Low voltage

EasyPact SPS

LV power circuit breakers and switch-disconnectors
800 to 1600A

Compact

Simple

Network protection

Schneider Electric™

EasyPact SPS

brings more functionalities, options and features
which make it more

EasyPact SPS

Standard Protection System
for your electrical distribution network

800-1600A

ET2.0
Trip System

ET6G
Trip System

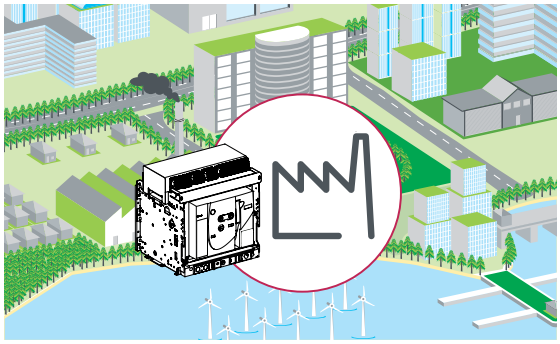
Microprocessor Base Trip Units

Schneider Electric Global specialist in the field of ACBs and MCCBs, introduces EasyPact SPS range of ACBs

- Single Frame size from 800-1600A
- ASIC Based Microprocessor trip unit with OL, SC & EF protection features, which offer fastest short circuit tripping time in its class
- 25 ms Short circuit tripping time ensure low let through energy increase the longevity of an electrical distribution network, cables & equipment
- Offer highest standards of safety for operator as well as Electrical distribution network
- Pollution category –III along with modular technology ensure high operating cycles without maintenance
- Simple to choose and easy to install

True Modular Design

Modular construction delivers high level of reliability in harshest environment . Thanks to Schneider innovation EasyPact SPS is built on a robust modular architecture delivering pollution category – III
As per IEC 60664-1 , which is the highest standard of circuit breaker construction in industry.



	Pollution Degree - I	Pollution Degree - II	Pollution Degree - III
Defination	No pollution or only dry, non-conductive pollution occurs.	Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation may be expected	Conductive pollution occurs, or dry, non-conductive pollution occurs which becomes conductive due to condensation.
Application	Clean room environment, Considered inside sealed components and within air/water tight enclosures	Office environment,Test stations & laboratory areas are considered	Unheated & boiler roomsHarsher environment typical in many industrial manufacturing areas

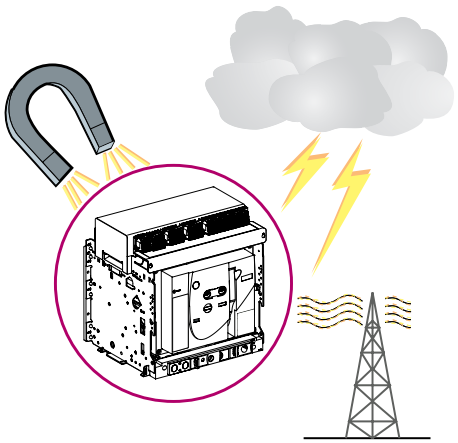
Understanding the effects of pollution degree on your products will help you to ensure that you are creating a safe environment by using a better & reliable product.

Low let through energy

EasyPact SPS short circuit tripping time is only 25 ms, which is best in its class.

Let through energy (Energy passes through distribution network during SC) = I^2t
I = Intensity of the short circuit current (example 35kA)
t = Short circuit tripping time of the circuit breaker (example 25 ms)

During the short circuit duration current is constant and it is the ACB short circuit tripping time, which decides the amount of let through energy passing through cables/bus bar. EasyPact SPS lowest let through energy increase the longevity of electrical distribution network cables & equipment.



Electromagnetic disturbances

EasyPact SPS devices are protected against:

- Overvoltages caused by devices that generate electromagnetic disturbances
- Overvoltages caused by atmospheric disturbances or by a distribution-system outage (e.g. failure of a lighting system)
- Devices emitting radio waves (radios, walkie-talkies, radar, etc.)
- Electrostatic discharges produced by users EasyPact SPS devices have successfully passed the electromagnetic-compatibility tests (EMC) defined by the following international standards:
- IEC 60947-2, appendix F
  The above tests guarantee that:
- No nuisance tripping occurs
- Tripping times are respected

Thermal memory

The thermal memory continuously accounts for the amount of heat in the cables, both before and after tripping, whatever the value of the current (presence of an overload or not). The thermal memory optimises the long-time protection function of the circuit breaker by taking into account the temperature rise in the cables. The thermal memory assumes a cable cooling time of approximately 20 minutes.

In EasyPact SPS all trip units are equipped with thermal memory records the temperature rise caused by each Overload, even very short one.This information stored in the thermal memory reduces the tripping time during repeated Overloads and enhance the cable life.

Unique Auto latching feature support Operator Safety

EasyPact SPS offer distinct indication about ACBs position In chasis. Product design also have unique arrangement of position latching when ACB Move from Connected -> Test -> Disconnected.

EasyPact SPS Communication System

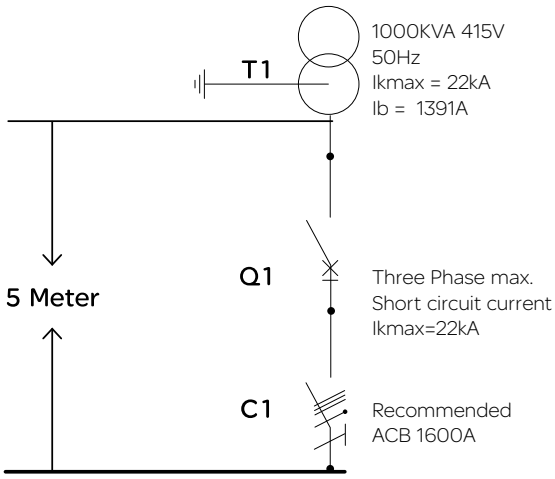
EasyPact SPS communication hardware options facilitate following option on Modbus RS485 /Ethernet TCP IP Network:

- Remote breaker Status ON/OFF/TRIP
- Remote ACB Status connected /test/disconnected
- Remote Control ON/OFF
- Electrical interlocking facility.

Alternatively, digital I/O's of Power Meters can also be used for above parameters. These all parameters can be monitored and controlled at centralized Power SCADA , and gives a flexibility to the user to connect to Schneider Electric's cloud Based energy management platforms like "ENERGY ADVANCED"

A knowledge of 3-phase symmetrical shortcircuit current values (Isc) at strategic points of an installation is necessary in order to dimension switchgear (fault current rating); cables (thermal withstand rating); protective devices (discriminative trip settings) and so on...

In the following notes a 3-phase short-circuit of zero impedance (the so-called bolted short-circuit) fed through a typical HV/LV distribution transformer will be examined. Except in very unusual circumstances, this type of fault is the most severe, and is certainly the simplest to calculate.



Short-circuit current at the secondary terminals of a HV/LV distribution transformer

The case of one transformer

As a first approximation the impedance of the HV system is assumed to be negligibly small, so that:

$$Isc = \frac{I\,n \times 100}{Usc} \text{ where } In = \frac{P \times 10^3}{U_{20}\sqrt{3}} \text{ and:}$$

P = kVA rating of the transformer
U_{20} = phase-to-phase secondary volts on open circuit
In = nominal current in amps
Isc = short-circuit fault current in amps
Usc = short-circuit impedance voltage of the transformer in %.
Typical values of Usc for distribution transformers are given in .

Example

1000 kVA transformer
Usc = 6.5%

$$In = \frac{1000 \times 10^3}{415 \times \sqrt{3}} = 1391A \quad Isc = \frac{1391 \times 100}{6.5} = 22\ kA$$

In practice Isc is slightly less than that calculated by this method, since the HV system impedance is such that its fault level at the HV terminals of the transformer rarely exceeds 500 MVA. A level of 250 MVA, or less, is more common.

Isc at the receiving end of the feeder as a function of the Isc at its sending end

Copper 230 V / 400 V																							
c.s.a. of phase conductors (mm2)	Length of circuit (in metres)																						
1.5														1.3	1.8	2.6	3.6	5.2	7.3	10.3	14.6	21	
2.5												1.1	1.5	2.1	3.0	4.3	6.1	8.6	12.1	17.2	24	34	
4											1.2	1.7	2.4	3.4	4.9	6.9	9.7	13.7	19.4	27	39	55	
6											1.8	2.6	3.6	5.2	7.3	10.3	14.6	21	29	41	58	82	
10										2.2	3.0	4.3	6.1	8.6	12.2	17.2	24	34	49	69	97	137	
16								1.7	2.4	3.4	4.9	6.9	9.7	13.8	19.4	27	39	55	78	110	155	220	
25						1.3	1.9	2.7	3.8	5.4	7.6	10.8	15.2	21	30	43	61	86	121	172	243	343	
35						1.9	2.7	3.8	5.3	7.5	10.6	15.1	21	30	43	60	85	120	170	240	340	480	
47.5					1.8	2.6	3.6	5.1	7.2	10.2	14.4	20	29	41	58	82	115	163	231	326	461		
70					2.7	3.8	5.3	7.5	10.7	15.1	21	30	43	60	85	120	170	240	340				
95				2.6	3.6	5.1	7.2	10.2	14.5	20	29	41	58	82	115	163	231	326	461				
120		1.6	2.3	3.2	4.6	6.5	9.1	12.9	18.3	26	37	52	73	103	146	206	291	412					
150	1.2	1.8	2.5	3.5	5.0	7.0	9.9	14.0	19.8	28	40	56	79	112	159	224	317	448					
185	1.5	2.1	2.9	4.2	5.9	8.3	11.7	16.6	23	33	47	66	94	133	187	265	374	529					
240	1.8	2.6	3.7	5.2	7.3	10.3	14.6	21	29	41	58	83	117	165	233	330	466	659					
300	2.2	3.1	4.4	6.2	8.8	12.4	17.6	25	35	50	70	99	140	198	280	396	561						
2x120	2.3	3.2	4.6	6.5	9.1	12.9	18.3	26	37	52	73	103	146	206	292	412	583						
2x150	2.5	3.5	5.0	7.0	9.9	14.0	20	28	40	56	79	112	159	224	317	448	634						
2x185	2.9	4.2	5.9	8.3	11.7	16.6	23	33	47	66	94	133	187	265	375	530	749						
553x120	3.4	4.9	6.9	9.7	13.7	19.4	27	39	55	77	110	155	219	309	438	619							
3x150	3.7	5.3	7.5	10.5	14.9	21	30	42	60	84	119	168	238	336	476	672							
3x185	4.4	6.2	8.8	12.5	17.6	25	35	50	70	100	141	199	281	398	562								
Isc upstream (in kA)	Isc downstream (in kA)																						
100	93	90	87	82	77	70	62	54	45	37	29	22	17.0	12.6	9.3	6.7	4.9	3.5	2.5	1.8	1.3	0.9	
90	84	82	79	75	71	65	58	51	43	35	28	22	16.7	12.5	9.2	6.7	4.8	3.5	2.5	1.8	1.3	0.9	
80	75	74	71	68	64	59	54	47	40	34	27	21	16.3	12.2	9.1	6.6	4.8	3.5	2.5	1.8	1.3	0.9	
70	66	65	63	61	58	54	49	44	38	32	26	20	15.8	12.0	8.9	6.6	4.8	3.4	2.5	1.8	1.3	0.9	
60	57	56	55	53	51	48	44	39	35	29	24	20	15.2	11.6	8.7	6.5	4.7	3.4	2.5	1.8	1.3	0.9	
50	48	47	46	45	43	41	38	35	31	27	22	18.3	14.5	11.2	8.5	6.3	4.6	3.4	2.4	1.7	1.2	0.9	
40	39	38	38	37	36	34	32	30	27	24	20	16.8	13.5	10.6	8.1	6.1	4.5	3.3	2.4	1.7	1.2	0.9	
35	34	34	33	33	32	30	29	27	24	22	18.8	15.8	12.9	10.2	7.9	6.0	4.5	3.3	2.4	1.7	1.2	0.9	
30	29	29	29	28	27	27	25	24	22	20	17.3	14.7	12.2	9.8	7.6	5.8	4.4	3.2	2.4	1.7	1.2	0.9	
25	25	24	24	24	23	23	22	21	19.1	17.4	15.5	13.4	11.2	9.2	7.3	5.6	4.2	3.2	2.3	1.7	1.2	0.9	
20	20	20	19.4	19.2	18.8	18.4	17.8	17.0	16.1	14.9	13.4	11.8	10.1	8.4	6.8	5.3	4.1	3.1	2.3	1.7	1.2	0.9	
15	14.8	14.8	14.7	14.5	14.3	14.1	13.7	13.3	12.7	11.9	11.0	9.9	8.7	7.4	6.1	4.9	3.8	2.9	2.2	1.6	1.2	0.9	
10	9.9	9.9	9.8	9.8	9.7	9.6	9.4	9.2	8.9	8.5	8.0	7.4	6.7	5.9	5.1	4.2	3.4	2.7	2.0	1.5	1.1	0.8	
7	7.0	6.9	6.9	6.9	6.9	6.8	6.7	6.6	6.4	6.2	6.0	5.6	5.2	4.7	4.2	3.6	3.0	2.4	1.9	1.4	1.1	0.8	
5	5.0	5.0	5.0	4.9	4.9	4.9	4.9	4.8	4.7	4.6	4.5	4.3	4.0	3.7	3.4	3.0	2.5	2.1	1.7	1.3	1.0	0.8	
4	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.8	3.7	3.6	3.5	3.3	3.1	2.9	2.6	2.2	1.9	1.6	1.2	1.0	0.7	
3	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.5	2.3	2.1	1.9	1.6	1.4	1.1	0.9	0.7	
2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.4	1.3	1.1	1.0	0.8	0.6	
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5	
Aluminium 230 V / 400 V																							
c.s.a. of phase conductors (mm2)	Length of circuit (in metres)																						
2.5														1.4	1.9	2.7	3.8	5.4	7.6	10.8	15.3	22	
4												1.1	1.5	2.2	3.1	4.3	6.1	8.6	12.2	17.3	24	35	
6												1.6	2.3	3.2	4.6	6.5	9.2	13.0	18.3	26	37	52	
10											1.9	2.7	3.8	5.4	7.7	10.8	15.3	22	31	43	61	86	
16										2.2	3.1	4.3	6.1	8.7	12.2	17.3	24	35	49	69	98	138	
25								1.7	2.4	3.4	4.8	6.8	9.6	13.5	19.1	27	38	54	76	108	153	216	
35							1.7	2.4	3.4	4.7	6.7	9.5	13.4	18.9	27	38	54	76	107	151	214	302	
47.5						1.6	2.3	3.2	4.6	6.4	9.1	12.9	18.2	26	36	51	73	103	145	205	290	410	
70						2.4	3.4	4.7	6.7	9.5	13.4	19.0	27	38	54	76	107	151	214	303	428		
95					2.3	3.2	4.6	6.4	9.1	12.9	18.2	26	36	51	73	103	145	205	290	411			
120					2.9	4.1	5.8	8.1	11.5	16.3	23	32	46	65	92	130	184	259	367				
150					3.1	4.4	6.3	8.8	12.5	17.7	25	35	50	71	100	141	199	282	399				
185				2.6	3.7	5.2	7.4	10.4	14.8	21	30	42	59	83	118	167	236	333					
240	1.2	1.6	2.3	3.3	4.6	6.5	9.2	13.0	18.4	26	37	52	73	104	147	208	294	415					
300	1.4	2.0	2.8	3.9	5.5	7.8	11.1	15.6	22	31	44	62	88	125	177	250	353	499					
2x120	1.4	2.0	2.9	4.1	5.8	8.1	11.5	16.3	23	33	46	65	92	130	184	260	367	519					
2x150	1.6	2.2	3.1	4.4	6.3	8.8	12.5	17.7	25	35	50	71	100	141	200	282	399						
2x185	1.9	2.6	3.7	5.2	7.4	10.5	14.8	21	30	42	59	83	118	167	236	334	472						
2x240	2.3	3.3	4.6	6.5	9.2	13.0	18.4	26	37	52	74	104	147	208	294	415	587						
3x120	2.2	3.1	4.3	6.1	8.6	12.2	17.3	24	34	49	69	97	138	195	275	389	551						
3x150	2.3	3.3	4.7	6.6	9.4	13.3	18.8	27	37	53	75	106	150	212	299	423	598						
3x185	2.8	3.9	5.5	7.8	11.1	15.7	22	31	44	63	89	125	177	250	354	500	707						
3x240	3.5	4.9	6.9	9.8	13.8	19.5	28	39	55	78	110	156	220	312	441	623							

Note: for a 3-phase system having 230 V between phases, divide the above lengths by $\sqrt{3}$

Circuit breaker.

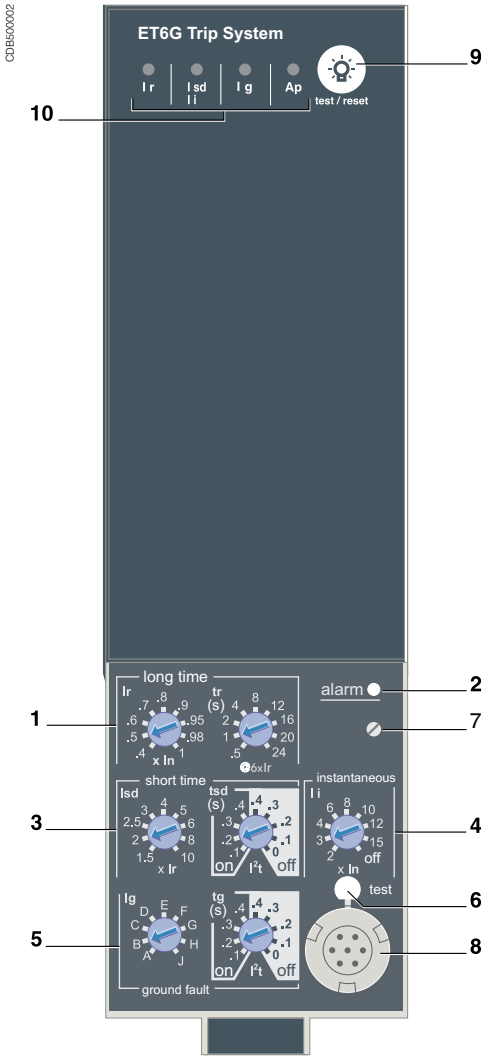
Switch disconnector.

Common characteristics			
Number of poles			3/4
Rated insulation voltage (V)	Ui		1000
Impulse withstand voltage (kV)	Uimp		12
Rated operational voltage (V AC 50/60 Hz)	Ue		440
Suitability for isolation	IEC 60947-2		Yes
Degree of pollution	IEC 60664-1		3
Basic circuit-breaker			
Circuit-breaker as per IEC 60947-2			
Rated current (A)	In		at 40°C[(1)]
Rating of 4th pole (A)			
Sensor ratings (A)			
Type of circuit breaker			
Ultimate breaking capacity (kA rms)	Icu		220...440V
V AC 50/60 Hz			
Rated service breaking capacity (kA rms)	Ics		% Icu
Utilisation category			
Rated short-time withstand current (kA rms)	Icw	1s	
V AC 50/60 Hz			
Rated making capacity (kA peak)	Icm		220...440 V
V AC 50/60 Hz			
Breaking time (ms) between tripping order and arc extinction			
Closing time (ms)			
Switch-disconnector as per IEC60947-3 and Annex A			
Type of switch-disconnector			
Operational current AC23A			
Rated making capacity (kA peak)	Icm		
Rated short-time withstand current (kA rms)	Icw	1s	
Maintenance/Connection/Installation			
Service life	Mechanical	without maintenance	
C/O cyclesx1000	Electrical	without maintenance	440 V
Connection		Horizontal	
		Vertical	
Dimensions (mm)		Drawout	3P
(H x W x D)			4P
		Fixed	3P
			4P
Weight (kg)		Drawout	3P/4P
(approximate)		Fixed	3P/4P

(1) Refer catalogue for details on temperature derating.

	SPS08	SPS10	SPS12	SPS16
	800	1000	1250	1600
	800	1000	1250	1600
	800	1000	1250	1600
	F	F	F	F
	50	50	50	50
	100%	100%	100%	100%
	B	B	B	B
	42	42	42	42
	105	105	105	105
	25	25	25	25
	<50	<50	<50	<50
	SPS08	SPS10	SPS12	SPS16
	FA	FA	FA	FA
	800	1000	1250	1600
	75	75	75	75
	36	36	36	36
	12.5	12.5	12.5	12.5
	6	6	6	6
	No			
	Yes			
	322 x 228 x 277			
	322 x 358 x 277			
	301 x 276 x 196			
	301 x 346 x 196			
	30/39			
	14/18			

ET trip unit protect power circuits, under overload & short-circuit conditions. ET6G provides earth-fault protection and equipped with individual fault trip indication LEDs.



1 *Long-time threshold and tripping delay.*
2 *Overload alarm (LED) at 1,125 Ir.*
3 *Short-time pick-up and tripping delay.*
4 *Instantaneous pick-up.*
5 *Earth-fault pick-up and tripping delay.*
6 *Earth-fault test button.*
7 *Long-time rating plug screw.*
8 *Test connector.*
9 *Lamp test, reset and battery test.*
10 *Indication of tripping cause.*

(1) The thermal memory continuously accounts for the amount of heat in the cables , both before and after tripping , whatever the value of the current(presence of an overload or not).The thermal memory optimises the long-time protection function of the circuit breaker by taking into account the temperature rise in the cables. The thermal memory assumes a cable cooling time of approximately 20 minutes.
(2) Applicable on ET6G trip system

Note: ET trip control units come with a transparent leadseal cover as standard.

Protection
Protection thresholds and delays are set using the adjustment dials.

Overload protection
True rms long-time protection.
Protects cables (phase and neutral) against overloads
Thermal memory(1): thermal image before and after tripping.

Short-time protection
- The short-time protection function protects the distribution system against impedant short-circuits
- The short-time tripping delay can be used to ensure discrimination with downstream circuit breaker (on ET6G)
- The I^2t ON and I2t OFF options enhance discrimination with a downstream protection devices(on ET6G)
- Use of I^2t curves with short-time protection:
  - I^2t OFF selected: the protection function implements a constant time curve
  - I^2t ON selected: the protection function implements an I2t inverse-time curve up to 10 Ir. Above 10 Ir, the time curve is constant

Earth-fault protection on ET6G trip system
Residual earth fault protection.
Selection of I2t type (ON or OFF) for delay.
A ground fault in the protection conductors can provoke local temperature rise at the site of the fault or in the conductors. The purpose of the ground-fault protection function is to eliminate this type of fault.

Type	Description
Residual	> The function determines the zero-phase sequence current, i.e. the vectorial sum of the phase and neutral currents > It detects faults downstream of the circuit breaker

Instantaneous protection
The Instantaneous-protection function protects the distribution system against solid short-circuits. Contrary to the short-time protection function, the tripping delay for instantaneous protection is not adjustable. The tripping order is sent to the circuit breaker as soon as current exceeds the set value, with a fixed time delay of 20 milliseconds.

Neutral protection
On three-pole circuit breakers, neutral protection is not possible.
On four-pole circuit breakers, neutral protection may be set using a three-position switch: neutral unprotected (4P 3d), neutral protection at 0.5 Ir (4P 3d + N/2), neutral protection at Ir (4P 4d).

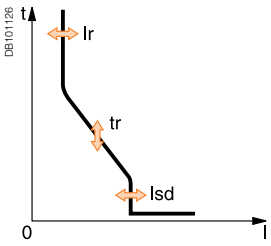
Overload alarm
A yellow alarm LED goes on when the current exceeds the long-time trip threshold.

Fault indications(2)
LEDs indicate the type of fault:
- Overload (long-time protection Ir)
- Short-circuit (short-time Isd or instantaneous Ii protection)
- Earth fault (Ig)
- Internal fault (Ap)

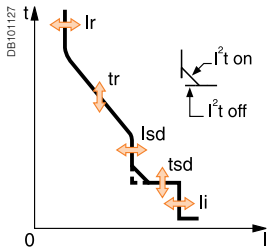
Battery power
The fault indicating LEDs are powered by an in-built battery. The fault indication LEDs remain on until the test/reset button is pressed.

Test
A hand-held test kit may be connected to the test connector on the front to check circuit-breaker operation. For ET6G trip unit, the operation of earth-fault protection can be checked by pressing the test button located above the test connector.

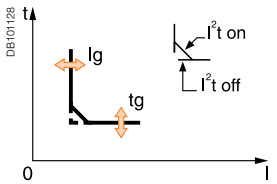
Protection			ET2.0								
Long time			ET2.0								
Current setting (A)	**Ir** = In x …		0.4	0.5	0.6	0.7	0.8	0.9	0.95	0.98	1
Tripping between 1.05 and 1.20 x Ir											
Time setting		**tr (s)**	0.5	1	2	4	8	12	16	20	24
Time delay (s)	Accuracy: 0 to -30 %	1.5 x Ir	12.5	25	50	100	200	300	400	500	600
	Accuracy: 0 to -20 %	6 x Ir	0.7(1)	1	2	4	8	12	16	20	24
	Accuracy: 0 to - 20 %	7.2 x Ir	0.7(2)	0.69	1.38	2.7	5.5	8.3	11	13.8	16.6
Thermal memory			20 minutes before and after tripping								
(1) 0 to -40% - (2) 0 to -60%											
Instantaneous											
Pick-up (A)	**Isd** = Ir x …		1.5	2	2.5	3	4	5	6	8	10
Accuracy: ±10 %											
Time delay			Max resettable time: 20 ms								
			Max break time: 80 ms								



Protection			ET6G								
Long time			ET6G								
Current setting (A)	**Ir** = In x …		0.4	0.5	0.6	0.7	0.8	0.9	0.95	0.98	1
Tripping between 1.05 and 1.20 x Ir											
Time setting		**tr (s)**	0.5	1	2	4	8	12	16	20	24
Time delay (s)	Accuracy: 0 to -30 %	1.5 x Ir	12.5	25	50	100	200	300	400	500	600
	Accuracy: 0 to -20 %	6 x Ir	0.7(1)	1	2	4	8	12	16	20	24
	Accuracy: 0 to -20 %	7.2 x Ir	0.7(2)	0.69	1.38	2.7	5.5	8.3	11	13.8	16.6
Thermal memory			20 minutes before and after tripping								
(1) 0 to -40% - (2) 0 to -60%											
Short time											
Pick-up (A)	**Isd** = Ir x …		1.5	2	2.5	3	4	5	6	8	10
Accuracy: ±10 %											
Time setting tsd (s)	Settings	I^2t Off	0	0.1	0.2	0.3	0.4				
		I^2t On	-	0.1	0.2	0.3	0.4				
Time delay (ms) at 10 x Ir	**tsd** (max resettable time)		20	80	140	230	350				
(I^2t Off or I^2t On)	**tsd** (max break time)		80	140	200	320	500				
Instantaneous											
Pick-up (A)	**Ii** = In x …		2	3	4	6	8	10	12	15	off
Accuracy: ±10 %											
Time delay			Max resettable time: 20 ms								
			Max break time: 50 ms								



Earth fault			ET6G								
Pick-up (A)	**Ig** = In x …		A	B	C	D	E	F	G	H	J
Accuracy: ±10 %	In ⩽ 400 A		0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
	400 A < In ⩽ 1000 A		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
	In ⩾ 1250 A		500	640	720	800	880	960	1040	1120	1200
Time setting tg (s)	Settings	I^2t Off	0	0.1	0.2	0.3	0.4				
		I^2t On	-	0.1	0.2	0.3	0.4				
Time delay (ms)	**tg** (max resettable time)		20	80	140	230	350				
at In or 1200 A (I^2t Off or I^2t On)	**tg** (max break time)		80	140	200	320	500				



Note: All current-based protection functions require no auxiliary source.
The test / reset button, clears the tripping indication and tests the battery.

Range	Current rating	Type	Pole	Operating mechanism	Installation	Protection No.	Type	
EasyPact SPS (from 800 to 1600A) Ics = 100%Icu = 50kA, Icw (1 sec) = 42kA for circuit breaker & 36kA for switch-disconnector								
SPS	08	F	3P	M	F	2	B	
	10		4P	E	W	6	L	
	12					0	D	
	16							
3	2	1	2	1	1	1	1	12 digits
								Type
							B	Basic protection without display and LED indication
							L	Basic protection without display but with LED indication
								Protections No.
						2		LI protection
						6		LSIG protection
						0		No protection for switch disconnector
						Type of installation		
					F	Fixed		
					W	Withdrawable/drawout		
				Operating mechanism				
				M	Manually type ACB/SD			
				E	Electrical type with MCH + XF + MX			
				Number of poles				
			3P	3 Poles				
			4P	4 Poles				
			Type based on breaking capacity					
		F	Circuit Breaker Ics = 100%, Icu = 50kA, Icw (1 sec) = 42kA Switch-disconnector Icm = 75kA, Icw (1 sec) = 36kA					
	Current rating							
	08	800A						
	10	1000A						
	12	1250A						
	16	1600A						

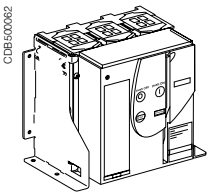
Example 1 SPS12F3PMW2B

SPS	12	F	3P	M	W	2	B
EasyPact SPS	1250A	50kA	3 Pole	Manual type	Withdrawable type	LI protection	Basic trip unit without any Indication

EasyPact SPS 800 to 1600A

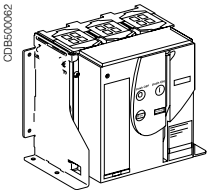
Fixed and withdrawable type

EasyPact SPS fixed type with ET trip unit



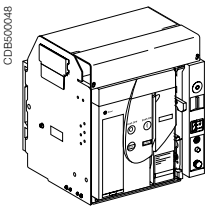
		3P		4P	
		ET2.0	ET6G	ET2.0	ET6G
Manual	800A	SPS08F3PMF2B	SPS08F3PMF6L	SPS08F4PMF2B	SPS08F4PMF6L
	1000A	SPS10F3PMF2B	SPS10F3PMF6L	SPS10F4PMF2B	SPS10F4PMF6L
	1250A	SPS12F3PMF2B	SPS12F3PMF6L	SPS12F4PMF2B	SPS12F4PMF6L
	1600A	SPS16F3PMF2B	SPS16F3PMF6L	SPS16F4PMF2B	SPS16F4PMF6L
Electrical(1)	800A	SPS08F3PEF2B	SPS08F3PEF6L	SPS08F4PEF2B	SPS08F4PEF6L
	1000A	SPS10F3PEF2B	SPS10F3PEF6L	SPS10F4PEF2B	SPS10F4PEF6L
	1250A	SPS12F3PEF2B	SPS12F3PEF6L	SPS12F4PEF2B	SPS12F4PEF6L
	1600A	SPS16F3PEF2B	SPS16F3PEF6L	SPS16F4PEF2B	SPS16F4PEF6L

EasyPact SPS fixed type Switch Disconnector



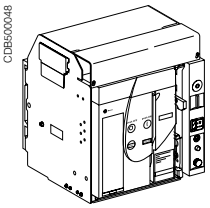
		3P	4P
Manual	800A	SPS08F3PMF0D	SPS08F4PMF0D
	1000A	SPS10F3PMF0D	SPS10F4PMF0D
	1250A	SPS12F3PMF0D	SPS12F4PMF0D
	1600A	SPS16F3PMF0D	SPS16F4PMF0D
Electrical(1)	800A	SPS08F3PEF0D	SPS08F4PEF0D
	1000A	SPS10F3PEF0D	SPS10F4PEF0D
	1250A	SPS12F3PEF0D	SPS12F4PEF0D
	1600A	SPS16F3PEF0D	SPS16F4PEF0D

EasyPact SPS withdrawable type with ET trip unit



		3P		4P	
		ET2.0	ET6G	ET2.0	ET6G
Manual	800A	SPS08F3PMW2B	SPS08F3PMW6L	SPS08F4PMW2B	SPS08F4PMW6L
	1000A	SPS10F3PMW2B	SPS10F3PMW6L	SPS10F4PMW2B	SPS10F4PMW6L
	1250A	SPS12F3PMW2B	SPS12F3PMW6L	SPS12F4PMW2B	SPS12F4PMW6L
	1600A	SPS16F3PMW2B	SPS16F3PMW6L	SPS16F4PMW2B	SPS16F4PMW6L
Electrical(1)	800A	SPS08F3PEW2B	SPS08F3PEW6L	SPS08F4PEW2B	SPS08F4PEW6L
	1000A	SPS10F3PEW2B	SPS10F3PEW6L	SPS10F4PEW2B	SPS10F4PEW6L
	1250A	SPS12F3PEW2B	SPS12F3PEW6L	SPS12F4PEW2B	SPS12F4PEW6L
	1600A	SPS16F3PEW2B	SPS16F3PEW6L	SPS16F4PEW2B	SPS16F4PEW6L

EasyPact SPS withdrawable type switch disconnector



		3P	4P
Manual	800A	SPS08F3PMW0D	SPS08F4PMW0D
	1000A	SPS10F3PMW0D	SPS10F4PMW0D
	1250A	SPS12F3PMW0D	SPS12F4PMW0D
	1600A	SPS16F3PMW0D	SPS16F4PMW0D
Electrical(1)	800A	SPS08F3PEW0D	SPS08F4PEW0D
	1000A	SPS10F3PEW0D	SPS10F4PEW0D
	1250A	SPS12F3PEW0D	SPS12F4PEW0D
	1600A	SPS16F3PEW0D	SPS16F4PEW0D

(1) Supplied with spring charge motor (MCH), opening release (MX) and closing release (XF) with requested control voltage rating. Use customer order form on page 12 to specify coil voltages for electrical type breaker & to order optional accessories

Order ref no: .....

Date: .....

Product ref no: .....

EasyPact SPS

Circuit breaker and Switch-diconnectors
Customer Order form

To indicate your choices, check the applicable square boxes ☑

And enter the appropriate information in the rectangles

Circuit breaker or switch-disconnector		Quantity	
Rating (800-1600A)	A		
Circuit breaker	F		
Switch Disconnector	FA		
Number of poles	3 or 4		
Type of equipment	Fixed		
	Draw out with chassis		
Operating Mechanism	Manual Operated		
	Electrical Operated		
MCH - Gear motor		V	
XF - Closing coil		V	
MX - Shunt/Opening voltage release		V	

ET Range of Trip System				
ET- Without display	2.0		6G	
LR-long-time rating plug	Standard	0.4 to 1 Ir		

Connection				
Vertical spreaders				
Optional for 800 &1000A	Top		Bottom	
Must for 1250&1600A	Standard			

Trip System functions:
2.0 : basic protection (long time + inst.)
6G : selective + earth-fault protection
: (long time + short time + inst. + earth-fault)

Indication contacts				
OF - ON/OFF indication contacts				
Standard	2 OF contacts	6 A-240/380V AC		
Additional	1 OF contact	6 A-240/380V AC		
	2 OF contacts	6 A-240/380V AC		
SDE - "fault-trip" indication contact				
Standard	1 SDE	5A -240/380V AC		

Optional				
Carriage switches		8 A-240/380V AC		
CE - "connected" position	Max. 1		qty	
CT - "test" position	Max. 1		qty	
CD - "disconnected" position	Max. 1		qty	
Remote tripping	**MN** - under voltage release		V	
	R - delay unit (fixed time delay)	0.25s		
	Rr - adjustable delay unit	0.5s…..3s		
TCE - External sensor (NCT) for neutral of 3 Phase-4 Wire systems		400/1600A		
PF - "Ready to close" contact		5A-240/380V AC		

Locks					
VBP - ON/OFF pushbutton locking (by transparent cover using padlock)					
VSPO - Device locking in OFF position by key lock (Only one key lock per ACB possible)					
	Key lock kit (w/o key lock)	Profalux		Ronis	
	1 key lock	Profalux		Ronis	
	2 identical key locks, 1 key	Profalux		Ronis	
Chassis locking in "Disconnected" position:					
VSPD - by key locks	Key lock kit (w/o key lock)	Profalux		Ronis	
	1 key lock	Profalux		Ronis	
	2 identical key locks, 1 key	Profalux		Ronis	
Door Interlock - VPEC		On left-hand side of chassis (LH)			
		On right-hand side of chassis (RH)			

Accessories		
VO - Safety shutters on chassis	Standard	
CDP - Escutcheon	Standard	
CP - Transparent cover for escutcheon (only drawout breakers)		
OP - Blanking plate for escutcheon (only drawout breakers)		
CB - Auxiliary terminal shield fitted on chassis		
EIP- Interphase barriers		
HHTK - Hand held test kit		

Note:
Customer can provide the reference no. of the product for the listed references. Kindly refer to product catalogue for list of references. All breakers mil be provided with 2 OF (2 c/o contacts), 1SDE (trip contact), Escutcheon (Panel sealing frame) as standard.
All draw-out type devices will be supplied with Chassis & safety shutter.
For Electrical operated devices, indicate the voltage ratings of MCH, XF & MX
Refer to product catalogue for available voltage ratings of MCH/XF/MX/MN.
All SPS products are supplied with vertical type customer connecting terminals.

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