

Sample image

## Datasheet

**Article number:** 70015244  
**Designation:** CH10.A401.EF  
**Description:** Switch

|                                                                                                                                                                 |                          |                          |                                                                  |                 |                           |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|------------------------------------------------------------------|-----------------|---------------------------|--|
| IEC 60947-3 EN 60947-3, VDE 0660 Teil 107                                                                                                                       |                          |                          |                                                                  |                 |                           |  |
| Rated insulation voltage Ui                                                                                                                                     |                          |                          |                                                                  |                 |                           |  |
| Voltage (V) AC / DC                                                                                                                                             |                          |                          |                                                                  |                 |                           |  |
| 690 AC / DC                                                                                                                                                     |                          |                          |                                                                  |                 |                           |  |
| Rated uninterrupted current Iu/Ith                                                                                                                              |                          |                          |                                                                  |                 |                           |  |
| Current (A)                                                                                                                                                     | Ambient temperature (°C) | Peak temperature (°C)    | additional requirements                                          |                 |                           |  |
| 20                                                                                                                                                              | 55                       | 60                       | Ambient temperature +55°C during 24 hours with peaks up to +60°C |                 |                           |  |
| Rated operational current Ie                                                                                                                                    |                          |                          |                                                                  |                 |                           |  |
| Utilization category                                                                                                                                            |                          |                          | Voltage (V)                                                      |                 | Current (A)               |  |
| AC-15                                                                                                                                                           |                          |                          | 220 - 240                                                        |                 | 6                         |  |
| AC-15                                                                                                                                                           |                          |                          | 380 - 440                                                        |                 | 4                         |  |
| Rated operational power                                                                                                                                         |                          |                          |                                                                  |                 |                           |  |
| Utilization category                                                                                                                                            |                          | Voltage (V)              | No. of phases                                                    | No. of poles    | Power (kW)                |  |
| AC-3                                                                                                                                                            |                          | 220 - 240                | 3                                                                | 3               | 3                         |  |
| AC-3                                                                                                                                                            |                          | 380 - 440                | 3                                                                | 3               | 5,50                      |  |
| AC-3                                                                                                                                                            |                          | 660 - 690                | 3                                                                | 3               | 5,50                      |  |
| AC-3                                                                                                                                                            |                          | 220 - 240                | 1                                                                | 2               | 2,20                      |  |
| AC-3                                                                                                                                                            |                          | 380 - 440                | 1                                                                | 2               | 3                         |  |
| AC-23A                                                                                                                                                          |                          | 220 - 240                | 3                                                                | 3               | 3,70                      |  |
| AC-23A                                                                                                                                                          |                          | 380 - 440                | 3                                                                | 3               | 7,50                      |  |
| AC-23A                                                                                                                                                          |                          | 660 - 690                | 3                                                                | 3               | 7,50                      |  |
| AC-23A                                                                                                                                                          |                          | 220 - 240                | 1                                                                | 2               | 2,50                      |  |
| AC-23A                                                                                                                                                          |                          | 380 - 440                | 1                                                                | 2               | 3,70                      |  |
| Max. Fuse rating IEC                                                                                                                                            |                          |                          |                                                                  |                 |                           |  |
| Fuse characteristic                                                                                                                                             |                          |                          | No. of Fuses                                                     |                 | Current (A)               |  |
| gG                                                                                                                                                              |                          |                          | 1                                                                |                 | 25                        |  |
| UL60947-4-1 , UL508                                                                                                                                             |                          |                          |                                                                  |                 |                           |  |
| Nominal Voltage                                                                                                                                                 |                          |                          |                                                                  |                 |                           |  |
| Voltage (V) AC / DC                                                                                                                                             |                          |                          |                                                                  |                 |                           |  |
| 600 AC                                                                                                                                                          |                          |                          |                                                                  |                 |                           |  |
| Rated insulation voltage Ui                                                                                                                                     |                          |                          |                                                                  |                 |                           |  |
| Voltage (V) AC / DC                                                                                                                                             |                          |                          |                                                                  |                 |                           |  |
| 600 AC                                                                                                                                                          |                          |                          |                                                                  |                 |                           |  |
| Rated thermal current                                                                                                                                           |                          |                          |                                                                  |                 |                           |  |
| Current (A)                                                                                                                                                     |                          | Ambient temperature (°C) |                                                                  | Additional Text |                           |  |
| 20                                                                                                                                                              |                          | 0 - 40                   |                                                                  | --              |                           |  |
| Horsepower rating                                                                                                                                               |                          |                          |                                                                  |                 |                           |  |
| Across-the-Line Motor Starting                                                                                                                                  | Voltage (V)              | No. of phases            | No. of poles                                                     | Power (HP)      | Ambient temperature [°C]  |  |
| DOL                                                                                                                                                             | 110 - 120                | 1                        | 2                                                                | 0,50            | 40                        |  |
| DOL                                                                                                                                                             | 220 - 240                | 1                        | 2                                                                | 1               | 40                        |  |
| DOL                                                                                                                                                             | 277 - 277                | 1                        | 2                                                                | 2               | 40                        |  |
| DOL                                                                                                                                                             | 440 - 480                | 1                        | 2                                                                | 2               | 40                        |  |
| DOL                                                                                                                                                             | 550 - 600                | 1                        | 2                                                                | 2               | 40                        |  |
| DOL                                                                                                                                                             | 110 - 120                | 3                        | 3                                                                | 1,50            | 40                        |  |
| DOL                                                                                                                                                             | 220 - 240                | 3                        | 3                                                                | 3               | 40                        |  |
| DOL                                                                                                                                                             | 440 - 480                | 3                        | 3                                                                | 5               | 40                        |  |
| DOL                                                                                                                                                             | 550 - 600                | 3                        | 3                                                                | 5               | 40                        |  |
| Pilot duty rating code                                                                                                                                          |                          |                          |                                                                  |                 |                           |  |
| Duty Code                                                                                                                                                       |                          |                          |                                                                  |                 |                           |  |
| A600                                                                                                                                                            |                          |                          |                                                                  |                 |                           |  |
| SCCR / Max. fuse rating                                                                                                                                         |                          |                          |                                                                  |                 |                           |  |
| Conditions of acceptability                                                                                                                                     |                          |                          |                                                                  |                 |                           |  |
| These devices are suitable for use on circuits capable of delivering not more than 5kA rms symmetrical amperes, 600V ac max. when protected by Class RK1 fuses. |                          |                          |                                                                  |                 |                           |  |
| Temp. rating of wire                                                                                                                                            |                          |                          |                                                                  |                 |                           |  |
| Temperature rating (°C)                                                                                                                                         |                          |                          | Current (A) Text                                                 |                 |                           |  |
| 60 - 75                                                                                                                                                         |                          |                          | -- Use copper wire only                                          |                 |                           |  |
| General Use                                                                                                                                                     |                          |                          |                                                                  |                 |                           |  |
| AC / DC                                                                                                                                                         | Voltage (V)              | Current (A)              | No. of phases                                                    | No. of poles    | No. of contacts in series |  |
| AC                                                                                                                                                              | 277                      | 20                       | 1                                                                | 1               | 1                         |  |
| AC                                                                                                                                                              | 600                      | 20                       | 1                                                                | 2               | 1                         |  |

| General Use |             |             |               |              |                           |
|-------------|-------------|-------------|---------------|--------------|---------------------------|
| AC / DC     | Voltage (V) | Current (A) | No. of phases | No. of poles | No. of contacts in series |
| AC          | 600         | 20          | 3             | 3            | 1                         |

## CSA

| Nominal Voltage |  |                     |  |  |  |
|-----------------|--|---------------------|--|--|--|
|                 |  | Voltage (V) AC / DC |  |  |  |
|                 |  | 600 AC              |  |  |  |

| Rated insulation voltage Ui |  |                     |  |  |  |
|-----------------------------|--|---------------------|--|--|--|
|                             |  | Voltage (V) AC / DC |  |  |  |
|                             |  | 600 AC              |  |  |  |

| Rated thermal current |  |             |                          |  |                 |
|-----------------------|--|-------------|--------------------------|--|-----------------|
|                       |  | Current (A) | Ambient temperature (°C) |  | Additional Text |
|                       |  | 20          | 0 - 40                   |  | --              |

## Horsepower rating

| Across-the-Line Motor Starting | Voltage (V) | No. of phases | No. of poles | Power (HP) | Ambient temperature [°C] |
|--------------------------------|-------------|---------------|--------------|------------|--------------------------|
| DOL                            | 110 - 120   | 1             | 2            | 0,50       | 40                       |
| DOL                            | 220 - 240   | 1             | 2            | 1          | 40                       |
| DOL                            | 277 - 277   | 1             | 2            | 2          | 40                       |
| DOL                            | 440 - 480   | 1             | 2            | 2          | 40                       |
| DOL                            | 550 - 600   | 1             | 2            | 2          | 40                       |
| DOL                            | 110 - 120   | 3             | 3            | 1,50       | 40                       |
| DOL                            | 220 - 240   | 3             | 3            | 3          | 40                       |
| DOL                            | 440 - 480   | 3             | 3            | 5          | 40                       |
| DOL                            | 550 - 600   | 3             | 3            | 5          | 40                       |

## Pilot duty rating code

| Duty Code |  |  |  |  |  |
|-----------|--|--|--|--|--|
| A600      |  |  |  |  |  |

| Temp. rating of wire |  |                         |             |  |      |
|----------------------|--|-------------------------|-------------|--|------|
|                      |  | Temperature rating (°C) | Current (A) |  | Text |
|                      |  | 75                      |             |  | --   |

| General Use |             |             |               |              |                           |
|-------------|-------------|-------------|---------------|--------------|---------------------------|
| AC / DC     | Voltage (V) | Current (A) | No. of phases | No. of poles | No. of contacts in series |
| AC          | 277         | 20          | 1             | 1            | 1                         |
| AC          | 600         | 20          | 1             | 2            | 1                         |
| AC          | 600         | 20          | 3             | 3            | 1                         |

## GENERAL TECHNICAL INFORMATION

| Size of conductor                                 |                   |                               |                                                 |                      |  |
|---------------------------------------------------|-------------------|-------------------------------|-------------------------------------------------|----------------------|--|
| composition of conductor                          | Min. / Max. value | No. of conductor per terminal | Cross section (mm <sup>2</sup> ) or (AWG/kcmil) | Material of the wire |  |
| Solid wire                                        | Min.              | 1                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Solid wire                                        | Min.              | 2                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Flexible wire                                     | Min.              | 1                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Flexible wire                                     | Min.              | 2                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Flexible wire                                     | Max.              | 2                             | AWG 12                                          | Copper               |  |
| Flexible wire                                     | Max.              | 2                             | 2.5mm <sup>2</sup>                              | Copper               |  |
| Single-core or stranded wire                      | Max.              | 2                             | AWG 10                                          | Copper               |  |
| Single-core or stranded wire                      | Max.              | 2                             | 4mm <sup>2</sup>                                | Copper               |  |
| Flexible wire with ferrule according to DIN 46228 | Min.              | 1                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Flexible wire with ferrule according to DIN 46228 | Min.              | 2                             | 0.75mm <sup>2</sup>                             | Copper               |  |
| Flexible wire with ferrule according to DIN 46228 | Max.              | 2                             | 2.5mm <sup>2</sup>                              | Copper               |  |

| Stripping length |  | Length (mm) |                                                                                     |
|------------------|--|-------------|-------------------------------------------------------------------------------------|
|                  |  | --          |                                                                                     |
|                  |  | 9           |  |

| Recommended screw driver               |  | Value |
|----------------------------------------|--|-------|
| Type of screw driver                   |  | PH1   |
| Cross Screwdriver                      |  | 0,8x4 |
| Slot screwdriver according to DIN 5264 |  |       |

| Tightening torque of screws |  | tightening torque (Nm) | tightening torque (lb-in) |
|-----------------------------|--|------------------------|---------------------------|
|                             |  | 1                      | 9                         |

| Approbations     |  | Marking                                                                               |
|------------------|--|---------------------------------------------------------------------------------------|
| Specification    |  |                                                                                       |
| CE marking       |  |  |
| UK Directives    |  |  |
| CSA C.22.2 No.14 |  |  |

| General Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| <ul style="list-style-type: none"> <li>- Alleen koperleidingen met of zonder vertinde/verzilverde draden (per draad) gebruiken. Het nadien vertinnen van de uiteinden is niet toegestaan.</li> <li>- Terminals with factory fitted jumper links are tightened during production for loss prevention. When opening the terminal clamps, make sure that no factory fitted links get lost and that all wire connections are properly seated.</li> <li>- After wiring, ALL terminal screws must be tightened to the specified torque values.</li> <li>- Het gebruik van een extra apparaat kan de beschermingsklasse van de gekozen bouwvorm beïnvloeden.</li> </ul> |  |

## General Information

### Text

- Do not lubricate or treat contacts.
- Switches may only be mounted, connected and set into operation by qualified persons according to the accepted rules of technology.
- After installation of the switches the spacings between the terminals must be sufficient to fulfill the requirement of the applicable standards.

### Waste Electrical & Electronic Equipment (WEEE)

#### Picture name

#### Description



Do not throw in the trash as care must be taken to ensure environmentally sound disposal and recycling. Please either use an environmentally friendly waste disposal company; return to the supplier for disposal; or return direct to the manufacturer, Kraus & Naimer. You can find local Kraus & Naimer offices at [www.krausnaimer.com](http://www.krausnaimer.com)

### Proposition 65

#### Picture name

#### Description



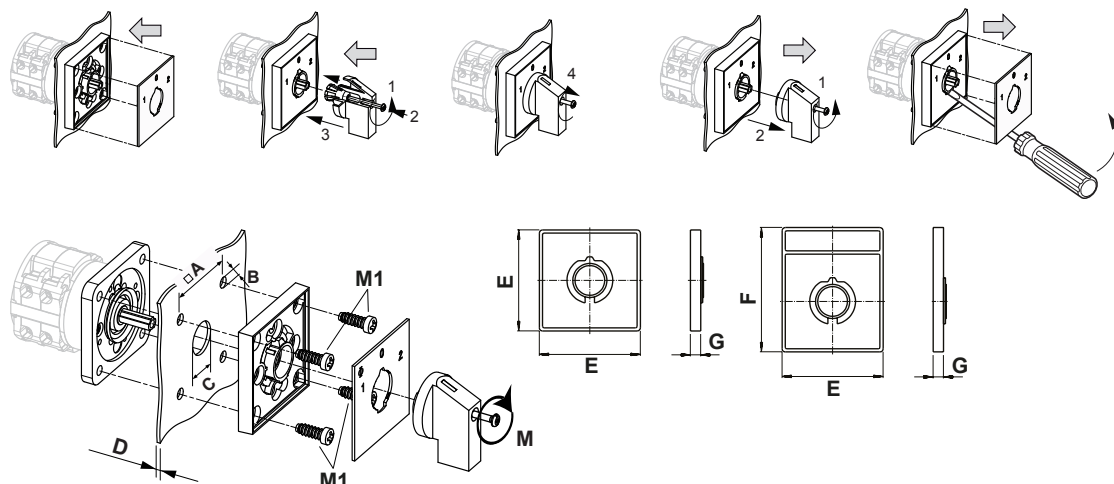
WARNING: This product can expose you to chemicals including nickel and lead, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Classification Contact: Rigid contact bridge

Classification Contact Mat: Silver

Classification Terminal: Screw terminal

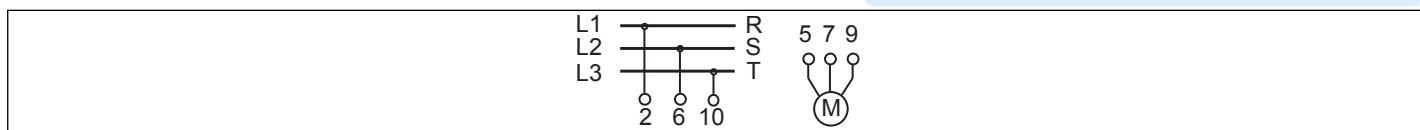
## Mounting-EF



|                      |                    |
|----------------------|--------------------|
| IP - Code front side | IP66, IP67, IP69k  |
| Stages               | 1,00 - 12,00       |
| A                    | □ 36,00 mm         |
| B                    | ∅ 5,00 mm          |
| C                    | ∅ 15,00 - 19,00 mm |
| D                    | H ≤ 4,00 mm        |
| E                    | H 48,00 mm         |
| F                    | H 59,00 mm         |
| G                    | H 6,70 mm          |
| M                    | ↺ 0,50 Nm          |
| M1                   | ↺ 0,90 Nm          |

## Wiring diagram

CH10.A401.EF



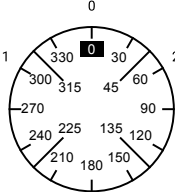
## Switch program

CH10.A401.EF



**CH10** **A401** **E** **Page 1 of 1**

**Face Plate**



Switching Angle

Total switching Angle

|    | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 |
|----|---|---|---|---|---|----|----|----|----|----|----|----|
| 2  |   |   |   |   |   |    |    |    |    |    |    |    |
| 4  |   |   |   |   |   |    |    |    |    |    |    |    |
| 6  |   |   |   |   |   |    |    |    |    |    |    |    |
| 8  |   |   |   |   |   |    |    |    |    |    |    |    |
| 10 |   |   |   |   |   |    |    |    |    |    |    |    |
| 12 |   |   |   |   |   |    |    |    |    |    |    |    |
| 14 |   |   |   |   |   |    |    |    |    |    |    |    |
| 16 |   |   |   |   |   |    |    |    |    |    |    |    |
| 18 |   |   |   |   |   |    |    |    |    |    |    |    |
| 20 |   |   |   |   |   |    |    |    |    |    |    |    |
| 22 |   |   |   |   |   |    |    |    |    |    |    |    |
| 24 |   |   |   |   |   |    |    |    |    |    |    |    |

|   | 300 | 315 | 330 | 345 | 0 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | 240 | 255 | 270 | 285 |
|---|-----|-----|-----|-----|---|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 |     |     |     |     |   |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0 |     |     |     |     |   |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2 |     |     |     |     |   |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |

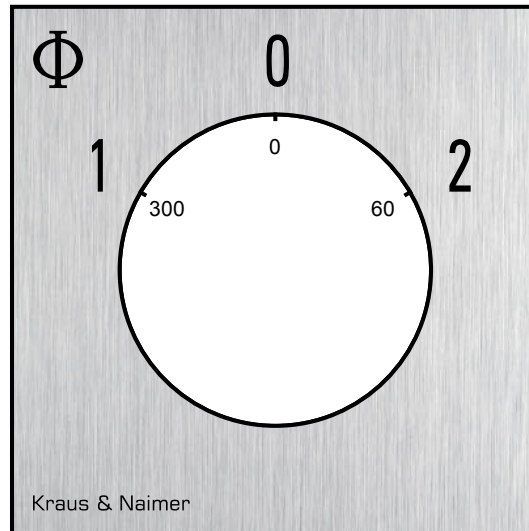
**Jumpers**

|      |      |      |      |
|------|------|------|------|
| 1 ○  | 3 ○  | 4 ○  | 2 ●  |
| 5 ●  | 7 ○  | 8 ○  | 6 ●  |
| 9 ●  | 11 ○ | 12 ○ | 10 ● |
| 13 ○ | 15 ○ | 16 ○ | 14 ○ |
| 17 ○ | 19 ○ | 20 ○ | 18 ○ |
| 21 ○ | 23 ○ | 24 ○ | 22 ○ |
| 25 ○ | 27 ○ | 28 ○ | 26 ○ |
| 29 ○ | 31 ○ | 32 ○ | 30 ○ |
| 33 ○ | 35 ○ | 36 ○ | 34 ○ |
| 37 ○ | 39 ○ | 40 ○ | 38 ○ |
| 41 ○ | 43 ○ | 44 ○ | 42 ○ |
| 45 ○ | 47 ○ | 48 ○ | 46 ○ |

Version: 11

## Face plate

S0.F071/A1B.PEL



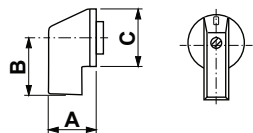
## HANDLES

**Designation:** S0C.G251  
**Handle colour:** "1" black

### GENERAL TECHNICAL INFORMATION

#### Recommended screw driver

| Type of screw driver                   | Value |
|----------------------------------------|-------|
| Cross Screwdriver                      | PH1   |
| Slot screwdriver according to DIN 5264 | 0,8x4 |



|   |          |   |          |   |          |
|---|----------|---|----------|---|----------|
| A | 22,00 mm | B | 23,80 mm | C | 27,60 mm |
|---|----------|---|----------|---|----------|