

Non-Contact Safety Switches

FF5 Series

004746*Issue 3***Datasheet**

DESCRIPTION

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

With CE and UL certifications, the switches can be installed on machinery for global applications.

VALUE TO CUSTOMERS

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

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 meters or 10 meters
- 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 and UL 508 certifications

DIFFERENTIATION

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

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 FF5 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](#).

Non-Contact Safety Switch, FF5 Series

Table 1. Specifications

Characteristic	Parameter
Description	Magnetically actuated non-contact safety switch, FF5 Series
Certifications	cULus/UL 508; File E37138, Industrial control CE; DOC A347 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
Switch and actuator housing material	FF5; ABS plastic FF5-SS; 316 stainless steel
Termination	Pre-wired six-conductor color-coded cable Ø 4,55 mm [0.18 in], 3 meters or 10 meters length
Contacts (when actuator present)	2NC/1NO
Contact design	Magnetically actuated
Safety contact rating*	300 mA/24 Vdc
Safety contact sensing distance**	7 mm [0.28 in] ON/17 mm [0.67 in] OFF
Auxiliary contact rating*	300 mA/24 Vdc
Auxiliary contact sensing distance**	7 mm [0.28 in] OFF/17 mm [0.67 in] ON
External fuse (customer supplied)	0.2 A fast acting
Environmental sealing	IP67 for switch and actuator
Operating temperature	-25 °C to 55 °C [-13 °F to 131 °F]
Vibration/shock	10 g, 50 Hz to 100 Hz

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

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

Figure 1. FF5 Contact Configuration

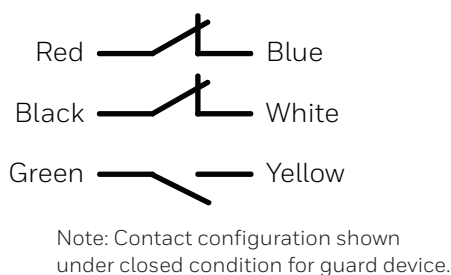
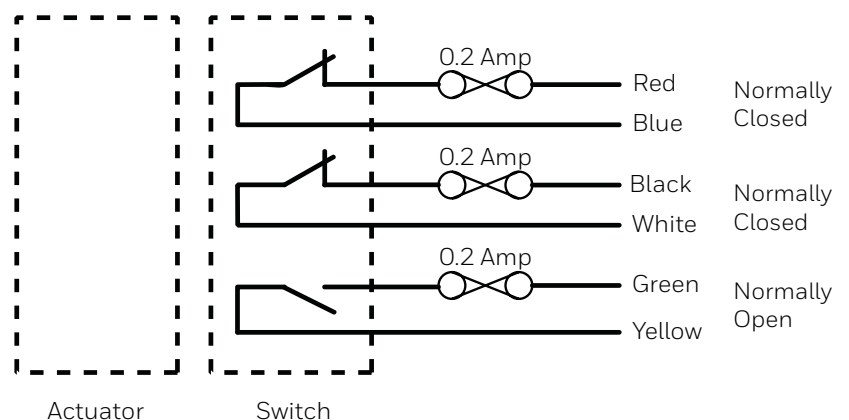
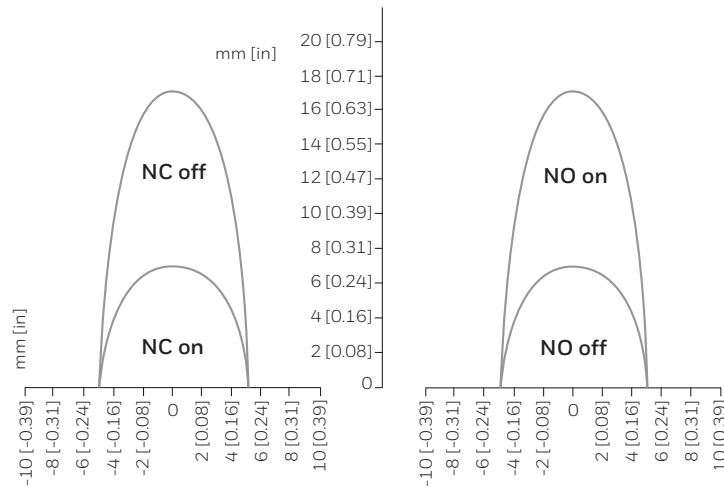


Figure 2. FF5 Wiring



Non-Contact Safety Switch, FF5 Series

Figure 3. FF5 Series Sensing Distance



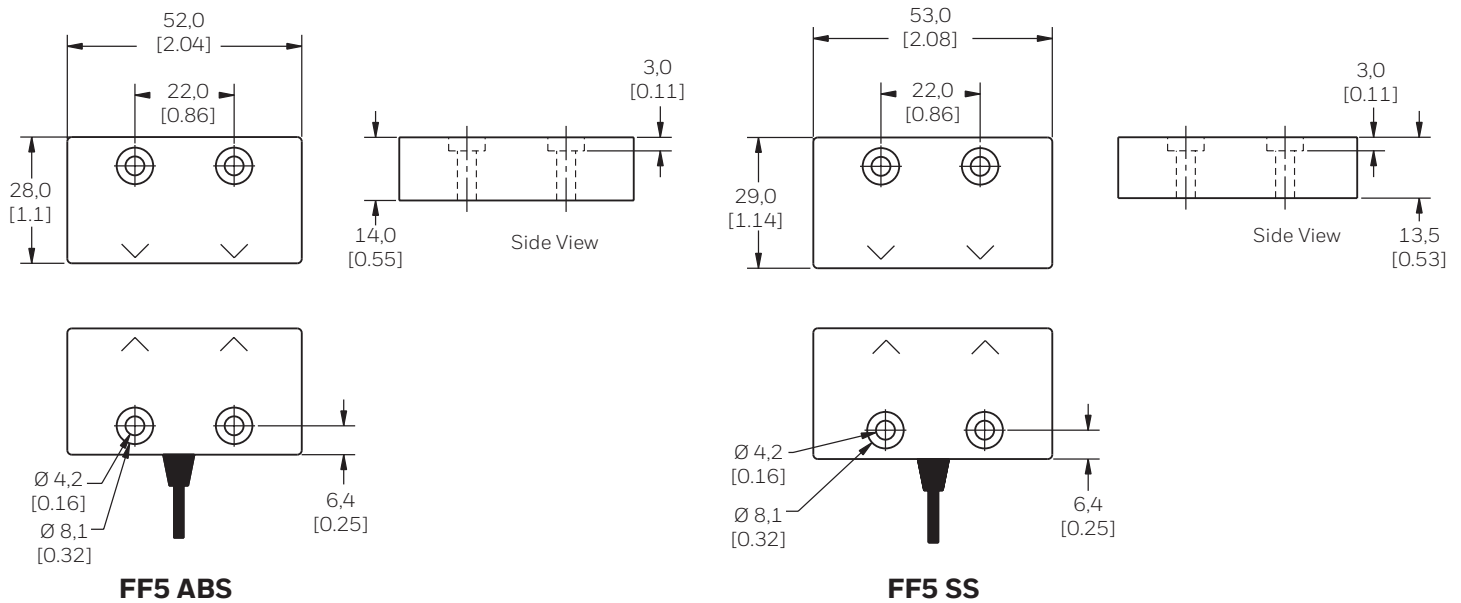
Normally closed circuit is the safety contact/switch and is closed when the actuator is sensed by the the switch.

Normally open circuit is an optional auxiliary contact which closes when the actuator is no longer sensed.

Table 2. FF5 Series Order Guide

Catalog Listing	Description
FF5-21-DC-03	Switch and actuator, ABS plastic housing and actuator, 2NC/1NO, pre-wired with 3 m cable
FF5-21-DC-03-SS	Switch and actuator, Stainless steel housing and actuator, 2NC/1NO, pre-wired with 3 m cable
FF5-21-DC-10	Switch and actuator, ABS plastic housing and actuator, 2NC/1NO, pre-wired with 10 m cable
FF5-21-DC-10-SS	Switch and actuator, Stainless steel housing and actuator, 2NC/1NO, pre-wired with 3 m cable

Figure 4. FF5 Series Dimensions



ADDITIONAL MATERIALS

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

- Product installation guide
- Product range guide

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.

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 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 Sensing and Internet of Things services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit sensing.honeywell.com or call:

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