

# FFS SERIES

004747

Issue 6

## Non-Contact Safety Switches

### DESCRIPTION

Honeywell FFS Series switches are coded magnetically actuated non-contact safety limit switches for use in machine guarding applications. The FFS Series of switches are designed to monitor the position of a guard for a safety-related system. For ease of operation, a green LED is integral to the switch and turns on when the switch senses the actuator. The rectangular design of the switch and actuator can be beneficial where a slim package size is desired. A magnetic actuator is supplied with each switch. The switch and actuator are each installed with two M4 or #8 mounting hardware. The non-contact switch design allows for flexible installations where misalignment of the machine guard may occur. The switch and actuator are sealed to IP67 for wet and dusty environmental applications.

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

### VALUE TO CUSTOMERS

- Non-contact minimizes installation and set-up
- Pre-wired cable with color-coded individual lead-wire or integral Micro AC ½ in - 20 quick disconnect connector simplifies electrical connection
- Actuator can approach switch from head-on, slide-by, or rotation/hinge for flexible installation

### 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

### DIFFERENTIATION

- Non-contact requires no mechanical linkage to actuate the FFS Series switch
- Integral green LED provides status of NC switch contacts
- Up to two safety contacts when actuated for inputs to safety circuit
- Optional auxiliary contact closes when actuator moves out of the operating range



### FEATURES

- Non-contact design requires no operating force to actuate switch
- ABS plastic housing for switch and actuator
- Green LED on switch for guard status indication
- Slim package size: 19,0 mm x 19,0 mm x 82,5 mm [0.75 in x 0.75 in x 3.25 in]
- Choice of 1 NC/1 NO or 2 NC contacts
- Pre-wired cable length of 3 meters or 10 meters or an integral Micro AC ½ in - 20 quick disconnect
- IP67 environmentally sealed switch and actuator
- CE, UKCA and UL 508 Certifications

### PORTFOLIO



This Series is part of an extensive offering of both non-contact and electromechanical switches.

To view the Honeywell product portfolio, [click here](#).

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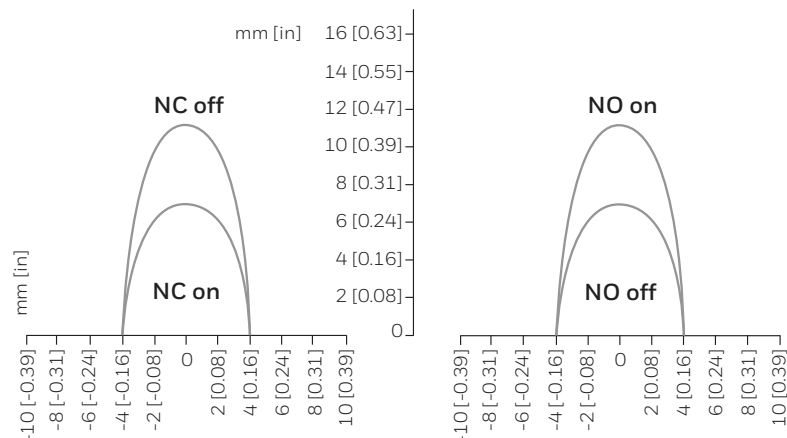
# NON-CONTACT SAFETY SWITCHES

## FFS SERIES

**TABLE 1. SPECIFICATIONS**

Characteristic	Parameter
<b>Description</b>	Coded magnetically actuated non-contact safety switch, FFS Series
<b>Certifications</b>	UL (UL508) File E37138 cUL (C22.2 No.14) File 37138 CE DOC A346, UKCA DOC B346 Reference standards: EN 60947-5-1; Low voltage switchgear and controlgear EN 60947-5-3; Low voltage switchgear and controlgear EN 61000-6-2; Electro magnetic compatibility for immunity EN 61000-6-4; Electro magnetic compatibility for emissions EN 60204-1; Safety of machinery, Electrical equipment of machines EN 62061; Safety of machinery, Functional safety EN ISO 13849-1; Safety of machinery, Safety-related parts of control systems
<b>Switch and actuator housing material</b>	ABS plastic
<b>Termination</b>	Pre-wired 6 conductor color-coded cable Ø 7,3 mm [0.29 in] 3 meters or 6 meters length Micro AC ½ in - 20 quick disconnect, 6 pin male with dual keyway
<b>Supply voltage sensor circuit</b>	24 Vdc
<b>Contacts (when actuator present)</b>	1NC/1NO, 2NC
<b>Contact design</b>	Magnetically actuated
<b>Safety contact rating</b>	120/230 Vac, 2 A 24 Vdc, 2 A
<b>Auxiliary contact rating</b>	120/230 Vac, 2 A 24 Vdc, 2 A
<b>LED indicator</b>	Green LED "ON" when actuator present
<b>External fuse (customer supplied)</b>	1.6 A fast acting
<b>Environmental sealing</b>	IP67 for switch and actuator
<b>Operating temperature</b>	-25 °C to 55 °C [-13 °F to 131 °F]
<b>Vibration/shock</b>	50 Hz to 100 Hz/10 g

**Figure 1. FFS Series Distance**

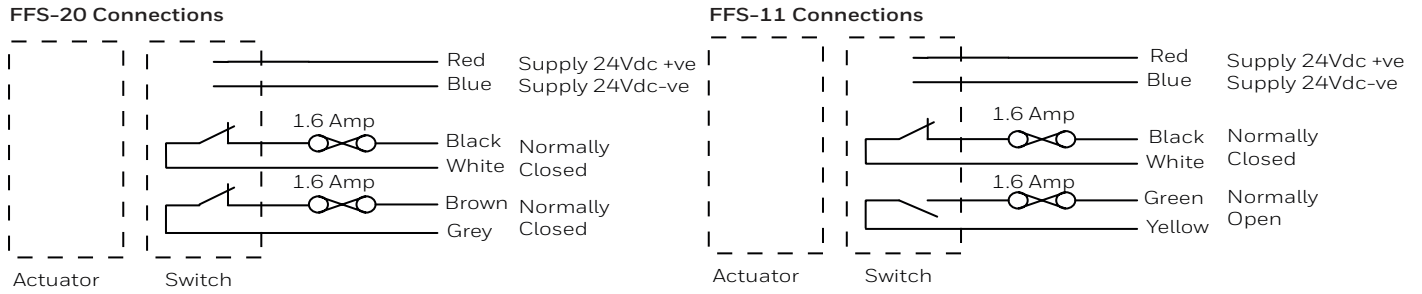


Normally closed circuit is the safety contact/switch and is closed when the actuator is sensed by the the switch.

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

# NON-CONTACT SAFETY SWITCHES FFS SERIES

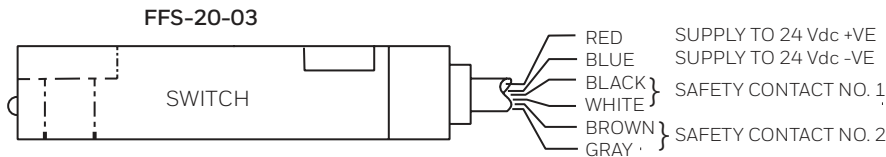
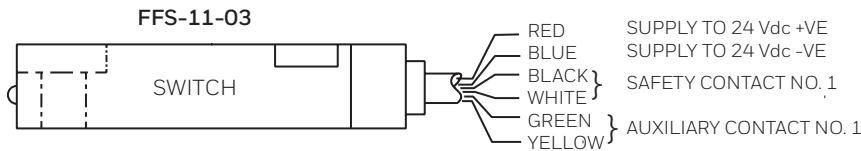
**Figure 2. FFS Series Contacts**



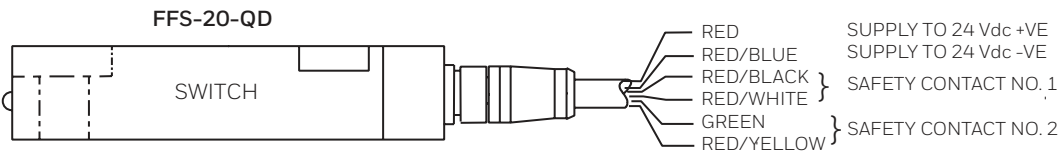
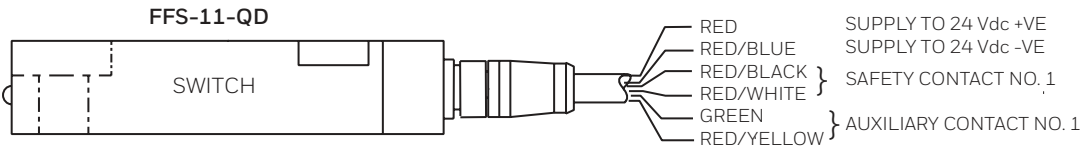
NOTE: Contact configurations show under closed condition for guard device.

**Figure 3. FFS Series Connections**

### FFS SERIES PRE-WIRED CONNECTION



### FFS SERIES QD CONNECTION

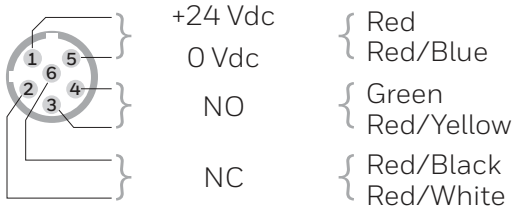


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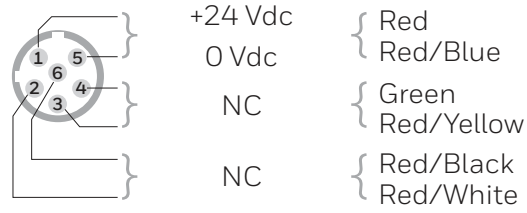
Figure 4. FFS Series Quick Disconnect Pinout

### Connector Description Cable



Connector  
Micro AC ½ in – 20  
6 Pole, Dual Key Way

### Connector Description Cable



Connector  
Micro AC ½ in – 20 in  
6 Pole, Dual Key Way

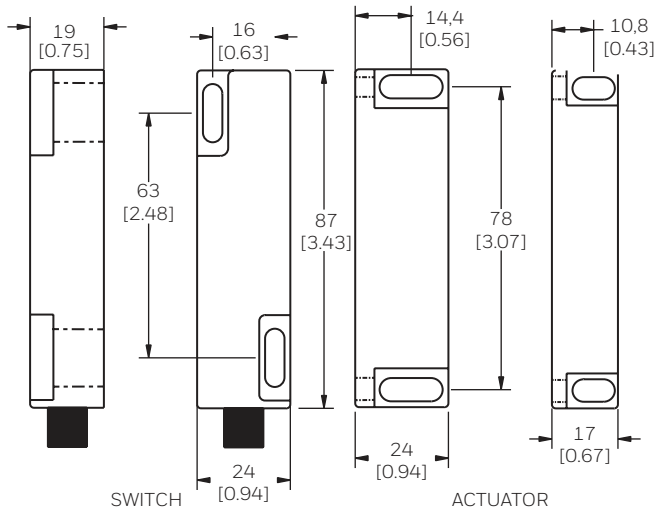
TABLE 2. FFS SERIES ORDER GUIDE: ABS PLASTIC HOUSING

Catalog Listing	Description
<b>FFS-11-03</b>	Switch and actuator, 1NC safety and 1NO auxiliary contacts, 3 meters pre-wired cable
<b>FFS-11-10</b>	Switch and actuator, 1NC safety and 1NO auxiliary contacts, 10 meters pre-wired cable
<b>FFS-11-QD</b>	Switch and actuator, 1NC safety and 1NO auxiliary contacts, Micro AC ½ in – 20 quick disconnect integral connector
<b>FFS-11-QD05</b>	Switch and actuator, 1NC safety and 1NO auxiliary contacts, Micro AC ½ in – 20 quick disconnect integral connector, 5 meters cable with integral 4 pin female connector
<b>FFS-20-03</b>	Switch and actuator, 2NC safety contacts, 3 meters pre-wired cable
<b>FFS-20-10</b>	Switch and actuator, 2NC safety contacts, 10 meters pre-wired cable
<b>FFS-20-QD</b>	Switch and actuator, 2NC safety contacts, Micro AC ½ in – 20 quick disconnect integral connector
<b>FFS-ACT</b>	Replacement actuator for FFS Series switches

# NON-CONTACT SAFETY SWITCHES FFS SERIES

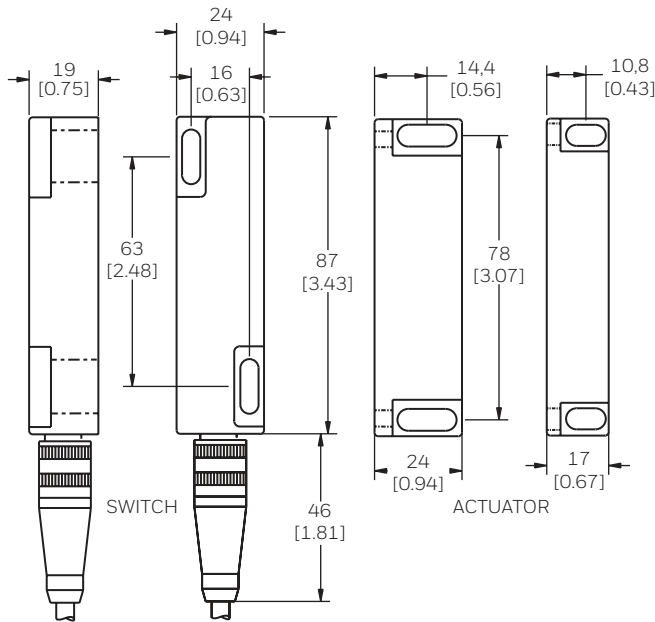
**Figure 5. FFS Series Dimensions**

FFS SERIES PRE-WIRED mm[in]



FFS SERIES QC mm[in]

(with M12 Brad Harrison Connector)



## WARRANTY/REMEDY

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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.**

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