

# HALL EFFECT PUSHBUTTON SWITCHES

**HP7**  
HALL EFFECT  
PUSHBUTTONS

10 MILLION CYCLES, CONTACTLESS HALL EFFECT TECHNOLOGY

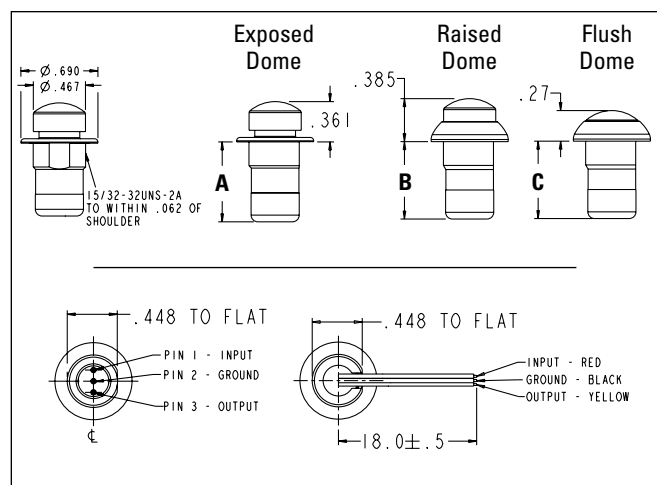
Designated the HP7 series, these momentary pushbutton switches utilize Hall effect sensor technology for long life contactless switching, with 10 million cycles. Available in dusttight and moistureproof sealed configurations, these switches can also be watertight sealed to IP68S. The stylish dome-shaped pushbuttons are available in nine colors.

Case and bezel are precision-machined aluminum alloy, available with either a black or clear coat anodized finish. Three case and button styles are offered in raised dome, flush dome and exposed dome styles. PC pins or wire leads are standard, with value-added connectors available to specification.

This rugged switch is designed to withstand harsh environments while being subjected to high rates of actuation. Applications that require repeated "jogging" and other continuous operations are prime applications for the HP7 Hall Effect Switch. Examples of such can be found in material handling equipment such as loaders, lift trucks, bucket and shovel, and other applications where positioning of the load is critical.

## Features:

- 10 million cycles
- Hall effect sensor technology for long life
- Moistureproof & dusttight to IP64 or watertight to IP68S
- Stylish dome-shaped buttons in 9 colors
- Momentary action
- Choice of termination styles
- Mechanical detent available for tactile feedback
- RoHS/WEEE/Reach compliant



|                         | PIN HEAD | WIRE LEAD |
|-------------------------|----------|-----------|
| <b>A - Exposed Dome</b> | .716     | .652      |
| <b>B - Raised Dome</b>  | .693     | .628      |
| <b>C - Flush Dome</b>   | .693     | .628      |



Raised Dome  
with 3 PIN Header



Exposed Dome  
with Wire Leads

| Standard Characteristics/Ratings:                               |                                                               |     |     |
|-----------------------------------------------------------------|---------------------------------------------------------------|-----|-----|
| MECHANICAL:                                                     |                                                               |     |     |
| Mechanical Life:                                                | 10,000,000 cycles without detent                              |     |     |
| Button Travel:                                                  | 0.080 inches max                                              |     |     |
| Overtravel:                                                     | 0.010 inches min                                              |     |     |
| Operating Force:                                                | Without detent: 16 oz +/- 8 oz<br>With detent: 28 oz +/- 8 oz |     |     |
| Operating Point:                                                | 0.040 inches +/- 0.010                                        |     |     |
| Electrical Life:                                                | 10,000,000 cycles                                             |     |     |
| ELECTRICAL RATINGS: Rated at Vcc = 5V @ 25°C Load = 1mA (4.7KΩ) |                                                               |     |     |
| Electrical                                                      | Units                                                         | Min | Max |
| Supply Voltage                                                  | VDC                                                           | 4.5 | 24  |
| Reverse Output Voltage                                          | VDC                                                           | N/A | 0.5 |
| Supply Current                                                  | mA                                                            | N/A | 9   |
| Continuous Output Current                                       | mA                                                            | N/A | 25  |
| Reverse Battery Protection                                      | VDC                                                           | N/A | -30 |
| ELECTRONICS:                                                    |                                                               |     |     |
| Seal Integrity:                                                 | IP64 or IP68S                                                 |     |     |
| ENVIRONMENTAL:                                                  |                                                               |     |     |
| Operating Temp Range:                                           | -40°C to +85°C                                                |     |     |
| Storage Temp Range:                                             | -55°C to +105°C                                               |     |     |
| MATERIALS:                                                      |                                                               |     |     |
| Button:                                                         | Thermoplastic                                                 |     |     |
| Case:                                                           | Aluminum alloy                                                |     |     |
| Mounting Hardware:                                              | Hex nut & lockwasher                                          |     |     |

## HP7 PART NUMBER CODE

| HP7              | -                                      | X                               | X                            | X          | X            | X |
|------------------|----------------------------------------|---------------------------------|------------------------------|------------|--------------|---|
| Dome Style       | Action                                 | Terminal Style                  | Seal Level                   | Case Color | Button Color |   |
| DE. Exposed Dome | 1. Normally High Momentary             | 3. 3 Pin Header                 | 2. Dusttight & Moistureproof | 1. Clear   | 1. Red       |   |
| DF. Flush Dome   | 2. Normally High Momentary with Detent | 5. 18" Potted 26 AWG Wire Leads | 3. Watertight                | 2. Black   | 2. Black     |   |
| DR. Raised Dome  | 3. Normally Low Momentary              |                                 |                              |            | 3. Orange    |   |
|                  | 4. Normally Low Momentary with Detent  |                                 |                              |            | 4. Yellow    |   |
|                  |                                        |                                 |                              |            | 5. Green     |   |
|                  |                                        |                                 |                              |            | 6. Blue      |   |
|                  |                                        |                                 |                              |            | 7. Purple    |   |
|                  |                                        |                                 |                              |            | 8. Gray      |   |
|                  |                                        |                                 |                              |            | 9. White     |   |

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