





# Tripping units "Smart Unit" +SU



- Tripping units SU for ACBs line Ex9A
- Selected and ordered separately, delivered as mounted in ACB only
- 32-bit DSP technology
- SU3.0 series with LSI protection  
SU4.0 series with LSIG protection  
SU5.0 series with LSIE protection
- LCD display for all versions, coloured indication of status for variants D, P and H
- Optional communication function
- Wide range of other protective and alarm functions
- Net analysing possibility

Tripping units of the line "Smart Unit SU" provide a comprehensive range of functionalities to Air Circuit Breaker device body. The SU units bring modern state of the art digital technology into ACB tripping units. All versions of SU contain LSI protection functions, several measuring possibilities and many advanced functions. All types are also equipped with LCD display to show actual conditions in the circuit. It brings an ultimate choice, without any compromise of basic tripping units with insufficient functionalities.

SU units are offered in three main lines as SU3.0, SU4.0, and SU5.0. The basic type 3.0 contains all principal protection functions L (Long time delay protection), S (Short time delay protection), I (Instantaneous protection). It allows to use this type also as an upstream breaker in selective systems. Advanced types 4.0 and 5.0 provide additionally G (Ground-fault) and E (Earth leakage) protection, respectively. Both these functions are based on measuring of differential residual current. The G function in SU4.0 is designed in order to register ground faults, i.e. residual currents with level similar to nominal currents (in 0.1 multiples of  $I_n$ ), through PE conductor. In contrast to this, the SU5.0 records leakage currents from the level of 0.5 A also with adjusted insensitivity time. For this reason it is suitable as protection against leakage currents caused e.g. by imperfect insulation, high impedance faults etc.

Settings of tripping parameters allow besides changing of time delay parameters and current limits to shape tripping curve significantly. For overload protection in the L zone, it is possible to choose from various versions of inverse time delay functions  $I^{0.5t}$ ,  $I_t$ ,  $I^{2t}$ ,  $I^{4t}$ ,  $I^{5t}$ . It brings an easy way of adaptation of tripping curve to different types of other protection devices in the system in order to keep selectivity as well as to minimize gaps in between particular tripping curves for maximum protection. It is extended with the inverse time possibility also for short time delay curve S with function  $I^{2t}$ . An inverse time function  $I_t$  is available and adjustable also for Ground fault protection G in SU of version 4.0, and as fixed for Earth fault protection in SU5.0.

All the three types of tripping units are further available in 4 variants with suffix A, D, P, and H. The variant A offers additional detailed current analysis. It means that detailed information about currents can be shown on the integrated LCD display. For versions D, P and H it can be also communicated via ModBus interface. The variant D extends the current analysis with voltage analysis. The variant P adds also power analysis, i.e. measuring of energy and power factor. Finally, the most complex variant H provides full net analysis including measuring and calculation of harmonic content. With the integrated LCD, ACB equipped with the H version of tripping unit fully replaces separate use of net analyzer, the functionality is in the tripping unit itself.

The analyses variants do not allow the informational or alarm functions only. Key parameters of given analysis can be set also as a protection function which means they can initiate tripping of the breaker.

# Tripping units "Smart Unit" +SU

All versions of SU (except variants A) can be extended with communication possibilities with ModBus-RTU protocol. For all versions there is available function ZSI (Zone Selective Interlocking), see page 54.

The tripping units SU are equipped with a rating plug. Please refer to particular type page for information about down rating possibilities.

External power supply of tripping unit SU allows operation with the unit in case when main voltage is off (also e.g. in disconnected position of a withdrawable breaker). It assures also preserving of data logs in the unit. The external power supply is recommended when highest possible accuracy of measured data is required - power consumption of SU is covered with energy from external supply, not from measuring transformers. The external power supply is necessary to allow operation of SU, storing and accessing fault reasons when the breaker is open, in case that chosen main voltage side of ACBs differs from the side of measuring transformers. In such case, SU does not have power supply when the breaker is open.

# Tripping units "Smart Unit" +SU

Function overview		Smart Unit measurement type			
		A	D	P	H
Protection functions	Overload protection	■	■	■	■
	Overload pre-alarm	■	■	■	■
	Short-circuit short delay protection	■	■	■	■
	Short-circuit instantaneous protection	■	■	■	■
	Ground-fault protection (4.0 only), alarm	■	■	■	■
	Earth leakage protection (5.0 only), alarm	■	■	■	■
	MCR & HSISC protection	■	■	■	■
	Unbalanced current protection, alarm	■	■	■	■
	Neutral conductor protection	■	■	■	■
	Temperature protection, alarm	■	■	■	■
	Thermal memory	■	■	■	■
	Overvoltage protection, alarm	-	■	■	■
	Undervoltage protection, alarm	-	■	■	■
	Unbalanced Voltage protection, alarm	-	■	■	■
	Over-frequency protection, alarm	-	■	■	■
	Under-frequency protection, alarm	-	■	■	■
	Phase rotation protection	-	■	■	■
	Reverse Power protection	-	-	■	■
Harmonic Wave protection	-	-	-	■	
Measurement functions	Current measurement	■	■	■	■
	Voltage measurement	-	■	■	■
	Frequency measurement	-	■	■	■
	Unbalanced Voltage measurement	-	■	■	■
	Phase rotation detection	-	■	■	■
	Power Factor measurement	-	-	■	■
	Electric energy measurement	-	-	■	■
	Harmonic Wave analysis	-	-	-	■
Maintenance functions	8 latest fault record	■	■	■	■
	8 latest alarm record	■	■	■	■
	8 latest operations record	■	■	■	■
	Historic current peak value	■	■	■	■
	Contact wear indication	■	■	■	■
	Operating cycles	■	■	■	■
	Clock function	■	■	■	■
	Self diagnosis	■	■	■	■
Optional	Zone Selective Interlock (ZSI)	□	□	□	□
	Communication function (Modbus)	-	□	□	□
	Programmable DO outputs	□	□	□	□

# Tripping units "Smart Unit" +SU3.0

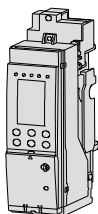
- **Selective protection (LSI)**
- Three-colour LCD display for alarm and fault indication (except A version)
- Real-time status indicator
- Load monitoring
- Rating-plug for nominal current included
- Optional communication possibility (except A version), ZSI function
- External power supply can be connected via secondary terminals (#1, 2). It allows storing of data and SU operation without main voltage present and also higher accuracy of measured voltages and currents. Recommended when above main terminals are used for line voltage connection to allow operation of SU when ACB is open.
- Basic protection functions of SU are supplied from main voltage of ACB
- N protection for 3P breakers in combination with NEC transformer
- Current/Voltage/Power/Harmonic measurement and protection types
- Setting range of tripping units SU (all versions):
 
$$I_r = 0.4 - 1 \times I_n$$

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

$$I_f = 2 - 15 \times I_n$$
- Fine setting of tripping parameters via LCD menu

## A-type - LSI protection with analysis of currents

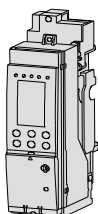
- Protection functions (overload, short-circuit, unbalance, neutral conductor, temperature)
- Measurement functions (current, thermal)
- LCD display



Analysis type	Ext. power supply	Article No.	Type
Current	230 V AC	105025	+SU30A AC230
Current	400 V AC	105026	+SU30A AC400
Current	24 V DC	105027	+SU30A DC24

## D-type - LSI protection with analyses of currents and voltages

- Protection functions (as A-type plus overvoltage, undervoltage, voltage unbalance, frequency, phase sequence)
- Measurement functions (as A-type plus voltage, frequency, voltage unbalance, phase sequence)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB

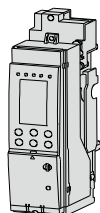


Analysis type	Ext. power supply	Article No.	Type
Voltage	230 V AC	105028	+SU30D AC230
Voltage	400 V AC	105029	+SU30D AC400
Voltage	24 V DC	105030	+SU30D DC24

# Tripping units "Smart Unit" +SU3.0

## P-type - LSI protection with analyses of currents, voltages and powers

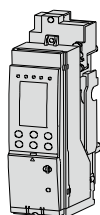
- Protection functions (as D-type plus reverse power protection)
- Measurement functions (as D-type plus power factor, electric energy)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Power	230 V AC	105031	+SU30P AC230
Power	400 V AC	105032	+SU30P AC400
Power	24 V DC	105033	+SU30P DC24

## H-type - LSI protection with complete net analysis

- Protection functions (as P-type plus harmonic wave)
- Measurement functions (as P-type plus harmonic wave)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Harmonic	230 V AC	105034	+SU30H AC230
Harmonic	400 V AC	105035	+SU30H AC400
Harmonic	24 V DC	105036	+SU30H DC24

## Tripping unit configuration for measuring by 3P ACB in 4wire system

- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB

Article No.	Type
105734	+VM3P4W

# Tripping units "Smart Unit" +SU4.0

- **Selective protection (LSI) + ground-fault protection (G)**
- Three-colour LCD display for alarm and fault indication (except A version)
- Real-time status indicator
- Load monitoring
- Rating-plug for nominal current included
- Optional communication possibility (except A version), ZSI function
- External power supply can be connected via secondary terminals (#1, 2). It allows storing of data and SU operation without main voltage present and also higher accuracy of measured voltages and currents. Recommended when above main terminals are used for line voltage connection to allow operation of SU when ACB is open.
- Basic protection functions of SU are supplied from main voltage of ACB
- Ground fault protection can be realized as differential residual current function or source ground fault function. Source ground fault function requires a use of external transformer WEC (ordered separately). WEC transformer measures actual current through PE conductor (usually grounding of transformer neutral point).
- Ground fault by means of differential residual current as default. When source ground fault function with WEC is required, please add item +GECT to ordered ACB. WEC and +GECT in preparation (please check actual pricelist for availability)
- When WEC transformer is used it is not possible to install NEC transformer for N protection with 3P ACB (connection to the same secondary terminals)
- Current/Voltage/Power/Harmonic measurement and protection types
- Setting range of tripping units SU (all versions):
 
$$I_r = 0.4 - 1 \times I_n$$

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

$$I_r = 2 - 15 \times I_n$$
- Fine setting of tripping parameters via LCD menu

## A-type - LSIG protection with analysis of currents

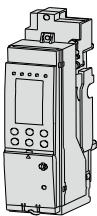
- Protection functions (overload, short-circuit, unbalanced, neutral conductor, temperature)
- Measurement functions (current, thermal)
- LCD display



Analysis type	Ext. power supply	Article No.	Type
Current	230 V AC	105037	+SU40A AC230
Current	400 V AC	105038	+SU40A AC400
Current	24 V DC	105039	+SU40A DC24

## D-type - LSIG protection with analyses of currents and voltages

- Protection functions (as A-type plus overvoltage, undervoltage, voltage unbalance, frequency, phase sequence)
- Measurement functions (as A-type plus voltage, frequency, voltage unbalance, phase sequence)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



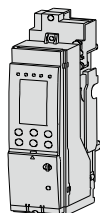
Analysis type	Ext. power supply	Article No.	Type
Voltage	230 V AC	105040	+SU40D AC230
Voltage	400 V AC	105041	+SU40D AC400
Voltage	24 V DC	105042	+SU40D DC24



# Tripping units "Smart Unit" +SU4.0

## P-type - LSIG protection with analyses of currents, voltages and powers

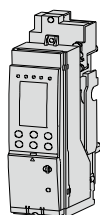
- Protection functions (as D-type plus reverse power protection)
- Measurement functions (as D-type plus power factor, electric energy)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Power	230 V AC	105043	+SU40P AC230
Power	400 V AC	105044	+SU40P AC400
Power	24 V DC	105045	+SU40P DC24

## H-type - LSIG protection with complete net analysis

- Protection functions (as P-type plus harmonic wave)
- Measurement functions (as P-type plus harmonic wave)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Harmonic	230 V AC	105046	+SU40H AC230
Harmonic	400 V AC	105047	+SU40H AC400
Harmonic	24 V DC	105048	+SU40H DC24

## Tripping unit configuration for measuring by 3P ACB in 4wire system

- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB

Article No.	Type
105734	+VM3P4W

## Ground fault function with WEC transformer

- When source ground fault function with WEC is required, please add item +GECT to ordered ACB.
- WEC and +GECT in preparation (please check actual pricelist for availability)

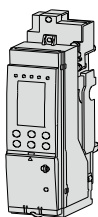
Article No.	Type
105733	+GECT

# Tripping units "Smart Unit" +SU5.0

- **Selective protection (LSI) + earth-leakage protection (E)**
- Three-colour LCD display for alarm and fault indication (except A version)
- Real-time status indicator
- Load monitoring
- Rating-plug for nominal current included
- Optional communication possibility (except A version), ZSI function
- External power supply can be connected via secondary terminals (#1, 2). It allows storing of data and SU operation without main voltage present and also higher accuracy of measured voltages and currents. Recommended when above main terminals are used for line voltage connection to allow operation of SU when ACB is open.
- Basic protection functions of SU are supplied from main voltage of ACB
- Earth leakage protection in combination with LEC transformer (it is necessary to order separately) measuring differential residual current in working conductors
- Current/Voltage/Power/Harmonic measurement and protection types
- Setting range of tripping units SU (all versions):
  - $I_r = 0.4 - 1 \times I_n$
  - $I_{sd} = 1.5 - 10 \times I_r$
  - $I_r = 2 - 15 \times I_n$
- Fine setting of tripping parameters via LCD menu

## A-type - LSIE protection with analysis of currents

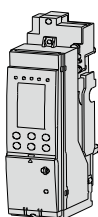
- Protection functions (overload, short-circuit, unbalanced, neutral conductor, temperature)
- Measurement functions (current, thermal)
- LCD display



Analysis type	Ext. power supply	Article No.	Type
Current	230 V AC	105049	+SU50A AC230
Current	400 V AC	105050	+SU50A AC400
Current	24 V DC	105051	+SU50A DC24

## D-type - LSIE protection with analyses of currents and voltages

- Protection functions (as A-type plus overvoltage, undervoltage, voltage unbalance, frequency, phase sequence)
- Measurement functions (as A-type plus voltage, frequency, voltage unbalance, phase sequence)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB

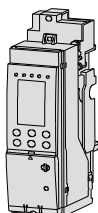


Analysis type	Ext. power supply	Article No.	Type
Voltage	230 V AC	105052	+SU50D AC230
Voltage	400 V AC	105053	+SU50D AC400
Voltage	24 V DC	105054	+SU50D DC24

# Tripping units "Smart Unit" +SU5.0

## P-type - LSIE protection with analyses of currents, voltages and powers

- Protection functions (as D-type plus reverse power protection)
- Measurement functions (as D-type plus power factor, electric energy)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Power	230 V AC	105055	+SU50P AC230
Power	400 V AC	105056	+SU50P AC400
Power	24 V DC	105057	+SU50P DC24

## H-type - LSIE protection with complete net analysis

- Protection functions (as P-type plus harmonic wave)
- Measurement functions (as P-type plus harmonic wave)
- Optional Modbus communication (+COM MODBUS, see page 54)
- Coloured LCD display
- For voltage based measurement and analyses, system voltages must be connected to secondary terminals #24-27
- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB



Analysis type	Ext. power supply	Article No.	Type
Harmonic	230 V AC	105058	+SU50H AC230
Harmonic	400 V AC	105059	+SU50H AC400
Harmonic	24 V DC	105060	+SU50H DC24

## Tripping unit configuration for measuring by 3P ACB in 4wire system

- If voltage based measurement and analyses are intended to be performed by 3P ACB in 4wire system, please add item +VM3P4W to ordered ACB

Article No.	Type
105734	+VM3P4W

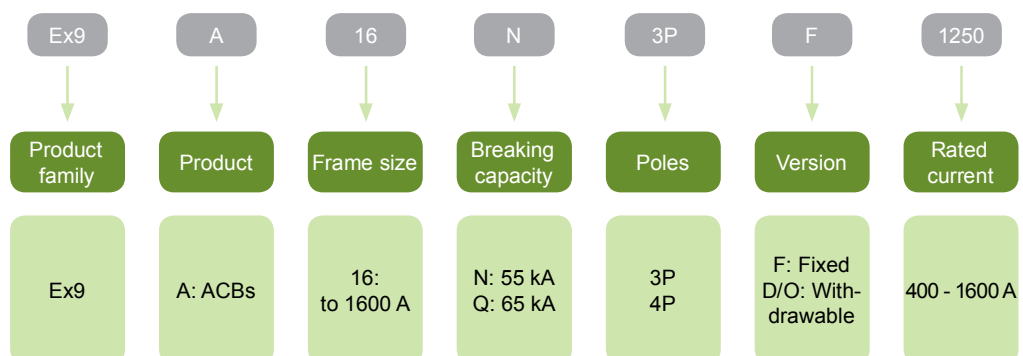


# Air Circuit Breakers Ex9A16



- Air circuit breakers, frame size A16
- Rated current up to 1600 A
- Rated operating voltage 690 V AC
- Breaking capacity  $I_{cu}$  55 and 65 kA
- Fixed and withdrawable versions
- ACBs category B acc. to EN 60947-2
- Free choice of tripping unit SU
- Very compact design
- Screwless secondary terminals
- Wide range of accessories

## Type Key



# Air Circuit Breakers Ex9A16

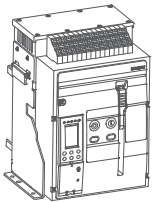
- Fixed version
- Frame size A16
- Rated current up to 1600 A
- Rated short-circuit breaking capacity  $I_{cu}$  55 and 65 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping unit (see previous point), door frame, main terminals mounted in horizontal position, alarm contacts
- Setting range of tripping units SU (all versions):

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

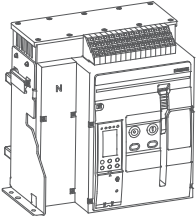
$$I_{sd} = 1.5 - 10 \times I_r$$

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

## Fixed version, $I_{cu} = 55$ kA at 415 V AC

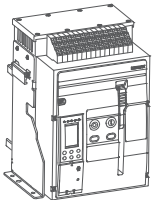


Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	400 A	160-400 A	800-6000 A	104858	Ex9A16N 3P F 400	1
3P	630 A	252-630 A	1260-9450 A	104860	Ex9A16N 3P F 630	1
3P	800 A	320-800 A	1600-12000 A	104862	Ex9A16N 3P F 800	1
3P	1000 A	400-1000 A	2000-15000 A	104864	Ex9A16N 3P F 1000	1
3P	1250 A	500-1250 A	2500-18750 A	104866	Ex9A16N 3P F 1250	1
3P	1600 A	640-1600 A	3200-24000 A	104868	Ex9A16N 3P F 1600	1

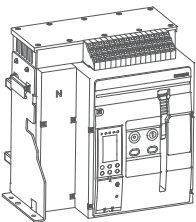


4P	400 A	160-400 A	800-6000 A	104870	Ex9A16N 4P F 400	1
4P	630 A	252-630 A	1260-9450 A	104872	Ex9A16N 4P F 630	1
4P	800 A	320-800 A	1600-12000 A	104874	Ex9A16N 4P F 800	1
4P	1000 A	400-1000 A	2000-15000 A	104876	Ex9A16N 4P F 1000	1
4P	1250 A	500-1250 A	2500-18750 A	104878	Ex9A16N 4P F 1250	1
4P	1600 A	640-1600 A	3200-24000 A	104880	Ex9A16N 4P F 1600	1

## 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	400 A	160-400 A	800-6000 A	104882	Ex9A16Q 3P F 400	1
3P	630 A	252-630 A	1260-9450 A	104884	Ex9A16Q 3P F 630	1
3P	800 A	320-800 A	1600-12000 A	104886	Ex9A16Q 3P F 800	1
3P	1000 A	400-1000 A	2000-15000 A	104888	Ex9A16Q 3P F 1000	1
3P	1250 A	500-1250 A	2500-18750 A	104890	Ex9A16Q 3P F 1250	1
3P	1600 A	640-1600 A	3200-24000 A	104892	Ex9A16Q 3P F 1600	1



4P	400 A	160-400 A	800-6000 A	104894	Ex9A16Q 4P F 400	1
4P	630 A	252-630 A	1260-9450 A	104896	Ex9A16Q 4P F 630	1
4P	800 A	320-800 A	1600-12000 A	104898	Ex9A16Q 4P F 800	1
4P	1000 A	400-1000 A	2000-15000 A	104900	Ex9A16Q 4P F 1000	1
4P	1250 A	500-1250 A	2500-18750 A	104902	Ex9A16Q 4P F 1250	1
4P	1600 A	640-1600 A	3200-24000 A	104904	Ex9A16Q 4P F 1600	1

# Air Circuit Breakers Ex9A16

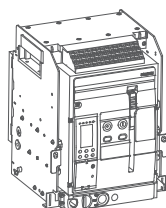
- Withdrawable version
- Frame size A16
- Rated current up to 1600 A
- Rated short-circuit breaking capacity  $I_{cu}$  55 and 65 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, holder, tripping unit (see 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):

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

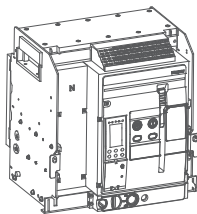
$$I_{sd} = 1.5 - 10 \times I_r$$

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

## Withdrawable version, $I_{cu} = 55$ kA at 415 V AC

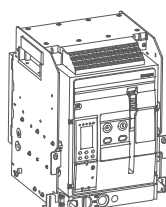


Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	400 A	160-400 A	800-6000 A	104857	Ex9A16N 3P D/O 400	1
3P	630 A	252-630 A	1260-9450 A	104859	Ex9A16N 3P D/O 630	1
3P	800 A	320-800 A	1600-12000 A	104861	Ex9A16N 3P D/O 800	1
3P	1000 A	400-1000 A	2000-15000 A	104863	Ex9A16N 3P D/O 1000	1
3P	1250 A	500-1250 A	2500-18750 A	104865	Ex9A16N 3P D/O 1250	1
3P	1600 A	640-1600 A	3200-24000 A	104867	Ex9A16N 3P D/O 1600	1

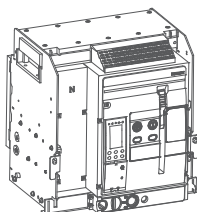


4P	400 A	160-400 A	800-6000 A	104869	Ex9A16N 4P D/O 400	1
4P	630 A	252-630 A	1260-9450 A	104871	Ex9A16N 4P D/O 630	1
4P	800 A	320-800 A	1600-12000 A	104873	Ex9A16N 4P D/O 800	1
4P	1000 A	400-1000 A	2000-15000 A	104875	Ex9A16N 4P D/O 1000	1
4P	1250 A	500-1250 A	2500-18750 A	104877	Ex9A16N 4P D/O 1250	1
4P	1600 A	640-1600 A	3200-24000 A	104879	Ex9A16N 4P D/O 1600	1

## 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	400 A	160-400 A	800-6000 A	104881	Ex9A16Q 3P D/O 400	1
3P	630 A	252-630 A	1260-9450 A	104883	Ex9A16Q 3P D/O 630	1
3P	800 A	320-800 A	1600-12000 A	104885	Ex9A16Q 3P D/O 800	1
3P	1000 A	400-1000 A	2000-15000 A	104887	Ex9A16Q 3P D/O 1000	1
3P	1250 A	500-1250 A	2500-18750 A	104889	Ex9A16Q 3P D/O 1250	1
3P	1600 A	640-1600 A	3200-24000 A	104891	Ex9A16Q 3P D/O 1600	1

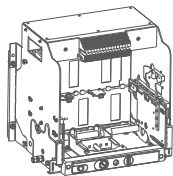


4P	400 A	160-400 A	800-6000 A	104893	Ex9A16Q 4P D/O 400	1
4P	630 A	252-630 A	1260-9450 A	104895	Ex9A16Q 4P D/O 630	1
4P	800 A	320-800 A	1600-12000 A	104897	Ex9A16Q 4P D/O 800	1
4P	1000 A	400-1000 A	2000-15000 A	104899	Ex9A16Q 4P D/O 1000	1
4P	1250 A	500-1250 A	2500-18750 A	104901	Ex9A16Q 4P D/O 1250	1
4P	1600 A	640-1600 A	3200-24000 A	104903	Ex9A16Q 4P D/O 1600	1

# Air Circuit Breakers Ex9A16

## Cassete for Ex9A16 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	630 A	105139	+CAS 11 3P 630	1
Premounted	3P	1600 A	105140	+CAS 11 3P 1600	1
Premounted	4P	630 A	105141	+CAS 11 4P 630	1
Premounted	4P	1600 A	105142	+CAS 11 4P 1600	1
Separately orderable	3P	630 A	105157	CAS 11 3P 630	1
Separately orderable	3P	1600 A	105158	CAS 11 3P 1600	1
Separately orderable	4P	630 A	105159	CAS 11 4P 630	1
Separately orderable	4P	1600 A	105160	CAS 11 4P 1600	1



# Air Circuit Breakers Ex9A25

*In preparation...*

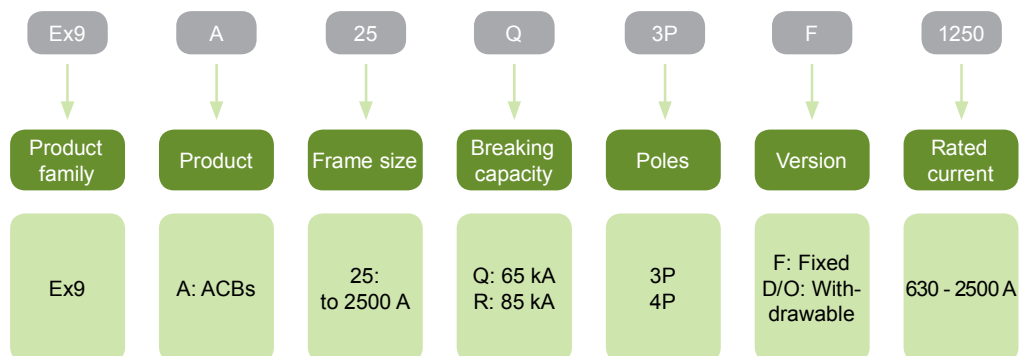


- Air circuit breakers, frame size A25
- Rated current up to 2500 A
- Rated operating voltage 690 V AC
- Breaking capacity  $I_{cu}$  65 and 85 kA
- $I_{cs} = 100 \% I_{cu}$
- Fixed and withdrawable versions
- ACBs category B acc. to EN 60947-2
- Free choice of tripping unit SU
- Compact design
- Screwless secondary terminals
- Wide range of accessories

ACBs of frame size A25 and all related accessories are in preparation.

Expected availability is 12/2014 (see actual pricelist)

## Type Key



# Air Circuit Breakers Ex9A25

In preparation...

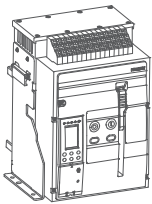
- Fixed version
- Frame size A25
- Rated current up to 2500 A
- Rated short-circuit breaking capacity  $I_{cu}$  65 and 85 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping unit (see previous point), door frame, main terminals mounted in horizontal position, alarm contacts
- Setting range of tripping units SU (all versions):

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

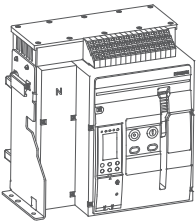
$$I_{sd} = 1.5 - 10 \times I_r$$

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

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

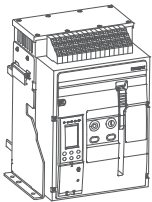


Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	630 A	252-630 A	1260-9450 A	105735	Ex9A25Q 3P F 630	1
3P	800 A	320-800 A	1600-12000 A	105736	Ex9A25Q 3P F 800	1
3P	1000 A	400-1000 A	2000-15000 A	105737	Ex9A25Q 3P F 1000	1
3P	1250 A	500-1250 A	2500-18750 A	105738	Ex9A25Q 3P F 1250	1
3P	1600 A	640-1600 A	3200-24000 A	105739	Ex9A25Q 3P F 1600	1
3P	2000 A	800-2000 A	4000-30000 A	105740	Ex9A25Q 3P F 2000	1
3P	2500 A	1000-2500 A	5000-37500 A	105741	Ex9A25Q 3P F 2500	1

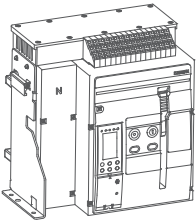


4P	630 A	252-630 A	1260-9450 A	105742	Ex9A25Q 4P F 630	1
4P	800 A	320-800 A	1600-12000 A	105743	Ex9A25Q 4P F 800	1
4P	1000 A	400-1000 A	2000-15000 A	105744	Ex9A25Q 4P F 1000	1
4P	1250 A	500-1250 A	2500-18750 A	105745	Ex9A25Q 4P F 1250	1
4P	1600 A	640-1600 A	3200-24000 A	105746	Ex9A25Q 4P F 1600	1
4P	2000 A	800-2000 A	4000-30000 A	105747	Ex9A25Q 4P F 2000	1
4P	2500 A	1000-2500 A	5000-37500 A	105748	Ex9A25Q 4P F 2500	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	630 A	252-630 A	1260-9450 A	105749	Ex9A25R 3P F 630	1
3P	800 A	320-800 A	1600-12000 A	105750	Ex9A25R 3P F 800	1
3P	1000 A	400-1000 A	2000-15000 A	105751	Ex9A25R 3P F 1000	1
3P	1250 A	500-1250 A	2500-18750 A	105752	Ex9A25R 3P F 1250	1
3P	1600 A	640-1600 A	3200-24000 A	105753	Ex9A25R 3P F 1600	1
3P	2000 A	800-2000 A	4000-30000 A	105754	Ex9A25R 3P F 1600	1
3P	2500 A	1000-2500 A	5000-37500 A	105755	Ex9A25R 3P F 1600	1



4P	630 A	252-630 A	1260-9450 A	105756	Ex9A25R 4P F 630	1
4P	800 A	320-800 A	1600-12000 A	105757	Ex9A25R 4P F 800	1
4P	1000 A	400-1000 A	2000-15000 A	105758	Ex9A25R 4P F 1000	1
4P	1250 A	500-1250 A	2500-18750 A	105759	Ex9A25R 4P F 1250	1
4P	1600 A	640-1600 A	3200-24000 A	105760	Ex9A25R 4P F 1600	1
4P	2000 A	800-2000 A	4000-30000 A	105761	Ex9A25R 4P F 1600	1
4P	2500 A	1000-2500 A	5000-37500 A	105762	Ex9A25R 4P F 1600	1

# Air Circuit Breakers Ex9A25

In preparation...

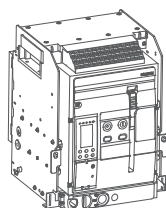
- Withdrawable version
- Frame size A25
- Rated current up to 2500 A
- Rated short-circuit breaking capacity  $I_{cu}$  65 and 85 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, holder, tripping unit (see 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):

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

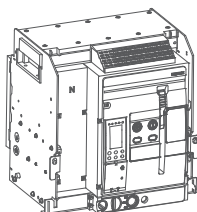
$$I_{sd} = 1.5 - 10 \times I_r$$

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

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

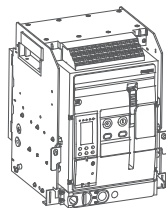


Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	630 A	252-630 A	1260-9450 A	105763	Ex9A25Q 3P D/O 630	1
3P	800 A	320-800 A	1600-12000 A	105764	Ex9A25Q 3P D/O 800	1
3P	1000 A	400-1000 A	2000-15000 A	105765	Ex9A25Q 3P D/O 1000	1
3P	1250 A	500-1250 A	2500-18750 A	105766	Ex9A25Q 3P D/O 1250	1
3P	1600 A	640-1600 A	3200-24000 A	105767	Ex9A25Q 3P D/O 1600	1
3P	2000 A	800-2000 A	4000-30000 A	105768	Ex9A25Q 3P D/O 2000	1
3P	2500 A	1000-2500 A	5000-37500 A	105769	Ex9A25Q 3P D/O 2500	1

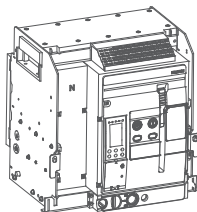


4P	630 A	252-630 A	1260-9450 A	105770	Ex9A25Q 4P D/O 630	1
4P	800 A	320-800 A	1600-12000 A	105771	Ex9A25Q 4P D/O 800	1
4P	1000 A	400-1000 A	2000-15000 A	105772	Ex9A25Q 4P D/O 1000	1
4P	1250 A	500-1250 A	2500-18750 A	105773	Ex9A25Q 4P D/O 1250	1
4P	1600 A	640-1600 A	3200-24000 A	105774	Ex9A25Q 4P D/O 1600	1
4P	2000 A	800-2000 A	4000-30000 A	105775	Ex9A25Q 4P D/O 2000	1
4P	2500 A	1000-2500 A	5000-37500 A	105776	Ex9A25Q 4P D/O 2500	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	630 A	252-630 A	1260-9450 A	105777	Ex9A25R 3P D/O 630	1
3P	800 A	320-800 A	1600-12000 A	105778	Ex9A25R 3P D/O 800	1
3P	1000 A	400-1000 A	2000-15000 A	105779	Ex9A25R 3P D/O 1000	1
3P	1250 A	500-1250 A	2500-18750 A	105780	Ex9A25R 3P D/O 1250	1
3P	1600 A	640-1600 A	3200-24000 A	105781	Ex9A25R 3P D/O 1600	1
3P	2000 A	800-2000 A	4000-30000 A	105782	Ex9A25R 3P D/O 2000	1
3P	2500 A	1000-2500 A	5000-37500 A	105783	Ex9A25R 3P D/O 2500	1



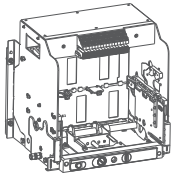
4P	630 A	252-630 A	1260-9450 A	105784	Ex9A25R 4P D/O 630	1
4P	800 A	320-800 A	1600-12000 A	105785	Ex9A25R 4P D/O 800	1
4P	1000 A	400-1000 A	2000-15000 A	105786	Ex9A25R 4P D/O 1000	1
4P	1250 A	500-1250 A	2500-18750 A	105787	Ex9A25R 4P D/O 1250	1
4P	1600 A	640-1600 A	3200-24000 A	105788	Ex9A25R 4P D/O 1600	1
4P	2000 A	800-2000 A	4000-30000 A	105789	Ex9A25R 4P D/O 2000	1
4P	2500 A	1000-2500 A	5000-37500 A	105790	Ex9A25R 4P D/O 2500	1

# Air Circuit Breakers Ex9A25

In preparation...

## Cassete for Ex9A25 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



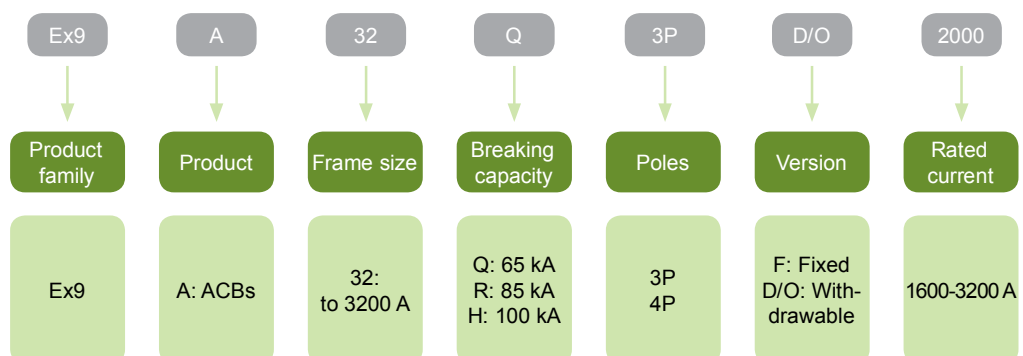
Version	Poles	Rated current $I_n$	Article No.	Type	Packing
Premounted	3P	630-1600 A	105791	+CAS 14 3P 1600	1
Premounted	3P	2000-2500 A	105792	+CAS 14 3P 2500	1
Premounted	4P	630-1600 A	105793	+CAS 14 4P 1600	1
Premounted	4P	2000-2500 A	105794	+CAS 14 4P 2500	1
Separately orderable	3P	630-1600 A	105795	CAS 14 3P 1600	1
Separately orderable	3P	2000-2500 A	105796	CAS 14 3P 2500	1
Separately orderable	4P	630-1600 A	105797	CAS 14 4P 1600	1
Separately orderable	4P	2000-2500 A	105798	CAS 14 4P 2500	1

# Air Circuit Breakers Ex9A32



- Air circuit breakers, frame size A32
- Rated current  $I_n$  up to 3200 A
- Rated operating voltage 690 V AC
- Breaking capacity  $I_{cu}$  65, 85 and 100 kA
- $I_{cs} = 100\% I_{cu}$
- Fixed and withdrawable versions
- ACBs category B acc. to EN 60947-2
- Free choice of tripping unit SU
- Wide range of accessories

## Type Key



# Air Circuit Breakers Ex9A32

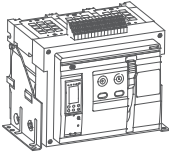
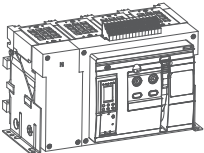
- Fixed version
- Frame size A32
- Rated current up to 3200 A
- Rated short-circuit breaking capacity  $I_{cu}$  65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping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

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

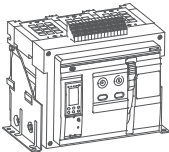
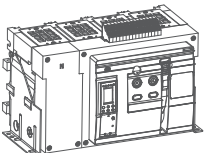
$$I_{sd} = 1.5 - 10 \times I_r$$

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

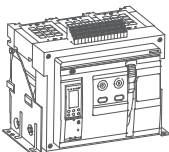
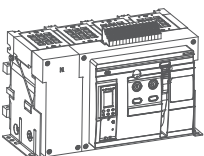
## Fixed version, $I_{cu} = 65$ kA at 415 V AC

	Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
	3P	1600 A	640-1600 A	3200-24000 A	104906	Ex9A32Q 3P F 1600	1
	3P	2000 A	800-2000 A	4000-30000 A	104908	Ex9A32Q 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104910	Ex9A32Q 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104912	Ex9A32Q 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104914	Ex9A32Q 3P F 3200	1
	4P	1600 A	640-1600 A	3200-24000 A	104916	Ex9A32Q 4P F 1600	1
	4P	2000 A	800-2000 A	4000-30000 A	104918	Ex9A32Q 4P F 2000	1
	4P	2500 A	1160-2900 A	5800-43500 A	104920	Ex9A32Q 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104922	Ex9A32Q 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104924	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	1600 A	640-1600 A	3200-24000 A	104926	Ex9A32R 3P F 1600	1
	3P	2000 A	800-2000 A	4000-30000 A	104928	Ex9A32R 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104930	Ex9A32R 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104932	Ex9A32R 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104934	Ex9A32R 3P F 3200	1
	4P	1600 A	640-1600 A	3200-24000 A	104936	Ex9A32R 4P F 1600	1
	4P	2000 A	800-2000 A	4000-30000 A	104938	Ex9A32R 4P F 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104940	Ex9A32R 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104942	Ex9A32R 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104944	Ex9A32R 4P F 3200	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	1600 A	640-1600 A	3200-24000 A	104946	Ex9A32H 3P F 1600	1
	3P	2000 A	800-2000 A	4000-30000 A	104948	Ex9A32H 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104950	Ex9A32H 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104952	Ex9A32H 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104954	Ex9A32H 3P F 3200	1
	4P	1600 A	640-1600 A	3200-24000 A	104956	Ex9A32H 4P F 1600	1
	4P	2000 A	800-2000 A	4000-30000 A	104958	Ex9A32H 4P F 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104960	Ex9A32H 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104962	Ex9A32H 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104964	Ex9A32H 4P F 3200	1

# Air Circuit Breakers Ex9A32

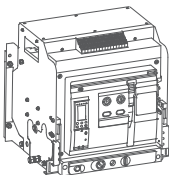
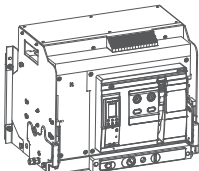
- Withdrawable version
- Frame size A32
- Rated current up to 3200 A
- Rated short-circuit breaking capacity  $I_{cu}$  65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, holder, tripping unit (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):

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

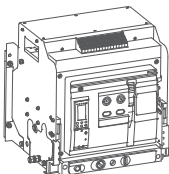
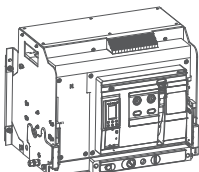
$$I_{sd} = 1.5 - 10 \times I_r$$

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

## 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	1600 A	640-1600 A	3200-24000 A	104905	Ex9A32Q 3P D/O 1600	1
	3P	2000 A	800-2000 A	4000-30000 A	104907	Ex9A32Q 3P D/O 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104909	Ex9A32Q 3P D/O 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104911	Ex9A32Q 3P D/O 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104913	Ex9A32Q 3P D/O 3200	1
	4P	1600 A	640-1600 A	3200-24000 A	104915	Ex9A32Q 4P D/O 1600	1
	4P	2000 A	800-2000 A	4000-30000 A	104917	Ex9A32Q 4P D/O 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104919	Ex9A32Q 4P D/O 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104921	Ex9A32Q 4P D/O 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104923	Ex9A32Q 4P D/O 3200	1

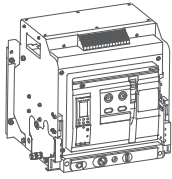
## Withdrawable version, $I_{cu} = 85$ kA at 415 V AC

	Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
	3P	1600 A	640-1600 A	3200-24000 A	104925	Ex9A32R 3P D/O 1600	1
	3P	2000 A	800-2000 A	4000-30000 A	104927	Ex9A32R 3P D/O 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104929	Ex9A32R 3P D/O 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104931	Ex9A32R 3P D/O 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104933	Ex9A32R 3P D/O 3200	1
	4P	1600 A	640-1600 A	3200-24000 A	104935	Ex9A32R 4P D/O 1600	1
	4P	2000 A	800-2000 A	4000-30000 A	104937	Ex9A32R 4P D/O 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104939	Ex9A32R 4P D/O 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104941	Ex9A32R 4P D/O 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104943	Ex9A32R 4P D/O 3200	1

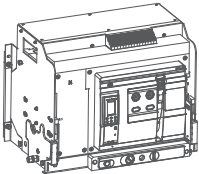


# Air Circuit Breakers Ex9A32

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



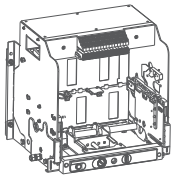
Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	1600 A	640-1600 A	3200-24000 A	104945	Ex9A32H 3P D/O 1600	1
3P	2000 A	800-2000 A	4000-30000 A	104947	Ex9A32H 3P D/O 2000	1
3P	2500 A	1000-2500 A	5000-37500 A	104949	Ex9A32H 3P D/O 2500	1
3P	2900 A	1160-2900 A	5800-43500 A	104951	Ex9A32H 3P D/O 2900	1
3P	3200 A	1280-3200 A	6400-48000 A	104953	Ex9A32H 3P D/O 3200	1



4P	1600 A	640-1600 A	3200-24000 A	104955	Ex9A32H 4P D/O 1600	1
4P	2000 A	800-2000 A	4000-30000 A	104957	Ex9A32H 4P D/O 2000	1
4P	2500 A	1000-2500 A	5000-37500 A	104959	Ex9A32H 4P D/O 2500	1
4P	2900 A	1160-2900 A	5800-43500 A	104961	Ex9A32H 4P D/O 2900	1
4P	3200 A	1280-3200 A	6400-48000 A	104963	Ex9A32H 4P D/O 3200	1

## 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	105170	+CAS 12 3P 2500	1
Premounted	3P	3200 A	105171	+CAS 12 3P 3200	1
Premounted	4P	2500 A	105172	+CAS 12 4P 2500	1
Premounted	4P	3200 A	105173	+CAS 12 4P 3200	1
Separately orderable	3P	2500 A	105181	CAS 12 3P 2500	1
Separately orderable	3P	3200 A	105182	CAS 12 3P 3200	1
Separately orderable	4P	2500 A	105193	CAS 12 4P 2500	1
Separately orderable	4P	3200 A	105194	CAS 12 4P 3200	1

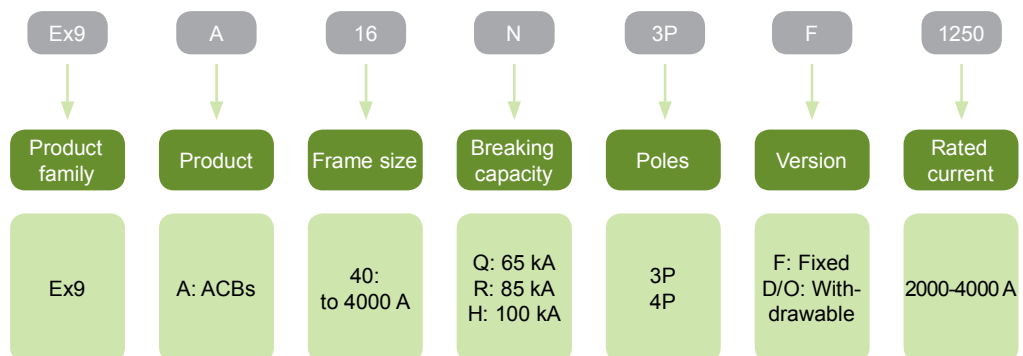


# Air Circuit Breakers Ex9A40



- Air circuit breakers, frame size A40
- Rated current  $I_n$  up to 4000 A
- Rated operating voltage 690 V AC
- Breaking capacity  $I_{cu}$  65, 85 and 100 kA
- $I_{cs} = 100\% I_{cu}$
- Fixed and withdrawable versions
- ACBs category B acc. to EN 60947-2
- Free choice of tripping unit SU
- Wide range of accessories

## Type Key



# Air Circuit Breakers Ex9A40

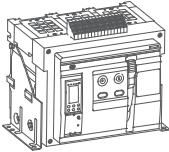
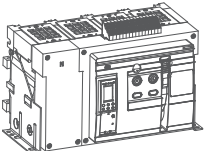
- Fixed version
- Frame size A40
- Rated current up to 4000 A
- Rated short-circuit breaking capacity  $I_{cu}$  65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: fixed Air Circuit Breaker body, full set of secondary terminals, tripping unit (see previous point), door frame, main terminals in horizontal position, alarm contacts
- Setting range of tripping units SU (all versions):

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

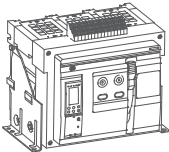
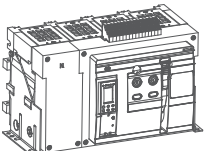
$$I_{sd} = 1.5 - 10 \times I_r$$

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

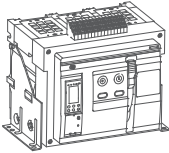
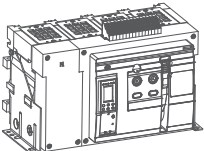
## Fixed version, $I_{cu} = 65$ kA at 415 V AC

	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	104966	Ex9A40Q 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104968	Ex9A40Q 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104970	Ex9A40Q 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104972	Ex9A40Q 3P F 3200	1
	3P	4000 A	1600-4000 A	8000-60000 A	104974	Ex9A40Q 3P F 4000	1
	4P	2000 A	800-2000 A	4000-30000 A	104976	Ex9A40Q 4P F 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104978	Ex9A40Q 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104980	Ex9A40Q 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104982	Ex9A40Q 4P F 3200	1
	4P	4000 A	1600-4000 A	8000-60000 A	104984	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	2000 A	800-2000 A	4000-30000 A	104986	Ex9A40R 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104988	Ex9A40R 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104990	Ex9A40R 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104992	Ex9A40R 3P F 3200	1
	3P	4000 A	1600-4000 A	8000-60000 A	104994	Ex9A40R 3P F 4000	1
	4P	2000 A	800-2000 A	4000-30000 A	104996	Ex9A40R 4P F 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104998	Ex9A40R 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	105000	Ex9A40R 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	105002	Ex9A40R 4P F 3200	1
	4P	4000 A	1600-4000 A	8000-60000 A	105004	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	2000 A	800-2000 A	4000-30000 A	105006	Ex9A40H 3P F 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	105008	Ex9A40H 3P F 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	105010	Ex9A40H 3P F 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	105012	Ex9A40H 3P F 3200	1
	3P	4000 A	1600-4000 A	8000-60000 A	105014	Ex9A40H 3P F 4000	1
	4P	2000 A	800-2000 A	4000-30000 A	105016	Ex9A40H 4P F 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	105018	Ex9A40H 4P F 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	105020	Ex9A40H 4P F 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	105022	Ex9A40H 4P F 3200	1
	4P	4000 A	1600-4000 A	8000-60000 A	105024	Ex9A40H 4P F 4000	1

# Air Circuit Breakers Ex9A40

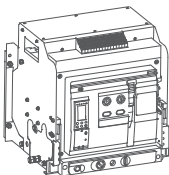
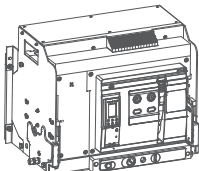
- Withdrawable version
- Frame size A40
- Rated current up to 4000 A
- Rated short-circuit breaking capacity  $I_{cu}$  65, 85 and 100 kA
- Device body only, tripping unit must be selected separately (see page 9)
- In the scope of delivery: withdrawable Air Circuit Breaker body, holder, tripping unit (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):

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

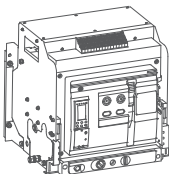
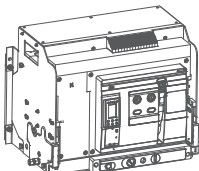
$$I_{sd} = 1.5 - 10 \times I_r$$

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

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

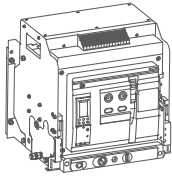
	Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
	3P	2000 A	800-2000 A	4000-30000 A	104965	Ex9A40Q 3P D/O 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104967	Ex9A40Q 3P D/O 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104969	Ex9A40Q 3P D/O 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104971	Ex9A40Q 3P D/O 3200	1
	3P	4000 A	1600-4000 A	8000-60000 A	104973	Ex9A40Q 3P D/O 4000	1
	4P	2000 A	800-2000 A	4000-30000 A	104975	Ex9A40Q 4P D/O 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104977	Ex9A40Q 4P D/O 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104979	Ex9A40Q 4P D/O 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	104981	Ex9A40Q 4P D/O 3200	1
	4P	4000 A	1600-4000 A	8000-60000 A	104983	Ex9A40Q 4P D/O 4000	1

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

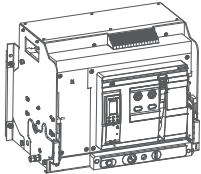
	Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
	3P	2000 A	800-2000 A	4000-30000 A	104985	Ex9A40R 3P D/O 2000	1
	3P	2500 A	1000-2500 A	5000-37500 A	104987	Ex9A40R 3P D/O 2500	1
	3P	2900 A	1160-2900 A	5800-43500 A	104989	Ex9A40R 3P D/O 2900	1
	3P	3200 A	1280-3200 A	6400-48000 A	104991	Ex9A40R 3P D/O 3200	1
	3P	4000 A	1600-4000 A	8000-60000 A	104993	Ex9A40R 3P D/O 4000	1
	4P	2000 A	800-2000 A	4000-30000 A	104995	Ex9A40R 4P D/O 2000	1
	4P	2500 A	1000-2500 A	5000-37500 A	104997	Ex9A40R 4P D/O 2500	1
	4P	2900 A	1160-2900 A	5800-43500 A	104999	Ex9A40R 4P D/O 2900	1
	4P	3200 A	1280-3200 A	6400-48000 A	105001	Ex9A40R 4P D/O 3200	1
	4P	4000 A	1600-4000 A	8000-60000 A	105003	Ex9A40R 4P D/O 4000	1

# Air Circuit Breakers Ex9A40

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



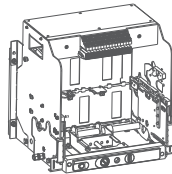
Poles	Rated current $I_n$	Overcurrent release $I_r$	Instant. release $I_i$	Article No.	Type	Packing
3P	2000 A	800-2000 A	4000-30000 A	105005	Ex9A40H 3P D/O 2000	1
3P	2500 A	1000-2500 A	5000-37500 A	105007	Ex9A40H 3P D/O 2500	1
3P	2900 A	1160-2900 A	5800-43500 A	105009	Ex9A40H 3P D/O 2900	1
3P	3200 A	1280-3200 A	6400-48000 A	105011	Ex9A40H 3P D/O 3200	1
3P	4000 A	1600-4000 A	8000-60000 A	105013	Ex9A40H 3P D/O 4000	1



4P	2000 A	800-2000 A	4000-30000 A	105015	Ex9A40H 4P D/O 2000	1
4P	2500 A	1000-2500 A	5000-37500 A	105017	Ex9A40H 4P D/O 2500	1
4P	2900 A	1160-2900 A	5800-43500 A	105019	Ex9A40H 4P D/O 2900	1
4P	3200 A	1280-3200 A	6400-48000 A	105021	Ex9A40H 4P D/O 3200	1
4P	4000 A	1600-4000 A	8000-60000 A	105023	Ex9A40H 4P D/O 4000	1

## Cassette 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	4000 A	105204	+CAS 13 3P 4000	1
Premounted	4P	4000 A	105205	+CAS 13 4P 4000	1
Separately orderable	3P	4000 A	107008	CAS 13 3P 4000	1
Separately orderable	4P	4000 A	107009	CAS 13 4P 4000	1

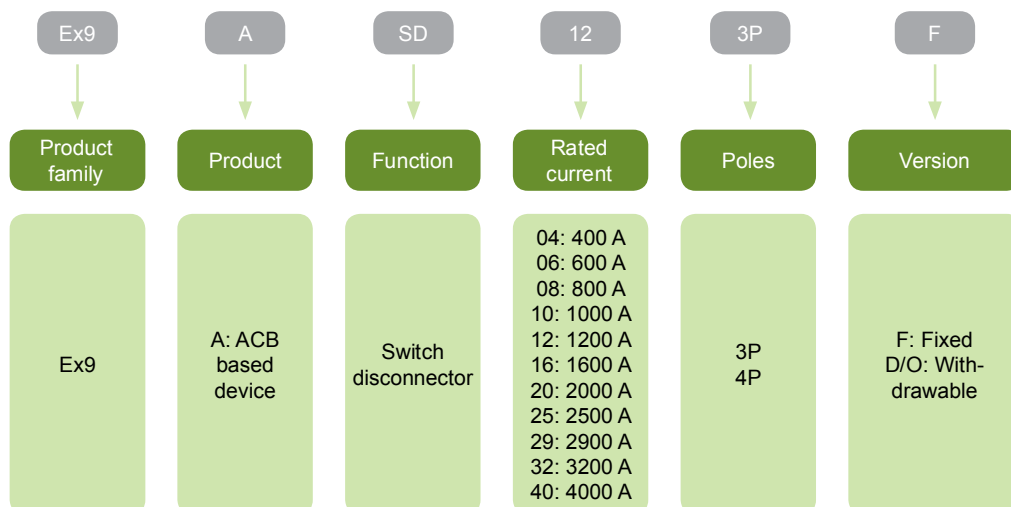
# Air Switch Disconnectors Ex9ASD



- Air Switch Disconnectors Ex9ASD
- Tested according to IEC / EN 60947-3
- Rated current up to 4000 A
- Short-circuit making capacity  $I_{cm}$  up to 187 kA
- Rated withstand short-circuit current  $I_{cw}$  up to 85 kA / 1 s
- Fixed and withdrawable versions
- Wide range of accessories

Air Switch Disconnectors Ex9ASD are intended for switch of high rated current applications with high prospective short circuit current. Thanks to isolation function can be used for all kinds of applications. Common design with Air Circuit Breakers Ex9A allows to use the same accessories and identical installation way.

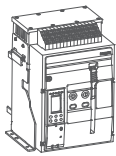
## Type Key



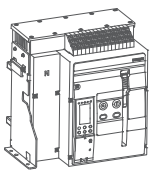
# Air Switch Disconnectors Ex9ASD

- Fixed version
- Rated current up to 4000 A
- Rated short-circuit making capacity  $I_{cm}$  up to 187 kA
- Rated withstand short-circuit current  $I_{cw}$  up to 85 kA / 1 s
- In the scope of delivery: fixed Air Switch Disconnector body, full set of secondary terminals, door frame, main terminals mounted in horizontal position

## Fixed version, frame size A16



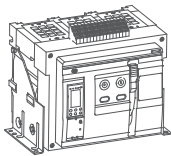
Poles	Rated current $I_n$	Article No.	Type	Packing
3P	400 A	105064	Ex9ASD04 3P F	1
3P	630 A	105066	Ex9ASD06 3P F	1
3P	800 A	105068	Ex9ASD08 3P F	1
3P	1000 A	105070	Ex9ASD10 3P F	1
3P	1200 A	105072	Ex9ASD12 3P F	1
3P	1600 A	105074	Ex9ASD16 3P F	1



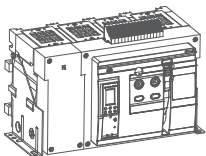
4P	400 A	105090	Ex9ASD04 4P F	1
4P	630 A	105092	Ex9ASD06 4P F	1
4P	800 A	105094	Ex9ASD08 4P F	1
4P	1000 A	105096	Ex9ASD10 4P F	1
4P	1200 A	105098	Ex9ASD12 4P F	1
4P	1600 A	105100	Ex9ASD16 4P F	1

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## Fixed version, frame size A40



Poles	Rated current $I_n$	Article No.	Type	Packing
3P	1600 A	107111	Ex9ASD16b 3P F	1
3P	2000 A	105077	Ex9ASD20 3P F	1
3P	2500 A	105079	Ex9ASD25 3P F	1
3P	2900 A	105081	Ex9ASD29 3P F	1
3P	3200 A	105083	Ex9ASD32 3P F	1
3P	3600 A	105085	Ex9ASD36 3P F	1
3P	4000 A	105087	Ex9ASD40 3P F	1



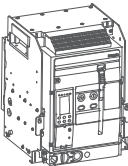
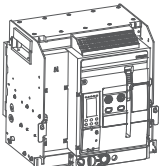
4P	1600 A	107113	Ex9ASD16b 4P F	1
4P	2000 A	105103	Ex9ASD20 4P F	1
4P	2500 A	105105	Ex9ASD25 4P F	1
4P	2900 A	105107	Ex9ASD29 4P F	1
4P	3200 A	105109	Ex9ASD32 4P F	1
4P	3600 A	105111	Ex9ASD36 4P F	1
4P	4000 A	105113	Ex9ASD40 4P F	1

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# Air Switch Disconnectors Ex9ASD

- Withdrawable version
- Rated current up to 4000 A
- Rated short-circuit making capacity  $I_{cm}$  up to 187 kA
- Rated withstand short-circuit current  $I_{cw}$  up to 85 kA / 1 s
- In the scope of delivery: withdrawable Air Switch Disconnector body, holder, door frame
- 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

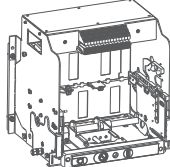
## Withdrawable version, frame size A16

	Poles	Rated current $I_n$	Article No.	Type	Packing
	3P	400 A	105063	Ex9ASD04 3P D/O	1
	3P	630 A	105065	Ex9ASD06 3P D/O	1
	3P	800 A	105067	Ex9ASD08 3P D/O	1
	3P	1000 A	105069	Ex9ASD10 3P D/O	1
	3P	1200 A	105071	Ex9ASD12 3P D/O	1
	3P	1600 A	105073	Ex9ASD16 3P D/O	1
	4P	400 A	105089	Ex9ASD04 4P D/O	1
	4P	630 A	105091	Ex9ASD06 4P D/O	1
	4P	800 A	105093	Ex9ASD08 4P D/O	1
	4P	1000 A	105095	Ex9ASD10 4P D/O	1
	4P	1200 A	105097	Ex9ASD12 4P D/O	1
	4P	1600 A	105099	Ex9ASD16 4P D/O	1

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## Cassete for A16 frame size withdrawable Switch Disconnectors

- 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	Max. rated current $I_n$	Article No.	Type	Packing
	Premounted	3P	630 A	105139	+CAS 11 3P 630	1
	Premounted	3P	1600 A	105140	+CAS 11 3P 1600	1
	Premounted	4P	630 A	105141	+CAS 11 4P 630	1
	Premounted	4P	1600 A	105142	+CAS 11 4P 1600	1
	Separately orderable	3P	630 A	105157	CAS 11 3P 630	1
	Separately orderable	3P	1600 A	105158	CAS 11 3P 1600	1
	Separately orderable	4P	630 A	105159	CAS 11 4P 630	1
	Separately orderable	4P	1600 A	105160	CAS 11 4P 1600	1