1. Instruction:
   The switch boxes are primarily a rotary position indication designed to integrate valve and pneumatic
   actuator with a variety of mounting options, internal switches or sensors and configurations. It gives
   signals through the terminal block to the outside and being showed by the outer indicator of the switch
   boxes.

2. Installation:
   1) Close cam setting:
      Push down top cam and turn until the switch is activated and
      then release cam will come back into spline shaft by spring leaded;
   2) Open cam setting:
      Lift up bottom cam and turn until the switch is activated and then
      release cam will come back into spline shaft by spring leaded;
   3) Checking the switch cam setting:
      Operate the actuator fully open and closed in both direct on
      several times to check that the switch cams are operated correctly.

3. Operation Caution:
   1) Before open the cover, always disconnect the electrical supplies;
   2) Position indicator & switch boxes comers are sealed with o-ring.
      Care should be taken not to cause and damage to the O-ring
      during disassembly or reassembly.
   3) Wiring connections unused must be jammed and stopped.
NTS Valve Position Monitor (Limit Switchbox)
Switches, Wiring and Bracket (NTS-A,C,E & H series)

2-SPDT mechanical switches
Rating: 16A 1/2HP 125/250VAC, 0.6A 125VDC, 0.3A 250VDC
approved by UL, CSA

4-SPDT mechanical switches
Rating: 5A 125 VAC LT130 0.6A 125VDC
approved by UL, CSA

2-DPDT mechanical switches
Rating: 10A 125 or 250VAC 2A 480VAC
1/8HP 125VAC, 0.25HP 250VAC
0.5A 125VDC, 0.25A 250VDC
approved by UL, CSA

Autonics proximity sensors
PS17-5DNU (NPN, PNP), 3-wire
Voltage rating: 10~30VDC
Sensing distance: 5mm
Ambient temperature: -25~+70°C

P & F proximity sensors
NJ2-V3-N (Intrinsic safe, 2-wire)
Voltage rating: 8V DC
Sensing distance: 2mm
Ambient temperature: -25~+100°C

Potentiometer
Providing 0-1K ohm output signal,
Options: 0-5K or 10K ohm

Position Transmitter
Providing 4-20mA DC (or 0~1K ohm) output signal as feedback, 15~28VDC loop power (24V DC input power)
Load impedance: 0~600 Ohm,
Max output: 35mA DC
Adjustment: Zero and span

Standard bracket provided together with switch box (included)
1. SS1 30 x 80 x 20(H)
2. SS2 30 x 80 x 30(H)
3. SS3 30 x 130 x 30(H)
4. SS4 30 x 130 x 50(H)
5. Universal Type
NTS Valve Position Monitor (Limit Switchbox)

**Dimension**

- **NTS-A Series**
- **NTS-C Series**
- **NTS-E Series**
- **NTS-H Series**
- **NTS-D Series**
- **NTS-F Series**

*Images of each series showing various dimensions and specifications.*

**Key Dimensions:***
- 2-1/2"PT(NPT)
- LED
- 45°
- R20.8mm
- 120mm
- 76mm
- 30mm
- 51mm
- 40mm
- 20mm
- 17 19 3 4 9.5 mm
- Ф 5
Material of Construction

<table>
<thead>
<tr>
<th>Housing</th>
<th>Low cooper aluminum die-casting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coating</td>
<td>Epoxy-Polyester</td>
</tr>
<tr>
<td>Sealing</td>
<td>NBR O-rings on each interface</td>
</tr>
<tr>
<td></td>
<td>(Dome indicator, Lower/Upper Housing, Shaft)</td>
</tr>
<tr>
<td>Cams</td>
<td>Poly-Carbonate</td>
</tr>
<tr>
<td>Bushings</td>
<td>Bronze</td>
</tr>
<tr>
<td>Shaft</td>
<td>AISI304 Stainless Steel</td>
</tr>
<tr>
<td>Earth Lug</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Mounting Bracket</td>
<td>AISI304 Stainless Steel</td>
</tr>
</tbody>
</table>

Ordering Information:

- **NTS – A – 10**
  - Enclosure:
    - A Series (Aluminum Die-Casting, Weather-Proof)
    - C Series (Aluminum Die-Casting, Weather-Proof)
    - E Series (Aluminum Die-Casting, Explosion-Proof, EExdIIBT6)
    - ES Series (316SS Stainless Steel, Explosion-Proof, EExdIIBT6)
    - H Series (Aluminum Die-Casting, Explosion-Proof, EExdIICT6)
    - D Series (ABS, Weather-Proof)
    - F Series (ABS, Weather-Proof)
  - Switch Type:
    - Mechanical Switch:
      - 10 - 2 x SPDT, mechanical type
      - 11 - 3 x SPDT, mechanical type (Not available in A & D series)
      - 12 - 4 x SPDT, mechanical type (Not available in A & D series)
      - 13 - 2 x DPDT, mechanical type (Not available in A & D series)
      - 15 - 2 x SPDT+Potentiometer (only available in E series)
      - 16 - 2 x SPDT+Position Transmitter (4-20mA, ADC output) (only available in E series)
  - Proximity Sensor:
    - 21 - P&F NJ2-V3-N (2-wire/NO, EExiaIICT6)
    - 22 - P&F NJ4-12GM-N (2-wire/NO, EExiaIICT6, SIL 2)
    - 23 - P&F NBB2-V3-E2 (3-wire/PNP or NPN, IP67)
    - 24 - Autonics PS17-5DNU (3-wire/PNP or NPN, IP67)
    - 25 - Nutork model 2PS-100 Inductive Type, 2-wire/NO, IP67
    - 26 - Nutork model 3PS-200 Inductive Type, 3-wire/NO, NPN or PNP, IP67
    - 27 - Nutork Magnet Type, 2xSPDT reed switch, 0.5A at 240VAC
    - 30 - Nutork magnet Type, 2xSPST reed switch, 0.3A at 250VAC (NTS-F series only)