



**MICRO SWITCH™**  
**Snap-in Panel Mount Basic Switches**  
**DM | DP Series**



Datasheet

# MICRO SWITCH™ DM | DP Series

## Snap-in Panel Mount Basic Switches

MICRO SWITCH™ DM/DP basic switches are designed for a variety of applications, and known for their compact, lightweight design and accurate repeatability. The DM/DP Series is a special application precision switch that can be used in a variety of applications, including appliance door lights and door interlocks, as well as service panels.

The DM/DP Series snap-action switches have momentary, push-pull, and pull-to-throw configurations. The quick-connect terminals and snap-in, panel-mount housings provide easy installation. In addition to the standard quick-connect terminals (4,78 mm x 0,51 mm [0.188 in x 0.020 in]), larger 6,35 mm x 0,81 mm [0.25 in x 0.032 in] quick-connect terminals can be provided.

### ***What makes our switches better?***

- The right switch at the right cost for the product performance
- Series meets industries' most common standard applications eliminating need for product modifications
- Repeatable and consistent performance for up to one million lifecycles
- DP Series meets UL 508 requirements with extended electrical endurance for industrial applications



INDUSTRY STANDARD  
VALUE • RELIABLE

## Features and Benefits

### EASY INSTALLATION

Attractive, rugged **snap-in design** allows these switches to be easily installed. Quick-connect terminals reduce installation time.

### VARIETY OF CIRCUITRIES AND OPERATING ACTIONS

DM and DP Series switches offer a choice of **momentary, push-pull, or pull-to-charge** actions to meet equipment requirements. Circuitry options of **SPDT, DPDT, and SPNO** fit a number of applications.

### *Options for low energy circuits*

### LONG LIFE

With a mechanical life of up to **1,000,000 operations**, DM and DP Series switches deliver repeatable and consistent performance.

### *UL 508 for industrial control equipment*

### WIDE OPERATING TEMPERATURE RANGE

DM and DP Series operate from **-37 °C to 82 °C [-35 °F to 180 °F]** to meet many different environmental requirements.

### EASILY CONTROLS LOW-VOLTAGE DC APPLICATIONS

Switches available with a choice of **silver or gold-alloy contacts** to handle a variety of electrical load requirements.

### MEETS UL 508

DP Series meets Industrial Control Equipment's (**UL508**) requirements with extended electrical endurance of 100,000 operations for long-life applications.

### NORTH AMERICAN APPROVALS

DP: UL recognized file #E22779, CSA certified file #LR4442

DM: UL recognized file #E12252, CSA certified file #LR4442

## Potential Applications



### **APPLIANCE DOOR LIGHTS**

Used in turning lights “on” in refrigerators and freezers when the door is opened

### **DOOR INTERLOCKS**

Found as a door interlock on residential HVAC equipment and service panels to interrupt power when door access panels are opened

### **INDICATOR CIRCUITS**

Often used for general purposes to turn lights “on” or “off” when doors and/or panels are opened



# MICRO SWITCH™ Snap-in Panel Mount Basic Switches

**Table 1. Specifications**

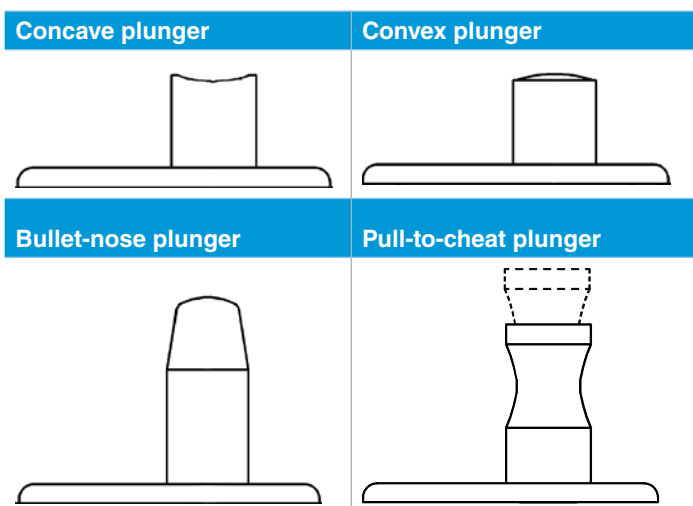
| Characteristic        | Parameter                                                      |
|-----------------------|----------------------------------------------------------------|
| Description           | snap-in panel mount basic switch                               |
| Actuators             | momentary action<br>push-pull<br>push momentary, pull-to-cheat |
| Terminations          | quick connect, 4,78 mm x 0,51 mm [0.188 in x 0.020 in]         |
| Amp rating            | 10 A, 16 A                                                     |
| Operating temperature | -37 °C to 82 °C [-35 °F to 180 °F]                             |
| Operating force       | 4,17 N [15 oz] max.                                            |
| Mechanical life       | 1 million operations, 95 % survival                            |
| Circuitry             | SPNO, SPDT, DPDT                                               |
| Voltage               | 125 Vac, 250 Vac, 277 Vac                                      |
| Approvals             | UL, CSA                                                        |

**Table 2. Electrical Ratings**

| Series | Electrical rating                                                                                                                 |
|--------|-----------------------------------------------------------------------------------------------------------------------------------|
| DM     | UL and CSA rating: 10 A, 1/2 HP, 125, 250 or 277 Vac                                                                              |
| DP     | UL standard 508, 14 A, 3/4 HP, 125, 250 Vac;<br>Pilot Duty: 150 V A – 125, 250 Vac; 16 A, 125, 250, 277 Vac; 3/4 HP, 125, 250 Vac |

## MOMENTARY ACTION

Momentary action switches are available in a choice of concave, convex, or bullet nose plunger styles.



## PUSH-PULL

When plunger is depressed, it remains in the depressed position and maintains circuit transfer. Switch contacts return to the previous position when the plunger is pulled to the original extended position.

## PULL-TO-CHEAT

Pull-to-cheat operates normally as a momentary action switch. However, by pulling the plunger beyond the normal free position, a maintained-on position is achieved.

## POSSIBLE VARIATIONS

In addition to the standard quick-connect 4,78 mm x 0,51 mm [0.188 in x 0.020 in] terminals, 6,35 mm x 0,81 mm [0.25 in x 0.032 in] terminals can be provided. The quick-connect terminals can be provided with terminals formed at different angles. DM plungers and faceplates are available in combinations of white, black, gray, or red.

# DM | DP Series

## DM SERIES ORDER GUIDE

|                           |           |              |               |                 | 1DM Series                                                                         | 1DM Series                                                                          | 1DM Series                                                                          |
|---------------------------|-----------|--------------|---------------|-----------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                           |           |              |               |                 |  |  |  |
| <b>Free position</b>      |           |              |               |                 | 22,4 mm [0.88 in]                                                                  | 11,4 mm [0.45 in]                                                                   | 11,4 mm [0.45 in]                                                                   |
| <b>Operating position</b> |           |              |               |                 | 19,1 mm ±1,5 mm<br>[0.750 in ±0.06 in]                                             | -                                                                                   | 9,02 mm ±1,5 mm<br>[0.355 in ±0.06 in]                                              |
| <b>Overtravel</b>         |           |              |               |                 | 9,53 mm [0.375 in]                                                                 | 3,05 mm [0.120 in]                                                                  | 3,05 mm [0.12 in]                                                                   |
| <b>Operating force</b>    |           |              |               |                 | 4,17 N [15 oz]                                                                     | 4,17 N [15 oz]                                                                      | 4,17 N [15 oz]                                                                      |
| <b>Release force</b>      |           |              |               |                 | 0,83 N [3 oz]                                                                      | 0,83 N [3 oz]                                                                       | 0,83 N [3 oz]                                                                       |
| Action                    | Circuitry | Plunger type | Plunger color | Faceplate color |                                                                                    |                                                                                     |                                                                                     |
| Momentary                 | SPDT      | Bullet nose  | White         | White           |                                                                                    | <b>1DM1</b>                                                                         |                                                                                     |
| Momentary                 | SPNC      | Bullet nose  | White         | White           |                                                                                    | <b>1DM2</b>                                                                         |                                                                                     |
| Momentary                 | SPNO      | Bullet nose  | White         | White           |                                                                                    | <b>1DM3</b>                                                                         |                                                                                     |
| Momentary                 | SPDT      | Concave      | Black         | Gray            |                                                                                    |                                                                                     | <b>1DM18</b>                                                                        |
| Momentary                 | SPDT      | Convex       | White         | White           |                                                                                    |                                                                                     | <b>1DM21</b>                                                                        |

|                           |           |              |               |                 | DM301 Series                                                                         | 2DM Series                                                                            | DM401 Series                                                                          |
|---------------------------|-----------|--------------|---------------|-----------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                           |           |              |               |                 |  |  |  |
| <b>Free position</b>      |           |              |               |                 | 24,1 mm [0.95 in]                                                                    | 11,4 mm [0.45 in]                                                                     | 17,8 mm [0.70 in]                                                                     |
| <b>Operating position</b> |           |              |               |                 | -                                                                                    | -                                                                                     | -                                                                                     |
| <b>Overtravel</b>         |           |              |               |                 | 15,9 mm [0.625 in]                                                                   | 3,05 mm [0.12 in]                                                                     | 13,2 mm [0.52 in]                                                                     |
| <b>Operating force</b>    |           |              |               |                 | -                                                                                    | 6,67 N [24 oz]                                                                        | 4,17 N [15 oz]                                                                        |
| <b>Release force</b>      |           |              |               |                 | -                                                                                    | 1,67 N [6 oz]                                                                         | 0,83 N [3 oz]                                                                         |
| Action                    | Circuitry | Plunger type | Plunger color | Faceplate color |                                                                                      |                                                                                       |                                                                                       |
| Push-Pull                 | SPDT      | Finger grip  | Black         | Gray            |                                                                                      | <b>1DM301</b>                                                                         |                                                                                       |
| Push-Pull                 | DPDT      | Finger grip  | Black         | Gray            |                                                                                      | <b>2DM301</b>                                                                         |                                                                                       |
| Momentary                 | DPDT      | Concave      | Red           | Gray            |                                                                                      |                                                                                       | <b>2DM6</b>                                                                           |
| Pull-to-Cheat             | SPDT      | Finger grip  | White         | White           |                                                                                      |                                                                                       | <b>1DM401**</b>                                                                       |

\*\* Extended position 23,6 mm (.930 in. max.)

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## DM SERIES ORDER GUIDE

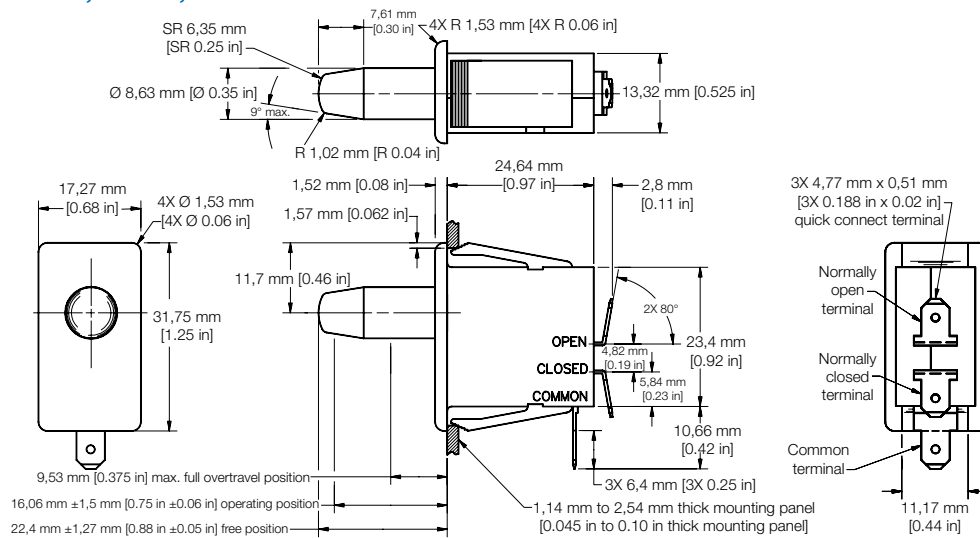
|                           |           |              |               |                 | 2DM Series                                                                         | DM409 Series                                                                        |
|---------------------------|-----------|--------------|---------------|-----------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                           |           |              |               |                 |  |  |
| <b>Free position</b>      |           |              |               |                 | 22,4 mm [0.88 in]                                                                  | 21,6 mm [0.85 in]                                                                   |
| <b>Operating position</b> |           |              |               |                 | 19,6 mm ±1,0 mm<br>[0.770 in ±0.040 in]                                            | 18,9 mm ±1,3 mm<br>[0.745 in ±0.050 in]                                             |
| <b>Overtravel</b>         |           |              |               |                 | 10,2 mm [0.40 in]                                                                  | 15,0 mm [0.59 in]                                                                   |
| <b>Operating force</b>    |           |              |               |                 | 6,67 N [24 oz]                                                                     | 6,67 N [24 oz]                                                                      |
| <b>Release force</b>      |           |              |               |                 | 1,67 N [6 oz]                                                                      | -                                                                                   |
| Action                    | Circuitry | Plunger type | Plunger color | Faceplate color |                                                                                    |                                                                                     |
| Momentary                 | DPDT      | Bullet nose  | Black         | Black           |                                                                                    | <b>2DM1</b>                                                                         |
| Pull-to-Cheat             | DPDT      | Finger grip  | Black         | Black           |                                                                                    | <b>2DM409</b>                                                                       |

\* Latch position 16,9 mm ± 0,76 mm (.665 in. ± .030 in.)

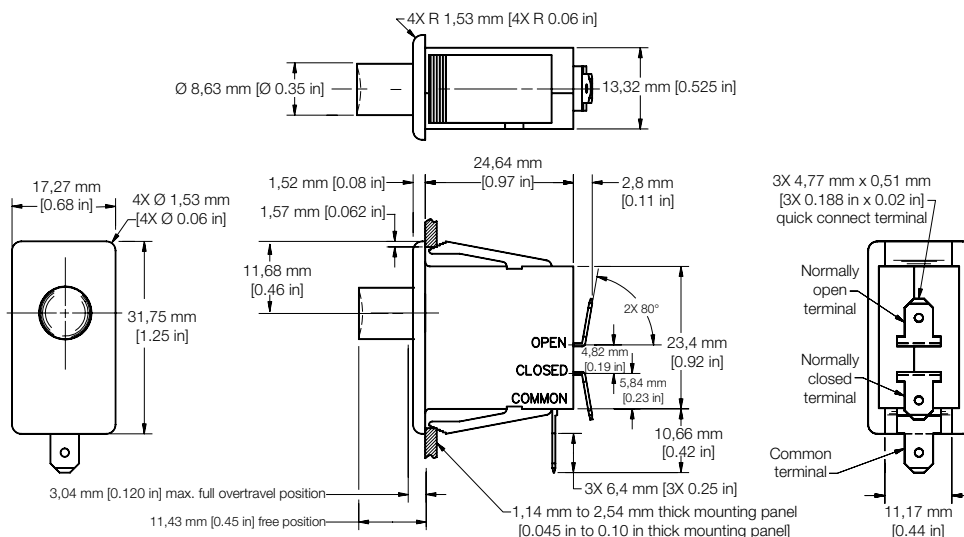
## DP SERIES ORDER GUIDE

|                           |           |              |               |                 | DP Series                                                                            | DP Series                                                                             |
|---------------------------|-----------|--------------|---------------|-----------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                           |           |              |               |                 |  |  |
| <b>Free position</b>      |           |              |               |                 | 22,4 mm [0.88 in]                                                                    | 31,52 mm [1.242 in]                                                                   |
| <b>Operating position</b> |           |              |               |                 | 15,1 mm ±1,5 mm<br>[0.595 in ±0.06 in]                                               | 28,22 mm ±1,5 mm<br>[1.112 in ±0.06 in]                                               |
| <b>Overtravel</b>         |           |              |               |                 | 9,53 mm [0.375 in]                                                                   | 4,44 mm [0.175 in]                                                                    |
| <b>Operating force</b>    |           |              |               |                 | 4,45 N [16 oz]                                                                       | 8,34 N [30 oz]                                                                        |
| <b>Release force</b>      |           |              |               |                 | 0.83 N [3 oz]                                                                        | 0.83 N [3 oz]                                                                         |
| Action                    | Circuitry | Plunger type | Plunger color | Faceplate color |                                                                                      |                                                                                       |
| Momentary                 | SPNO      | Bullet nose  | White         | White           |                                                                                      | <b>1DP5</b>                                                                           |
| Momentary                 | SPNO      | Finger grip  | White         | White           |                                                                                      | <b>1DP8</b>                                                                           |

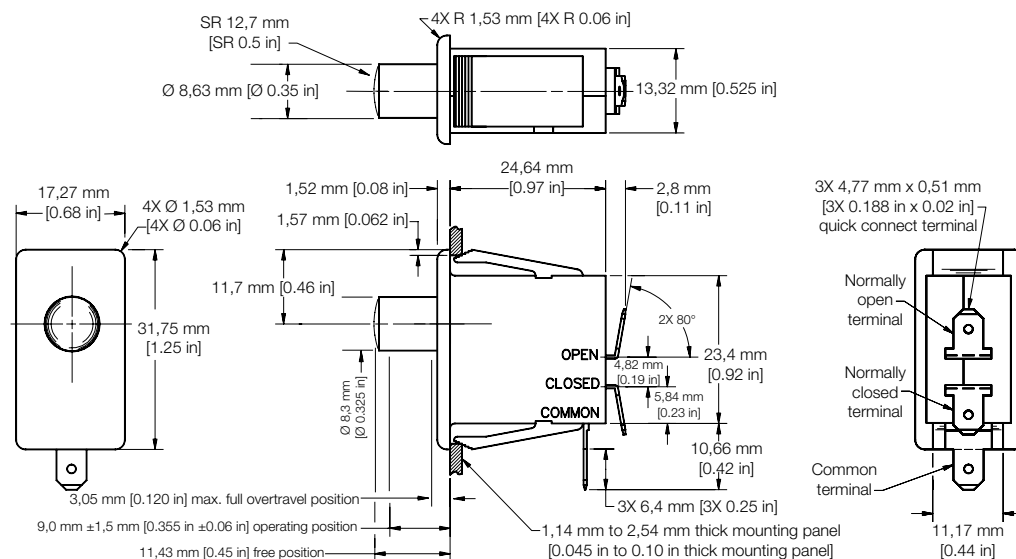
## 1DM1, 1DM2, 1DM3 DIMENSIONS



## 1DM18 DIMENSIONS



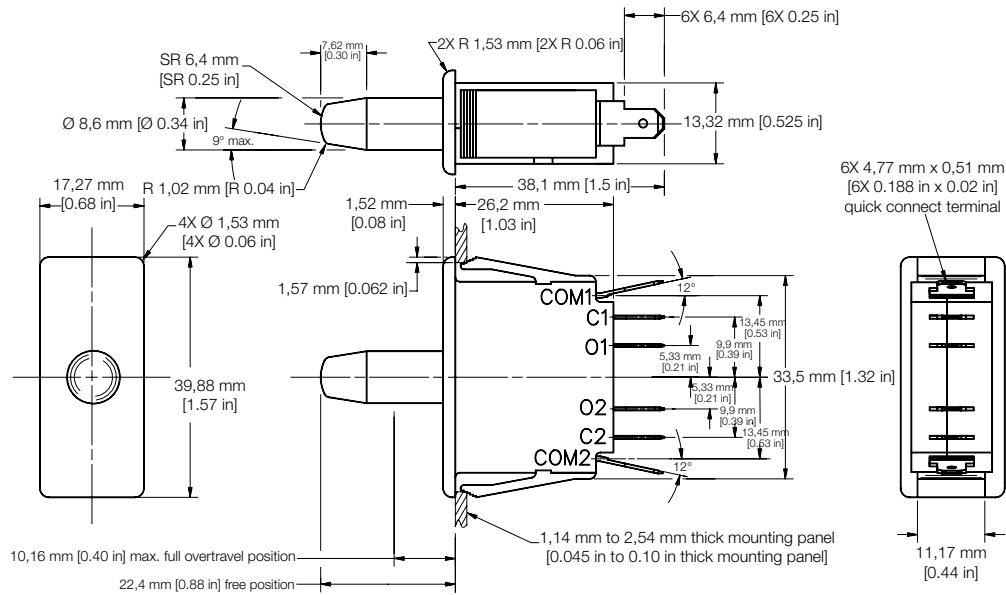
## 1DM21, 1DM38 DIMENSIONS



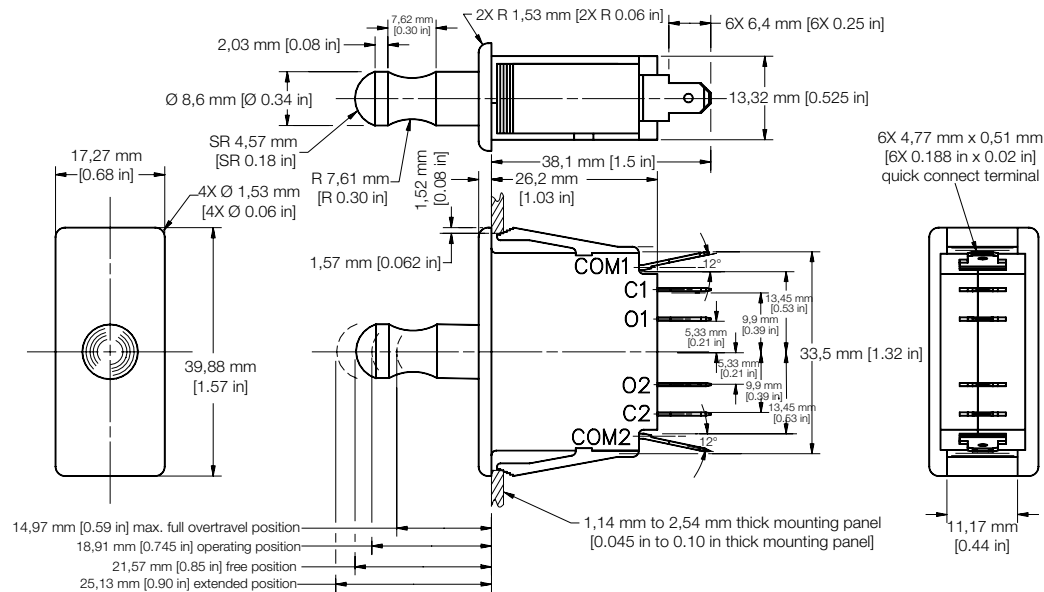
### 1DM301, 2DM301 DIMENSIONS (two-pole version shown)



## 2DM1 DIMENSIONS

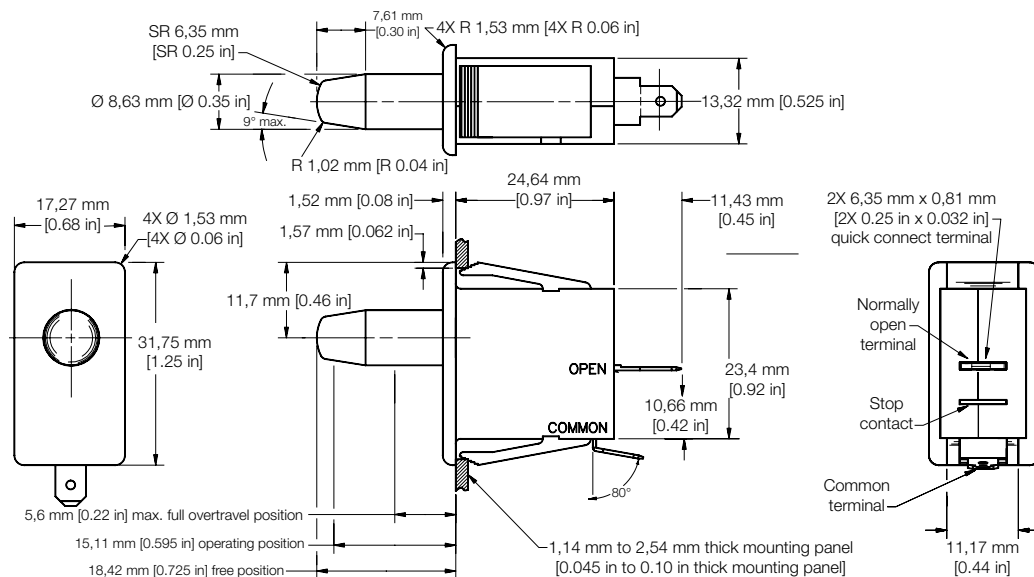


## 2DM409 DIMENSIONS

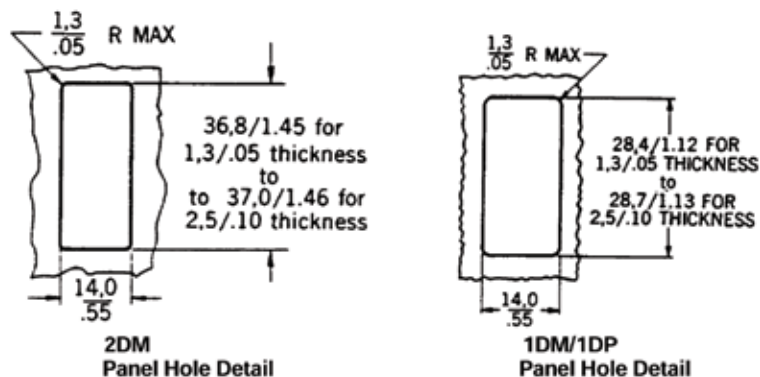


# MICRO SWITCH™ Snap-in Panel Mount Basic Switches

## 1DP5, 1DP8 DIMENSIONS



## PANEL CUTOUTS



This Honeywell datasheet supports the following MICRO SWITCH™ DM & DP Series Basic Switch Listings

|        |        |          |
|--------|--------|----------|
| 1DM1   | 1DM338 | 1DP8     |
| 1DM152 | 1DM401 | 2DM1     |
| 1DM171 | 1DM418 | 2DM11    |
| 1DM175 | 1DM423 | 2DM301   |
| 1DM176 | 1DM425 | 2DM310   |
| 1DM18  | 1DM435 | 2DM4     |
| 1DM2   | 1DM437 | 2DM409   |
| 1DM21  | 1DM5   | 2DM438   |
| 1DM23  | 1DM502 | 2DM6     |
| 1DM3   | 1DM503 | 2DM640   |
| 1DM301 | 1DM57  | 2DM8     |
| 1DM32  | 1DM79  | 2DM83    |
| 1DM335 | 1DP5   | DM-10692 |

## ADDITIONAL INFORMATION

The following associated literature is available on Honeywell's web site at [sensing.honeywell.com](http://sensing.honeywell.com):

- Product installation instructions
- Product range guide
- Product application-specific information
  - Application note: Sensors and Switches in Chemistry Analyzers

### **WARNING**

#### **PERSONAL INJURY**

**DO NOT USE** these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARNING**

#### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

## WARRANTY/REMEDY

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While we provide application assistance personally, through our literature and the Honeywell website, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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