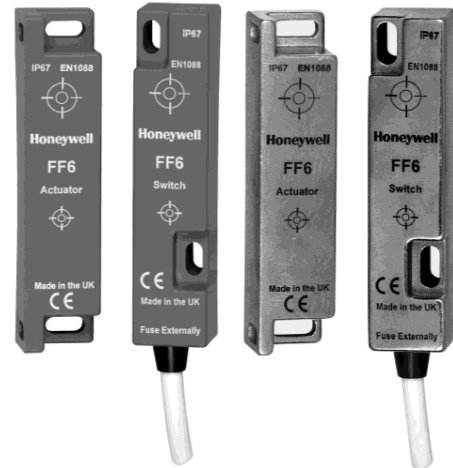


## FF6 Series

### Magnetically Actuated Non-Contact Safety Switches



#### DESCRIPTION

Honeywell FF6 switches are magnetically operated, non-contact safety switches designed for use in many machine-guarding applications. The FF6 is available in both ABS and 316 grade stainless steel. The switch and actuator are fully

sealed to IP67 and can often be used in wet or dusty environments. With correct installation, the FF6 safety switches comply with the guidelines given in EN1088.

#### FEATURES

- Non-contact safety switches
- Up to three contacts
- 10 mm [0.4 in] operating distance
- Up to 2 A switching
- IP67
- Stainless steel option
- CE and UL approvals

#### POTENTIAL APPLICATIONS

- Can forming and filling (aluminum, steel, and plastic)
- Pick and place packaging equipment
- Pick and place/assembly equipment
- Semicon equipment
- Plastic molding equipment
- Woodworking machinery
- Textile machinery
- Printing machinery

# FF6 Series

## TECHNICAL SPECIFICATIONS

| Type                                 | FF6 ac                                     | FF6 dc                                     | FF6-SS ac                                  | FF6-SS dc                                  |
|--------------------------------------|--|--|--|--|
| Contact arrangement                  | Max: 2NC safety and 1NO auxiliary          | Max: 2NC safety and 1NO auxiliary          | 1NC safety                                 | Max: 2NC safety and 1NO auxiliary          |
| Safety contact rating                | 230 Vac/2 A                                | 30 Vdc/1 A inductive/resistive             | 230 Vac/2A                                 | 30 Vdc/1 A inductive/resistive             |
| Safety contact operating distance    | 10 mm [0.4 in] ON;<br>30 mm [ 1.18 in] OFF | 10 mm [0.4 in] ON;<br>30 mm [ 1.18 in] OFF | 10 mm [0.4 in] ON;<br>30 mm [ 1.18 in] OFF | 10 mm [0.4 in] ON;<br>30 mm [ 1.18 in] OFF |
| Safety contact close/drop/bounce     | 3 ms/2.1 ms/0.7 ms                         | 3 ms/2.1 ms/0.7 ms                         | 3 ms/2.1 ms/0.7 ms                         | 3 ms/2.1 ms/0.7 ms                         |
| Auxiliary contact rating             | 15 W/10 VA                                 | 15 W/10 VA                                 |  | 15 W/10 VA                                 |
| Auxiliary contact operating distance | 7 mm [0.28 in] OFF;<br>20 mm [0.79 in] ON  | 7 mm [0.28 in] OFF;<br>20 mm [0.79 in] ON  |  | 7 mm [0.28 in] OFF;<br>20 mm [0.79 in] ON  |
| Auxiliary contact close/drop/bounce  | 0.5 ms/0.3 ms/0.7 ms                       | 0.5 ms/0.3 ms/0.7 ms                       |  | 0.5 ms/0.3 ms/0.7 ms                       |
| Internal fuse                        | ac: 2 A fast acting                        | dc: 1 A fast acting                        | ac: 2 A fast acting                        | dc: 1 A fast acting                        |
| External fuse (customer supplied)    | ac: 1.6 A fast acting                      | dc: 0.8 A fast acting                      | ac: 1.6 A fast acting                      | dc: 0.8 A fast acting                      |
| IP rating                            | IP67                                       | IP67                                       | IP67                                       | IP67                                       |
| Vibration/shock                      | 50 Hz to 100 Hz/10 g                       | 50 Hz to 100 Hz/10 g                       | 50 Hz to 100 Hz/10 g                       | 50 Hz to 100 Hz/10 g                       |
| Operating temperature                | -10 °C to 55 °C<br>[14 °F to 131 °F]       | -10 °C to 55 °C<br>[14 °F to 131 °F]       | -10 °C to 55 °C<br>[14 °F to 131 °F]       | -10 °C to 55 °C<br>[14 °F to 131 °F]       |
| Mounting and fixture                 | Target to target                           | Target to target                           | Target to target                           | Target to target                           |
| Construction                         | Red ABS resin filled                       | Red ABS resin filled                       | 316 grade stainless steel resin filled     | 316 grade stainless steel resin filled     |

# Magnetically Actuated Non-Contact Safety Switches

## CONTACTS AND CONNECTIONS: PRE-WIRED SWITCHES

|  |   |   |   |
|--|---|---|---|
| <p><b>FF6-21-ABS (ac &amp; dc)</b><br/><b>FF6-21-SS (dc only)</b></p> <p>Red — Blue<br/>Black — White<br/>Green — Yellow</p> | <p><b>FF6-20 ABS (ac &amp; dc)</b><br/><b>FF6-20 SS (dc only)</b></p> <p>Brown — Blue<br/>Black — White</p> | <p><b>FF6-11 ABS (ac &amp; dc)</b><br/><b>FF6-11 (dc only)</b></p> <p>Red — Blue<br/>Green — Yellow</p> | <p><b>FF6-10 ABS (ac &amp; dc)</b><br/><b>FF6-10 SS (ac &amp; dc)</b></p> <p>Brown — Blue</p> |
| <p><b>FF6-10-03-SS</b></p> <p>Brown — Blue</p> <p>Green/Yellow</p>   |   |   |   |

NOTE: Contact configurations show under closed condition for guard device.

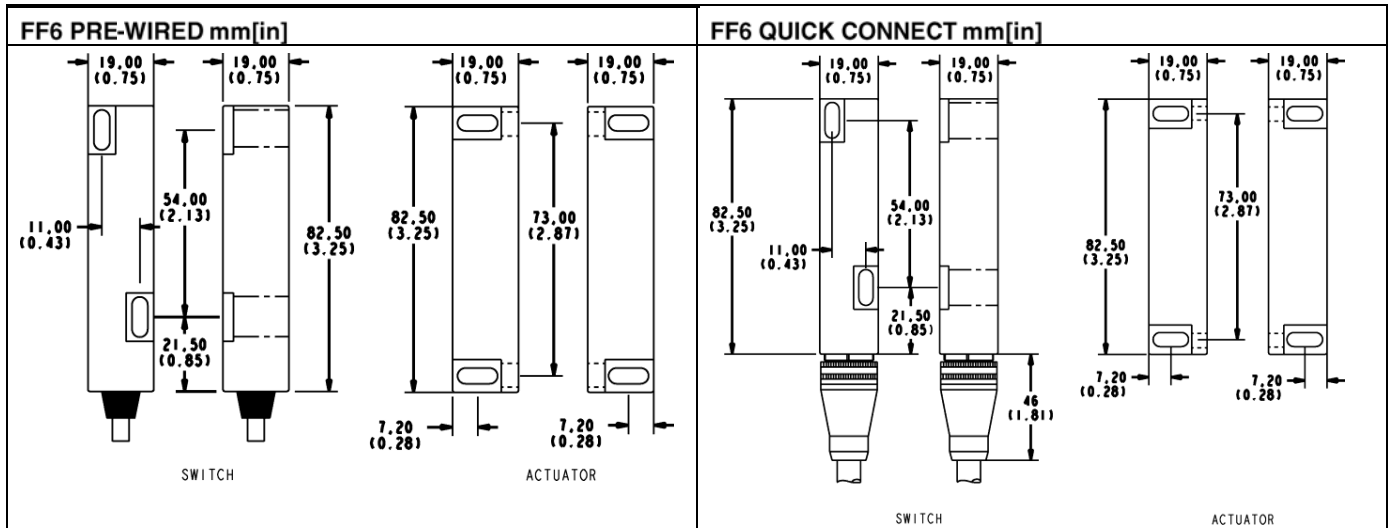
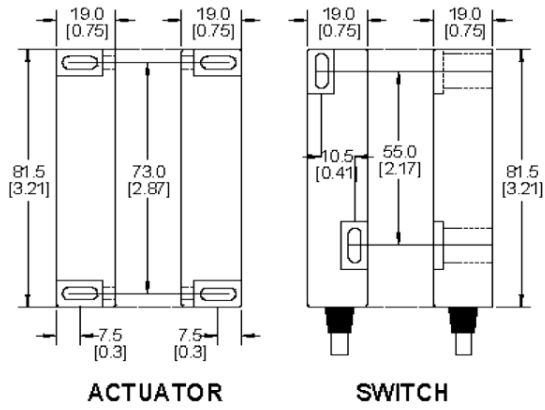
## CONTACTS AND CONNECTIONS: QUICK DISCONNECT CONNECTIONS

|   |   |   |   |
|---|---|---|---|
| <p><b>FF6-21-AC-QD05-SS</b><br/><b>FF6-21-SS-SS05</b></p> | <p><b>FF6-20-AC-QD05-SS</b><br/><b>FF6-20-SS-SS05</b></p> | <p><b>FF6-11-AC-QD05-SS</b><br/><b>FF6-11-SS-SS05</b></p> | <p><b>FF6-10-AC-QD05-SS</b><br/><b>FF6-10-SS-SS05</b></p> |
| <p><b>FF6-10-AC-QD05-SS</b></p>                           |   |   |   |

# FF6 Series

## DIMENSIONS

### FF6 STAINLESS STEEL PRE-WIRED mm[in]



# Magnetically Actuated Non-Contact Safety Switches

## ORDER GUIDE

| Catalog Listing   | Description  |
|-------------------|--|
| FF6-10-DC-03-SS   | Safety switch and actuator, stainless steel, 1NC safety, dc, 3 m pre-wired                             |
| FF6-11-DC-03-SS   | Safety switch and actuator, stainless steel, 1NC safety and 1 NO auxiliary, dc, 3 m pre-wired          |
| FF6-20-DC-03-SS   | Safety switch and actuator, stainless steel, 2NC safety, dc, 3 m pre-wired                             |
| FF6-10-AC-03-SS   | Safety switch and actuator, stainless steel, 1NC safety, ac, 3 m pre-wired                             |
| FF6-10-AC-QD-SS   | Safety switch and actuator, stainless steel, 1NC safety, ac, M12 quick disconnect, no cable            |
| FF6-10-AC-QD05-SS | Safety switch and actuator complete, stainless steel, 1NC safety, ac, M12 quick disconnect, 5 m cable  |
| FF6-10-DC-03      | Safety switch and actuator, red ABS, 1NC safety, dc, 3 m pre-wired                                     |
| FF6-11-DC-03      | Safety switch and actuator, red ABS, 1NC safety and 1NO auxiliary, dc, 3 m pre-wired                   |
| FF6-20-DC-03      | Safety switch and actuator, red ABS, 2NC safety, dc, 3 m pre-wired                                     |
| FF6-21-DC-03      | Safety switch and actuator, red ABS, 2NC safety and 1NO auxiliary, dc, 3 m pre-wired                   |
| FF6-10-AC-03      | Safety switch and actuator, red ABS, 1NC safety, ac, 3 m pre-wired                                     |
| FF6-11-AC-03      | Safety switch and actuator, red ABS, 1NC safety and 1NO auxiliary, ac, 3 m pre-wired                   |
| FF6-20-AC-03      | Safety switch and actuator, red ABS, 2NC safety, ac, 3 m pre-wired                                     |
| FF6-21-AC-03      | Safety switch and actuator, red ABS, 2NC safety and 1NO auxiliary, ac, 3 m pre-wired                   |
| FF6-10-DC-QD05    | Safety switch and actuator, red ABS, 1NC safety, dc, M12 quick disconnect, 5 m cable                   |
| FF6-11-DC-QD05    | Safety switch and actuator, red ABS, 1NC safety and 1NO auxiliary, dc, M12 quick disconnect, 5 m cable |
| FF6-20-DC-QD05    | Safety switch and actuator, red ABS, 2NC safety and 1NO auxiliary, dc, M12 quick disconnect, 5 m cable |
| FF6-21-DC-QD05    | Safety switch and actuator, red ABS, 2NC safety and 1NO auxiliary, dc, M12 quick disconnect, 5 m cable |
| FF6-10-AC-QD05    | Safety switch and actuator, red ABS, 1NC safety, ac, M12 quick disconnect, 5 m cable                   |
| FF6-11-AC-QD05    | Safety switch and actuator, red ABS, 1NC safety and 1NO auxiliary, dc, M12 quick disconnect, 5 m cable |
| FF6-20-AC-QD05    | Safety switch and actuator, red ABS, 2NC safety, ac, M12 quick disconnect, 5 m cable                   |
| FF6-21-AC-QD05    | Safety switch and actuator, red ABS, 2NC safety and 1NO auxiliary, ac, M12 quick disconnect, 5 m cable |

## **WARNING**

### **RISK TO LIFE OR PROPERTY**

Never use this product for an application involving serious risk to life or property without ensuring that the system as a whole has been designed to address the risks, and that this product is properly rated and installed for the intended use within the overall system.

**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.**

While we provide application assistance personally, through our literature and the Honeywell web site, 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.

Sensing and Control  
Honeywell  
1985 Douglas Drive North  
Golden Valley, MN 55422  
[www.honeywell.com](http://www.honeywell.com)

004745-2-EN IL50 GLO Printed in USA  
June 2009  
Copyright © 2009 Honeywell International Inc. All rights reserved.

## **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.**

### **SALES AND SERVICE**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

**E-mail:** [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

**Internet:** [www.honeywell.com/sensing](http://www.honeywell.com/sensing)

#### **Phone and Fax:**

|               |                         |
|---------------|-------------------------|
| Asia Pacific  | +65 6355-2828           |
|               | +65 6445-3033 Fax       |
| Europe        | +44 (0) 1698 481481     |
|               | +44 (0) 1698 481676 Fax |
| Latin America | +1-305-805-8188         |
|               | +1-305-883-8257 Fax     |
| USA/Canada    | +1-800-537-6945         |
|               | +1-815-235-6847         |
|               | +1-815-235-6545 Fax     |

# Honeywell