ VE TİCARET A.S.
Yassıoren Mah. Hıfı Sok. No: 4
34277 Arnavutköy-Istanbul-Turkey
P: +90 212 624 92 04 118
F: +90 212 592 48 10
E: info@unalkardes.com.tr

USA

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



Kraus & Naimer



Contact us:

www.krausnaimer.com