



Sample image

## Datasheet

**Article number:** 70002178

**Designation:** CA10.A210.FT2

**Description:** Switch

|                                                                                                                                                                                                                                                                                                                                                                                                          |                          |                          |                                                                     |                                                          |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------------|----------------------------------------------------------|---------------------|
| IEC 60947-3 EN 60947-3, VDE 0660 Teil 107                                                                                                                                                                                                                                                                                                                                                                |                          |                          |                                                                     |                                                          |                     |
| Rated insulation voltage Ui                                                                                                                                                                                                                                                                                                                                                                              |                          |                          |                                                                     |                                                          |                     |
| Voltage (V) AC / DC                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          |                                                                     |                                                          |                     |
| 690 AC / DC                                                                                                                                                                                                                                                                                                                                                                                              |                          |                          |                                                                     |                                                          |                     |
| Rated impulse withstand voltage Uimp                                                                                                                                                                                                                                                                                                                                                                     |                          |                          |                                                                     |                                                          |                     |
| Voltage (kV)                                                                                                                                                                                                                                                                                                                                                                                             |                          | Overvoltage category     | Pollution degree                                                    | Supply system                                            | Function            |
| 4 III                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                          | 3                                                                   | Valid for lines with grounded common neutral termination | Switch disconnecter |
| 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                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          |                                                                     |                                                          |                     |
| 300 AC / DC                                                                                                                                                                                                                                                                                                                                                                                              |                          |                          |                                                                     |                                                          |                     |
| Rated insulation voltage Ui                                                                                                                                                                                                                                                                                                                                                                              |                          |                          |                                                                     |                                                          |                     |
| Voltage (V) AC / DC                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          |                                                                     |                                                          |                     |
| 300 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        |
| Reversing                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          | 110 - 120                                                           | 1                                                        | 2                   |
| Reversing                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          | 220 - 240                                                           | 1                                                        | 2                   |
| Reversing                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          | 277 - 277                                                           | 1                                                        | 2                   |
| Reversing                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          | 110 - 120                                                           | 3                                                        | 3                   |
| Reversing                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          | 220 - 240                                                           | 3                                                        | 3                   |
| DOL                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          | 110 - 120                                                           | 1                                                        | 2                   |
| DOL                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          | 220 - 240                                                           | 1                                                        | 2                   |
| DOL                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          | 277 - 277                                                           | 1                                                        | 2                   |
| DOL                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          | 110 - 120                                                           | 3                                                        | 3                   |
| DOL                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                          | 220 - 240                                                           | 3                                                        | 3                   |
| Pilot duty rating code                                                                                                                                                                                                                                                                                                                                                                                   |                          |                          |                                                                     |                                                          |                     |
| Duty Code                                                                                                                                                                                                                                                                                                                                                                                                |                          |                          |                                                                     |                                                          |                     |
| A300                                                                                                                                                                                                                                                                                                                                                                                                     |                          |                          |                                                                     |                                                          |                     |
| 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 RK1 fuses. Manual Motor Controllers when intended for use as a motor disconnecter are suitable for use on a circuit capable of delivering not more than 5000 rms symmetrical amperes, 600V ac max. when protected by 30A Class J time delay fuses. |                          |                          |                                                                     |                                                          |                     |
| Temp. rating of wire                                                                                                                                                                                                                                                                                                                                                                                     |                          |                          |                                                                     |                                                          |                     |
| Temperature rating (°C)                                                                                                                                                                                                                                                                                                                                                                                  |                          |                          | Current (A) Text                                                    |                                                          |                     |
| 60 - 75                                                                                                                                                                                                                                                                                                                                                                                                  |                          |                          | -- Use copper wire only                                             |                                                          |                     |

**Connecting instructions**
**Markings**

When intended for use as a motor disconnecter 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      | 300         | 20          | 1             | 2            | 1                         |
| AC      | 300         | 20          | 3             | 3            | 1                         |

**CSA**
**Nominal Voltage**

| Voltage (V) | AC / DC |
|-------------|---------|
| 300         | AC      |

**Rated insulation voltage Ui**

| Voltage (V) | AC / DC |
|-------------|---------|
| 300         | 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                            | 110 - 120   | 3             | 3            | 1,50       | 40                       |
| DOL                            | 220 - 240   | 3             | 3            | 3          | 40                       |

**Pilot duty rating code**
**Duty Code**

A300

**Temp. rating of wire**

| Temperature rating (°C) | Current (A) | Text |
|-------------------------|-------------|------|
| 75                      | --          | only |

**General Use**

| AC / DC | Voltage (V) | Current (A) | No. of phases | No. of poles | No. of contacts in series |
|---------|-------------|-------------|---------------|--------------|---------------------------|
| AC      | 300         | 20          | 1             | 1            | 1                         |

**GENERAL TECHNICAL INFORMATION**
**Tightening torque of screws**

| tightening torque (Nm) | tightening torque (lb-in) |
|------------------------|---------------------------|
| 0,60                   | 5                         |

**Stripping length**

| Length (mm) | --              |
|-------------|-----------------|
| 8           | 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.              | 1                             | 0.5mm²                             | Copper               |
| solid wire                                        | Min.              | 2                             | 0.5mm²                             | Copper               |
| flexible wire                                     | Min.              | 1                             | 0.75mm²                            | Copper               |
| flexible wire                                     | Min.              | 2                             | 0.75mm²                            | Copper               |
| flexible wire                                     | Max.              | 2                             | 2.5mm²                             | Copper               |
| flexible wire                                     | Max.              | 2                             | AWG 14                             | Copper               |
| Single-core or stranded wire                      | Max.              | 2                             | AWG 12                             | Copper               |
| Single-core or stranded wire                      | Max.              | 2                             | 2.5mm²                             | Copper               |
| flexible wire with ferrule according to DIN 46228 | Min.              | 1                             | 0.5mm²                             | Copper               |
| flexible wire with ferrule according to DIN 46228 | Max.              | 2                             | 2.5mm²                             | Copper               |
| flexible wire with ferrule according to DIN 46228 | Min.              | 2                             | 0.5mm²                             | Copper               |

**Approbations**
**Specification**

EAC

CE marking

UK Directives

CSA C.22.2 No.14

GB/T14048.3

**Recommended screw driver**

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

**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.

**Marking**


## General Information

### Text

- 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 [www.krausnaimer.com](http://www.krausnaimer.com)

## Proposition 65

### Picture name Description



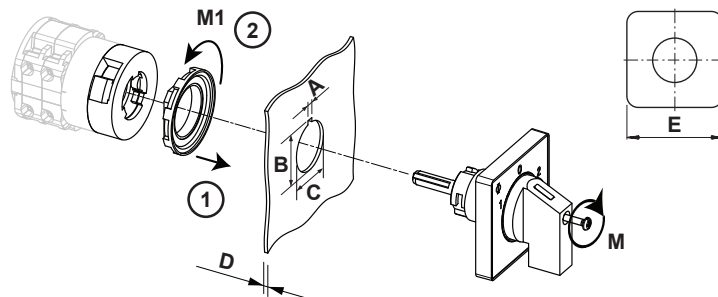
**WARNING:** This product can expose you to chemicals including nickel and lead, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Classification Contact: Rigid contact bridge

Classification Contact Mat: Silver

Classification Terminal: Screw terminal

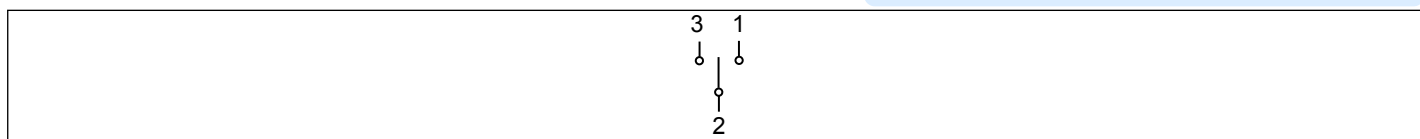
## Mounting-FT2



|                      |   |                   |
|----------------------|---|-------------------|
| IP - Code front side |   | IP66, IP67, IP69k |
| Stages               |   | 1,00 - 12,00      |
| A                    | H | 3,20 mm           |
| A+_tol.              | H | 0,20 mm           |
| A-_tol.              | H | 0,00 mm           |
| B                    | H | 24,10 mm          |
| B+_tol.              | H | 0,40 mm           |
| B-_tol.              | H | 0,00 mm           |
| C                    | Ø | 22,30 mm          |
| C+_tol.              | Ø | 0,40 mm           |
| C-_tol.              | Ø | 0,00 mm           |
| D                    | H | <= 6,00 mm        |
| E                    | □ | 48,00 mm          |
| M                    | ↺ | 0,50 Nm           |
| M1                   | ↺ | 1,80 Nm           |

## Wiring diagram

CA10.A210.FT2



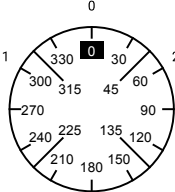
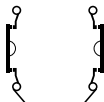
## Switch program

CA10.A210.FT2



Kraus & Naimer

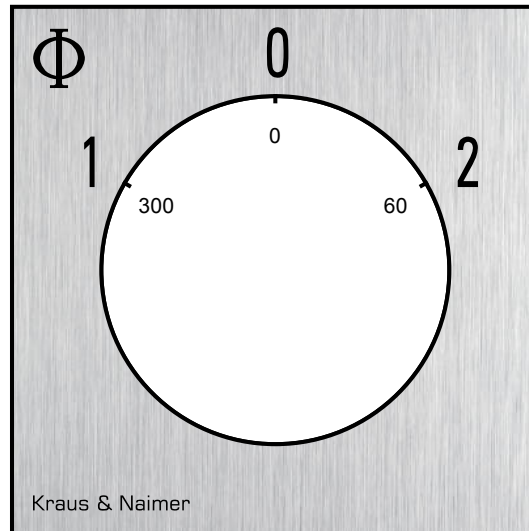
CA10
A210
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| Face Plate                                                                                                                                                              |     |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|---|---|---|----|----|----|----|----|----|----|----|
|                                                                                        |     |  |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         |     | 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 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 345 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
| 0                                                                                                                                                                       | 0   |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 15  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 30  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 45  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
| 2                                                                                                                                                                       | 60  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 75  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 90  |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 105 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 120 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 135 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 150 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 165 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 180 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 195 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 210 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 225 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 240 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 255 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 270 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |
|                                                                                                                                                                         | 285 |                                                                                   |   |   |   |    |    |    |    |    |    |    |    |

Version: 102

## Face plate

S0.F071/A10.E1L



## HANDLES

**Designation:** S0C.G251

**Handle colour:** "1" black

