

SAR & SAS Circuit Protectors



Other Products

AIRPAX

Applications: Typical applications include tight spaces in radio signal amplifiers for base transceiver stations, uninterruptible power supplies, thin-type power supplies, office equipment, and entertainment equipment

Features:

- Ultra-compact and ultralight circuit protectors with reinforced insulation and an electromagnetic safety system
- Smallest hydraulic 20A rating circuit protector (SAR) and 15A rating circuit protector (SAS) in the world
- Trip-free function, smooth handle action
- Conforms to IEC950

Ratings & Specifications					
Circuit Breaker	Maximum Rated Current / Voltage				Breaking Capacity
	32VDC	50VDC	125VAC	250VAC	
SAR, SUR, SER	20A	----	20A	15A	500A
SARM, SURM, SERM	15A, 30A*	15A, 30A*	----	----	300A
SAS, SUS, SES	15A	----	15A	15A	500A
SASM, SUSM, SESM	15A	15A	----	----	300A

*Agency approvals: Pending



Specifications:

- Maximum rated current / voltage: 20A (125 V_{AC}), 15A (250V_{AC}, 32V_{DC}), 30A (50V_{DC})
- Number of poles:
SAR(M), SUR(M), SER(M) = 1 to 2 poles
SAS(M), SUS(M), SES(M) = 1 pole
- Operating temperature: -25°C to 65°C
- Allowable relative humidity: 45%-85%
- Breaking capacity: 500A (in accordance with UL 1077 and EN60934)
- Insulation resistance: At least 100 MΩ with 500V_{DC} megger
- Dielectric strength: V_{AC} 50/60 Hz 1500V_{AC} for 1 minute (RU/CSA/general products), V_{AC} 50/60 Hz 3000V_{AC} for 1 minute (TÜV products) leakage current 1mA or less. Auxiliary switch: V_{AC} 50/60 Hz 500V_{AC} for 1 minute
- Vibration resistance: Approximately 98m/s² (10G) (Mil-STD-202 Method 201A @ I_n)
- Shock resistance: 490m/s² (50G) (Mil-STD-202 Method 213 test condition A @ I_n)
- Operational life: At least 10,000 times (6 times per minute, ON-OFF 6,000 times @I_n, 4,000 times under no-load condition)

Overcurrent Protection for Small Equipment

The SAR and SAS circuit protectors provide protection from over-current conditions in an ultra-compact package. The SAR and SAS are the standard products, the SUR and SUS have both RU and CSA approvals, and the SER and SES carry RU, CSA and TÜV approvals.

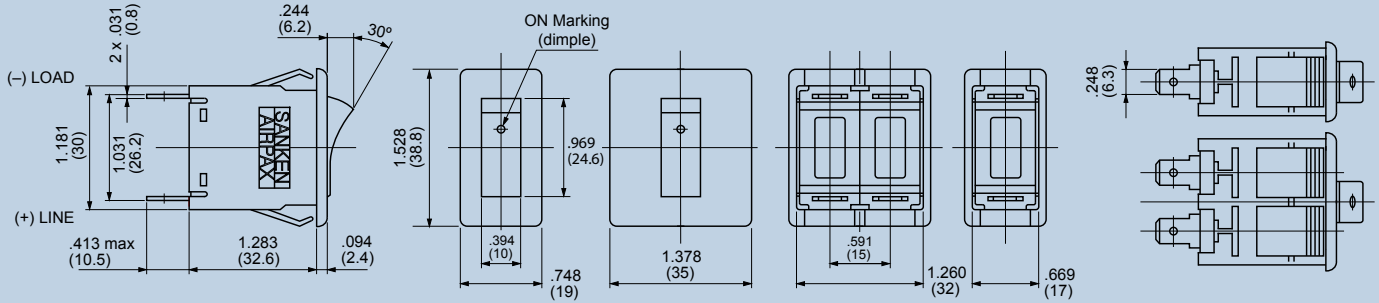
Please contact Airpax for assistance in applying the SAR, SUR, SER, SAS, SUS, and SES circuit protector to meet your power protection needs.

AIRPAX
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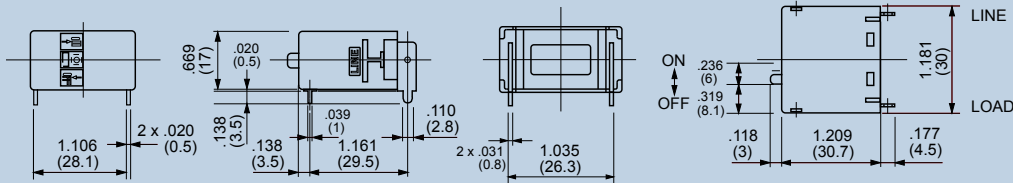
SAR, SUR, SER, SARM, SURM, SERM

*Outline drawings show quick connect specifications. Dimensions = in (mm)

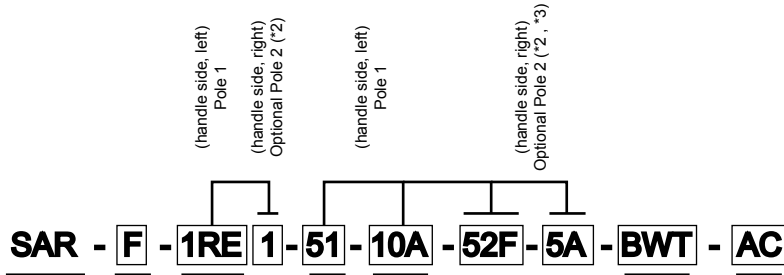


SAS, SUS, SES, SASM, SUSM, SESM

*Outline drawings show PCB mount. Dimensions = in (mm)



SAR SAS 245-500-5038 02/05



1 First Decision	
Model	
Code	Description
SAR	General Product
SUR	RU / CSA approved
SER	RU / CSA / TÜV approved
SARM	General Product with magnet
SURM	cRUus approved with magnet
SERM	cRUus / TÜV approved with magnet
SARM, SURM, SERM: note terminals have porlarity, LINE connect to (+)	
SAS	General Product
SUS	RU / CSA approved
SES	RU / CSA / TÜV approved
SASM	General Product with magnet
SUSM	RU / CSA approved with magnet
SESM	RU / CSA / TÜV approved with magnet
SASM, SUSM, SESM: note terminals have porlarity, LINE connect to (+)	

3 Third Decision	
Circuit type	
Code	Select 2 options****
0	Switch type
0RE	Switch type with auxiliary switch
1	Series type
1RE	Series type with auxiliary switch
1RS	Series type with alarm switch
3	Parallel type (SAR, SUR, SER, SARM, SURM, SERM only)
4	Relay type (SAR, SUR, SARM, SURM, only)
When the auxiliary switch or alarm switch is a gold contact, "G" is added to the symbol. For example "1REG"	

4 Fourth Decision	
Trip Delay	
Code	Description
51	VDC medium speed
52	VDC low speed
61	VAC medium speed
62	VAC low speed
SP	Relay type for voltage trip (SAR, SUR, SARM, SURM, only)
If an inertial wheel is required, add "F" to the end of the code. Example: 62F	
If any switch type was selected in the 3rd decision, do not choose a trip delay (4th decision)	

5 Fifth Decision	
Rated current*	
Code	
0.1A	
0.5A	
1.0A	
2.0A	
3.0A	
5.0A	
7.5A	
10.0A	
15.0A	
20.0A	
25.0A	
30.0A	

7 Seventh Decision	
Remarks	
Code	Description
AC	Switch type - service circuit AC
DC	Switch type - service circuit DC
A, B, D	PCB type Chose A, B, or D (SAR, SUR, SER, SARM, SURM, SERM only)

6 Sixth Decision		
Handle marking (*1)		
Code	Description	
	No mark standard	
Use the options below for: SAR, SUR, SER, SARM, SURM, SERM only		
BWT	Black handle	<input type="checkbox"/> On <input type="checkbox"/> Off
RWT	Red handle	<input type="checkbox"/> On <input type="checkbox"/> Off
BWY	Black handle	<input type="checkbox"/> On <input type="checkbox"/> Off
RWY	Red handle	<input type="checkbox"/> On <input type="checkbox"/> Off
BWO	Black handle	<input type="checkbox"/> On <input type="checkbox"/> Off
WBO	White handle	<input type="checkbox"/> On <input type="checkbox"/> Off
GUARD	Handle Guard	

2 Second Decision	
Terminal type	
Code	Description
F	0.25" quick connect terminals (SAR, SUR, SER, SARM, SURM, SERM only)
P	PCB - PC board terminals

SAR, SUR, SER, SARM, SURM, SERM				
*Rated current depends on the circuit type & circuit voltage				
Circuit Voltage	Switch type with auxiliary switch	Series type with alarm switch	Parallel type	Relay type
125VAC	Main = 20A max	0.1 to 20A	0.1 to 20A	0.1 to 1A
250VAC	Main = 15A max	0.1 to 15A	0.1 to 15A	0.1 to 1A
32VDC	Main = 15A max	0.1 to 15A	0.1 to 15A	0.1 to 1A
50VDC	Main = 30A max (*4)	0.1 to 30A (*4)	----	----
SAS, SUS, SES, SASM, SUSM, SESM				
0.1 to 15A				

*1.) This decision only applies to: SAR, SUR, SER, SARM, SURM, SERM
Disregard sixth decision for: SAS, SUS, SES, SASM, SUSM, SESM

*2.) 2-pole options are only available for: SAR, SUR, SER, SARM, SURM, SERM
Disregard the pole 2 option for: SAS, SUS, SES, SASM, SUSM, SESM

*3.) If the same specifications are required in the 4th and 5th decision for each pole in a 2-pole device (example, both poles require 51-10A), do not enter an Optional Pole 2 entry into the 4th and 5th decision.
Example: SAR-F-1RE 1 - 51 - 10A both poles need 51-10A

*4.) SARM - 50VDC, 30A max
SURM/SERM - 50VDC, 15A max