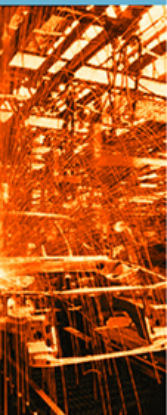


mini

Limit Switches



BHARTIA OUTLER-HAMMER

BHARTIA INDUSTRIES LIMITED



Mini Limit Switches



Bhartia Cutler-Hammer's Mini Limit Switches are designed with a single aim to improve productivity better....faster....with less production down time. These Limit Switches deliver flawless, continuous and consistent performance even in highly contaminated atmospheres and in high shock and vibration applications. Manufactured to worldclass and exacting standards, each product passes through Stringent Quality Tests.

Features

- Compact design requiring less mounting space.
- Excellent contact reliability using crossbar contact method.
- Dual cutoff circuit with minimum chatter and bounce.
- Zinc Die cast base & high end polyamide cover.
- Terminals spread in a tiered array allow ample wiring space
- Dust-proof, waterproof, oil resistant construction.
- Long mechanical & electrical life

Typical Applications

- Machine tools
- Material handling
- Food & beverages
- Textile machinery
- Conveyors
- Packaging machinery

Technical Data

| | | | |
|--|-------------------------------|--|--|
| Ref. standards | IS 13947-5-1 EN 60947-5-1 | Conditional S. C. Current | 100A |
| Operating temp limits | -20 to + 60° C | Short Ckt Protection Device | 10A fuse |
| Rated operating voltage (Ue) | 250V | Contact Combination | 1 NO+ 1 NC |
| Rated insulation voltage (Ui) | 250V | Mech. Life | 10 million oprns. |
| Rated impulse withstand voltage (Uimp) | 2.5kV | Frequency of Operation | 7200 oprns / hr. |
| Rated Frequency | 50/60 Hz | Electrical Life | 0.3 million oprns. |
| Rated thermal current (Ith) | 5A | IP category | IP 64 |
| Resistive Load | 5A, 250V AC 0.4 A, 125V DC | Pollution Degree | 3 |
| AC 15 Duty | 3A, 125V AC 2A, 250V AC | Termination | 1.5 sq. mm. cable |
| DC 13 Duty | 0.1A, 125 V DC | Tightening Torque | 0.6 Nm |
| | | Shock resistance as per IEC 68-2-27 | 10g in free condition, 30 g in fully operated condition |
| | | Vibration resistance as per IEC 68-2-6 | Max. 55 Hz |



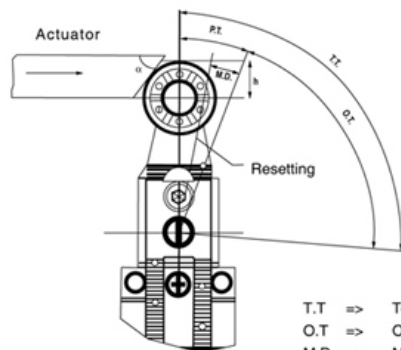
Operating Data Table

| | OPERATING FORCE Max. gms (N) | RETURN FORCE Min. gms (N) | PRE TRAVEL (P.T) Max. mm | MOVEMENT DIFF. (M.D), Max. mm | OVER TRAVEL (O.T) Min. mm | TOTAL TRAVEL (T.T) Min. mm |
|--|---------------------------------|------------------------------|-----------------------------|----------------------------------|------------------------------|-------------------------------|
| Push Plunger Roller Plunger Cross Roller Plunger | 900 (8.83) | 150 (1.47) | 1.5 | 0.7 | 4 | 5.5 |
| Roller Arm | 600 (5.88) | 50 (0.49) | 20° | 10° | 75° | 95° |
| Adjustable Roller Arm | 800 (7.84)~ 342 (3.35) | 50 (0.49)~ 21 (0.21) | 20° | 10° | 75° | 95° |
| Adjustable Rod | 800 (7.84)~ 203 (1.99) | 50 (0.49)~ 12 (0.12) | 20° | 10° | 75° | 95° |
| Cat's Whisker | 90 (0.80) | - | 30 | - | 20 | 50 |
| Flexible Rod | 90 (0.88) | - | 50 | - | 20 | 70 |
| General Purpose | 1000 (9.81) | - | 1.5 | - | 4.3 | 5.8 |

Travel & Operation Diagrams

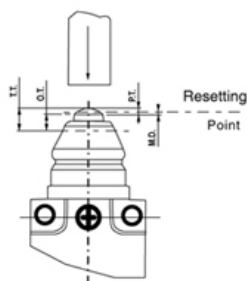
Rotary Movement

(DLSMRL/DLSMRLA/DLSMJWA)



Linear Movement

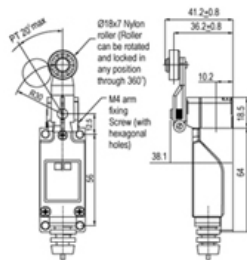
(DLSMPP/DLSMPP/DLSMPPX/DLSMPP/DLSMAR)



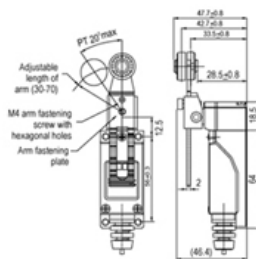
- T.T => Total Travel
- O.T => Over Travel
- M.D => Movement Differential
- P.T => Pre Travel
- h => 80% of T.T.
- α => 45°

| | TYPE | DESCRIPTION | CAT. REF. |
|--|-----------------|-----------------------------|-------------------|
|  | Push Plunger | Standard | DLSMPP |
|  | Roller Plunger | Standard Cross | DLSMRP DLSMRPX |
|  | Roller Lever | Standard - 30 mm | DLSMRL |
|  | Roller Lever | Adjustable 30 mm - 70 mm | DLSMRLA |
|  | Rod Arm | Adjustable | DLSMJWA |
|  | Flexible Rod | Nylon | DLSMSR |
|  | Cat's Whisker | Steel Wire | DLSMSW |
|  | General Purpose | Standard | DLSMAR |

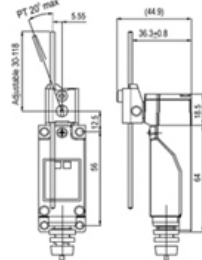
Roller Arm (DLSMRL)



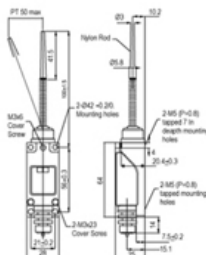
Adjustable Roller Arm (DLSMRLA)



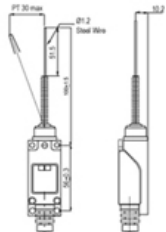
Adjustable Rod Arm (DLSMJWA)



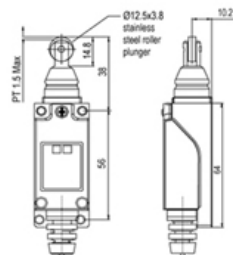
Flexible Rod (DLSMSR)



Cat Whisker (DLSMSW)

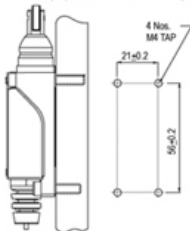


Roller/Cross Roller Plunger (DLSMRP/DLSMRPX)

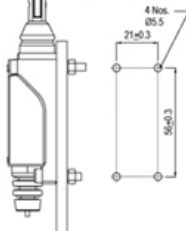


Mounting Dimensions

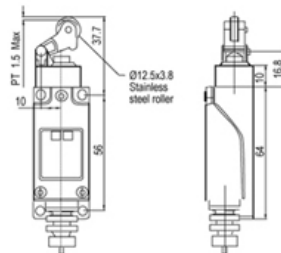
Surface Mounting
(Depth of Screws holes > 15mm)



Through Hole Mounting
(Thickness of Panel < 5mm)



General Purpose (DLSMAR)



Push Plunger (DLSMPP)

