

GE Consumer & Industrial Power Controls

Spectronic - SP Air Circuit Breaker



Protecting people, property & productivity



Circuit Breakers 800 to 2500A Series SP

Rated Short circuit breaking capacity : Ics 50 to 55KA (4 15V)

Complete range

- Fixed with manual control
- 3 or 4 poles
- Electrical control and withdrawable version (available on request)

The SPECTRONIC range combines the legendary reliability of our air circuit breakers with:

- A design adapted to the new panel boards
- Static protection release: LMZ 7

Main advantages

- Clever design combining longevity and reliability
- Maximum service: total selectivity is ensured, even at Closing on short circuit
- Simple and efficient servicing on site
- Safety ensured by fully visible breaking.

Conformity

The circuit breakers SP are built according to the following standards: IEC 947-2, BS, CEI, NBN, NFC and VDE.

Certification: Bureau Veritas, Lloyd's Register of Shipping, ASEFA.

Certification: Germanischer Lloyd (in accordance with IEC 157.1)

Tropicalisation

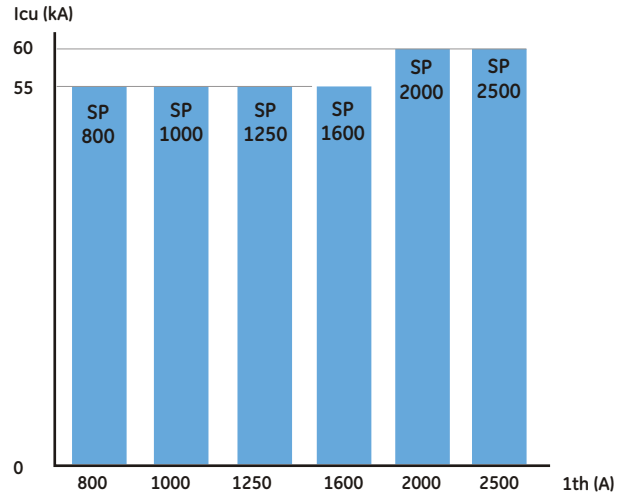
- Class 1 (standard): Relative humidity of 80% at 40°C (Hot and dry or damp climate of temperature zones).
- Class 11: Relative humidity of 95% at 45°C (Hot and damp climate).

Anti-corrosion treatment

For special atmospheres, consult us.

Rated short-circuit breaking capacity

Following IEC 947-2 (415V)



Characteristics

Circuit Breakers

		SP 800	SP1000	SP 1250	SP 1600	SP 2000	SP 2500	
Rated insulation voltage U_i	(V)	1000	1000	1000	10000	1000	1000	
Rated impulse voltage U_{imp}	(kV)	8	8	8	8	8	8	
Rated maximum nominal voltage $U_e^{(4)}$	(V)	690	690	690	690	690	690	
Rated thermal current 1th	40° C	(A)	800	1000	1250	1600	2000	2500
	50° C	(A)	800	1000	1250	1600	2000	2500
	60° C	(A)	800	1000	1250	1500	1900	2350
Rated ultimate short-circuit breaking capacity $1cu$								
Alternating current 50/60 Hz	240/ 415 V	(kA)	55	55	55	55	60	60
	500 V	(kA)	35	35	35	35	35	35
	690 V ⁽¹⁾	(kA)	40	40	40	40	40	40
Rated services short-circuit breaking capacity $1cs$								
Alternating current 50/60 Hz	240/ 415 V	(kA)	50	50	50	50	55	55
	500 V	(kA)	35	35	35	35	35	35
	690 V ⁽¹⁾	(kA)	40	40	40	40	40	40
Rated services short circuit breaking capacity (max) $1cm$ (kA peak)			120	120	120	120	130	130
Rated short time withstand current $1cw$: 1 sec.								
415 V	(kA eff.)	50	50	50	50	55	55	
	500 V	(kA eff.)	35	35	35	35	35	35
Utilization category			B	B	B	B	B	
Number of poles			3-4	3-4	3-4	3-4	3-4	
Suitable for isolation (visible breaking indication)			●	●	●	●	●	
Endurance (number of operating cycles)								
Mechanical (total)	#operating cycles		10000	10000	10000	10000	10000	
Electrical (at 415 V) (2)	#operating cycles		10000	10000	10000	10000	5000	3500
Mean time between maintenances	#operating cycles		1500	1500	1500	1500	1500	1500
Power dissipation (withdrawable, 3 poles)		(W)	150	200	300	400	450	500
4 th pole conventional current		(A)	800	1000	1250	1600	1250(3)	1250(3)
Pollution degree			3	3	3	3	3	
Dimensions in mm (fixed version)								
3 poles	Height	(mm)	462	462	462	462	462	462
	width	(mm)	370	370	370	370	464	464
	Depth	(mm)	273.5	273.5	273.5	273.5	273.5	273.5
4 poles	Height	(mm)	462	462	462	462	462	462
	Depth	(mm)	273.5	273.5	273.5	273.5	273.5	273.5

(1) On request.

(2) To guarantee this number of operations, it is necessary to check the spark arresters and the arc chutes as shown in the table above (Replace them when necessary)
This can be done easily on site

(3) Neutral reduced to the left

(4) Standard operating Voltage at 500V, 690V with Special arc chutes



LMZ 7: Protection unit for SP800 to SP2500



Description

The LMZ release is static unit which meets the requirement of the IEC 60947-2/IS 13947-2 standard. This unit is self powered (thru CTs) and performs all the necessary three or four pole protections.

Configuration

- LMZ 7 is available in two configurations:
- 3 pole or 4 pole protections.
 - 3 pole or 4 pole with ground fault.

Standard protection

- Overload protection (LT)
- Short-circuit protection (ST)
- EF protection (GF)

Setting ranges

		Setting points
LT	(x In)	0.5 0.6 - 0.7 0.8 0.9 1
LTD	(S)	3s delay at 6 Ir
ST, I >>	(x Ir)	3 - 4 - 5 6 8 9
ST delay, t >>	(ms)	Inst 200 300 400
GF, Io	(x In)	0.2 0.3 0.4 0.5 0.6 0.7
Time delay	(ms)	200ms + ST delay (t >>) setting

$I_r = k \times I_n$

$k = L.T.setting$

Note

For GF protection in 3 Phase 4 wire system, the fourth CT must be used

Features:

- Inverse square time-current characteristics for closer thermal protection
- Self-powered trip device. No. need for auxiliary supply
- Completely static device, hence no derating due to ambient temperature
- Test facility available
- Settings easily adjustable by push wheel switches
- No moving parts in the relay
- Maintenance free
- The 3-phase over-current element is designed to be used in single phase applications also
- Three phases adjusted simultaneously with one control
- High accuracy, reliability and repeatability
- Total integration and protection of circuit breaker in a single release
- Inbuilt earth fault protection

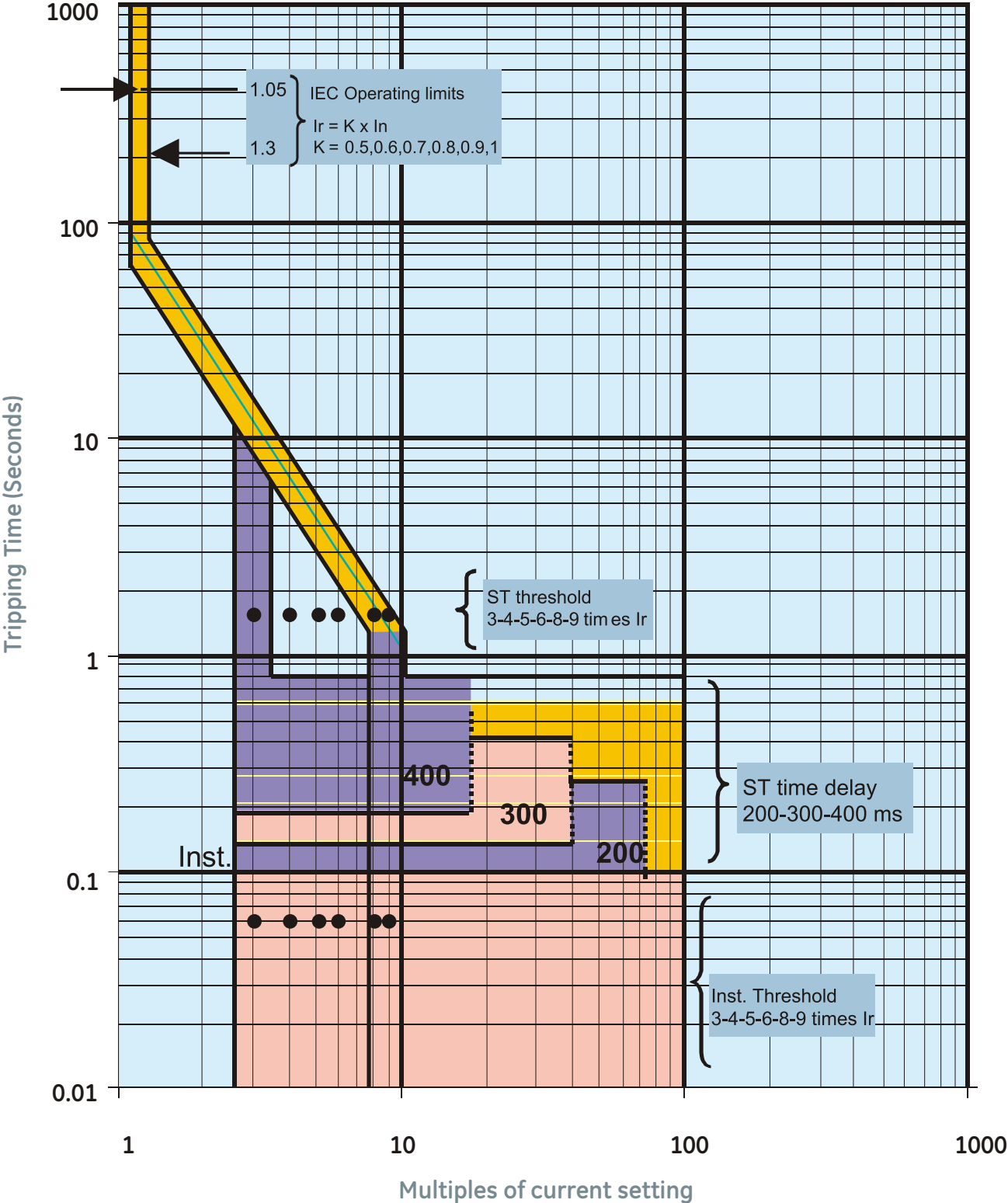
Optional:

1. Distinct fault signaling (LT, ST-1, GF) displayed thro LPGS.



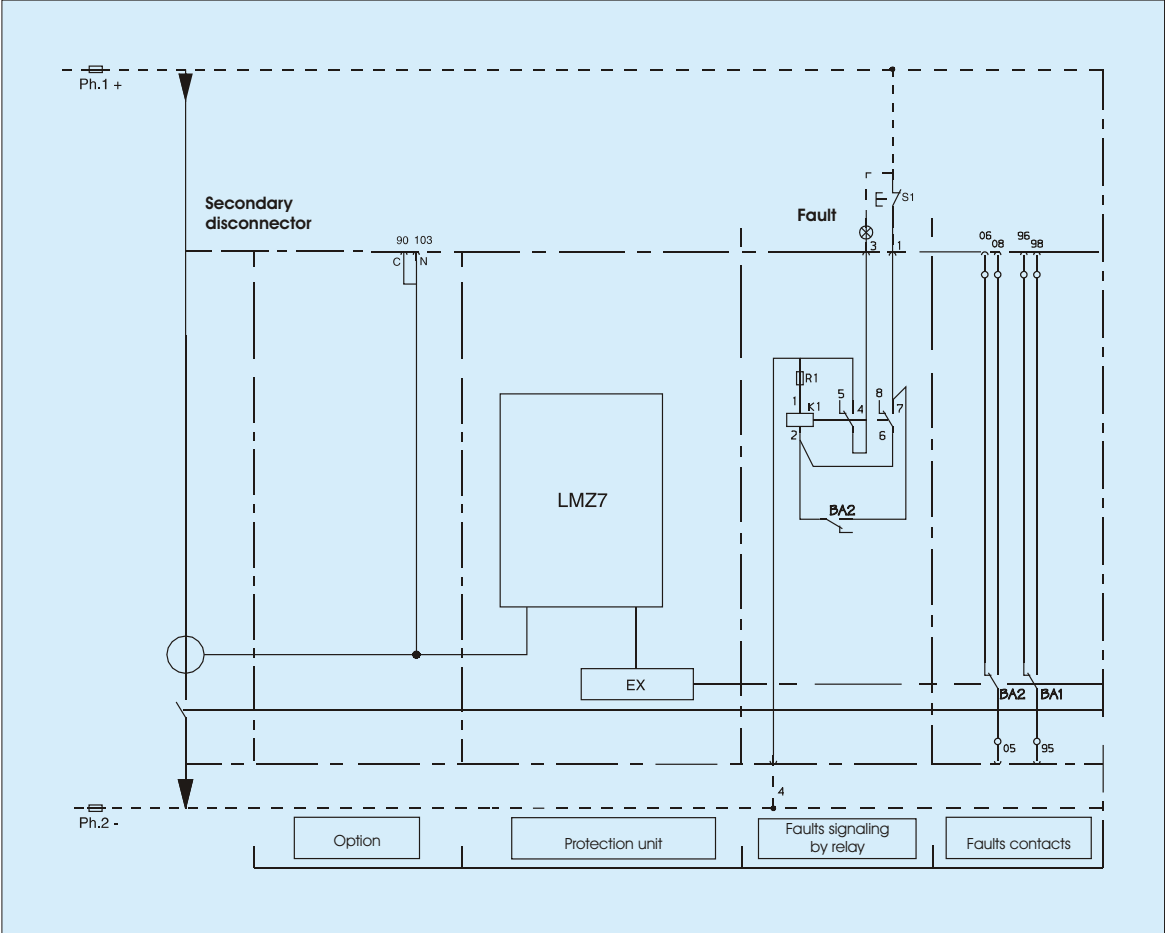
LMZ 7: Protection unit for SP800 to SP2500

Setting and operating current values.



LMZ 7: protection and monitoring unit

Diagram showing de-energised circuits, open circuit breaker, connected, reset, handles not inserted.



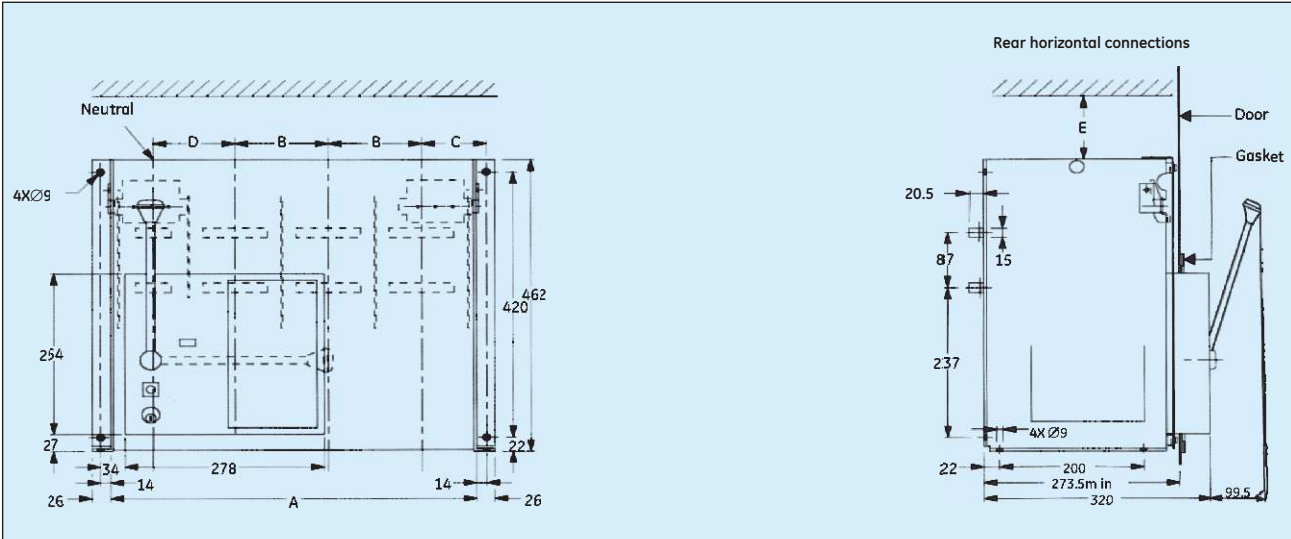
Legend

Overcurrent releases	
BA	Overload and short-circuit fault contact
K1	Fault signaling relay
R1	Booster voltage for 220V
S1	Fault cancelling push-button
GF	Ground fault indicator lamp
ST-1	Instantaneous or short duration (short - circuit) tripping indicator lamp
LT	Long time trip (overload) tripping indicator lamp
Voltmetric releases	
C41	Trip contact UVR - UVRD
C43	Undervoltage contact UVR -UVRD
C31	Trip contact EA
Ra-R6	Booster resistor for certain direct current voltages
S1	Optional disconnecting switch UVR -UVRD (break out of service)

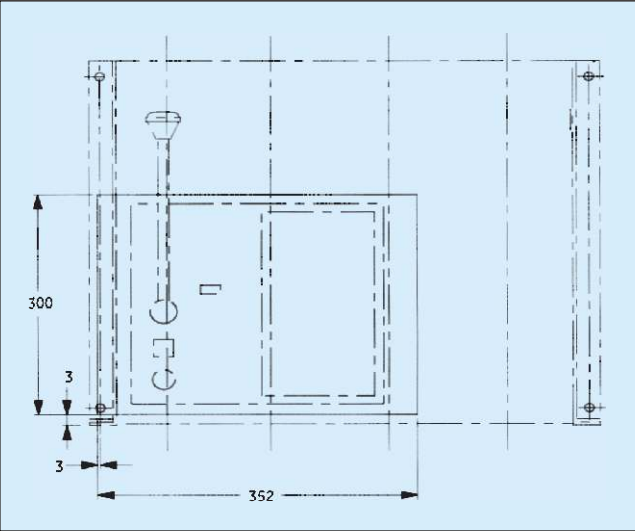
Operation with energy storage	
M	Motor
FCA	Resetting limit switch
	Manual setting
CA 1-8	Auxiliary contacts
EF	Closing coil
S2	Remote tripping control
S5	Remote closing control
S3	Remote closing and tripping control changeover switch
C22	Reset contact of the spring
C20	Contact coupled with local reset tripping Push-button
FE	Closing prevention device
Withdrawable	
C51.52	Contacts 'connected' position
C61.62	Contacts 'withdrawn' position
C71	Pre-trip contact couple with insertion control



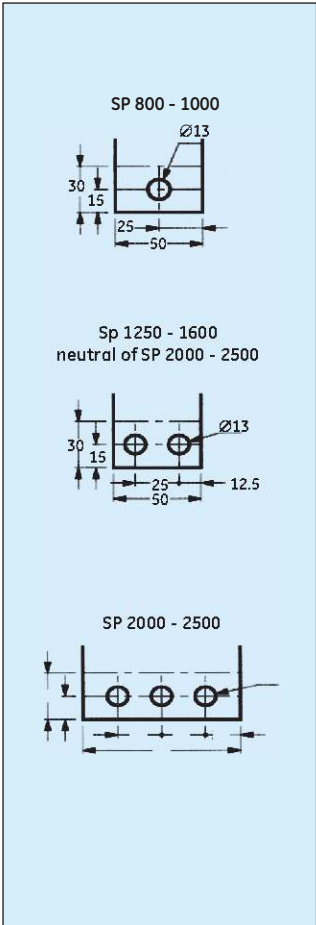
Fixed circuit breaker



Panel cut out for fitting gasket



Rear horizontal connections



Legend					
Type	Number Of poles	A	B	C	D
Sp 800 to 1600	3	318	98	75	-
SP 2000-2500	3	412	130	90	-
	4	510	130	90	114

E= minimum clearance distance above the arc chutes.					
		Ue ≤ 500V	Ue ≤ 690V		
I= Insulating screen	150mm	150mm			
M= Metallic screen	150mm	200mm			



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We are committed to continuous development and improvement of our products and the specifications are subject to change without notice. Please contact our nearest sales office for confirmation.



GE imagination at work

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