Rotary Switches

Datasheet

Rotary Switches

Customization is standard with Honeywell's rotary switches. Honeywell's broad range of product options make building the specific rotary switch for an application simple. Optional features of momentary positions, terminal and integral connector types, UL-ratings, and various circuitry configurations are available to promote design flexibility. These options, coupled with the wide electrical rating and temperature range, come standard on every switch to meet growing customers' needs.

These rugged and reliable switches enhance application reliability and facilitate equipment operation and control with their ability to keep dirt and moisture out of the contact chamber, thereby supporting longer switch life. The two-, three- and four- position rotary switch options integrate into specific application designs.

Designed to withstand harsh environments with a durable, environmentally sealed design, Honeywell rotary switches are found in rugged applications, from off-road vehicles like ATVs, snowmobiles, and motorcycles to agriculture, construction, industrial, and lawn and garden equipment.

What makes our switches better?

- Durable design with o-rings and weep holes promotes consistent performance in harsh environments
- Multiple position, circuitry, contact, knob, and connector options to address unique application requirements
- UL certified listings offered
- Decades of engineering, design, and application experience

Manufactured for harsh, rugged environments

HIGH DURABILITY
MULTIPLE CONNECTOR CHOICES

Features and Benefits

ENVIRONMENTAL PROTECTION

Honeywell rotary switches are designed and tested to withstand a wide range of environmental conditions and contaminants: temperature cycling, chemical splashes, pressure wash, vibration, dust, humidity, and salt. The knob protects rotary cylinder from dust and ingress.

Form factor! Easily customized for specific applications

DURABLE CONSTRUCTION

Polypropylene plastic housing (rear) improves durability and supports equipment weight reduction.

WIDE RANGE OF CONFIGURATIONS

Two-, three-, or four-position switches, maintained and momentary (recoil) positions and numerous circuitry configurations allow for customization of equipment operation and control. UL certification options available, as well.

CONNECTOR CHOICES

Integral connector (Metri-Pack, Sumitomo): Two-, three-, or four-position switches. Screw terminal: Two- or three-position switches.

FASTER ASSEMBLY

Integral connectors facilitate quick assembly and minimize the potential for wiring errors.

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Potential Applications

Honeywell rotary switches can be used in a variety of transportation and industrial applications ranging from run/start ignition to single-point control for lights and accessories.

TRANSPORTATION

- All-terrain vehicles
- Snowmobiles
- Golf carts
- Aerial/scissor/boom lifts
- Telehandlers
- Construction equipment
- Skid loaders
- Forklifts
- Agricultural equipment
- Tractors
- Material handlers
- Marine equipment
- Generators

Rotary Switches

Table 1. Electrical and Environmental Specifications

Characteristics	Integral Connector	Screw Terminal
Connector	Delphi Metri-Pack or Sumitomo	screw
Electrical ratings (res.)	12 Vdc, 20 A	12 Vdc, 20 A; 24 Vdc, 10 A; 48 Vdc, 4 A
Operating temperature	-40 °C to 85 °C [-40 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]
Cycle life at electrical load	25000 cycles	25000 cycles
Position	2 position; 3 position; 4 position	2 position; 3 position
Mounting	panel	panel
Depth behind panel	43,43 mm [1.71 in]	39,88 mm [1.57 in]
Sealing	IP rating pending	IP rating pending
Contacts	brass/tin	copper
Approvals	UL available	UL available
Front housing material	40 % mineral-filled nylon	40 % mineral-filled nylon
Rear housing material	polypropylene	polypropylene
Weight	68 g [0.15 lb]	68 g [0.15 lb]

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Table 2. Order Guide and Specifications

	Catalog Listing	Packaging	Knob/Handle	Connector	Positions	Functions	
	87909-18	100 units per box, with screws & nuts	Knob	Metri-Pack	4	Off-On-Acc-Start (Recoil)	
	90233-18	100 units per box, with screws & nuts	Knob	Metri-Pack	3	Off-On-Start	
	50087487-12	100 units per box, with screws & nuts	Flasher handle	Metri-Pack	3	On (1)-Off-On (2)	
	50089737-18	100 units per box, with screws & nuts	Knob	Sumitomo	3	Off-On (1)-On (2)	
	32309969-001-18	100 units per box, with screws & nuts	Knob	Sumitomo	4	Off-Drl-Lo-Beam-Hi-Beam	

Rotary Switches

Terminals	Electrical Rating	Circuitry

<table>
<tr><td>4</td><td>12 V, 20 A</td><td>
ON   ACC
OFF   START
30° 30° 30°
Spring return – right to acc

	Off	On	Acc	Start
A & B	X	O	X	X
A, B & D	X	X	O	X
A, B & C	X	X	X	O
</td></tr>

<tr><td>4</td><td>12 V, 20 A</td><td>
OFF ON START
45° 45°
Spring return – right to centre

	Off	On	Start
B&C	X	O	O
A&D	X	X	O
</td></tr>

<tr><td>4</td><td>12 V, 20 A</td><td>
ON (1) OFF ON (2)
30° 30°
Maintained

	On (1)	Off	On (2)
B&C	O	X	X
A&D	X	X	O
</td></tr>

<tr><td>4</td><td>12 V, 20 A</td><td>
OFF ON (1) ON (2)
45° 45°
Maintained

	Off	On (1)	On (2)
A, C & D	X	O	X
B, C & D	X	X	O
</td></tr>

<tr><td>4</td><td>12 V, 20 A</td><td>
DRL LO-BEAM
OFF   HI-BEAM
30° 30° 30°
Maintained

	Off	Drl	Lo-Beam	Hi-Beam
C & D	X	O	X	X
A, C & D	X	X	O	X
B, C & D	X	X	X	O
</td></tr>
</table>

Rotary Switches

Table 3. Packaging Codes

Code	Quantity/Packaging	Fastenings
12	100 units per box	100 mounting nuts in a bag, 100 handles in a bag, and 100 mounting screws in a bag, placed in top layer of carton
18	100 units per box	100 mounting nuts in a bag, 100 knobs in a bag, and 100 mounting screws in a bag, placed in top layer of carton

DIMENSIONAL DRAWINGS

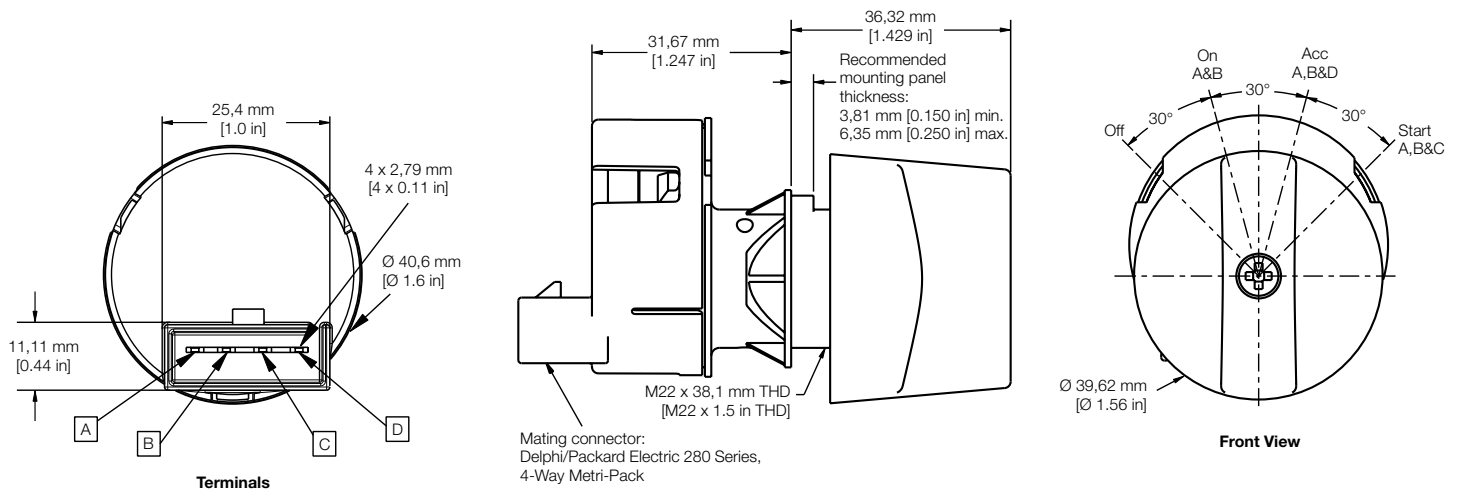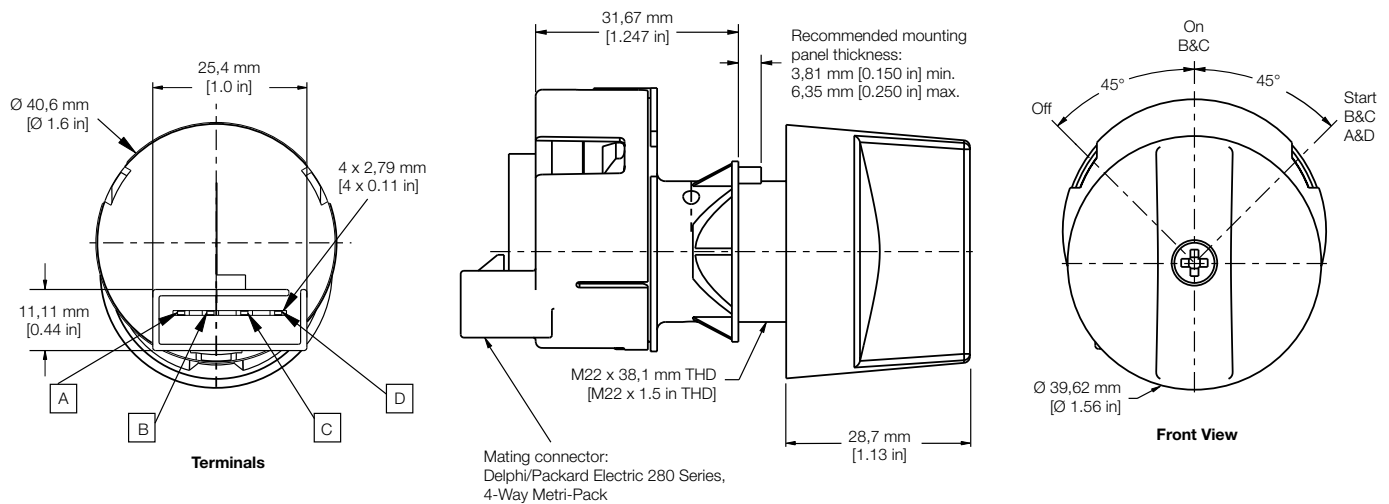**Figure 1. Model 87909 Rotary Switch Dimensions**

Figure 2. Model 90233 Rotary Switch Dimensions

Rotary Switches

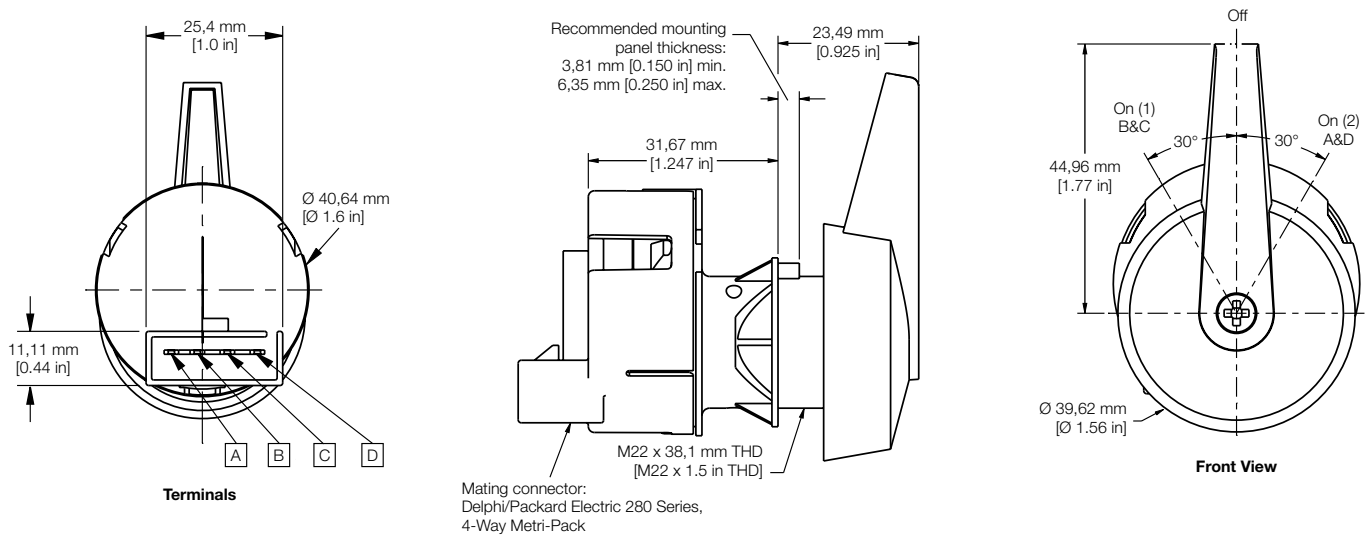**Figure 3. Model 50087487 Rotary Switch Dimensions**

25,4 mm [1.0 in]

Ø 40,64 mm [Ø 1.6 in]

11,11 mm [0.44 in]

A   B   C   D

Terminals

Recommended mounting panel thickness: 3,81 mm [0.150 in] min. 6,35 mm [0.250 in] max.

23,49 mm [0.925 in]

31,67 mm [1.247 in]

M22 x 38,1 mm THD [M22 x 1.5 in THD]

Mating connector: Delphi/Packard Electric 280 Series, 4-Way Metri-Pack

Off

On (1) B&C   On (2) A&D

30°   30°

44,96 mm [1.77 in]

Ø 39,62 mm [Ø 1.56 in]

Front View

Figure 4. Model 50089737 Rotary Switch Dimensions

4 x 2,29 mm [4 x 0.09 in]

3,55 mm [0.14 in]

5,33 mm [0.21 in]

Ø 40,64 mm [Ø 1.6 in]

6,09 mm [0.24 in]

4 x 0,635 mm [4 x 0.025 in]

16,26 mm [0.64 in]

5,33 mm [0.21 in]

C   D   B   A

Mating connector Sumitomo

14,48 mm [0.57 in]

Terminals

51,56 mm [2.03 in]

32,51 mm [1.28 in]

Recommended mounting panel thickness: 3,81 mm [0.150 in] min. 6,35 mm [0.250 in] max.

M22 x 38,1 mm THD [M22 x 1.5 in THD]

13,72 mm [0.54 in]

Terminal array seal

36,32 mm [1.43 in]

Terminal B makes before Terminal A breaks with a minimum overlap of 4° between the 2nd and 3rd detent positions

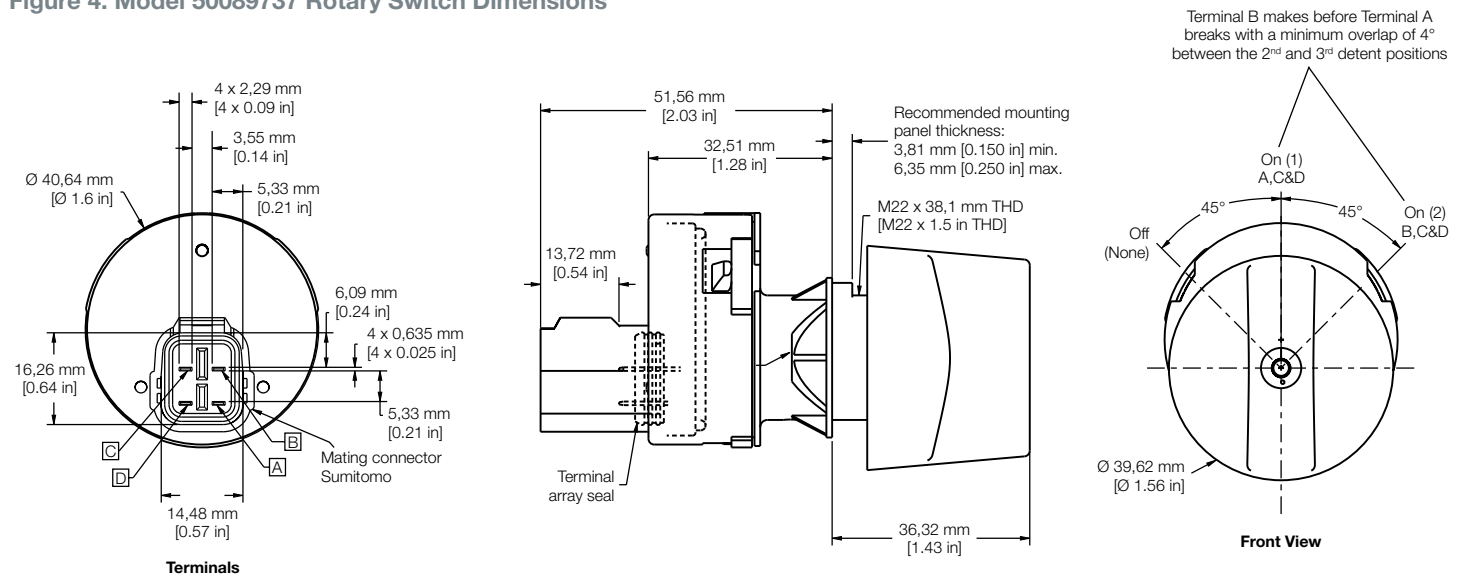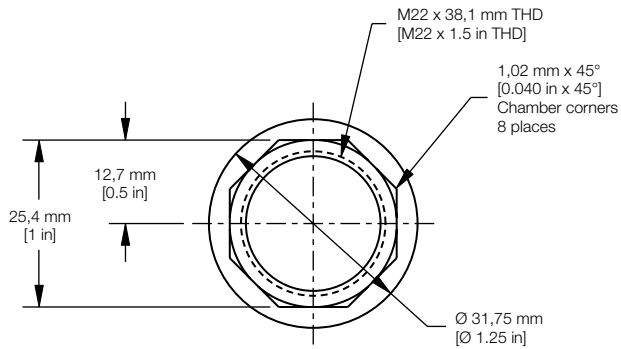On (1) A,C&D

Off (None)

On (2) B,C&D

45°   45°

Ø 39,62 mm [Ø 1.56 in]

Front View

Figure 5. Model 32309969 Rotary Switch Dimensions

4 x 2,29 mm [4 x 0.09 in]

3,55 mm [0.14 in]

5,33 mm [0.21 in]

6,09 mm [0.24 in]

4 x 0,635 mm [4 x 0.025 in]

16,26 mm [0.64 in]

5,33 mm [0.21 in]

C   D   A   B

14,48 mm [0.57 in]

Terminals

87,88 mm [3.46 in]

32,51 mm [1.28 in]

36,32 mm [1.43 in]

Recommended mounting panel thickness: 3,81 mm [0.150 in] min. 6,35 mm [0.250 in] max.

Mating connector Sumitomo

Terminal array seal

M22 x 38,1 mm THD [M22 x 1.5 in THD]

DRL C&D   Lo-Beam A,C&D

Off

Hi-Beam B,C&D

30°   30°   30°

Ø 39,62 mm [Ø 1.56 in]

Front View

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Figure 6. Mounting Nut Dimensions

M22 x 38,1 mm THD
[M22 x 1.5 in THD]

1,02 mm x 45°
[0.040 in x 45°]
Chamber corners
8 places

12,7 mm
[0.5 in]

25,4 mm
[1 in]

Ø 31,75 mm
[Ø 1.25 in]

Part number 81942
Torque to 0,576 Kg-m [50 in-lb] max.

Figure 7. Mounting Hole Cutout Dimensions

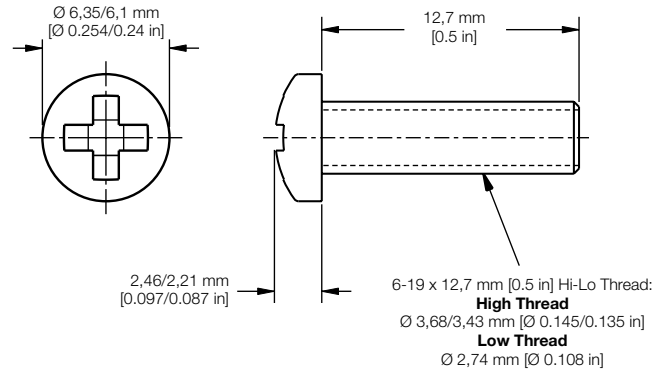Ø 5,59 mm
[Ø 0.22 in]

13,72 mm
[0.54 in]

Ø 22,35 mm [0.880 in]
Ø 21,84 mm [0.860 in]
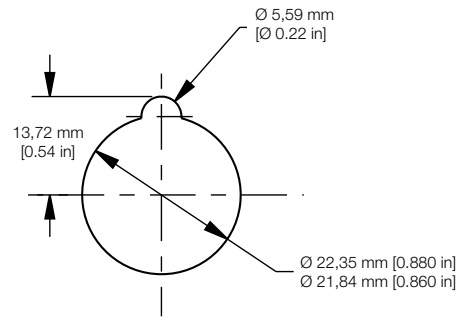
Recommended mounting panel thickness:
3,81 mm [0.15 in] min.
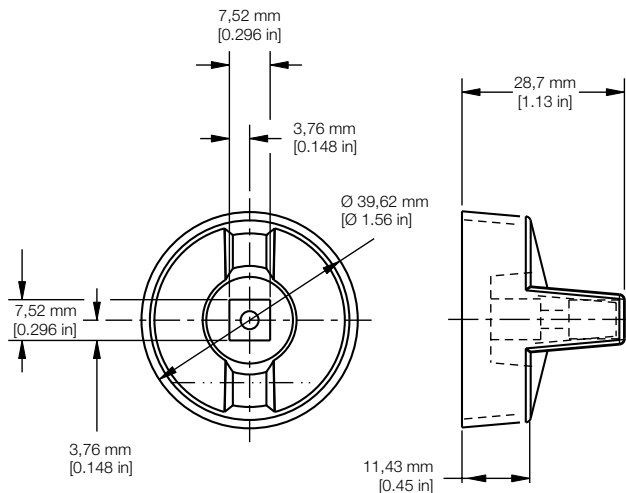6,35 mm [0.25 in] max.

Figure 8. Mounting Plug Dimensions

Ø 7,11 mm
[Ø 0.28 in]

6,35 mm
[0.25 in]
height

2 x R 0,51 mm typ.
[2 x R 0.02 in] typ.

Isometric View
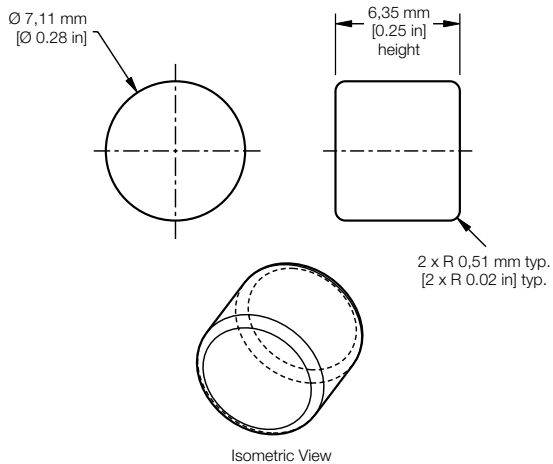
Part number 88552

Figure 9. Mounting Screw Dimensions

Ø 6,35/6,1 mm
[Ø 0.254/0.24 in]

12,7 mm
[0.5 in]

2,46/2,21 mm
[0.097/0.087 in]

6-19 x 12,7 mm [0.5 in] Hi-Lo Thread:
High Thread
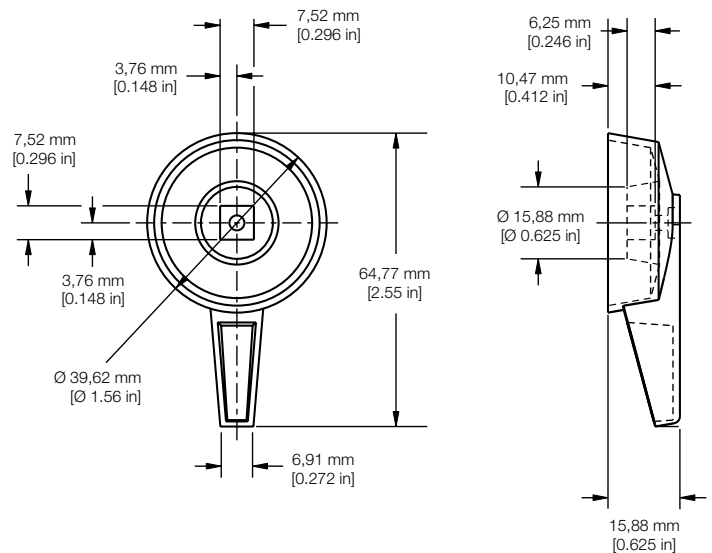Ø 3,68/3,43 mm [Ø 0.145/0.135 in]
Low Thread
Ø 2,74 mm [Ø 0.108 in]

Part number 84833
#6-19 x 12,7 mm [0.5 in] screw
Torque to 0,046 Kg-m [4 in-lb]

Figure 10. Mounting Knob Dimensions

7,52 mm
[0.296 in]

3,76 mm
[0.148 in]

28,7 mm
[1.13 in]

Ø 39,62 mm
[Ø 1.56 in]

7,52 mm
[0.296 in]

3,76 mm
[0.148 in]

11,43 mm
[0.45 in]

Part number 88024

Figure 11. Mounting Flasher Handle Dimensions

7,52 mm
[0.296 in]

3,76 mm
[0.148 in]

7,52 mm
[0.296 in]

3,76 mm
[0.148 in]

64,77 mm
[2.55 in]

Ø 39,62 mm
[Ø 1.56 in]

6,91 mm
[0.272 in]

6,25 mm
[0.246 in]

10,47 mm
[0.412 in]

Ø 15,88 mm
[Ø 0.625 in]

15,88 mm
[0.625 in]

Part number 73243

ADDITIONAL INFORMATION

The following associated literature is available on the Honeywell website at sensing.honeywell.com:

• Product installation instructions
• Product range guide
• Product line guide
• Product application-specific information
  – Application note: Sensors and switches in front loaders
  – Application note: Sensors and switches in mobile cranes
  – Application note: Sensors and switches in oil rig applications

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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.

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