Product Information
No. EBG 160-EN

MITSUBISHI ELECTRIC
FACTORY AUTOMATION

SUPER AE-SW

Low Voltage Switchgear

Air Circuit Breakers

Built for the global demands of the 21st century

SIMPLER OPERATION — Simple operation for maximum user-friendliness

MORE FLEXIBILITY — Flexible installation and customised protection for your systems

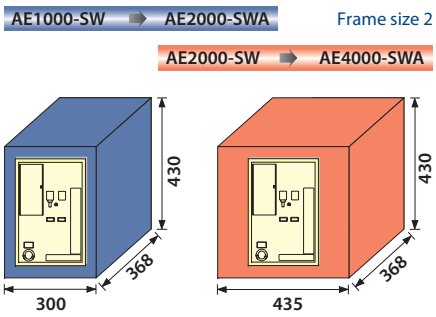
IMPROVED PERFORMANCE — Class leading performance range and extended service life

IMPROVED COMMUNICATION — Enhanced network support for comprehensive monitoring and control

Compact Intelligence at the In-feed Point

Very user-friendly design

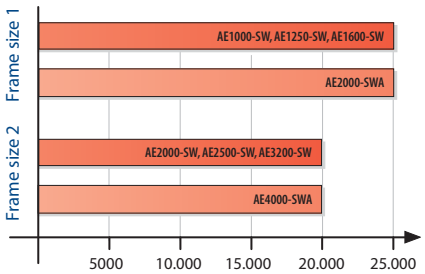
All breakers in the series are available in both 3 and 4 pole versions with fixed or drawout configurations to suit your individual requirements. There are only two standard sizes, making planning much easier.



Installation dimensions: 3-pole drawout versions

The external frame sizes and connection details are identical with the units' predecessors, making retrofitting quick and simple. The main connections of the new SWA models are arranged vertically.

In addition to an automatic reset these circuit breakers also have a manual reset feature.



Number of switching cycles (On/Off)

The range of air circuit breakers and load interrupter switches is complemented by a comprehensive range of accessories. In contrast to earlier models it is now possible to save space by installing some accessories (for example the UVT undervoltage trip) inside the breaker unit.

All live components in the vicinity of the control connections have IP20 protection rating.

The SUPER AE-SW air circuit breakers are designed for the world market and have all important international industrial and shipping registry certifications.

Individually configured protection

The circuit breakers are delivered with an electronic trip relay. It is available in versions for all standard power supply voltages. Optional modules are also available for most common applications like protecting transformers, cables, motors and generators. This ensures optimum protection for long time, short time and instantaneous tripping.

All parameters can be adjusted individually, ensuring that you can achieve optimum selectivity for every application.

In addition to options like pre-alarm, ground fault and earth leakage protection, the electronic trip relay provides complete protection against overloads and short circuits. The protection characteristic can be adjusted individually for the needs of your application.

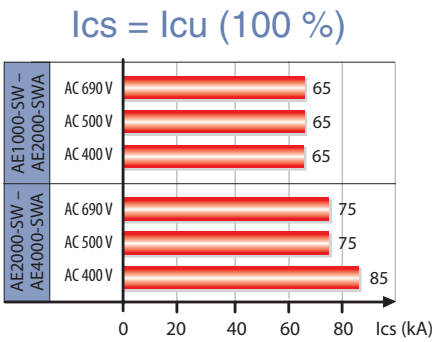
Relay in the maximum configuration

The main functions, including trip status, alarm and load current are displayed on the LCD screen and can also be output as signals. For easy and quick recognition of alarms, the screen automatically turns red when a fault is detected.

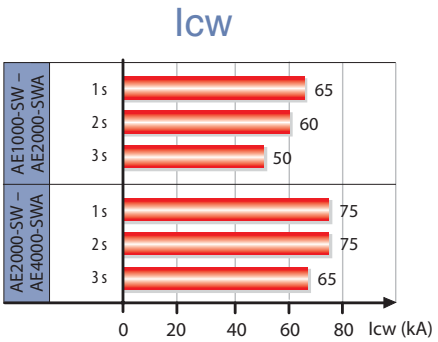
In addition, the protection of the N pole can also be optionally reduced from 100 % to 50 % on the 4-pole versions of the breakers.

Broad performance range

The growing demand for power naturally increases the levels of short circuit currents in power distribution systems. The SUPER AE series breakers deliver excellent protection against thermal and mechanical damage. The rated surge withstand capability (Uimp) is 12kV. With a short circuit breaking capacity of 65 – 85 kA they cover the great majority of applications, providing very high-quality protection for your systems.

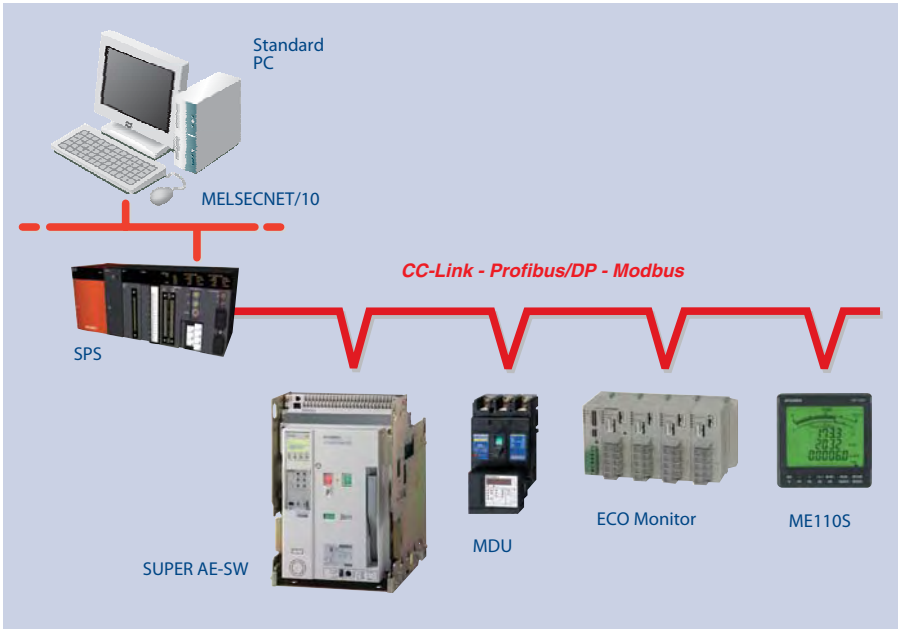


Rated short circuit breaking capacity Ics



Rated short time withstand current Icw

The small number of components and high production standards ensure a long service life. The breakers of the SUPER AE series are virtually maintenance-free.



The SUPER AE in network configurations

Comprehensive communications capabilities

Together with optional network interface modules the SUPER AE can now become a fully integrated part of the total network and system concept. In addition to Profibus/DP and CC-Link, an interface module for Modbus is also available.

Profibus/DP module

The SUPER AE's network modules enable the monitoring and control of a number of different parameters including voltage and current performance values. In addition, the networking connection can also be used to report alarm and error messages from the breaker back to a centralized control point like a PLC or a SCADA system.

In combination with an additional I/O module the breaker can be switched on and off remotely via the network. A drawout position switch can also be checked for the current drawout position via the network.

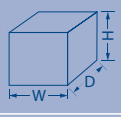
The following table lists the data and functions that can be transmitted and controlled via the network.

Measurement / Alarms	Voltage, current, power etc
	Tripping cause / current
	Alarm (PAL, TAL, self diagnosis)
Breaker control	Breaker ON/OFF
	Spring charge
Breaker state	ON/OFF spring charge state
	Draw-out position
	ETR characteristics setting

Switchgear selection made easy

The MELSHORT 2 software package for system dimensioning and selection makes it easy to select the right switchgear for your needs.

Specifications ///

Type		AE1000-SW		AE1250-SW		AE1600-SW		AE2000-SWA		AE2000-SW		AE2500-SW		AE3200-SW		AE4000-SWA	
Frame type		1								2							
Rated current Iu (A) 40 °C		1000		1250		1600		2000		2000		2500		3200		4000	
Max. rated operational voltage Ue (V)		690								690							
Rated insulation voltage Ui (V)		1000								1000							
Rated impulse withstand voltage Uimp (kV)		12								12							
Suitable for isolation		●								●							
Category		B								B							
Pollution degree		3								3							
Number of poles		3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4
Rated current Ir (A) adjustment range at 40 °C		500 – 1000		625 – 1250		800 – 1600		1000 – 2000		625 – 2000		1250 – 2500		1600 – 3200		2000 – 4000	
Rated current of neutral pole (A)		1000		1250		1600		2000		2000		2500		3200		4000	
Rated service short-circuit breaking capacity ① Icu (kA, rms) Ics = Icu = 100 %	690 V AC	65								75							
	400 V AC	65								85							
Rated short-time withstand current (kA rms) Icw	1 s	65								75							
Operating cycles ② (ON/OFF)	without rated current	25000								20000							
Connecting terminal	horizontal	●						—		●						—	
	vertical	● ③						●		● ③						●	
	frontal	● ③						—		● ③						—	
Outline dimensions (mm) H x W x D 	Fixed type	3-pole: 410 x 340 x 290 4-pole: 410 x 425 x 290								3-pole: 410 x 475 x 290 4-pole: 410 x 605 x 290							
	Draw-out type	3-pole: 430 x 300 x 368 4-pole: 430 x 385 x 368								3-pole: 430 x 435 x 368 4-pole: 430 x 565 x 368						3-pole: 430 x 439 x 368 4-pole: 430 x 569 x 368	
Weight (kg)	Fixed type	41	51	41	51	42	52	47	57	60	72	61	73	63	75	81	99
	Draw-out type	64	78	64	78	65	79	70	84	92	113	93	114	95	116	108	136
	Cradle only	26	30	26	30	26	30	31	35	35	43	35	43	36	44	49	61

① Conforms to IEC60947-2, EN60947-2

② Number of mechanical operating cycles (on/off).

③ Optional

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