

Selectric

energy of innovation

SGP-AC INTELLIGENT AIR CIRCUIT BREAKER



SGP-AC Intelligent Air Circuit Breaker

New Generation of Power Protection and Management

The SGP-AC series intelligent air circuit breaker is a modern, new-generation solution developed using innovative technologies and designed to improve performance, reliability, and ease of use. Compact, optimized dimensions, advanced measurement and communication functions, flexible connection options, and an intuitive, intelligent interface underscore the device's premium quality and technological superiority.

Maximum Safety and Complete Control

The SGP-AC features electrical ready-to-close indication, remote on/off functions, and mechanical drive readiness indication. Built-in protection against accidental spring energy accumulation increases operational safety and reduces the risk of human error.

Intelligent Microprocessor-Based Trip Units

The new generation of electronic trip units is available in three configurations:



L — Basic version
(LED indication and adjustment screw);



A — Standard version
(LCD display, LED, adjustment screw and user-friendly menu);



H — Communication version with LCD menu
(HP — Power type, HQ — Harmonic analysis, HG — Generator type).

Support for Modbus-RTU, Profibus-DP, and DeviceNet protocols.



High accuracy and interference immunity

01

It uses a 16-bit DSP processor, a 12-bit ADC, and an improved noise protection system. Measurement accuracy up to 1/2000 with a power consumption of 1.5 W.

02

Built-in AC power supply module

03

Flexibility of use

04

Rated currents:
1600 / 2500 / 4000 / 5000 /
6300/8000 A

05

Two levels of breaking capacity N and H

06

Auxiliary contacts up to
830 VA (6 NO + 6 NC)

07

Operating voltage
up to 690 V

Product Introduction



200A → 1600A		
400V H	50kA → 55kA _{lim}	55kA
400V N	42kA → 50kA _{lim}	42kA
690V H	50kA	50kA
690V N	25kA	25kA
	Icw (1s)	Ics
		Icu

SGP-AC-1600

circuit breaker has a high breaking capacity of up to 65 kA at 400 V AC, ensuring reliable operation in networks with high short-circuit currents. The optimized design of the withdrawable drive mechanism, secondary circuits, operating mechanism, and intelligent controller improves operational reliability and stability.



630A → 2500A		
400V H	85kA	85kA
400V N	70kA	70kA
690V H	65kA	65kA
690V N	55kA	55kA
	Icw (1s)	Ics
		Icu

SGP-AC-2500

With a breaking capacity of up to 100 kA at 400 V AC, the SGP-AC-2500 is effectively used in networks with high short-circuit currents. Improved thermal characteristics at a rated current of 2500 A help reduce thermal loads and increase operational reliability and safety.



400V H	100kA	100kA	120kA
400V N	85kA	85kA	85kA
690V H	85kA	85kA	85kA
690V N	75kA	75kA	75kA
	Icw (1s)	Ics	Icu

SGP-AC-4000

has a high breaking capacity of up to 120 kA at 400 V AC. The one-piece design increases the mechanical strength and reliability of the device, and helps reduce temperature rises under rated load conditions.



3200A → 5000A			
400V H	100kA	100kA	120kA
400V N	85kA	85kA	85kA
690V H	85kA	85kA	85kA
690V N	75kA	75kA	75kA
	Icw (1s)	Ics	Icu

SGP-AC-5000 —

frame-mounted circuit breaker with a one-piece component design. Compact dimensions in its class and an optimized design ensure high operational and cost efficiency.



400V H	135kA	135kA	150kA
400V N	120kA	120kA	120kA
690V H	100kA	100kA	100kA
690V N	85kA	85kA	85kA
	Icw (1s)	Ics	Icu

SGP-AC-6300

has a high breaking capacity of up to 150 kA at 400 V AC. The main body is a single-piece molded construction, which ensures high mechanical strength, reliability, and stable thermal performance.



6300A → 8000A			
400V H	135kA	150kA	150kA
400V N	120kA	135kA	135kA
690V H	120kA	120kA	120kA
690V N	100kA	100kA	100kA
	I _{cw} (1s)	I _{cs}	I _{cu}

SGP-AC-8000

is characterized by an extremely high breaking capacity: At 400 V AC, Icu and Ics values reach 150 kA. The circuit breaker is manufactured in a single-piece body and is designed for use in high-power low-voltage power distribution systems with increased reliability and breaking capacity requirements.

Model			SGP-AC1600		SGP-AC2500		SGP-AC4000		SGP-AC5000		SGP-AC6300		SGP-AC8000	
Appearance														
Size	Inm		1600		2500		4000		5000		6300		8000	
Installation Method			fixed, withdrawable											
Number of poles			3P, 4P											
Rated operational voltage V AC 50/60 Hz Ue			400,690 V											
Rated insulation voltage (V) Ui			1000 V											
Rated impulse withstand voltage (kV) Uimp			12 kV											
Utilization category			B											
Pollution Level			3											
Rated current (A)	In		200, 400, 630, 800, 1000, 1250, 1600		630, 800, 1000, 1250, 1600, 2000, 2500		2000, 2500, 2900,3200, 3600, 4000		3200, 3600, 4000, 5000		4000, 5000, 6300		6300, 7500, 8000	
Short-circuit breaking capacity level			H	N	H	N	H	N	H	N	H	N	H	N
Rated breaking capacity at short-circuit Icu(kA)	400V		65	55	100	70	120	85	120	85	150	120	150	135
	690V		50	25	65	55	85	75	85	75	100	85	120	100
Rated operating maximum breaking capacity, Ics (kA)	400V		55	42	85	70	100	85	100	85	135	120	150	135
	690V		50	25	65	55	85	75	85	75	100	85	120	100
Rated short-time withstand current, Icw (kA1s/0.5s)	400V		50/55	42/50	85	70	100	85	100	85	135	120	135	120
	690V		50	25	65	55	85	75	85	75	100	85	120	100
Operating capacity														
Number of cycles	Mechanical		12000		12000		10000		7500		5000		5000	
	Electric	400V	6500		8000		6000		2000		2000		1500	
		690V	3000		3000		3000		2000		1500		1000	
Dimensions and Weight														
W*H*D (mm) width height x depth	3P	Withdrawable Type	248x360x310		347x450x406.5		440x450x406.5		566x450x406.5		818x490x406.5		944x490x406.5	
	4P	Withdrawable Type	318x360x310		442x450x406.5		566x450x406.5		692x450x406.5		1070x490x406.5		1070x490x406.5	
	3P	Fixed	254x328.5x217.5		368x415.5x308		461x415.5x308		587x415.5x308		839x415.5x308		965x415.5x308	
	4P	Fixed	324x328.5x217.5		463x415.5x308		587x415.5x308		713x415.5x308		1091x415.5x308		1091x415.5x308	
Weight (kg) (net weight / total weight)	3P	Withdrawable Type	40/48		98/107		120/131		159/172		233/261		260/288	
	4P	Withdrawable Type	50/58		120/131		148/160		193/215		292/320		325/353	
	3P	Fixed	18/26		45/54		55/66		98/111		124/152		140/168	
	4P	Fixed	25/33		55/66		68/80		121/142		165/193		178/206	
Microprocessor-based trip unit														
Trip unit selection		AC 230 V AC 400 V DC 24 V	SW3-L3 SW3-L4 SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG		SW3-L3 SW3-L4 SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG		SW3-L3 SW3-L4 SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG		SW3-L3 SW3-L4 SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG		SW3-L3 SW3-L4 SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG		SW3-A3 SW3-A4 SW3-HP SW3-HQ SW3-HG	
Motor drive power supply					M1 AC 230 V M2 AC 400 V M3 DC 110 V M4 DC 24 V									
Closing coil					X1 AC 230 V X2 AC 400 V X3 DC 110 V X4 DC 24 V									
Shunt trip					F1 AC 230 V F2 AC 400 V F3 DC 110 V F4 DC 24 V									
Undervoltage trip unit (optional)					Q1 AC 230 V Q2 AC 400 V									
Auxiliary contacts			AX1 4HO-H3 AX2 6HO-H3		AX1 4HO-H3 AX2 6HO-H3 AX3 4HO+4H3 AX4 6HO+6H3									
Power terminals (fixed and withdrawable versions)			FF frontal Standard (rear orientable)				FF frontal HH Standard (rear horizontal) VV vertical HV combined VH combined		VV standard (rear vertical) HH horizontal (3200-4000 A) HV combined (3200-4000 A) VH combined (3200-4000A)		HH Standard (rear horizontal for 4000-5000A) VV Standard (rear vertical for 6300A) HV combined (4000-5000A) VH combined (4000-5000A)		HH Standard (rear horizontal for 6300A) VV vertical (6300A) VV Standard (rear vertical for 7500-8000A) HV combined (6300A) VH combined (6300A)	

Intelligent Microprocessor-Based Trip Units

Model			SW3-L3- 1600-6300	SW3-L4- 1600-6300	SW3-A3- 1600-8000	SW3-A4- 1600-8000	SW3- H-1600-8000		
Appearance									
Protection and alarm functions	Long-delay overload protection		■	■	■	■	■	■	■
	Short-delay short-circuit protection		■	■	■	■	■	■	■
	Instantaneous short-circuit protection		■	■	■	■	■	■	■
	Ground Fault Protection (standard configuration includes vector and ground fault protection (T) 3PT, 4PT, (3P+N) T, as well as ground fault protection at the center of the transformer (W optional)).		-	■	-	■	■	■	
	Leakage protection		-	-	-	-	□	□	□
	Neutral pole protection		■	■	■	■	■	■	■
	Thermal memory		■	■	■	■	■	■	■
	Trip display		■	■	■	■	■	■	■
	MCR and HSISC protection		□	□	□	□	□	□	□
	Selective zone blocking protection		-	-	-	-	□	□	□
	Load monitoring (current unloading) (relay output)		□	□	□	□	□	□	□
	Overload pre-alarm (Relay output)		-	-	-	□	□	□	□
	Ground alarm		-	-	-	-	□	□	□
	Current imbalance protection		-	-	-	-	■	■	■
	Need for overcurrent protection		-	-	-	-	■	■	■
	Disconnection protection		-	-	-	-	■	■	■
	Undervoltage protection		-	-	-	-	□	■	■
	Overvoltage protection		-	-	-	-	□	■	■
	Voltage imbalance protection		-	-	-	-	□	■	■
	Phase sequence protection		-	-	-	-	□	■	■
	Underfrequency protection		-	-	-	-	-	-	■
	Overfrequency protection		-	-	-	-	-	-	■
	Reverse power protection		-	-	-	-	-	-	■
Measurement function	Current (three-phase, neutral current, leakage current, unbalance factor)		-	-	■	■	■	■	■
	Voltage (line-to-line, phase-to-neutral, average, unbalance factor)		-	-	-	-	■	■	■
	Power (active, reactive, apparent, power factor)		-	-	-	-	■	■	■
	Frequency		-	-	-	-	■	■	■
	Energy (active energy, reactive energy, apparent energy)		-	-	-	-	■	■	■
	Heat capacity		-	-	-	-	■	■	■
	Phase sequence		-	-	-	-	■	■	■
	Required values (required current, required power)		-	-	-	-	■	■	■
	Harmonic analysis		-	-	-	-	-	■	■
	Waveform display		-	-	-	-	-	■	■
Maintenance function	Maintenance function	Test Shutdown	■	■	■	■	■	■	■
		Self-diagnosis function	■	■	■	■	■	■	■
		Contact wear indicator	-	-	■	■	■	■	■
		Number of operations with the controller on	-	-	■	■	■	■	■
		Remote reset	-	-	-	-	□	□	□
	Historical records	Fault history (displays types E and L 1 time, types A and H 10 times)	■	■	■	■	■	■	■
		Maximum historical current (displayed by controller)	-	■	■	■	■	■	■
		Alarm log (displayed on the controller: 10 times)	-	-	-	-	■	■	■
		Clock function (year, month, day, hour, minute, second)	-	-	-	-	■	■	■
Maintenance function	Communication interface	Communication outputs: Information on enabled protection functions; Measurement and maintenance communication interface; Overcurrent history; Alarm records;	-	-	-	-	■	■	■
	Protocol	Modbus RTU communication	-	-	-	-	□	□	□

Note:

■ Standard □ Option

Selectric

ELECTRICAL EQUIPMENT
DESIGNED FOR MAXIMUM RELIABILITY

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