

Air Circuit Breakers Ex9A32



- Air circuit breakers, frame size A32
- Rated current up to 3200 A
- Rated operating voltage 690 V AC
- Breaking capacity Icu 65, 85 and 100 kA
- Fixed and withdrawable versions
- Utilization category B acc. to EN 60947-2
- Free choice of tripping unit SU
- Arbitrary selection of tripping unit SU
- Compact and modular design
- Wide range of accessories

Air Circuit Breakers from Ex9A series are designed for power distribution protection on high demand installations such as industrial and commercial among others. Testing according IEC / EN 60947-2 standards ensures the required functionality and reliability for the higher power applications.

The Ex9A series are divided in four frame sizes according the characteristics of the installation, the divisions are as follow:

Ex9A16: from 630 A to 1600 A with breaking capacities from 55 kA to 65 kA.

Ex9A25: from 1000 A to 2500 A with breaking capacities from 65 kA to 85 kA.

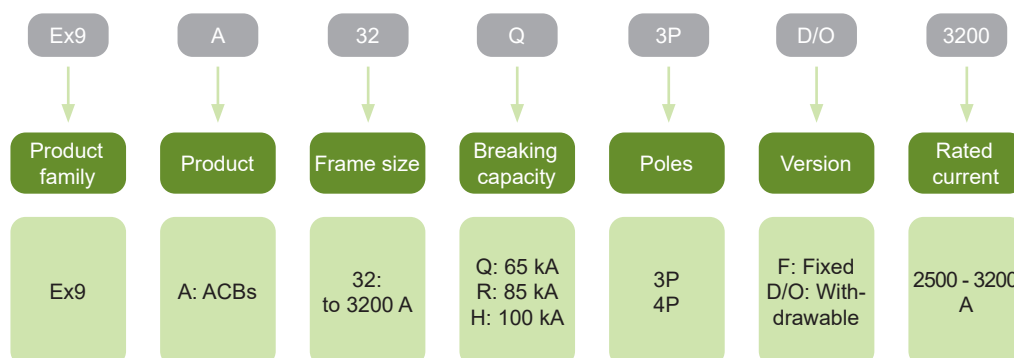
Ex9A32: from 2500 A to 3200 A with breaking capacities from 65 kA to 100 kA.

Ex9A40: from 3200 A to 4000 A with breaking capacities from 65 kA to 100 kA.

Ex9A devices are compatible with all the variants of Smart Units, giving the possibility to perfectly fit the smart functionalities to any current range, ACB construction and installation requirements.

Utilization category B circuit breakers.

Type Key



Air Circuit Breakers Ex9A32

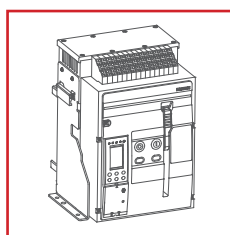
- Fixed version
- Frame size A32
- Rated current up to 3200 A
- Rated short-circuit breaking capacity I_{cu} 65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping unit (according to the selection), door frame, main terminals mounted in horizontal position, alarm contacts
- Basic parameter setting range of tripping units SU (all versions):

$$I_r = 0.4 - 1 \times I_n$$

$$I_{sd} = 1.5 - 10 \times I_r$$

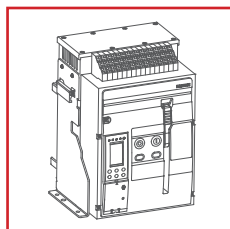
$$I_i = 2 - 15 \times I_n$$

Fixed version, $I_{cu} = 65$ kA at 415 V AC



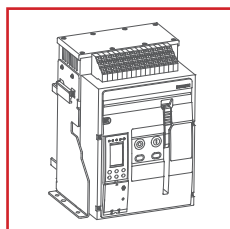
| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|-------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112215 | Ex9A32Q 3P F 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112216 | Ex9A32Q 3P F 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112217 | Ex9A32Q 3P F 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112221 | Ex9A32Q 4P F 2000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112222 | Ex9A32Q 4P F 2500 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112223 | Ex9A32Q 4P F 3200 | 1 |

Fixed version, $I_{cu} = 85$ kA at 415 V AC



| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|-------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112227 | Ex9A32R 3P F 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112228 | Ex9A32R 3P F 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112229 | Ex9A32R 3P F 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112233 | Ex9A25R 4P F 1000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112234 | Ex9A25R 4P F 1250 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112235 | Ex9A25R 4P F 1600 | 1 |

Fixed version, $I_{cu} = 100$ kA at 415 V AC



| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|-------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112239 | Ex9A32H 3P F 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112240 | Ex9A32H 3P F 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112241 | Ex9A32H 3P F 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112245 | Ex9A32H 4P F 2000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112246 | Ex9A32H 4P F 2500 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112247 | Ex9A32H 4P F 3200 | 1 |

Air Circuit Breakers Ex9A32

- Withdrawable version
- Frame size A32
- Rated current up to 3200 A
- Rated short-circuit breaking capacity I_{cu} 65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, cassette, tripping unit (according to the selection), door frame, alarm contacts
- Cassete to be selected separately (ordered as premounted or separate delivery)
- Cassete equipped with full set of secondary terminals, mechanical device position indicator, safety shutters of main terminals
- Setting range of tripping units SU (all versions):

$$I_r = 0.4 - 1 \times I_n$$

$$I_{sd} = 1.5 - 10 \times I_r$$

$$I_i = 2 - 15 \times I_n$$

Withdrawable version, $I_{cu} = 65$ kA at 415 V AC



| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112212 | Ex9A32Q 3P D/O 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112213 | Ex9A32Q 3P D/O 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112214 | Ex9A32Q 3P D/O 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112218 | Ex9A32Q 4P D/O 2000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112219 | Ex9A32Q 4P D/O 2500 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112220 | Ex9A32Q 4P D/O 3200 | 1 |

Withdrawable version, $I_{cu} = 85$ kA at 415 V AC



| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112224 | Ex9A32R 3P D/O 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112225 | Ex9A25R 3P D/O 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112226 | Ex9A25R 3P D/O 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112230 | Ex9A25R 4P D/O 2000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112231 | Ex9A25R 4P D/O 2500 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112232 | Ex9A25R 4P D/O 3200 | 1 |

Withdrawable version, $I_{cu} = 100$ kA at 415 V AC



| Poles | Rated current I_n | Overcurrent release I_r | Instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 3P | 2000 A | 800-2000 A | 4000-30000 A | 112236 | Ex9A32H 3P D/O 2000 | 1 |
| 3P | 2500 A | 1000-2500 A | 5000-37500 A | 112237 | Ex9A32H 3P D/O 2500 | 1 |
| 3P | 3200 A | 1280-3200 A | 6400-48000 A | 112238 | Ex9A32H 3P D/O 3200 | 1 |
| 4P | 2000 A | 800-2000 A | 4000-30000 A | 112242 | Ex9A32H 4P D/O 2000 | 1 |
| 4P | 2500 A | 1000-2500 A | 5000-37500 A | 112243 | Ex9A32H 4P D/O 2500 | 1 |
| 4P | 3200 A | 1280-3200 A | 6400-48000 A | 112244 | Ex9A32H 4P D/O 3200 | 1 |

Air Circuit Breakers Ex9A32

Cassete for Ex9A32 withdrawable ACBs

- Safety shutters of main terminals connectors in the scope of delivery
- Equipped with full set of secondary terminals and mechanical device position indicator
- Delivered with main terminals in horizontal position



| Version | Poles | Rated current I_n | Article No. | Type | Packing |
|----------------------|-------|---------------------|-------------|----------------------|---------|
| Premounted | 3P | 2500 A | 112248 | +CAS 13 3P 2000-2500 | 1 |
| Premounted | 3P | 3200 A | 112249 | +CAS 13 3P 3200 | 1 |
| Premounted | 4P | 2500 A | 112250 | +CAS 13 4P 2000-2500 | 1 |
| Premounted | 4P | 3200 A | 112251 | +CAS 13 4P 3200 | 1 |
| Separately orderable | 3P | 2500 A | 112252 | CAS 13 3P 2000-2500 | 1 |
| Separately orderable | 3P | 3200 A | 112253 | CAS 13 3P 3200 | 1 |
| Separately orderable | 4P | 2500 A | 112254 | CAS 13 4P 2000-2500 | 1 |
| Separately orderable | 4P | 3200 A | 112255 | CAS 13 4P 3200 | 1 |

Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

General parameters

Arbitrary choice of tripping unit +SU

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.4 — 1.0) \times I_n$

I_{sd} can be set in range $(1.5 — 10) \times I_r$

I_i can be set in range $(2 — 15) \times I_n$

Internal accessories

| | | |
|--|------------|-----------------|
| Smart Unit - basic analysis Current measurement | +SU30A | 112324 — 112326 |
| | +SU40A | 112327 — 112329 |
| Smart Unit - Power measurement Current, voltages and power measurement | +SU30P | 112330 — 112332 |
| | +SU40P | 112333 — 112335 |
| Smart Unit - Advanced analysis Current, voltage, power, Harmonics analyzer | +SU30H | 112336 — 112338 |
| | +SU40H | 112339 — 112341 |
| Auxiliary contact unit | AX12 | 112400 — 112403 |
| Signal contact unit | Premounted | Premounted |
| Closing releases | XF12 | 112432 — 112437 |
| Shunt trip releases | SHT12 | 112418 — 112423 |
| Undervoltage releases | UVT12 | 112446 — 112451 |
| Motor drive operator | MD13 | 112466 — 112470 |
| Key lock | KLK12 | 112475 — 112477 |
| Position indicator | +EF12 | 112508 |
| Pushbutton lock | +VBP12 | 112510 |

External accessories

| | | |
|-------------------------------|-------|-----------------|
| Phase barriers - Fixed | PHS12 | 112496, 112497 |
| Phase barriers - Withdrawable | DPS12 | 112490, 112491 |
| Connection terminal plates | TEX11 | 112478 — 112485 |
| Mechanical interlocks | IPA12 | 112502, 112505 |

Accessories marked with " + " in this list must be preordered together with the circuit breaker, since separate purchase is not allowed due to mechanical / software adaptation requirements

In any case, it is recommended to directly communicate with the technical +Support or your representative sales engineer in order to confirm all the possible configurations and additional personalizations of the selected product

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Air Circuit Breakers up to 3200 A

Electrical parameters

| | Ex9A32Q | Ex9A32R | Ex9A32H |
|---|--|----------------------------------|----------------------------------|
| Tested according to | IEC / EN 60947-2 | | |
| Rated operational voltage U_e | 380 / 400 / 415 / 660 / 690 V AC | | |
| Rated insulation voltage U_i | 1000 V | | |
| Rated impulse withstand voltage U_{imp} | 12 kV | | |
| Rated current I_n at 40°C | 2500 - 3200 A | | |
| Rated frequency f | 50 / 60 Hz | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 65 kA / 415 V 50 kA / 690 V | 85 kA / 415 V 65 kA / 690 V | 100 kA / 415 V 75 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 65 kA / 415 V 50 kA / 690 V | 85 kA / 415 V 65 kA / 690 V | 100 kA / 415 V 75 kA / 690 V |
| Rated short-circuit making capacity I_{cm} | 143 kA / 415 V 105 kA / 690 V | 187 kA / 415 V 143 kA / 690 V | 220 kA / 415 V 165 kA / 690 V |
| Rated short-circuit withstand current I_{cw} for 1s | 50 kA / 415 V 35 kA / 690 V | 65 kA / 415 V 40 kA / 690 V | 85 kA / 415 V 50 kA / 690 V |
| Poles | 3P / 4P | | |
| Breaking operation time | 20 — 30 ms | | |
| Closing operation time | < 70 ms | | |
| Electrical service life | 6000 operation cycles / 415 V 3000 operation cycles / 690 V | | |
| Mechanical service life | 10000 operation cycles without maintenance | | |
| Utilization category | B | | |
| Line voltage connection | arbitrary above or below (with external power supply for SU) | | |

Mechanical parameters

| | fixed | withdrawable |
|---------------------------|--|-------------------------------------|
| Device width (3P / 4P) | 424 mm / 539 mm | 377 mm / 472 mm |
| Device height | 390.5 mm | 430 mm |
| Device depth | 304 mm | 406 mm |
| Degree of protection | IP40 | |
| Ambient temperature | -25°C — +60°C | |
| Storage temperature | 40°C — +85°C (without SU) -25°C — +75°C (with SU) | |
| Altitude | < 2000 m | |
| Relative humidity | < 50 % | |
| Average relative humidity | < 90 % | |
| Installation category | IV (main circuit) / III (secondary circuit) | |
| Pollution degree | 3 | |
| Weight (3P / 4P) | 52.5 kg / 66.5 kg | 98 kg / 121 kg (including cassette) |

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Air Circuit Breakers up to 3200 A

Power dissipation at 3P device

| Rated current [A] | Fixed version | Withdrawable version |
|-------------------|---------------|----------------------|
| 2500 A | 260 W | 600 W |
| 3200 A | 420 W | 670 W |

Temperature derating

| T [°C] | $I_u(T)$ [A] | |
|-----------|----------------|----------------|
| | $I_n = 2500$ A | $I_n = 3200$ A |
| -25 — +40 | 2500 | 3200 |
| 45 | 2500 | 3200 |
| 50 | 2500 | 3100 |
| 55 | 2450 | 3000 |
| 60 | 2350 | 2900 |

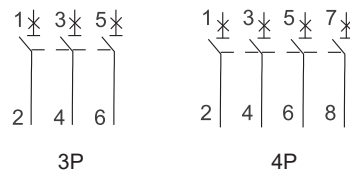
Altitude derating

| Altitude | 2000 m | 3000 m | 4000 m | 5000 m |
|-------------------------------------|-------------------|----------------------|----------------------|----------------------|
| Impulse withstand voltage U_{imp} | 3500 V | 3000 V | 2500 V | 2000 V |
| Insulation voltage U_i | 1000 V AC | 800 V AC | 700 V AC | 600 V AC |
| Rated voltage U_e | 690 V AC | 580 V AC | 500 V AC | 400 V AC |
| Rated uninterrupted current I_u | $1 \times I_u(T)$ | $0.96 \times I_u(T)$ | $0.91 \times I_u(T)$ | $0.87 \times I_u(T)$ |

Secondary terminals

| | |
|---------------------|---------------------------|
| Secondary terminals | screw type |
| Terminals capacity | 0.5 — 1.2 mm ² |

Main terminals wiring diagrams

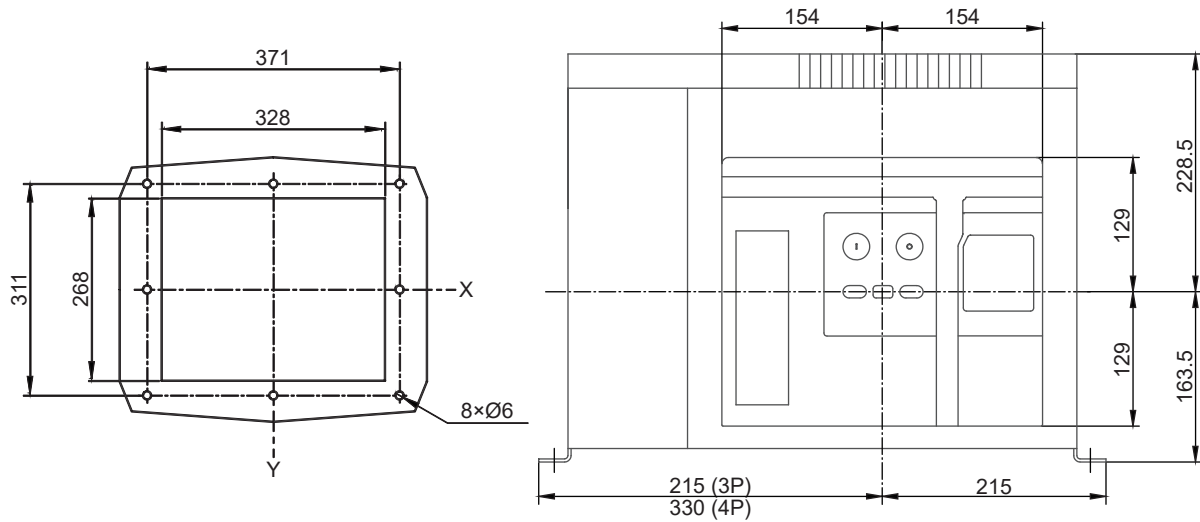


Technical Data Ex9A32

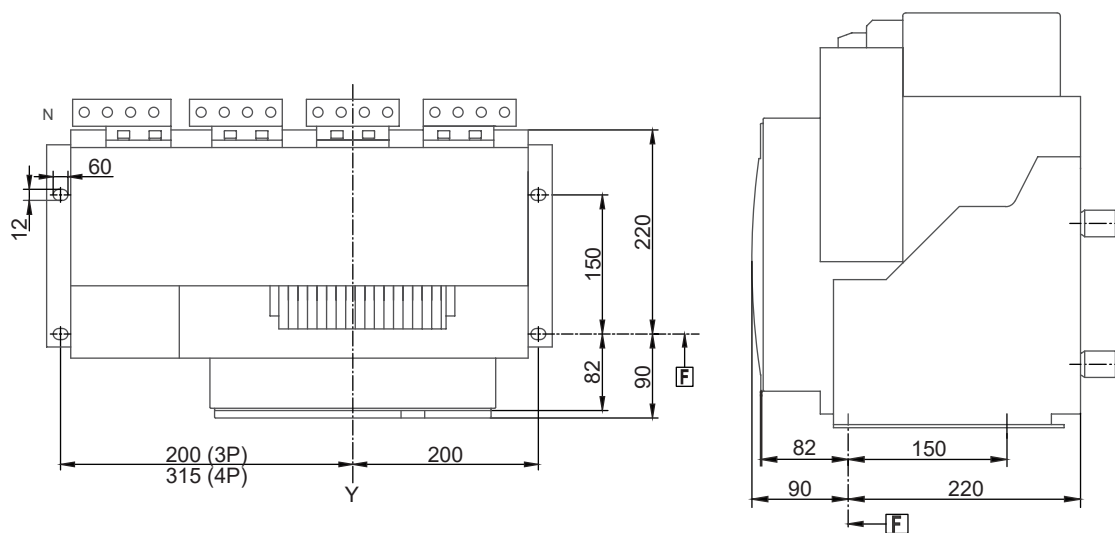
Air Circuit Breakers up to 3200 A

Dimensions - fixed version

Front dimensions



Installation dimensions



X, Y - door cut-out centering
F - Mounting screw reference point

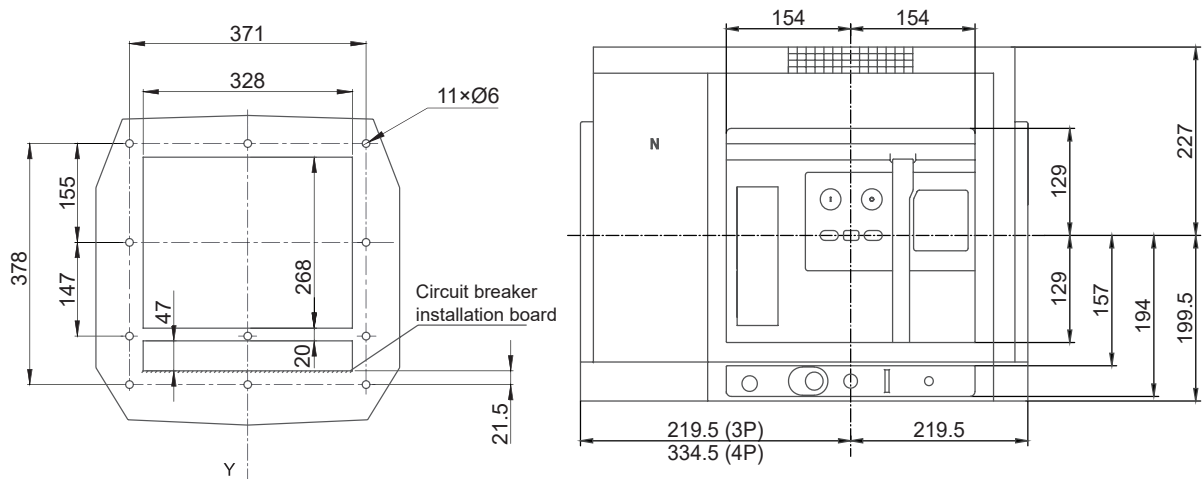
Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

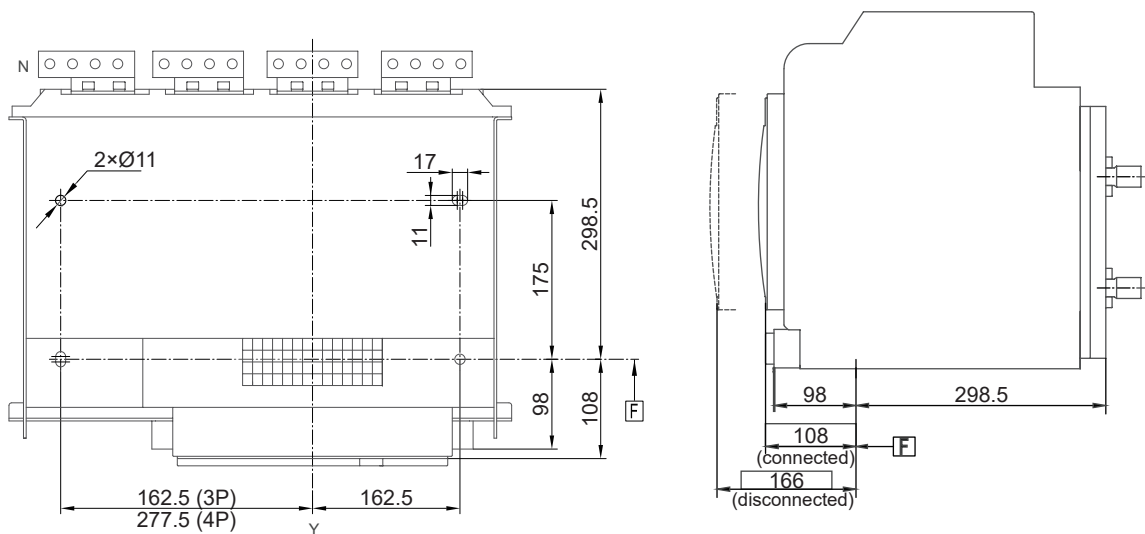
Dimensions - withdrawable version

Front dimensions

mm



Installation dimensions



X, Y - door cut-out centering
F - Mounting screw reference point

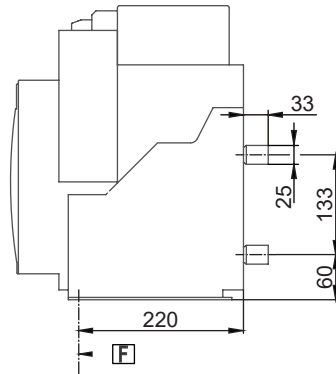
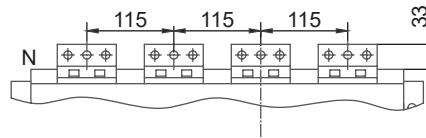
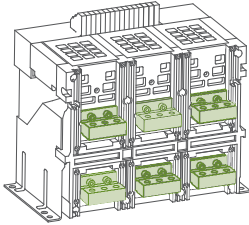
Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

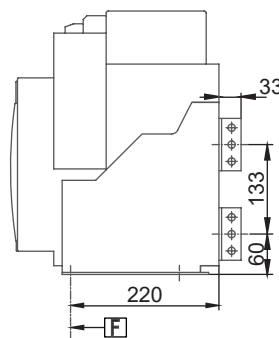
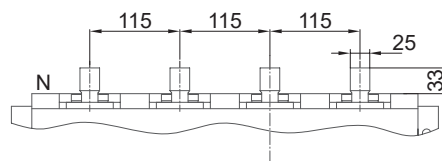
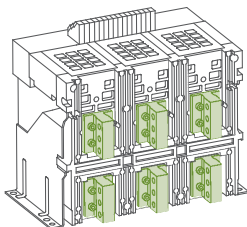
Power connectors dimensions 1600 — 2500 A (Fixed)

Horizontal connection

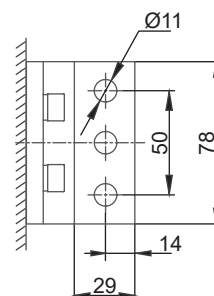
mm



Vertical connection



Horizontal / Vertical Power connector



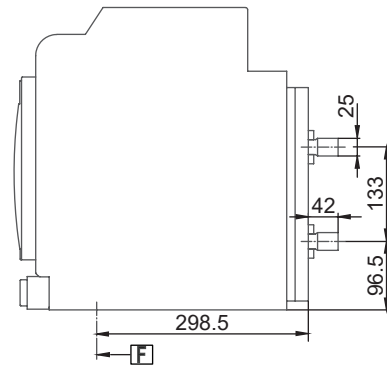
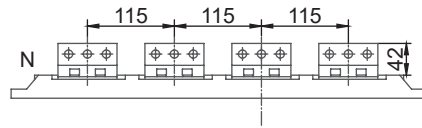
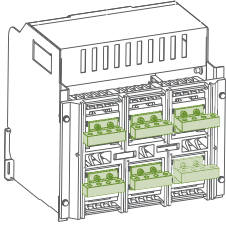
Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

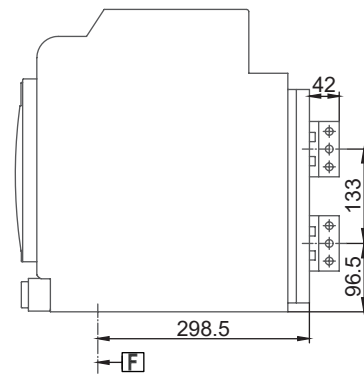
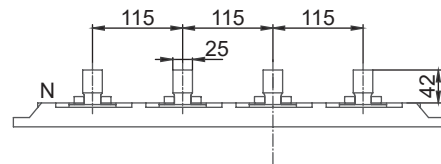
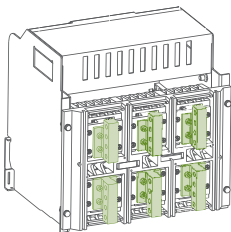
Power connectors dimensions 1600 — 2500 A (Withdrawable)

Horizontal connection

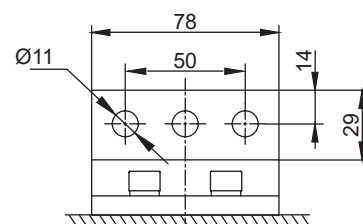
mm



Vertical connection



Horizontal / Vertical Power connector



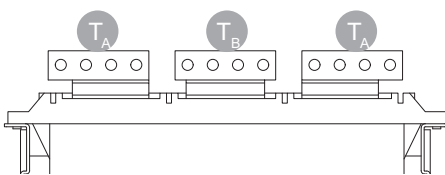
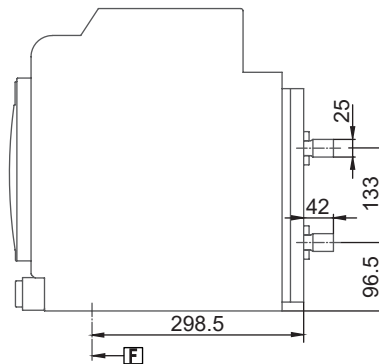
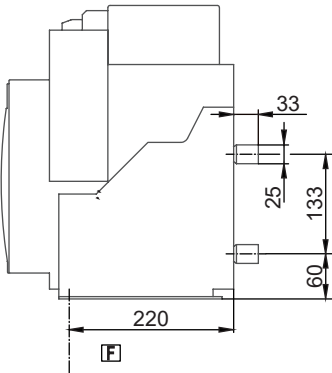
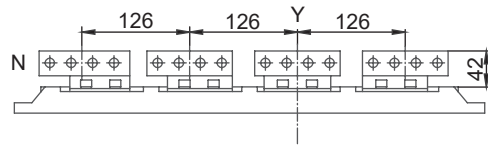
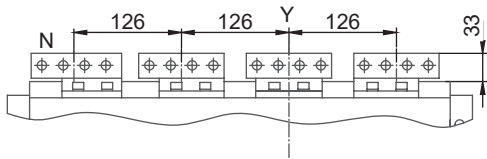
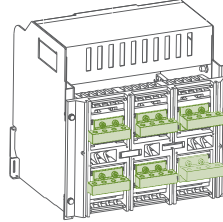
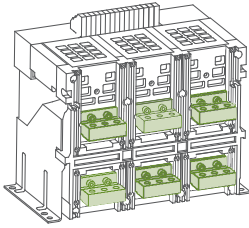
Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

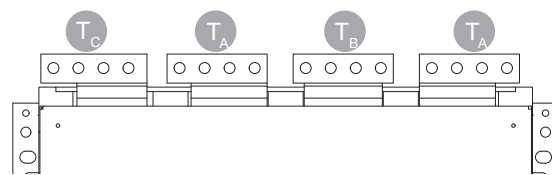
Power connectors dimensions 2500 — 3200 A (Horizontal)

Horizontal connection Fixed / Withdrawable

mm

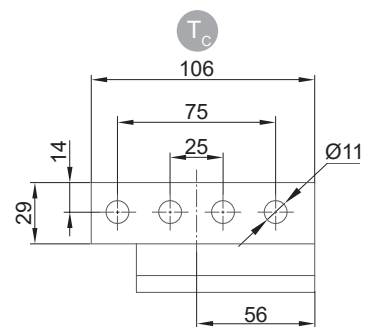
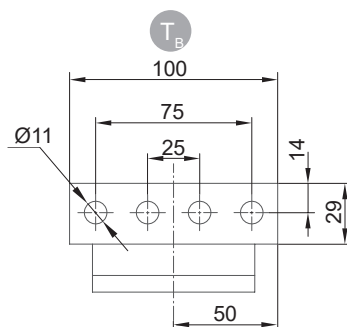
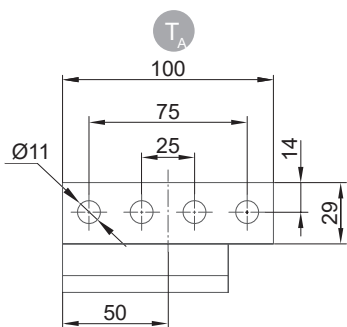


Fixed / Withdrawable 3P power connector distribution



Fixed / Withdrawable 4P power connector distribution

Horizontal power connector Fixed / Withdrawable



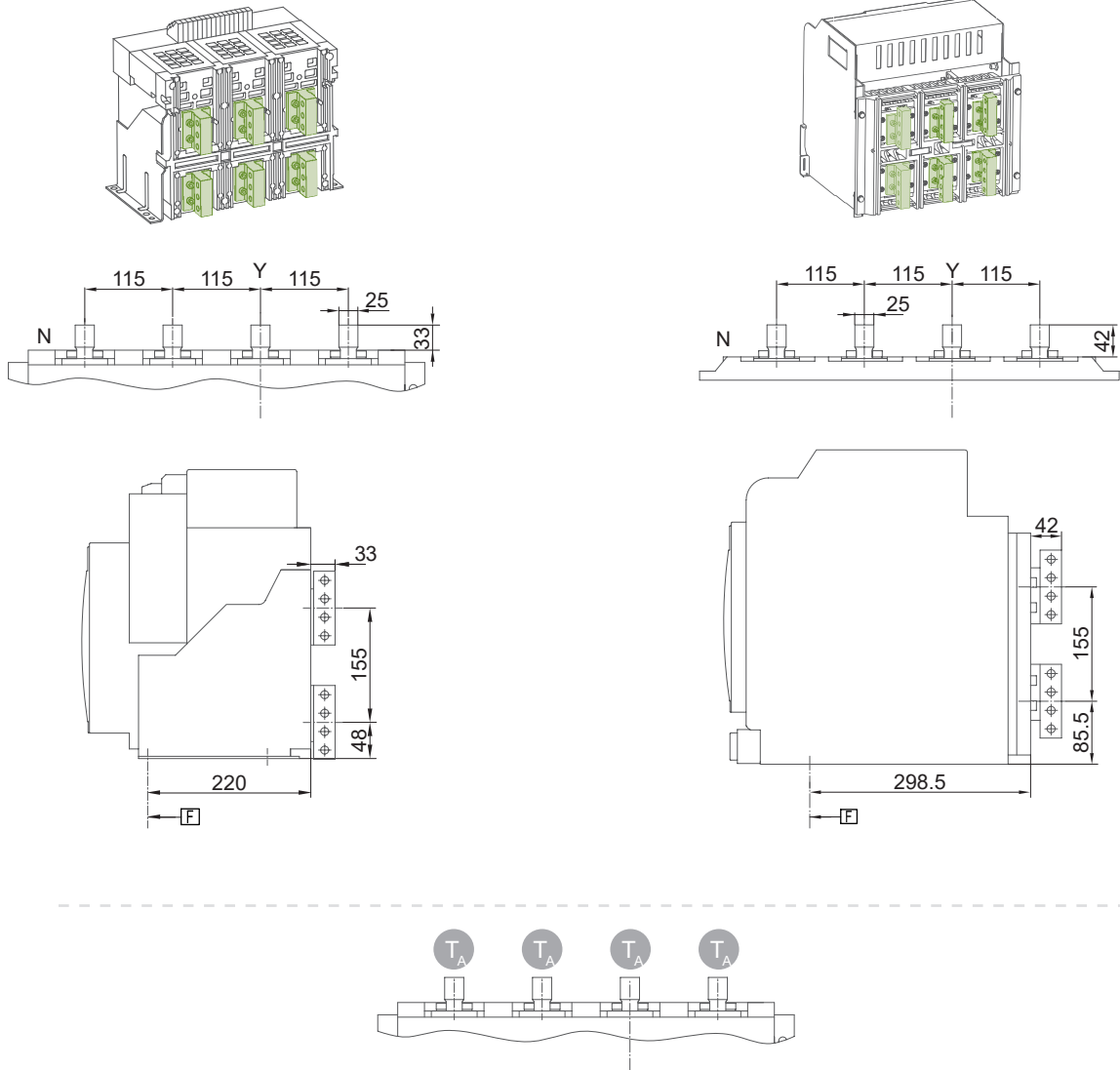
Technical Data Ex9A32

Air Circuit Breakers up to 3200 A

Power connectors dimensions 2500 — 3200 A (Vertical)

Vertical connection Fixed / Withdrawable

mm



Fixed / Withdrawable 3P / 4P power connector distribution

Horizontal power connector Fixed / Withdrawable

