

Air Circuit Breakers Ex9A40



- Air circuit breakers, frame size A40
- Rated current up to 4000 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.

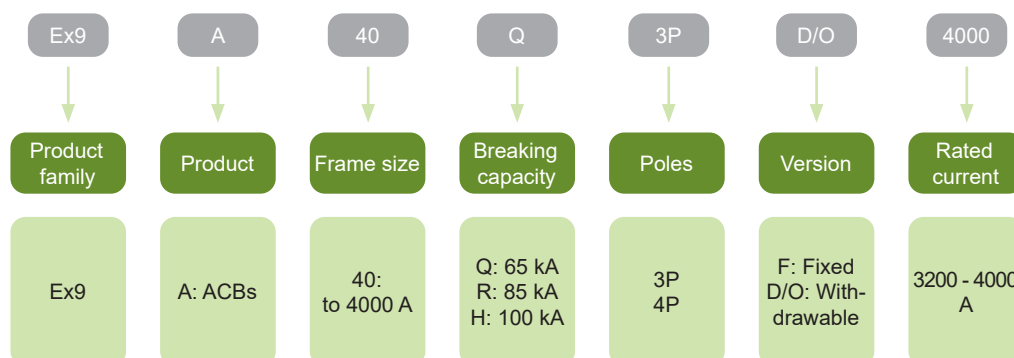
Ex9A32: from 2500 A to 3200 A with breaking capacities from 65 kA to 100 kA.

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 Ex9A40

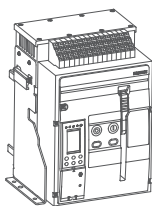
- Fixed version
- Frame size A40
- Rated current up to 4000 A
- Rated short-circuit breaking capacity I_{cu} 65 and 85 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping unit (see previous point), door frame, main terminals mounted in horizontal position, alarm contacts
- Setting range of tripping units SU (all versions):

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

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

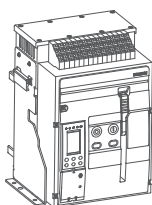
$$I_i = 2 - 15 \times I_n$$

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



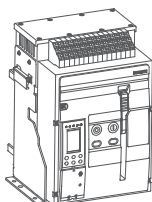
Poles	Rated current I_n	Overcurrent release I_r	Instant. release I_i	Article No.	Type	Packing
3P	3200 A	1280-3200 A	6400-48000 A	112258	Ex9A40Q 3P F 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112259	Ex9A40Q 3P F 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112262	Ex9A40Q 4P F 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112263	Ex9A40Q 4P F 4000	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	3200 A	1280-3200 A	6400-48000 A	112266	Ex9A40R 3P F 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112267	Ex9A40R 3P F 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112270	Ex9A40R 4P F 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112271	Ex9A40R 4P F 4000	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	3200 A	1280-3200 A	6400-48000 A	112274	Ex9A40H 3P F 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112275	Ex9A40H 3P F 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112278	Ex9A40H 4P F 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112279	Ex9A40H 4P F 4000	1

Air Circuit Breakers Ex9A40

- Withdrawable version
- Frame size A40
- Rated current up to 4000 A
- Rated short-circuit breaking capacity I_{cu} 65 and 85 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, holder, tripping unit (see previous point), 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	3200 A	1280-3200 A	6400-48000 A	112256	Ex9A40Q 3P D/O 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112257	Ex9A40Q 3P D/O 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112218	Ex9A40Q 4P D/O 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112219	Ex9A40Q 4P D/O 4000	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	3200 A	1280-3200 A	6400-48000 A	112264	Ex9A40R 3P D/O 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112265	Ex9A40R 3P D/O 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112268	Ex9A40R 4P D/O 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112269	Ex9A40R 4P D/O 4000	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	3200 A	1280-3200 A	6400-48000 A	112272	Ex9A40H 3P D/O 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	112273	Ex9A40H 3P D/O 4000	1
4P	3200 A	1280-3200 A	6400-48000 A	112276	Ex9A40H 4P D/O 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	112277	Ex9A40H 4P D/O 4000	1

Air Circuit Breakers Ex9A40

Cassete for Ex9A40 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	3200 A	112280	+CAS 14 3P 3200	1
Premounted	4P	3200 A	112281	+CAS 14 4P 3200	1
Premounted	3P	4000 A	112282	+CAS 14 3P 4000	1
Premounted	4P	4000 A	112283	+CAS 14 4P 4000	1
Separately orderable	3P	3200 A	112284	CAS 14 3P 3200	1
Separately orderable	4P	3200 A	112285	CAS 14 4P 3200	1
Separately orderable	3P	4000 A	112286	CAS 14 3P 4000	1
Separately orderable	4P	4000 A	112287	CAS 14 4P 4000	1

Technical Data Ex9A40

Air Circuit Breakers up to 4000 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	PHS13	112498, 112499
Phase barriers - Withdrawable	DPS13	112492, 112493
Connection terminal plates	TEX11	112478 — 112485
Mechanical interlocks	IPA12	112502, 112505

Accessories marked with " + " 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 4000 A

Electrical parameters

	Ex9A40Q	Ex9A40R	Ex9A40H
Tested according to	IEC / EN 60947-2		
Rated operational voltage U_e	220 / 380 / 400 / 415 / 440 / 525 / 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	3200 — 4000 A		
Rated frequency f	50 / 60 Hz		
Rated ultimate short-circuit breaking capacity I_{cu}	65 kA / 415 V 65 kA / 690 V	85 kA / 415 V 85 kA / 690 V	100 kA / 415 V 85 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	65 kA / 415 V 65 kA / 690 V	85 kA / 415 V 85 kA / 690 V	100 kA / 415 V 85 kA / 690 V
Rated short-circuit making capacity I_{cm}	65 kA / 415 V 65 kA / 690 V	85 kA / 415 V 85 kA / 690 V	100 kA / 415 V 85 kA / 690 V
Rated short-circuit withstand current I_{cw} for 1s	65 kA / 415 V 65 kA / 690 V	85 kA / 415 V 85 kA / 690 V	100 kA / 415 V 85 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)	72.5 kg / 86.5 kg	118 kg / 141 kg (including cassette)

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Air Circuit Breakers up to 4000 A

Power dissipation at 3P device

Rated current [A]	Fixed version	Withdrawable version
3200 A	260 W	600 W
4000 A	420 W	670 W

Temperature derating

T [°C]	$I_u(T)$ [A]	
	$I_n = 3200$ A	$I_n = 4000$ A
-5 — +40	3200	4000
45	3200	4000
50	3200	3900
55	3100	3800
60	3000	3700

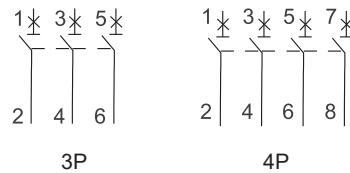
Altitude derating

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



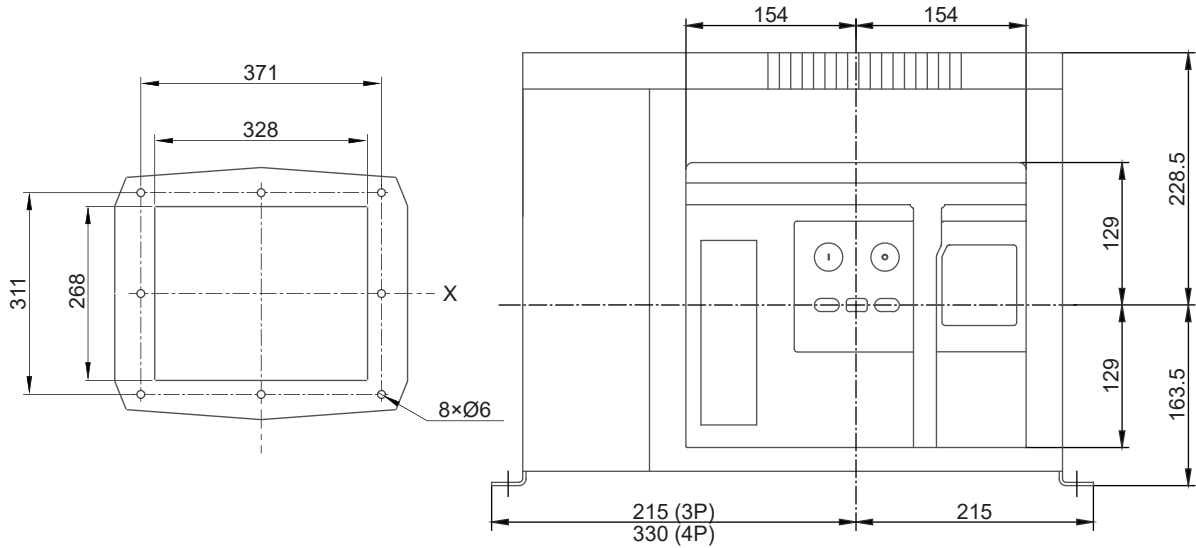
Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

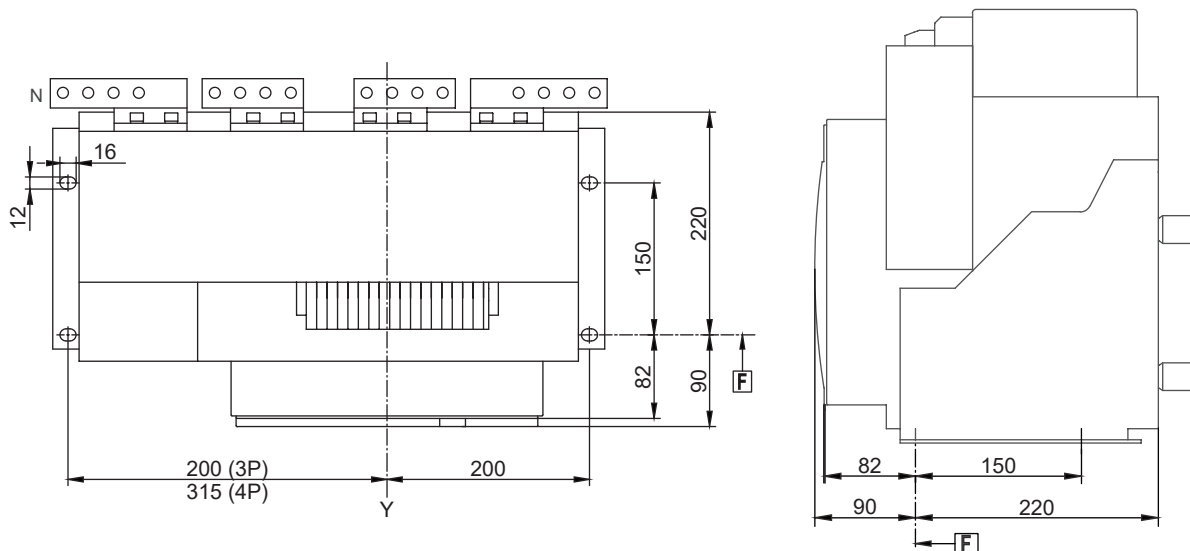
Dimensions - withdrawable version

Front dimensions

mm



Installation dimensions



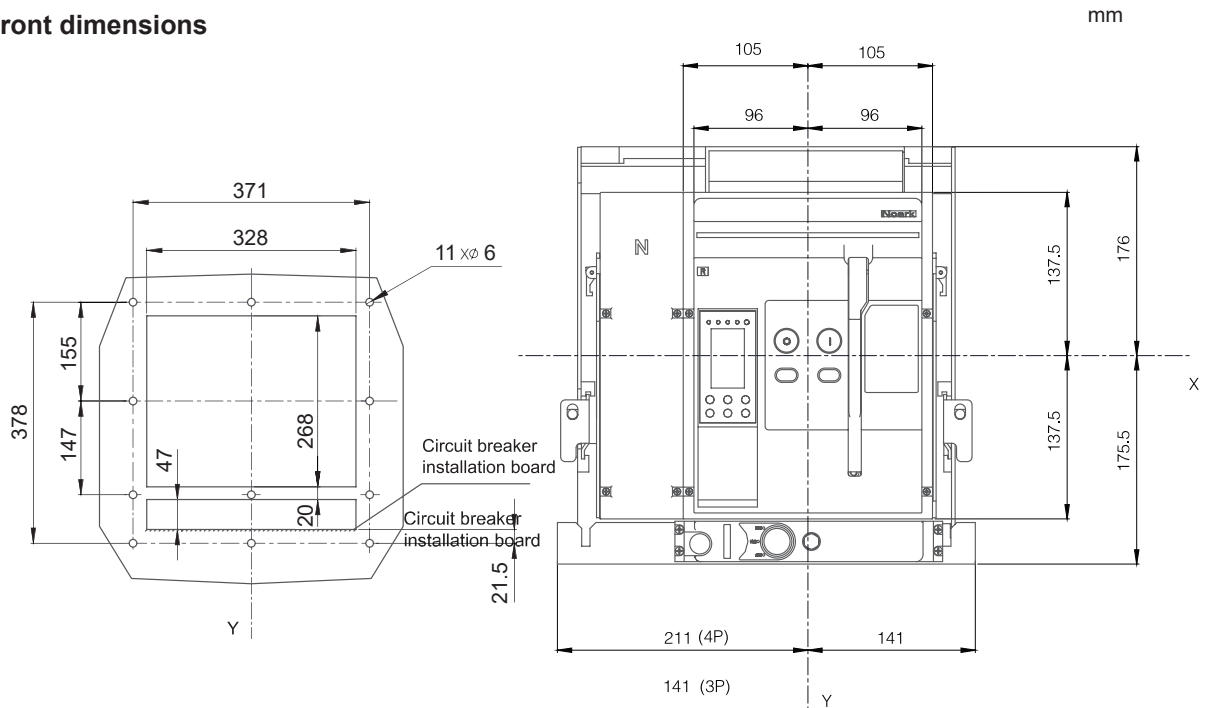
X, Y - door cut-out centering
F - Mounting screw reference point

Technical Data Ex9A40

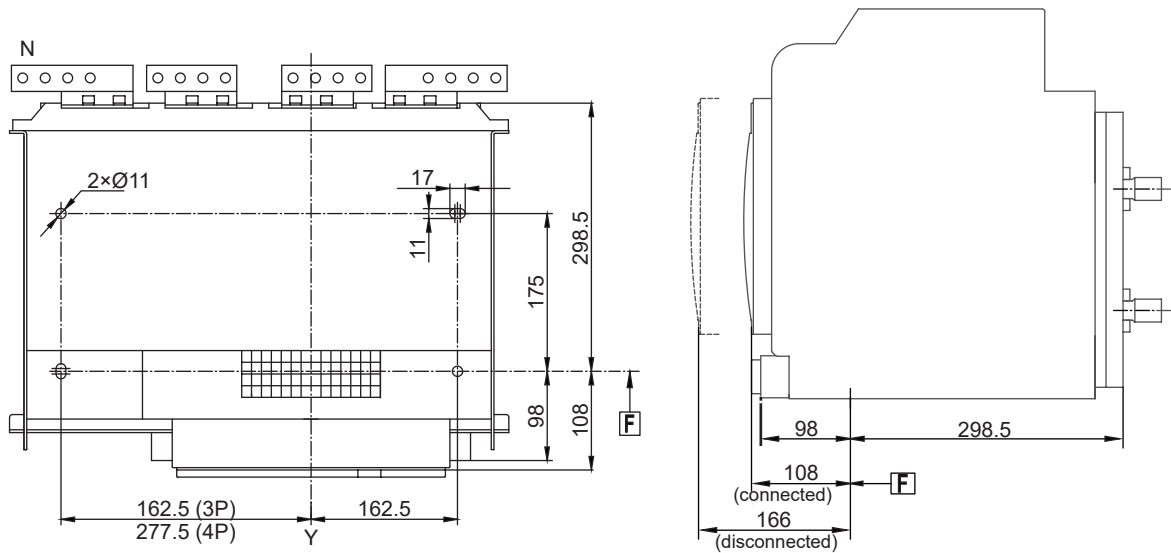
Air Circuit Breakers up to 4000 A

Dimensions - withdrawable version

Front dimensions



Installation dimensions



X, Y - door cut-out centering
F - minimum depth of mounting support panel

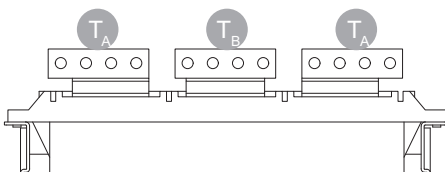
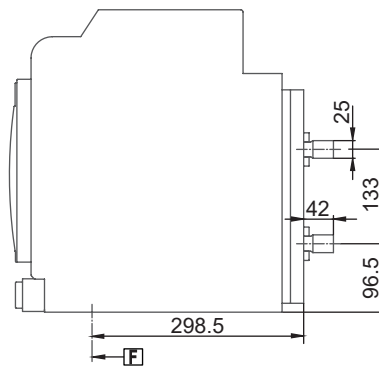
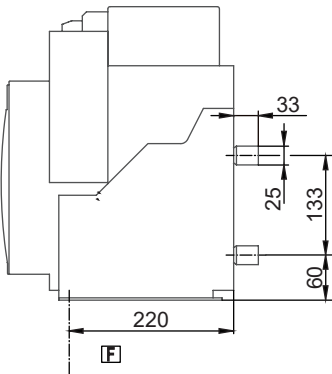
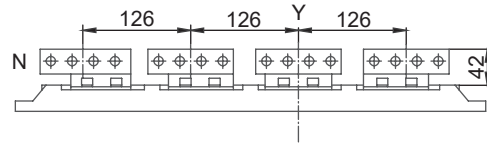
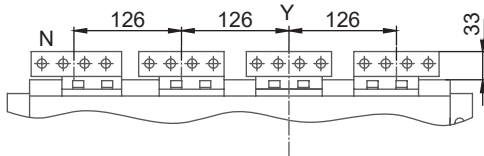
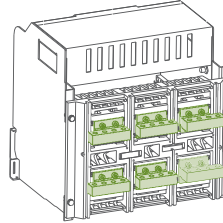
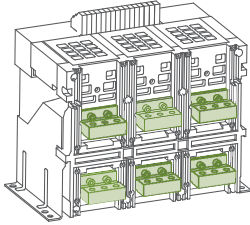
Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

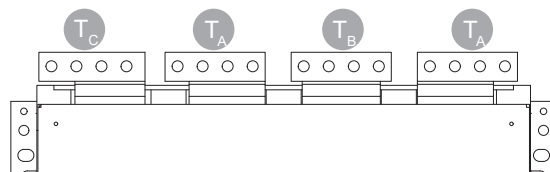
Power connectors dimensions 3200 A (Horizontal)

Horizontal connection Fixed / Withdrawable

mm

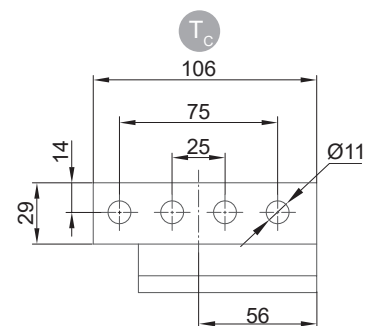
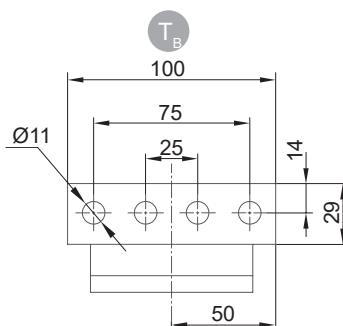
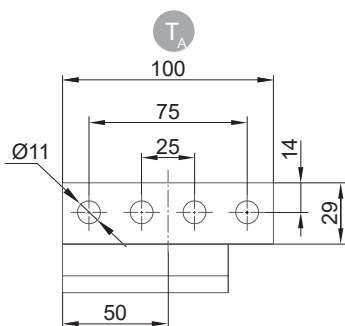


Fixed / Withdrawable 3P power connector distribution



Fixed / Withdrawable 4P power connector distribution

Horizontal power connector Fixed / Withdrawable



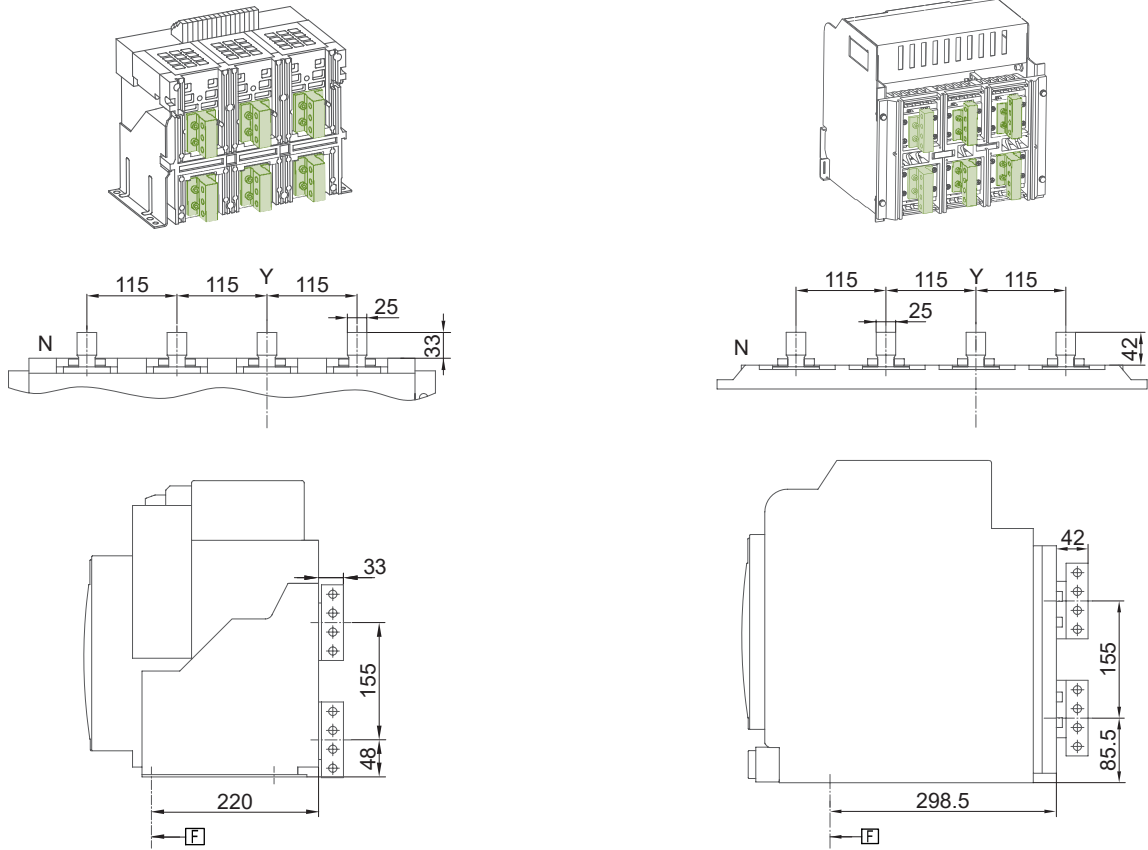
Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

Power connectors dimensions 3200 A (Vertical)

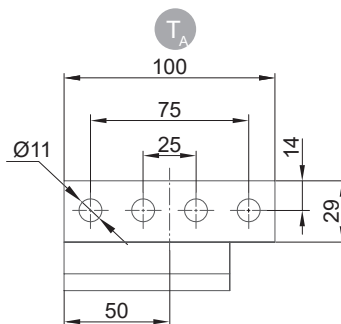
Vertical connection Fixed / Withdrawable

mm



Fixed / Withdrawable 3P / 4P power connector distribution

Horizontal power connector Fixed / Withdrawable



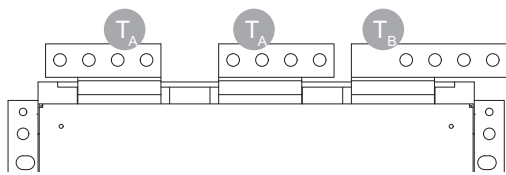
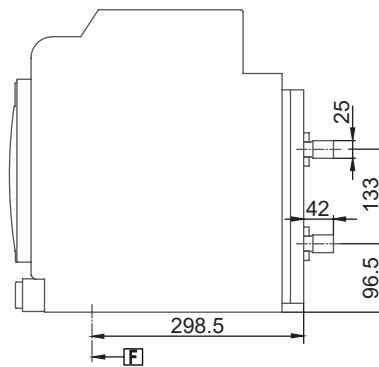
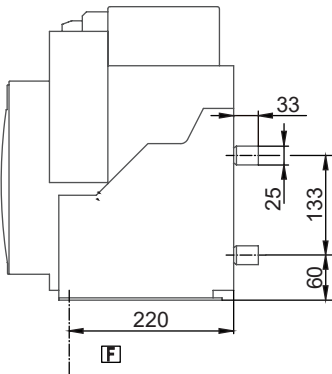
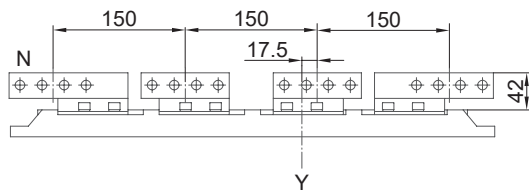
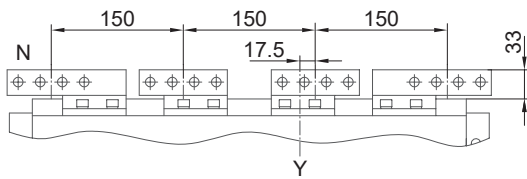
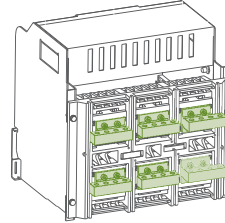
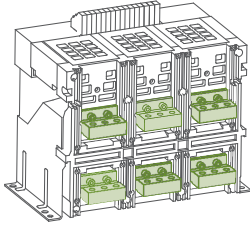
Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

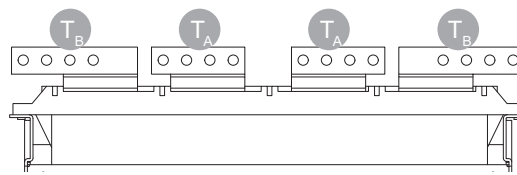
Power connectors dimensions 4000 A (Horizontal)

Horizontal connection Fixed / Withdrawable

mm

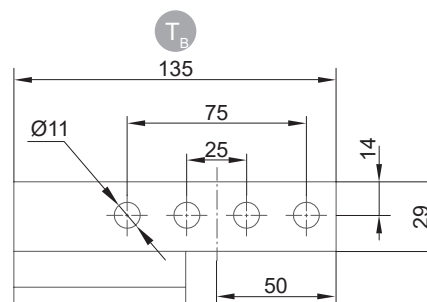
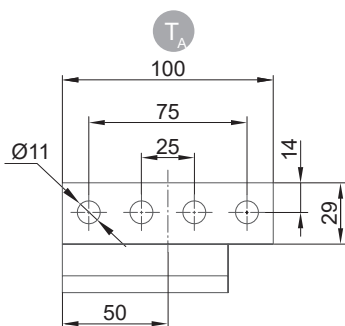


Fixed / Withdrawable 3P power connector distribution



Fixed / Withdrawable 4P power connector distribution

Horizontal power connector Fixed / Withdrawable



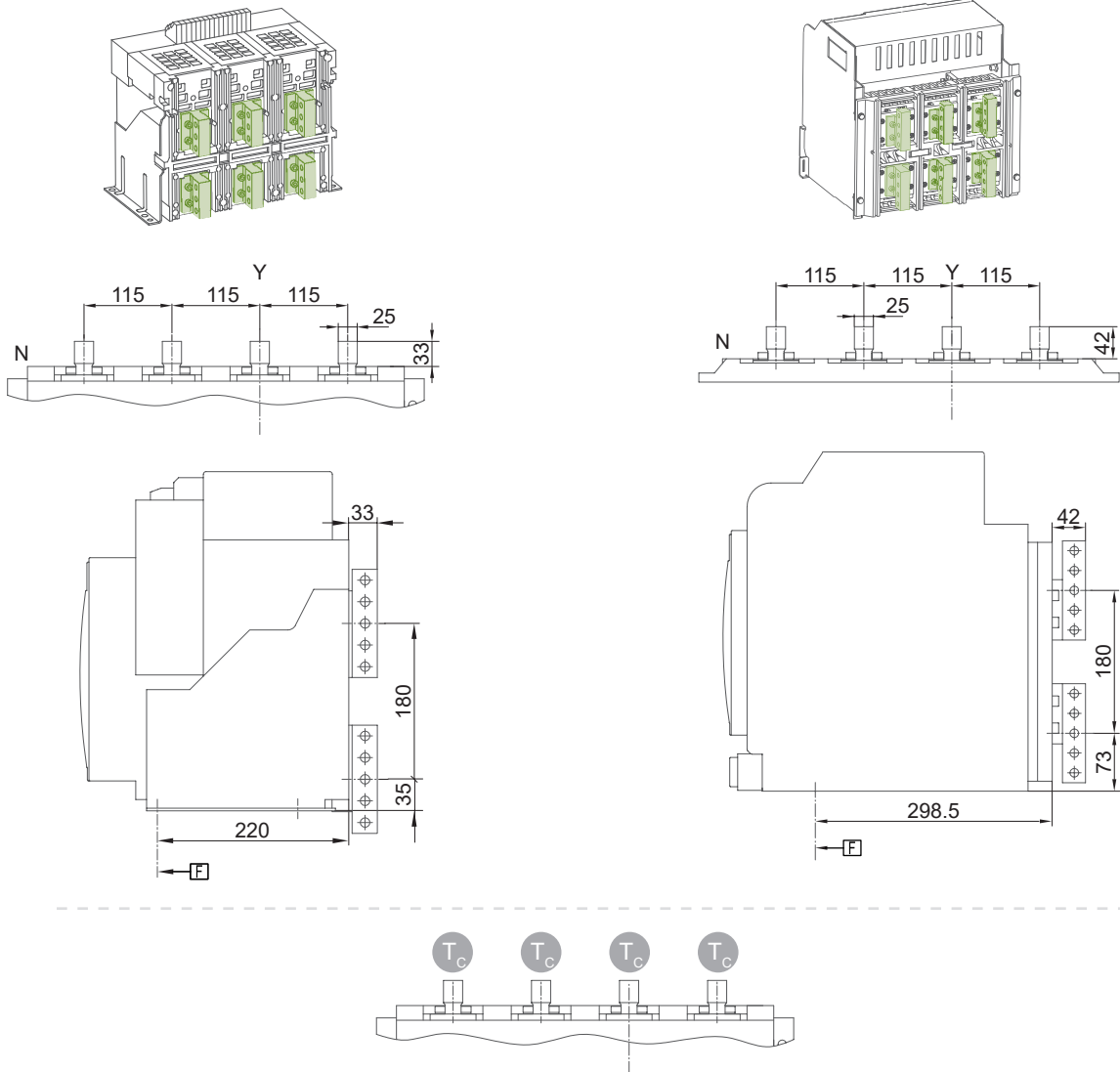
Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

Power connectors dimensions 4000 A (Vertical)

Vertical connection Fixed / Withdrawable

mm



Fixed / Withdrawable 3P / 4P power connector distribution

Horizontal power connector Fixed / Withdrawable

