



ELECTROSWITCH



Series 5000

Load Break Switches

Load Break Disconnect Switches for Solar Power Applications



The Electroswitch Series 5000 "Load Break Switches" meet the stringent safety requirements found in solar power disconnect switch applications.

A fast transfer mechanism combined with self cleaning knife-type contacts assures safe, reliable switching.

Tested in accordance with IEC/EN60947-1 and -3 Standards, the Series 5000 provides excellent load carrying, switching and dielectric performance.

Features

- Stored Energy Fast Transition Make/Break Operation
- Silver Plated Contacts with Self Cleaning Action
- Load Current Interrupting (Inductive or Capacitive) to 1000Vdc/Vac
- High Withstand Current Capability with Short Circuit Rating to 100kA
- Overload Interrupt Current Up to 8 Times Continuous Rating
- High Voltage DC Capability with Double Break Contacts
- Enclosed Anti-Arc Chamber Design for Each Pole

Benefits

- Safe and Reliable Inductive or Capacitive Load Switching
- Reduced Contact Wear
- Reliable Switch Position Indication
- Minimized Contact Arcing
- Excellent Thermal and Dielectric Performance Over Entire Current and Operating Temperature Ranges

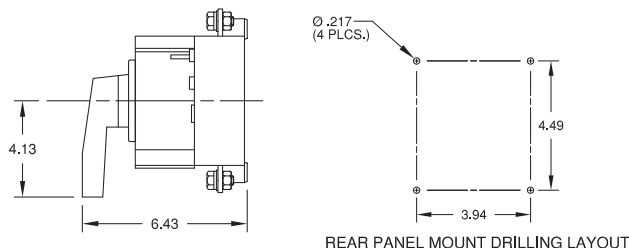
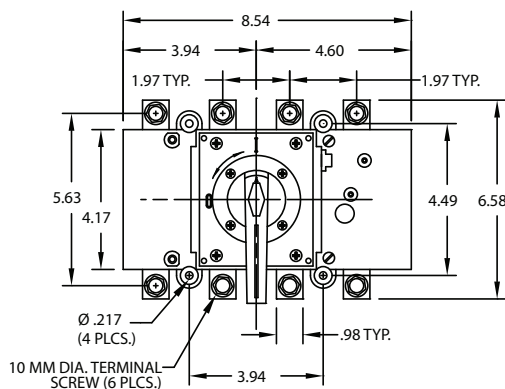
Specifications

Interrupting Current Ratings	up to 1800Amps
Insulation Voltage Rating	up to 1000Vdc/Vac
Rated Dielectric Strength	3500 – 8000 Vac
Impulse Withstand Voltage	8 - 12 kV
Rated Operational Voltage	up to 1000Vdc/Vac
Tested to IEC / EN60947-1 and EN60947-3	

Example:
Switch Size 1, Model **S5-02504 PRO Load Break Switch** (175 Amp Interrupt, 900 Vdc)

Ordering Information

Switch Size	00,0,1,2,3,4
Contacting	3 or 4 Poles
Indexing	90 Degree
Positions	2
Operating Voltage	up to 1000Vdc
Interrupt Current Capacity	up to 1800Amps
Continuous Current Rating Capacity	up to 1800Amps
Operator Handle Option	Pistol Grip [pad lockable], "T" Operate Handle [pad lockable]



Dimensions in inches unless otherwise noted.

Consult Factory for Additional Information

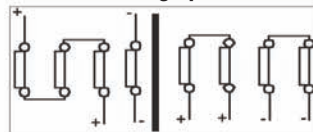
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S5000 Series Switch Options

Switch Size				00	0	1	2	3	4
Continuous Current	lth	ambient temp at 40°C	A	80	160	250	630	800	1800
		ambient temp at 50°C	A	80	160	250	630	800	1500
		ambient temp at 65°C	A	56	160	250	630	800	1250
Rated Insulation Voltage AC20/DC20	Ui	V	800	1000	1000	1000	1000	1000	1000
Rated Dielectric Strength		50 Hz., 1 min.	V	3500	4000	5000	8000	8000	10000
Rated Impulse Withstand Voltage	Uimp		kV	8	8	8	12	12	12
DC Rated Interrupt Current	Ie	48V	A	DC23A 80	DC23A 160	DC23A 250	DC23A 630	DC23A 800	DC23A 1800
		110V	A	DC23A 80	DC23A 160	DC23A 250	DC23A 630	DC23A 800	DC23A 1250
		230V	A	DC23A 63	DC23A 125	DC23A 250	DC23A 630	DC23A 800	DC23A 1000
		400V	A	DC22A 15	DC22A 50	DC23A 250	DC23A 500	DC23A 630	DC23A 800
		400V	A	DC21B 30	DC21B 105	DC23A 250	DC22A 630	DC23A 630	DC23A 800
		500V	A	DC21B 25	DC21B 85	DC23A 250	DC22A 500	DC23A 630	DC23A 700
		500V	A	DC21B 25	DC21B 85	DC21A 250	DC21A 630	DC21A 800	DC21A 1250
		600V	A	DC21B 20	DC21B 65	DC22A 250	DC22A 400	DC22A 800	DC22A 1000
		600V	A	DC21B 20	DC21B 65	DC21A 250	DC21A 500	DC21A 800	DC21A 1100
		750V	A	DC21B 15	DC21B 55	DC22A 235	DC22A 300	DC22A 670	DC22A 800
		750V	A	DC21B 15	DC21B 55	DC21A 250	DC21A 400	DC21A 750	DC21A 900
		800V	A	DC21B 12.5	DC21B 50	DC22A 225	DC22A 280	DC22A 625	DC22A 700
		800V	A	DC21B 12.5	DC21B 50	DC21A 250	DC21A 350	DC21A 700	DC21A 850
		850V	A		DC21B 45	DC22A 200	DC22A 270	DC22A 550	DC22A 600
		850V	A		DC21B 45	DC21A 240	DC21A 320	DC21A 630	DC21A 800
		900V	A		DC21B 40	DC22A 175	DC22A 200	DC22A 500	DC22A 650
		900V	A		DC21B 40	DC21A 220	DC21A 300	DC21A 600	DC21A 750
1000V	A		DC21B 30	DC21A 200	DC21A 270	DC21A 550	DC21A 650		
Breaking and Making Capacity	A		DC21 800V 12.5	DC21 900V 55	DC22 900V 175	DC22 900V 200	DC22 900V 500	DC22 900V 500	
Short-Circuit Behavior									
Short-Circuit Making Capacity ⁽²⁾	Icm	kA (peak)	5	13	20	26	60	60	60
Short-Time Withstand Current (1 sec)	Icw	kA rms	3	7	12	16	25	25	25
Conditional Short-Circuit Current ⁽³⁾		kA rms	100	100	100	100	72	72	72
Maximum Cut-Off Current (Peak Value)		kA (peak)	10	20	33	39	55	55	55
Maximum Power Dissipation ^(2†)		A ² s (x10 ³)	57.7	198	1000	1600	4900	4900	4900
Minimum Number of Mechanical Operations ⁽⁴⁾		Cycles	30000	30000	20000	10000	10000	10000	10000
Minimum Number of Electrical Operations		Cycles	DC21B 800V 300	DC21B 900V 300	DC22A 900V 1000	DC22A 900V 1000	DC22A 900V 1000	DC22A 900V 1000	DC22A 900V 1000
Maximum Weight (4 poles - Without Links)		lb	0.9	2.2	4.2	9.9	16.8	16.8	16.8
Connecting Capacity									
Rigid Cable (Cu)		mm ²	25	95	185	2x240	2x300	2x300	2x300
Bar (Thickness/Width)		mm	—	5/25	7/25	2x5/40	2x10/50	2x10/50	2x10/50
Tightening Torque		Nm	2	4/13 ⁽⁶⁾	18	24	45	45	45

- (1) Other voltages and/or utilization categories: please consult.
- (2) Without limiting protective device (short circuit maintained 50 ms - 100 ms).
- (3) With a protective device limiting the cut-off current and the joule integral to the indicated values
- (4) Please consult us for more operations
- (5) Pillar/Lug type terminal

DC Switch Wiring Options



Important characteristics in photovoltaic installations:

- Ui (V)** Isolation voltage (without load) I = 0A (equivalent to an utilization category of DC20)
- Uoc (V)** Voltage of open circuit in the photovoltaic installation
- Ief (A)** Current of operation of the photovoltaic installation on load
- Icc (A)** Short circuit current of the photovoltaic installation

Utilization Categories [Note: Suffix A/B refers to Frequent/Infrequent Operation]

- DC21:** Resistive Load (including moderate overloads)
- DC22:** Resistive and Inductive Loads
- DC23:** Highly Inductive Loads

In the selection of the DC Switch, it is necessary to consider inductive loads, wiring, inverter, etc., Uoc and the maximum operational current of the installation. It is recommended that Ui is between 10 to 15% over Uoc. [Ui > Uoc, Ue >= Uef, Ie >= Ief, Ie >= Icc]