

## SX limit switch box series

### WARNING

1. Only suitably trained personnel shall carry out installation in accordance with applicable code of practice.
2. To avoid serious or fatal personal injury or major property damage, read and follow all the instructions in this manual.
3. Hazardous voltage, disconnect all power before servicing equipment.
4. Do not exceed the electrical rating stated on label.
5. Conduit plugs supplied are for transit purpose only, remove them and install conduit or plugs suitable for protection required.
6. Save this instruction.
7. To maintain the NEMA 4 and 4X rating, the use of proper wiring methods per NEC and local codes is required.

### THE FOLLOWING STATEMENTS MUST BE RESPECTED FOR CLASS I DIVISION 2 MARKED PRODUCTS:

- A. THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D OR NON-HAZARDOUS LOCATIONS ONLY.
- B. WARNING-EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
- C. WARNING-EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
- D. ALL WIRING OF THESE DEVICES MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 501.4(B) FOR CLASS I, DIVISION 2.

### Additional for models with suffixes N1, N2 and N3 models:

- E. USE 105°C SUPPLY WIRES WHEN USED IN AN AMBIENT ABOVE 40°C.
- F. USE 60°C MIN. SUPPLY WIRES WHEN USED IN AN AMBIENT UP TO 40°C.
- G. USE COPPER CONDUCTORS ONLY.

### THE FOLLOWING STATEMENTS AND INFORMATION ARE APPLICABLE FOR THE SEALED RELAYS N1, N2 AND N3:

**WARNING – EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF MATERIAL USED IN THE SEALED SWITCH.**

**RECOMMENDATION – IT IS RECOMMENDED TO INSPECT THE SEALED RELAY DEVICE PERIODICALLY AND TO CHECK FOR ANY DEGRADATION OF MATERIALS AND TO REPLACE THE COMPLETE PRODUCT, NOT THE SEALED DEVICE, IF ANY DEGRADATION IS FOUND. SEALED DEVICE: SWITCH MODEL N1, N2 AND N3, MANUFACTURED BY SOLDO S.R.L.**

**SWITCH ENCLOSURE MATERIAL: MATERIAL TYPE SE0, DESIGNED PPE+PS NORLYL, OR ULTEM 1000 MANUFACTURED BY SABIC INNOVATIVE PLASTIC B.V.**

**▲ For switch options 10 OR C1, 13 OR C3, 14 OR C4, 15, 16, 17, 18, C8 when placed in CLASS I, DIVISION 2, GROUPS A, B, C and D or CLASS II, DIVISION 2 GROUP F and G consider the following:**

**NO LEAD SEAL REQUIRED; ALL WIRING OF THESE DEVICES MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 501.4(B) FOR CLASS I, DIVISION 2.**

**WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**

**WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS. SUITABLE FOR TEMPERATURE FROM -40°C TO 80°C.**

### INSTALLATION

1. Attach proper mounting bracket (1) to the switch box housing (4) using four M6x8 socket head cap screws (2) provided.
2. Align switch box shaft to top of actuator shaft and engage it.
3. Attach bracket to actuator using hardware (3) provided (finger tight only).
4. By actuating package the switch and actuator will self-align.
5. Tighten bracket to top of actuator.

### SWITCH ADJUSTMENT

1. Disconnect power prior to opening lid.
2. Loosen switch box cover screws (8) and remove cover (7).
3. Rotate actuator to full clockwise position.
4. Pull up bottom cam (5a) and turn until switch is activated and then release. Engage cam on to the splined retainer. Spring will maintain cam engagement.
5. Rotate actuator to full counter-clockwise position.
6. Push down top cam (5b) and turn until switch is activated and then release. Engage cam on to the splined retainer. Spring will maintain cam engagement.
7. Place cover (7) on switch box and tighten, using a torque of 12Nm. Take care to ensure that cover gasket seal is properly located in seal groove.

**WARNING:** Remove possible obstructions (dust, stones) from flame path before closing box using soft cloth.

Tighten screws in a cross pattern.

**8. ATTENTION:** When adjusting cams, switch levers should be pushed out of the way prior to disengaging cams or damage to the switch and/or to the lever may occur.

### ELECTRICAL WIRING

1. Remove switch box cover (see switch adjustment section)
2. Remove protection plug(s) from conduit entries and install conduit or plugs suitable for type of protection required.

**FOR WIRING DIAGRAM REFERS TO LABEL INSIDE THE HOUSING.**

**FOR SWITCHES ELECTRICAL RATING REFERS TO LABEL OUTSIDE THE HOUSING.**

**MAXIMUM TOTAL OUTPUT COMBINED FOR ALL THE SWITCHES: 5A**

**If you require additional assistance please contact the manufacturer**

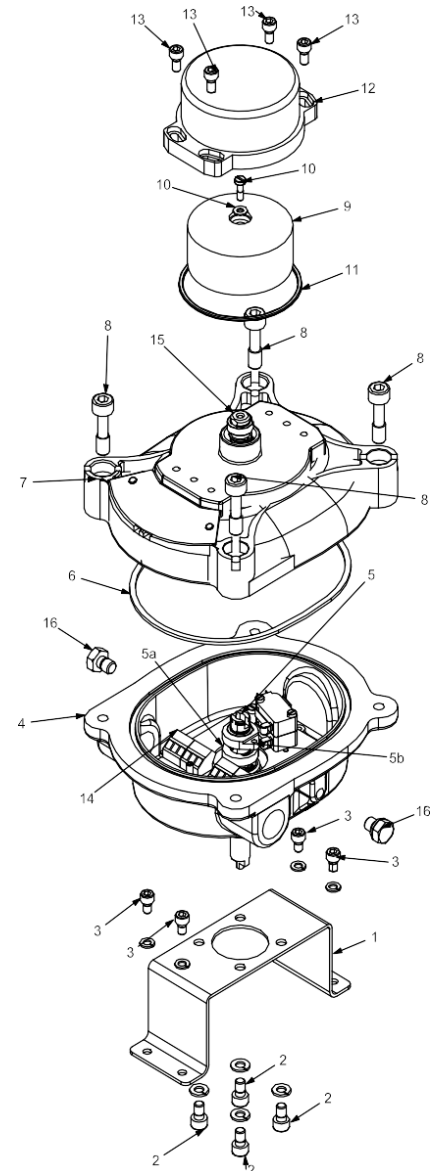
**WARNING:** To maintain the NEMA 4X, 7 & 9 ratings, the use of proper wiring methods per NEC and local codes is required. XA and SX series shall be used with watertight Hub or fitting in order to maintain the Type rating 4X. Conduit plugs supplied with the switch box are for transit purposes only. To ensure proper protection any unused conduit entry must be closed with appropriate conduit plug.

**Hazardous Areas: Class I, Div 1, Groups C, D; Class II, Div 1, Groups E, F, G; Class I, Div2, Groups A, B, C, D; Class II, Div 2, Groups F, G**

3. Engage wires in terminal strip (14) using a small screwdriver (1/8" blade). Use values of torque between 0,45-0,6Nm.

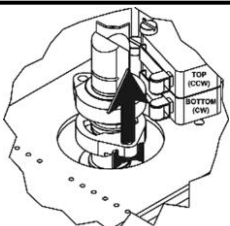
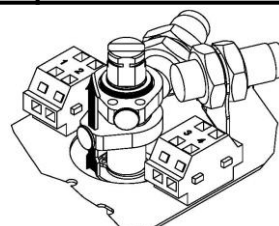
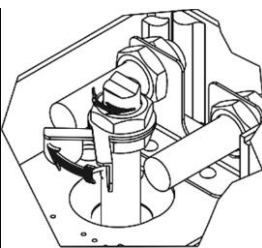
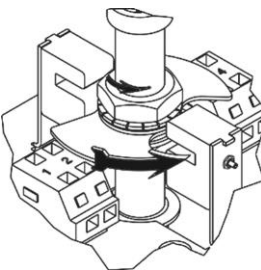
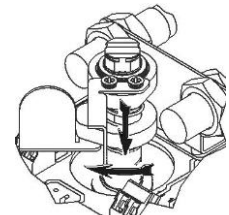
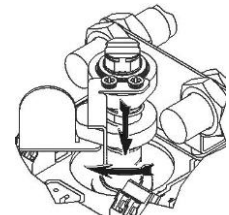
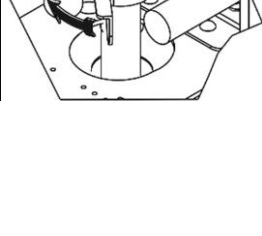
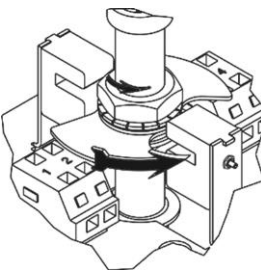
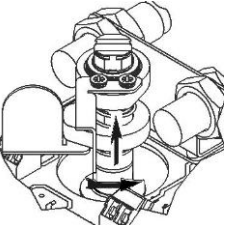
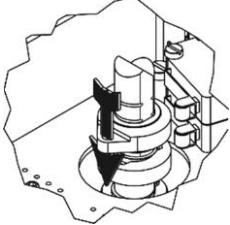
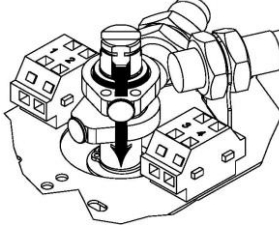
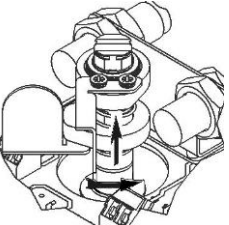
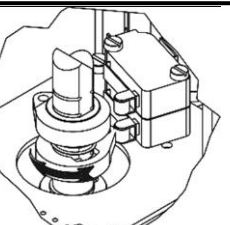
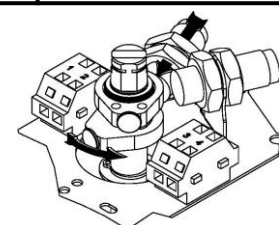
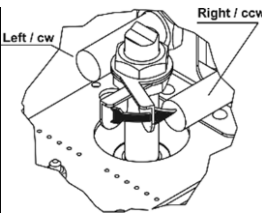
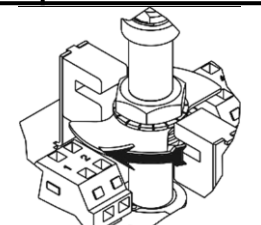
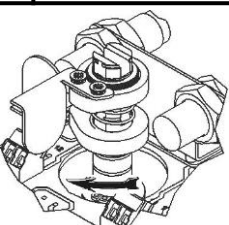
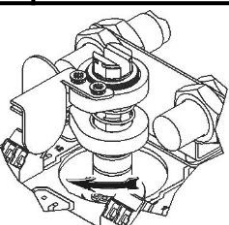
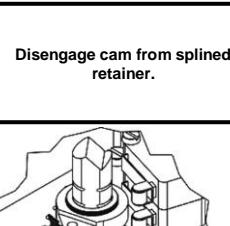
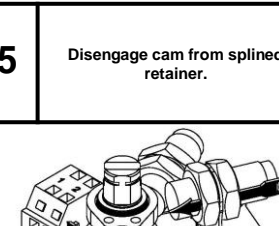
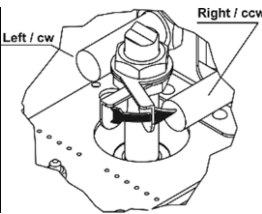
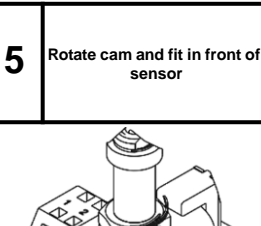
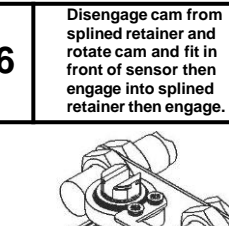
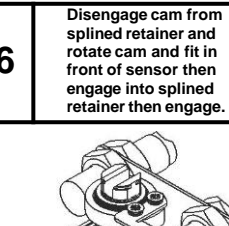
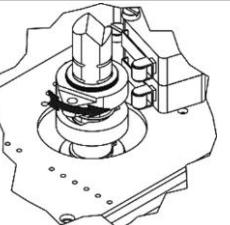
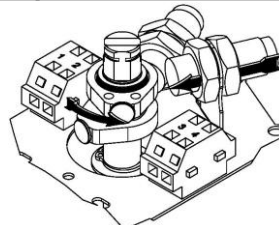
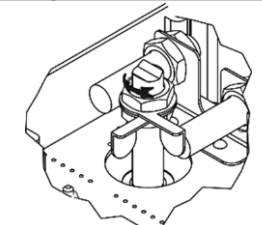
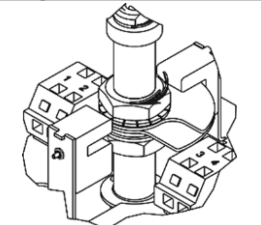
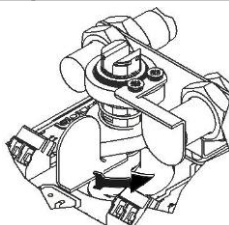
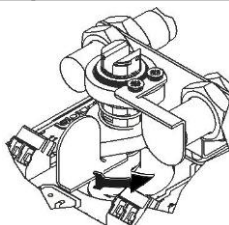
### 3D INDICATOR SETTING

1. Rotate actuator to closed.
2. Remove four screws (13) and remove 3D indicator cover (12).
3. Remove screw (10) and lift up 3D indicator from splined retainer.
4. Set 3D indicator (9) on splined retainer according to valve position.
5. Attach 3D indicator with (10) screw, using a torque of 0,8Nm.
6. Replace 3D indicator cover (12) and fasten with cover screws (13). Check to ensure that seal (11) is properly located in seal groove.



SX limit switch box series

Cams setting

Cams type		A		B		C		D		E	
1	Turn actuator pinion clockwise	1	Turn actuator pinion clockwise	1	Turn actuator pinion clockwise	1	Turn actuator pinion clockwise	1	Disengage cams from splined retainer to position 45°	1	Disengage cams from splined retainer to position 45°
											
2	Disengage cam from splined retainer.	2	Disengage cam from splined retainer.					2	Engage into splined retainer and turn actuator pinion clockwise		
											
3	Turn, until switch is activated, then engage into splined retainer.	3	Turn, until switch is activated, then engage into splined retainer. Adjust the sensitivity by regulating the distance between the cam and the inductive sensor.	2	Loosen (using a 19 wrench) top nut	2	Loosen (using a 19 wrench) top nut	3	Disengage cams from splined retainer	3 4 Rotate cam and fit in front of sensor then engage into splined retainer.	
											
4	Turn actuator pinion counterclockwise	4	Turn actuator pinion counterclockwise	4	Turn actuator pinion counterclockwise	4	Turn actuator pinion counterclockwise	4	Turn actuator pinion counterclockwise	5	Turn actuator pinion counterclockwise
											
5	Disengage cam from splined retainer.	5	Disengage cam from splined retainer.	5	Rotate cam and fit in front of sensor	5	Rotate cam and fit in front of sensor	5	Rotate cam and fit in front of sensor	6	Disengage cam from splined retainer and rotate cam and fit in front of sensor then engage into splined retainer then engage.
											
6	Turn, in the way shown, until switch is activated, then engage into retainer.	6	Turn, in the way shown, until switch is activated, then engage into retainer. Adjust the sensitivity by regulating the distance between the cam and the inductive sensor.	6	Fasten (using a 19 wrench) top shaft nut	6	Fasten (using a 19 wrench) top shaft nut	6	Fasten (using a 19 wrench) top shaft nut	7	⚠Caution: Make sure that the cams do not come in contact with the sensor. possible breakage.
