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**DUNCAN CO**

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**SOLDO**  
CONTROLS

## SF - SS - SB limit switch box series

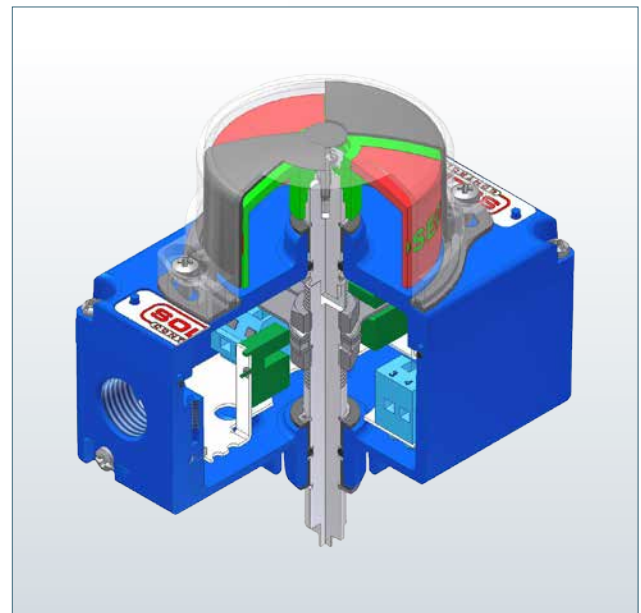
Limit switch box designed for safe and hazardous areas, provides a visual and electrical remote position feedback on automated valves.

Available in either die cast aluminum or 316 stainless steel, with different lid choices, from the same enclosure material, for a complete metallic device, to the transparent polycarbonate cover or to a flat lid without visual indication. Designed for weather proof applications, it can also match the Ex ia IIC T6 standards with the integral intrinsically safe certification, covering both enclosure and electrical components inside.

The Soldo multi-application limit switch box solution, covering from industrial automation to food and beverage, from chemical to maritime, from oil and gas, both on-shore and off-shore, to 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
- Suitable for arctic application, down to -60 °C
- Two cable entries, either metric or imperial
- Enhanced corrosion resistance thanks to the thick polyester powder coating on aluminum housings
- 316 stainless steel housing for maximum protection in hostile and corrosive environments
- 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
- ASI communication protocol board
- 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 (SF series)
- AISI 316 Stainless steel body and cover with electro-polished finishing (SS series)
- Die-cast aluminum body with polyester powder coating, transparent polycarbonate cover (SB series)
- Stainless steel fasteners and shafts

## Approvals

### ATEX, IECEx, EAC, CCOE

Ex II 2GD Ex ia IIC T4/T5/T6

Ex ia IIIC T44°C.....T108°C Db IP6\* (SF,SS series)

Ex ia IIIB T44°C.....T108°C Db IP6\* (SB series)

Ta: -60 °C ≤ Ta ≤ 100 °C

UL: Class I Division 2 Groups A, B, C, D  
Class II Division 2 Groups F, G

SIL certificate: Up to SIL 3 certified by TÜV

Protection rating: IP 66 / 67

### Cable entries options:

Two cable entry M20 or 1/2" NPT

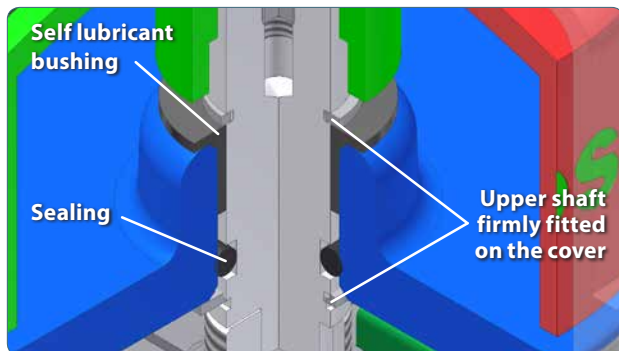
### Temperature:

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

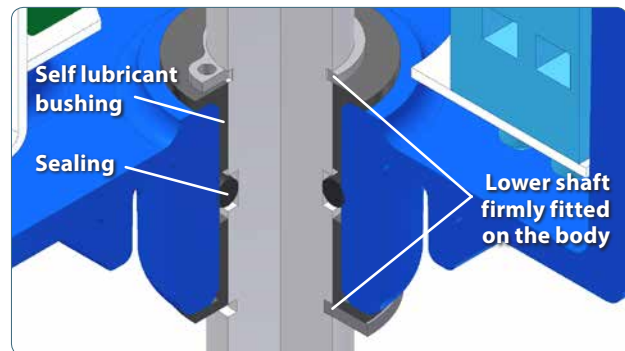
-60 °C +105 °C available on request

## Twin shaft design features

- The shaft is split in 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



Upper shaft



Lower 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 (usable for Exia protection)

- Proximity hermetically sealed snap acting SPDT switch
- rating up to 1A @ 250VAC - 1A @ 30VDC (Exia rating max: 0,1A @ 30VDC)
- 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 (usable for Exia protection)

- Proximity hermetically sealed reed SPDT switch
- Inert gas contact chamber
- Rating up to 1A @ 24 VDC (Exia rating max: 0,1A @ 30 VDC)
- Temperature range -60 °C , +100 °C



### REED C8 (usable for Exia protection)

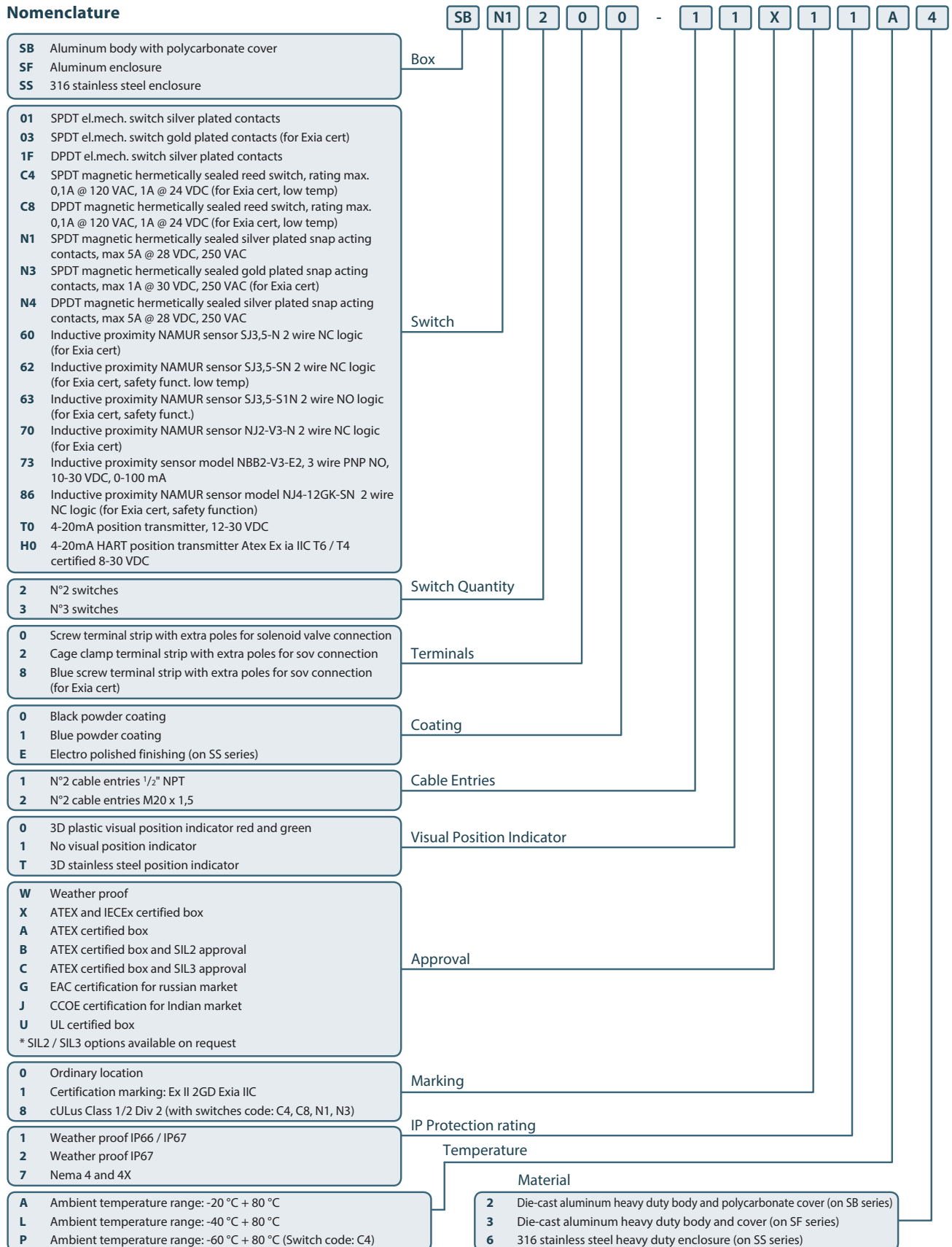
- Proximity hermetically sealed reed DPDT switch
- Inert gas contact chamber
- Rating up to 1A @ 24 VDC (Exia rating max: 0,1A @ 30 VDC)
- Temperature range -60 °C , +100 °C



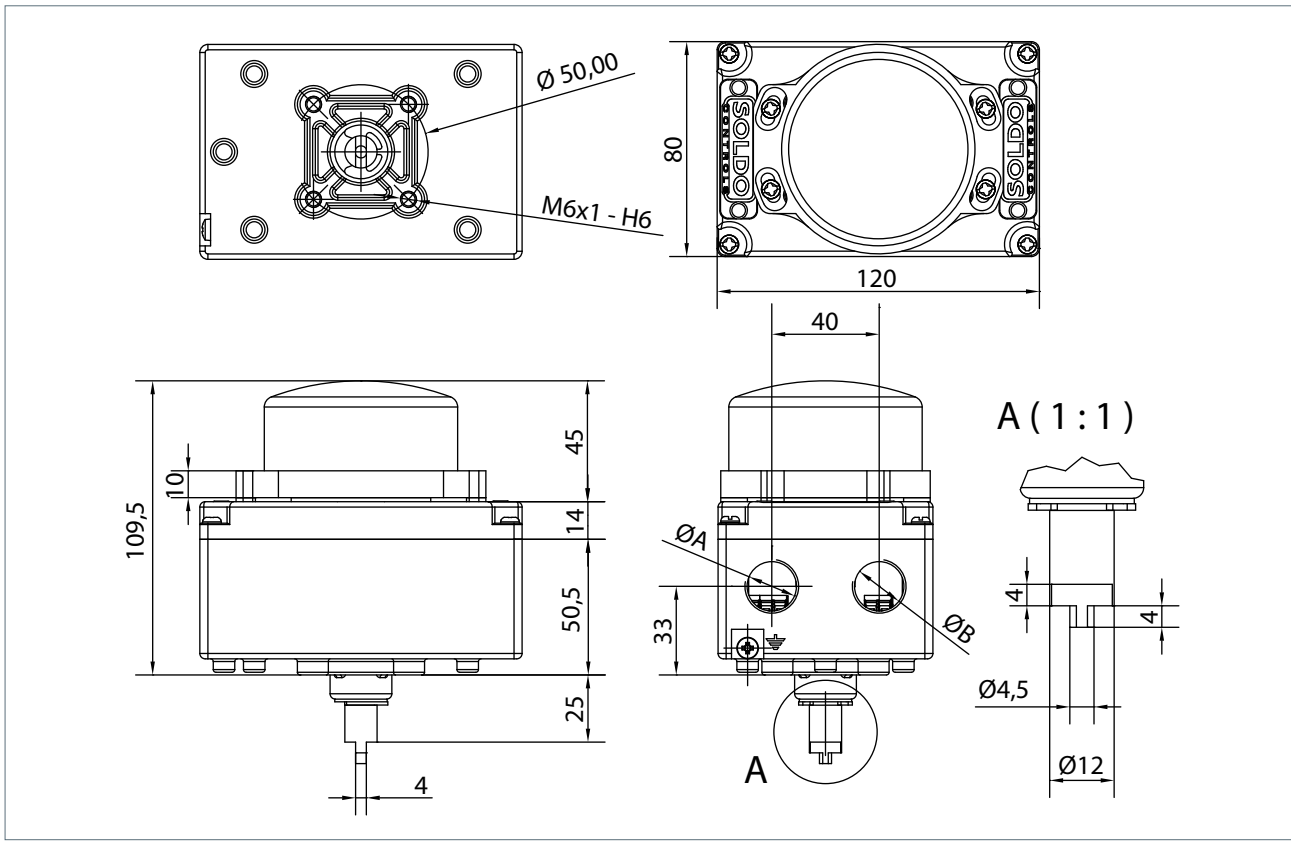
More options available on request.

# Product Ordering Matrix

## Nomenclature



## Dimensional Data



### Cable entry dimensions

Code	Entry A	Entry B
1	1/2" NPT	1/2" NPT
2	M20 x 1,5	M20 x 1,5



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