# Wide band contactors
# Ex9CF


- Wide band contactors
- Tested according to IEC / EN 60947-4-1
- Four frame sizes with rated current up to 100 A at 380 V/400 V AC-3
- Coil control voltage:
  24 ~ 60 V AC/DC
  48 ~ 130 V AC/DC
  100 ~ 250 V AC/DC
- 3-pole version
- Wide range of accessories
- Mounting onto device (DIN) rail 35 or 75 mm (frame sizes 65 and 100) or onto panel

Wide band contactors Ex9CF are designed for a variety of applications. These contactors can operate across a wide range of control voltages and are available in three different voltage ranges (AC/DC coil control) and four different frame sizes, up to 100 A at 380/400 V AC-3. This flexibility makes Ex9CF contactors highly versatile and easier to integrate into various systems without the need for multiple contactor types.

Ex9CF contactors are compatible with a wide range of accessories. They can be combined with side-mounted auxiliary contacts AX43 on the left, right, or both sides, and on the front side with either AX42 auxiliary contacts or TDD41/42 pneumatic delayed contacts.

## Type Key

| Ex9 | C | 09 | F | 11 | 3P | 24~60 V |
|---|---|---|---|---|---|---|
| Product family | Product | Rated current AC-3 400 V | Feature | Built-in auxiliary contacts | Poles (main contacts) | Coil control voltage |
| Ex9 | C: Contactors | 9, 12, 18, 25, 32, 38, 40, 50, 65, 80, 100 A | F: Wide band | 11: 1NO+1NC<br>22: 2NO+2NC | 3P | 24 ~ 60 V AC/DC<br>48 ~ 130 V AC/DC<br>100 ~ 250 V AC/DC |

## Certification marks

CE

# Wide band contactors **Ex9CF**

## Frame sizes

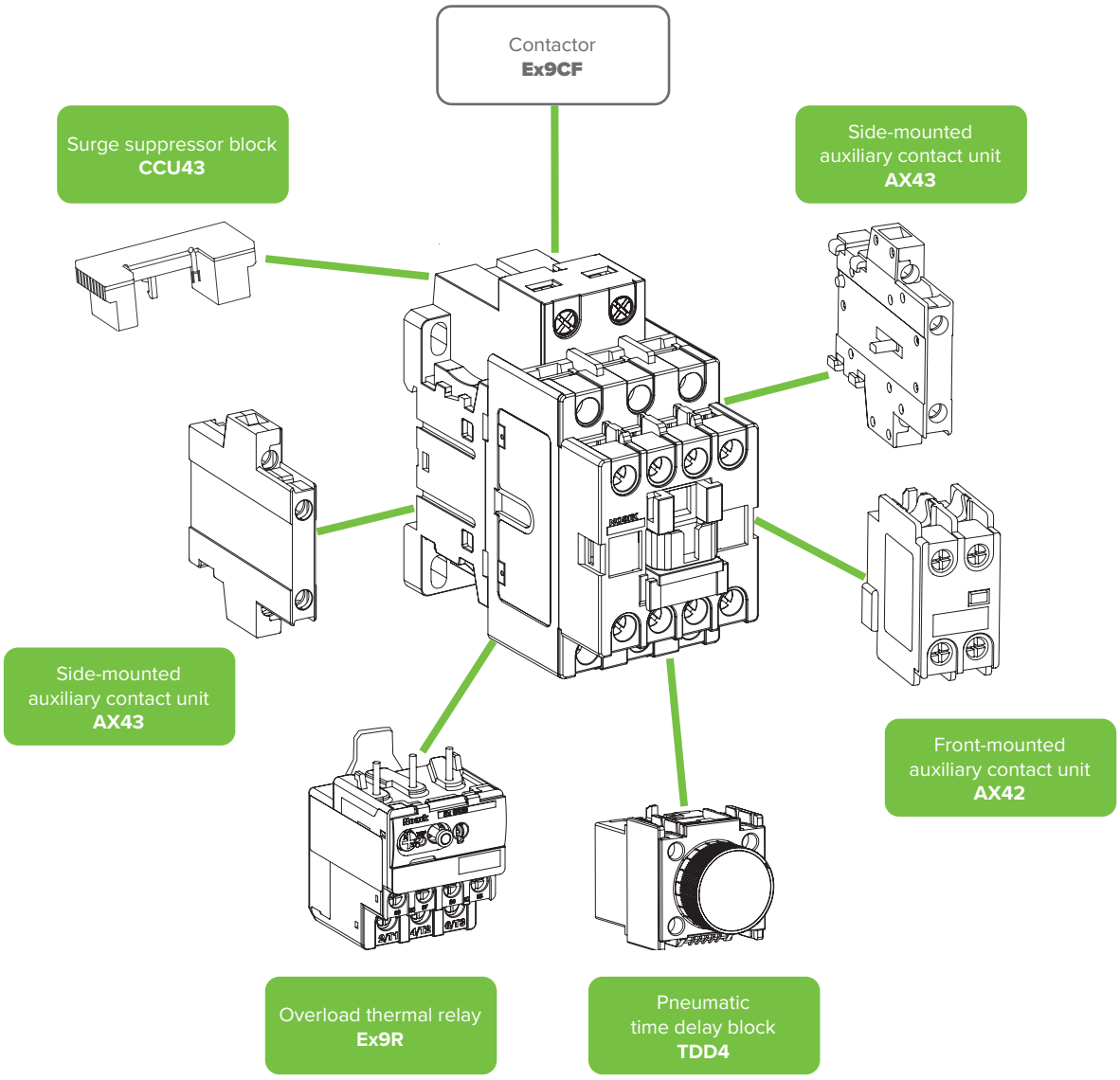

**Frame size 18**
Rated currents 9, 12, 18 A


**Frame size 38**
Rated currents 25, 32, 38 A


**Frame size 65**
Rated currents 40, 50, 65 A


**Frame size 100**
Rated currents 80, 100 A

## Accessories




Auxiliary contacts AX43 (side mounted)

Auxiliary contacts AX42 (front mounted)

Pneumatic time delay block TDD41/42

Surge suppressor block CCU43 (only for frame sizes 65 and 100)

Overload thermal relays Ex9R

# Wide band contactors **Ex9CF**, frame size 18

## Rated current 9 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

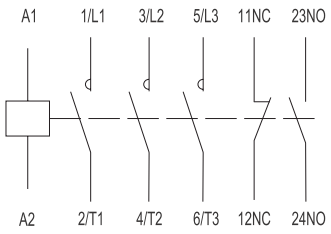
| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 9 A | 3 | 1 NO + 1 NC | 116267 | Ex9C09F 11 3P 24-60V AC/DC | 1/40 |
| 48 ~ 130 V | 9 A | 3 | 1 NO + 1 NC | 116268 | Ex9C09F 11 3P 48-130V AC/DC | 1/40 |
| 100 ~ 250 V | 9 A | 3 | 1 NO + 1 NC | 116269 | Ex9C09F 11 3P 100-250V AC/DC | 1/40 |
| 24 ~ 60 V | 9 A | 3 | 2 NO + 2 NC | 116270 | Ex9C09F 22 3P 24-60V AC/DC | 1/40 |
| 48 ~ 130 V | 9 A | 3 | 2 NO + 2 NC | 116271 | Ex9C09F 22 3P 48-130V AC/DC | 1/40 |
| 100 ~ 250 V | 9 A | 3 | 2 NO + 2 NC | 116272 | Ex9C09F 22 3P 100-250V AC/DC | 1/40 |

## Rated current 12 A, 3-pole

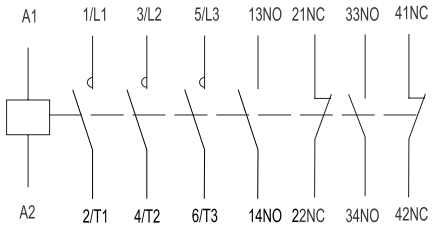
- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 12 A | 3 | 1 NO + 1 NC | 116279 | Ex9C12F 11 3P 24-60V AC/DC | 1/40 |
| 48 ~ 130 V | 12 A | 3 | 1 NO + 1 NC | 116280 | Ex9C12F 11 3P 48-130V AC/DC | 1/40 |
| 100 ~ 250 V | 12 A | 3 | 1 NO + 1 NC | 116281 | Ex9C12F 11 3P 100-250V AC/DC | 1/40 |
| 24 ~ 60 V | 12 A | 3 | 2 NO + 2 NC | 116282 | Ex9C12F 22 3P 24-60V AC/DC | 1/40 |
| 48 ~ 130 V | 12 A | 3 | 2 NO + 2 NC | 116283 | Ex9C12F 22 3P 48-130V AC/DC | 1/40 |
| 100 ~ 250 V | 12 A | 3 | 2 NO + 2 NC | 116284 | Ex9C12F 22 3P 100-250V AC/DC | 1/40 |

*Wiring diagrams*




Ex9C09F ~ 38F 11 3P




Ex9C09F ~ 38F 22 3P

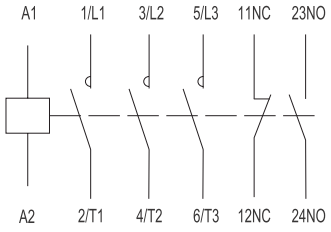
# Wide band contactors **Ex9CF**, frame size 18

## Rated current 18 A, 3-pole

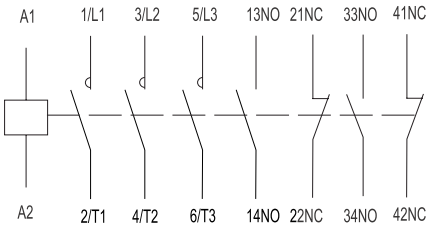
- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 18 A | 3 | 1 NO + 1 NC | 116291 | Ex9C18F 11 3P 24~60V AC/DC | 1/40 |
| 48 ~ 130 V | 18 A | 3 | 1 NO + 1 NC | 116292 | Ex9C18F 11 3P 48~130V AC/DC | 1/40 |
| 100 ~ 250 V | 18 A | 3 | 1 NO + 1 NC | 116293 | Ex9C18F 11 3P 100~250V AC/DC | 1/40 |
| 24 ~ 60 V | 18 A | 3 | 2 NO + 2 NC | 116294 | Ex9C18F 22 3P 24~60V AC/DC | 1/40 |
| 48 ~ 130 V | 18 A | 3 | 2 NO + 2 NC | 116295 | Ex9C18F 22 3P 48~130V AC/DC | 1/40 |
| 100 ~ 250 V | 18 A | 3 | 2 NO + 2 NC | 116296 | Ex9C18F 22 3P 100~250V AC/DC | 1/40 |

*Wiring diagrams*




Ex9C09F ~ 38F 11 3P




Ex9C09F ~ 38F 22 3P

# Wide band contactors **Ex9CF**, frame size 38

## Rated current 25 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

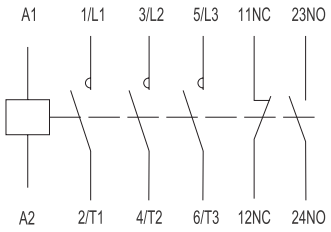
| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 25 A | 3 | 1 NO + 1 NC | 116303 | Ex9C25F 11 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 25 A | 3 | 1 NO + 1 NC | 116304 | Ex9C25F 11 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 25 A | 3 | 1 NO + 1 NC | 116305 | Ex9C25F 11 3P 100~250V AC/DC | 1/20 |
| 24 ~ 60 V | 25 A | 3 | 2 NO + 2 NC | 116306 | Ex9C25F 22 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 25 A | 3 | 2 NO + 2 NC | 116307 | Ex9C25F 22 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 25 A | 3 | 2 NO + 2 NC | 116308 | Ex9C25F 22 3P 100~250V AC/DC | 1/20 |

## Rated current 32 A, 3-pole

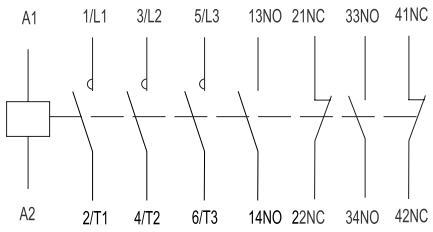
- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 32 A | 3 | 1 NO + 1 NC | 116315 | Ex9C32F 11 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 32 A | 3 | 1 NO + 1 NC | 116316 | Ex9C32F 11 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 32 A | 3 | 1 NO + 1 NC | 116317 | Ex9C32F 11 3P 100~250V AC/DC | 1/20 |
| 24 ~ 60 V | 32 A | 3 | 2 NO + 2 NC | 116318 | Ex9C32F 22 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 32 A | 3 | 2 NO + 2 NC | 116319 | Ex9C32F 22 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 32 A | 3 | 2 NO + 2 NC | 116320 | Ex9C32F 22 3P 100~250V AC/DC | 1/20 |

*Wiring diagrams*




Ex9C09F ~ 38F 11 3P




Ex9C09F ~ 38F 22 3P

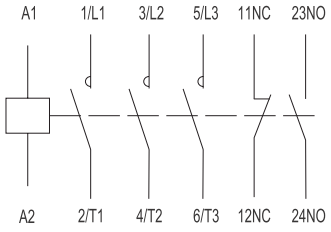
# Wide band contactors **Ex9CF**, frame size 38

## Rated current 38 A, 3-pole

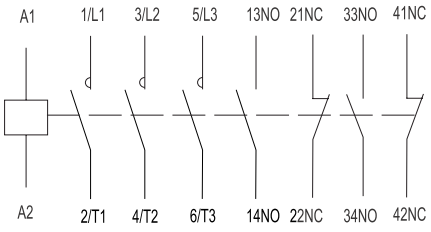
- Wide band contactors
- Mounting onto device (DIN) rail 35 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R38

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 38 A | 3 | 1 NO + 1 NC | 116327 | Ex9C38F 11 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 38 A | 3 | 1 NO + 1 NC | 116328 | Ex9C38F 11 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 38 A | 3 | 1 NO + 1 NC | 116329 | Ex9C38F 11 3P 100~250V AC/DC | 1/20 |
| 24 ~ 60 V | 38 A | 3 | 2 NO + 2 NC | 116330 | Ex9C38F 22 3P 24~60V AC/DC | 1/20 |
| 48 ~ 130 V | 38 A | 3 | 2 NO + 2 NC | 116331 | Ex9C38F 22 3P 48~130V AC/DC | 1/20 |
| 100 ~ 250 V | 38 A | 3 | 2 NO + 2 NC | 116332 | Ex9C38F 22 3P 100~250V AC/DC | 1/20 |

*Wiring diagrams*




Ex9C09F ~ 38F 11 3P




Ex9C09F ~ 38F 22 3P

# Wide band contactors **Ex9CF**, frame size 65

## Rated current 40 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm and 75 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R100

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 40 A | 3 | 1 NO + 1 NC | 116339 | Ex9C40F 11 3P 24~60V AC/DC | 1/12 |
| 48 ~ 130 V | 40 A | 3 | 1 NO + 1 NC | 116340 | Ex9C40F 11 3P 48~130V AC/DC | 1/12 |
| 100 ~ 250 V | 40 A | 3 | 1 NO + 1 NC | 116341 | Ex9C40F 11 3P 100~250V AC/DC | 1/12 |

## Rated current 50 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm and 75 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R100

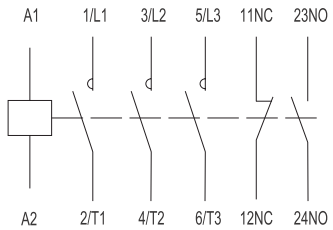
| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 50 A | 3 | 1 NO + 1 NC | 116348 | Ex9C50F 11 3P 24~60V AC/DC | 1/12 |
| 48 ~ 130 V | 50 A | 3 | 1 NO + 1 NC | 116349 | Ex9C50F 11 3P 48~130V AC/DC | 1/12 |
| 100 ~ 250 V | 50 A | 3 | 1 NO + 1 NC | 116350 | Ex9C50F 11 3P 100~250V AC/DC | 1/12 |

## Rated current 65 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm and 75 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R100

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 65 A | 3 | 1 NO + 1 NC | 116357 | Ex9C65F 11 3P 24~60V AC/DC | 1/12 |
| 48 ~ 130 V | 65 A | 3 | 1 NO + 1 NC | 116358 | Ex9C65F 11 3P 48~130V AC/DC | 1/12 |
| 100 ~ 250 V | 65 A | 3 | 1 NO + 1 NC | 116359 | Ex9C65F 11 3P 100~250V AC/DC | 1/12 |

*Wiring diagram*




Ex9C40F ~ 100F 11 3P

# Wide band contactors **Ex9CF**, frame size 100

## Rated current 80 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm and 75 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R100

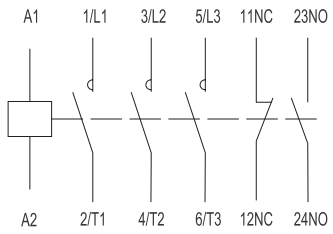
| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 80 A | 3 | 1 NO + 1 NC | 116366 | Ex9C80F 11 3P 24~60V AC/DC | 1/12 |
| 48 ~ 130 V | 80 A | 3 | 1 NO + 1 NC | 116367 | Ex9C80F 11 3P 48~130V AC/DC | 1/12 |
| 100 ~ 250 V | 80 A | 3 | 1 NO + 1 NC | 116368 | Ex9C80F 11 3P 100~250V AC/DC | 1/12 |

## Rated current 100 A, 3-pole

- Wide band contactors
- Mounting onto device (DIN) rail 35 mm and 75 mm or onto panel
- Front-mounted AX42 or delayed TDD4 auxiliary contacts as well as side-mounted ones AX43 can be used
- Can be combined with overload relays Ex9R100

| Control voltage AC/DC | $I_e$ | Poles | Auxiliary contacts | Article No. | Type | Packing |
|---|---|---|---|---|---|---|
| 24 ~ 60 V | 100 A | 3 | 1 NO + 1 NC | 116375 | Ex9C100F 11 3P 24~60V AC/DC | 1/12 |
| 48 ~ 130 V | 100 A | 3 | 1 NO + 1 NC | 116376 | Ex9C100F 11 3P 48~130V AC/DC | 1/12 |
| 100 ~ 250 V | 100 A | 3 | 1 NO + 1 NC | 116377 | Ex9C100F 11 3P 100~250V AC/DC | 1/12 |

*Wiring diagram*




Ex9C40F ~ 100F 11 3P

**Wide band contactors Ex9C09F, Ex9C12F, Ex9C18F**

| General parameters | | |
|---|---|---|
| Wide band contactors | | |
| AC/DC control coil voltage | | |
| Mounting onto device rail (DIN) 35 mm or onto panel | | |
| With built-in auxiliary contacts | | |
| Accessories | | |
| Front-mounted auxiliary contacts | AX42 | 101284 — 101291 |
| Side-mounted auxiliary contacts | AX4311 | 101292 |
| Pneumatic time delay blocks | TDD41, TDD42 | 104489 — 104494 |
| Overload relays | Ex9R38 | 110327 — 110338 |

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C09F** | **Ex9C12F** | **Ex9C18F** |
| Tested according to | IEC/EN 60947-4-1 | | |
| Rated operating voltage $U_e$ | 690 V AC | | |
| Rated insulating voltage $U_i$ | 690 V AC | | |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV | 6 kV | 6 kV |
| Rated frequency | 50/60 Hz | | |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes | yes | yes |
| Conventional free air thermal current $I_{th}$ | 25 A | 25 A | 32 A |
| Rated operational current $I_e$ | | | |
| AC-1 | 25 A | 25 A | 32 A |
| AC-2/AC-3/AC-4, 380/400 V | 9 A | 12 A | 18 A |
| AC-3, 660/690 V | 6.7 A | 9 A | 10.6 A |
| AC-4, 660/690 V | 4.9 A | 4.9 A | 6.7 A |
| Rated power of 3-phase motor | | | |
| AC-3/AC-4, 380/400 V | 4 kW | 5.5 kW | 7.5 kW |
| AC-3, 660/690 V | 5.5 kW | 7.5 kW | 9 kW |
| AC-4, 660/690 V | 4 kW | 4 kW | 5.5 kW |
| Maximum short circuit protection fuse | | | |
| Coordination type 1 at 500 V AC | 25 A gG/gL | 40 A gG/gL | 50 A gG/gL |
| Coordination type 2 at 500 V AC | 20 A gG/gL | 25 A gG/gL | 36 A gG/gL |
| Safe isolation (EN 61140) | | | |
| Main contact — main contact | 400 V AC | 400 V AC | 400 V AC |
| Main contact — coil | 400 V AC | 400 V AC | 400 V AC |
| 3-phase power AC-1 | | | |
| Maximum back-up fuse gG/gL | 50 A | 50 A | 63 A |
| Power at 230/240 V | 10 kW | 10 kW | 13 kW |
| Power at 380/400 V | 17 kW | 17 kW | 21 kW |
| Power at 660/690 V | 29 kW | 29 kW | 37 kW |
| Rated current $I_e = I_{th}$ | 25 A | 25 A | 32 A |
| 1-phase power AC-1, 3 contacts in parallel | | | |
| Maximum back-up fuse gG/gL | 80 A | 80 A | 100 A |
| Power at 230/240 V | 23 kW | 23 kW | 29 kW |
| Power at 380/400 V | 37 kW | 37 kW | 48 kW |
| Power at 660/690 V | 64 kW | 64 kW | 82 kW |
| Rated current $I_e = I_{th}$ | 56 A | 56 A | 72 A |

### Wide band contactors Ex9C09F, Ex9C12F, Ex9C18F

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C09F** | **Ex9C12F** | **Ex9C18F** |
| Making capacity 10x $I_e$ (AC-3) | | | |
| 230/240 V | 90 A | 120 A | 180 A |
| 380/400 V | 90 A | 120 A | 180 A |
| 660/690 V | 67 A | 90 A | 106 A |
| Breaking capacity 8x $I_e$ (AC-3) | | | |
| 230/240 V | 72 A | 96 A | 144 A |
| 380/400 V | 72 A | 96 A | 144 A |
| 660/690 V | 53.6 A | 72 A | 84.8 A |
| Mechanical service life | 10 000 000 operation cycles | | |
| Electrical service life 380/400 V | | | |
| AC-3 | 1 200 000 operation cycles | | |
| AC-4 | 50 000 operation cycles | 40 000 operation cycles | 40 000 operation cycles |
| Overvoltage category | III | | |
| EMC environment | A | | |
| Comparative Tracking Index | 400 V | | |
| Prospective short circuit current $I_q$ | 50 kA | | |

| Electrical parameters - control circuit | | | |
|---|---|---|---|
| | **Ex9C09F** | **Ex9C12F** | **Ex9C18F** |
| Control Voltage $U_c$ | 24 ~ 60 V AC/DC<br>48 ~ 130 V AC/DC<br>100 ~ 250 V AC/DC | | |
| Tolerance of Control Voltage $U_c$ | | | |
| Operation | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ |
| Drop-Off | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) |
| Coil Power consumption AC | | | |
| Pick-up | 60 VA | 60 VA | 60 VA |
| Hold | 5.1 VA | 5.1 VA | 5.1 VA |
| Coil Power consumption DC | | | |
| Pick-up | 35 W | 35 W | 35 W |
| Hold | 2 W | 2 W | 2 W |
| Duty | 100 % | 100 % | 100 % |
| Closing delay | 45 — 55 ms | 45 — 55 ms | 45 — 55 ms |
| Opening delay | 45 — 55 ms | 45 — 55 ms | 45 — 55 ms |

# Technical Data **Ex9CF**, frame size 18

**Wide band contactors Ex9C09F, Ex9C12F, Ex9C18F**

| Electrical parameters - built-in auxiliary contacts | |
|---|---|
| Rated op. voltage $U_e$ | 690 V AC |
| Rated insulating voltage $U_i$ | 690 V AC |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV |
| Rated frequency | 50 Hz |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes |
| Conventional free air thermal current $I_{th}$ | 10 A |
| Rated operational current $I_e$ | |
| AC-15 | 6 A / 120 V, 3 A / 240 V, 1.9 A / 380 V, 1.5 A / 480 V, 1.2 A / 600 V |
| DC-13 | 0.55 A / 125 V, 0.27 A / 250 V |
| Max. back-up fuse | 10 A gG/gL |
| Conditional short circuit current $I_k$ with max. back-up fuse | 1 kA |

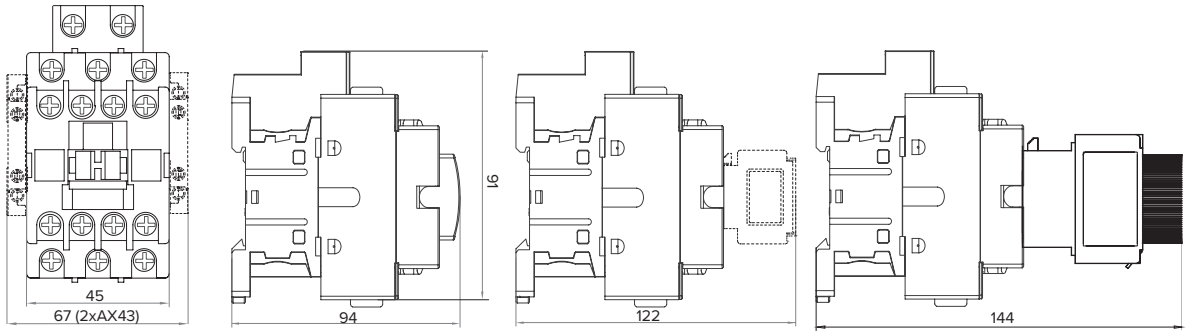
| Mechanical parameters | | | |
|---|---|---|---|
| | **Ex9C09F** | **Ex9C12F** | **Ex9C18F** |
| Device width | 45 mm (without side-mounted auxiliary contact) | | |
| Device height | 91 mm including rail clip | | |
| Device depth | 94 mm (without front-mounted auxiliary contact) | | |
| Mounting | easy fastening onto 35 mm device rail (DIN) or onto panel | | |
| Degree of protection | IP20 | | |
| Terminals | lift | | |
| Terminal capacity | (1 — 2) x (1.5 — 6 $mm^2$) wired; 1 x (1 — 6 $mm^2$), 2 x (1 — 4 $mm^2$) solid | | |
| Fastening torque of terminals | 1.7 Nm | | |
| Ambient temperature | -5 — +40 °C, with an average value not exceeding +35 °C within 24 hours | | |
| Altitude | ≤ 2000 m, if exceed 2000 m, please refer to the derating table below | | |
| Relative humidity | When the maximum temperature is +40°C , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 °C | | |
| Resistance to humidity and heat | class 2 | | |
| Pollution degree | 3 | | |
| Installation class | III | | |
| Weight | 0.35 kg | 0.35 kg | 0.35 kg |
| Power loss at $I_e$ | 0.2 W | 0.36 W | 0.8 W |

| Correction factor for high-altitude areas | | | |
|---|---|---|---|
| **Altitude** | **2000 m** | **3000 m** | **4000 m** |
| Correction factor for $U_{imp}$ | 1 | 0.88 | 0.78 |
| Correction factor for $I_e$ | 1 | 0.92 | 0.90 |

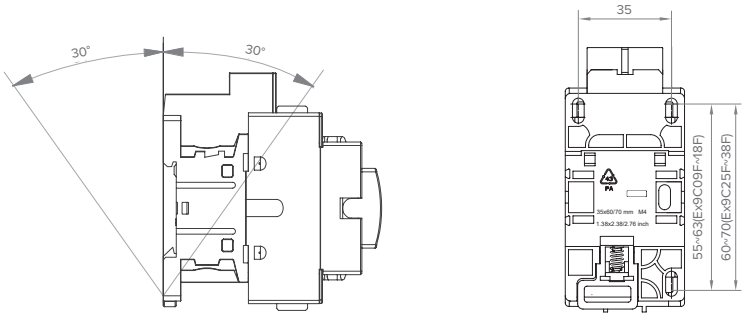
# Technical Data **Ex9CF**, frame size 18

**Wide band contactors Ex9C09F, Ex9C12F, Ex9C18F**

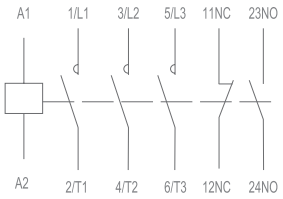
## Dimensions



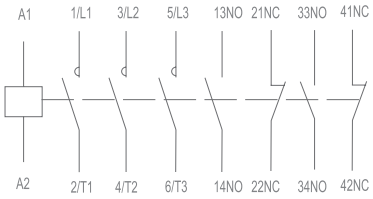

## Mounting positions




## Wiring diagram




Ex9C09F~18F 11 3P




Ex9C09F~18F 22 3P

### Wide band contactors Ex9C25F, Ex9C32F, Ex9C38F

| General parameters | | |
|---|---|---|
| Wide band contactors | | |
| AC/DC control coil voltage | | |
| Mounting onto device rail (DIN) 35 mm or onto panel | | |
| With built-in auxiliary contacts | | |
| Accessories | | |
| Front-mounted auxiliary contacts | AX42 | 101284 — 101291 |
| Side-mounted auxiliary contacts | AX4311 | 101292 |
| Pneumatic time delay blocks | TDD41, TDD42 | 104489 — 104494 |
| Overload relays | Ex9R38 | 110327 — 110338 |

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C25F** | **Ex9C32F** | **Ex9C38F** |
| Tested according to | IEC/EN 60947-4-1 | | |
| Rated operating voltage $U_e$ | 690 V AC | | |
| Rated insulating voltage $U_i$ | 690 V AC | | |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV | 6 kV | 6 kV |
| Rated frequency | 50/60 Hz | | |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes | yes | yes |
| Conventional free air thermal current $I_{th}$ | 40 A | 50 A | 50 A |
| Rated operational current $I_e$ | | | |
| AC-1 | 40 A | 50 A | 50 A |
| AC-2/AC-3/AC-4, 380/400 V | 25 A | 32 A | 38 A |
| AC-3, 660/690 V | 17.3 A | 21.9 A | 21.9 A |
| AC-2/AC-4, 660/690 V | 14 A | 17.3 A | 17.3 A |
| Rated power of 3-phase motor | | | |
| AC-3/AC-4, 380/400 V | 11 kW | 15 kW | 18.5 kW |
| AC-3, 660/690 V | 15 kW | 18.5 kW | 18.5 kW |
| AC-4, 660/690 V | 11 kW | 15 kW | 15 kW |
| Maximum short circuit protection fuse | | | |
| Coordination type 1 at 500 V AC | 63 A gG/gL | 63 A gG/gL | 63 A gG/gL |
| Coordination type 2 at 500 V AC | 40 A gG/gL | 63 A gG/gL | 63 A gG/gL |
| Safe isolation (EN 61140) | | | |
| Main contact — main contact | 400 V AC | 400 V AC | 400 V AC |
| Main contact — coil | 400 V AC | 400 V AC | 400 V AC |
| 3-phase power AC-1 | | | |
| Maximum back-up fuse gG/gL | 80 A | 100 A | 100 A |
| Power at 230/240 V | 16 kW | 20 kW | 20 kW |
| Power at 380/400 V | 26 kW | 33 kW | 33 kW |
| Power at 660/690 V | 46 kW | 57 kW | 57 kW |
| Rated current $I_e = I_{th}$ | 40 A | 50 A | 50 A |
| 1-phase power AC-1, 3 contacts in parallel | | | |
| Maximum back-up fuse gG/gL | 160 A | 160 A | 160 A |
| Power at 230/240 V | 34 kW | 42 kW | 42 kW |
| Power at 380/400 V | 55 kW | 69 kW | 69 kW |
| Power at 660/690 V | 96 kW | 120 kW | 120 kW |
| Rated current $I_e = I_{th}$ | 84 A | 105 A | 105 A |

### Wide band contactors Ex9C25F, Ex9C32F, Ex9C38F

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C25F** | **Ex9C32F** | **Ex9C38F** |
| Making capacity 10x $I_e$ (AC-3) | | | |
| 230/240 V | 250 A | 320 A | 380 A |
| 380/400 V | 250 A | 320 A | 380 A |
| 660/690 V | 173 A | 219 A | 219 A |
| Breaking capacity 8x $I_e$ (AC-3) | | | |
| 230/240 V | 200 A | 256 A | 304 A |
| 380/400 V | 200 A | 256 A | 304 A |
| 660/690 V | 138.4 A | 175.2 A | 175.2 A |
| Mechanical service life | 10 000 000 operation cycles | | |
| Electrical service life 380/400 V | | | |
| AC-3 | 1 200 000 operation cycles | | |
| AC-4 | 50 000 operation cycles | 40 000 operation cycles | 40 000 operation cycles |
| Overvoltage category | III | | |
| EMC environment | A | | |
| Comparative Tracking Index | 400 V | | |
| Prospective short circuit current $I_q$ | 50 kA | | |

| Electrical parameters - control circuit | | | |
|---|---|---|---|
| | **Ex9C25F** | **Ex9C32F** | **Ex9C38F** |
| Control Voltage $U_c$ | 24 ~ 60 V AC/DC<br>48 ~ 130 V AC/DC<br>100 ~ 250 V AC/DC | | |
| Tolerance of Control Voltage $U_c$ | | | |
| Operation | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ |
| Drop-Off | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) |
| Power consumption AC | | | |
| Pick-up (VA) | 60 VA | 60 VA | 60 VA |
| Hold (VA) | 5.1 VA | 5.1 VA | 5.1 VA |
| Power consumption DC | | | |
| Pick-up (W) | 35 W | 35 W | 35 W |
| Hold (W) | 2.5 W | 2.5 W | 2.5 W |
| Duty | 100 % | 100 % | 100 % |
| Closing delay | 45 — 55 ms | 45 — 55 ms | 45 — 55 ms |
| Opening delay | 45 — 55 ms | 45 — 55 ms | 45 — 55 ms |

### Wide band contactors Ex9C25F, Ex9C32F, Ex9C38F

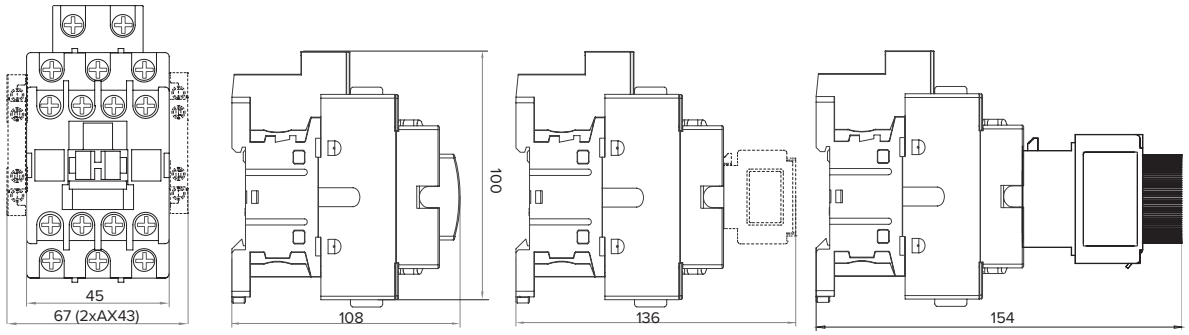
| Electrical parameters - built-in auxiliary contacts | |
|---|---|
| Rated op. voltage $U_e$ | 690 V AC |
| Rated insulating voltage $U_i$ | 690 V AC |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV |
| Rated frequency | 50 Hz |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes |
| Conventional free air thermal current $I_{th}$ | 10 A |
| Rated operational current $I_e$ | |
| AC-15 | 6 A / 120 V, 3 A / 240 V, 1.9 A / 380 V, 1.5 A / 480 V, 1.2 A / 600 V |
| DC-13 | 0.55 A / 125 V, 0.27 A / 250 V |
| Max. back-up fuse | 10 A gG/gL |
| Conditional short circuit current $I_k$ with max. back-up fuse | 1 kA |

| Mechanical parameters | | | |
|---|---|---|---|
| | **Ex9C25F** | **Ex9C32F** | **Ex9C38F** |
| Device width | 45 mm (without side-mounted auxiliary contact) | | |
| Device height | 100 mm including rail clip | | |
| Device depth | 108 mm (without front-mounted auxiliary contact) | | |
| Mounting | easy fastening onto 35 mm device rail (DIN) or onto panel | | |
| Degree of protection | IP20 | | |
| Terminals | lift | | |
| Terminal capacity | (1 — 2) x (2.5 — 10 $mm^2$) wired; 1 x (1 — 10 $mm^2$), 2 x (1.5 — 6 $mm^2$) solid | | |
| Fastening torque of terminals | 2.5 Nm | | |
| Ambient temperature | -5 — +40 °C, with an average value not exceeding +35 °C within 24 hours | | |
| Altitude | ≤ 2000 m, if exceed 2000 m, please refer to the derating table below | | |
| Relative humidity | When the maximum temperature is +40°C , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 °C | | |
| Resistance to humidity and heat | class 2 | | |
| Pollution degree | 3 | | |
| Installation class | III | | |
| Weight | 0.4 kg | 0.4 kg | 0.4 kg |
| Power loss at $I_e$ | 1.25 W | 2 W | 3 W |

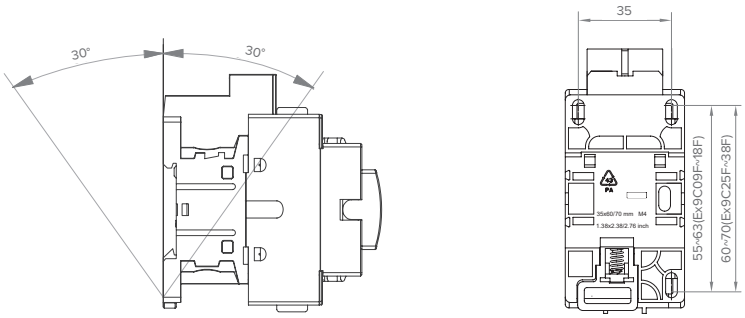
| Correction factor for high-altitude areas | | | |
|---|---|---|---|
| **Altitude** | **2000 m** | **3000 m** | **4000 m** |
| Correction factor for $U_{imp}$ | 1 | 0.88 | 0.78 |
| Correction factor for $I_e$ | 1 | 0.92 | 0.90 |

### Wide band contactors Ex9C25F, Ex9C32F, Ex9C38F

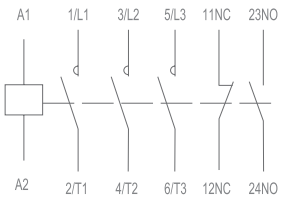
## Dimensions



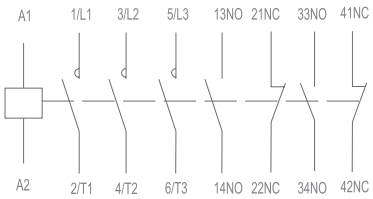

## Mounting positions




## Wiring diagram




Ex9C25F~38F 11 3P




Ex9C25F~38F 22 3P

### Wide band contactors Ex9C40F, Ex9C50F, Ex9C65F

| General parameters | | |
|---|---|---|
| Wide band contactors | | |
| AC/DC control coil voltage | | |
| With built-in auxiliary contacts | | |
| Accessories | | |
| Front-mounted auxiliary contacts | AX42 | 101284 — 101291 |
| Side-mounted auxiliary contacts | AX4311 | 101292 |
| Pneumatic time delay blocks | TDD41, TDD42 | 104489 — 104494 |
| Surge suppressor blocks | CCU43 | 104495 — 104497 |
| Overload realys | Ex9R100 | 101338 — 101386 |

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C40F** | **Ex9C50F** | **Ex9C65F** |
| Tested according to | IEC/EN 60947-4-1 | | |
| Rated op. voltage $U_e$ | 690 V AC | | |
| Rated insulating voltage $U_i$ | 1000 V AC | | |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV | 6 kV | 6 kV |
| Rated frequency | 50/60 Hz | | |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes | yes | yes |
| Conventional free air thermal current $I_{th}$ | 60 A | 80 A | 80 A |
| Rated operational current $I_e$ | | | |
| AC-1 | 60 A | 80 A | 80 A |
| AC-2/AC-3/AC-4, 380/400 V | 40 A | 50 A | 65 A |
| AC-2/AC-3/AC-4, 660/690 V | 34 A | 39 A | 42 A |
| Rated power of 3-phase motor | | | |
| AC-3/AC-4, 380/400 V | 18.5 kW | 22 kW | 30 kW |
| AC-3/AC-4, 660/690 V | 30 kW | 33 kW | 37 kW |
| Maximum short circuit protection fuse | | | |
| Coordination type 1 at 500 V AC | 80 A gG/gL | 100 A gG/gL | 160 A gG/gL |
| Coordination type 2 at 500 V AC | 80 A gG/gL | 100 A gG/gL | 125 A gG/gL |
| Safe isolation (EN 61140) | | | |
| Main contact — main contact | 690 V AC | 690 V AC | 690 V AC |
| Main contact — coil | 690 V AC | 690 V AC | 690 V AC |
| 3-phase power AC-1 | | | |
| Maximum back-up fuse gG/gL | 125 A | 160 A | 160 A |
| Power at 230/240 V | 24 kW | 32 kW | 32 kW |
| Power at 380/400 V | 40 kW | 53 kW | 53 kW |
| Power at 660/690 V | 69 kW | 92 kW | 92 kW |
| Rated current $I_e = I_{th}$ | 60 A | 80 A | 80 A |
| 1-phase power AC-1, 3 contacts in parallel | | | |
| Maximum back-up fuse gG/gL | 200 A | 250 A | 250 A |
| Power at 230/240 V | 50 kW | 67 kW | 67 kW |
| Power at 380/400 V | 83 kW | 110 kW | 110 kW |
| Power at 660/690 V | 144 kW | 192 kW | 192 kW |
| Rated current $I_e = I_{th}$ | 126 A | 168 A | 168 A |

### Wide band contactors Ex9C40F, Ex9C50F, Ex9C65F

| Electrical parameters - main contacts and general | | | |
|---|---|---|---|
| | **Ex9C40F** | **Ex9C50F** | **Ex9C65F** |
| Making capacity 10x $I_e$ (AC-3 | | | |
| 230/240 V | 400 A | 500 A | 650 A |
| 380/400 V | 400 A | 500 A | 650 A |
| 660/690 V | 340 A | 390 A | 420 A |
| Breaking capacity 8x $I_e$ (AC-3) | | | |
| 230/240 V | 320 A | 400 A | 520 A |
| 380/400 V | 320 A | 400 A | 520 A |
| 660/690 V | 272 A | 312 A | 336 A |
| Mechanical service life | 8 000 000 operation cycles | | |
| Electrical service life 380/400 V | | | |
| AC-3 | 1 200 000 operation cycles | | |
| AC-4 | 35 000 operation cycles | 30 000 operation cycles | 30 000 operation cycles |
| Overvoltage category | III | | |
| EMC environment | A | | |
| Comparative Tracking Index | 400 V | | |
| Prospective short circuit current $I_q$ | 50 kA | | |

| Electrical parameters - control circuit | | | |
|---|---|---|---|
| | **Ex9C40F** | **Ex9C50F** | **Ex9C65F** |
| Control Voltage $U_c$ | 24 ~ 60 V AC/DC<br>48 ~ 130 V AC/DC<br>100 ~ 250 V AC/DC | | |
| Tolerance of Control Voltage $U_c$ | | | |
| Operation | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ |
| Drop-Off | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) |
| Power consumption AC | | | |
| Pick-up (VA) | 100 VA | 100 VA | 100 VA |
| Hold (VA) | 15 VA | 15 VA | 15 VA |
| Power consumption DC | | | |
| Pick-up (W) | 100 W | 100 W | 100 W |
| Hold (W) | 8 W | 8 W | 8 W |
| Duty | 100 % | 100 % | 100 % |
| Closing delay | 90 — 110 ms | 90 — 110 ms | 90 — 110 ms |
| Opening delay | 100 — 120 ms | 100 — 120 ms | 100 — 120 ms |

### Wide band contactors Ex9C40F, Ex9C50F, Ex9C65F

| Electrical parameters - built-in auxiliary contacts | |
|---|---|
| Rated op. voltage $U_e$ | 690 V AC |
| Rated insulating voltage $U_i$ | 690 V AC |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV |
| Rated frequency | 50 Hz |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes |
| Conventional free air thermal current $I_{th}$ | 10 A |
| Rated operational current $I_e$ | |
| AC-15 | 6 A / 120 V, 3 A / 240 V, 1.9 A / 380 V, 1.5 A / 480 V, 1.2 A / 600 V |
| DC-13 | 0.55 A / 125 V, 0.27 A / 250 V |
| Max. back-up fuse | 10 A gG/gL |
| Conditional short circuit current $I_k$ with max. back-up fuse | 1 kA |

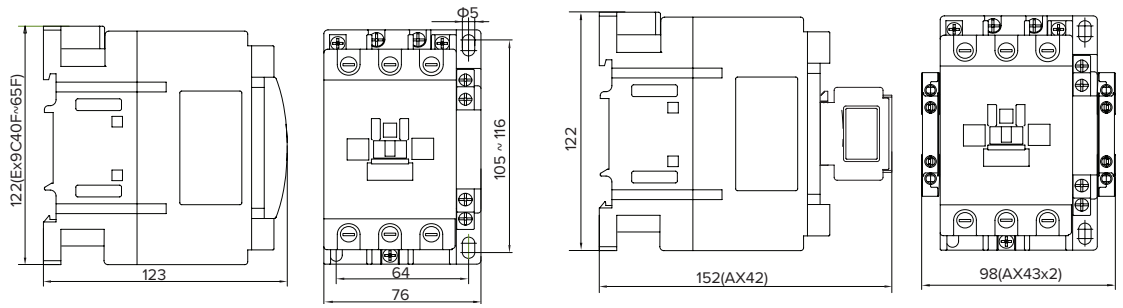
| Mechanical parameters | | | |
|---|---|---|---|
| | **Ex9C40F** | **Ex9C50F** | **Ex9C65F** |
| Device width | 76 mm (without side-mounted auxiliary contact) | | |
| Device height | 122 mm including rail clip | | |
| Device depth | 123 mm (without front-mounted auxiliary contact) | | |
| Mounting | easy fastening onto 35 or 75 mm device rail (DIN) or onto panel | | |
| Degree of protection | IP20 | | |
| Terminals | lift | | |
| Terminal capacity | (1 — 2) x (2.5 — 25 $mm^2$) | | |
| Fastening torque of terminals | 6 Nm | | |
| Ambient temperature | -5 — +40 °C, with an average value not exceeding +35 °C within 24 hours | | |
| Altitude | ≤ 2000 m, if exceed 2000 m, please refer to the derating table below | | |
| Relative humidity | When the maximum temperature is +40°C , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 °C | | |
| Resistance to humidity and heat | class 2 | | |
| Pollution degree | 3 | | |
| Installation class | III | | |
| Weight | 1.23 kg | 1.23 kg | 1.23 kg |
| Power loss at $I_e$ | 2.4 W | 3.7 W | 4.2 W |

| Correction factor for high-altitude areas | | | |
|---|---|---|---|
| **Altitude** | **2000 m** | **3000 m** | **4000 m** |
| Correction factor for $U_{imp}$ | 1 | 0.88 | 0.78 |
| Correction factor for $I_e$ | 1 | 0.92 | 0.90 |

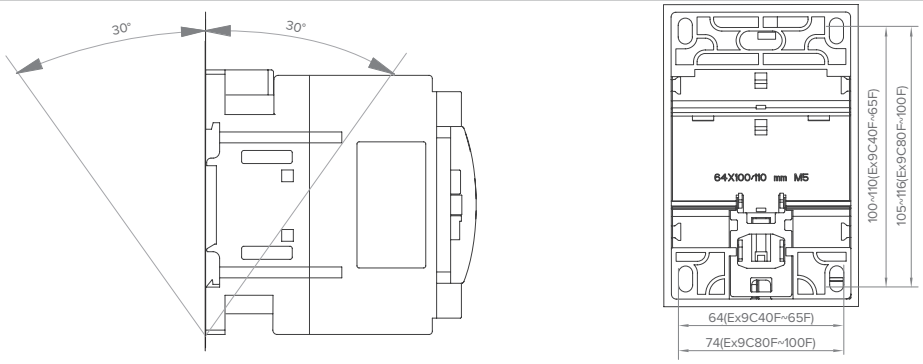
# Technical Data **Ex9CF**, frame size 65

**Wide band contactors Ex9C40F, Ex9C50F, Ex9C65F**

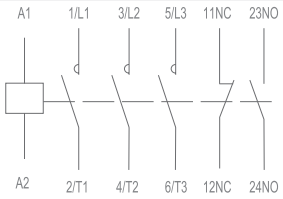
## Dimensions




## Mounting positions




## Wiring diagrams

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### Wide band contactors Ex9C80F, Ex9C100F

| General parameters | | |
|---|---|---|
| Wide band contactors | | |
| AC/DC control coil voltage | | |
| With built-in auxiliary contacts | | |
| Accessories | | |
| Front-mounted auxiliary contacts | AX42 | 101284 — 101291 |
| Side-mounted auxiliary contacts | AX4311 | 101292 |
| Pneumatic time delay blocks | TDD42, TDD43 | 104489 — 104494 |
| Surge suppressor blocks | CCU43 | 104495 — 104497 |
| Overload relays | Ex9R100 | 101338 — 101386 |

| Electrical parameters - main contacts and general | | |
|---|---|---|
| | **Ex9C80F** | **Ex9C100F** |
| Tested according to | IEC/EN 60947-4-1 | |
| Rated op. voltage $U_e$ | 690 V AC | |
| Rated insulating voltage $U_i$ | 1000 V AC | |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV | 6 kV |
| Rated frequency | 50/60 Hz | |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes | yes |
| Conventional free air thermal current $I_{th}$ | 125 A | 125 A |
| Rated operational current $I_e$ | | |
| AC-1 | 125 A | 125 A |
| AC-2/AC-3/AC-4, 380/400 V | 80 A | 100 A |
| AC-2/AC-3/AC-4, 660/690 V | 49 A | 49 A |
| Rated power of 3-phase motor | | |
| AC-3/AC-4, 380/400 V | 37 kW | 45 kW |
| AC-3/AC-4, 660/690 V | 45 kW | 45 kW |
| Maximum short circuit protection fuse | | |
| Coordination type 1 at 500 V AC | 200 A gG/gL | 200 A gG/gL |
| Coordination type 2 at 500 V AC | 160 A gG/gL | 160 A gG/gL |
| Safe isolation (EN 61140) | | |
| Main contact — main contact | 690 V AC | 690 V AC |
| Main contact — coil | 690 V AC | 690 V AC |
| 3-phase power AC-1 | | |
| Maximum back-up fuse gG/gL | 250 A | 250 A |
| Power at 230/240 V | 50 kW | 50 kW |
| Power at 380/400 V | 82 kW | 82 kW |
| Power at 660/690 V | 143 kW | 143 kW |
| Rated current $I_e = I_{th}$ | 125 A | 125 A |
| 1-phase power AC-1, 3 contacts in parallel | | |
| Maximum back-up fuse gG/gL | 400 A | 400 A |
| Power at 230/240 V | 105 kW | 105 kW |
| Power at 380/400 V | 172 kW | 172 kW |
| Power at 660/690 V | 300 kW | 300 kW |
| Rated current $I_e = I_{th}$ | 262 A | 262 A |

### Wide band contactors Ex9C80F, Ex9C100F

| Electrical parameters - main contacts and general | | |
|---|---|---|
| | **Ex9C80F** | **Ex9C100F** |
| Making capacity 10x $I_e$ (AC-3) | | |
| 230/240 V | 800 A | 1000 A |
| 380/400 V | 800 A | 1000 A |
| 660/690 V | 490 A | 490 A |
| Breaking capacity 8x $I_e$ (AC-3) | | |
| 230/240 V | 640 A | 800 A |
| 380/400 V | 640 A | 800 A |
| 660/690 V | 392 A | 392 A |
| Mechanical service life | 10 000 000 operation cycles | |
| Electrical service life 380/400 V | | |
| AC-3 | 1 200 000 operation cycles | |
| AC-4 | 25 000 operation cycles | 25 000 operation cycles |
| Overvoltage category | III | |
| EMC environment | A | |
| Comparative Tracking Index | 400 V | |
| Prospective short circuit current $I_q$ | 50 kA | |

| Electrical parameters - control circuit | | |
|---|---|---|
| | **Ex9C80F** | **Ex9C100F** |
| Control Voltage $U_c$ | 24 ~ 60 V AC/DC<br>48 ~ 130 V AC/DC<br>100 ~ 250 V AC/DC | |
| Tolerance of Control Voltage $U_c$ | | |
| Operation | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ | 0.85 $U_{cmin}$ — 1.1 $U_{cmax}$ |
| Drop-Off | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) | 0.2 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (AC),<br>0.1 $U_{cmax}$ ~ 0.75 $U_{cmin}$ (DC) |
| Power consumption AC | | |
| Pick-up (VA) | 100 VA | 100 VA |
| Hold (VA) | 15 VA | 15 VA |
| Power consumption DC | | |
| Pick-up (W) | 100 W | 100 W |
| Hold (W) | 8 W | 8 W |
| Duty | 100 % | 100 % |
| Closing delay | 90 — 110 ms | 90 — 110 ms |
| Opening delay | 100 — 120 ms | 100 — 120 ms |

**Wide band contactors Ex9C80F, Ex9C100F**

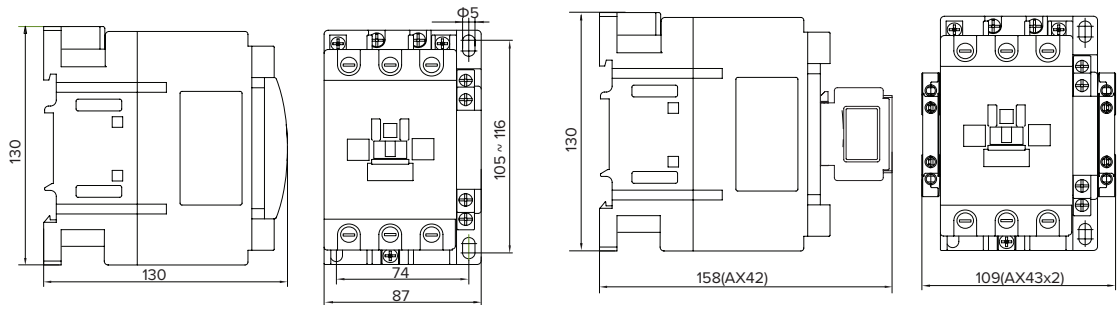
| Electrical parameters - built-in auxiliary contacts | |
|---|---|
| Rated op. voltage $U_e$ | 690 V AC |
| Rated insulating voltage $U_i$ | 690 V AC |
| Rated impulse withstand voltage $U_{imp}$ | 6 kV |
| Rated frequency | 50 Hz |
| Interlocked opposing contacts according to EN 60947-4-1, Annex L | yes |
| Conventional free air thermal current $I_{th}$ | 10 A |
| Rated operational current $I_e$ | |
| AC-15 | 6 A / 120 V, 3 A / 240 V, 1.9 A / 380 V, 1.5 A / 480 V, 1.2 A / 600 V |
| DC-13 | 0.55 A / 125 V, 0.27 A / 250 V |
| Max. back-up fuse | 10 A gG/gL |
| Conditional short circuit current $I_k$ with max. back-up fuse | 1 kA |

| Mechanical parameters | | |
|---|---|---|
| | **Ex9C80F** | **Ex9C100F** |
| Device width | 87 mm (without side-mounted auxiliary contact) | |
| Device height | 130 mm including rail clip | |
| Device depth | 130 mm (without front-mounted auxiliary contact) | |
| Mounting | easy fastening onto 35 or 75 mm device rail (DIN) or onto panel | |
| Degree of protection | IP20 | |
| Terminals | lift | |
| Terminal capacity | (1 — 2) x (4 — 50 $mm^2$) | |
| Fastening torque of terminals | 9 Nm | |
| Ambient temperature | -5 — +40 °C, with an average value not exceeding +35 °C within 24 hours | |
| Altitude | ≤ 2000 m, if exceed 2000 m, please refer to the derating table below | |
| Relative humidity | ≤ 2000 m, if exceed 2000 m, please refer to the derating table below | |
| Resistance to humidity and heat | class 2 | |
| Pollution degree | 3 | |
| Installation class | III | |
| Weight | 1.5 kg | 1.5 kg |
| Power loss at $I_e$ | 5.1 W | 7.5 W |

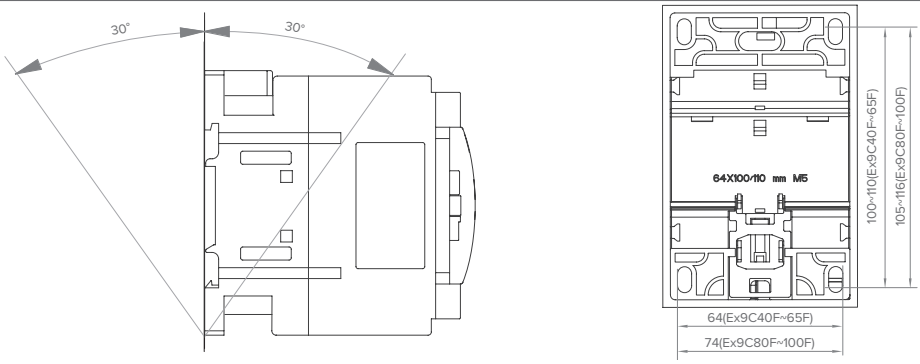
| Correction factor for high-altitude areas | | | |
|---|---|---|---|
| **Altitude** | **2000 m** | **3000 m** | **4000 m** |
| Correction factor for $U_{imp}$ | 1 | 0.88 | 0.78 |
| Correction factor for $I_e$ | 1 | 0.92 | 0.90 |

**Wide band contactors Ex9C80F, Ex9C100F**

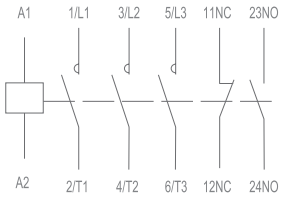
## Dimensions




## Mounting positions




## Wiring diagrams




Ex9C80F~100F 11 3P