

## 91MCE Series

### Mini Compact Limit Switch



#### DESCRIPTION

The 91MCE series limit switch is a compliment to Honeywell's existing product line of smaller, lower cost limit switches. Designed for modern industrial OEMs, the miniature package size fits in applications where space is limited. The small package size can be gang mounted for applications requiring more than two switch circuits. The 20mm mounting pattern meets most globally accepted mounting standards.

This product family offers the user many options including a variety of different actuator styles. Connection options include

pre-leaded cable in various lengths or M12 connectors, both with side or bottom exits. Design flexibility is further enhanced with the availability of both slow action and snap action circuitry. Direct acting contacts are designed to open the NC contact when actuated. The epoxy-sealed rugged die-cast housing provides enhanced environmental durability.

Priced competitively, the 91MCE is a drop-in replacement to many products, and provides enhanced quality that customers expect from Honeywell.

#### FEATURES

- Direct acting contacts are designed to open NC contacts when actuated ➡
- Sealed to IP67; NEMA 1, 4, 12, 13 suitable for outdoor applications
- CE, cULus, CCC approvals meet most global approvals
- Nine actuator styles offer design flexibility
- Slow-action and snap-action circuitry options
- Pre-leaded cable and M12 connector options
- Expected mechanical life: 5 million operations
- Side exit (standard) and bottom exit connection options

#### POTENTIAL APPLICATIONS

- Machine equipment
- Material handling
- Aerial lifts
- Forklifts
- Off road and outdoor equipment

# 91MCE Series

## TECHNICAL SPECIFICATIONS

| Parameter                        | Measure                                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Operating speed                  | 0,05 mm to 1 m per second                                                                                            |
| Operating frequency – mechanical | 120 ops per minute                                                                                                   |
| Operating frequency – electrical | 30 ops per minute                                                                                                    |
| Insulation resistance            | > 100 Mohm @ 500 Vdc                                                                                                 |
| Rated voltage                    | 300 Vac (EN60947-5-1)                                                                                                |
| Rated thermal current            | 10A pre-leaded versions; 3A connector versions                                                                       |
| Electrical rating                | ac 15 A 300; dc 13 Q300                                                                                              |
| Dielectric strength              | 1000 Vac for one minute between current carrying parts<br>2500 Vac for one minute between non-current carrying parts |
| Expected mechanical life         | 5 million operations                                                                                                 |
| Expected electrical life         | 5 x 10 <sup>5</sup> operations                                                                                       |
| Operating temperature            | -25 °C to 85 °C [ -13 °F to 185 °F] without the formation of ice                                                     |
| Humidity                         | < 95 % RH                                                                                                            |
| Cable                            | 5 core, 0.75 mm <sup>2</sup>                                                                                         |
| Degree of protection             | IP67                                                                                                                 |

## ELECTRICAL RATINGS

### IEC 947-5-1 / EN 90947-5-1

| Designation & Utilization Category |      | Rated operational current I <sub>e</sub> (A) at rated operational voltage U <sub>e</sub> |       |         |       |       |       | VA rating |       |
|------------------------------------|------|------------------------------------------------------------------------------------------|-------|---------|-------|-------|-------|-----------|-------|
|                                    |      | 120 V                                                                                    | 240 V | 380 V   | 480 V | 500 V | 600 V | Make      | Break |
| AC15                               | A300 | 6                                                                                        | 3     | –       | –     | –     | –     | 7200      | 720   |
|                                    |      | 125 Vdc                                                                                  |       | 250 Vdc |       |       |       |           |       |
| DC13                               | Q300 | 0.55                                                                                     | 0.27  |         |       |       |       | 69        | 69    |

## BAR CHARTS

| Snap-action for plunger actuators | Slow-action for plunger actuators               | Snap-action for side rotary    | Slow-action for side rotary                     |
|-----------------------------------|-------------------------------------------------|--------------------------------|-------------------------------------------------|
| <p>Snap Action<br/>1NO/1NC</p>    | <p>Slow Action<br/>(Changeover)<br/>1NO/1NC</p> | <p>Snap Action<br/>1NO/1NC</p> | <p>Slow Action<br/>(Changeover)<br/>1NO/1NC</p> |

## PIN OUT – “Q” OPTION

|  |                             |
|--|-----------------------------|
|  | Pin 1 & 2 – Normally Closed |
|  | Pin 3 & 4 – Normally Open   |

## Mini Compact Limit Switch

## DIMENSIONS

|                                                            |                                                   |                                                         |
|------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|
| <b>91MCE1-P1/S1 – PIN PLUNGER</b>                          | <b>91MCE2-P1/S1 – ROLLER PLUNGER</b>              | <b>91MCE3-P1/S1 – CROSS ROLLER PLUNGER</b>              |
| <b>91MCE16-P1/S1 – SIDE ROTARY LEVER WITH METAL ROLLER</b> | <b>91MCE18-P1/S1 - PIN PLUNGER WITH BOOT SEAL</b> | <b>91MCE27-P1/S1 - PANEL MOUNT PIN PLUNGER</b>          |
| <b>91MCE30-P1/S1 - PANEL MOUNT BOOTED PIN PLUNGER</b>      | <b>91MCE28-P1/S1 – PANEL MOUNT ROLLER PLUNGER</b> | <b>91MCE29-P1/S1 – PANEL MOUNT CROSS ROLLER PLUNGER</b> |

## 91MCE SWITCH PART NUMBER TREE

| 91MCE                                           |  | 16            |                                         | P           |                                       | 1            |                   | B                    |             |            |                                   |           |                        |
|-------------------------------------------------|--|---------------|-----------------------------------------|-------------|---------------------------------------|--------------|-------------------|----------------------|-------------|------------|-----------------------------------|-----------|------------------------|
| Switch type                                     |  | Actuator code |                                         | Switch type |                                       | Cable length |                   | Cable/connector exit |             | Lever type |                                   | Connector |                        |
| 91MCE Series<br>Mini Compact<br>Enclosed Switch |  | 1             | Pin plunger                             | P           | 1NO/1NC direct<br>acting, snap action |              | Connector version |                      | Side exit   |            | Standard lever,<br>metal roller   |           | Cable (no connector)   |
|                                                 |  | 2             | Roller plunger                          | S           | 1NO/1NC direct<br>acting, BBM         | 1            | 1 m [3.28 ft]     | B                    | Bottom exit | P          | Standard lever,<br>plastic roller | Q         | 4-pin M12<br>connector |
|                                                 |  | 3             | Cross-roller<br>plunger                 |             |                                       | 2            | 2 m [6.56 ft]     |                      |             | O          | Short lever,<br>metal roller      |           |                        |
|                                                 |  | 16            | Side rotary with<br>metal lever         |             |                                       | 3            | 3 m [9.84 ft]     |                      |             | OP         | Short lever,<br>plastic roller    |           |                        |
|                                                 |  | 18            | Pin plunger with<br>boot seal           |             |                                       | 5            | 5 m [16.40 ft]    |                      |             |            |                                   |           |                        |
|                                                 |  | 27            | Pin plunger/<br>panel mount             |             |                                       |              |                   |                      |             |            |                                   |           |                        |
|                                                 |  | 28            | Roller plunger/<br>panel mount          |             |                                       |              |                   |                      |             |            |                                   |           |                        |
|                                                 |  | 29            | Cross roller/<br>panel mount            |             |                                       |              |                   |                      |             |            |                                   |           |                        |
|                                                 |  | 30            | Pin plunger/panel<br>mount w/ boot seal |             |                                       |              |                   |                      |             |            |                                   |           |                        |

### **WARNING**

#### IF USED IN APPLICATIONS CONCERNING HUMAN SAFETY

- Only use NC direct opening ("positive opening"/"positive break") contacts, identified by the symbol .
- Do NOT use flexible/adjustable actuators. Only use actuators designed for safety applications.
- Do NOT defeat, tamper, remove, or bypass this switch.
- Hazardous voltage, disconnect power before servicing.
- Strictly adhere to all installation and maintenance instructions
- Consult with local safety agencies and their requirements when designing a machine-control link, interface, and all control elements that affect safety.

**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**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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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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