

## SY - SW limit switch box series

Limit switch box for heavy duty explosionproof applications in the oil & gas and petrochemical industries, both on-shore and off-shore.

### Features

- Twin shaft design
- Metallic self lubricating bushings
- Copper free aluminium or 316 stainless steel housing option for maximum corrosion protection
- Up to four cable entries either metric or imperial
- Multiple indicator options
- Easy wiring through the terminal PCB board
- High volume for the maximum wiring comfort
- Optional position transmitter board
- Suitable for arctic environments

### Approvals

**ATEX, IECEx, EAC, CCOE, INMETRO, NEPSI:**

Ex II 2GD Ex db IIC T4/T5/T6 Gb

Ex tb IIIC T140/T110/T110°C Db

Ta: -60 °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:** IP66/68 10 m for 48 hours

NEMA 4 4X on request

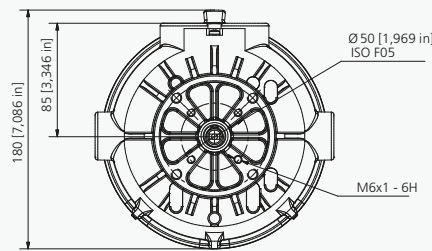
**Temperature:**

-40 to +80 °C (-40 to +176 °F) as standard temperature range

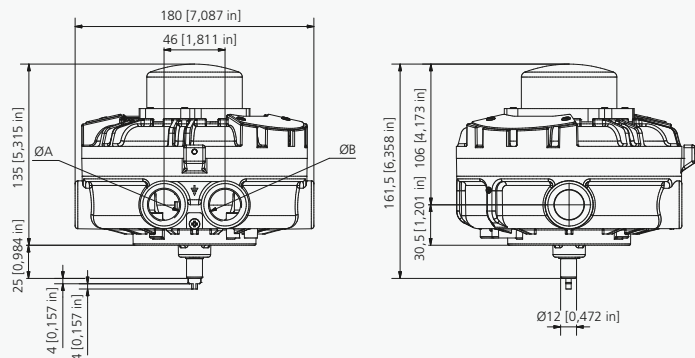
-60 to +105 °C (-76 to +221 °F) available on request



### SY limit switch box



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## Nomenclature

SY N1 2 0 0 - 1 0 X 2 3 A 4

### Box

SY = Copper free aluminium enclosure  
SW = Stainless steel 316 enclosure

### Switch

01 = Electro mec. switch, SPDT, silver contacts, up to SIL3 (Switch qty: 2,3,4; Terminal digit: 0; temp digit: L)  
03 = Electro mec. switch, SPDT, gold contacts, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: L)  
1F = Electro mec. switch, DPDT, silver contacts, up to SIL3 (Switch qty: 1,2; Terminal digit: 0; temp digit: L)  
06 = Electro mec. switch, SPDT, gold contacts, up to SIL3, Exia ready, (Switch qty: 1,2; Terminal digit: 0; temp digit: L, P)  
C4 = Magnetic reed SPDT, hermetically sealed, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: L, M)  
C8 = Magnetic reed DPDT, hermetically sealed, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: L, P)  
N1 = Mag. proximity SPDT silver hermetically sealed up to SIL3, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: L, M)  
N3 = Mag. proximity SPDT gold hermetically sealed up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: L, M)  
N4 = Mag. proximity DPDT silver hermetically sealed up to SIL3, (Switch qty: 1,2,3,4; Terminal digit: A; temp digit: L, M)  
32 = Inductive proximity NBN4-12GM40-Z0 2 wires, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: F)  
73 = Inductive proximity NBB2-V3-E2, PNP NO, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: F)  
75 = Inductive proximity IS5026, 2 wire, NO /NC, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: E)  
70 = Inductive NAMUR proximity NJ2-V3-N, 2 wire, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0; temp digit: E)  
62 = Inductive NAMUR proximity SJ 3,5 SN, 2 wire, 8V DC, up to SIL3, Exia ready, (Switch qty: 1,2,3,4; Terminal digit: 0, A; temp digit: L, M)  
T0 = 4-20mA analog position transmitter, (Switch qty: 0; Terminal digit: A; temp digit: L)  
T1 = 4-20mA analog position transmitter + electro mec. switch, SPDT, silver contacts, (Switch qty: 1,2; Terminal digit: A; temp digit: L)  
T4 = 4-20mA analog position transmitter + mag. reed switch, SPDT, (Switch qty: 1,2; Terminal digit: A; temp digit: L)  
H0 = 4-20mA HART position transmitter, Exia ready, (Switch qty: 0; Terminal digit: A; temp digit: L)  
H4 = 4-20mA HART position transmitter + mag. reed switch, SPDT, (Switch qty: 1,2; Terminal digit: A; temp digit: L)  
P0 = Partial Stroke Test capabilities with remote or local magnetic key activation (Switch qty: 3; Terminal digit: A; temp digit: L, M)

See additional information and options on pages 14-19

### Switch Quantity

0 = no switches for digital feedback  
1 = N° 1 switch (related to switch description)  
2 = N° 2 switch (related to switch description)  
3 = N° 3 switch (related to switch description)  
4 = N° 4 switch (related to switch description)

### Terminals

0 = Pre-wired terminal strip with additional extra poles for solenoid valve connection (for switches 01, 03, 1F, 06 C4, C8, N1, N3, N4, 32, 70, 62, 73, 75)  
A = Pre-wired terminals without solenoid valve connection (for switches 62, T0, T1, T4, H0, H4, P0)

### Coating

0 = Black powder coating (SY Series)  
E = Electro polish finishing (SW Series)

### Cable Entries

1 = 2 cable entries 1/2" NPT  
2 = 2 cable entries M20 x 1.5p  
T = 4 cable entries 1/2" NPT  
7 = 2 cable entries 3/4" NPT  
Z = 4 cable entries 3/4" NPT

### Visual Position Indicator

0 = 3D plastic visual position indicator red and green  
2 = 3-position indicator (T-port 180 deg. Blocked centre)  
A = 3-position indicator (L-port)  
B = 3-position indicator (T-port 180 deg.)  
T = 3D stainless steel position indicator

See additional information and options on page 11

### Approval

X = ATEX and IECEx certified box  
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

See additional information and options on page 13

### Marking

0 = Standard location  
2 = Certification marking: Ex II 2GD Exd IIC  
7 = cULus Class 1/2 Div1  
8 = cULus Class 1/2 Div 1/2 with (with switches code: C4,C8,N1,N3)

See additional information and options on page 13

### IP Protection rating

3 = Weather proof IP66/IP68  
7 = NEMA 4 and 4X

### Temperature

L = Ambient temperature range: -40 to +80 °C (-40 to +176 °F) (standard for all switch options, excluding: 32, 70, 73, 75)  
E = Ambient temperature range: -25 to +80 °C (-13 to +176 °F) standard for switch 70, 75  
F = Ambient temperature range: -25 to +70 °C (-13 to +158 °F) standard for switches 32, 73.  
M = Ambient temperature range: -50 to +80 °C (-58 to +176 °F) extended temp range for switches N1, N3, N4, P0)  
P = Ambient temperature range: -60 to +80 °C (-76 to +176 °F) for switch codes C4 and C8 (extended temp range for switches C4, C8)

### Material

4 = Copper free aluminium heavy duty body and cover (SY series)  
6 = 316 stainless steel heavy duty enclosure (SW series)