

# MICRO SWITCH™

## Safety Switches

## Line Guide



**Full-Scale Offering. Solid, Robust Industry Knowledge.** Equal parts common sense and creativity. Each part in Honeywell Sensing and Control's (S&C) robust offering of safety switches comes complete with amenities you'd expect from the industry leader: superior assembly techniques for enhanced performance, extended productivity, full-line flexibility – for supreme safety.

- Key-operated interlock switches
- Cable-pull switches
- Hinge-mount switches
- Trapped key and solenoid key switches
- Positive-opening contacts

### FEATURES

#### **GKM Series Global Miniature.**

**Features:** Red body color • Integrated cable or connector(s) • Bottom or side-entry • Bottom, side-entry, or dual connector versions (for daisy chaining a number of switches together) • 90° or straight key • Extremely compact enclosure • Positive opening operation of normally closed contacts (conforming to IEC/EN 60947-5-1-3) • IP67 rating • Stackable design allows side-by-side mounting • Robust keys • UL listed, CSA certified, CE compliant, SIL 3 capable • High current switching capabilities • Small door swing radius down to 160 mm [6.3 in]

**Benefits:** Reduced installation time and costs. Flexibility of mounting and actuation options. Ability to function as a final switching device for small, low-risk equipment. Operates with safety control modules for more complex applications. Fits extremely compact spaces, and is often suitable for wet applications. Simple mechanical and electrical redundancy for some options. Easy application in multiple door modular machinery (no difficulty in

wiring small switch enclosures). Durable, tough design. Global acceptance.

#### **FF and FFS Series Non-contact.**

**Features:** Red body color (except FFS and stainless steel offerings) • Tamper-proof electronic switching • 7 mm to 10 mm [0.28 in to 0.4 in] operating distance • Guard status indication • CE, UL approvals • Options of one or two safety contacts • Tested to over 1,000,000 operations • Simple mounting (M18/30 thread mounting or frame-mountable versions) • Guard status indication available • ac and dc versions

**Benefits:** Tolerates misalignment over lifetime of machine. Gap between sensor and actuator large, enabling non-contact switching. FFS offers superior tamper resistance. Integrates easily with control modules. Easy daisy chain configurations.

#### **GSS Series Safety Limits.**

**Features:** Red body color • EN50041 and EN50047 mounting and characteristics • IEC electrical standard for global ap-

plifications • Positive opening operation of normally closed contacts (conforming to IEC/EN60947-5-1-3) • Rugged housing (zinc die-cast) • Full range of actuator heads and levers • Sealing up to IP67; NEMA 1, 4, 12, and 13 • Snap-action and slow-action basic switches • International conduit sizes • Galvanically isolated contacts • UL listed, CSA and CE certified, SIL 3 capable

End users, OEMs, everyone faces the same challenge: ensuring equipment productivity while meeting global workplace safety standards. Honeywell S&C offers solutions designed to help pass any test with the most impressive safety switch portfolio and solutions – for any important, application-specific need. It's the widest range of sizes, sealing alternatives, enclosure materials, actuator styles, and contact options available. All backed by superior Honeywell service and global support.

- Non-contact products for door detection
- Miniature switches for smaller openings
- Reduced installation time and cost
- Tamper resistant

**Benefits:** Standard mounting and characteristics are globally available and accepted. Welded NC contacts will separate (vital security in safety applications). Range of actuation methods for detecting conditions in guarding and machine status applications. Wiring and body flexibility. Often suitable for inductive switching and safety relay interfaces.

**Benefits:** Standard mounting and characteristics are globally available and accepted. Welded NC contacts will separate (vital security in safety applications). Range of actuation methods for detecting conditions in guarding and machine status applications. Wiring and body flexibility. Often suitable for inductive switching and safety relay interfaces.

#### **GSX Series.**

**Features:** Snap action contacts with positive break in an explosion-proof housing • Positive action push plunger breaks current upon opening of door or aperture • Explosion-proof housing

# MICRO SWITCH™ Safety Switches Line Guide

## The most powerful part: Possibilities.

Honeywell S&C offers one-stop convenience for engineering excellence – meaning top-notch products or completely customized creations, as well as all the possibilities that lie between. You may have ‘impossible’ needs and dead-lines. But the experts at Honeywell are ready with powerful safety solutions.

From the factory floor to the assembly line, from packaging machinery to robot cells – from the smallest spaces to any worldwide application or mount, Honeywell delivers ultimate reliability and safety in compact, cost-effective packages.



### Safety Switches

	GKM Series Global Miniature	FF and FFS Series Non-contact
<b>Attributes</b>	key switch – very small, cable/connector fitted	contactless door detection; very small, cable/connector fitted
<b>Potential applications</b>	small doors and apertures	small doors and apertures
<b>Housing</b>	glass-filled polyester	ABS resin-filled, stainless steel
<b>Approvals</b>	UL, CE, SIL 3 capable	UL, CE
<b>IEC/NEMA rating</b>	IP66/67; NEMA 1, 12, 13; EN60529	IP67; NEMA 4
<b>Differentiator</b>	small footprint; connectorized; side-exit cable connector	large actuation window to reduce misalignment issues
<b>Body dimensions (less levers) H x W x D mm[in]</b>	69,4 mm x 34,0 mm x 16,0 mm [2.73 in x 1.34 in x 0.63 in]	82,5 mm x 19 mm x 17 mm [3.25 in x 0.75 in x 0.67 in]
<b>Temperature</b>	-25 °C to 85 °C [-13 °F to 185 °F]	-10 °C to 55 °C [14 °F to 131 °F]



### Safety Switches

	GSS Hinge Mount Safety Limits	GSS Series Safety Limits	GSX Series Explosion-Proof Safety Switch	GK Series Key-Operated Safety Interlock
<b>Attributes</b>	mounted to the door hinge – detects door angle	global safety switch	explosion-proof, safety switch	heavy-duty key switch
<b>Potential applications</b>	medium/large doors and apertures	medium/large doors	gates, doors, access panels, cages	large, heavy door applications
<b>Housing</b>	glass-filled polyester; die-cast	die-cast	die-cast	die-cast
<b>Approvals</b>	UL, CE, SIL 3 capable	UL, CE, SIL 3 capable	UL, ATEX, IECEx	UL, CE, SIL 3 capable
<b>IEC/NEMA rating</b>	IP67; NEMA 1, 4, 12, 13	IP67; NEMA 1, 4, 12, 13	IP67; NEMA 1, 3, 4, 12, 13	IP67; NEMA 1, 4, 12, 13
<b>Differentiator</b>	highly visible	highly visible	IECEx approvals. More than 10000 actuator/switching combos	extremely heavy-duty, rugged
<b>Body dimensions (less levers) H x W x D</b>	83,0 mm x 30,5 mm x 30,0 mm [3.27 in x 1.2 in x 1.18 in]	83,0 mm x 30,5 mm x 30,0 mm [3.27 in x 1.2 in x 1.18 in]	154,2 mm x 44,5 mm x 72 mm [6.07 in x 1.75 in x 2.84 in]	121,6 mm x 42 mm x 42,6 mm [1.79 in x 1.652 in x 1.68 in]
<b>Temperature</b>	-25 °C to 85 °C [-13 °F to 185 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-40 °C to 70 °C [-40 °F to 158 °F]	-25 °C to 85 °C [-13 °F to 185 °F]



## Safety Switches

**24CE and 924CE Series**

**GKE Series Dual Entry Safety**

**GKN Series Safety Interlock**

<b>Attributes</b>	very small, cable/connector fitted	key switch – small, standardized housing	standard offering, three conduit, minimal variances
<b>Potential applications</b>	small doors and apertures	small doors and apertures	small/medium doors and apertures
<b>Housing</b>	Die-cast	glass-filled polyester	glass-filled polyester
<b>Approvals</b>	UL, CE, SIL 3 capable	UL, CE, CCC, SIL 3 capable	UL, CE, CCC, SIL 3 capable
<b>IEC/NEMA rating</b>	IP67	IP66; NEMA 1, 12, 13	IP67; NEMA 1, 4X (indoor use only), 12, 13
<b>Differentiator</b>	toughest safety switch available	small footprint key switch	molded 0.5 in NPT conduit
<b>Body dimensions (less levers) H x W x D mm[in]</b>	49,0 mm x 40,0 mm x 16,0 mm [1.93 in x 1.57 in x 0.63 in]	92,2 mm x 24,2 mm x 29,4 mm [3.63 in x 0.95 in x 1.16 in]	90,0 mm x 40,0 mm x 33,0 mm [3.55 in x 1.57 in x 1.30 in]
<b>Temperature</b>	0 °C to 70 °C [32 °F to 160 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-25 °C to 70 °C [-13 °F to 158 °F]



## Safety Switches

**GKS Series Multi-Entry  
Trapped Safety Interlock**

**GKR/L Dual-Entry Solenoid  
Safety Interlock**

**CPS Series Cable Pull Safety  
Switch**

<b>Attributes</b>	trap and hold the key until hazard has been removed	heavy-duty key switch/solenoid lock	single/dual head rope pull
<b>Potential applications</b>	large, heavy door applications	large, heavy door and machine apps	conveyor applications
<b>Housing</b>	glass-filled polyester	die-cast	die-cast
<b>Approvals</b>	UL, CE, CCC, SIL 3 capable	UL, CE, SIL 3 capable	UL, CE, SIL 3 capable
<b>IEC/NEMA rating</b>	IP67; NEMA 1, 4X (indoor use only), 12, 13	IP68; NEMA 1, 4, 6P, 12, 13	IP67; NEMA 1, 4, 12, 13
<b>Differentiator</b>	compact, trapped key design	extremely rugged trapped key switch	rugged housing, ease of installation
<b>Body dimensions (less levers) H x W x D mm[in]</b>	196,8 mm x 40 mm x 41 mm [7.75 in x 1.57 in x 1.61 in]	149,0 mm x 110,0 mm x 48,8 mm [5.85 in x 4.33 in x 1.92 in]	165,1 mm x 79,8 mm x 325,9 mm [6.5 in x 3.14 in x 12.75 in]
<b>Temperature</b>	-25 °C to 50 °C [-13 °F to 122 °F]	-25 °C to 85 °C [-13 °F to 185 °F]	-40 °C to 85 °C [-40 °F to 185 °F]

for hazardous locations • Sealed for protection against corrosion, water, dust, and oil as defined in NEMA 1, 3, 4, 12, and 13 and IP67 • Complies with ATEX, IECEx, and UL/CSA regulations • Simple installation • Extensive switch options and actuator styles

**Benefits:** To comply with explosion-proof requirements, the GSX has flame paths within the housing, which cool exploding gases below the ignition temperature before they reach explosive gases surrounding the housing. Flame paths are (1) an extended plunger between the switch cavity and head and (2) the cover-housing threads on the front of the switch. Potential applications include gates, doors, access panels, and/or cages on machinery in hydrocarbon refining, chemical processing, agricultural equipment, food processing, and grain elevators.

### **GKN Series Safety Interlock.**

**Features:** Red body color • Positive opening operation of normally closed contacts (conforming to IEC/EN 60947-5-1-3) • Choice of actuators • Double insulated per IEC 60947-5-1 • Global approvals (cULus, CE, CCC, SIL 3 capable) • Three cable entries • Large wiring cavity • Large M20 cable entry • Oblique native 0.5 in NPT conduit • Common footprint • Four-entry head

**Benefits:** Flexibility in positioning on door/machine. Ease of wiring/installation. No conduit or cable adapters. Meets global safety standards. Drop-in compatibility with most brands. No need to reconfigure head orientation.

### **GK Series Key-Operated Safety Interlock.**

**Features:** Red body color • Positive opening operation of normally closed contacts • Standard mounting per EN50041 • Available with 2NC/2NO, 3NC/1NO or 4NC positive opening contacts • Side or top key entry • Unique friction feature for key retention • Choice of four heavy duty keys (Key sold separately) • Die-cast zinc housing • Lockout device available • UL, CSA, CE, SIL 3 capable

**Benefits:** Designed for use on machinery where key removal brings the machine to an immediate safe condition. Potential applications include Hinged or sliding guard doors, screens, protective covers and enclosures on: machine tools machinery, metalworking machines, special purpose machinery, robotics assembly cells, and plastic molding machines.

### **GKE Series Dual Entry Safety Interlock.**

**Features:** Red body color • Positive opening safety contacts • Head orientation configured to order • Rotating head • Head may be ordered in four possible orientations • Double insulation per IEC 60947-5-1 • Choice of two standard actuators • Small size • cULus, CE, CCC, SIL 3 capable

**Benefits:** Small footprint. Applicable to various safety schemes, including low and high voltage/energy. May be used as final switching device for small, low-risk applications. Environmentally sealed for challenging applications.

### **GKN Series Safety Interlock.**

**Features:** Red body color • Positive opening operation of normally closed contacts (conforming to IEC/EN 60947-5-1-3) • Choice of actuators • Double insulated per IEC 60947-5-1 • cULus, CE, CCC, SIL 3 capable • Three cable entries • Large wiring cavity • Large M20 cable entry • Oblique native 0.5 in NPT conduit • Common footprint • Four-entry head

**Benefits:** Flexibility in positioning on door/machine. Ease of wiring/installation. No conduit or cable adapters. Meets global safety standards. Drop-in compatibility with most brands. No need to reconfigure head orientation.

### **GKS Series Multi-Entry Trapped Key Safety Interlock.**

**Features:** Red body color • Global approvals (CE, cULus, CCC, SIL 3 capable) • Glass-filled polyester body • Power-to-lock and power-to-unlock schemes for key trap • Flexible switching arrangement • 24 Vdc, 110 Vac, and 230 Vac coil voltages • Override mechanism in cover • Four head positions available • Three conduit open-

ings (knock-out style) • Switch position provides status

**Benefits:** Ease of safety module integration. Tough, cost-effective, double-insulated enclosure. Choice of key trapping methodology. Four contacts can be arranged in any configuration and multiple voltages for every geography. Ability to open door (in case of power loss, etc.). Flexible wiring options. Can diagnose status of gate/door open, closed, locked.

### **GKR/GKL Dual-Entry Solenoid Trapped Key Safety Interlock.**

**Features:** Metal housing • Red body color • Solenoid power to lock or power to unlock • Side or top key entry • Separate switch detection for key position and solenoid status • Available with several switch configurations • 100 mm [3.94 in] x 100 mm [3.94 in] mounting • Choice of four heavy-duty keys • Key retain force 1000 N max. • IP68 (NEMA 6P) • Two solenoid voltages available • Dual LEDs • UL listed/CSA certified/CE compliant, SIL 3 capable • Fluorocarbon-sealed enclosure available

**Benefits:** Robust body design for harsh environments. High force resistance. Fluorocarbon version often suitable for metalworking fluid-splash environment. Allows up to eight key entry positions. Standard mounting, key mounting flexibility and security. Often suitable for harsh-duty environments. Operates at standard control voltage. Global acceptance.

### **CPS Series Cable Pull Safety.**

**Features:** 2CPS dual head for dual span • 1CPS single head for single span • Red body color • Direct opening action of normally closed contacts if emergency occurs • Typical cable span of 76 m [250 ft], longer spans available • UL listed, CE compliant, SIL 3 capable • Highly visible status indicator • Gold-plated contacts available • Rugged, die-cast zinc housing • Optional hardware packs

**Benefits:** Easy to identify tripped switch in emergency. Extremely rugged design for harsh environments or applications. Minimizes false triggers in varying temperature environments (i.e., semi-enclosed conveyor spaces). Easy wiring and installation. Simple set-up.

**Warranty.** 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 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.

For more information about Sensing and Control products, visit [www.honeywell.com/sensing](http://www.honeywell.com/sensing) or call +1-815-235-6847. Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

**⚠ 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 catalogue is for reference only. DO NOT USE this document as product installation information.
- 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.**

Sensing and Control  
Honeywell  
1985 Douglas Drive North  
Golden Valley, MN 55422 USA  
+1-815-235-6847  
[www.honeywell.com](http://www.honeywell.com)

004757-6-EN IL50 GLO  
July 2011  
Copyright © 2011 Honeywell International Inc. All rights reserved.

**Honeywell**

# Notes