

SEALED AGAINST IMMERSION & CORROSIVE ATMOSPHERES



P6 series switches are sealed against immersion and corrosive atmospheres. These switches are designed for rugged duty both mechanically and electrically. A one-piece nickel plated stainless steel or brass housing, sealed at the plunger with an O-ring and at the base with a glass-to-metal header option provides true environment-free sealing to comply with MIL-PRF-8805/39, MIL-PRF-8805/40, MIL-PRF-8805/43, and MIL-PRF-8805/100. Most case parts are grounded for EMI reduction.

The P6 series is available with roller plunger styles for cam or slide actuation and pin plunger for in-line actuation. Contact factory for additional designs.

P6 series features the OTTO B2, B3 or B5 series snap-action basic switch. High contact pressure and unique contact design provides low contact resistance for low level switching as well as full rated service.

Features:

- Complies with MIL-PRF-8805 sealing
- One-piece housing
- Sealed at plunger with O-rings
- Sealed at base with a glass seal
- EMI reduction construction
- Choice of pin or roller plunger
- Choice of axial or radial leads

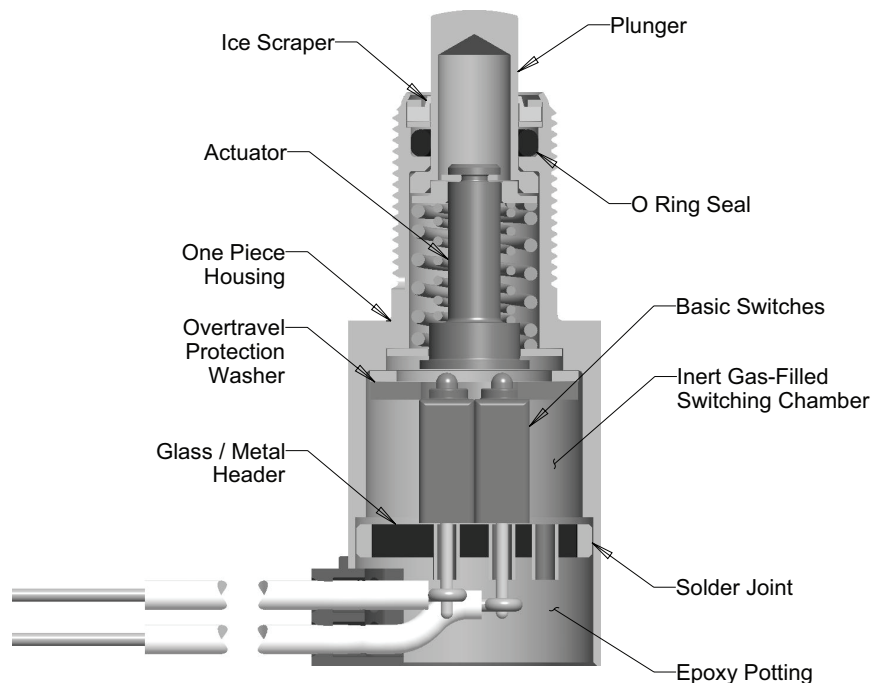
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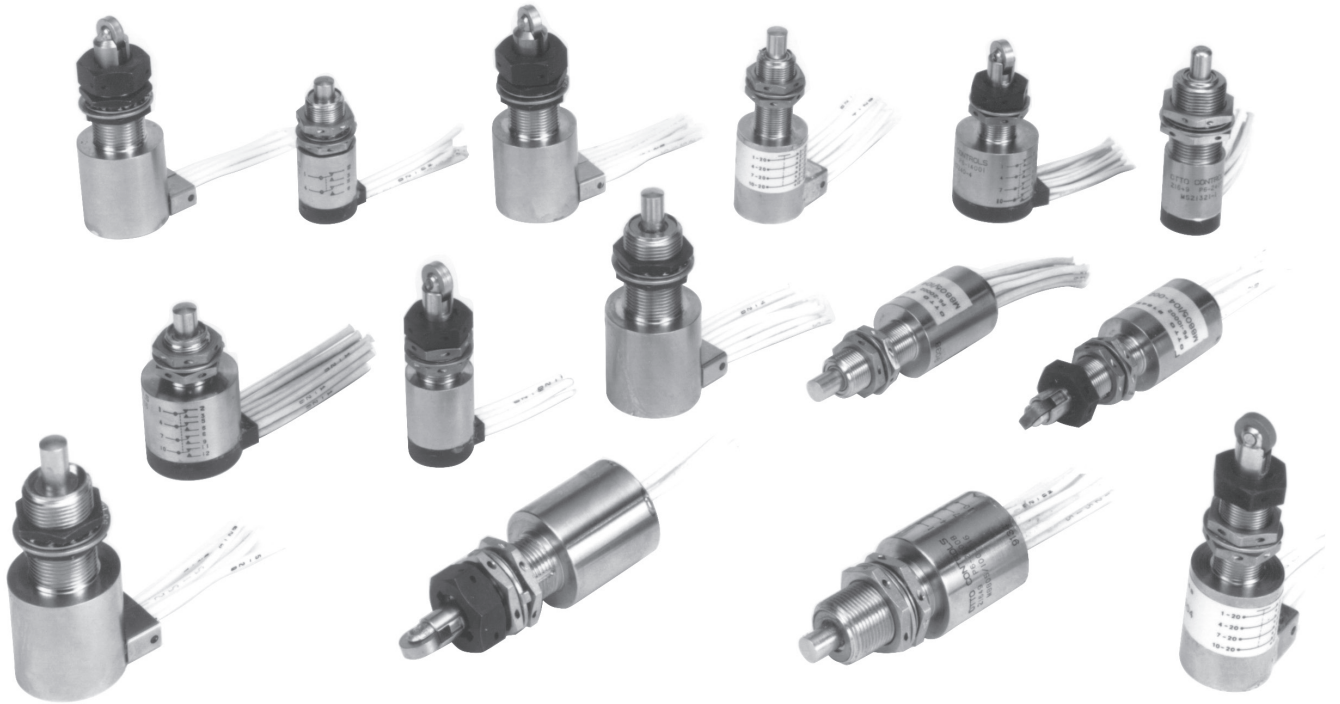


Cross section example of OTTO P6-24XXX series.

SEALED LIMIT SWITCHES

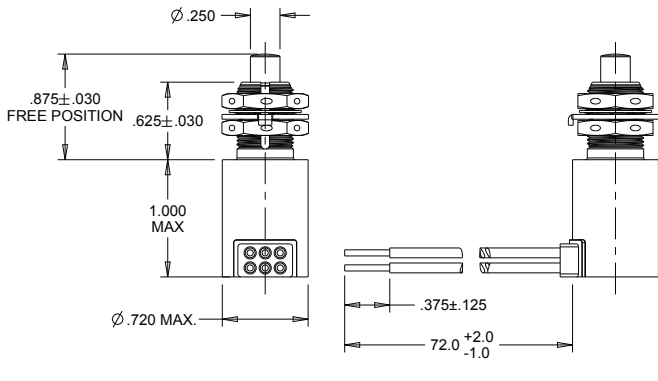
P6
LIMIT SWITCHES

FEATURING OTTO B2 & B3 SERIES BASIC SWITCHES

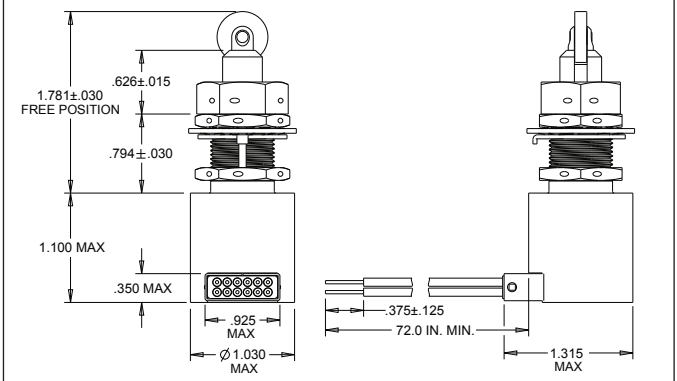


LIMIT SWITCHES

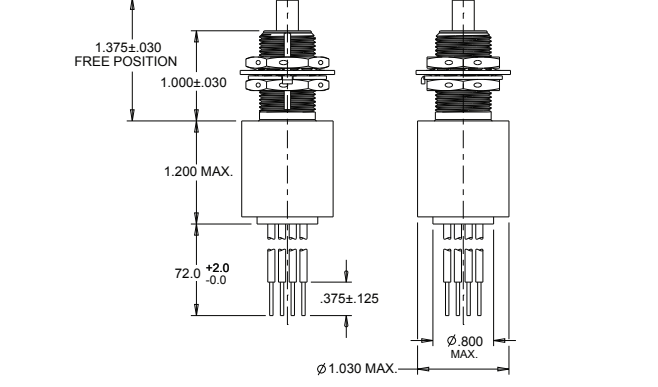
Style A
Pin Plunger
Radial Leads



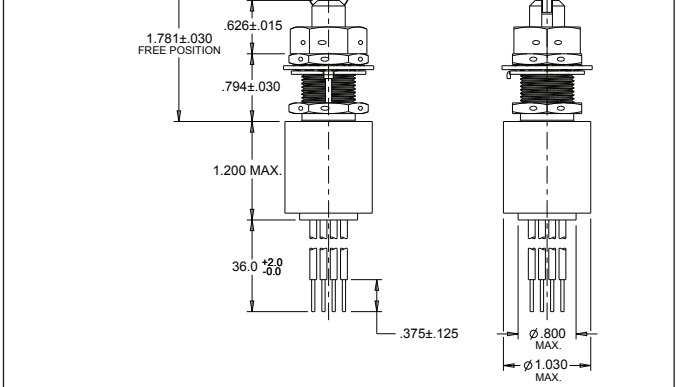
Style B
Roller Plunger
Radial Leads



Style C
Pin Plunger
Axial Leads



Style D
Roller Plunger
Axial Leads



FEATURING OTTO B2 & B3 SERIES BASIC SWITCHES

| SPECIFICATIONS: Standard Models | | | | | |
|---------------------------------|--------------------------|-------------------|----------------------------|----------------------|-------------------|
| ELECTRICAL RATINGS: | | | | | |
| Load | Sea Level @ 28VDC | | 50,000 feet @ 28VDC | | |
| RATING TABLE 1 | | | | | |
| Resistive | 7A | | 7A | | |
| Inductive | 4A | | 2.5A | | |
| Motor | 4A | | (4A) | | |
| DWV | 1000Vrms | | 400Vrms | | |
| RATING TABLE 2 | | | | | |
| Resistive | 7A | | 7A | | |
| Inductive | 3A | | 3A | | |
| Motor | 4A | | 4A | | |
| Lamp | 2A | | 1A | | |
| DWV | 1250Vrms | | 600Vrms | | |
| RATING TABLE 3 | | | | | |
| Resistive | 4A | | 4A | | |
| Inductive | 2A | | 2A | | |
| Motor | 4A | | 4A | | |
| DWV | 1000Vrms | | 400Vrms | | |
| RATING TABLE 4 | | | | | |
| Load Type | Power Circuit | Elex Logic | Low Level | Power Circuit | Elex Logic |
| Resistive | 1A | 0.01A | 0.01A | 1A | 0.01A |
| Inductive | 0.5A | N/A | N/A | 0.5A | N/A |
| DWV | 1000Vrms | | 400Vrms | | |

Electrical Life: 25,000 cycles
Low Level Life: 25,000 cycles
Contact Resistance: Per MIL-PRF-8805
Operating Force: 6.0 lbs. to 12.0 lbs. standard. Other forces available.
Overtravel Force: 30.0 lbs. max
Release Force: 4.0 lbs. min

Pretravel:
MIL-PRF-8805/39, /40, /43: 0.040 inches
MIL-PRF-8805/100: 0.070 inches
MIL-PRF-8805/104: 0.050 inches

Movement Differential:
MIL-PRF-8805/39, /40, /43: 0.020 inches
MIL-PRF-8805/100: 0.035 inches
MIL-PRF-8805/104: 0.030 inches

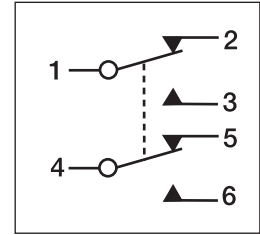
Overtravel:
MIL-PRF-8805/39, /40, /100: 0.250 inches

Wire Type:
Per MIL-W-22759/7
Marked per MIL-W-5088.
Standard length: 6 feet. Other lengths available.

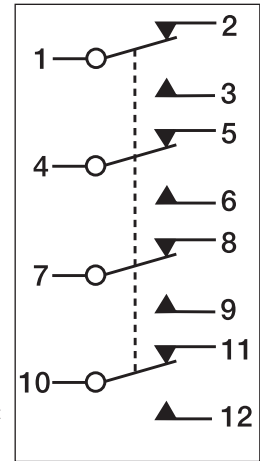
Operating Temp Range: -55°C to 85°C

Mounting/Termination:
Bushing mounting with positive, non-turn features. Wire leads potted at terminal base for strain relief and added insulation. Each wire is marked with circuit identification.

For specific details not shown above, please consult the appropriate military specification sheet or OTTO's product drawing.



2PDT Schematic



4PDT Schematic

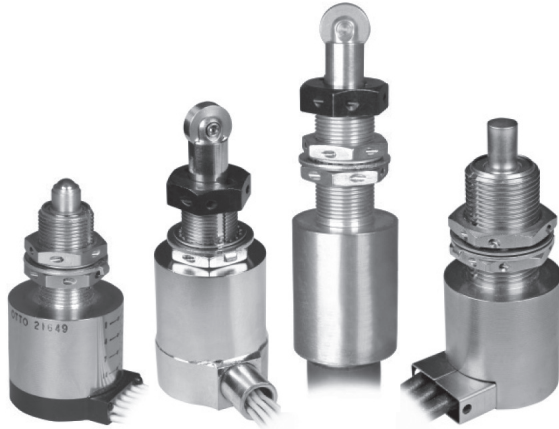
| Circuitry | Plunger/Lead Exit Style | Dim. A Free Position (inches +/- 0.030) | Dim. B Bushing Length (inches +/- 0.030) | Dim. C Thread (inches) | Dim. D Body Dia. (max inches) | Dim. E Body Length (max inches) | Electrical Rating Table | Military Number | Catalog Number |
|-------------------------|-------------------------|---|--|------------------------|-------------------------------|---------------------------------|-------------------------|----------------------|----------------|
| MIL-PRF-8805/39 | | | | | | | | | |
| 2PDT | A-Pin/Radial | 1.375 | 1.000 | 0.625-24 | 0.720 | 0.980 | 1 | MS21321-1 | P6-24000 |
| 4PDT | A-Pin/Radial | 1.375 | 1.000 | 0.625-24 | 1.031 | 1.200 | 1 | MS21321-2 | P6-24001 |
| MIL-PRF-8805/40 | | | | | | | | | |
| 2PDT | A-Pin/Radial | 1.375 | 1.000 | 0.625-24 | 1.015 | 0.980 | 3 | MS24331-1 | P6-24002 |
| MIL-PRF-8805/43 | | | | | | | | | |
| 2PDT | A-Pin/Radial | 0.875 | 0.625 | 0.469-32 | 0.720 | 1.000 | 1 | MS27240-1 | P6-24003 |
| 4PDT | A-Pin/Radial | 0.875 | 0.625 | 0.469-32 | 1.031 | 1.200 | 1 | MS27240-2 | P6-24004 |
| 2PDT | B-Roller/Radial * | 1.295 | N/A | 0.469-32 | 0.720 | 1.000 | 1 | MS27240-3 | P6-14000 |
| 4PDT | B-Roller/Radial * | 1.295 | N/A | 0.469-32 | 1.031 | 1.200 | 1 | MS27240-4 | P6-14001 |
| 2PDT | A-Pin/Radial | 0.875 | 0.625 | 0.469-32 | 0.720 | 1.000 | 4 | MS27240-5 | P6-24005 |
| 4PDT | A-Pin/Radial | 0.875 | 0.625 | 0.469-32 | 1.031 | 1.200 | 4 | MS27240-6 | P6-24006 |
| 2PDT | B-Roller/Radial * | 1.295 | N/A | 0.469-32 | 0.720 | 1.000 | 4 | MS27240-7 | P6-14002 |
| 4PDT | B-Roller/Radial * | 1.295 | N/A | 0.469-32 | 1.031 | 1.200 | 4 | MS27240-8 | P6-14003 |
| MIL-PRF-8805/100 | | | | | | | | | |
| 4PDT | A-Pin/Radial | 1.375 | 1.000 | 0.625-24 | 1.030 | 1.100 | 2 | MIL-PRF-8805/100-007 | P6-24043 |
| 4PDT | C-Pin/Axial | 1.375 | 1.000 | 0.625-24 | 1.030 | 1.200 | 2 | MIL-PRF-8805/100-008 | P6-24044 |
| 4PDT | B-Roller/Radial ** | 1.781 | 0.794 | 0.625-24 | 0.925 | 1.100 | 2 | MIL-PRF-8805/100-009 | P6-14035 |
| 4PDT | D-Roller/Axial ** | 1.781 | 0.794 | 0.625-24 | 1.030 | 1.200 | 2 | MIL-PRF-8805/100-010 | P6-14036 |
| 4PDT | A-Pin/Radial | 1.375 | 1.000 | 0.625-24 | 1.030 | 1.100 | 2 | MIL-PRF-8805/100-015 | P6-24007 |
| 4PDT | C-Pin/Axial | 1.375 | 1.000 | 0.625-24 | 1.030 | 1.200 | 2 | MIL-PRF-8805/100-016 | P6-24008 |
| 4PDT | B-Roller/Radial ** | 1.781 | 0.794 | 0.625-24 | 1.030 | 1.100 | 2 | MIL-PRF-8805/100-017 | P6-14005 |
| 4PDT | D-Roller/Axial ** | 1.781 | 0.794 | 0.625-24 | 1.030 | 1.200 | 2 | MIL-PRF-8805/100-018 | P6-14006 |

* Roller diameter is 0.375 inches. ** Roller diameter is 0.500 inches.

NOTE: SEE MILITARY QPL CROSS REFERENCE LISTING IN APPENDIX.

APPLICATION-SPECIFIC MODIFIED PRODUCTS

Modified Military Styles



| Circuitry | Free Position (inches) | Bushing Length (inches) | Overall Length (inches) | Catalog Number |
|---|------------------------|-------------------------|-------------------------|----------------|
| Pin Plunger, Radial Lead Exit | | | | |
| 2PDT | 1.375 | 1.000 | 2.375 | P6-20077 |
| 2PDT | 1.575 | 1.200 | 2.575 | P6-20084 |
| 2PDT | 0.875 | 0.625 | 1.875 | P6-20076 |
| 4PDT | 1.375 | 1.000 | 2.475 | P6-20115 |
| Pin Plunger, Axial Lead Exit | | | | |
| 2PDT | 0.875 | 0.625 | 2.250 | P6-20003 |
| 2PDT | 1.575 | 1.200 | 2.950 | P6-20005 |
| Roller Plunger, Radial Lead Exit | | | | |
| 4PDT | 1.781 | 0.794 | 2.781 | P6-14010 |
| 2PDT | 1.295 | 0.630 | 2.295 | P6-14020 |
| 2PDT | 1.980 | 1.095 | 2.980 | P6-10060 |
| Roller Plunger, Axial Lead Exit | | | | |
| 2PDT | 1.700 | 0.860 | 3.200 | P6-10057 |
| 4PDT | 2.150 | 0.794 | 3.800 | P6-14084 |

Custom Paint

Design 4 (Resilient) sealed single pole switch features polyurethane paint on the switch body and has a military style connector. Bushing is 15/32-32.

P6-24026

Actuating Force: 9.0 +/- 3.0 lbs.
Release Force: 4.0 lbs. min
Overtravel: 0.125" min
Circuit: SPDT
Rating: 7 amps Resistive
 4 amps Inductive
Contacts: Gold



Flange Mount

Low profile four pole switch features flange mounted stainless steel housing with an 8 pin connector.

P6-20121

Actuating Force: 6.0 +3.0/-2.0 lbs.
Release Force: 2.0 lbs. min
Circuit: 4PST N.C.
Rating: 0.5 amps Resistive for 100,000 cycles
Contacts: Silver/Gold



Longer Bushing

This two pole switch features an extra long mounting bushing. Bushing is 15/32-32.

P6-20005

Overtravel: 0.250" min
Operating Force: 9.0 +/- 3.0 lbs.
Release Force: 4.0 lbs. min
Circuit: 2PDT
Rating: 7 amps Resistive
 3 amps Inductive
Contacts: Gold



Rubber Bonded Leads

Aircraft switch features special 48" leads with a Fluorosilicone rubber bonded to wire leads.

P6-20050

Total Travel: 0.300" min
Operating Force: 11.0 +/- 5.0 lbs.
Release Force: 4.0 lbs. min
Circuit: 4PDT
Rating: 0.04 amps to 0.5 amps Inductive
Contacts: Gold



Sleaved Wires

This two pole switch features a lower spring force and sleeved wires.

P6-24111

Overtravel: 0.500" min
Operating Force: 3.0 to 6.0 lbs.
Release Force: 2.0 lbs. min
Circuit: 2PDT
Rating: 7 amps Resistive
 4 amps Inductive
Contacts: Gold



Adjustable Roller Plunger

Design 4 (Resilient) sealed 2PDT limit switch with adjustable orientation of roller plunger at 45° increments. 72" wire leads included.

P6-14000

Overtravel: 0.125" min
Operating Force: 9.0 +/- 3.0 lbs.
Release Force: 4.0 lbs. min
Circuit: 2PDT
Rating: 7 amps Resistive
 4 amps Inductive
Contacts: Gold

