series ZFC|ZFV

series S5 DC|S5M DC|S5N DC

series S6 DC|S6N DC|S6R DC

DC Switch - disconnectors

DC switch – disconnectors with high operating load capacity and a high level disconnection insulation; high reliability and safety in abnormal situations, available in different construction models, with a wide range of currents in different DC voltages and a variety of accessories.

According to:

IEC 60947-1 y 3

UL508i

UL98B

RoHS

Testing and approvals:

The DC switch – disconnectors in its different series, are manufactured with high safety self-extinguishing materials, providing an excellent level of electrical insulation, low smoke emission and high resistance to electromechanical stress.

They comply with environmental requirements and undergo strict quality controls for a reliable product that meets the most demanding requirements.

They consist of a sandwich-type body containing self-cleaning blade type contacts, with pre-arc zones to ensure long term, fault-free energy transmission and coated with silver alloy for long electromechanical life. The jump mechanism provides quick and independent switching due to the accumulation of elastic potential energy, which is transmitted at high speed to the contacts for arc extinction.

The switch - disconnectors S6 DC do not require external bridging links; thus reducing installation time and simplifying subsequent maintenance operations.

Functional and ergonomic handle

- Good grip and excellent torque/ resistance
- Padlockable handle in **O OFF** position (up to three locks Ø 5-8 mm)
- Door interlock in **ON I** position
- When lock in **O OFF** position, door is interlocked
- Defeteable feature in **ON I** position (with the use of a tool for maintenance operations). Handle interlock is restored when closing
- Self-centering shaft for door handle

Relevant characteristics for photovoltaic installations

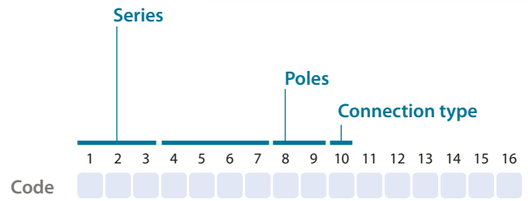
- Ui (V) Rated insulation voltage 1000 Vdc.
- Uoc (V) Open circuit voltage of the photovoltaic system.
- Uef (V) Photovoltaic installation functioning voltage on load.
- Ief (A) Installation working current under load.
- Isc (A) Short-circuit current of the photovoltaic installation.
- In certain places of Pv Systems, inductive component must be considered (cables, inverter, etc.).
- The sizing of the switch must be done considering open circuit voltage as maximum operation voltage.
- It is necessary to comply with:

  Ui ≥ Uoc
  We recommend to set Ui between 10 and 15% over Uoc.

  Ue ≥ Uef
  Ie ≥ Ief
  Ie ≥ Isc

Range codification:

The DC **ZFC|ZFV|S5|S5M|S5N|S6|S6N|S6R** series, are identified by a code that describes their most important characteristics as described below.



series ZFC|ZFV

1 2 3 4 5 6
Z F C

1 2 3 4 5 6
Z F V

Small design.

Base mounting by screws or DIN rail.

Non polarized.

Up to 1500Vdc.

series S5 DC

1 2 3 4 5 6
S 5 -

Wide range of currents.

Base mounting by screws.

Non polarized.

Up to 1000Vdc.

series S5M DC

1 2 3 4 5 6
S 5 M

Back to back with operating mechanism in side, arrangement to increase the number of available contacts.

Base mounting by screws.

Non polarized.

4P+4P 1000Vdc.
4P+4P 1500Vdc.

series S5N DC

1 2 3 4 5 6
S 5 N

Back to back with operating mechanism in front, arrangement to increase the number of available contacts.

Base mounting with screws. External or direct handles.

Non polarized.

4P+4P 1000Vdc.
4P+4P 1500Vdc.

series ZFC|ZFV

1 2 3 4 5 6
Z F C

1 2 3 4 5 6
Z F V

ZFV plastic enclosed switch.

Non polarized.

Up to 1500Vdc.

series S6 DC

1 2 3 4 5 6
S 6 -

Wide range of currents.

Different configurations to choose.

Base mounting by screws.

Non polarized.

Up to 1000Vdc.

series S6N DC

1 2 3 4 5 6
S 6 N

Back to back arrangement.

Different configurations to choose.

Base mounting by screws.

Non polarized.

Up to 1500Vdc.

series S6R DC

1 2 3 4 5 6
S 6 R

Back to back arrangement.

Different configurations to choose.

Base mounting by screws.

Non polarized.

1500Vdc.

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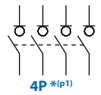
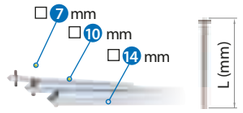




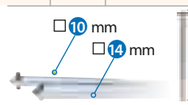
S5 DC / S5N DC — S5 switches 4 poles (40 - 3150A) (O - I)

MOTORIZED HANDLE AVAILABLE KIT UM SEE PAGE 192


S5 DC


S5N DC

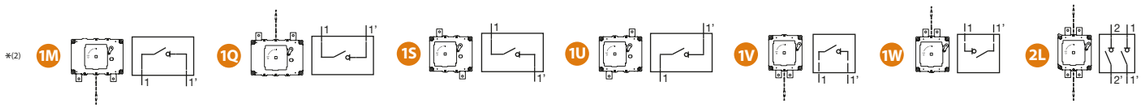
	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	4 pole (4P) *(p1) Code	External*(1) Code	Direct Code	Size	□	Shaft extensions *(3) Type 1 & 2 L	Shaft extensions *(3) Type 1 & 2 Code *(e1)	Bridging links *(p1)	Code	Auxiliary contacts *(5) 1NO+1NC Code	Auxiliary contacts *(5) 2NO+2NC Code	Terminal protection Connection	Terminal protection Code	Terminal shrouds (2 units) *(4) Code	Full details in page
4P *(p1)	900V DC21B	40	0		S5-01604PB0	DS-SA01	DS-SI01	0	7	250	DS-EP04		DS-PI05	D5LAU01	D5LAU02		DS-CU01	-	216
		40			S5-01604PS0					387	DS-EP05		DS-PI01						
	1000V DC21B	100	1		S5-01254PR0	DS-SA11	DS-SI11	1	10	375	DS-EP14		DS-PI11	D5LAU01	D5LAU02		DS-CU12	DS-CU10 DS-CU11 DS-CU18 DS-CU19	218
		160			S5-02004PR0								DS-PI11						
		250			S5-03154PR0					536	DS-EP15		DS-PI11						
		400			S5-04004PC0								DS-PI14						
		500	2		S5-06304PR0	DS-LA21	DS-LI21	2	14	345	DS-EP23		DS-PI21	D5LAU01	D5LAU02	-	DS-CU22	DS-CU20 DS-CU21	220
		630			S5-06302ER0					535	DS-EP24		DS-PI2D				-	DS-CU28 DS-CU29	
		850	3		S5-12504PC0	DS-LA31	DS-LI31	3	14	345	DS-EP23		DS-PI31	D5LAU01	D5LAU02	-	-	DS-CU30 DS-CU31	222
		1250			S5-12502EC0					535	DS-EP24		DS-PI3D					DS-CU38 DS-CU39	
		1250	4		S5-18004PS0	DS-LA41	DS-LI41	4	14	485	DS-EP44		DS-PI41 (S5-18004PS0)	D5LAU01	D5LAU02	-	-	DS-CU40 DS-CU41	224
		1800			S5-18002ES0					635	DS-EP45		DS-PI4D (S5-18002ES0 - S5-20002ED0)					DS-CU48 DS-CU49	
		2000			S5-20002ED0														
4P + 4P *(p1)		2000	5 (S5N)		S5N20002ES0	DS-LA41	DS-LI41	5 (S5N)	-	-	-		DS-PI51 + D5LPC45	D5LAU01	D5LAU02	-	-	-	232
		2500			S5N25002ES0	DS-LA41	DS-LI41			-	-		DS-PI51 + D5LPC45						
		3150			S5N31502ES0	DS-LA41	DS-LI41						DS-PI4D + D5LPC45 (x2)						

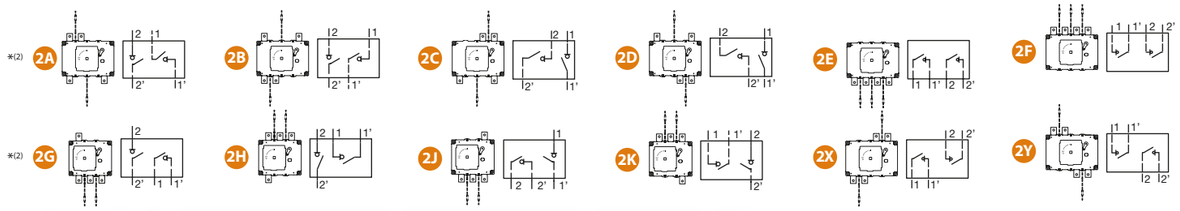


S6 DC — S6 switches 1 or 2 poles (125 - 630A) (O - I)

S6 DC

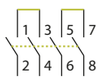
	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	Diagram *(2) Code	External*(1) Code	Direct Code	Size	□	Shaft extensions *(3) Type 1 & 2 L	Shaft extensions *(3) Type 1 & 2 Code *(e1)	Auxiliary contacts *(5) 1NO+1NC Code	Auxiliary contacts *(5) 2NO+2NC Code	Safety key lock device *(6) Simple Code *(e1)	Safety key lock device *(6) Double Code *(e1)	Spacers (4 units) Code	Terminal lug (2 units) Code	Terminal shrouds (1 unit) *(4)			Phase barriers 1 unit	Phase barriers 2 units	Phase barriers 3 units	Full details in page
																		Code	Code	Code	Code	Code	Code	
1P 2P *(2)	500 Vdc 750Vdc DC21B 1000Vdc	125	1		S6-0125__S0	DS-SA11	DS-SI11	1	10	375	DS-EP14	D5LAU01	D5LAU02	DS-CA11	DS-CE11	DR-EL11	-	DR-CU11	DR-CU12	DR-CU13	DR-SF11	DR-SF12	DR-SF13	234
		160			S6-0160__S0																			
		200			S6-0200__S0																			
		250			S6-0250__S0					536	DS-EP15													
		315			S6-0315__S0																			
		400			S6-0400__D0																			
		500	2		S6-0500__S0	DS-LA21	DS-LI21	2	14	345	DS-EP23	D5LAU01	D5LAU02	DS-CB21	DS-CF21	DR-EL21	-	DR-CU21	DR-CU22	DR-CU23	DR-SF21	DR-SF22	DR-SF23	238
		630			S6-0630__S0					535	DS-EP24													
	500 Vdc 750Vdc UL98B 1000Vdc	250	1		S6-0250__S00L	DS-SA11	-	1	10	375	DS-EP14	D5LAU01	D5LAU02	-	-	DR-EL11	DR-TL11	DR-CU11	DR-CU12	DR-CU13	DR-SF11	DR-SF12	DR-SF13	236
										536	DS-EP15													
		400	2		S6-0400__S00L	DS-SA21	-	2	14	345	DS-EP23	D5LAU01	D5LAU02	-	-	DR-EL21	DR-TL22	DR-CU21	DR-CU22	DR-CU23	DR-SF21	DR-SF22	DR-SF23	240
										535	DS-EP24													

*(2) 

*(2) 

ZFC DC — DIN rail base mounting switches with direct handle - compact model 2 poles (16 - 25 A) (O - I)

	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	Code	Full details in page
2P	1500 V DC21B	16	00		ZFC16SMAH1NA4O	214
		25			ZFC25SMAH1NA4O	



ZFC DC ZFV DC — DIN rail base mounting switches with direct handle - compact model 2 poles (16 - 55 A) (O - I)

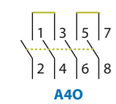
	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	Code	Full details in page
2P	1500 V DC21B	16	00		ZFC16VZVH4A4O	214
		25			ZFC25VZVH4A4O	
		32			ZFV32VZVH4A4O	
		40			ZFV40VZVH4A4O	
		55			ZFV55VZVH4A4O	

*(1) Padlockable handle in OFF 0 position. Possibility of unlocking the door in ON I position (with the use of a tool).
Door interlock by a padlock in OFF 0 position.
*(2) To complete the code according the specific diagram for IEC or UL versions and the possibility or not of grounding, see the full details pages of this catalogue. If you have any doubt about this, please do not hesitate to consult us.
*(p1) To comply with the operation and electrical features, the bridging links must be assembled to the switch. See the full details pages of this catalogue, to choose the configuration needed and the possibility or not of grounding. If you have any doubt about this, please do not hesitate to consult us.

Please indicate in your order the switch code and the handle code, as these both products are managed separately.
A standard shaft is included with the handle.

ZFV DC — DIN rail base mounting switches with direct handle 2 poles (32 - 55 A) (O - I)

	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	Code	Full details in page
2P	1500 V DC21B / DC-PV1	32	00		ZFV32SMAH1A4O	214
		40			ZFV40SMAH1A4O	
		55			ZFV55SMAH1A4O	



ZFC DC ZFV DC — Plastic enclosed switches IP67 2 poles (16 - 55 A) (O - I)

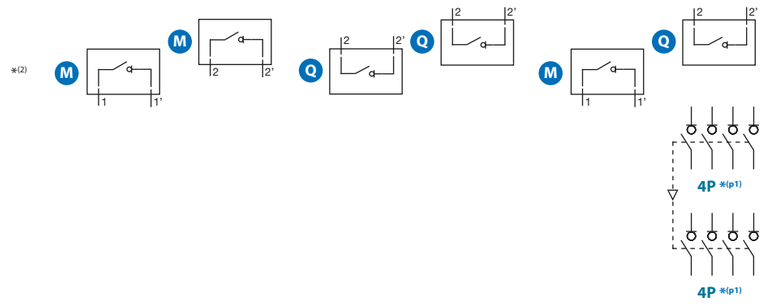
	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	Code	Full details in page
2P	1000 Vdc DC21B	16	00		ZFC16PFLH4A4O	214
		32			ZFV32PFLH4A4O	
		55			ZFV55PFLH4A4O	

*(3) A standard shaft is included with the external handle.
*(4) One set for input or output. Only for switches . See catalogue to choose the combination required.
*(5) To be used as signalling or control contacts – Ie = 16A (resistive loads) 4A (inductive loads) at 250 Vac.
Whilst closing, it switches after the main contacts. Whilst opening, it switches before the main contacts.
*(6) Handle interlock in OFF 0 position by means of a key, that only can be removed when the handle is unlocked.
Interlocking in other positions available upon request.
*(e1) All these codes are related to the new handle , in case of replacements for old design handles, please consult.

S6N DC | S6 switches 2 poles (125 - 400A) (O - I)

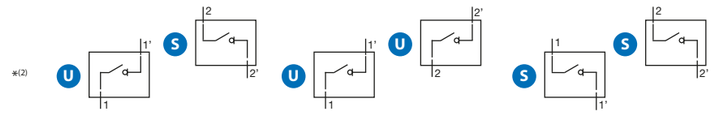

S6N DC

	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	2P *(2) Code MM	Code QQ	Code MQ	Code US	Code UU	Code SS
2P *(2)	1500V DC21B	125	1		S6N0125MMS0	S6N0125QQS0	S6N0125MQS0	S6N0125USS0	S6N0125UUS0	S6N0125SSS0
		160			S6N0160MMS0	S6N0160QQS0	S6N0160MQS0	S6N0160USS0	S6N0160UUS0	S6N0160SSS0
		200			S6N0200MMS0	S6N0200QQS0	S6N0200MQS0	S6N0200USS0	S6N0200UUS0	S6N0200SSS0
		250			S6N0250MMS0	S6N0250QQS0	S6N0250MQS0	S6N0250USS0	S6N0250UUS0	S6N0250SSS0
		315			S6N0315MMS0	S6N0315QQS0	S6N0315MQS0	S6N0315USS0	S6N0315UUS0	S6N0315SSS0
		400			S6N0400MMD0	S6N0400QQD0	S6N0400MQD0	S6N0400USD0	S6N0400UUD0	S6N0400SSD0



Manual handle

Size	External *(1) Code	Direct Code
1	DS-SA11	DS-SI11



Auxiliary contacts *(2)

Size	1NO+1NC Code	2NO+2NC Code	Full details in page
1	D5LAU01	D5LAU02	242, 244

S5M DC | S5N DC | S5 switches 4+4 poles (500 - 1800 A) (O - I)

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S5M DC


S5N DC

	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	4P + 4P *(p1) Code	External *(1) Code	Direct Code
4P + 4P *(p1)	1500V DC21B	500	2		S5M063044R0	DS-LA22	DS-LI22
		630	2		S5M080044C0	DS-LA22	DS-LI22
		800	3		S5M080044R0	DS-LA41	DS-LI41
		1000	3		S5M125044C0	DS-LA41	DS-LI41
		1250	4 (S5N)		S5N160044S0	DS-LA41	DS-LI41
		1800	4 (S5N)		S5N180044S0	DS-LA41	DS-LI41
	1000V DC21B	2000	5 (S5N)		S5N20002ES0	DS-LA41	DS-LI41
		2500	5 (S5N)		S5N25002ES0	DS-LA41	DS-LI41
		3150	5 (S5N)		S5N31502ES0	DS-LA41	DS-LI41

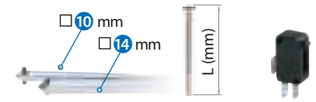
Manual handle

Bridging links *(p1)

Size		Code
2		DS-PI230L
2		DS-PI2D
3		DS-PI3D
4 (S5N)		DS-PI430U
4 (S5N)		DS-PI4D
5 (S5N)		DS-PI51 + D5LPC45
5 (S5N)		DS-PI51 + D5LPC45
5 (S5N)		DS-PI4D + D5LPC45 (x2)

Auxiliary contacts *(2)

1NO+1NC Code	2NO+2NC Code	Full details in page
DS-AU11	DS-AU12	226
DS-AU11	DS-AU12	228
D5LAU01	D5LAU02	230
D5LAU01	D5LAU02	232



S6R DC | S6 switches 1 or 2 poles (160 - 400A) (O - I)


S6R DC

	Rated operational voltage Ue	Rated operational current Ie (A)	Size	Connection	2P *(2) Code BC	Code CB
1P 2P *(2)	1500Vdc IEC	160	1		S6R0160BCS0	S6R0160CBS0
		200	1		S6R0200BCS0	S6R0200CBS0
		250	1		S6R0250BCS0	S6R0250CBS0
		315	1		S6R0315BCS0	S6R0315CBS0
		400	1		S6R0400BCS0	S6R0400CBD0
	1500Vdc UL98B	250	1		S6R0250BCS00L	S6R0250CBS00L
		320	1		S6R0320BCS00L	S6R0320CBS00L
		400	1		S6R0400BCD00L	S6R0400CBD00L

Manual handle

Shaft extensions *(4)

Size	1P *(2) Code D4	Code 4D	Code F4	Code 4F	Panel *(3) Code
1	S6R0160D4S0	S6R01604DS0	S6R0160F4S0	S6R01604FS0	DS-SA11
1	S6R0200D4S0	S6R02004DS0	S6R0200F4S0	S6R02004FS0	
1	S6R0250D4S0	S6R02504DS0	S6R0250F4S0	S6R02504FS0	
1	S6R0315D4S0	S6R03154DS0	S6R0315F4S0	S6R03154FS0	
1	S6R0400D4D0	S6R04004DD0	S6R0400F4D0	S6R04004FS0	
1	S6R0250D4S00L	S6R02504DS00L	S6R0250F4S00L	S6R02504FS00L	
1	S6R0320D4S00L	S6R03204DS00L	S6R0320F4S00L	S6R03204FS00L	
1	S6R0400D4D00L	S6R04004DD00L	S6R0400F4D00L	S6R04004FD00L	

Auxiliary contacts *(2)

□	Type 1 & 2 L	Type 1 & 2 Code *(e1)	1NO+1NC Code	2NO+2NC Code	Full details in page
10	375	DS-EP14	D5LAU01	D5LAU02	246
10	536	DS-EP15	D5LAU01	D5LAU02	248

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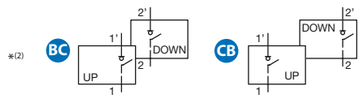

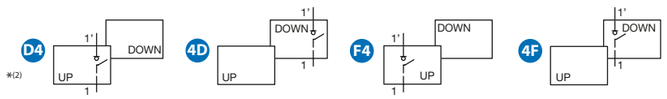

*(1) Padlockable handle in OFF 0 position. Possibility of unlocking the door in ON I position (with the use of a tool).
Door interlock by a padlock in OFF 0 position.

*(2) See the full details pages in this catalogue to see the possibility or not of grounding the switch selected. If you have any doubt about this, please do not hesitate to consult us.

*(p1) To comply with the operation and electrical features, the bridging links must be assembled to the switch. See the full details pages of this catalogue, to choose the configuration needed and the possibility or not of grounding. If you have any doubt about this, please do not hesitate to consult us.

Please indicate in your order the switchh code and the handle code, as these both products are managed separately.
A standard shaft is included with the handle.

*(2) To be used as signalling or control contacts – Ie = 16A (resistive loads) 4A (inductive loads) at 250 Vac.
Whilst closing, it switches after the main contacts. Whilst opening, it switches before the main contacts.

*(3) Padlockable handle in OFF 0 position. Possibility of unlocking the door in ON I position (with the use of a tool).
Door interlock by a padlock in OFF 0 position.

*(4) A standard shaft is included with the external handle.

*(e1) All these codes are related to the new handle, in case of replacements for old design handles, please consult.