

# THE NEW SANTON X-TYPE SWITCH

## TECHNICAL SPECIFICATIONS AND INSTRUCTIONS FOR USE

SANTON X-TYPE SWITCH: X60.16R4E-A

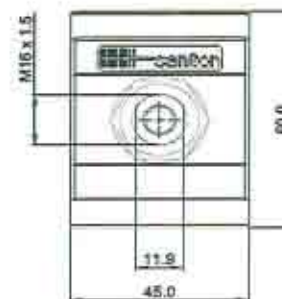
Switch disconnecter for solar application according to IEC 60947-1&3



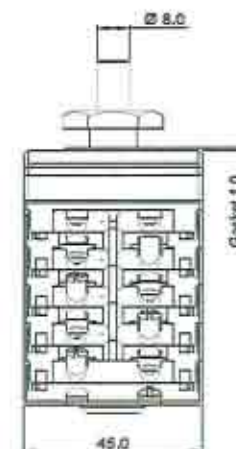
| Contact scheme |        | Positions |    |   |   |
|----------------|--------|-----------|----|---|---|
| Marking        | Symbol | Marking   | 1  | 2 | 3 |
| 12             |        |           |    |   |   |
| 11             |        |           |    |   |   |
| 10             |        |           |    |   |   |
| 9              |        |           |    |   |   |
| 8              |        |           |    |   |   |
| 7              |        |           |    |   |   |
| 6              |        |           |    |   |   |
| 5              |        |           |    |   |   |
| 4              |        | +2        | -2 | X |   |
| 3              |        | -2        | +2 | X |   |
| 2              |        | -1        | +1 | X |   |
| 1              |        | +1        | -1 | X |   |

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

| Technical data                                                             | Symbol                                                                  | Unit             |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------|
| nominal voltage (DC poles)                                                 | Ue                                                                      | 600 V dc         |
| nominal current (DC poles)                                                 | Ie                                                                      | 16 A dc          |
| nominal voltage (second rating DC poles, if requested)                     | Ue                                                                      | V dc             |
| nominal current (second rating DC poles, if requested)                     | Ie                                                                      | A dc             |
| method of mounting                                                         | reverse single hole mounting IP65 [R] terminals access from bottom side |                  |
| number of DC poles                                                         |                                                                         | 4                |
| utilization category DC                                                    |                                                                         | DC-21B           |
| actuator                                                                   | standard black [A]                                                      |                  |
| positions                                                                  | OFF at 12 hr, ON at 3 hr [E]                                            |                  |
| rated impulse withstand voltage                                            | Uimp                                                                    | 8 kV             |
| insulation voltage                                                         | Ui                                                                      | 600 V            |
| rated thermal current uninterrupted duty                                   | Iu                                                                      | 16 A             |
| rated short-time withstand current (1s)                                    | Icw                                                                     | 480 A            |
| rated short-circuit making capacity                                        | Icm                                                                     | 1.4 kA           |
| rated conditional short-circuit current                                    |                                                                         | 4 kA             |
| max. cut-off current                                                       |                                                                         | kA               |
| max power dissipation                                                      |                                                                         | 1.4 W            |
| method of operation                                                        | independent manual operation                                            |                  |
| minimum required dimensions of enclosures l x w x h*                       |                                                                         | 124 x 47 x 74 mm |
| * see the drawing for the height of the switch. The number of layers H is: |                                                                         | 4                |
| 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 screw in the standard black knob, min. - max.            | 0.5                                                                     | 0.7 Nm           |
| minimum required fine wire cross-section: IEC60947-1, table 6              |                                                                         | 2.5 mm²          |
| ambient temperature allowed between                                        | -5 and +40                                                              | °C               |
| storage temperature allowed between                                        | +40 and +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             |
| nominal voltage (AC poles)                                                 | Ue                                                                      | 0 V AC           |
| nominal current (AC poles)                                                 | Ie                                                                      | 0 A AC           |
| number of DC poles                                                         |                                                                         | 0                |
| auxiliary contact, nominal current 16A at 250 V, AC15                      | No auxiliary contact                                                    |                  |
| weight                                                                     |                                                                         | 221 g            |
| accessories:                                                               |                                                                         |                  |



H 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. 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). 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.

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