

Switch disconnecter for solar application according to IEC 60947-1&3 by Dekra (KEMA)
Dekra certificate number: 2151827.02



Terminals Scheme										
Layer No.	Front Side		Symbol	Rear Side		On Positions				
	Left	Right		Left	Right	1	2	3	4	
14		6	— —		8	X		X		
13	1		— —			X		X		
12			— —		3	X		X		
11	2		— —			X		X		
10			— —		4	X		X		
9	5		— —			X		X		
8			— —		7	X		X		
7			empty							
6			— —	+1		X		X		
5			— —	+1		X		X		
4	-1		— —	-1		X		X		
3		-2	— —	-2		X		X		
2			— —	+2		X		X		
1			— —	+2		X		X		

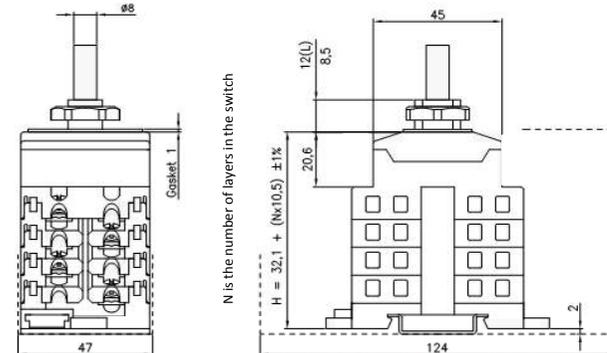
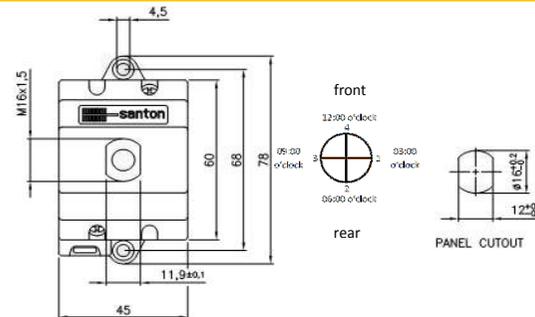
Contacts are made in "X" marked position.
Symbols for interconnection: [

ATTENTION!

The switch may only be used with insulated baseplate so that the terminals have enough clearance in air and creepage distances to electrically conductive parts, in accordance with the applicable standards.

This switch may not be used for any other purpose.

Technical data	Symbol	Merit	Unit
rated operational voltage (DC poles - Marked +1, -1, +2 and -2)	Ue		1000 V dc
rated operational current (DC poles)	Ie		40 A dc
rated operational voltage (second rating DC poles, if requested)	Ue		0 V dc
rated operational current (second rating DC poles, if requested)	Ie		0 A dc
rated operational voltage (third rating DC poles, if requested)	Ue		0 V dc
rated operational current (third rating DC poles, if requested)	Ie		0 A dc
rated operational voltage (fourth rating DC poles, if requested)	Ue		0 V dc
rated operational current (fourth rating DC poles, if requested)	Ie		0 A dc
method of mounting		both bottom and single hole mounting [D]	
number of DC poles			4
utilization category DC		DC-21B	
actuator		knob with padlocking, grey/grey [B]	
positions		OFF at 3 hr, ON at 6 hr, OFF at 9 hr, ON at 12 hr	
rated impulse withstand voltage	Uimp	8	kV
insulation voltage	Ui	1000	V
rated thermal current uninterrupted duty	Iu	40	A
rated short-time withstand current (1s)	Icw	720	A
rated short-circuit making capacity	Icm	1015	A
rated conditional short-circuit current		5	kA
method of operation		independent manual operation	
minimum required dimensions of enclosures L x W x H* (on DIN-rail H = +2mm)		124 x 47 x 179,1	mm
* see the drawing for the height of the switch. The number of layers N is:		14	
knob operation force		max. 1,4	Nm
tightening torque terminal screws M4, min. - max.		1,5 - 1,7	Nm
tightening torque panel mounting nut, min. - max.		2,0 - 2,5	Nm
tightening torque M3 screw in the standard black knob, min. - max.		0,5 - 0,7	Nm
ambient temperature allowed between		- 20 to + 70	°C
storage temperature allowed between		- 40 to + 80	°C
maximum relative humidity, without condensation at 20°C		90	%
pollution degree		2	
IP rating terminals		IP20	
IP rating gland of the shaft in case of single hole panel mounting		IP65	
rated operational voltage (AC poles)	Ue	690	V ac
rated operational current (AC poles - Marked 1-3, 2-3, 5-7)	Ie	60	A ac
rated operational current (N pole - Marked 6-8)	Ie	32	A ac
number of AC poles (for general use)		3+N	
minimum required fine wire cross-section: IEC60947-1, table 9		16	mm ²
auxiliary contact(s), AC15		No auxiliary contact	
auxiliary contact ratings			
weight		557	g
accessories:		-	



N is the number of layers in the switch

Mounting instructions

In the application all ratings have to be respected. When building the switch in an enclosure, the space envelope must be respected according to the applicable standards. After mounting, the wiring must be checked and the switch must operate smoothly.

Maintenance

The X type switches are designed for a very long life but it is advised to do some simple yearly maintenance.
- Check the installation for signs of overload or overheating. The terminals may not exceed the limit of 85°C under full load.
- By operating the switch a few times (5x) the contacts will clean themselves and the switch will have a longer life.

Connection details

Description	Symbol	Values				Unit
Rated operational current (DC poles)	Ie	40	0	0	0	A dc
Required fine wire cross-section (minimal): IEC60947-1, table 9	A	2x6	-	-	-	mm ²
max power dissipation	P	3,6	0,0	0,0	0,0	W

The terminals, without interconnection can take copper wires up to 6 mm².

The recommended Spade Tongue Terminals may have a maximum width of 9 mm.

For CSA and UL applications, registered Spade Tongue Terminals must be used.

The registration numbers are UL: E13288 and CSA: LR7189 (for instance type 165015 from Tyco).

Recommend Manufacturer	Type number	Wire size [AWG]	Wire size [mm ²]	Color
JST	FVD2-YS4A	AWG 16 – AWG 14	1,0 – 2,5 mm ²	Blue
TE connectivity	C-165012	AWG 16 – AWG 14	1,0 – 2,5 mm ²	Blue
Vogt	3635c	AWG 16 – AWG 14	1,5 – 2,5 mm ²	Blue
TE connectivity	C-165015	AWG 12 – AWG 10	3,0 – 6,0 mm ²	Yellow
Vogt	3652c / 3653c	AWG 12 – AWG 10	3,0 – 6,0 mm ²	Yellow
Santon (JST)	52A1256.35	AWG 8 – AWG 10	10,5mm ² -16mm ² *1	**2

*1 16mm² only with fine stranded wire / two times 6mm² is also possible

**2 Optional: A yellow sleeve for the Spade Tongue Terminal (Santon 52A1256.35) can be ordered under item number 52A1564.00

Dimensions, specifications and data shown could be subject to change without notice.