Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product range representing leading technologies & brands:

**Flow:** Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

**Temperature:** Temperature Probes & Thermowells, Temperature transmitters, Temperature Regulators & Temperature Displays

**Level:** Level Transmitters & Switches

**Pressure:** Pressure Gauges & Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

**Precision Pneumatics:** Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

**Valves:** Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

**Services:** Repair, Calibration, Panel Build, System Design & Commissioning
SK - SQ limit switch box series

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

Available in either die cast aluminum or 316L stainless steel, the explosionproof enclosure matches the Exd IIc T6 standards. The SK - SQ switch box series offer a ready to mount solution thanks to the integrated Namur mounting kit.

The ideal compact solution for 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
- Suitable for arctic application, down to -55 °C
- Integrated mounting kit for Namur actuators
- Two cable entries, either metric or imperial
- Enhanced corrosion resistance due to the thick polyester powder coating on aluminum housings
- 316 L stainless steel housing for the 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
- Concentric flame path design providing a self-centering system aligning shafts for a precise engagement
- Captive bolts on the screwed lid
**Technical Data:**

**Materials**
- Copper free aluminum body and cover with polyester powder coating
- AISI 316 Stainless steel body and cover with electro-polished finishing
- Stainless steel fasteners and shafts

**Approvals**
- ATEX, IECEx, EAC, CCOE, INMETRO
- Ex II 2GD Ex d IIC T4/T5/T6 Gb
- Ex tb IIIC T135/T100/T85°C Db
- Ta: -55 °C ≤ Ta ≤ 105 °C / 80 °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
- IP 66 / 68 up to 15 meters for 100 hours

**Cable entries options:**
- Two cable entry M20 or 1/2” NPT

**Temperature:**
- -20 °C +80 °C as standard temperature range
  (depending on switch selection)
- -55 °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

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**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

More options available on request.
# Product Ordering Matrix

## Nomenclature

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK</td>
<td>Die-cast aluminum enclosure</td>
</tr>
<tr>
<td>SQ</td>
<td>316L stainless steel enclosure</td>
</tr>
</tbody>
</table>

## Switches

01 SPDT el.mech. switch silver plated contacts  
03 SPDT el.mech. switch gold plated contacts  
1F DPDT el.mech. switch silver plated contacts  
C4 SPDT magnetic hermetically sealed reed switch, rating max. 0,1A @ 120 VAC, 1A @ 24 VDC  
N1 SPDT magnetic hermetically sealed silver plated snap acting contacts, max 5A @ 28 VDC, 250 VAC  
N3 SPDT magnetic hermetically sealed gold plated snap acting contacts, max 1A @ 30 VDC, 250 VAC  
N4 DPDT magnetic hermetically sealed silver plated snap acting contacts, max 5A @ 28 VDC, 250 VAC  
73 Inductive proximity sensor model NBB2-V3-E2, 3 wire PNP NO, 10-30 VDC, 0-100 mA

## Switch Quantity

- 2 N°2 switches
- 0 Standard pcb board with 3 extra terminal poles
- 0 Black powder coating (SK Series)  
  E Electro polish finishing (SQ Series)

## Terminals

- 1 N°2 cable entries ½" NPT
- 2 N°2 cable entries M20 x 1,5

## Coating

- 0 Ordinary location  
  2 Certification marking: Ex II 2GD Exd IIC  
  7 cULus Class1/2 Div1  
  8 cULus Class1/2 Div2 (with switches code: C4, N1, N3)

## Visual Position Indicator

- 0 3D plastic visual position indicator red and green  
  T 3D stainless steel position indicator

## Approval

- X ATEX and IECEx certified box  
- D ATEX and IECEx certified box with SIL2 approval  
- E ATEX and IECEx certified box with SIL3 approval  
- G EAC certification for Russian market  
- I INMETRO certification for Brazilian market  
- N NEPSI certification for Chinese market  
- J CCOE certification for Indian market  
- U UL certified box  
- W Weather proof  
  * SIL2 / SIL3 options available on request

## Marking

- 0 Ordinary location  
  2 Certification marking: Ex II 2GD Exd IIC  
  7 cULus Class1/2 Div1  
  8 cULus Class1/2 Div2 (with switches code: C4, N1, N3)

## IP Protection rating

- 1 Weather proof IP66/IP67  
- 3 Weather proof IP66/IP68  
- 7 Nema 4 and 4X

## Temperature

- A Ambient temperature range: -20 °C + 80 °C  
- L Ambient temperature range: -40 °C + 80 °C  
- P Ambient temperature range: -60 °C + 80 °C (Switch code: C4)

## Material

- 3 Die-cast aluminum heavy duty body and cover (on SK series)  
- 7 316L Stainless steel heavy duty enclosure (on SQ series)

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**Linking the Process with the Control Room**
Dimensional Data

Cable entry dimensions

<table>
<thead>
<tr>
<th>Code</th>
<th>Entry A</th>
<th>Entry B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2&quot; NPT</td>
<td>1/2&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>M20 x 1.5</td>
<td>M20 x 1.5</td>
</tr>
</tbody>
</table>

As part of a process of on-going product development, Soldo reserves the right to amend and change specifications without prior notice. Published data may be subject to change. For the very latest version release, visit our website at www.soldo.net

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