



Sample image

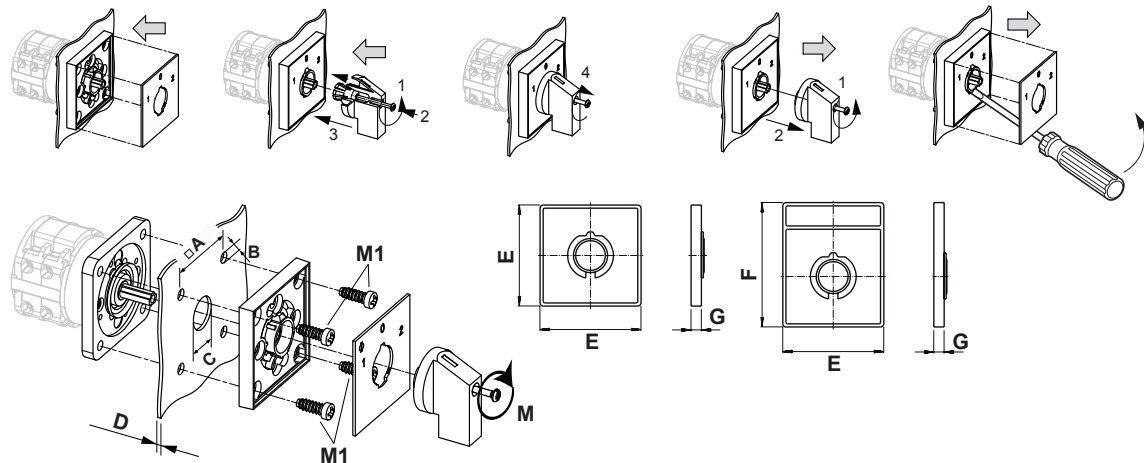
## Datasheet

**Article number:** 70008012  
**Designation:** CA40.A401.EF  
**Description:** Switch

|                                                                                                                                                                |                          |                          |                                                                  |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|------------------------------------------------------------------|-----------------|
| IEC 60947-3 EN 60947-3, VDE 0660 Teil 107                                                                                                                      |                          |                          |                                                                  |                 |
| Rated insulation voltage Ui                                                                                                                                    |                          |                          |                                                                  |                 |
| Voltage (V) AC / DC                                                                                                                                            |                          |                          |                                                                  |                 |
| 690 AC                                                                                                                                                         |                          |                          |                                                                  |                 |
| Rated uninterrupted current Iu/Ith                                                                                                                             |                          |                          |                                                                  |                 |
| Current (A)                                                                                                                                                    | Ambient temperature (°C) | Peak temperature (°C)    | additional requirements                                          |                 |
| 40                                                                                                                                                             | 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                |                                                                  | 14              |
| AC-15                                                                                                                                                          |                          | 380 - 440                |                                                                  | 6               |
| Rated operational power                                                                                                                                        |                          |                          |                                                                  |                 |
| Utilization category                                                                                                                                           | Voltage (V)              | No. of phases            | No. of poles                                                     | Power (kW)      |
| AC-3                                                                                                                                                           | 220 - 240                | 3                        | 3                                                                | 7,50            |
| AC-3                                                                                                                                                           | 380 - 440                | 3                        | 3                                                                | 15              |
| AC-3                                                                                                                                                           | 660 - 690                | 3                        | 3                                                                | 15              |
| AC-3                                                                                                                                                           | 220 - 240                | 1                        | 2                                                                | 5,50            |
| AC-3                                                                                                                                                           | 380 - 440                | 1                        | 2                                                                | 7,50            |
| AC-23A                                                                                                                                                         | 220 - 240                | 3                        | 3                                                                | 7,50            |
| AC-23A                                                                                                                                                         | 380 - 440                | 3                        | 3                                                                | 18,50           |
| AC-23A                                                                                                                                                         | 660 - 690                | 3                        | 3                                                                | 18,50           |
| AC-23A                                                                                                                                                         | 220 - 240                | 1                        | 2                                                                | 4               |
| AC-23A                                                                                                                                                         | 380 - 440                | 1                        | 2                                                                | 7,50            |
| Max Fuse Rating IEC                                                                                                                                            |                          |                          |                                                                  |                 |
| Fuse characteristic                                                                                                                                            |                          | No. of Fuses             |                                                                  | Current (A)     |
| gG                                                                                                                                                             |                          | 1                        |                                                                  | 50              |
| 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 |
| 45                                                                                                                                                             |                          | 0 - 40                   |                                                                  | --              |
| Horsepower rating                                                                                                                                              |                          |                          |                                                                  |                 |
| Across-the-Line Motor Starting                                                                                                                                 | Voltage (V)              | No. of phases            | No. of poles                                                     | Power (HP)      |
| DOL                                                                                                                                                            | 110 - 120                | 1                        | 2                                                                | 3               |
| DOL                                                                                                                                                            | 220 - 240                | 1                        | 2                                                                | 7,50            |
| DOL                                                                                                                                                            | 277 - 277                | 1                        | 2                                                                | 7,50            |
| DOL                                                                                                                                                            | 415 - 415                | 1                        | 2                                                                | 10              |
| DOL                                                                                                                                                            | 440 - 480                | 1                        | 2                                                                | 15              |
| DOL                                                                                                                                                            | 550 - 600                | 1                        | 2                                                                | 15              |
| DOL                                                                                                                                                            | 110 - 120                | 3                        | 3                                                                | 7,50            |
| DOL                                                                                                                                                            | 220 - 240                | 3                        | 3                                                                | 15              |
| DOL                                                                                                                                                            | 415 - 415                | 3                        | 3                                                                | 20              |
| DOL                                                                                                                                                            | 440 - 480                | 3                        | 3                                                                | 25              |
| DOL                                                                                                                                                            | 550 - 600                | 3                        | 3                                                                | 25              |
| 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 5000 rms symmetrical amperes, 600V ac max. when protected by Class J fuses. |                          |                          |                                                                  |                 |
| Temp. rating of wire                                                                                                                                           |                          |                          |                                                                  |                 |
| Temperature rating (°C)                                                                                                                                        |                          | Current (A) Text         |                                                                  |                 |
| 75                                                                                                                                                             |                          | -- Use copper wire only  |                                                                  |                 |

|                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|---------------------------|---------------------------|
| Connecting instructions                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Markings                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Break all lines.                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| For use on a flat surface of a type 1 enclosure.                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| When intended for use as a motor disconnect the device shall be provided with a method of being locked in the OFF-position.                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| General Use                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| AC / DC                                                                                                                                                                                                                                                                                     | Voltage (V)                                                                                                                                                                                                                                                                                                                                                                        | Current (A)                   | No. of phases                      | No. of poles              | No. of contacts in series |
| AC                                                                                                                                                                                                                                                                                          | 600                                                                                                                                                                                                                                                                                                                                                                                | 45                            | 1                                  | 2                         | 1                         |
| AC                                                                                                                                                                                                                                                                                          | 600                                                                                                                                                                                                                                                                                                                                                                                | 45                            | 3                                  | 3                         | 1                         |
| GENERAL TECHNICAL INFORMATION                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Tightening torque of screws                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
|                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                               | tightening torque (Nm)             | tightening torque (lb-in) |                           |
|                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                               | 1,80                               | 16                        |                           |
| Stripping length                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
|                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                               | Length (mm) –                      |                           |                           |
|                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                               | 10                                 | STRIPPINGLENGTH           |                           |
| Size of conductor                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| composition of conductor                                                                                                                                                                                                                                                                    | Min. / Max. value                                                                                                                                                                                                                                                                                                                                                                  | No. of conductor per terminal | Cross section (mm²) or (AWG/kcmil) | Material of the wire      |                           |
| solid wire                                                                                                                                                                                                                                                                                  | Min.                                                                                                                                                                                                                                                                                                                                                                               | 2                             | 0.75mm²                            | Copper                    |                           |
| solid wire                                                                                                                                                                                                                                                                                  | Min.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 1.5mm²                             | Copper                    |                           |
| flexible wire                                                                                                                                                                                                                                                                               | Max.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | AWG 6                              | Copper                    |                           |
| flexible wire                                                                                                                                                                                                                                                                               | Min.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 2.5mm²                             | Copper                    |                           |
| flexible wire                                                                                                                                                                                                                                                                               | Max.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 10mm²                              | Copper                    |                           |
| flexible wire                                                                                                                                                                                                                                                                               | Min.                                                                                                                                                                                                                                                                                                                                                                               | 2                             | 1.5mm²                             | Copper                    |                           |
| Single-core or stranded wire                                                                                                                                                                                                                                                                | Max.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | AWG 6                              | Copper                    |                           |
| Single-core or stranded wire                                                                                                                                                                                                                                                                | Max.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 16mm²                              | Copper                    |                           |
| flexible wire with ferrule according to DIN 46228                                                                                                                                                                                                                                           | Min.                                                                                                                                                                                                                                                                                                                                                                               | 2                             | 0.75mm²                            | Copper                    |                           |
| flexible wire with ferrule according to DIN 46228                                                                                                                                                                                                                                           | Max.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 10mm²                              | Copper                    |                           |
| flexible wire with ferrule according to DIN 46228                                                                                                                                                                                                                                           | Min.                                                                                                                                                                                                                                                                                                                                                                               | 1                             | 1.5mm²                             | Copper                    |                           |
| Approbations                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Specification                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| EAC                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| CE marking                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| UK Directives                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Recommended screw driver                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| Type of screw driver                                                                                                                                                                                                                                                                        | Value                                                                                                                                                                                                                                                                                                                                                                              |                               |                                    |                           |                           |
| Cross Screwdriver                                                                                                                                                                                                                                                                           | PH2                                                                                                                                                                                                                                                                                                                                                                                |                               |                                    |                           |                           |
| Slot screwdriver according to DIN 5264                                                                                                                                                                                                                                                      | 1x5,5                                                                                                                                                                                                                                                                                                                                                                              |                               |                                    |                           |                           |
| 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.                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| - Use copper wire only. Do not coat the wire end with tin.                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| - Terminals with factory fitted jumper links are tightened during production. Take care during installation to ensure factory fitted links are not lost by undoing both sides of linked terminals. After wiring all terminal screws must be tightened to recommended torque specifications. |                                                                                                                                                                                                                                                                                                                                                                                    |                               |                                    |                           |                           |
| - 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 <a href="http://www.krausnaimer.com">www.krausnaimer.com</a> |                               |                                    |                           |                           |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .                                                                                                                                            |                               |                                    |                           |                           |
| 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                    | □  | 48,00 mm          |
| B                    | ∅  | 5,00 mm           |
| C                    | ∅  | 19,00 - 22,00 mm  |
| D                    | H  | <= 4,00 mm        |
| E                    | H  | 64,00 mm          |
| F                    | H  | 78,00 mm          |
| G                    | H  | 7,40 mm           |
| M                    | M̃ | 0,70 Nm           |
| M1                   | M̃ | 0,90 Nm           |

## Wiring diagram

CA40.A401.EF



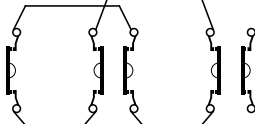
## Switch program

CA40.A401.EF



Kraus & Naimer

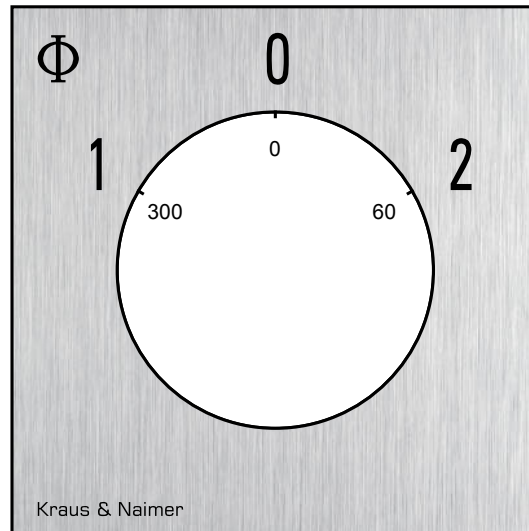
CA40
A401
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| Face Plate                                                                                                                                                              |     |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|---|---|---|----|----|----|----|----|----|----|----|
|                                                                                        |     |  |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         |     | 1                                                                                 | 3 | 5 | 7 | 9  | 11 | 13 | 15 | 17 | 19 | 21 | 23 |
| Switching Angle <span style="border: 1px solid black; padding: 2px;">60</span><br>Total switching Angle <span style="border: 1px solid black; padding: 2px;">120</span> |     | 2                                                                                 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 1                                                                                                                                                                       | 300 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 315 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 330 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
| 0                                                                                                                                                                       | 345 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 0   |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 15  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
| 2                                                                                                                                                                       | 30  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 45  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 60  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 75  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 90  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 105 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 120 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 135 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 150 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 165 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 180 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 195 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 210 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 225 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 240 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 255 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 270 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 285 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |

Version: 60

## Face plate

S1.F071/A1B.PEL



## HANDLES

**Designation:** S1B.G251

**Handle colour:** "1" black

