

# FF5 SERIES

004746

Issue 5

## Non-Contact Safety Switches

### DESCRIPTION

Honeywell FF5 Series are magnetically actuated, non-contact, pre-wired safety switches for use in machine guarding applications. They are designed to monitor the position of the guard and provide inputs to safety relays. The compact, rectangular switch and magnetic actuator (supplied with each switch) are available with either an ABS plastic or a 316 Series stainless steel housing. The compact housing size permits installation on machinery where there is limited space. The non-contact switch design allows for flexible installations where misalignment of the machine guard may occur. The switch and actuator are each installed with two M4 or #8 screws. The FF5 Series is sealed to IP67 for wet and dusty environmental applications.

With CE, UKCA and UL certifications, these switches may be installed on machinery for global applications.

### VALUE TO CUSTOMERS

- Non-contact sensing minimizes installation and set-up
- Pre-wired cable with color-coded lead wires simplifies electrical connection
- The actuator may approach the switch from head-on, slide-by, or rotation/hinge for flexible installation

### DIFFERENTIATION

- Non-contact sensing requires no mechanical linkage to actuate the switch
- Two safety contacts when actuated for inputs to safety relay
- Auxiliary contact closes when actuator moves out of operating range

### FEATURES

- Non-contact design requires no operating force to actuate switch
- ABS plastic housing or 316 Series stainless steel housing for switch and actuator
- Pre-wired cable length of 3 m [9.8 ft] or 10 m [32.8 ft]
- Compact size of 52 mm x 28 mm x 14 mm [2.0 in x 1.1 in x 0.55 in]
- IP67 environmentally sealed switch and actuator
- CE, UKCA and UL 508 certifications

### POTENTIAL APPLICATIONS

- Equipment and machinery guards
- Can forming and filling (aluminum, plastic, and steel)
- Packaging equipment
- Pick and place assembly equipment
- Plastic molding equipment
- Printing machinery
- Semiconductor equipment
- Textile machinery
- Woodworking equipment



### PORTFOLIO

Honeywell FF6 Series safety switches are part of a comprehensive line of Honeywell electromechanical and non-contact safety switches. For more details on the extensive line of Honeywell safety switches, click [here](#).

**Honeywell**

# NON-CONTACT SAFETY SWITCHES

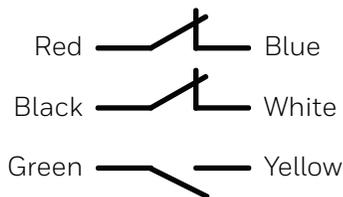
## FF5 SERIES

TABLE 1. SPECIFICATIONS	
Characteristic	Parameter
Contact arrangements (when actuator present)	2NC/1NO
Contact rating* (safety contact)	300 mA/24 Vdc
Sensing distance** (safety contact)	7 mm [0.28 in] ON/17 mm [0.67 in] OFF
Contact rating* (aux. contact)	300 mA/24 Vdc
Sensing distance** (aux. contact)	7 mm [0.28 in] OFF/17 mm [0.67 in] ON
External fuse (customer supplied)	0.2 A fast acting
Operating temperature	-25°C to 55°C [-13°F to 131°F]
Vibration/shock	10 g, 50 Hz to 100 Hz
Environmental sealing	IP67
Housing material	FF5: ABS plastic FF5-SS: 316 stainless steel
Agency certifications	cULus/UL 508: File E37138, Industrial control CE: DOC A347 UKCA Reference standards: EN60947-5-1: Low voltage switchgear and controlgear EN60947-5-3: Low voltage switchgear and controlgear EN61000-6-2: Electromagnetic compatibility, Immunity EN61000-6-4: Electromagnetic compatibility, Emissions EN60204-1: Safety of machinery, General requirements EN62061: Safety of machinery, Functional safety EN ISO 13849-1: Safety of machinery, Safety-related parts of control systems EN ISO 13850: Safety of machinery, Emergency stop function
Termination	Pre-wired six-conductor color-coded cable Ø 4,55 mm [0.18 in], 3 m or 10 m in length

\* Designed for interfacing to safety relays which have low inrush current to the FF5 Series switch contacts.

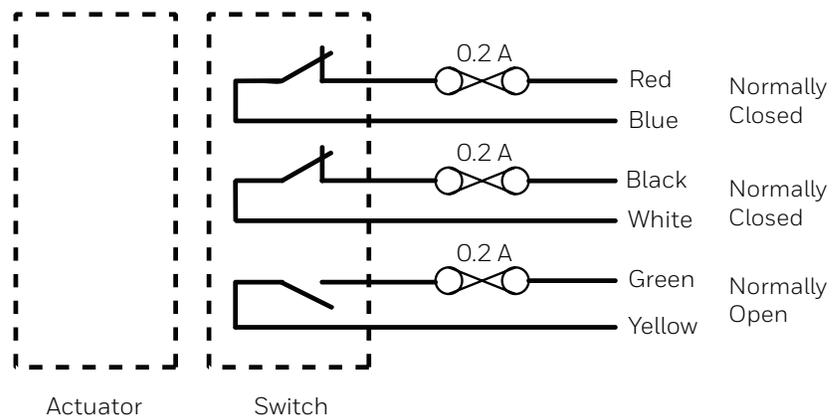
\*\*Sensing distance is measured from the front surface of the switch to the front surface of the actuator. When actuated, the targets on the surface of the switch and the actuator are designed to align.

FIGURE 1. CONTACT CONFIGURATION\*



\* Contact configuration shown under closed condition for guard device.

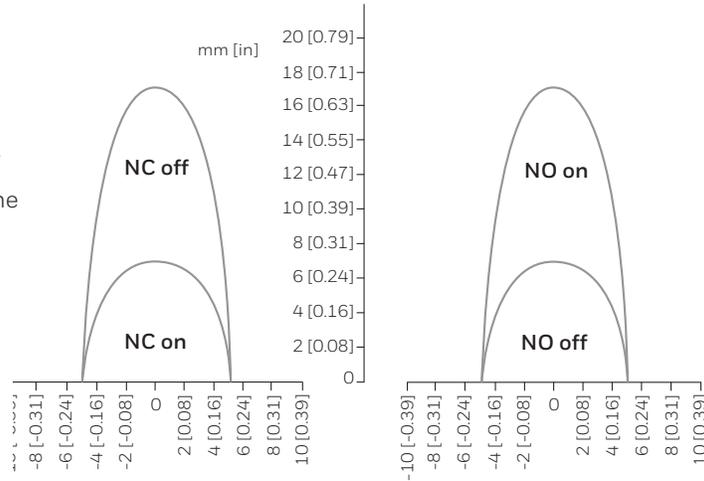
FIGURE 2. WIRING DIAGRAM



# NON-CONTACT SAFETY SWITCHES FF5 SERIES

**FIGURE 3. SENSING DISTANCES (mm [in])**

The normally closed (NC) circuit is the safety contact/switch and is closed when the switch senses the actuator.



The normally open (NO) circuit is an optional auxiliary contact which closes when the switch no longer senses the actuator.

**FIGURE 4. MOUNTING DIMENSIONS (FOR REFERENCE ONLY: mm [in])**

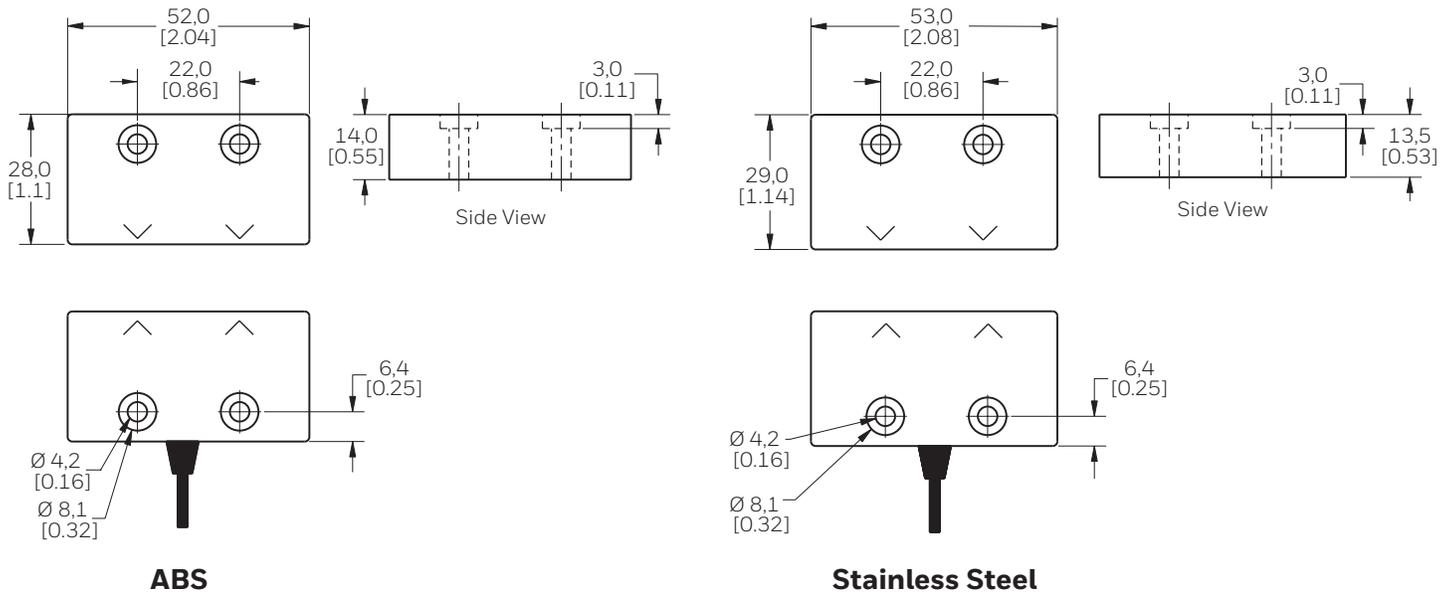


TABLE 2. ORDER GUIDE	
Catalog Listing	Description
<b>FF5-21-DC-03</b>	FF5 Series safety switch and actuator, ABS plastic housing and actuator, 2NC/1NO, pre-wired with 3 m [9.8 ft] cable
<b>FF5-21-DC-03-SS</b>	FF5 Series safety switch and actuator, stainless steel housing and actuator, 2NC/1NO, pre-wired with 3 m [9.8 ft] cable
<b>FF5-21-DC-10</b>	FF5 Series safety switch and actuator, ABS plastic housing and actuator, 2NC/1NO, pre-wired with 10 m [32.8 ft] cable
<b>FF5-21-DC-10-SS</b>	FF5 Series safety switch and actuator stainless steel housing and actuator, 2NC/1NO, pre-wired with 10 m [32.8 ft] cable

## WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment 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 that Honeywell, in its sole discretion, 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 Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility 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 writing. However, Honeywell assumes no responsibility for its use.

## FOR MORE INFORMATION

Honeywell Advanced Sensing Technologies services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit [our website](#) or call:

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## 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.**

## 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.**