

SX - SH limit switch box series

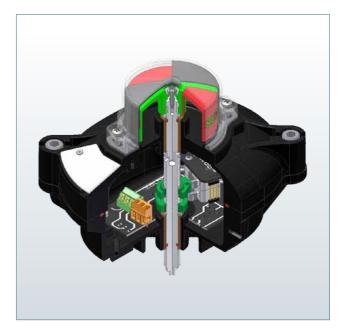
Heavy-duty limit switch boxes, designed for hazardous areas, provide a visual and electrical remote position feedback on automated valves.

The SX matches the Exd IIB T6 standards. The SH is our solution reaching Exd IIB + H2 T6 requirements. SX and SH, thanks to spare pass through terminals, the three cable entries either metric or imperial and different visual position indications, provide a highly customizable solution meeting a wide range of applications. These include, but are not limited to, oil and gas (both on-shore and off-shore) and petrochemical industries.

Features

- Twin shaft design, ensuring a complete sealed device: the shaft is split in two parts, each fitted and sealed into the body and cover for the best weather insulation even during opening operation
- Enhanced flexibility of electrical feedbacks options
- Up to three cable entries available in different sizes
- Easy wiring through the terminal PCB board
- NOVA V3[™] switch option ensures extreme durability and high power switching capabilities
- 4-20 mA position transmitter options
- Captive bolts on the screwed lid





Linking the Process with the Control Room

Product Specification

Technical Data:

Materials

- Die-cast aluminum body and cover with polyester powder coating
- Stainless steel fasteners and shafts

Approvals:

ATEX, IECEx, EAC, CCOE, INMETRO

Ex II 2GD Ex d IIB T4/T5/T6 Gb (SX series) Ex II 2GD Ex d IIB + H2 T4/T5/T6 Gb (SH series) Ex tb IIIC T135/T100/T85°C Db Ta: -20 °C \leq Ta \leq 105 °C / 75 °C / 60 °C

UL:

Class I Division 1 Groups B, C, D Division 2 Groups A, B, C, D Class II Division 1 Groups E, F, G Division 2 Groups F, G

SIL certificate:

Up to SIL 3 certified by TÜV

Protection rating:

IP 66 / 67

Cable entries options:

Up to three cable entries for metric and imperial sizes

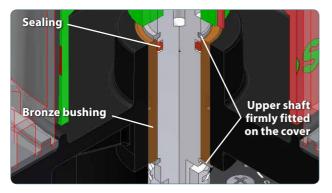
Temperature:

-20 °C +80 °C as standard temperature range (depending on switch selection)

-40 °C +105 °C available on request

Twin shaft design features

- The shaft is split into two parts; both parts fitted and sealed respectively on body and cover
- During opening and closing the grease remains in place ensuring a safe and smooth operation
- Self lubricant bushing on both sides aligning shafts and hedging in o-rings
- The indicator is hardly connected to the upper shaft, avoiding any matching and aligning issue
- The interior electrical components are completely protected against atmosphere environments



Upper shaft

Soldo switch and sensors options:

NOVA V3[™] N1

- Proximity hermetically sealed snap acting SPDT switch
- High power loop: rating up to 5A @ 250 VAC 5A @ 28 VDC
- Temperature range -50 °C , +95 °C

NOVA V3[™] N3

- Proximity hermetically sealed snap acting SPDT switch
- High power loop: rating up to 1A @ 250 VAC 1A @ 30 VDC
- Temperature range -50 °C , +95 °C

NOVA V3[™] N4

- Proximity hermetically sealed snap acting DPDT switch
- High power loop: rating up to 5A @ 250 VAC 5A @ 28 VDC
- Temperature range -50 °C , +95 °C

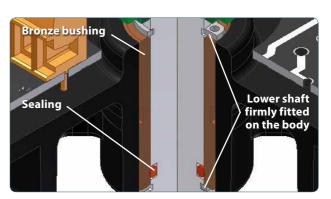
REED C4

- Proximity hermetically sealed reed SPDT switch
- Inert gas contact chamber
- Rating up to 1A @ 24 VDC
- Temperature range -60 °C , +100 °C

REED C8

- Proximity hermetically sealed reed DPDT switch
- Inert gas contact chamber
- Rating up to 1A @ 24 VDC
- Temperature range -60 °C , +100 °C

More options available on request.



Lower shaft







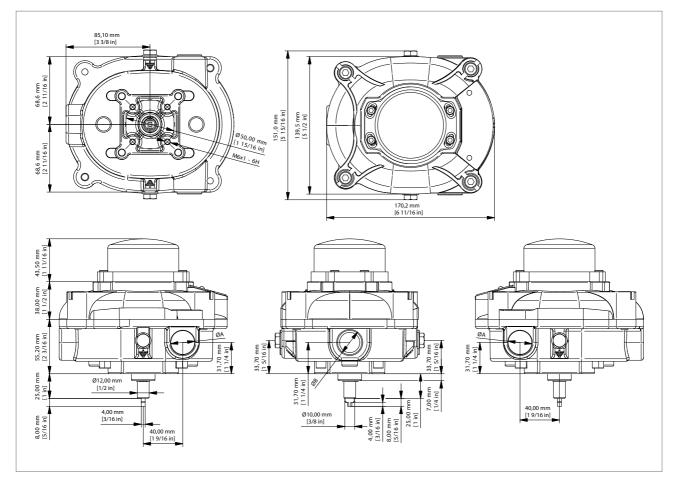




Product Ordering Matrix

Nom	enclature	SX N1 2 0 0 - 1 1 X 3 2 A 4
SX SH	Exd IIB applications Exd IIB+H2 applications	Box
N4 32 73 T0	SPDT elec.mech. switch silver plated contacts DPDT elec.mech. switch silver plated contacts SPDT magnetic hermetically sealed reed switch, rating max. 0,1A @ 120 VAC, 1A @ 24 VDC DPDT magnetic hermetically sealed reed switch, rating max. 0,1A @ 120 VAC, 1A @ 24 VDC SPDT magnetic hermetically sealed silver plated snap acting contacts, max 5A @ 28 VDC, 250 VAC DPDT magnetic hermetically sealed silver plated snap acting contacts, max 5A @ 28 VDC, 250 VAC DPDT magnetic hermetically sealed silver plated snap acting contacts, max 5A @ 28 VDC, 250 VAC inductive proximity sensor model NBN4-12GM40-Z0 2 wire, 5-60 VDC 2-100 mA inductive proximity sensor model NBB2-V3-E2, 3 wire PNP NO, 10-30 VDC, 0-100 mA 4-20 mA position transmitter, 12-30 VDC 4-20 mA HART position transmitter Atex EEx ia IIC T6 / T4 certified 8-30 VDC Partial Stroke Test device with magnetic key	Switch
2 4	N°2 switches N°4 switches (on Exd IIB certification)	Switch Quantity
0 D A	Standard pcb board with 3 extra terminal poles Stainless steel board with cage clamp terminals Stainless steel plate with screw type terminals	Terminals
0	Black powder coating Aluminium	Coating
1 2 X L	N°2 cable entries ¹ /2" NPT N°2 cable entries M20x1,5 N°3 cable entries ¹ /2" NPT N°3 cable entries M20x1,5	Cable Entries
0 T	3D plastic visual position indicator red and green 3D stainless steel position indicator	Visual Position Indicator
X D E G I N J U W * SIL	ATEX and IECEx certified box ATEX and IECEx certified box with SIL2 approval ATEX and IECEx certified box with SIL3 approval EAC certification for Russian market INMETRO certification for Brazilian market NEPSI certification for Chinese market CCOE certification for Indian market UL certified box Weather proof 2 / SIL3 options available on request	Approval
0 3 4 7 8	Ordinary location Certification marking: Ex II 2GD Exd IIB Certification marking: Ex II 2GD Exd IIB + H2 cULus Class1/2 Div1 cULus Class1/2 Div2 (with switches code: C4, C8, N1, N3)	Marking
2 7	Weather proof IP67 Nema 4 and 4X	IP Protection rating
A L	Ambient temperature range: -20 °C + 80 °C Ambient temperature range: -40 °C + 80 °C	Temperature
3	Die cromated aluminum heavy duty body and cover	Material

Dimensional Data



Cable entry dimensions

Code	Entry A+A	Entry B
1	n.2 ¹ /2" NPT	-
2	n.2 M20 x 1,5	-
X	n.2 ¹ /2" NPT	n.1 ¹ /2" NPT
L	n.2 M20 x 1,5	n.1 M20 x 1,5

