

# MPS Series Magnetic Proximity Sensors

## Features/Benefits

- Long life—4M operations
- Sealed contacts
- Quality construction
- Quick and easy installation

## Typical Applications

- Automotive sensors and indicators
- Industrial sensors
- Factory automation equipment



## Specifications

CONTACT RATINGS: 3.0 W max. @ 30 V DC or 30 V AC max. @ 0.3 AMP max.; 1.0 msec. max. operate time (including bounce); 1.0 AMP max. carry current.

CONTACT RESISTANCE: 100 m Ω max. initial.

DIELECTRIC STRENGTH: 200 V DC min.

ELECTRICAL CIRCUIT: SPST NO (Contact Form A). Reed switch opens when magnet is removed from proximity. Contacts are held closed when magnet is within actuation range.

OPERATING TEMPERATURE: -40°F to 212°F (-40°C to 100°C).

OPERATING DISTANCE/ALIGNMENT: Operate (pull-in or make) points are nominal values with ± 10% tolerance. Release points are 110% to 150% of the operating points.

MECHANICAL & ELECTRICAL LIFE: 4 million operations.

PACKAGING: Bulk packaging, 10 switch and magnet pairs per package.

## Materials

HOUSING/SPACER/COVER: ABS plastic (UL94V-0), white.

REED SWITCH: Rhodium coated reed contacts in hermetically sealed, nitrogen filled glass capsule. Closed when magnet is in close proximity. Used in closed loop circuits.

WIRE LEADS: UL 1061, 22 AWG wire: stranded, made of copper or aluminum; Length: 12 in. with ends stripped; Color: white.

POTTING (around wires): Epoxy.

MAGNETS: MPS45WGW: NdFeB

MPS80WGW: Ceramic Ferrite 8

All other models: Alnico V

ADHESIVE MOUNTING: Foam-backed, pressure-sensitive adhesive with release liner (MPS45WGW model only).

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

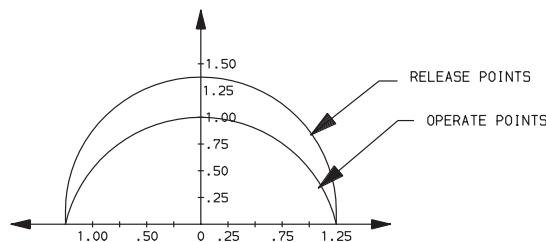
## How To Order

Complete part numbers for MPS Series Magnetic Proximity Sensors are shown on pages E-32 thru E-36.



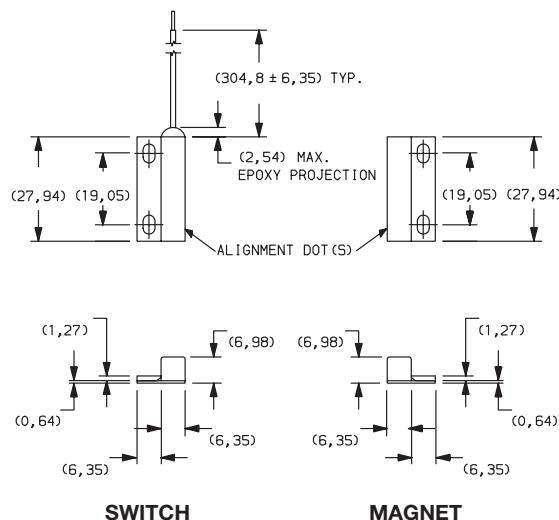
| PART NUMBER     | SWITCH TYPE  |
|-----------------|--|
| <b>MPS45WGW</b> | Subminiature surface mount (adhesive or flange), side exit leads, 1" make gap. |

UL 61058-2



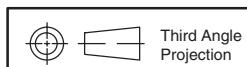
OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).  
**ACTUATION CHART**

NOTE: UL 61058-2 Rating



SWITCH

MAGNET



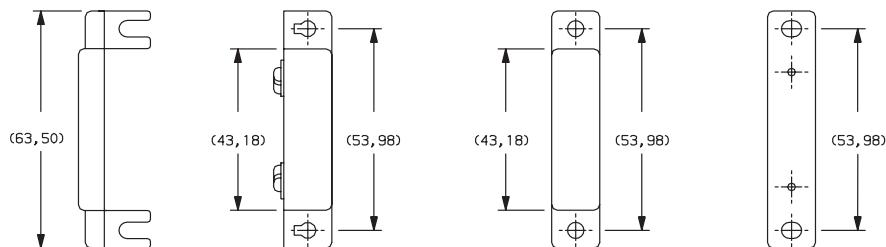
Third Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

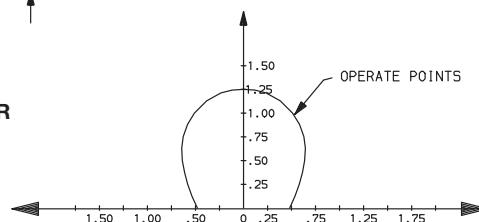


Detect

# MPS Series Magnetic Proximity Sensors

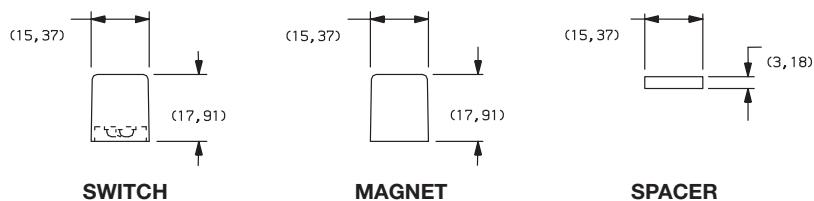
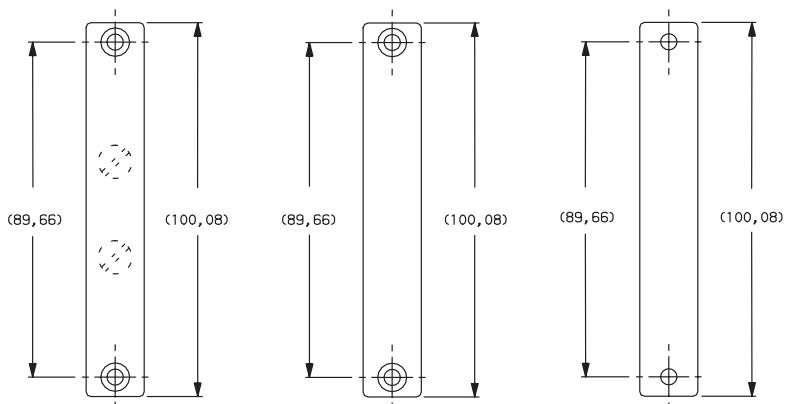


| PART NUMBER    | SWITCH TYPE   |
|----------------|---|
| <b>MPS20GW</b> | Standard surface mount, screw terminals, 1 1/4" make gap. |

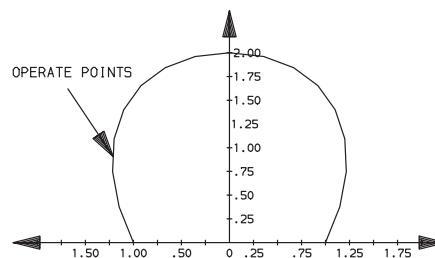


OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).

ACTUATION CHART

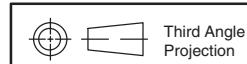


| PART NUMBER    | SWITCH TYPE   |
|----------------|---|
| <b>MPS80GW</b> | Industrial surface mount, concealed screw terminals, 2" make gap. |



OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).

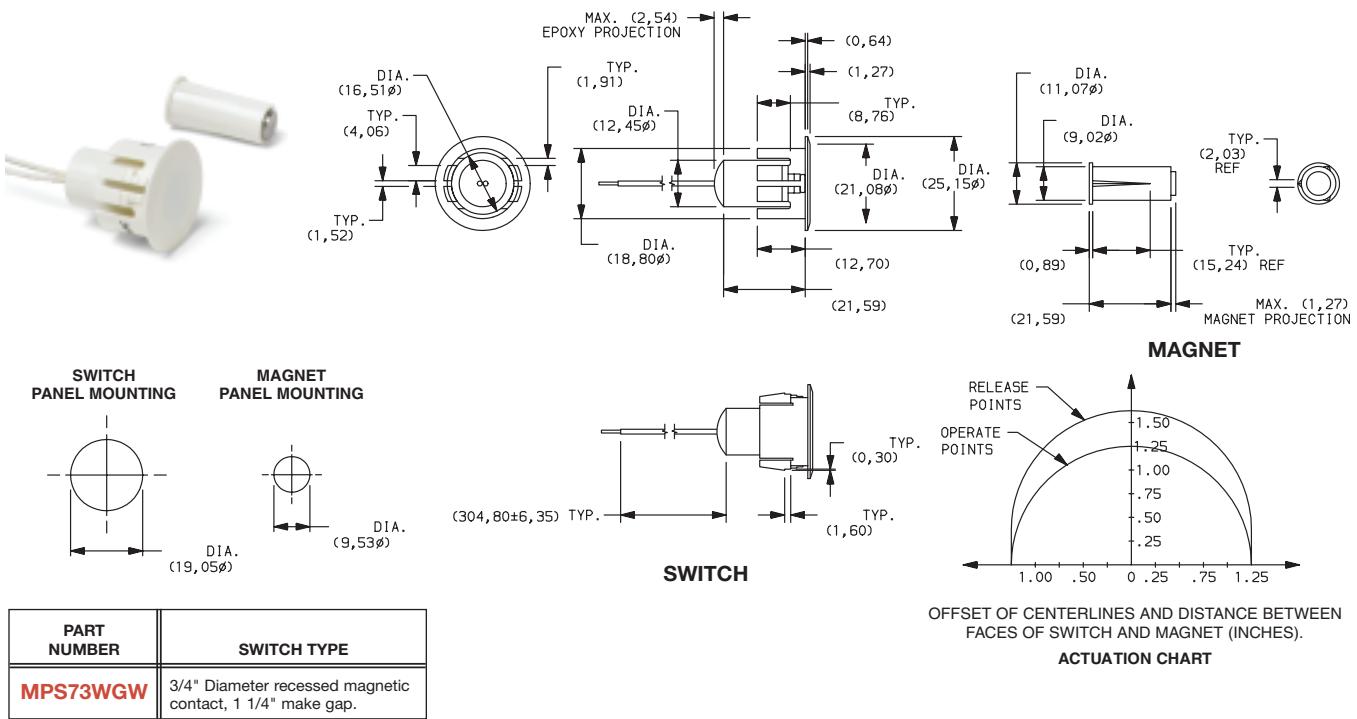
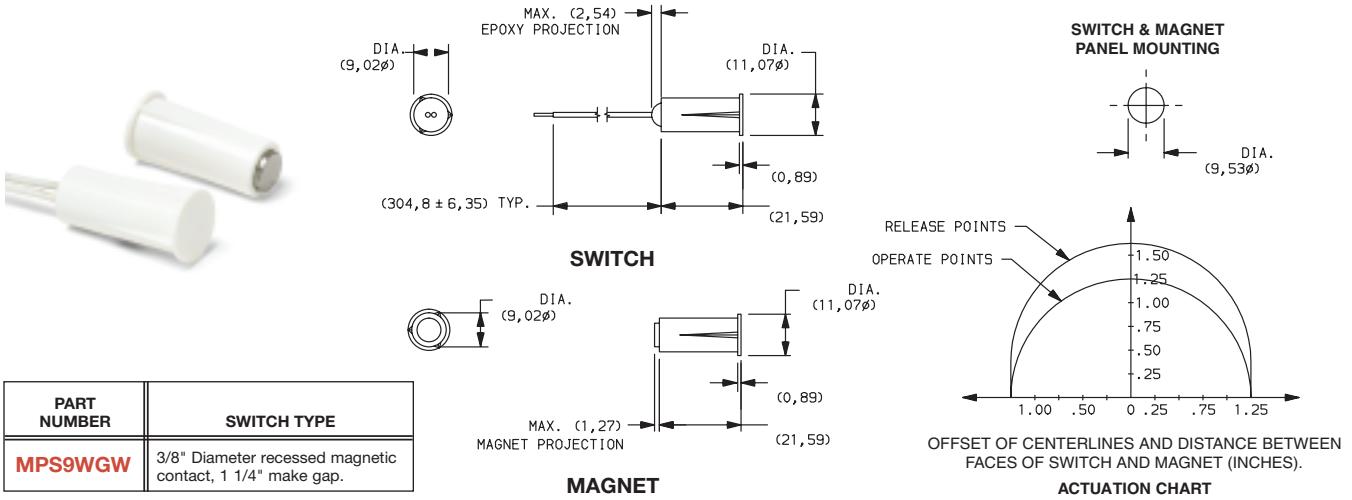
ACTUATION CHART



Third Angle Projection  
Dimensions are shown: mm  
Specifications and dimensions subject to change



# MPS Series Magnetic Proximity Sensors

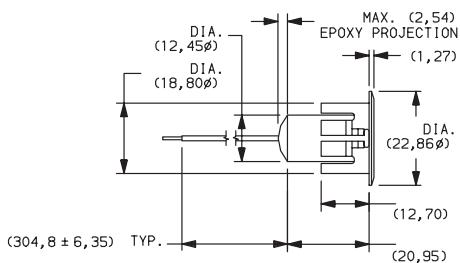


Detect

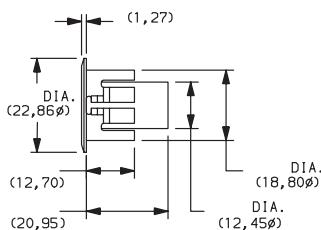


Dimensions are shown: mm  
Specifications and dimensions subject to change

# MPS Series Magnetic Proximity Sensors



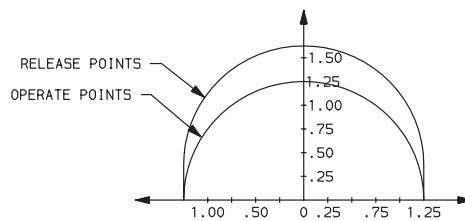
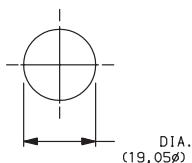
**SWITCH**



**MAGNET**



**SWITCH & MAGNET  
PANEL MOUNTING**



OFFSET OF CENTERLINES AND DISTANCE BETWEEN  
FACES OF SWITCH AND MAGNET (INCHES).

**ACTUATION CHART**

| PART NUMBER     | SWITCH TYPE   |
|-----------------|---|
| <b>MPS70WGW</b> | 3/4" Diameter recessed magnetic contact, 1 1/4" make gap. |

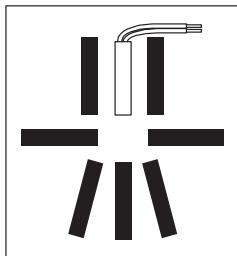
## Actuating Positions

When installing recessed and surface mount contacts, magnet position is very important. The switch and magnet must always be parallel or end to end, and never in a 'T' configuration.

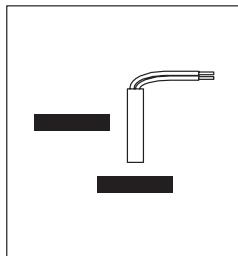
## Gap Distance

Gap distance is a combination of the horizontal and vertical plane separation of the switch and magnet. Example: if a recessed magnet is 1/4" off the centerline of the switch, the make gap is reduced by 1/4"

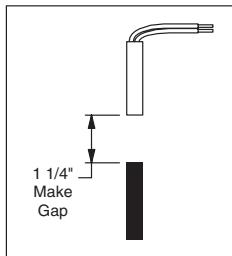
**Correct Configuration**



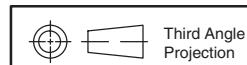
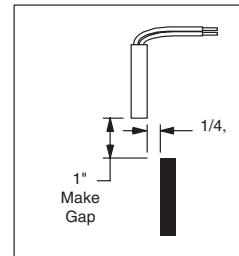
**Incorrect Configuration**



**Center Alignment**



**Off Center Alignment**



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