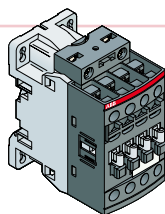


# AF09 ... AF38 3-pole Contactors

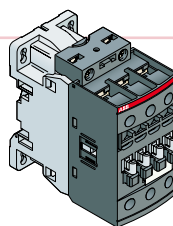
up to 18.5 kW / 20 hp



|                                                    |    |
|----------------------------------------------------|----|
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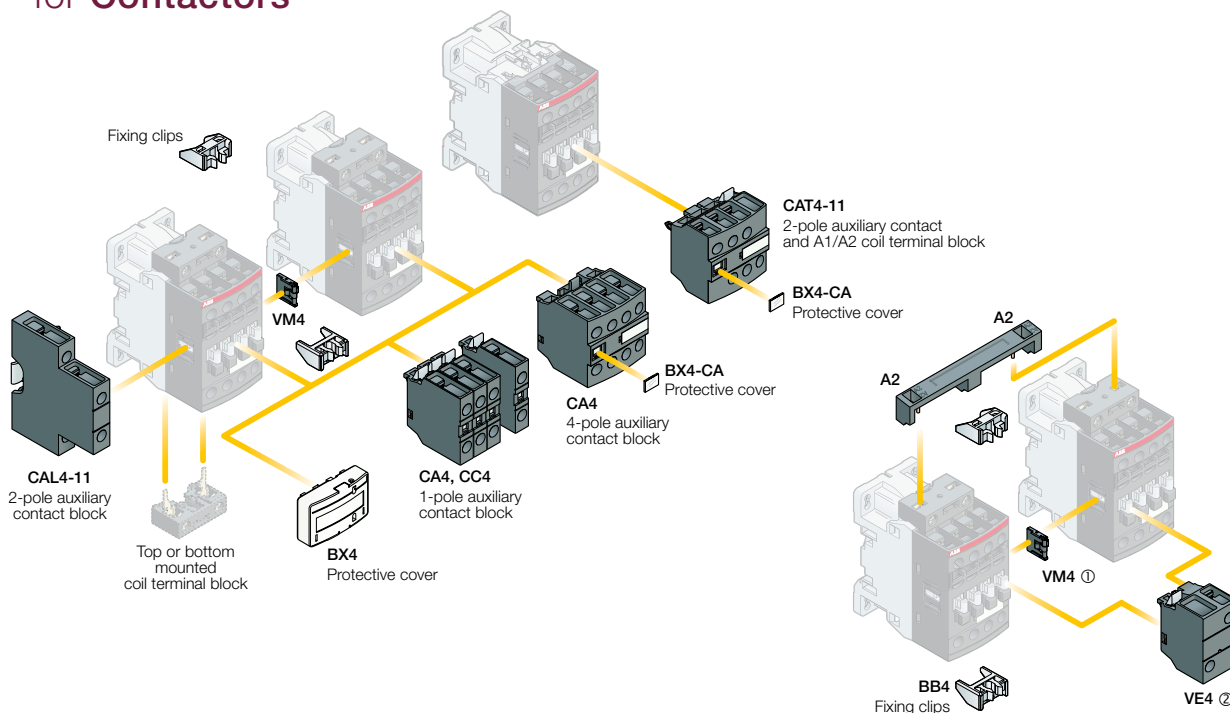


**AF09 ... AF16**  
3-pole contactors



**AF26 ... AF38**  
3-pole contactors

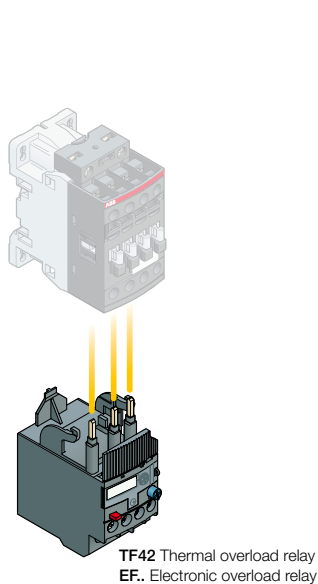
## for Contactors



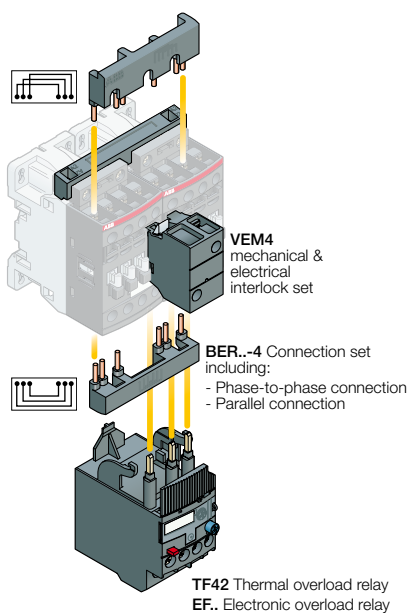
**VEM4 mechanical and electrical interlock set including:**  
① **VM4** mechanical interlock unit including 2 fixing clips (**BB4**)  
② **VE4** electrical interlock block with A2-A2 connection

## for Starting Solutions

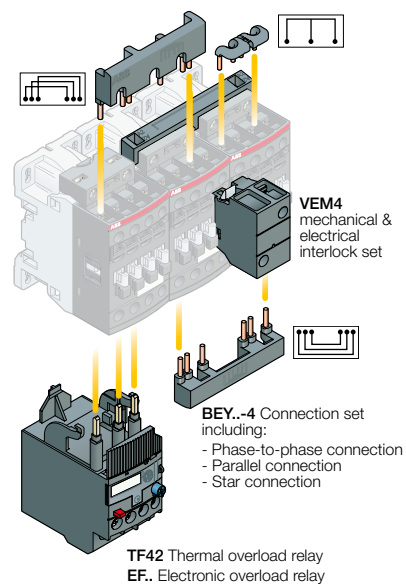
### Direct-On-Line Starter



### Reversing Starter



### Star-Delta Starter



# 3-pole Contactors



 AC / DC control voltage

| AF09       | AF12       | AF16       |
|------------|------------|------------|
| AF09-30-10 | AF12-30-10 | AF16-30-10 |
| AF09-30-01 | AF12-30-01 | AF16-30-01 |

| AF26       | AF30       | AF38       |
|------------|------------|------------|
| AF26-30-00 | AF30-30-00 | AF38-30-00 |

## Switching of 3-phase Cage Motors

|                                                                                   |        |              |                           |                                                                                                                      |
|-----------------------------------------------------------------------------------|--------|--------------|---------------------------|----------------------------------------------------------------------------------------------------------------------|
|  | IEC    | AC-3         | Rated power               | 400 V                                                                                                                |
|                                                                                   |        |              | Rated operational current | $\theta \leq 60^\circ\text{C}$ 400 V<br>$\theta \leq 60^\circ\text{C}$ 415 V<br>$\theta \leq 60^\circ\text{C}$ 690 V |
|                                                                                   |        |              |                           |                                                                                                                      |
|                                                                                   | UL/CSA | Motor rating |                           | 480 V                                                                                                                |
|                                                                                   |        | Nema size    |                           |                                                                                                                      |

| 4 kW | 5.5 kW | 7.5 kW |
|------|--------|--------|
| 9 A  | 12 A   | 18 A   |
| 9 A  | 12 A   | 18 A   |
| 7 A  | 9 A    | 10.5 A |
| 5 hp | 7.5 hp | 10 hp  |
| 00   | 0      | -      |

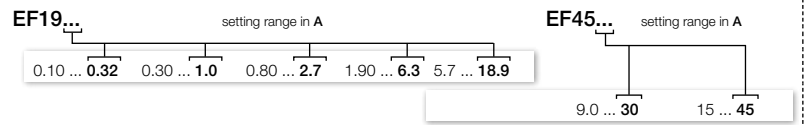
| 11 kW | 15 kW | 18.5 kW |
|-------|-------|---------|
| 26 A  | 32 A  | 38 A    |
| 26 A  | 32 A  | 38 A    |
| 17 A  | 21 A  | 24 A    |
| 15 hp | 20 hp | 20 hp   |
| 1     | -     | -       |

Protection of 3-phase motors

Thermal overload relays

Electronic overload relays

TF42...



## Switching of Resistive Circuits

|                                                                                     |        |                                     |                                     |                                                                                                                      |
|-------------------------------------------------------------------------------------|--------|-------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|  | IEC    | AC-1                                | Rated operational current           | $\theta \leq 40^\circ\text{C}$ 690 V<br>$\theta \leq 60^\circ\text{C}$ 690 V<br>$\theta \leq 70^\circ\text{C}$ 690 V |
|                                                                                     |        |                                     | With conductor cross-sectional area |                                                                                                                      |
|                                                                                     |        |                                     |                                     |                                                                                                                      |
|                                                                                     | UL/CSA | General use rating                  |                                     | 600 V AC                                                                                                             |
|                                                                                     |        | With conductor cross-sectional area |                                     |                                                                                                                      |

| 25 A              | 28 A              | 30 A              |
|-------------------|-------------------|-------------------|
| 25 A              | 28 A              | 30 A              |
| 22 A              | 24 A              | 26 A              |
| 4 mm <sup>2</sup> | 6 mm <sup>2</sup> | 6 mm <sup>2</sup> |
| 25 A              | 28 A              | 30 A              |
| AWG 10            | AWG 10            | AWG 10            |

| 45 A               | 50 A               | 50 A               |
|--------------------|--------------------|--------------------|
| 40 A               | 42 A               | 42 A               |
| 32 A               | 37 A               | 37 A               |
| 10 mm <sup>2</sup> | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> |
| 45 A               | 50 A               | 50 A               |
| AWG 8              | AWG 8              | AWG 8              |

## Main Accessories

|                          |                         |                                                                                     |
|--------------------------|-------------------------|-------------------------------------------------------------------------------------|
| Auxiliary contact blocks | Front mounting          |  |
|                          | Side mounting           |  |
| Interlocks               | Mechanical / electrical |  |
|                          | Mechanical              |  |
| Connection sets          | Reversing Starters      |  |
|                          | Star-Delta Starters     |  |

|                                                                                                                 |         |
|-----------------------------------------------------------------------------------------------------------------|---------|
| 1-pole CA4-10 or CA4-01, CC4-10 or CC4-01                                                                       |         |
| 4-pole CA4                                                                                                      |         |
| 2-pole CAT4-11 (with coil front connection)                                                                     |         |
| 2-pole CAL4-11                                                                                                  |         |
| <b>VEM4</b><br>including VM4 mechanical interlock unit and VE4 electrical interlock block with A2-A2 connection |         |
| <b>VM4</b><br>including 2 fixing clips                                                                          |         |
| BER16-4                                                                                                         | BER38-4 |
| BEY16-4                                                                                                         | BEY38-4 |

1SBC 101 090 S201

# AF09 ... AF38 3-pole Contactors

## AC / DC Operated - with Screw Terminals

Catalogue Page 1SBC 101 060 S0201

|                                                                                     |                                                                                     |              |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------|
|  |  | 4 to 18.5 kW |
|                                                                                     |                                                                                     | 5 to 20 hp   |



AF09-30-10



AF26-30-00

### Application

**AF09 ... AF38** contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads.

### Description

- **AF09 ... AF38** contactors include an electronic coil interface accepting a wide control voltage  $U_c$  min. ...  $U_c$  max. Only four coils cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC
- **AF** contactors can manage large control voltage variations. One coil (e.g. 100...250 V 50/60 Hz - DC) can be used for different control voltages used worldwide without any coil change
- **AF..Z** contactors equipped with a **Z** coil type allow direct control by 24 V DC 500 mA PLC-output and obtain a reduced holding coil consumption.
- **AF..Z** contactors withstand short dips and voltage interruptions (SEMI F47-0706 compliance)
- **AF** contactors have built-in surge protection and do not require additional surge suppressors
- The built-in N.C. auxiliary contact is a mirror contact in compliance with annex F of IEC 60947-4-1.

### Ordering Details

| IEC                 | UL/CSA                     | Control voltage<br>$U_c$ min. ... $U_c$ max. |           | Auxiliary<br>contacts<br>fitted                                                                                                                                     | Type           | Order code         | Weight                                 |
|---------------------|----------------------------|----------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|----------------------------------------|
| Rated<br>power      | 3-phase<br>motor<br>rating | V 50/60 Hz                                   | V DC      |   |                |                    | Pack <sup>(ing)</sup><br>1 piece<br>kg |
| 400 V<br>AC-3<br>kW | 480 V<br>hp                |                                              |           |                                                                                                                                                                     |                |                    |                                        |
| 4                   | 5                          | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF09Z-30-10-21 | 1SBL 136 001 R2110 | 0.310                                  |
|                     |                            | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF09Z-30-01-21 | 1SBL 136 001 R2101 | 0.310                                  |
|                     |                            | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF09-30-10-12  | 1SBL 137 001 R1210 | 0.270                                  |
|                     |                            | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF09-30-01-12  | 1SBL 137 001 R1201 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF09-30-10-13  | 1SBL 137 001 R1310 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF09-30-01-13  | 1SBL 137 001 R1301 | 0.270                                  |
|                     |                            | 250...500                                    | 250...500 | 1 0                                                                                                                                                                 | AF09-30-10-14  | 1SBL 137 001 R1410 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 1                                                                                                                                                                 | AF09-30-01-14  | 1SBL 137 001 R1401 | 0.310                                  |
| 5.5                 | 7.5                        | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF12Z-30-10-21 | 1SBL 156 001 R2110 | 0.310                                  |
|                     |                            | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF12Z-30-01-21 | 1SBL 156 001 R2101 | 0.310                                  |
|                     |                            | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF12-30-10-12  | 1SBL 157 001 R1210 | 0.270                                  |
|                     |                            | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF12-30-01-12  | 1SBL 157 001 R1201 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF12-30-10-13  | 1SBL 157 001 R1310 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF12-30-01-13  | 1SBL 157 001 R1301 | 0.270                                  |
|                     |                            | 250...500                                    | 250...500 | 1 0                                                                                                                                                                 | AF12-30-10-14  | 1SBL 157 001 R1410 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 1                                                                                                                                                                 | AF12-30-01-14  | 1SBL 157 001 R1401 | 0.310                                  |
| 7.5                 | 10                         | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF16Z-30-10-21 | 1SBL 176 001 R2110 | 0.310                                  |
|                     |                            | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF16Z-30-01-21 | 1SBL 176 001 R2101 | 0.310                                  |
|                     |                            | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF16-30-10-12  | 1SBL 177 001 R1210 | 0.270                                  |
|                     |                            | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF16-30-01-12  | 1SBL 177 001 R1201 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF16-30-10-13  | 1SBL 177 001 R1310 | 0.270                                  |
|                     |                            | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF16-30-01-13  | 1SBL 177 001 R1301 | 0.270                                  |
|                     |                            | 250...500                                    | 250...500 | 1 0                                                                                                                                                                 | AF16-30-10-14  | 1SBL 177 001 R1410 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 1                                                                                                                                                                 | AF16-30-01-14  | 1SBL 177 001 R1401 | 0.310                                  |
| 11                  | 15                         | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF26Z-30-00-21 | 1SBL 236 001 R2100 | 0.350                                  |
|                     |                            | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF26-30-00-12  | 1SBL 237 001 R1200 | 0.310                                  |
|                     |                            | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF26-30-00-13  | 1SBL 237 001 R1300 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 0                                                                                                                                                                 | AF26-30-00-14  | 1SBL 237 001 R1400 | 0.350                                  |
| 15                  | 20                         | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF30Z-30-00-21 | 1SBL 276 001 R2100 | 0.350                                  |
|                     |                            | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF30-30-00-12  | 1SBL 277 001 R1200 | 0.310                                  |
|                     |                            | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF30-30-00-13  | 1SBL 277 001 R1300 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 0                                                                                                                                                                 | AF30-30-00-14  | 1SBL 277 001 R1400 | 0.350                                  |
| 18.5                | 20                         | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF38Z-30-00-21 | 1SBL 296 001 R2100 | 0.350                                  |
|                     |                            | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF38-30-00-12  | 1SBL 297 001 R1200 | 0.310                                  |
|                     |                            | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF38-30-00-13  | 1SBL 297 001 R1300 | 0.310                                  |
|                     |                            | 250...500                                    | 250...500 | 0 0                                                                                                                                                                 | AF38-30-00-14  | 1SBL 297 001 R1400 | 0.350                                  |

# AF09 ... AF38 3-pole Contactors - AF..Z Additional Coils

AC / DC Operated - with Screw Terminals

Catalogue Page 1SBC 101 072 S0201



AF09Z-30-10



AF26Z-30-00

## Application

**AF09Z ... AF38Z** contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads.

## Description

- **AF09Z ... AF38Z** contactors include an electronic coil interface accepting a wide control voltage  $U_c$  min. ...  $U_c$  max and managing large control voltage variations.
- **AF..Z** contactors cover control voltages comprised between 24...250 V 50/60 Hz or 12...250 V DC
- **AF..Z** contactors allow direct control by PLC-output  $\geq 24$  V DC 500 mA and obtain a reduced holding coil consumption.
- **AF..Z** contactors withstand short dips and voltage interruptions (SEMI F47-0706 compliance)
- **AF..Z** contactors have built-in surge protection and do not require additional surge suppressors
- The built-in N.C. auxiliary contact is a mirror contact in compliance with annex F of IEC 60947-4-1.

## Ordering Details

| IEC                                   | UL/CSA                                    | Control voltage<br>$U_c$ min. ... $U_c$ max. |           | Auxiliary<br>contacts<br>fitted                                                                                                                                     | Type           | Order code         | Weight                                 |
|---------------------------------------|-------------------------------------------|----------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|----------------------------------------|
| Rated<br>power<br>400 V<br>AC-3<br>kW | 3-phase<br>motor<br>rating<br>480 V<br>hp | V 50/60 Hz                                   | V DC      |   |                |                    | Pack <sup>(ing)</sup><br>1 piece<br>kg |
| 4                                     | 5                                         | -                                            | 12...20   | 1 0                                                                                                                                                                 | AF09Z-30-10-20 | 1SBL 136 001 R2010 | 0.310                                  |
|                                       |                                           | -                                            | 12...20   | 0 1                                                                                                                                                                 | AF09Z-30-01-20 | 1SBL 136 001 R2001 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF09Z-30-10-21 | 1SBL 136 001 R2110 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF09Z-30-01-21 | 1SBL 136 001 R2101 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF09Z-30-10-22 | 1SBL 136 001 R2210 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF09Z-30-01-22 | 1SBL 136 001 R2201 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF09Z-30-10-23 | 1SBL 136 001 R2310 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF09Z-30-01-23 | 1SBL 136 001 R2301 | 0.310                                  |
| 5.5                                   | 7.5                                       | -                                            | 12...20   | 1 0                                                                                                                                                                 | AF12Z-30-10-20 | 1SBL 156 001 R2010 | 0.310                                  |
|                                       |                                           | -                                            | 12...20   | 0 1                                                                                                                                                                 | AF12Z-30-01-20 | 1SBL 156 001 R2001 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF12Z-30-10-21 | 1SBL 156 001 R2110 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF12Z-30-01-21 | 1SBL 156 001 R2101 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF12Z-30-10-22 | 1SBL 156 001 R2210 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF12Z-30-01-22 | 1SBL 156 001 R2201 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF12Z-30-10-23 | 1SBL 156 001 R2310 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF12Z-30-01-23 | 1SBL 156 001 R2301 | 0.310                                  |
| 7.5                                   | 10                                        | -                                            | 12...20   | 1 0                                                                                                                                                                 | AF16Z-30-10-20 | 1SBL 176 001 R2010 | 0.310                                  |
|                                       |                                           | -                                            | 12...20   | 0 1                                                                                                                                                                 | AF16Z-30-01-20 | 1SBL 176 001 R2001 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 1 0                                                                                                                                                                 | AF16Z-30-10-21 | 1SBL 176 001 R2110 | 0.310                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 1                                                                                                                                                                 | AF16Z-30-01-21 | 1SBL 176 001 R2101 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 1 0                                                                                                                                                                 | AF16Z-30-10-22 | 1SBL 176 001 R2210 | 0.310                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 1                                                                                                                                                                 | AF16Z-30-01-22 | 1SBL 176 001 R2201 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 1 0                                                                                                                                                                 | AF16Z-30-10-23 | 1SBL 176 001 R2310 | 0.310                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 1                                                                                                                                                                 | AF16Z-30-01-23 | 1SBL 176 001 R2301 | 0.310                                  |
| 11                                    | 15                                        | -                                            | 12...20   | 0 0                                                                                                                                                                 | AF26Z-30-00-20 | 1SBL 236 001 R2000 | 0.350                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF26Z-30-00-21 | 1SBL 236 001 R2100 | 0.350                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF26Z-30-00-22 | 1SBL 236 001 R2200 | 0.350                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF26Z-30-00-23 | 1SBL 236 001 R2300 | 0.350                                  |
| 15                                    | 20                                        | -                                            | 12...20   | 0 0                                                                                                                                                                 | AF30Z-30-00-20 | 1SBL 276 001 R2000 | 0.350                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF30Z-30-00-21 | 1SBL 276 001 R2100 | 0.350                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF30Z-30-00-22 | 1SBL 276 001 R2200 | 0.350                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF30Z-30-00-23 | 1SBL 276 001 R2300 | 0.350                                  |
| 18.5                                  | 20                                        | -                                            | 12...20   | 0 0                                                                                                                                                                 | AF38Z-30-00-20 | 1SBL 296 001 R2000 | 0.350                                  |
|                                       |                                           | 24...60                                      | 20...60   | 0 0                                                                                                                                                                 | AF38Z-30-00-21 | 1SBL 296 001 R2100 | 0.350                                  |
|                                       |                                           | 48...130                                     | 48...130  | 0 0                                                                                                                                                                 | AF38Z-30-00-22 | 1SBL 296 001 R2200 | 0.350                                  |
|                                       |                                           | 100...250                                    | 100...250 | 0 0                                                                                                                                                                 | AF38Z-30-00-23 | 1SBL 296 001 R2300 | 0.350                                  |

Note: Only AF..Z contactors with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole

# AF09 ... AF38 3-pole Contactors

## Technical Data

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### Main Pole - Utilization Characteristics according to IEC

| Contactor types                                                                                                                             |                                               | AF09                                               | AF12              | AF16              | AF26               | AF30               | AF38               |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| Standards                                                                                                                                   |                                               | IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1 |                   |                   |                    |                    |                    |
| Rated operational voltage U <sub>e</sub> max.                                                                                               |                                               | 690 V                                              |                   |                   |                    |                    |                    |
| Rated frequency limits                                                                                                                      |                                               | 25 ... 400 Hz                                      |                   |                   |                    |                    |                    |
| Conventional free-air thermal current I <sub>th</sub>                                                                                       |                                               |                                                    |                   |                   |                    |                    |                    |
| acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C                                                                                           |                                               | 35 A                                               | 35 A              | 35 A              | 50 A               | 50 A               | 50 A               |
| with conductor cross-sectional area                                                                                                         |                                               | 6 mm <sup>2</sup>                                  | 6 mm <sup>2</sup> | 6 mm <sup>2</sup> | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> |
| AC-1 Utilization category                                                                                                                   |                                               |                                                    |                   |                   |                    |                    |                    |
| for air temperature close to contactor                                                                                                      |                                               |                                                    |                   |                   |                    |                    |                    |
| I <sub>e</sub> / AC-1 rated operational current                                                                                             | θ ≤ 40 °C                                     | 25 A                                               | 28 A              | 30 A              | 45 A               | 50 A               | 50 A               |
| U <sub>e</sub> max. ≤ 690 V, 50/60 Hz                                                                                                       | θ ≤ 60 °C                                     | 25 A                                               | 28 A              | 30 A              | 40 A               | 42 A               | 42 A               |
|                                                                                                                                             | θ ≤ 70 °C                                     | 22 A                                               | 24 A              | 26 A              | 32 A               | 37 A               | 37 A               |
| with conductor cross-sectional area                                                                                                         |                                               | 4 mm <sup>2</sup>                                  | 6 mm <sup>2</sup> | 6 mm <sup>2</sup> | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> |
| AC-3 Utilization category                                                                                                                   |                                               |                                                    |                   |                   |                    |                    |                    |
| for air temperature close to contactor θ ≤ 60 °C                                                                                            |                                               |                                                    |                   |                   |                    |                    |                    |
| (for 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz, 3-phase motors)                                                                              |                                               |                                                    |                   |                   |                    |                    |                    |
| I <sub>e</sub> / AC-3 max. rated operational current                                                                                        | 220-230-240 V                                 | 9 A                                                | 12 A              | 18 A              | 26 A               | 33 A               | 40 A               |
|  3-phase motors                                            | 380-400 V                                     | 9 A                                                | 12 A              | 18 A              | 26 A               | 32 A               | 38 A               |
|                                                                                                                                             | 415 V                                         | 9 A                                                | 12 A              | 18 A              | 26 A               | 32 A               | 38 A               |
|                                                                                                                                             | 440 V                                         | 9 A                                                | 12 A              | 18 A              | 26 A               | 32 A               | 38 A               |
|                                                                                                                                             | 500 V                                         | 9.5 A                                              | 12.5 A            | 15 A              | 23 A               | 28 A               | 33 A               |
|                                                                                                                                             | 690 V                                         | 7 A                                                | 9 A               | 10.5 A            | 17 A               | 21 A               | 24 A               |
|                                                                                                                                             | AC-3 rated operational power                  | 220-230-240 V                                      | 2.2 kW            | 3 kW              | 4 kW               | 6.5 kW             | 9 kW               |
|  1500 r.p.m. 50 Hz<br>1800 r.p.m. 60 Hz<br>3-phase motors | 380-400 V                                     | 4 kW                                               | 5.5 kW            | 7.5 kW            | 11 kW              | 15 kW              | 18.5 kW            |
|                                                                                                                                             | 415 V                                         | 4 kW                                               | 5.5 kW            | 9 kW              | 11 kW              | 15 kW              | 18.5 kW            |
|                                                                                                                                             | 440 V                                         | 4 kW                                               | 5.5 kW            | 9 kW              | 15 kW              | 18.5 kW            | 22 kW              |
|                                                                                                                                             | 500 V                                         | 5.5 kW                                             | 7.5 kW            | 9 kW              | 15 kW              | 18.5 kW            | 22 kW              |
|                                                                                                                                             | 690 V                                         | 5.5 kW                                             | 7.5 kW            | 9 kW              | 15 kW              | 18.5 kW            | 22 kW              |
|                                                                                                                                             | Rated making capacity AC-3                    | 10 x I <sub>e</sub> AC-3 acc. to IEC 60947-4-1     |                   |                   |                    |                    |                    |
| Rated breaking capacity AC-3                                                                                                                | 8 x I <sub>e</sub> AC-3 acc. to IEC 60947-4-1 |                                                    |                   |                   |                    |                    |                    |
| AC-8a Utilization category                                                                                                                  |                                               |                                                    |                   |                   |                    |                    |                    |
| (without thermal overload relay - U <sub>e</sub> 400 V - θ ≤ 40 °C)                                                                         |                                               |                                                    |                   |                   |                    |                    |                    |
| I <sub>e</sub> / AC-8a rated operational current                                                                                            |                                               | 12 A                                               | 16 A              | 22 A              | 30 A               | 40 A               | 50 A               |
| AC-8a rated operational power                                                                                                               |                                               | 5.5 kW                                             | 7.5 kW            | 11 kW             | 15 kW              | 20 kW              | 25 kW              |
| Short-circuit protection for contactors                                                                                                     |                                               |                                                    |                   |                   |                    |                    |                    |
| without thermal O/L relay - Motor protection excluded                                                                                       |                                               |                                                    |                   |                   |                    |                    |                    |
| U <sub>e</sub> ≤ 500 V AC - gG type fuse                                                                                                    |                                               | 25 A                                               | 32 A              | 32 A              | 50 A               | 63 A               | 63 A               |
| Rated short-time withstand current I <sub>cw</sub>                                                                                          | 1 s                                           | 300 A                                              | 300 A             | 300 A             | 700 A              | 700 A              | 700 A              |
| at 40 °C ambient temperature, in free air from a cold state                                                                                 | 10 s                                          | 150 A                                              | 150 A             | 150 A             | 350 A              | 350 A              | 350 A              |
|                                                                                                                                             | 30 s                                          | 80 A                                               | 80 A              | 80 A              | 225 A              | 225 A              | 225 A              |
|                                                                                                                                             | 1 min                                         | 60 A                                               | 60 A              | 60 A              | 150 A              | 150 A              | 150 A              |
|                                                                                                                                             | 15 min                                        | 35 A                                               | 35 A              | 35 A              | 50 A               | 50 A               | 50 A               |
| Maximum breaking capacity                                                                                                                   | at 440 V                                      | 250 A                                              | 250 A             | 250 A             | 500 A              | 500 A              | 500 A              |
| cos φ = 0.45                                                                                                                                | at 690 V                                      | 106 A                                              | 106 A             | 106 A             | 200 A              | 200 A              | 200 A              |
| Heat dissipation per pole                                                                                                                   | I <sub>e</sub> / AC-1                         | 0.8 W                                              | 1 W               | 1.2 W             | 1.8 W              | 2.4 W              | 2.4 W              |
|                                                                                                                                             | I <sub>e</sub> / AC-3                         | 0.1 W                                              | 0.2 W             | 0.35 W            | 0.6 W              | 0.9 W              | 1.3 W              |
| Max. electrical switching frequency                                                                                                         | AC-1                                          | 600 cycles/h                                       |                   |                   |                    |                    |                    |
|                                                                                                                                             | AC-3                                          | 1200 cycles/h                                      |                   |                   |                    |                    |                    |
|                                                                                                                                             | AC-2, AC-4                                    | 300 cycles/h                                       |                   |                   | 150 cycles/h       |                    |                    |

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### Built-in Auxiliary Contacts according to IEC

| Contactor types                                                   |  | AF09                                            | AF12          | AF16 | AF26 | AF30 | AF38 |
|-------------------------------------------------------------------|--|-------------------------------------------------|---------------|------|------|------|------|
| Rated operational voltage U <sub>e</sub> max.                     |  | 690 V                                           |               |      |      |      |      |
| Conventional free air thermal current I <sub>th</sub> - θ ≤ 40 °C |  | 16 A                                            |               |      |      |      |      |
| Rated frequency limits                                            |  | 25 ... 400 Hz                                   |               |      |      |      |      |
| Rated operational current I <sub>e</sub> / AC-15                  |  |                                                 |               |      |      |      |      |
| acc. to IEC 60947-5-1                                             |  | 24-127 V 50/60 Hz                               | 6 A           |      |      |      |      |
|                                                                   |  | 220-240 V 50/60 Hz                              | 4 A           |      |      |      |      |
|                                                                   |  | 400-440 V 50/60 Hz                              | 3 A           |      |      |      |      |
|                                                                   |  | 500 V 50/60 Hz                                  | 2 A           |      |      |      |      |
|                                                                   |  | 690 V 50/60 Hz                                  | 2 A           |      |      |      |      |
| Making capacity AC-15                                             |  | 10 x I <sub>e</sub> AC-15 acc. to IEC 60947-5-1 |               |      |      |      |      |
| Breaking capacity AC-15                                           |  | 10 x I <sub>e</sub> AC-15 acc. to IEC 60947-5-1 |               |      |      |      |      |
| Rated operational current I <sub>e</sub> / DC-13                  |  |                                                 |               |      |      |      |      |
| acc. to IEC 60947-5-1                                             |  | 24 V DC                                         | 6 A / 144 W   |      |      |      |      |
|                                                                   |  | 48 V DC                                         | 2.8 A / 134 W |      |      |      |      |
|                                                                   |  | 72 V DC                                         | 1 A / 72 W    |      |      |      |      |
|                                                                   |  | 110 V DC                                        | 0.55 A / 60 W |      |      |      |      |
|                                                                   |  | 125 V DC                                        | 0.55 A / 69 W |      |      |      |      |
|                                                                   |  | 220 V DC                                        | 0.27 A / 60 W |      |      |      |      |
|                                                                   |  | 250 V DC                                        | 0.27 A / 68 W |      |      |      |      |
|                                                                   |  | 400 V DC                                        | 0.15 A / 60 W |      |      |      |      |
|                                                                   |  | 500 V DC                                        | 0.13 A / 65 W |      |      |      |      |
|                                                                   |  | 600 V DC                                        | 0.1 A / 60 W  |      |      |      |      |
| Short-circuit protection gG type fuse                             |  | 10 A                                            |               |      |      |      |      |
| Rated short-time withstand current I <sub>cw</sub>                |  | for 1.0 s                                       | 100 A         |      |      |      |      |
|                                                                   |  | for 0.1 s                                       | 140 A         |      |      |      |      |
| Minimum switching capacity                                        |  | 12 V / 3 mA                                     |               |      |      |      |      |
| with failure rate acc. to IEC 60947-5-4                           |  | 10 <sup>-7</sup>                                |               |      |      |      |      |
| Non-overlapping time between N.O. and N.C. contacts               |  | ≥ 2 ms                                          |               |      |      |      |      |
| Heat dissipation per pole at 6 A                                  |  | 0.1 W                                           |               |      |      |      |      |
| Max. electrical switching frequency                               |  | AC-15                                           | 1200 cycles/h |      |      |      |      |
|                                                                   |  | DC-13                                           | 900 cycles/h  |      |      |      |      |

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### Main Pole - Utilization Characteristics according to UL / NEMA / CSA

| Contactor types                                                      |                 | AF09                         | AF12   | AF16     | AF26     | AF30   | AF38   |
|----------------------------------------------------------------------|-----------------|------------------------------|--------|----------|----------|--------|--------|
| Standards                                                            |                 | UL 508, CSA C22.2 N°14       |        |          |          |        |        |
| Rated operational voltage $U_e$ max.                                 |                 | 600 V                        |        |          |          |        |        |
| NEMA size                                                            |                 | 00                           | 0      | -        | 1        | -      | -      |
| NEMA continuous amp rating                                           | thermal current | 9 A                          | 18 A   |          | 27 A     |        |        |
| NEMA maximum H.P. ratings 1-phase, 60 Hz                             | 115 V AC        | 1/3 hp                       | 1 hp   |          | 2 hp     |        |        |
|                                                                      | 230 V AC        | 1 hp                         | 2 hp   |          | 3 hp     |        |        |
| NEMA maximum H.P. ratings 3-phase, 60 Hz                             | 200 V AC        | 1-1/2 hp                     | 3 hp   |          | 7-1/2 hp |        |        |
|                                                                      | 230 V AC        | 1-1/2 hp                     | 3 hp   |          | 7-1/2 hp |        |        |
|                                                                      | 460 V AC        | 2 hp                         | 5 hp   |          | 10 hp    |        |        |
|                                                                      | 575 V AC        | 2 hp                         | 5 hp   |          | 10 hp    |        |        |
| UL General use rating                                                |                 |                              |        |          |          |        |        |
| 600 V AC                                                             |                 | 25 A                         | 28 A   | 30 A     | 45 A     | 50 A   | 50 A   |
| With conductor cross-sectional area                                  |                 | AWG 10                       | AWG 10 | AWG 10   | AWG 8    | AWG 8  | AWG 8  |
| 80 V DC - 1-pole                                                     |                 | 25 A                         | 28 A   | 30 A     | 45 A     | 50 A   | 50 A   |
| With conductor cross-sectional area                                  |                 | AWG 10                       | AWG 10 | AWG 10   | AWG 8    | AWG 8  | AWG 8  |
| UL maximum 1-phase motor rating                                      |                 |                              |        |          |          |        |        |
| Amp-rating                                                           | 120 V AC        | 13.8 A                       | 16 A   | 20 A     | 24 A     | 24 A   | 24 A   |
|                                                                      | 240 V AC        | 10 A                         | 12 A   | 17 A     | 17 A     | 28 A   | 28 A   |
| Motor power                                                          | 120 V AC        | 3/4 hp                       | 1 hp   | 1-1/2 hp | 2 hp     | 2 hp   | 2 hp   |
|                                                                      | 240 V AC        | 1-1/2 hp                     | 2 hp   | 3 hp     | 3 hp     | 5 hp   | 5 hp   |
| UL maximum 3-phase motor rating                                      |                 |                              |        |          |          |        |        |
| Amp-rating                                                           | 200-208 V AC    | 7.8 A                        | 11 A   | 17.5 A   | 25.3 A   | 32.2 A | 32.2 A |
|                                                                      | 220-240 V AC    | 6.8 A                        | 9.6 A  | 15.2 A   | 22 A     | 28 A   | 28 A   |
|                                                                      | 440-480 V AC    | 7.6 A                        | 11 A   | 14 A     | 21 A     | 27 A   | 27 A   |
|                                                                      | 550-600 V AC    | 9 A                          | 11 A   | 17 A     | 22 A     | (1)    | (1)    |
| Motor power                                                          | 200-208 V AC    | 2 hp                         | 3 hp   | 5 hp     | 7.5 hp   | 10 hp  | 10 hp  |
| (for 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz 3-phase motors)        | 220-240 V AC    | 2 hp                         | 3 hp   | 5 hp     | 7.5 hp   | 10 hp  | 10 hp  |
|                                                                      | 440-480 V AC    | 5 hp                         | 7.5 hp | 10 hp    | 15 hp    | 20 hp  | 20 hp  |
|                                                                      | 550-600 V AC    | 7.5 hp                       | 10 hp  | 15 hp    | 20 hp    | (1)    | (1)    |
| Short-circuit protection                                             |                 |                              |        |          |          |        |        |
| for contactors without thermal O/L relay - Motor protection excluded |                 |                              |        |          |          |        |        |
| Fuse rating                                                          |                 | 60 A                         | 60 A   | 60 A     | 150 A    | 150 A  | 150 A  |
| Fuse type, 600 V                                                     |                 | NTD                          |        |          |          |        |        |
| Max. electrical switching frequency                                  |                 |                              |        |          |          |        |        |
| for general use                                                      |                 | 600 cycles/h                 |        |          |          |        |        |
| for motor use                                                        |                 | 1200 cycles/h                |        |          |          |        |        |
| Mechanical durability                                                |                 |                              |        |          |          |        |        |
| Number of operating cycles                                           |                 | 10 millions operating cycles |        |          |          |        |        |
| Max. switching frequency                                             |                 | 3600 cycles/h                |        |          |          |        |        |

(1) On request

### Built-in Auxiliary Contacts according to UL / CSA

| Contactor types                           |  | AF09               | AF12 | AF16 | AF26 | AF30 | AF38 |
|-------------------------------------------|--|--------------------|------|------|------|------|------|
| Max. rated operational voltage $U_e$ max. |  | 600 V AC, 600 V DC |      |      |      |      |      |
| Pilot duty                                |  | A600, Q600         |      |      |      |      |      |
| AC thermal rated current                  |  | 10 A               |      |      |      |      |      |
| AC maximum volt-ampere making             |  | 7200 VA            |      |      |      |      |      |
| AC maximum volt-ampere breaking           |  | 720 VA             |      |      |      |      |      |
| DC thermal rated current                  |  | 2.5 A              |      |      |      |      |      |
| DC maximum volt-ampere making-breaking    |  | 69 VA              |      |      |      |      |      |

# AF09 ... AF38 3-pole Contactors

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### General Technical Data

| Contactors types                                                          | AF09                                                            | AF12                                                          | AF16 | AF26 | AF30 | AF38 |
|---------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------|------|------|------|
| <b>Rated insulation voltage <math>U_i</math></b><br>acc. to IEC 60947-4-1 | 690 V                                                           |                                                               |      |      |      |      |
| acc. to UL / CSA                                                          | 600 V                                                           |                                                               |      |      |      |      |
| <b>Rated impulse withstand voltage <math>U_{imp}</math></b>               | 6 kV                                                            |                                                               |      |      |      |      |
| <b>Electromagnetic compatibility</b>                                      | Devices complying with IEC 60947-1 / EN 60947-1 - Environment A |                                                               |      |      |      |      |
| <b>Ambient air temperature</b> close to contactor                         |                                                                 |                                                               |      |      |      |      |
| Operation                                                                 | fitted with thermal overload relay                              |                                                               |      |      |      |      |
|                                                                           | without thermal overload relay                                  | -40 ... +70 °C                                                |      |      |      |      |
| Storage                                                                   | -60 ... +80 °C                                                  |                                                               |      |      |      |      |
| <b>Climatic withstand</b>                                                 | Category B according to IEC 60947-1 Annex Q                     |                                                               |      |      |      |      |
| <b>Operating altitude</b>                                                 | ≤ 3000 m                                                        |                                                               |      |      |      |      |
| <b>Mechanical durability</b>                                              |                                                                 |                                                               |      |      |      |      |
| Number of operating cycles                                                | 10 millions operating cycles                                    |                                                               |      |      |      |      |
| Max. switching frequency                                                  | 3600 cycles/h                                                   |                                                               |      |      |      |      |
| <b>Shock withstand</b><br>acc. IEC 60068-2-27 and EN 60068-2-27           |                                                                 |                                                               |      |      |      |      |
| Mounting position 1                                                       |                                                                 |                                                               |      |      |      |      |
|                                                                           | <b>Shock direction</b>                                          | 1/2 sinusoidal shock for 11 ms: no change in contact position |      |      |      |      |
|                                                                           | A                                                               | 30 g                                                          |      |      |      |      |
|                                                                           | B1                                                              | 25 g Closed position / 5 g Open position                      |      |      |      |      |
|                                                                           | B2                                                              | 15 g                                                          |      |      |      |      |
|                                                                           | C1                                                              | 25 g                                                          |      |      |      |      |
|                                                                           | C2                                                              | 25 g                                                          |      |      |      |      |
| <b>Vibration withstand</b><br>acc. to IEC 60068-2-6                       |                                                                 |                                                               |      |      |      |      |
|                                                                           | 5 ... 300 Hz                                                    |                                                               |      |      |      |      |
|                                                                           | 4 g Closed position / 2 g Open position                         |                                                               |      |      |      |      |

### Magnet System Characteristics

| Contactors types                                              | AF09                                                                                                                                                                                                                                                                    | AF12         | AF16 | AF26 | AF30 | AF38 |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------|------|------|------|
| <b>Coil operating limits</b><br>acc. to IEC 60947-4-1         |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
| AC supply                                                     | at $\theta \leq 60^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$<br>at $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots U_c \text{ max}$                                                                               |              |      |      |      |      |
| DC supply                                                     | at $\theta \leq 60^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$<br>at $\theta \leq 70^\circ\text{C}$ (AF) $0.85 \times U_c \text{ min} \dots U_c \text{ max}$ - (AF..Z) $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$ |              |      |      |      |      |
| <b>AC control voltage</b> Rated control circuit voltage $U_c$ | 24 ... 500 V AC                                                                                                                                                                                                                                                         |              |      |      |      |      |
| 50/60 Hz                                                      |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
| Coil consumption                                              | Average pull-in value (AF) 50 VA - (AF..Z) 16 VA                                                                                                                                                                                                                        |              |      |      |      |      |
|                                                               | Average holding value (AF) 2.2 VA / 2 W - (AF..Z) 1.7 VA / 1.5 W                                                                                                                                                                                                        |              |      |      |      |      |
| <b>DC control voltage</b> Rated control circuit voltage $U_c$ | 12 ... 500 V DC                                                                                                                                                                                                                                                         |              |      |      |      |      |
| Coil consumption                                              | Average pull-in value (AF) 50 W - (AF..Z) 12 ... 16 W                                                                                                                                                                                                                   |              |      |      |      |      |
|                                                               | Average holding value (AF) 2 W - (AF..Z) 1.7 W                                                                                                                                                                                                                          |              |      |      |      |      |
| <b>PLC-Output control</b>                                     | (AF..Z) $\geq 500 \text{ mA}$ 24 V DC                                                                                                                                                                                                                                   |              |      |      |      |      |
| <b>Drop-out voltage in % of <math>U_c \text{ min}</math></b>  | $\leq 60\%$ $U_c \text{ min}$                                                                                                                                                                                                                                           |              |      |      |      |      |
| <b>Voltage sag immunity</b> according to SEMI F47-0706        | (AF..Z) conditions of use on request                                                                                                                                                                                                                                    |              |      |      |      |      |
| <b>Dips withstand</b> (level 0% according to IEC 61000-4-11)  | (AF..Z) 22 ms average for $U_c = 24 \dots 250 \text{ V}$ 50/60Hz                                                                                                                                                                                                        |              |      |      |      |      |
| -20 °C ≤ $\theta$ ≤ +60 °C                                    |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
| <b>Operating time</b>                                         |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
| between coil energization and:                                |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
|                                                               | N.O. contact closing                                                                                                                                                                                                                                                    | 40 ... 95 ms |      |      |      |      |
|                                                               | N.C. contact opening                                                                                                                                                                                                                                                    | 38 ... 90 ms |      |      |      |      |
| between coil de-energization and:                             |                                                                                                                                                                                                                                                                         |              |      |      |      |      |
|                                                               | N.O. contact opening                                                                                                                                                                                                                                                    | 11 ... 95 ms |      |      |      |      |
|                                                               | N.C. contact closing                                                                                                                                                                                                                                                    | 13 ... 98 ms |      |      |      |      |

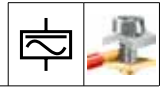
### Mounting Characteristics

| Contactors types                         | AF09                                                                                                                      | AF12 | AF16 | AF26 | AF30 | AF38 |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|
| <b>Mounting positions</b>                |                                                                                                                           |      |      |      |      |      |
|                                          | Max. N.C. built-in and add-on N.C. auxiliary contacts: see accessory fitting details for a 3-pole contactor AF09 ... AF38 |      |      |      |      |      |
| <b>Mounting distances</b>                | The contactors can be assembled side by side.                                                                             |      |      |      |      |      |
| <b>Fixing</b>                            |                                                                                                                           |      |      |      |      |      |
| on rail according to IEC 60715, EN 60715 | 35 x 7.5 mm or 35 x 15 mm                                                                                                 |      |      |      |      |      |
| by screws (not supplied)                 | 2 x M4 screws placed diagonally                                                                                           |      |      |      |      |      |

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### Connecting Characteristics

| Contractor types                                                                                                                 | AF09                                                                                                                                     | AF12 | AF16     | AF26                         | AF30                       | AF38 |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------------------|----------------------------|------|
| Main terminals                                                                                                                   | <div></div> <div>Screw terminals with cable clamp</div> |      |          |                              |                            |      |
| Connecting capacity (min. ... max.)                                                                                              |                                                                                                                                          |      |          |                              |                            |      |
| Main conductors (poles)                                                                                                          |                                                                                                                                          |      |          |                              |                            |      |
| <div></div> Rigid                               | solid ( $\leq 4 \text{ mm}^2$ )                                                                                                          |      | 1 x      | 1 ... 6 mm <sup>2</sup>      | 2.5 ... 10 mm <sup>2</sup> |      |
| <div></div>                                     | stranded ( $\geq 6 \text{ mm}^2$ )                                                                                                       |      | 2 x      | 1 ... 6 mm <sup>2</sup>      | 2.5 ... 10 mm <sup>2</sup> |      |
| <div></div> Flexible with non insulated ferrule |                                                                                                                                          |      | 1 x      | 0.75 ... 6 mm <sup>2</sup>   | 1.5 ... 10 mm <sup>2</sup> |      |
| <div></div> Flexible with insulated ferrule     |                                                                                                                                          |      | 2 x      | 0.75 ... 6 mm <sup>2</sup>   | 1.5 ... 10 mm <sup>2</sup> |      |
| <div></div> Flexible with insulated ferrule     |                                                                                                                                          |      | 1 x      | 0.75 ... 4 mm <sup>2</sup>   | 1.5 ... 10 mm <sup>2</sup> |      |
| <div></div> Flexible with insulated ferrule     |                                                                                                                                          |      | 2 x      | 0.75 ... 2.5 mm <sup>2</sup> | 1.5 ... 4 mm <sup>2</sup>  |      |
| <div></div> Bars or lugs                        |                                                                                                                                          |      | L <      | 9.6 mm                       | 12.5 mm                    |      |
| Capacity according to UL/CSA                                                                                                     |                                                                                                                                          |      | 1 or 2 x | AWG 16 ... 10                | AWG 14 ... 8               |      |
| Stripping length                                                                                                                 |                                                                                                                                          |      |          | 10 mm                        | 14 mm                      |      |
| Auxiliary conductors                                                                                                             |                                                                                                                                          |      |          |                              |                            |      |
| (built-in auxiliary terminals + coil terminals)                                                                                  |                                                                                                                                          |      |          |                              |                            |      |
| <div></div> Rigid solid                         |                                                                                                                                          |      | 1 x      | 1 ... 2.5 mm <sup>2</sup>    |                            |      |
| <div></div> Rigid solid                         |                                                                                                                                          |      | 2 x      | 1 ... 2.5 mm <sup>2</sup>    |                            |      |
| <div></div> Flexible with non insulated ferrule |                                                                                                                                          |      | 1 x      | 0.75 ... 2.5 mm <sup>2</sup> |                            |      |
| <div></div> Flexible with non insulated ferrule |                                                                                                                                          |      | 2 x      | 0.75 ... 2.5 mm <sup>2</sup> |                            |      |
| <div></div> Flexible with insulated ferrule     |                                                                                                                                          |      | 1 x      | 0.75 ... 2.5 mm <sup>2</sup> |                            |      |
| <div></div> Flexible with insulated ferrule    |                                                                                                                                          |      | 2 x      | 0.75 ... 1.5 mm <sup>2</sup> |                            |      |
| <div></div> Bars or lugs                      |                                                                                                                                          |      | L <      | 8 mm                         |                            |      |
| Capacity according to UL/CSA                                                                                                     |                                                                                                                                          |      | 1 or 2 x | AWG 18 ... 14                |                            |      |
| Stripping length                                                                                                                 |                                                                                                                                          |      |          | 10 mm                        |                            |      |
| Degree of protection                                                                                                             |                                                                                                                                          |      |          |                              |                            |      |
| acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529                                                                        |                                                                                                                                          |      |          |                              |                            |      |
| Main terminals                                                                                                                   |                                                                                                                                          |      |          | IP20                         |                            |      |
| Coil terminals                                                                                                                   |                                                                                                                                          |      |          | IP20                         |                            |      |
| Built-in auxiliary terminals                                                                                                     |                                                                                                                                          |      |          | IP20                         |                            |      |
| Screw terminals                                                                                                                  |                                                                                                                                          |      |          |                              |                            |      |
| (delivered in open position, screws of unused terminals must be tightened)                                                       |                                                                                                                                          |      |          |                              |                            |      |
| Main terminals                                                                                                                   |                                                                                                                                          |      |          | M3.5                         | M4                         |      |
| Coil terminals                                                                                                                   |                                                                                                                                          |      |          | M3.5                         |                            |      |
| Built-in auxiliary terminals                                                                                                     |                                                                                                                                          |      |          | M3.5                         |                            |      |
| Screwdriver type                                                                                                                 |                                                                                                                                          |      |          |                              |                            |      |
| Flat Ø5.5 / Pozidriv 2                                                                                                           |                                                                                                                                          |      |          |                              |                            |      |
| Tightening torque                                                                                                                |                                                                                                                                          |      |          |                              |                            |      |
| Main pole terminals                                                                                                              |                                                                                                                                          |      |          | 1.5 Nm / 13 lb.in            | 2.5 Nm / 22 lb.in          |      |
| Coil terminals                                                                                                                   |                                                                                                                                          |      |          | 1.2 Nm / 11 lb.in            |                            |      |
| Built-in auxiliary terminals                                                                                                     |                                                                                                                                          |      |          | 1.2 Nm / 11 lb.in            |                            |      |

# AF09 ... AF38 3-pole Contactors

## Main Accessories



### Accessory fitting details for a 3-pole contactor AF09 ... AF38

Many configurations of accessories are possible depending on whether these are front-mounted or side-mounted.

| Contactor types                                                                                                                   | Main poles | Built-in auxiliary contacts | Front-mounted accessories |                |            |                                                                | Side-mounted accessories |            |
|-----------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|---------------------------|----------------|------------|----------------------------------------------------------------|--------------------------|------------|
|                                                                                                                                   |            |                             | Auxiliary contact blocks  |                |            |                                                                | Auxiliary contact blocks |            |
|                                                                                                                                   |            |                             |                           |                |            |                                                                |                          |            |
|                                                                                                                                   |            |                             | 1-pole CA4                |                |            | Electrical and mechanical interlock set (between 2 contactors) | Left side                | Right side |
|                                                                                                                                   |            |                             | 1-pole CC4                | 2-pole CAT4-11 | 4-pole CA4 | VEM4                                                           | 2-pole CAL4-11           |            |
| Max. N.C. built-in and add-on N.C. auxiliary contacts: 4 N.C. max. on positions 1, 2, 3, 4 and 3 N.C. max. on positions 1 ±30°, 5 |            |                             |                           |                |            |                                                                |                          |            |
| AF09 ... AF16                                                                                                                     | 3          | 0 0 1                       | 4 max.                    | or 1           | or 1       | –                                                              | + 1                      | –          |
|                                                                                                                                   |            |                             | 2 max.                    | –              | –          | –                                                              | + 1                      | + 1        |
|                                                                                                                                   |            |                             | 3 max.                    | –              | –          | + 1                                                            | + 1                      | or 1       |
| AF09 ... AF16<br>AF26 ... AF38                                                                                                    | 3          | 0 1 0<br>0 0 0              | 4 max.                    | or 1           | or 1       | –                                                              | + 1                      | –          |
|                                                                                                                                   |            |                             | 2 max.                    | or 1           | –          | –                                                              | + 1                      | + 1        |
|                                                                                                                                   |            |                             | 3 max.                    | –              | –          | + 1                                                            | + 1                      | or 1       |

### Mounting positions

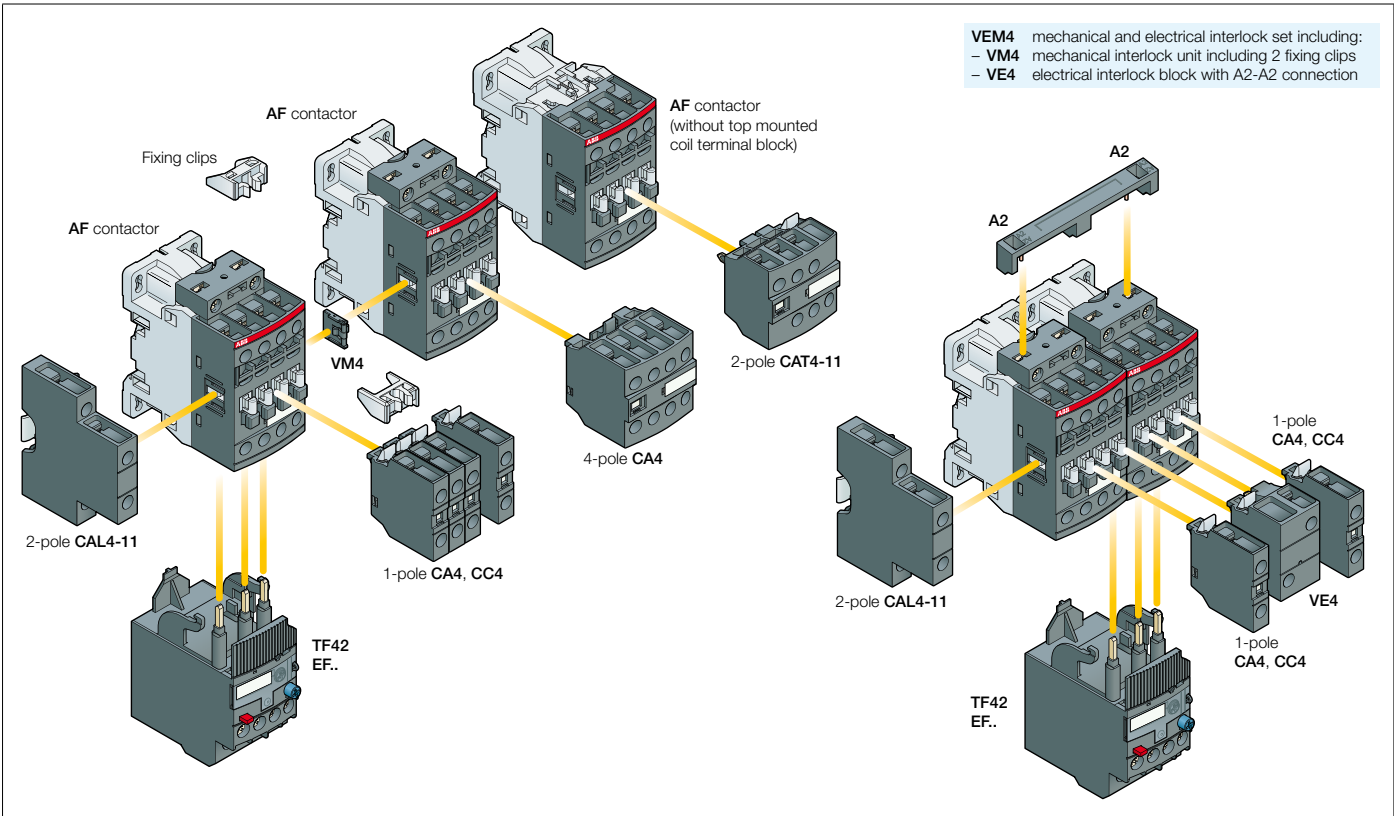


### Protection against overloads with thermal or electronic overload relays

The addition of an overload relay on the contactor does not prevent fitting of many other accessories as shown below.

| Contactor types | Overload relays - direct mounting - no kit required |
|-----------------|-----------------------------------------------------|
| AF09 ... AF38   | TF42 thermal overload relay                         |
| AF09 ... AF38   | EF19 electronic overload relay                      |
| AF26 ... AF38   | EF45 electronic overload relay                      |

### Contactors and main accessories (other accessories available)





CA4-10



CA4-22M



CAL4-11



CAT4-11E

### Application

The auxiliary contact blocks are used for the operation of auxiliary circuits and control circuits.

### Description

Types of auxiliary contact blocks for standard industrial environments:

- **CA4** 1 or 4-pole block, front-mounted, instantaneous with N.O., N.C. contacts
- **CC4** 1-pole block, front-mounted, with N.O. leading contact or N.C. lagging contact
- **CAT4** 2-pole block, front-mounted, instantaneous N.O. + N.C. contacts with A1 / A2 coil terminal connection on front face
- **CAL4** 2-pole block instantaneous N.O. + N.C. contacts clipped onto the right and/or left side of the contactors.

Select the type of 2 or 4-pole auxiliary contact blocks CAT4 or CA4-..E, CA 4-..M or CA 4-..U, according to the contactor type for compliance with the standard requirements (see terminal and marking positioning).

The auxiliary contact blocks are equipped with screw type connecting terminals delivered open, protected against accidental direct contact and bear the corresponding function marking.

Fitting Details - For each contactor refer to "Accessory Fitting Details" table.

### Ordering Details

| For contactors | Auxiliary contacts                                                                                                                                                  | Type | Order code | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------|---------------------------------|----------------------|
|                |   |      |            |                                 |                      |

#### Front-mounted instantaneous auxiliary contact blocks

|                       |         |          |                    |    |       |
|-----------------------|---------|----------|--------------------|----|-------|
| AF09 ... AF38         | 1 0 - - | CA4-10   | 1SBN 010 110 R1010 | 1  | 0.014 |
|                       | 1 0 - - | CA4-10-T | 1SBN 010 110 T1010 | 10 | 0.014 |
|                       | 0 1 - - | CA4-01   | 1SBN 010 110 R1001 | 1  | 0.014 |
|                       | 0 1 - - | CA4-01-T | 1SBN 010 110 T1001 | 10 | 0.014 |
| AF09 ... AF16...30-10 | 2 2 - - | CA4-22M  | 1SBN 010 140 R1122 | 1  | 0.055 |
|                       | 3 1 - - | CA4-31M  | 1SBN 010 140 R1131 | 1  | 0.055 |
|                       | 1 3 - - | CA4-13M  | 1SBN 010 140 R1113 | 1  | 0.055 |
|                       | 0 4 - - | CA4-04M  | 1SBN 010 140 R1104 | 1  | 0.055 |
| AF26 ... AF38...30-00 | 2 2 - - | CA4-22E  | 1SBN 010 140 R1022 | 1  | 0.055 |
|                       | 3 1 - - | CA4-31E  | 1SBN 010 140 R1031 | 1  | 0.055 |
|                       | 4 0 - - | CA4-40E  | 1SBN 010 140 R1040 | 1  | 0.055 |
|                       | 0 4 - - | CA4-04E  | 1SBN 010 140 R1004 | 1  | 0.055 |
| AF09 ... AF16...30-01 | 2 2 - - | CA4-22U  | 1SBN 010 140 R1322 | 1  | 0.055 |
|                       | 3 1 - - | CA4-31U  | 1SBN 010 140 R1331 | 1  | 0.055 |
|                       | 4 0 - - | CA4-40U  | 1SBN 010 140 R1340 | 1  | 0.055 |

#### Front-mounted auxiliary contact blocks with N.O. leading contact and N.C. lagging contact

|               |         |        |                    |   |       |
|---------------|---------|--------|--------------------|---|-------|
| AF09 ... AF38 | - - 1 0 | CC4-10 | 1SBN 010 111 R1010 | 1 | 0.014 |
|               | - - 0 1 | CC4-01 | 1SBN 010 111 R1001 | 1 | 0.014 |

#### Side-mounted instantaneous auxiliary contact blocks

|               |         |           |                    |    |       |
|---------------|---------|-----------|--------------------|----|-------|
| AF09 ... AF38 | 1 1 - - | CAL4-11   | 1SBN 010 120 R1011 | 1  | 0.040 |
|               | 1 1 - - | CAL4-11-T | 1SBN 010 120 T1011 | 10 | 0.040 |

#### Front-mounted instantaneous auxiliary contact and A1/A2 coil terminal blocks

|                       |         |          |                    |   |       |
|-----------------------|---------|----------|--------------------|---|-------|
| AF09 ... AF16...30-10 | 1 1 - - | CAT4-11M | 1SBN 010 151 R1111 | 1 | 0.040 |
| AF26 ... AF38...30-00 | 1 1 - - | CAT4-11E | 1SBN 010 151 R1011 | 1 | 0.040 |
| AF09 ... AF16...30-01 | 1 1 - - | CAT4-11U | 1SBN 010 151 R1311 | 1 | 0.040 |

Note: CAT4 not fittable on AF.Z contactors with DC control voltage 12...20 V DC.



### Technical Data

|       |                                                              |
|-------|--------------------------------------------------------------|
| Types | 1-pole CA4, 1-pole CC4, 4-pole CA4, 2-pole CAT4, 2-pole CAL4 |
|-------|--------------------------------------------------------------|

### Contact Utilization Characteristics according to IEC

|                                                                        |                                                         |
|------------------------------------------------------------------------|---------------------------------------------------------|
| Standards                                                              | IEC 60947-5-1 and EN 60947-5-1                          |
| Rated insulation voltage $U_i$ acc. to IEC 60947-5-1                   | 690 V                                                   |
| Rated impulse withstand voltage $U_{imp}$                              | 6 kV                                                    |
| Rated operational voltage $U_o$ max.                                   | 24 ... 690 V                                            |
| Conventional thermal current $I_{th}$ - $\theta \leq 40^\circ\text{C}$ | 16 A                                                    |
| Rated frequency limits                                                 | 25 ... 400 Hz                                           |
| Rated operational current $I_o$ / AC-15                                | 24-127 V 50/60 Hz 6 A                                   |
| acc. to IEC 60947-5-1                                                  | 220-240 V 50/60 Hz 4 A                                  |
|                                                                        | 400-440 V 50/60 Hz 3 A                                  |
|                                                                        | 500 V 50/60 Hz 2 A                                      |
|                                                                        | 690 V 50/60 Hz 2 A                                      |
| Making capacity acc. to IEC 60947-5-1                                  | 10 x $I_o$ AC-15 acc. to IEC 60947-5-1                  |
| Breaking capacity acc. to IEC 60947-5-1                                | 10 x $I_o$ AC-15 acc. to IEC 60947-5-1                  |
| Rated operational current $I_o$ / DC-13                                | 24 V DC 6 A / 144 W                                     |
| acc. to IEC 60947-5-1                                                  | 48 V DC 2.8 A / 134 W                                   |
|                                                                        | 72 V DC 1 A / 72 W                                      |
|                                                                        | 110 V DC 0.55 A / 60 W                                  |
|                                                                        | 125 V DC 0.55 A / 69 W                                  |
|                                                                        | 220 V DC 0.27 A / 60 W                                  |
|                                                                        | 250 V DC 0.27 A / 68 W                                  |
|                                                                        | 400 V DC 0.15 A / 60 W                                  |
|                                                                        | 500 V DC 0.13 A / 65 W                                  |
|                                                                        | 600 V DC 0.1 A / 60 W                                   |
| Short-circuit protection gG type fuse                                  | 10 A                                                    |
| Rated short-time withstand current $I_{cw}$                            | for 1.0 s 100 A                                         |
| $\theta = 40^\circ\text{C}$                                            | for 0.1 s 140 A                                         |
| Minimum switching capacity                                             | 12 V / 3 mA                                             |
| with failure rate acc. to IEC 60947-5-4                                | $10^{-7}$                                               |
| Heat dissipation per pole at 6 A                                       | 0.1 W                                                   |
| Mechanical durability                                                  | Number of operating cycles 10 millions operating cycles |
|                                                                        | Max. switching frequency 3600 cycles/h                  |
| Max. electrical switching frequency                                    | for AC-15 1200 cycles/h                                 |
|                                                                        | for DC-13 900 cycles/h                                  |

### Contact Utilization Characteristics according to UL / CSA

|                                        |                        |
|----------------------------------------|------------------------|
| Standards                              | UL 508, CSA C22.2 N°14 |
| Rated insulation voltage $U_i$         | 600 V                  |
| Max. rated voltage                     | 600 V AC, 600 V DC     |
| Pilot duty                             | A600, Q600             |
| AC thermal rated current               | 10 A                   |
| AC maximum volt-ampere making          | 7200 VA                |
| AC maximum volt-ampere breaking        | 720 VA                 |
| DC thermal rated current               | 2.5 A                  |
| DC maximum volt-ampere making-breaking | 69 VA                  |

### Connecting Characteristics

|                                                                                                                         |                                                                            |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Screw terminals                                                                                                         | (delivered in open position, screws of unused terminals must be tightened) |
| All terminals                                                                                                           | M3.5                                                                       |
| Connecting capacity (min. ... max.)                                                                                     |                                                                            |
|  Rigid solid                         | 1 x 1 ... 2.5 mm²                                                          |
|  Flexible with non insulated ferrule | 2 x 1 ... 2.5 mm²                                                          |
|  Flexible with insulated ferrule     | 1 x 0.75 ... 2.5 mm²                                                       |
|  Flexible with insulated ferrule     | 2 x 0.75 ... 2.5 mm²                                                       |
|  Flexible with insulated ferrule     | 1 x 0.75 ... 2.5 mm²                                                       |
|  Flexible with insulated ferrule     | 2 x 0.75 ... 1.5 mm²                                                       |
|  Bars or lugs                        | L < 8 mm                                                                   |
| Capacity acc. to UL/CSA                                                                                                 | 1 or 2 x AWG 18 ... 14                                                     |
| Stripping length                                                                                                        | 10 mm                                                                      |
| Degree of protection                                                                                                    | IP20                                                                       |
| acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529                                                               |                                                                            |
| Screwdriver type                                                                                                        | Flat Ø5.5 / Pozidriv 2                                                     |
| Tightening torque                                                                                                       | 1.2 Nm / 11 lb.in                                                          |

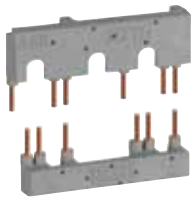
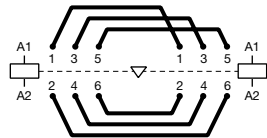
# Connexion Accessories for Starting Solutions

## Accessories for AF09 ... AF38 3-pole Contactors

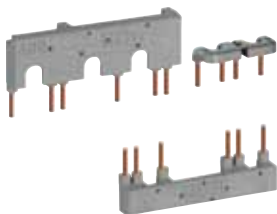
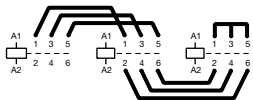
Catalogue Page 1SBC 101 137 S0201



BEA16-4



BER16-4



BEY16-4

### Connecting links with manual motor starters

#### Description

The **BEA...-4** connecting links are used to connect AF09 ... AF38 contactors with the MS116 or MS132 manual motor starters. The **BEA...-4** insulated 3-pole connecting links ensure the electrical and mechanical connection between the contactor and the associated manual motor starter.

#### Ordering Details

| For contactors                           | Type           | Order code                | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|------------------------------------------|----------------|---------------------------|---------------------------------|----------------------|
| AF09 ... AF16 with MS116 and MS132       | <b>BEA16-4</b> | <b>1SBN 081 306 T1000</b> | 10                              | 0.025                |
| AF26 ... AF38 with MS132-12 ... MS132-32 | <b>BEA38-4</b> | <b>1SBN 082 306 T2000</b> | 10                              | 0.030                |

### Connection sets for reversing contactors

#### Description

**BER16-4** and **BER38-4** connection sets between the main poles of two 3-pole contactors mounted side by side. The connection sets are made up of 1 upstream and 1 downstream connections: insulated, solid copper bars.

#### Ordering Details

| For contactors | Type           | Order code                | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|----------------|----------------|---------------------------|---------------------------------|----------------------|
| AF09 ... AF16  | <b>BER16-4</b> | <b>1SBN 081 311 R1000</b> | 1                               | 0.045                |
| AF26 ... AF38  | <b>BER38-4</b> | <b>1SBN 082 311 R1000</b> | 1                               | 0.100                |

### Connection sets for Star-Delta starting

#### Description

**BEY16-4** and **BEY38-4** connection sets between the main poles of the Line, Delta and Star contactors of a Star-Delta starter.

The connection sets are made up of:

- Line contactor / Delta contactor: upstream phase-to-phase connection
- Delta contactor / Star contactor: downstream connection in parallel
- Star contactor: Star point upstream.

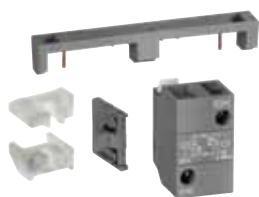
#### Ordering Details

| For Line, Delta and Star contactors | Interlock unit<br>between Delta & Star<br>contactors | Type           | Order code                | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|-------------------------------------|------------------------------------------------------|----------------|---------------------------|---------------------------------|----------------------|
| AF09 ... AF16                       | With or without                                      | <b>BEY16-4</b> | <b>1SBN 081 313 R2000</b> | 1                               | 0.050                |
| AF26 ... AF38                       | VM4 or VEM4                                          | <b>BEY38-4</b> | <b>1SBN 082 713 R2000</b> | 1                               | 0.110                |

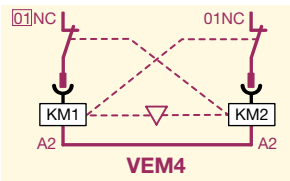
Accessories for AF09 ... AF38 3-pole Contactors



VM4



VEM4



BB4

Mechanical interlock unit

Description

**VM4** mechanical interlock unit for the interlocking of two AF contactors. When mounted between two contactors without additional width, the VM4 mechanical interlock unit prevents one of the contactors from closing as long as the other contactor is closed. The mechanical interlock unit includes 2 fixing clips (BB4).

Ordering Details

| For contactors | Type | Order code         | Pack <sup>(ing)</sup> pieces | Weight kg (1 pce) |
|----------------|------|--------------------|------------------------------|-------------------|
| AF09 ... AF38  | VM4  | 1SBN 030 105 T1000 | 10                           | 0.005             |

Mechanical and electrical interlock set

Description

**VEM4** mechanical and electrical interlock set for the interlocking of two AF contactors. **VEM4** set includes a mechanical interlock unit VM4 with 2 fixing clips (BB4) and a VE4 electrical interlock block with A2-A2 connection. Fixing the electrical interlock block to the contactor front face connects the 2 built-in N.C. interlocking contacts with the two coils. VE4 block must be used with A2-A2 connection to respect the electrical connection diagram.

Ordering Details

| For contactors                 | Auxiliary contacts                                                                        | Type | Order code         | Pack <sup>(ing)</sup> pieces | Weight kg (1 pce) |
|--------------------------------|-------------------------------------------------------------------------------------------|------|--------------------|------------------------------|-------------------|
| AF09 ... AF16<br>AF26 ... AF38 | <br>1 1 | VEM4 | 1SBN 030 111 R1000 | 1                            | 0.035             |

Note: VEM4 not fittable on AF..Z contactors with DC control voltage 12...20 V DC.

Fixing clips

Ordering Details

| For contactors | Type | Order code         | Pack <sup>(ing)</sup> pieces | Weight kg (1 pce) |
|----------------|------|--------------------|------------------------------|-------------------|
| AF09 ... AF38  | BB4  | 1SBN 110 120 W1000 | 50                           | 0.002             |

## Accessories for AF09 ... AF38 3-pole Contactors



## Technical Data

|                            |                             |
|----------------------------|-----------------------------|
| Interlock types            | VM4                         |
| Mechanical durability      |                             |
| Number of operating cycles | 5 millions operating cycles |
| Max. switching frequency   | 1800 cycles/h               |

|                 |      |
|-----------------|------|
| Interlock types | VEM4 |
|-----------------|------|

## Contact Utilization Characteristics according to IEC

|                                                                        |                                             |
|------------------------------------------------------------------------|---------------------------------------------|
| Standards                                                              | IEC 60947-5-1 and EN 60947-5-1              |
| Rated insulation voltage $U_i$ acc. to IEC 60947-5-1                   | 690 V                                       |
| Rated impulse withstand voltage $U_{imp}$                              | 6 kV                                        |
| Rated control circuit voltage $U_c$                                    | AC 50/60 Hz control voltage 24 ... 500 V AC |
|                                                                        | DC control voltage 20 ... 500 V DC          |
| Conventional thermal current $I_{th}$ - $\theta \leq 40^\circ\text{C}$ | 16 A                                        |
| Mechanical and electrical durability                                   |                                             |
| Number of operating cycles                                             | 5 millions operating cycles                 |
| Max. mechanical switching frequency                                    | 1800 cycles/h                               |
| Max. electrical switching frequency                                    | 1200 cycles/h                               |

## Contact Utilization Characteristics according to UL / CSA

|                    |                        |
|--------------------|------------------------|
| Standards          | UL 508, CSA C22.2 N°14 |
| Max. rated voltage | 500 V AC, 500 V DC     |

## Connecting Characteristics

|                                                                                                                         |                                    |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Screw terminals                                                                                                         |                                    |
| All terminals                                                                                                           | M3.5                               |
| Connecting capacity (min. ... max.)                                                                                     |                                    |
|  Rigid Solid                         | 1 x ; 1 ... 2.5 mm <sup>2</sup>    |
|  Flexible with non insulated ferrule | 2 x ; 1 ... 2.5 mm <sup>2</sup>    |
|  Flexible with non insulated ferrule | 1 x ; 0.75 ... 2.5 mm <sup>2</sup> |
|  Flexible with non insulated ferrule | 2 x ; 0.75 ... 2.5 mm <sup>2</sup> |
|  Flexible with insulated ferrule     | 1 x ; 0.75 ... 2.5 mm <sup>2</sup> |
|  Flexible with insulated ferrule     | 2 x ; 0.75 ... 1.5 mm <sup>2</sup> |
|  Bars or lugs                        | L < 8 mm                           |
| Capacity according to UL/CSA                                                                                            | 1 or 2 x ; AWG 18 ... 14           |
| Stripping length                                                                                                        | 10 mm                              |
| Degree of protection                                                                                                    |                                    |
| acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529                                                               | IP20                               |
| Screwdriver type                                                                                                        | Flat Ø5.5 / Pozidriv 2             |
| Tightening torque                                                                                                       | 1.2 Nm / 11 lb.in                  |

Accessories for AF09 ... AF38 3-pole Contactors



LDC4

Additional coil terminal block

Description

Additional coil terminal block for a bottom access to the coil terminals of contactors or contactor relays.

Ordering Details

| For contactors | Type | Order code         | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|----------------|------|--------------------|---------------------------------|----------------------|
| AF09 ... AF38  | LDC4 | 1SBN 070 156 T1000 | 10                              | 0.010                |



BX4



BX4-CA

Protective covers

Description

Sealable and transparent protective covers BX4 and non-removable BX4-CA to protect the devices against accidental contact.

Ordering Details

| For contactors                                          | Type   | Order code         | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|---------------------------------------------------------|--------|--------------------|---------------------------------|----------------------|
| All 1-stack contactors                                  | BX4    | 1SBN 110 108 T1000 | 10                              | 0.006                |
| For 4-pole CA4 and 2-pole CAT4 auxiliary contact blocks | BX4-CA | 1SBN 110 109 W1000 | 50                              | 0.001                |



BA4

Function markers

Description

Box of 16 blank cards (16 markers by card) printable on HTP500 thermal transfer printer and AMS 500 marking table to identify your contactors, overload relays or manual motor starters.  
Marker dimensions: 7 x 20 mm (.276" x .787")

Ordering Details

| For contactors                  | Type       | Order code         | Pack <sup>(ing)</sup><br>pieces | Weight<br>kg (1 pce) |
|---------------------------------|------------|--------------------|---------------------------------|----------------------|
| Marker card                     | BA4        | 1SNA 235 156 R2700 | 16                              | 0.011                |
| AMS 500 support plate for 8 BA4 | SPRC 1     | 1SNA 360 010 R1500 | 1                               | 0.220                |
| HTP500 support plate            | HTP500-BA4 | 1SNA 235 712 R2400 | 1                               | 0.290                |

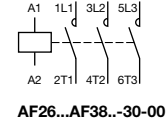
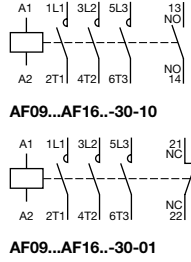
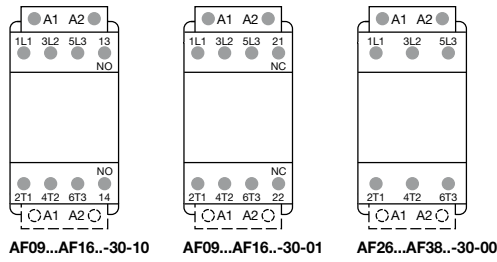
# AF09 ... AF38 3-pole Contactors

## Terminal Marking and Positioning

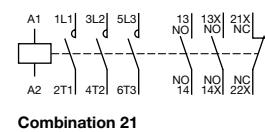
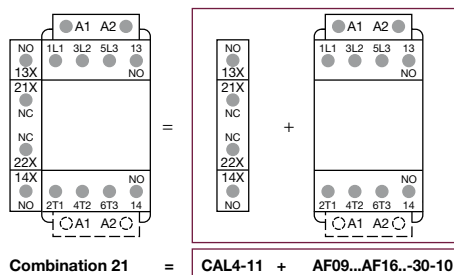
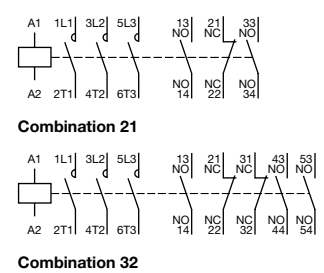
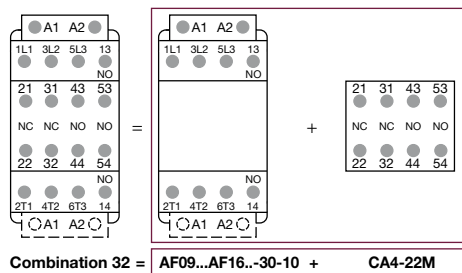
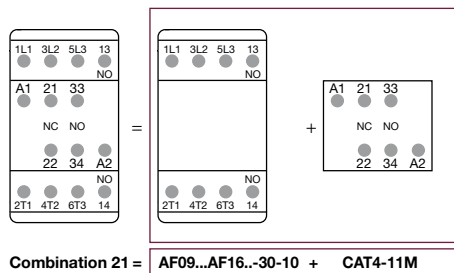
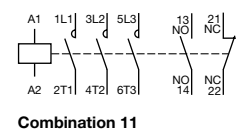
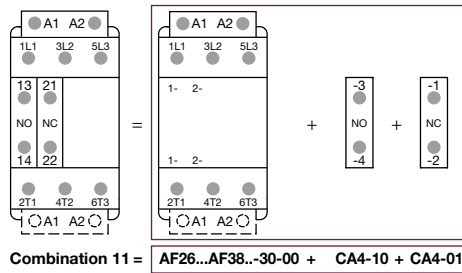
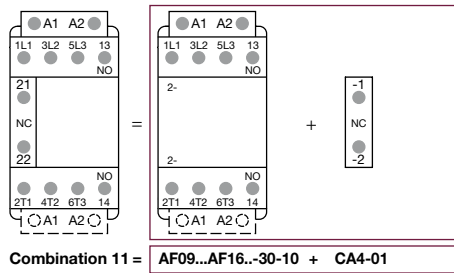
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### Standard devices without addition of auxiliary contacts



### Other possible contact combinations with auxiliary contacts added by the user



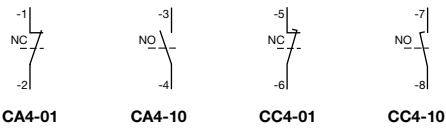
Note: Only AF.Z contactor with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole

# Add-on Auxiliary Contacts

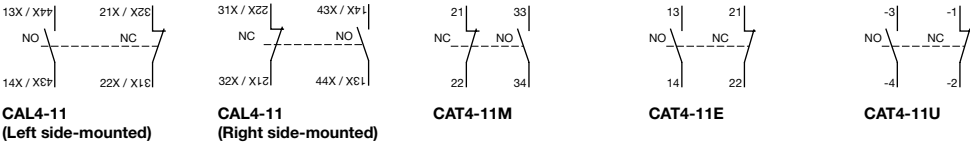
## Terminal Marking and Positioning



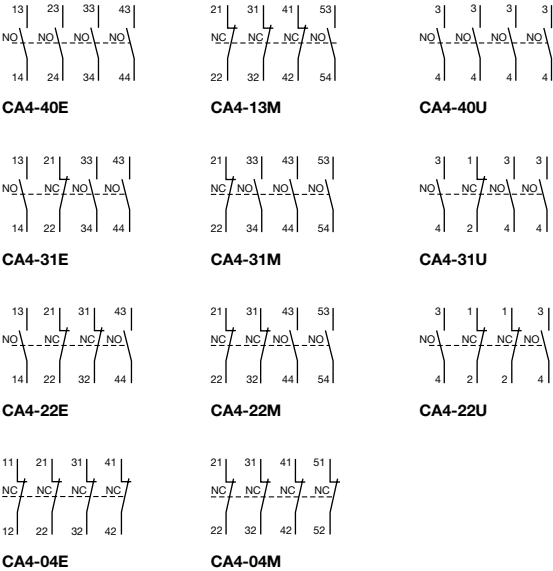
### 1-pole auxiliary contacts



### 2-pole auxiliary contacts



### 4-pole auxiliary contacts



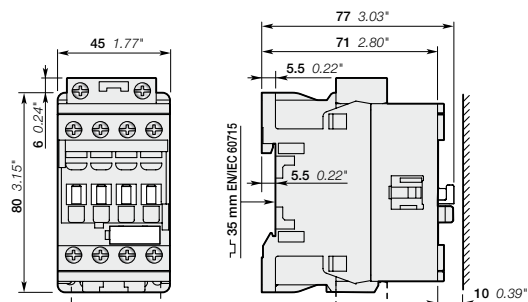
# AF09 ... AF16 3-pole Contactors

## AC / DC Operated - with Screw Terminals

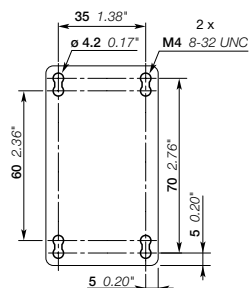
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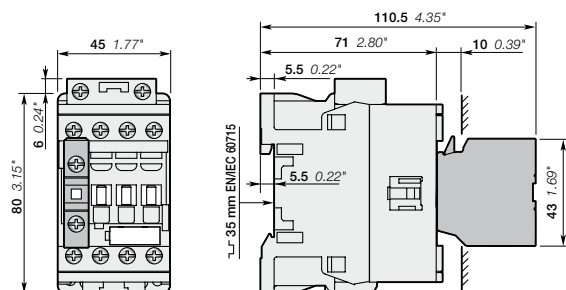
Dimensions mm, inches



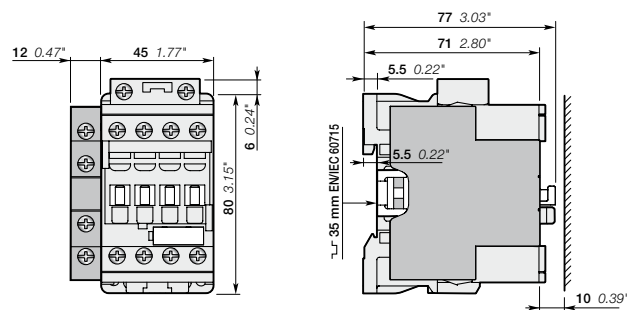
AF09, AF12, AF16



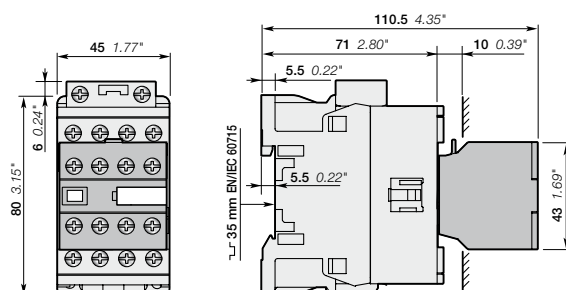
AF09, AF12, AF16



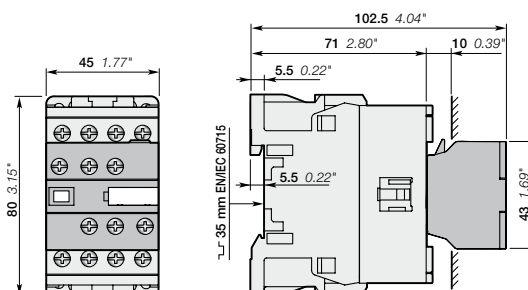
AF09, AF12, AF16  
+ CA4, CC4 1-pole auxiliary contact block



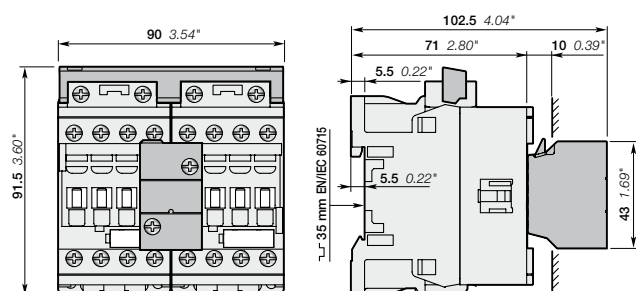
AF09, AF12, AF16  
+ CAL4-11 2-pole auxiliary contact block



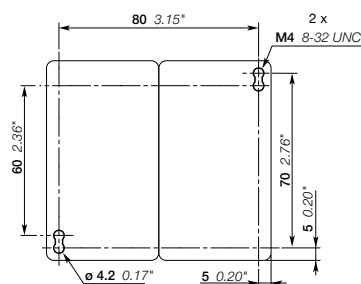
AF09, AF12, AF16  
+ CA4 4-pole auxiliary contact block



AF09, AF12, AF16  
+ CAT4 2-pole auxiliary contact and coil terminal block



AF09, AF12, AF16  
+ VEM4 mechanical and electrical interlock set



AF09, AF12, AF16  
+ VEM4 mechanical and electrical interlock set

Note: contactor lateral distance to grounded component 2 mm 0.08" min.

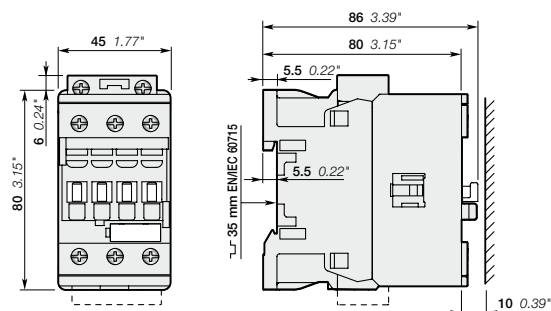
# AF26 ... AF38 3-pole Contactors

## AC / DC Operated - with Screw Terminals

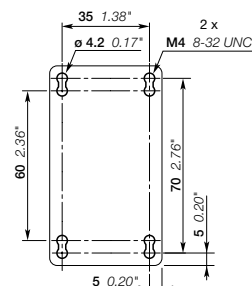
Catalogue Page 1SBC 101 091 S0201



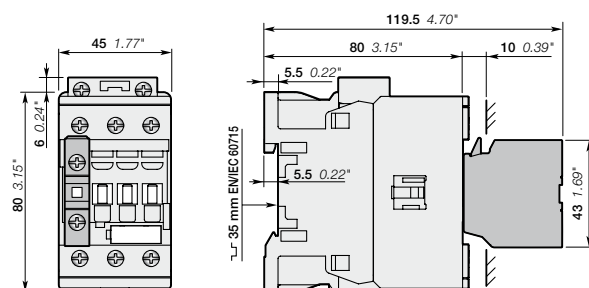
Dimensions mm, inches



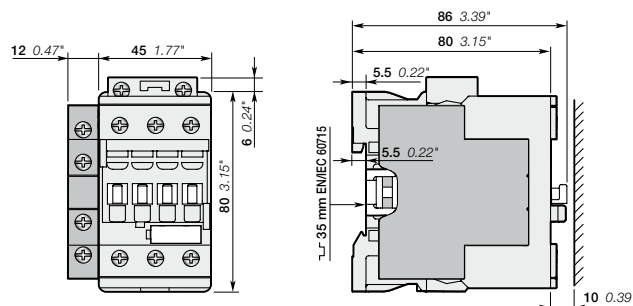
AF26, AF30, AF38



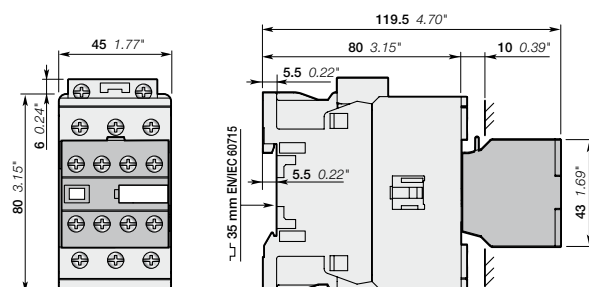
AF26, AF30, AF38



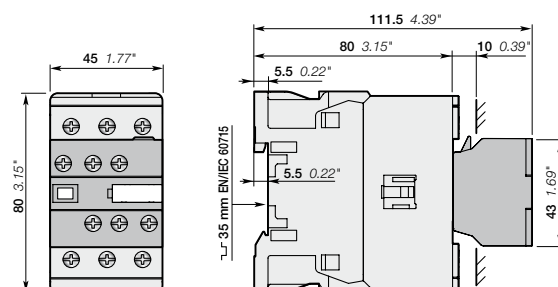
AF26, AF30, AF38  
+ CA4, CC4 1-pole auxiliary contact block



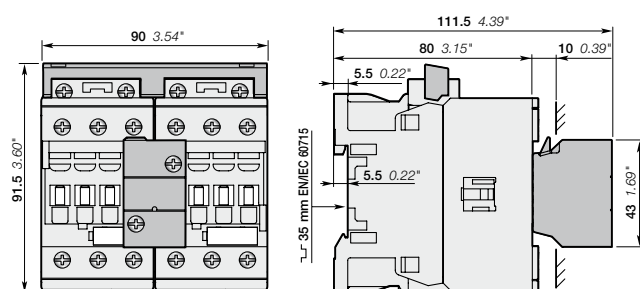
AF26, AF30, AF38  
+ CAL4-11 2-pole auxiliary contact block



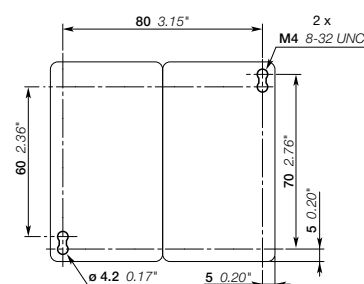
AF26, AF30, AF38  
+ CA4 4-pole auxiliary contact block



AF26, AF30, AF38  
+ CAT4 2-pole auxiliary contact and coil terminal block



AF26, AF30, AF38  
+ VEM4 mechanical and electrical interlock set



AF26, AF30, AF38  
+ VEM4 mechanical and electrical interlock set

Note: contactor lateral distance to grounded component 2 mm 0.08" min.