

HMS/HLS/HNS Series Heavy Duty Limit Switches

Features

- Heavy duty zinc die cast body or corrosion-resistant stainless steel body
- Conform to EN 60947-5-1, IEC 60947-5-1, UL508, NEMA250, CSA22.2 Standards
- Wide range of actuator available
- High repeatability (0.03mm for linear travel)
- Available in three body styles: compact, standard and Non-plug-in

Specifications

| | |
|--------------------------|--|
| Operating Speed | 0.05mm-2m/sec |
| Rated Current/Voltage | 10A/600V AC (EN60947-5-1) AC15 A600 / DC13 Q300 |
| Service Life | Mechanically 10 millions (operations) Electrically 1 million (operations) |
| Operating Temperature | -28.9~+85°C (-20~185°F) -28.9~+121°C (-20~250°F) for High temp. -40~+121°C (-40~250°F) for Low temp. |
| Vibration Resistance | 25gn (10..150 Hz, 11ms) per IEC60068-2-6 |
| Shock Resistance | 60gn (9ms) per IEC 60068-2-27 |
| Dielectric Strength | 2200VAC for 1 minute |
| Short Circuit Protection | 10A fuse |
| Terminal Wire Size | 12-22AWG (2.05-0.644mm ²) |
| Degree of Protection | IP 67 conforming to IEC 60529, NEMA Types 2, 4, 6, 6P, 12, 13 |

Electrical Ratings

| IEC 60947-5-1 / EN 90947-5-1 | | | | | | | |
|------------------------------------|--|------|------|------|------|-----------|-------|
| Designation & Utilization Category | Rated operational current Ie (A) at rated operational voltage Ue | | | | | VA rating | |
| | | | | | | Make | Break |
| AC15 A600 | 120V | 240V | 380V | 480V | 600V | 7200 | 720 |
| | 6A | 3A | 1.9A | 1.5A | 1.2A | | |
| DC13 Q300 | 125VDC 250VDC | | | | | 69 | 69 |
| | 0.55 | 0.27 | | | | | |

HMS
Compact



HLS
Standard



HNS
Non-plug-in



HNS
Stainless Steel



Selection Guide:

| | | | | | | | | | | | | | | | | | |
|-------------------------|---|--|--|-------------|---|-------------------------------|--|---------------------------------------|---|--------------------|---|---|---|--------------------------|---|---|----------------------------|
| HLS | - | 1 | | A | - | 04 | | A | - | F | - | UR | - | AU | - | SS | |
| Body Styles | | Contact Block | | Conduit | | Head Style | | Applied on to Lever Arms Style | | Temperature Option | | Indicator Light | | Gold Contacts (Optional) | | Full Stainless Steel Housing (Optional for HNS) | Rotary Head Shaft Diameter |
| HMS: Compact | | 1: SPDT (1NO/1NC) Snap action | | A: 1/2" NPT | | 2 digit or 2 digit + 1 letter | | B: Standard | | Blank: Standard | | Blank: None | | | | Blank: 11.0mm | |
| HLS: Standard | | 2: DPDT (2NO/2NC) Snap action | | F: 3/4" NPT | | | | A: High precision | | F: High temp. | | UR: Red indicator light universal voltage(12V-270V) | | | | (AB): 8.0mm | |
| HNS: Non-plug-in | | 3: DPDT (2NO/2NC) 2 stages | | | | | | N: Low torque | | FS: Low temp. | | | | | | (CH): 7.0mm | |
| | | 4: DPDT (2NO/2NC) center neutral operation | | | | | | D: High precision low torque | | | | | | | | (HW): 7.3mm | |
| | | 5: 4NO Slow action (for HNS only) | | | | | | C: Maintained | | | | | | | | | |
| | | 6: 3NO/1NC Slow action (for HNS only) ⊕ | | | | | | TB: Neutral position | | | | | | | | | |
| | | 7: 2NO/2NC Slow action (for HNS only) ⊕ | | | | | | TA: Neutral position (high precision) | | | | | | | | | |
| | | 8: 1NO/3NC Slow action (for HNS only) ⊕ | | | | | | E: 360° rotation | | | | | | | | | |
| | | 9: 4NC Slow action (for HNS only) ⊕ | | | | | | | | | | | | | | | |

HMS/HLS Series Heavy Duty Limit Switches

Plunger type

01 Styles



11 Styles



12 Styles



13 Styles



05 Styles



Side Plunger type

11H Styles



12H Styles



13H Styles

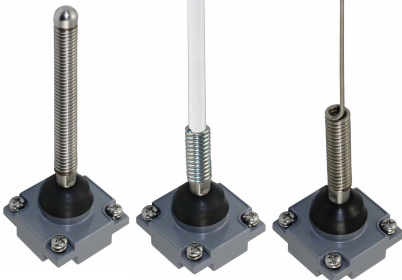


Side Plunger (Maintained) type

10H Styles



Spring coil type



00

66

69

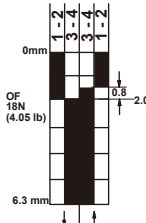
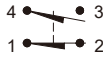
Cat Whisker type

68 Styles



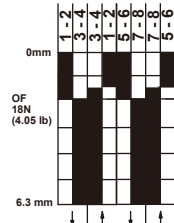
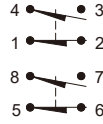
HMS-1A/
HLS-1A/
HNS-1A

1NO/1NC



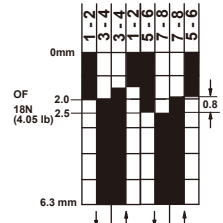
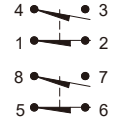
HLS-2A/
HNS-2A

2NO/2NC

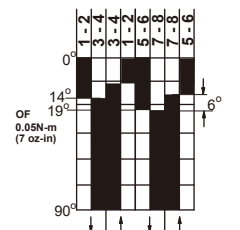
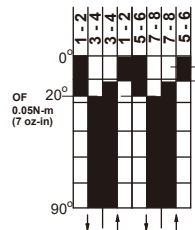
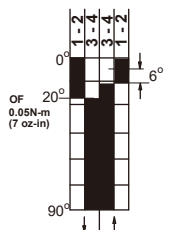
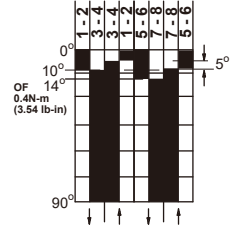
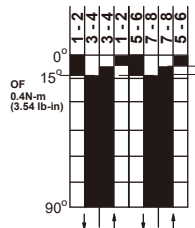
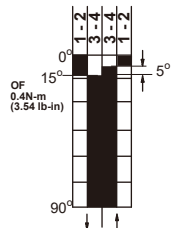
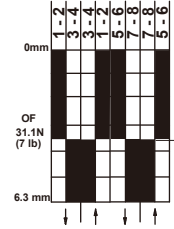
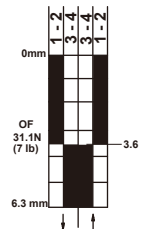
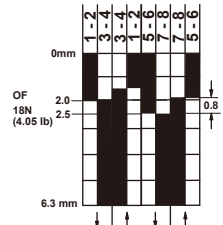
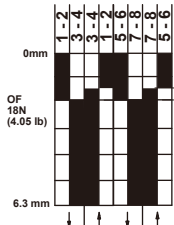
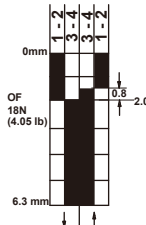


HLS-3A/
HNS-3A

2NO/2NC(2-stages)

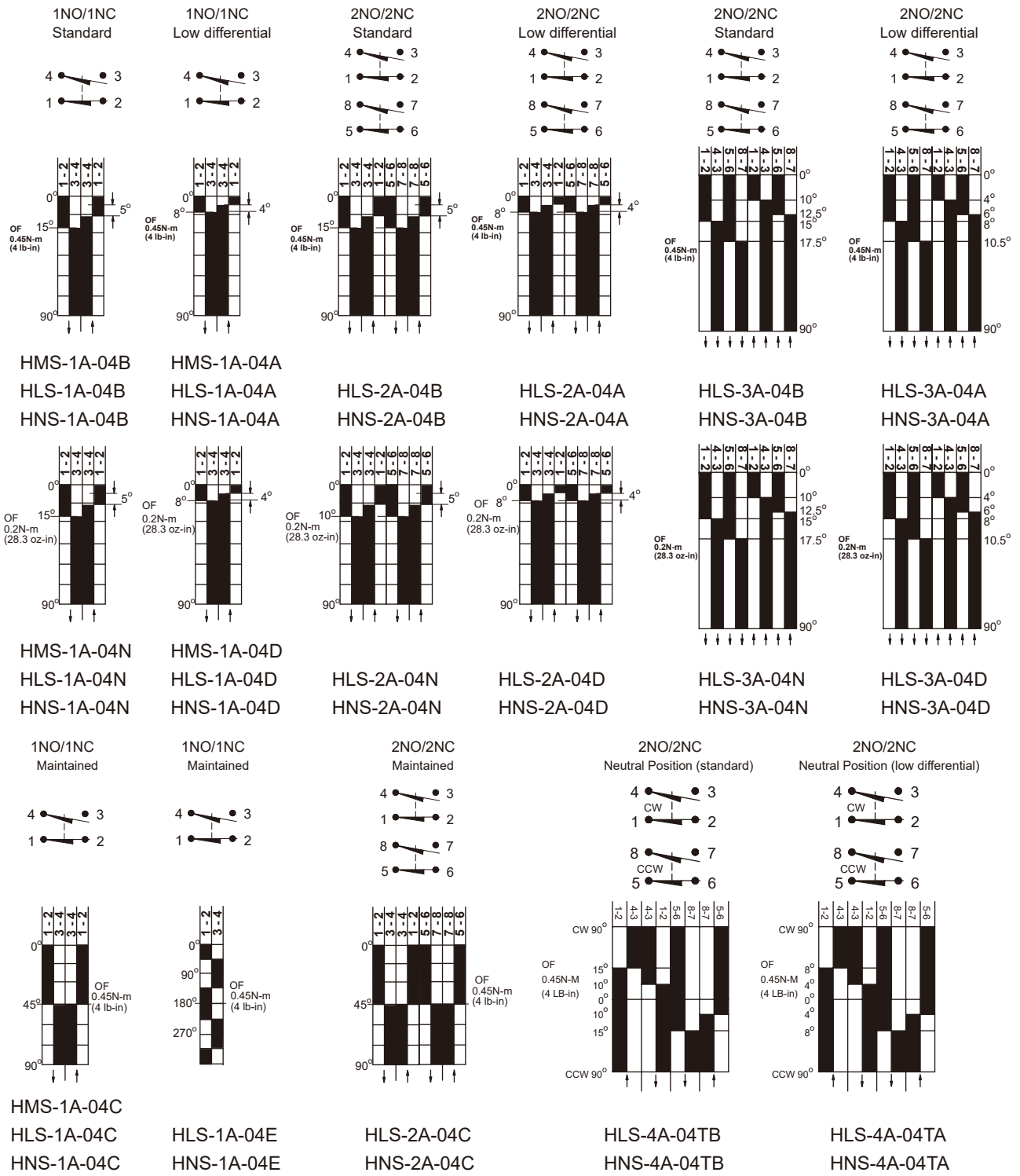


* Note: Operating Force (OF) is 31.1N(7 lb)for Plunger type 01 style.



HMS/HLS Series Heavy Duty Limit Switches

Travel Diagram for Rotary Lever Styles



HMS Series Heavy Duty Limit Switches

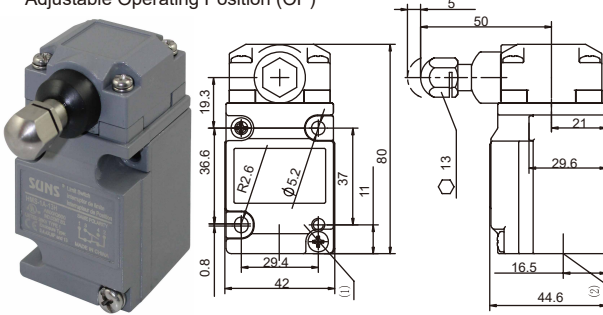
| | |
|--|--|
| | |
| <p>Order Code HMS-1A-11: 1NO/1NC</p> | <p>Order Code HMS-1A-12: 1NO/1NC</p> |
| <p>Adjustable Operating Position (OP)</p> | |
| | |
| <p>Order Code HMS-1A-13: 1NO/1NC</p> | <p>Order Code HMS-1A-01: 1NO/1NC</p> |
| | |
| <p>Order Code HMS-1A-11H: 1NO/1NC</p> | <p>Order Code HMS-1A-12H: 1NO/1NC * Note: roller can be adjust to cross orientation</p> |

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT

HMS Series Heavy Duty Limit Switches

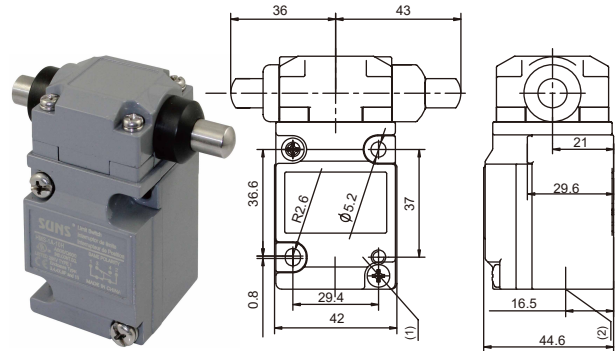
Adjustable Operating Position (OP)



Order Code

HMS-1A-13H: 1NO/1NC

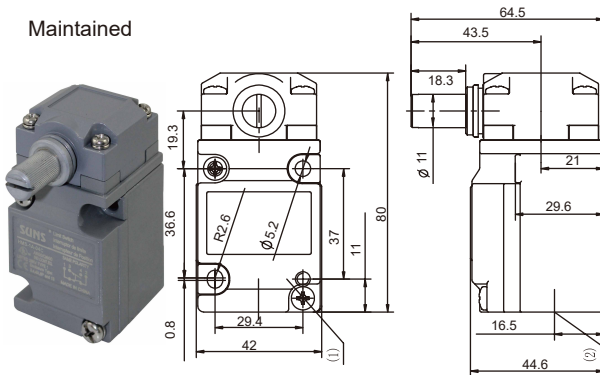
Maintained



Order Code

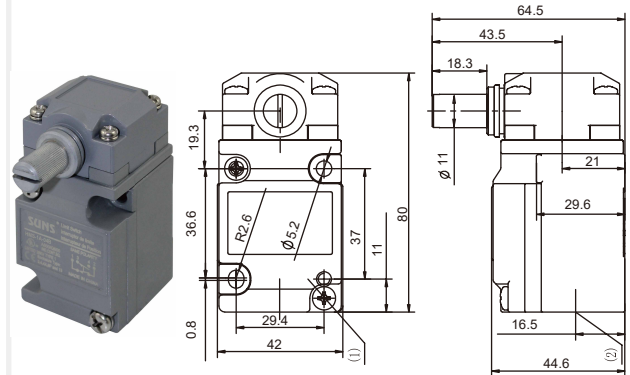
HMS-1A-10H: 1NO/1NC

Maintained



Order Code

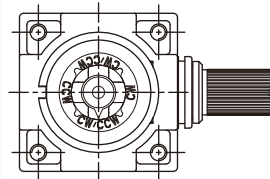
HMS-1A-04C: 1NO/1NC



Order Code

HMS-1A-04B: 1NO/1NC Standard Pretravel
 HMS-1A-04A: 1NO/1NC Low Pretravel
 HMS-1A-04N: 1NO/1NC Low Torque
 HMS-1A-04D: 1NO/1NC Low Torque, Low Pretravel

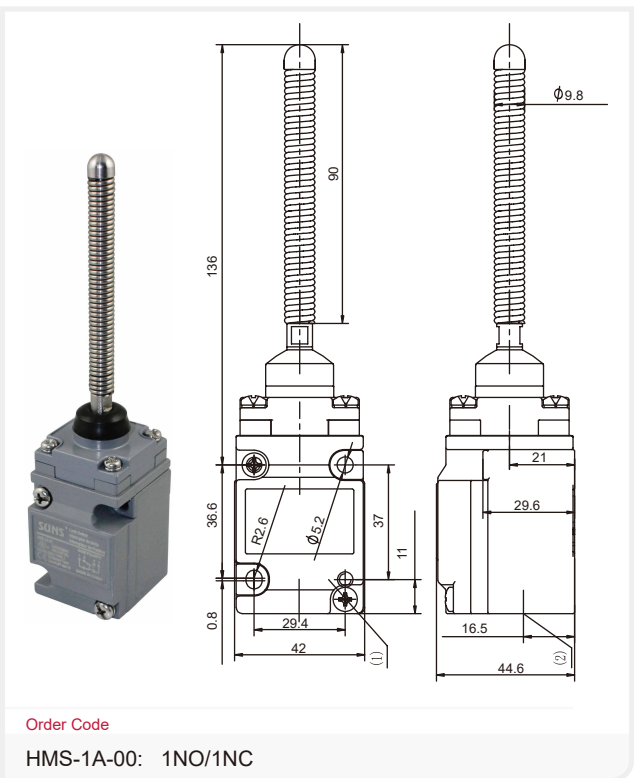
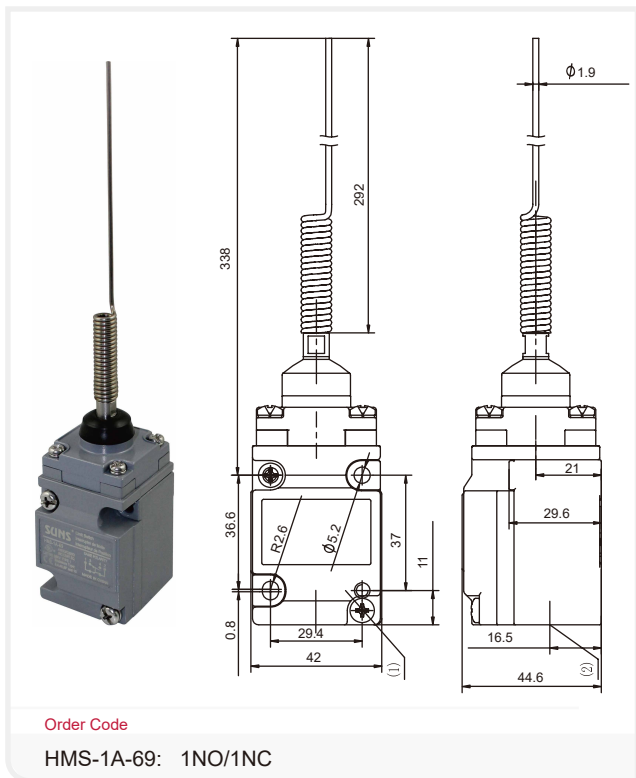
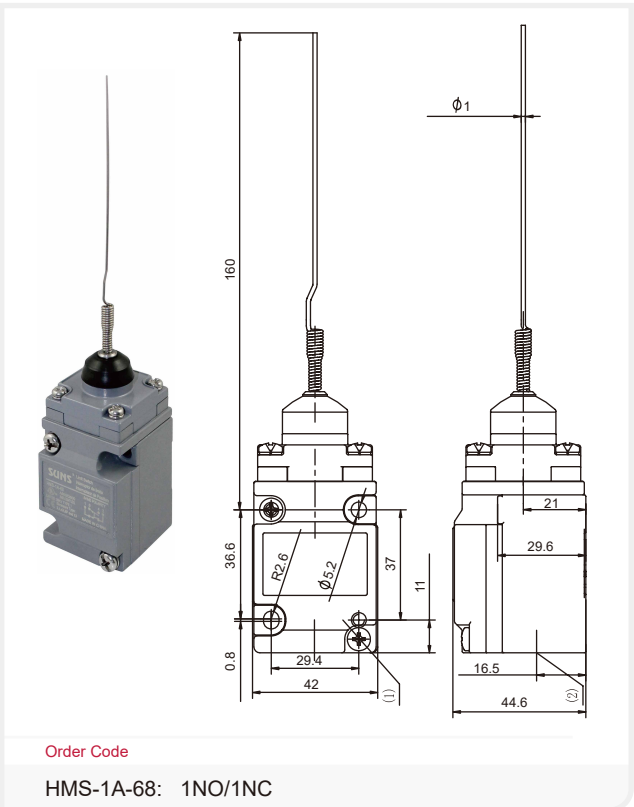
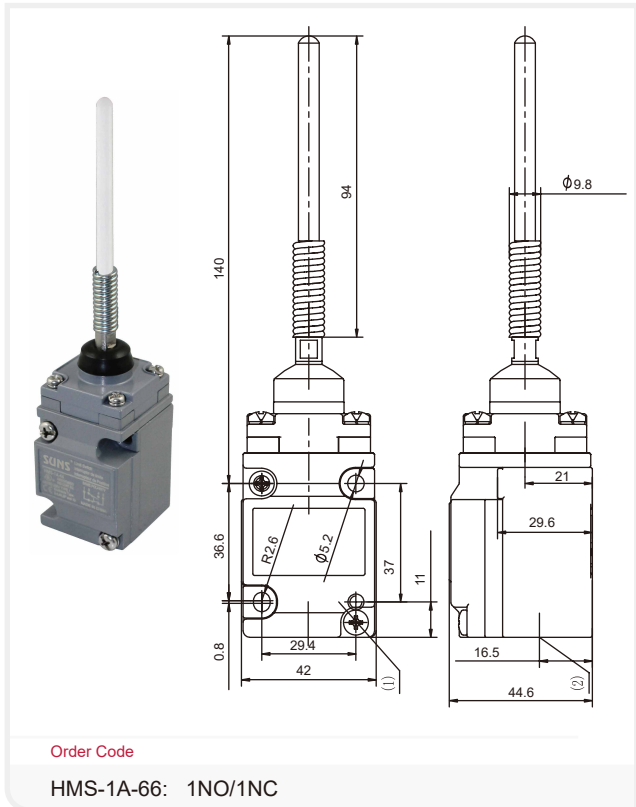
Head is factory set to operate the contacts in both the CW and CCW directions. To make change, simply pull out and rotate the arrow to the letters representing the desired direction: CW, CCW, or CW/CCW.



Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

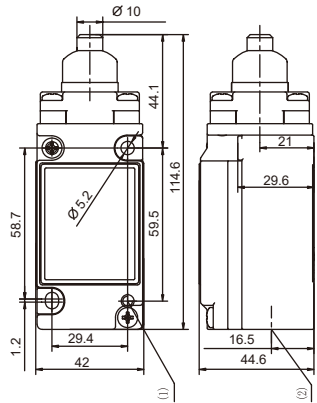
(2) Conduit opening type: 1/2NPT

HMS Series Heavy Duty Limit Switches



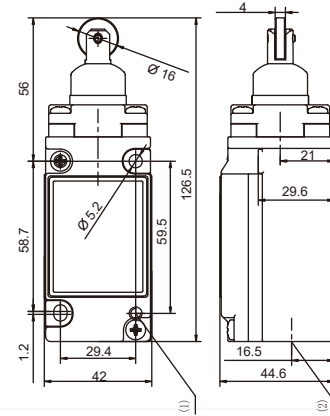
Note. (1) 2 x 10-24 UNC hole on the back for back side mounting. (2) Conduit opening type: 1/2NPT

HLS Series Heavy Duty Limit Switches



Order Code

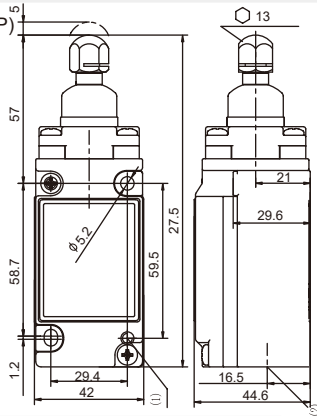
- HLS-1A-11: 1NO/1NC
- HLS-2A-11: 2NO/2NC
- HLS-3A-11: 2NO/2NC (2-stage)



Order Code

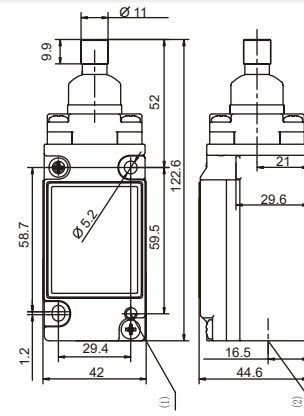
- HLS-1A-12: 1NO/1NC
- HLS-2A-12: 2NO/2NC
- HLS-3A-12: 2NO/2NC (2-stage)

Adjustable Operating Position (OP)



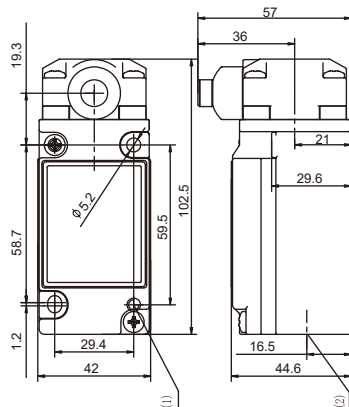
Order Code

- HLS-1A-13: 1NO/1NC
- HLS-2A-13: 2NO/2NC
- HLS-3A-13: 2NO/2NC (2-stage)



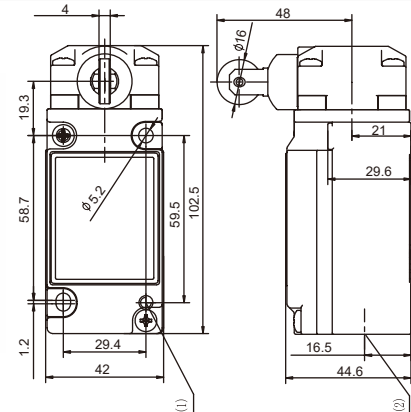
Order Code

- HLS-1A-01: 1NO/1NC
- HLS-2A-01: 2NO/2NC
- HLS-3A-01: 2NO/2NC (2-stage)



Order Code

- HLS-1A-11H: 1NO/1NC
- HLS-2A-11H: 2NO/2NC
- HLS-3A-11H: 2NO/2NC (2-stage)



* Note: roller can be adjust to cross orientation

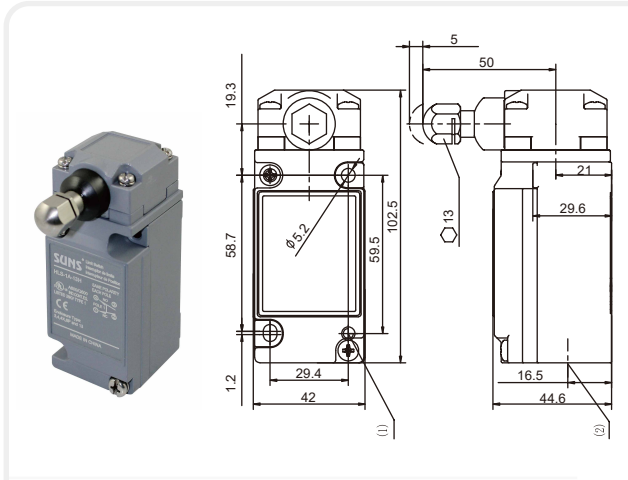
Order Code

- HLS-1A-12H: 1NO/1NC
- HLS-2A-12H: 2NO/2NC
- HLS-3A-12H: 2NO/2NC (2-stage)

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT

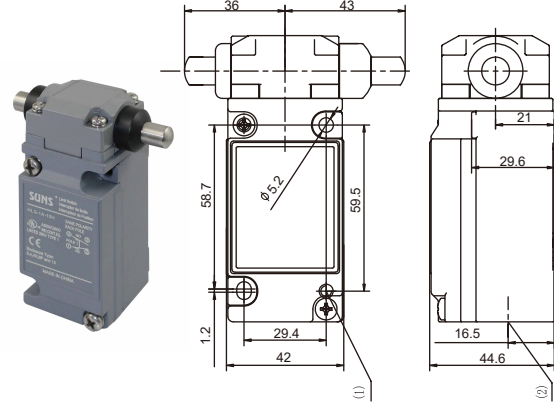
HLS Series Heavy Duty Limit Switches



Order Code

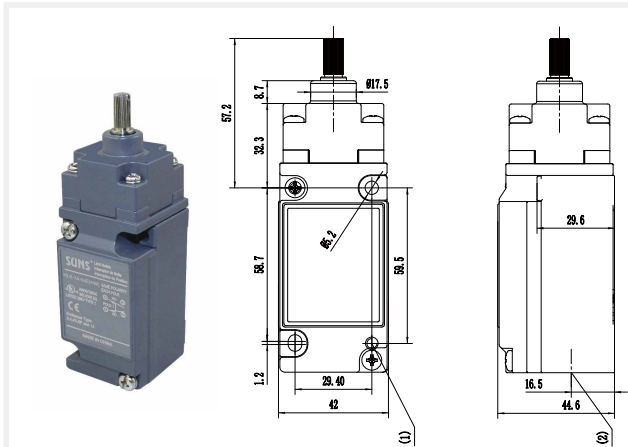
- HLS-1A-13H: 1NO/1NC
- HLS-2A-13H: 2NO/2NC
- HLS-3A-13H: 2NO/2NC (2-stage)

Maintained



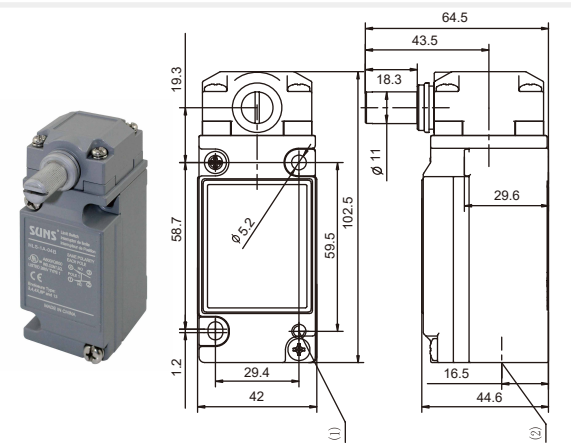
Order Code

- HLS-1A-10H: 1NO/1NC
- HLS-2A-10H: 2NO/2NC



Order Code

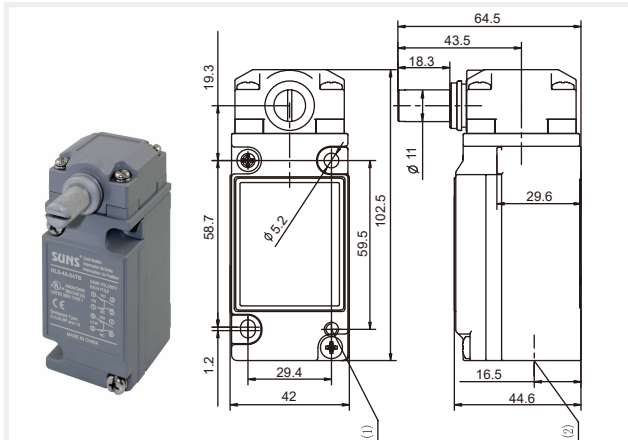
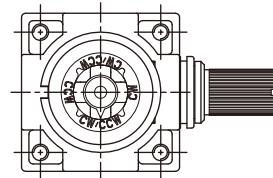
- HLS-1A-05B(HW): 1NO/1NC
- HLS-2A-05B(HW): 2NO/2NC



Order Code

- HLS-1A-04B: 1NO/1NC Standard Pretravel
- HLS-1A-04A: 1NO/1NC Low Pretravel
- HLS-1A-04N: 1NO/1NC Low Torque
- HLS-1A-04D: 1NO/1NC Low Torque, Low Pretravel
- HLS-2A-04B: 2NO/2NC Standard Pretravel
- HLS-2A-04A: 2NO/2NC Low Differential Travel
- HLS-2A-04N: 2NO/2NC Low Torque
- HLS-2A-04D: 2NO/2NC Low Torque, Low Pretravel
- HLS-3A-04B: 2NO/2NC (2-stage) Standard Pretravel
- HLS-3A-04A: 2NO/2NC (2-stage) Low Pretravel
- HLS-3A-04N: 2NO/2NC (2-stage) Low Torque
- HLS-3A-04D: 2NO/2NC (2-stage) Low Torque, Low Differential Travel

Head is factory set to operate the contacts in both the CW and CCW directions. To make change, simply pull out and rotate the arrow to the letters representing the desired direction: CW, CCW, or CW/CCW.



Neutral Position

- HLS-4A-04TA: 2NO/2NC (Low Pretravel)
- HLS-4A-04TB: 2NO/2NC

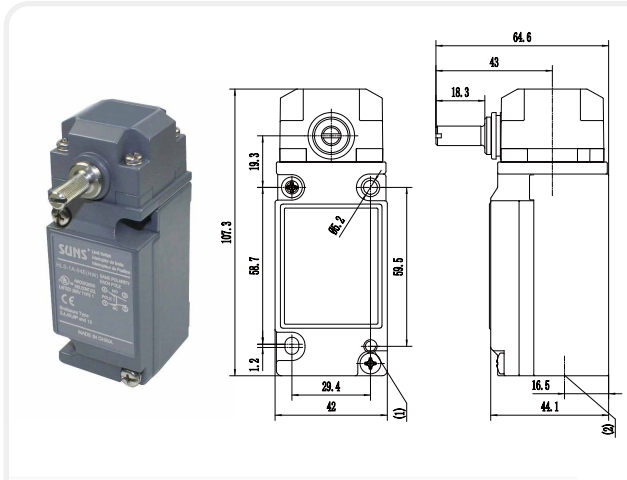
Maintained

- HLS-1A-04C: 1NO/1NC
- HLS-2A-04C: 2NO/2NC

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

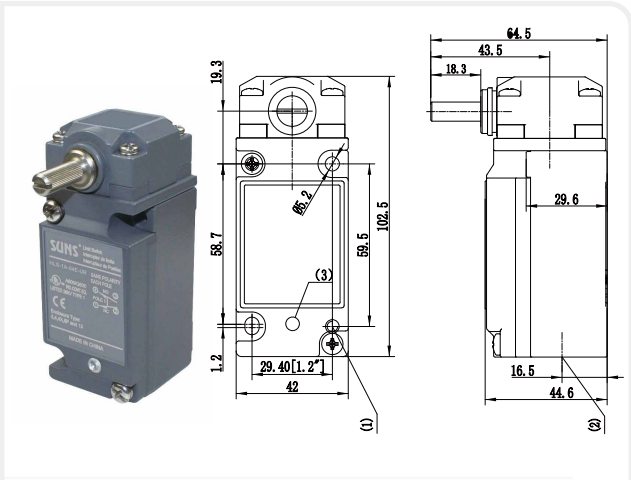
(2) Conduit opening type: 1/2NPT

HLS Series Heavy Duty Limit Switches



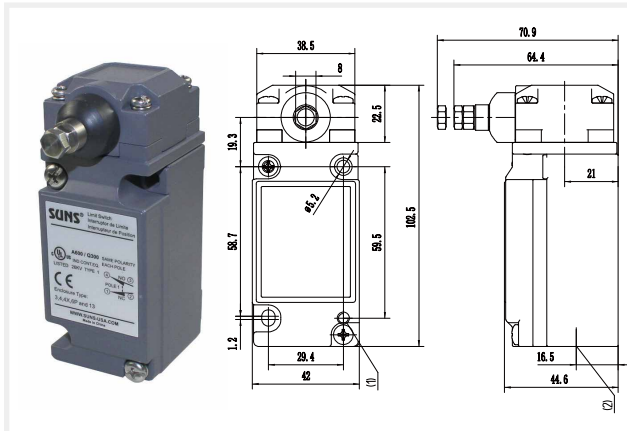
Order Code

HLS-1A-04E: 1NO/1NC 360° Maintained Rotation
 HLS-2A-04E: 2NO/2NC 360° Maintained Rotation



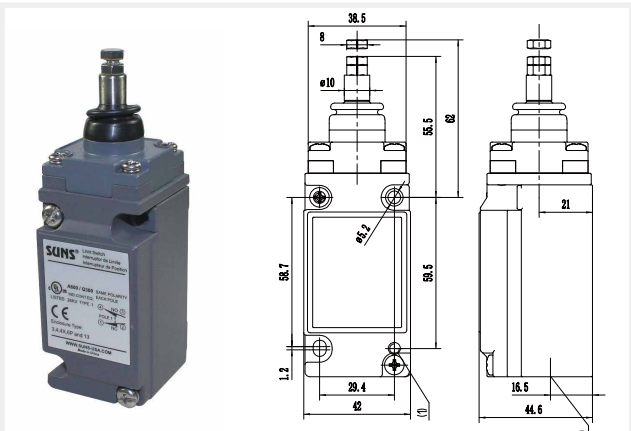
Order Code

HLS-1A-04B-UR(HW): 1NO/1NC W/ Red LED(12V-270V)
 HLS-2A-04B-UR(HW): 2NO/2NC W/ Red LED(12V-270V)



Order Code

HLS-1A-13H(OM): 1NO/1NC Adjustable Plunger
 HLS-2A-13H(OM): 2NO/2NC Adjustable Plunger



Order Code

HLS-1A-13(OM): 1NO/1NC Adjustable Plunger
 HLS-2A-13(OM): 2NO/2NC Adjustable Plunger

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.
 (2) Conduit opening type: 1/2 NPT
 (3) LED indicator light

HLS Series Heavy Duty Limit Switches

Technical drawing showing three views of the HLS Series Heavy Duty Limit Switches (66) with dimensions: 140, 210.5, 58.7, 1.2, 29.4, 42, 59.5, 21, 29.6, 16.5, 44.6, and a hole diameter of $\phi 5.2$.

Order Code

- HLS-1A-66: 1NO/1NC
- HLS-2A-66: 2NO/2NC
- HLS-3A-66: 2NO/2NC (2-stage)

Technical drawing showing three views of the HLS Series Heavy Duty Limit Switches (68) with dimensions: 160, 230.5, 58.7, 1.2, 29.4, 42, 59.5, 21, 29.6, 16.5, 44.6, and a hole diameter of $\phi 5.2$.

Order Code

- HLS-1A-68: 1NO/1NC
- HLS-2A-68: 2NO/2NC
- HLS-3A-68: 2NO/2NC (2-stage)

Technical drawing showing three views of the HLS Series Heavy Duty Limit Switches (69) with dimensions: 338, 408.5, 58.7, 1.2, 29.4, 42, 59.5, 21, 29.6, 16.5, 44.6, and a hole diameter of $\phi 5.2$.

Order Code

- HLS-1A-69: 1NO/1NC
- HLS-2A-69: 2NO/2NC
- HLS-3A-69: 2NO/2NC (2-stage)

Technical drawing showing three views of the HLS Series Heavy Duty Limit Switches (00) with dimensions: 136, 206.2, 58.7, 1.2, 29.4, 42, 59.5, 21, 29.6, 16.5, 44.6, and a hole diameter of $\phi 5.2$.

Order Code

- HLS-1A-00: 1NO/1NC
- HLS-2A-00: 2NO/2NC
- HLS-3A-00: 2NO/2NC (2-stage)

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT

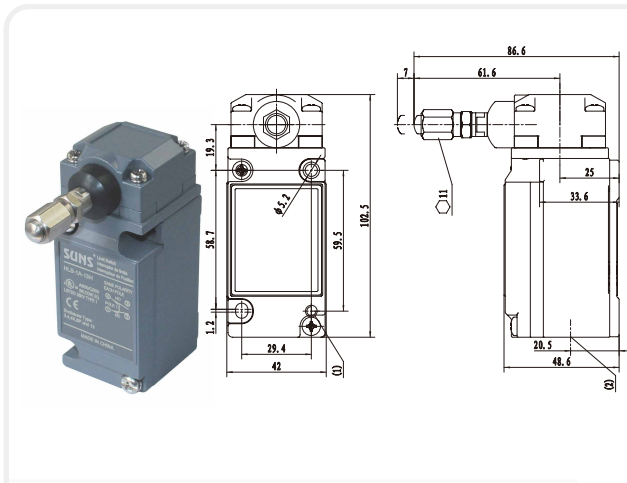
HLS (AB) Series Heavy Duty Limit Switches

| | |
|---|---|
| | |
| <p>Order Code</p> <p>HLS-1A-11(AB): 1NO/1NC HLS-2A-11(AB): 2NO/2NC HLS-3A-11(AB): 2NO/2NC (2-stage)</p> | <p>Order Code</p> <p>HLS-1A-12(AB): 1NO/1NC HLS-2A-12(AB): 2NO/2NC HLS-3A-12(AB): 2NO/2NC (2-stage)</p> |
| <p>Adjustable Operating Position (OP)</p> | |
| | |
| <p>Order Code</p> <p>HLS-1A-13(AB): 1NO/1NC HLS-2A-13(AB): 2NO/2NC HLS-3A-13(AB): 2NO/2NC (2-stage)</p> | <p>Order Code</p> <p>HLS-1A-01(AB): 1NO/1NC HLS-2A-01(AB): 2NO/2NC HLS-3A-01(AB): 2NO/2NC (2-stage)</p> |
| | |
| <p>Order Code</p> <p>HLS-1A-11H(AB): 1NO/1NC HLS-2A-11H(AB): 2NO/2NC HLS-3A-11H(AB): 2NO/2NC (2-stage)</p> | <p>Order Code</p> <p>HLS-1A-12H(AB): 1NO/1NC HLS-2A-12H(AB): 2NO/2NC HLS-3A-12H(AB): 2NO/2NC (2-stage)</p> |

* Note: roller can be adjust to cross orientation

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting. (2) Conduit opening type: 1/2NPT

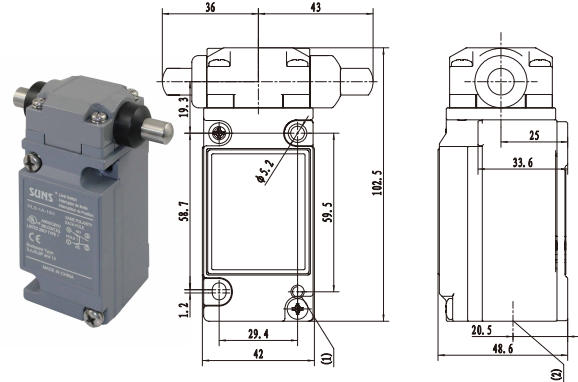
HLS(AB) Series Heavy Duty Limit Switches



Order Code

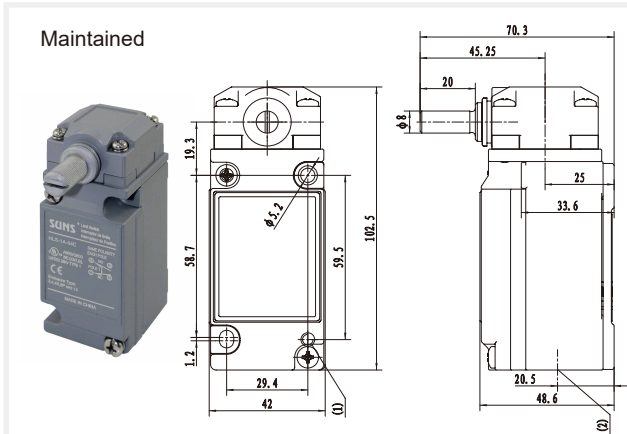
- HLS-1A-13H(AB): 1NO/1NC
- HLS-2A-13H(AB): 2NO/2NC
- HLS-3A-13H(AB): 2NO/2NC (2-stage)

Maintained



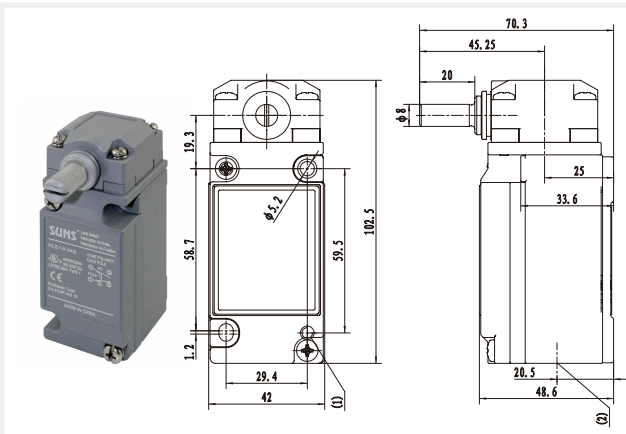
Order Code

- HLS-1A-10H(AB): 1NO/1NC
- HLS-2A-10H(AB): 2NO/2NC



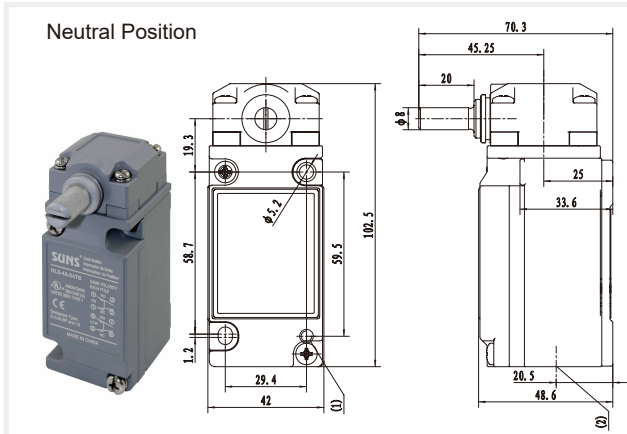
Order Code

- HLS-1A-04C(AB): 1NO/1NC
- HLS-2A-04C(AB): 2NO/2NC



Order Code

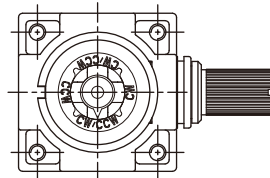
- HLS-1A-04B(AB): 1NO/1NC Standard Pretravel
- HLS-1A-04A(AB): 1NO/1NC Low Pretravel
- HLS-1A-04N(AB): 1NO/1NC Low Torque
- HLS-1A-04D(AB): 1NO/1NC Low Torque, Low Pretravel
- HLS-2A-04B(AB): 2NO/2NC Standard Pretravel
- HLS-2A-04A(AB): 2NO/2NC Low Differential Travel
- HLS-2A-04N(AB): 2NO/2NC Low Torque
- HLS-2A-04D(AB): 2NO/2NC Low Torque, Low Pretravel
- HLS-3A-04B(AB): 2NO/2NC (2-stage) Standard Pretravel
- HLS-3A-04A(AB): 2NO/2NC (2-stage) Low Pretravel
- HLS-3A-04N(AB): 2NO/2NC (2-stage) Low Torque
- HLS-3A-04D(AB): 2NO/2NC (2-stage) Low Torque, Low Differential Travel



Order Code

- HLS-4A-04TA(AB): 2NO/2NC (Low Pretravel)
- HLS-4A-04TB(AB): 2NO/2NC

Head is factory set to operate the contacts in both the CW and CCW directions. To make change, simply pull out and rotate the arrow to the letters representing the desired direction: CW, CCW, or CW/CCW.



Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT

HLS (AB) Series Heavy Duty Limit Switches

Order Code
 HLS-1A-66(AB): 1NO/1NC
 HLS-2A-66(AB): 2NO/2NC
 HLS-3A-66(AB): 2NO/2NC (2-stage)

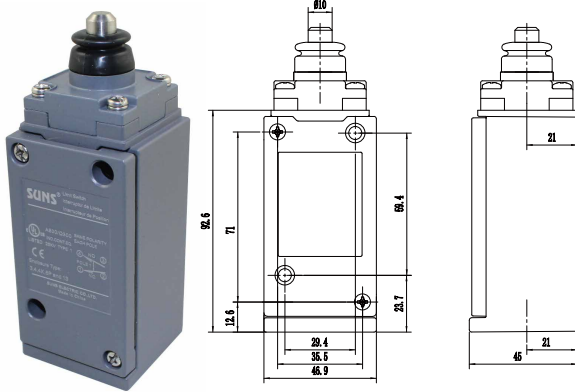
Order Code
 HLS-1A-68(AB): 1NO/1NC
 HLS-2A-68(AB): 2NO/2NC
 HLS-3A-68(AB): 2NO/2NC (2-stage)

Order Code
 HLS-1A-69(AB): 1NO/1NC
 HLS-2A-69(AB): 2NO/2NC
 HLS-3A-69(AB): 2NO/2NC (2-stage)

Order Code
 HLS-1A-00(AB): 1NO/1NC
 HLS-2A-00(AB): 2NO/2NC
 HLS-3A-00(AB): 2NO/2NC (2-stage)

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting. (2) Conduit opening type: 1/2NPT

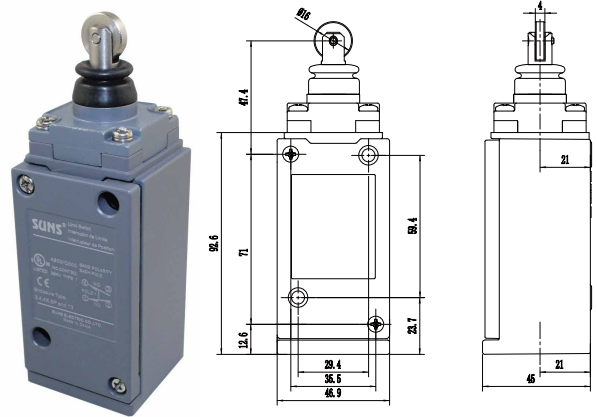
HMS Series Heavy Duty Limit Switches



Order Code

HNS-1A-11: 1NO/1NC

HNS-2A-11: 2NO/2NC

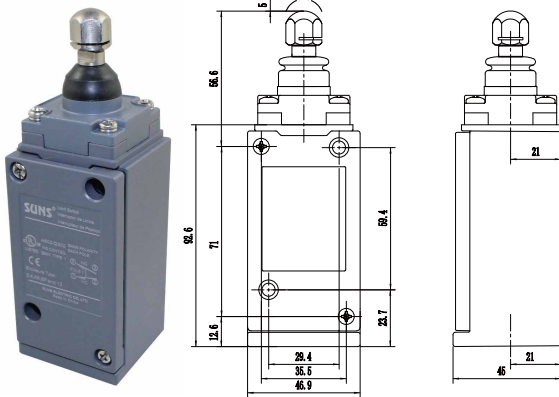


Order Code

HNS-1A-12: 1NO/1NC

HNS-2A-12: 2NO/2NC

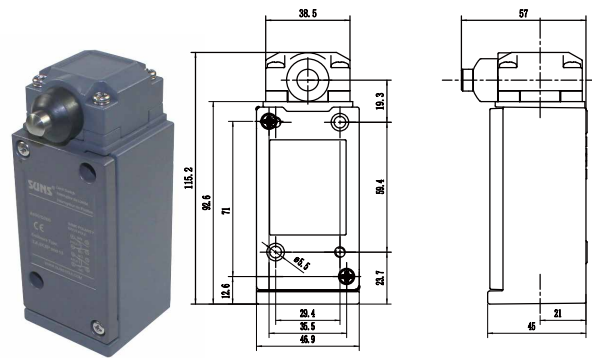
Adjustable Operating Position (OP)



Order Code

HNS-1A-13: 1NO/1NC

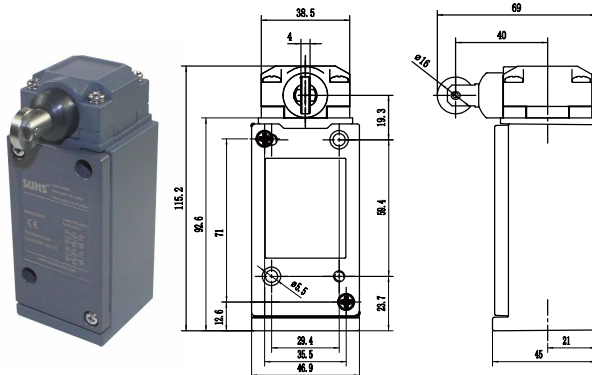
HNS-2A-13: 2NO/2NC



Order Code

HNS-1A-11H: 1NO/1NC

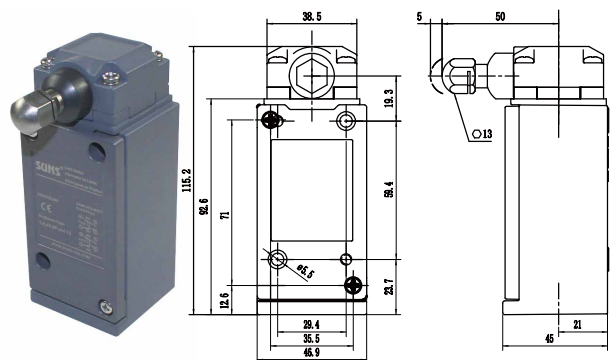
HNS-2A-11H: 2NO/2NC



Order Code

HNS-1A-12H: 1NO/1NC

HNS-2A-12H: 2NO/2NC



Order Code

HNS-1A-13H: 1NO/1NC

HNS-2A-13H: 2NO/2NC

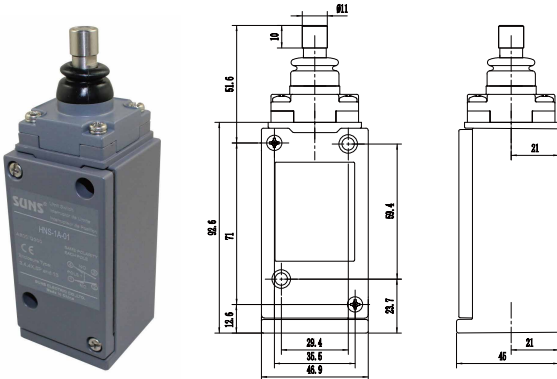
* Note: roller can be adjust to cross orientation

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT

HNS Series Heavy Duty Limit Switches

Adjustable Operating Position (OP)

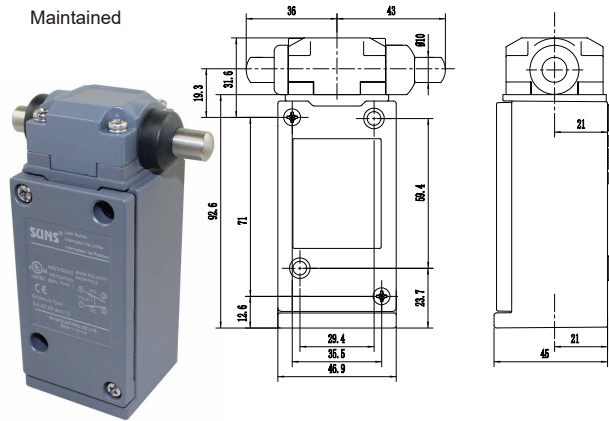


Order Code

HNS-1A-01: 1NO/1NC

HNS-2A-01: 2NO/2NC

Maintained

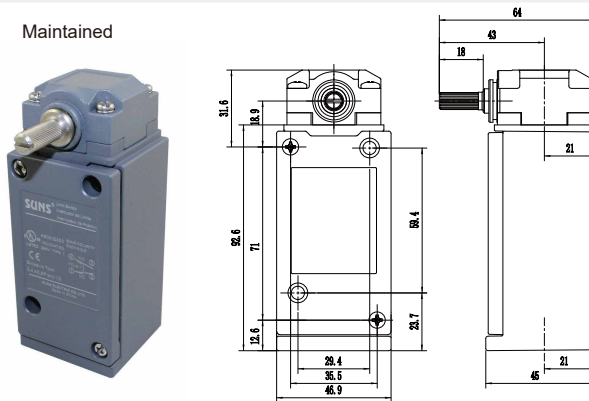


Order Code

HNS-1A-10H: 1NO/1NC

HNS-2A-10H: 2NO/2NC

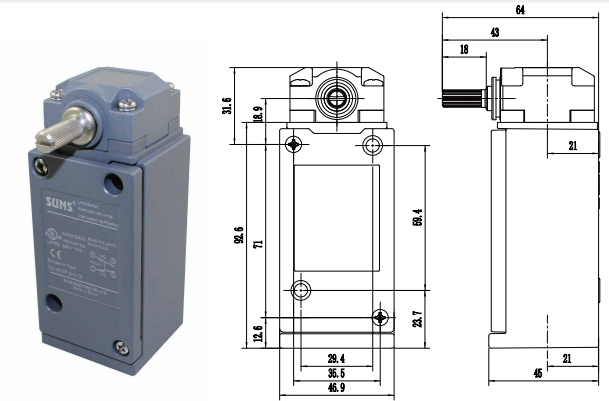
Maintained



Order Code

HNS-1A-04C: 1NO/1NC

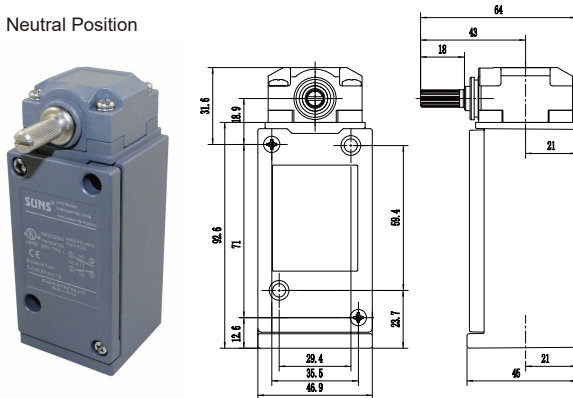
HNS-2A-04C: 2NO/2NC



Order Code

HNS-1A-04B: 1NO/1NC Standard Pretravel
 HNS-1A-04A: 1NO/1NC Low Pretravel
 HNS-1A-04N: 1NO/1NC Low Torque
 HNS-1A-04D: 1NO/1NC Low Torque, Low Pretravel

Neutral Position



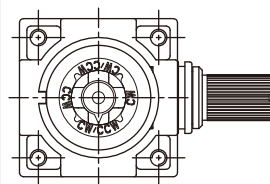
Order Code

HNS-4A-04TA: 2NO/2NC (Low Pretravel)

HNS-4A-04TB: 2NO/2NC

HNS-2A-04B: 2NO/2NC Standard Pretravel
 HNS-2A-04A: 2NO/2NC Low Pretravel
 HNS-2A-04N: 2NO/2NC Low Torque
 HNS-2A-04D: 2NO/2NC Low Torque, Low Pretravel

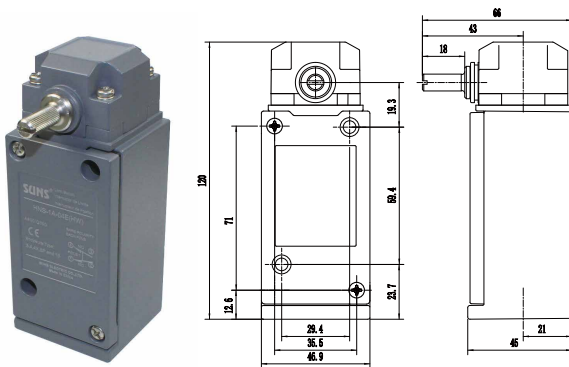
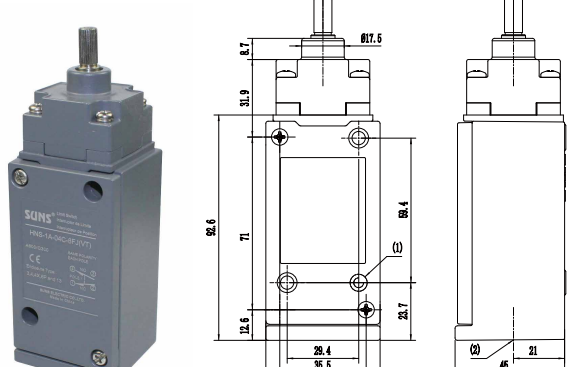
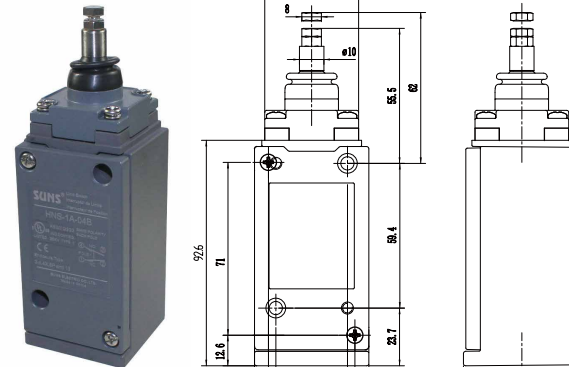
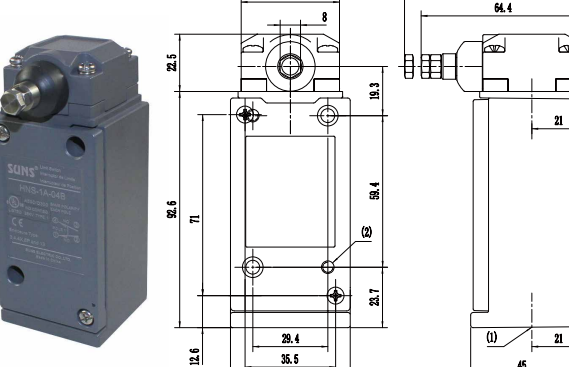
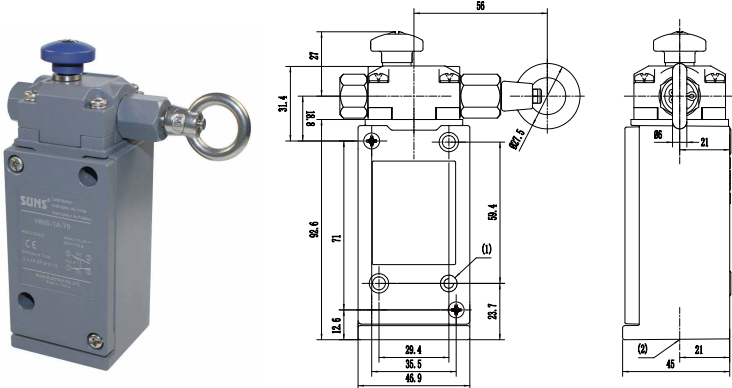
Head is factory set to operate the contacts in both the CW and CCW directions. To make change, simply pull out and rotate the arrow to the letters representing the desired direction: CW, CCW, or CW/CCW.



Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

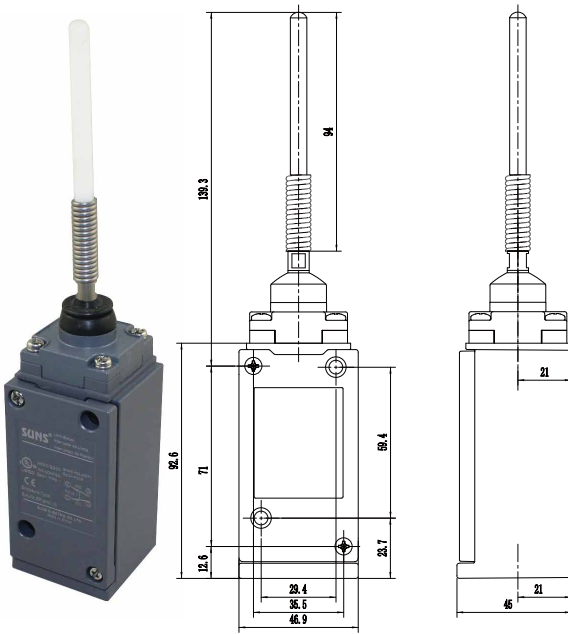
(2) Conduit opening type: 1/2NPT

HNS Series Heavy Duty Limit Switches

| | |
|--|--|
|  | <p>Maintained</p>  |
| <p>Order Code</p> <p>HNS-1A-04E: 1NO/1NC 360° Maintained Rotation</p> <p>HNS-2A-04E: 2NO/2NC 360° Maintained Rotation</p> | <p>Order Code</p> <p>HNS-1A-05E(HW): 1NO/1NC</p> <p>HNS-2A-05E(HW): 2NO/2NC</p> |
|  |  |
| <p>Order Code</p> <p>HNS-1A-13(OM): 1NO/1NC Adjustable Plunger</p> <p>HNS-2A-13(OM): 2NO/2NC Adjustable Plunger</p> | <p>Order Code</p> <p>HNS-1A-13H(OM): 1NO/1NC Adjustable Plunger</p> <p>HNS-2A-13H(OM): 2NO/2NC Adjustable Plunger</p> |
|  | |
| <p>Order Code</p> <p>HNS-1A-70: 1NO/1NC</p> <p>HNS-2A-70: 2NO/2NC</p> | |

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting. (2) Conduit opening type: 1/2NPT

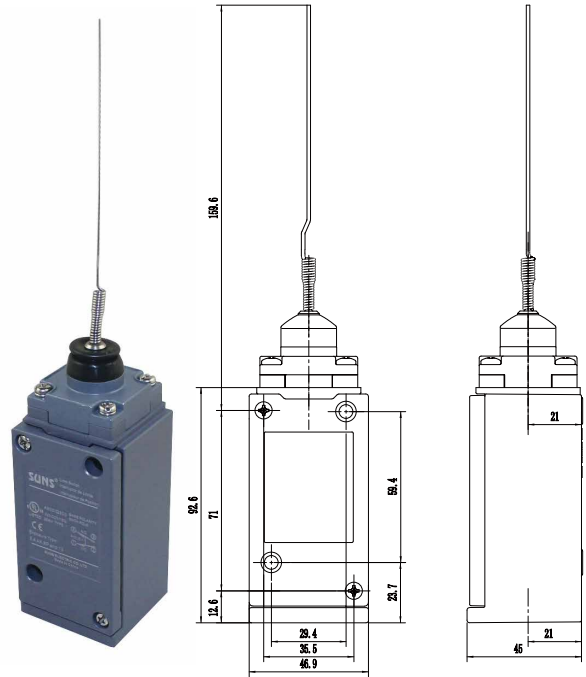
HNS Series Heavy Duty Limit Switches



Order Code

HNS-1A-66: 1NO/1NC

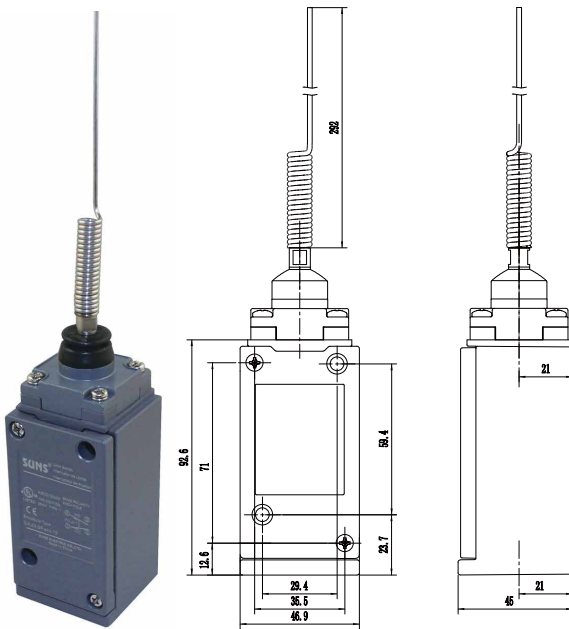
HNS-2A-66: 2NO/2NC



Order Code

HNS-1A-68: 1NO/1NC

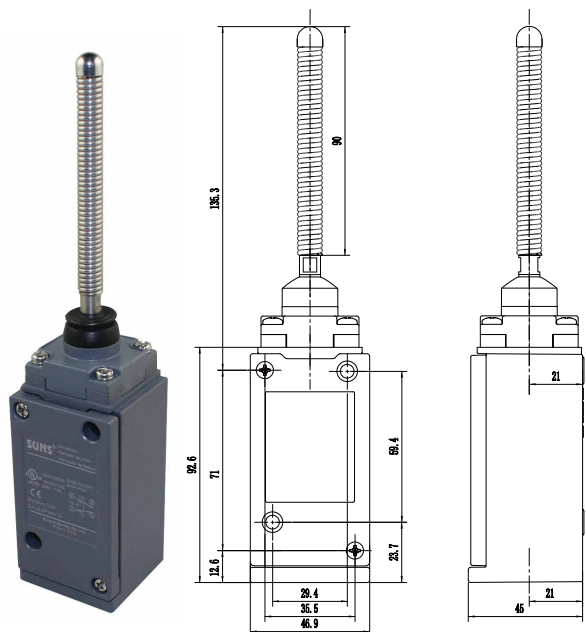
HNS-2A-68: 2NO/2NC



Order Code

HNS-1A-69: 1NO/1NC

HNS-2A-69: 2NO/2NC



Order Code

HNS-1A-00: 1NO/1NC

HNS-2A-00: 2NO/2NC

Note. (1) 2 x 10-24 UNC hole on the back for back side mounting.

(2) Conduit opening type: 1/2NPT