# Honeywell

### **MICRO SWITCH Miniature Industrial Limit Switch**

**GLL** Series

# 002310

lssue 4

Datasheet



#### DESCRIPTION

Honeywell provides a wide selection of industrial limit switches for machinery and equipment on indoor and outdoor applications. When the solution for the application is a small global limit switch, Honeywell offers the GLL Series miniature industrial limit switch. The GLL Series switches are designed with global certifications for worldwide use. With an integral contact block, the design also provides a double-insulated thermoplastic housing and conforms to the EN50047 mounting pattern with IP and NEMA environmental sealing. A wide variety of linear and rotary actuators is available as well as contact block options to satisfy many applications. All normally closed contacts are positive opening  $\bigodot$ .

### **VALUE TO CUSTOMERS**

- Designed to EN50047 standards
- AC15, A600 and DC13, Q300 control circuit electrical ratings for world-wide acceptance
- Wide range of actuators and circuitry options in same package
- CCC, CE, CSA, and cULus certifications for global acceptance

#### FEATURES

- Ten different actuator heads, five different contact options, and two different conduits
- Designed to EN50047 standard
- Double insulated plastic housing
- Integral threaded conduit of 0.5 NPT or 20 mm
- Positive opening normally closed contacts to IEC 60947-5-1-3
- Certified for global applications; CE, cULus, CSA, CCC
- Galvanically isolated poles or throws [Zb] within contact block
- Double break snap action or slow action contacts
- Hinge cover with single fastener for easy wiring access
- IP66 environmental sealing for indoor or outdoor applications
- ROHS compliant

#### POTENTIAL INDUSTRIAL APPLICATIONS

- Aerial platforms/Lifts
- Elevators/Escalators
- Industrial Doors/Gates
- Packaging equipment

#### DIFFERENTIATION

- Double insulated thermoplastic limit switch with integral contact block
- Cost effective EN50047 type limit switch with world-wide availability

#### PORTFOLIO

The GLL Series global limit switches are a segment of the Honeywell industrial global limit switch offering. The global limit switch products also include the GLA Series, the miniature GLC, GLD, and GLE Series, the NGC Series, and SZL-VL Series. In addition to the global limit switch series, Honeywell provides a comprehensive line of medium duty industrial limit switches (CE Series, E6/V6 Series, LS Series) and heavy-duty limit switches (HDLS Series).

#### **Table 1. Specifications**

Characteristic	Parameter					
Description	EN50047 industrial global limit switch					
Certifications	CE, CCC, cULus, CSA					
Conforming to standards	CE [EN60947-5-1]; CCC [GB 14048.5]; UL & cUL [UL508, File E37138]; CSA B44.1-04/ ASME-A17.5-2004					
Housing material	Thermoplastic reinforced with glass fiber					
Actuators	Side rotary with fixed levers, side rotary with adjustable levers, side rotary with adjustable rod, top pin plunger, top roller plunger, top horizontal roller lever, top vertical roller lever					
Conduit	0.5-14 NPT, 20 mm					
Contact options*	1NC-1NO snap action, 1NC-1NO slow action break before make [BBM], 1NC-1NO slow action make before break [MBB], 2NC slow action. Poles or throws are electrically isolated [Zb]					
Contact material	Silver alloy					
Utilization category	AC-15, A600; DC-13, Q300					
Rated operational voltage [Ue]	600 Vac, 250 Vdc					
Rated operational current [le]	1.2 A, 0.27 A					
Thermal current [Ith]	10A					
Rated insulation voltage [Ui]	600 V					
Rated impulse withstand voltage (Uimp)	2500 V					
Short Circuit Protective Device [SCPD] type & rating	Class J fuse, rated 10A, 600V					
Sealing	IP66; NEMA 1, 12, 13					
Operating temperature	-10 °C to 80 °C [14 °F to 176 °F]					
Mechanical life	Up to 5 million operations					
Vibration [w/o actuator]	10 g per IEC 60068-2-6					
Shock [w/o actuator]	50 g per IEC 60068-2-27					

\* All normally closed (NC) contacts are positive opening

#### **Table 2. Electrical Specifications**

ac		dc	dc			
A600 Ue Volts	AC-15 le Amps	Q300 Ue Volts	DC-13 le Amps			
120	6	125	0.55			
240	3	250	0.27			
380	1.9					
480	1.5					
500	1.4					
600	1.2					

Figure 1. Prod	luct Nomenclat	ure		
GLL	A	01	Α	18
Switch		Contact	Head	Lever
Туре	Conduit	Block	Style	Style
<b>GLL Series</b> Miniature	A 0.5-14 NPT	<b>O1</b> 1NC/1NO snap action	A Side rotary (requires lever)	<b>1B</b> Fixed plastic (R 25 mm) Ø17 mm metal roller
Industrial Limit	<b>C</b> 20 mm	<b>O3</b> 1NC/1N0 slow action BBM	<b>B</b> Top pin plunger	Fixed plastic (R 31,5 mm) Ø50 mm rubber roller
Switch		<b>04</b> 1NC/1N0 slow action MBB	C Top roller plunger	Adjustable metal (R20 mm to 75 mm) Ø17 mm metal roller
		<b>06</b> <sup>2NC</sup> slow action	D Top horizontal roller plunger	Adjustable metal (R31,5 mm to 75 mm) Ø50 mm rubber roller
		<b>07</b> 1NC/1NO snap action (gold-plated contacts)	F Top vertical roller plunger	<b>3B</b> Fixed plastic (R 31,55 mm) Ø17 mm metal roller
				<b>4J</b> Ø3mm adjustable metal rod (22 mm to 150 mm)

Figure 1. Product Nomenclature

#### MICRO SWITCH GLL SERIES ORDER GUIDE/RECOMMENDED LISTINGS

Table 3. Side Rotary 25 mm lever with Ø17 mm metal roller

	Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
	1NC-1NO	Snap action	silver	12 [1.06]	0° 12°	GLLA01A1B	GLLC01A1B
	1NC-1NO	$ \bigoplus_{\substack{13\\ \hline 2b}} \underbrace{14}_{21} \underbrace{22}_{22} $	gold-plated	12 [1.06]	30° OF 12Ncm ⊖55°	GLLA07A1B	-
	1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{\xrightarrow{0}}_{24}^{12} \underbrace{\xrightarrow{0}}_{24}^{12}$	silver	5 [0.44]	0° 15° 0° 0° 0° 0° 0° 5Ncm 0° 5Ncm	GLLA03A1B	GLLC03A1B
Hangwell Burger Burger With Hangwell With Hangwell With Hangwell With Hangwell With Hangwell With Hangwell With Hangwell Manager Hangwell Hangwell With Hangwell Hangwell Hangwell With Hangwell	1NC-1NO	$ \begin{array}{c} \text{MBB, slow} \\ \text{action} \\ & \bigoplus_{\substack{15 \\ \text{Zb} \\ 23 \\ 23 \\ 24 \\ 24 \\ 24 \\ 24 \\ 24 \\ 24$	silver	8 [0.71]	0° 35° 45° 75°	GLLA04A1B	GLLC04A1B
	2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}} \underbrace{12\\27\\22}$	silver	8 [0.71]	20° OF 8Ncm ⊖-35° OF 8Ncm	GLLA06A1B	GLLC06A1B

	Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
	1NC-1NO	Snap action	silver	12 [1.06]	0°° <b>1</b> 2°° <b>1</b>	GLLA01A3B	-
	1NC-1NO	$\bigcirc \frac{13}{Zb} \bigcirc \frac{14}{14}$	gold-plated	12 [1.06]	30° OF 12Ncm ⊖55° OF 70° OF	GLLA07A3B	-
	1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{\sum_{24}^{12}}_{24}$	silver	5 [0.44]	0° UF 15° UF 30° 40° UF 5Ncm 75°	GLLA03A3B	GLLC03A3B
Horeword actions ac	1NC-1NO	MBB, slow action $\bigoplus_{2b}^{15} \underbrace{\xrightarrow{16}}_{2b} \underbrace{\xrightarrow{16}}_{24}$	silver	8 [0.71]	0° 9757 20° 35° 45° 45° 5° 8Ncm	GLLA04A3B	GLLC04A3B
	2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}}^{11} \underbrace{12\\22}_{22} $	silver	8 [0.71]	20° → 35° 60°	GLLA06A3B	GLLC06A3B

Table 4. Side Rotary 31,5 mm Lever with Ø17 mm Metal Roller

Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	Snap action	silver	9.8 [0.87]	0° 0F 9.8 Ncm	GLLA01A2B	GLLC01A2B
1NC-1NO	$ \bigoplus_{\substack{13\\21\\21\\22}} \underbrace{13}_{22} \underbrace{14}_{22} $	gold-plated	9.8 [0.87]	9,8 Ncm → 55° → → → →	GLLA07A2B	-
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	10 [0.88]	0° 18° → 30° 40° 0F 10 Ncm	GLLA03A2B	GLLC03A2B
1NC-1NO	$MBB, slow action \\ \bigoplus_{23}^{15} \overline{2}_{24}^{16}$	silver	15.0 [1.33]	0° 99 8 8 20° 99 8 8 35° 0 0F 15 Ncm 60°	GLLA04A2B	GLLC04A2B
2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}}^{11} \xrightarrow{12\\22} $	silver	15.0 [1.33]	0° 30° 30° 0° 18 Ncm 60° 0° 18 Ncm	GLLA06A2B	GLLC06A2B

Table 5. Side Rotary, 20 mm to 75 mm Adjustable Lever with Ø17 mm Metal Roller

Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	Snap action $ \begin{array}{c}  & 13 \\  & 14 \\  & Zb \\  & 21 \\  & 22 \end{array} $	silver	9,8 [0.87]	0° 12° 30° 55° 70° 0° 0° 0° 0° 0° 0° 0° 0° 0°	GLLA01A1Y	GLLC01A1Y
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	10 [0.88]	0° 18° → 30° 40° 0° 0° 0° 0° 0° 0° 0° 0° 0°	GLLA03A1Y	GLLC03A1Y
1NC-1NO	MBB, slow action $\bigoplus_{\frac{15}{2b}}^{15}$	silver	15 [1.33]	0° 20° 35° → 45° 60°	GLLA04A1Y	GLLC04A1Y
2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\2}} \underbrace{1}_{2Y} \underbrace{1}_{22} $	silver	18 [1.59]	0° 30° → 35° 60° 0F 18 Ncm	GLLA06A1Y	GLLC06A1Y

Table 6. Side Rotary, 31,5 mm Lever with Ø50 mm Rubber Roller

Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	Snap action 13 $14Zb21$ $22$	silver	12 [1.06]	0° <sup>0</sup> 12° 30° 55° 70° 0° 0° 0° 0° 0° 0° 0° 0° 0°	GLLA01A2Y	GLLC01A2Y
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	5 [0.44]	0° 15° → 30° 40° 75°	GLLA03A2Y	GLLC03A2Y
1NC-1NO	MBB, slow action $\bigoplus_{\frac{15}{2b},\frac{16}{2b},\frac{16}{24}}^{16}$	silver	8 [0.71]	0° 19757 20° 35° 45° 45° 58Ncm	GLLA04A2Y	GLLC04A2Y
2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}} 12 22 $	silver	8 [0.71]	0° 20° → 35° 60°	GLLA06A2Y	GLLC06A2Y

Table 7. Side Rotary, 31,5 mm to 75 mm Adjustable Lever with Ø50 mm Rubber Roller

Contacts	Contact Type	Contact Material	Operating Torque max. Ncm [in-lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	$ \begin{array}{c} \text{Snap} \\ \text{action} \\ \xrightarrow{13} & \xrightarrow{14} \\ \xrightarrow{21} & \xrightarrow{22} \end{array} $	silver	9,8 [0.87]	0° <sup>0</sup> <b>7</b> <b>7</b> <b>7</b> <b>7</b> <b>7</b> <b>7</b> <b>7</b> <b>7</b>	GLLA01A4J	GLLC01A4J
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{\xrightarrow{0}_{24}}_{24}^{12}$	silver	10 [0.88]	0° 18° → 30° 40° 0° 0° 0° 0° 0° 0° 0° 0° 0°	GLLA03A4J	GLLC03A4J
1NC-1NO	MBB, slow action $ \bigoplus_{\frac{15}{2b}}^{15} \underbrace{\xrightarrow{16}}_{24}^{16} $	silver	15 [1.33]	0° 20° 35° 45° 60° 0° 0° 0° 0° 0° 0° 0° 0° 0°	GLLA04A4J	GLLC04A4J
2NC	Slow action $ \bigoplus_{\substack{12\\2Y}\\21} \underbrace{12\\22}_{22} $	silver	18 [1.59]	0° H 18 Ncm → 35° H 18 Ncm	GLLA06A4J	GLLC06A4J

Table 8. Side Rotary, 22 mm to 150 mm with Ø3 mm Adjustable Metal Rod

Operating Contact 0.5-14 NPT Contact Contacts Force max. Bar Chart<sup>1</sup> 20 mm Conduit Туре Material Conduit N [lb] 21-22 13-14 21-22 13-14 0 mr Snap action 1.3 2,8 1NC-1NO 9,8 [2.22] GLLA01B GLLC01B silver R N  $(\rightarrow)$ Zb → 4,5 5,8 mm 111 <u>11-12</u> 23-24 0 mm BBM, slow 1 action **⊖**- 2 1NC-1NO silver 4 [0.9] GLLA03B GLLC03B ۲ 5,8 mm Honeywell 15-16 23-24 A600 AC1 Q300 DC1 0 mm E. MBB, slow action 1,5 1NC-1NO GLLA04B GLLC04B 6 [1.35] silver OF 6 N 2.5 **⊖**-3,5 · 5.8 m 11-12 0 mm Slow action GLLC06B 2NC silver 6 [1.35] GLLA06B OF 6 N  $\bigcirc$ 5 mr

Table 9. Top Pin Plunger

Table 10. Top Roller Plunger

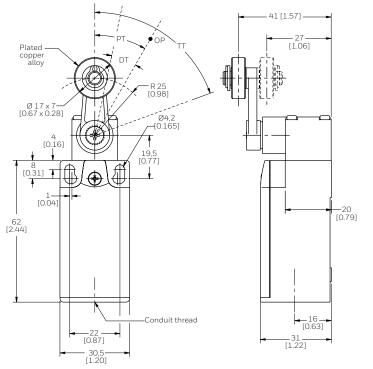
 Contacts	Contact Type	Contact Material	Operating Force max. N [lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	Snap action $ \begin{array}{c}  & & \\  & $	silver	9,8 [2.22]	0 mm 1.3 2.8 0.8 mm 5.8 mm	GLLA01C	GLLA01C
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	4 [0.9]	0 mm 1 ↔ 2 3 5,8 mm	GLLA03C	GLLA03C
1NC-1NO	MBB, slow action $\bigoplus_{\substack{15\\2b}, \frac{16}{23}}^{16}$	silver	6 [1.35]	0 mm 1,5 2,5 ↔ 3,5 5,8 mm	GLLA04C	GLLC04C
2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}}^{11} \underbrace{12\\22}_{22} $	silver	4 [0.9]	0 mm	GLLA06C	GLLC06C

	Contacts	Contact Type	Contact Material	Operating Force max. N [lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
	1NC-1NO	Snap action $ \begin{array}{c}  & 13 \\  & 14 \\  & 2b \\  & 21 \\  & 22 \end{array} $	silver	9,8 [2.22]	0 mm 1.8 3.5 5.5 8 mm	GLLA01D	GLLC01D
	1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	8 [1.8]	0 mm 1.5 ↔ 2.5 4 8 mm	GLLA03D	GLLC03D
Hongwel Build Build Constant C	1NC-1NO	$MBB, slow action \\ \bigoplus_{2b}^{15} \underbrace{7b}_{24}^{16} \underbrace{7b}_{24}^{16}$	silver	8 [1.8]	0 mm 2 3,5 ⊕ 4,5 8 mm	GLLA04D	GLLC04D
	2NC	Slow action $ \bigoplus_{\substack{10\\2Y}\\21} \underbrace{12}_{22} $	silver	8 [1.8]	0 mm 2.5 ↔ 4 6,5 mm	GLLA06D	GLLC06D

Table 11. Top Horizontal Roller Lever

 Contacts	Contact Type	Contact Material	Operating Force max. N [lb]	Bar Chart <sup>1</sup>	0.5-14 NPT Conduit	20 mm Conduit
1NC-1NO	Snap action $ \begin{array}{c}  & & \\  & $	silver	8 [1.8]	0 mm 2.5 5.5 10 mm 10 mm	GLLA01F	GLLC01F
1NC-1NO	BBM, slow action $\bigoplus_{23}^{11} \underbrace{}_{24}^{12}$	silver	3 [0.67]	0 mm 2.5 ↔ 4.5 6.5 10 mm	GLLA03F	GLLC03F
1NC-1NO	$MBB, slow action \\ \bigoplus_{\substack{15 \\ 2b}{}_{23}}^{15} \underbrace{\xrightarrow{16}{}_{24}}_{24}$	silver	5 [1.12]	0 mm 3,0 5,0 ⊕ 6,0 10 mm	GLLA04F	GLLC04F
2NC	Slow action $ \bigoplus_{\substack{12\\2Y\\21}}^{11} \bigoplus_{22}^{12} $	silver	5 [1.12]	0 mm 3.5 ↔ 5.5 8 mm	GLLA06F	GLLC06F

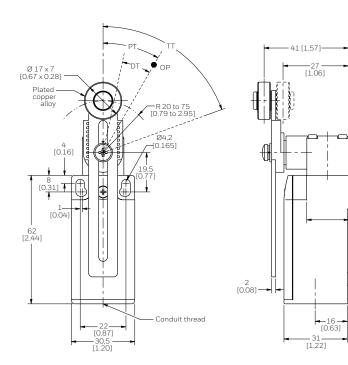
#### Table 12. Top Vertical Roller Lever



41 [1.57]. Ø17×7 [0.67×0.28] [1.06] ,●<sub>OP</sub> ът Plated -copper alloy R 31,55 [1.24] Ø4,2 --[0.165] 4 [0.16] 19,5 [0.77] [0.31] ₽ ſŧ, ۲ [0.04] 20 [0.79] 22-[0.87] 62 [2.44] Conduit thread -16-[0.63] -30,5 [1.20] -31 [1.22]

#### Figure 4. GLL Side Rotary (A2B) with Adj. Lever Dimensions





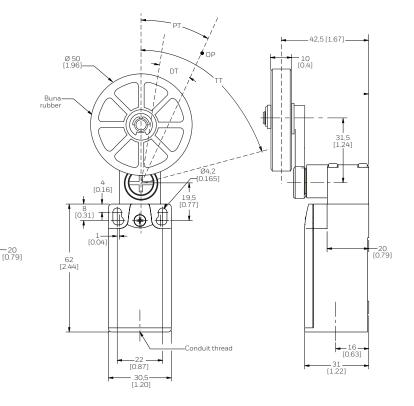


Figure 2. GLL Side Rotary (A1B) with Fixed Lever Dimensions Figure 3. GLL Side Rotary (A3B) with Fixed Lever Dimensions

Figure 6. GLL Side Rotary (A2Y) with Adj. Roller Lever Dimensions

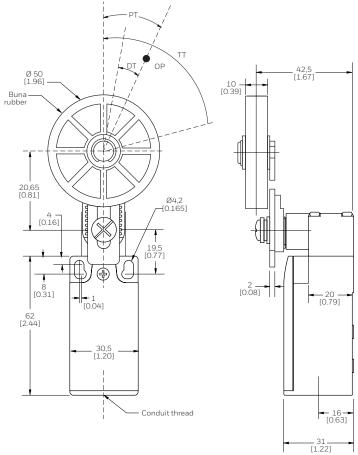


Figure 7. GLL Side Rotary (A4J) with Adj. Rod Lever Dimensions

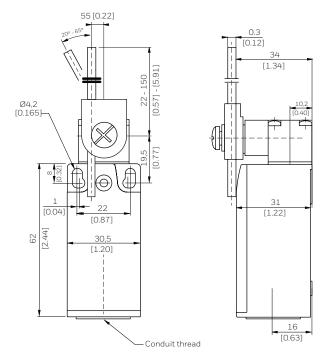
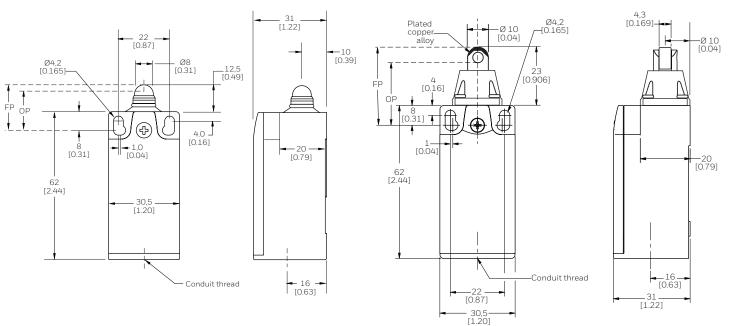


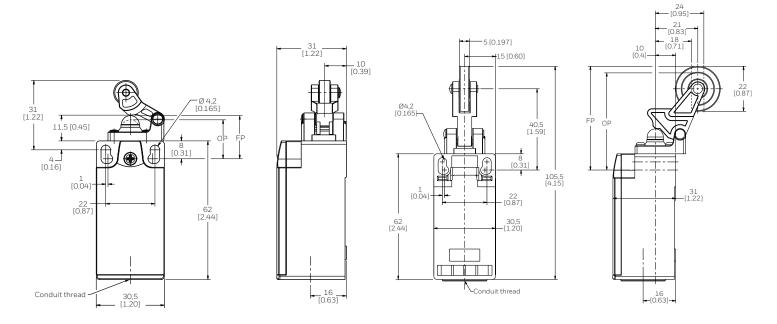
Figure 8. GLL Top Roller Plunger Dimensions

#### Figure 8. GLL Top Pin Plunger Dimensions



#### Figure 10. GLL Top Horizontal Roller Lever Dimensions

#### Figure 11. GLL Top Vertical Roller Lever Dimensions



#### ADDITIONAL MATERIALS

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

- Product installation instructions
- Product range guide

#### Find out more

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. To learn more about Honeywell's sensing and control products, call **+1.815.235.6847** or **1.800.537.6945**, visit **sensing.honeywell.com,** or e-mail inquiries to **info.sc@honeywell.com** 

#### Honeywell Sensing and Internet of Things

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### A WARNING PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

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.** 

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 83881140
 8AS42
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 924CE16-Y3
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 924CE1-T3
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 924CE2-T9
 924CE31-Y20-X5
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