

Installation Instructions for the GLL Series Limit Switch

ISSUE 2
50012101




⚠ WARNING

PERSONAL INJURY

- Where possible, install these switches with the conduit opening pointed down to drain moisture away from switch.
- Do not install switch at the low point of a conduit run.
- Install a fitting into the conduit opening that provides strain relief to the wires/cable, as well as sealing against contaminants found in the application.
- In applications where fluids or moisture may be present, seal the fitting threads with a product such as Teflon tape or pipe dope.

Failure to comply with these instructions could result in death or serious injury.

GENERAL INFORMATION

1. Refer to page 2 for specifications.
2. Rotate switch head to desired position (90° increments). Review adjusting instructions below.
3. Mount switch using two M4 or #8 screws (not included). Torque screws to mounting surface 4,9 N m to 5,9 N m [43.4 in lb to 52.2 in lb].
4. All Normally Closed (NC) contacts are Direct Opening. 

ADJUSTMENT INSTRUCTIONS

To give flexibility in application, the user can perform the adjustments described below in any order before wiring the unit.

ACTUATOR HEAD POSITIONING

The actuator head may be positioned in any of four directions.

1. Remove the four head retaining screws while holding actuator head in place.
2. To prevent actuator spring loss, remove head slowly to relieve spring tension prior to removal.
3. Rotate actuator head to desired position.
4. Position the large diameter end of the actuator spring over the actuator. Place retaining screws through gasket material and position head over screw holes in desired position.
5. Securely tighten the screws to 0,2 N m [1.7 in lb] of torque.

POSITIONING LEVER

The lever on rotary actuated units is adjustable to any of the segmented positions 360° around the shaft; however, the degree of rotation is dependant on head position and direction of roller.

1. Loosen the lever retaining screw with a Phillips head screwdriver.
2. Remove lever.
3. Reposition lever to desired location.
4. Securely tighten screw.

REVERSING THE ROLLER LEVER

The roller arm may be reversed to face the roller to the inside or outside of the arm.

ADJUSTABLE LENGTH LEVERS

1. Loosen the lever's adjustment screw using a Phillips head screwdriver.
2. Adjust to desired length.
3. Securely tighten adjustment screw to 1.0 N m [8.85 in lb] of torque.

TOP ROLLER PLUNGER

Switches with top roller plunger must be mounted with plunger in desired position. Actuating device must not exceed over travel distance.

WIRING

1. Remove front cover plate screw.
2. Contact block area by terminal screw is labeled for NO (Normally Open) and NC (Normally Closed) contacts.
3. Connect stranded wire (0,75 mm² - 2,5 mm², 18 AWG-14 AWG) or solid wire (0,75 mm² - 1,5 mm², 18 AWG-16 AWG) to desired connector terminals. Use 90 °C [194 °F] rated wire when ambient temperature is to exceed 75 °C [158 °F]:
 - Torque switch terminal screws to 0,8 N m to 1,0 N m [7.1 in lb to 8.9 in lb]
4. Securely tighten cover screw to 0,5 N m [4.4 in lb] of torque.

OPERATING SPECIFICATIONS

Electrical rating IEC/EN 60947-5-1	Rated operational current (A) at rated operational voltage Ue			VA rating		
AC15, A600	120 Vac	240 Vac	600 Vac	Make	Break	
	6 A	3 A	1.2 A	7200	720	
DC13, Q300	125 Vdc	250 Vdc				
	.55	0.27		69	69	
Mechanical life	Up to 5 million operations					
Protection ratings	IP65, EN60529, NEMA/UL type 1, 12, 13					
Pollution degree	3					
Standards/approvals	IEC/EN 60947-5-1 European standard for electromechanical industrial control equipment EN 50047 – European standard for designing limit switches EN 60529 – European standard IP codes UL 508 – US standard for industrial control equipment					
Rated insulation voltage (dielectric)	600 V					
Thermal current	10 A					
Impulse rating	2500 V					
Short circuit rating	SCPD Class J Fuse rated 10 A, 600 V					
Contact material	Silver					
Circuit type	1 NO/1 NC direct opening Single pole, single throw, double break Contact type Zb – the 2 contact elements are electrically separated					
Shock	50 g conforming to IEC 68-2-27 (BS 2011, Part 2.1 Ea) (actuator not fitted)					
Vibration	10 g conforming to IEC 68-2-6 (BS 2011, Part 2.1 Fc) (actuator not fitted)					
Operating temperature range	-10 °C to 80 °C [14 °F to 176 °F]					

OPERATING CHARACTERISTICS

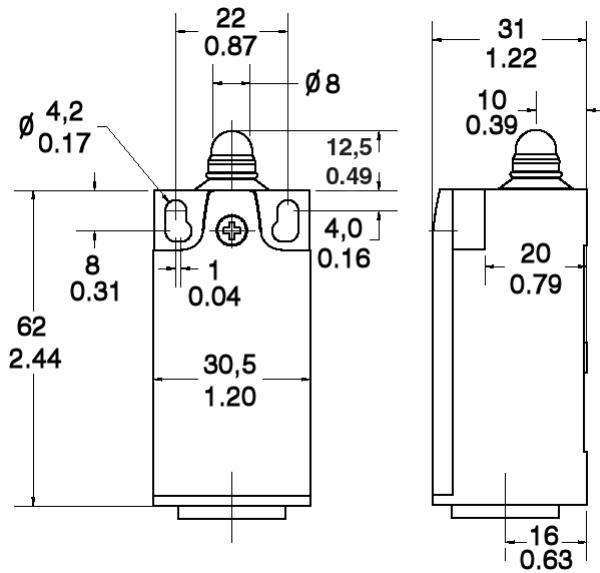
Listing	Operating Force (O.F.)	Release Force (R.F.)	Pretravel (P.T.)	Overtravel (O.T.)	Differential Travel (D.T.)
GLLA01B	9,8 N max. [2.22 lb]	1,5 N [0.34 lb]	2,8 mm [0.11 in] max.	3,0 mm [0.12 in] min.	1,5 mm [0.06 in] max.
GLLA01C	9,8 N max. [2.22 lb]	1,5 N [0.34 lb]	2,8 mm [0.11 in] max.	3,0 mm [0.12 in] min.	1,5 mm [0.06 in] max.
GLLA01A1B	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLA01A2B	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLA01A1Y	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLA01A2Y	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLC01B	9,8 N max. [2.22 lb]	1,5 N [0.34 lb]	2,8 mm [0.11 in] max.	3,0 mm [0.12 in] min.	1,5 mm [0.06 in] max.
GLLC01C	9,8 N max. [2.22 lb]	1,5 N [0.34 lb]	2,8 mm [0.11 in] max.	3,0 mm [0.12 in] min.	1,5 mm [0.06 in] max.
GLLC01A1B	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLC01A2B	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLC01A1Y	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.
GLLC01A2Y	12,0 N cm [1.062 in lb]	2,0 N-cm [0.177 lb-in]	30° max.	40° min.	18° max.

GLL Series Limit Switch

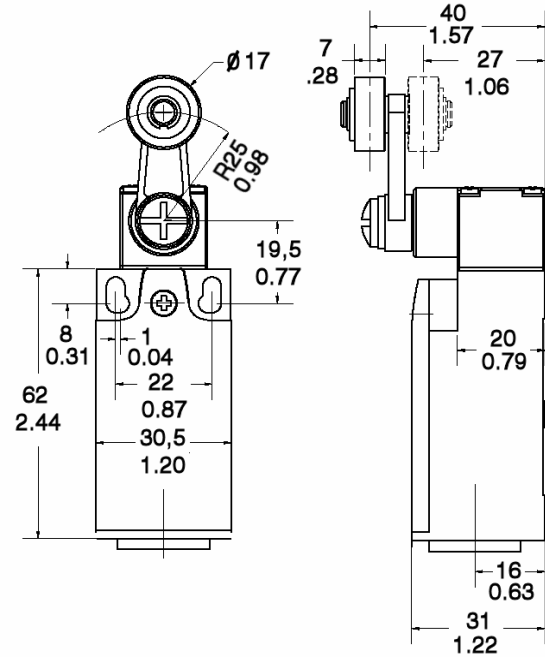
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MOUNTING DIMENSIONS (for reference only) mm/in

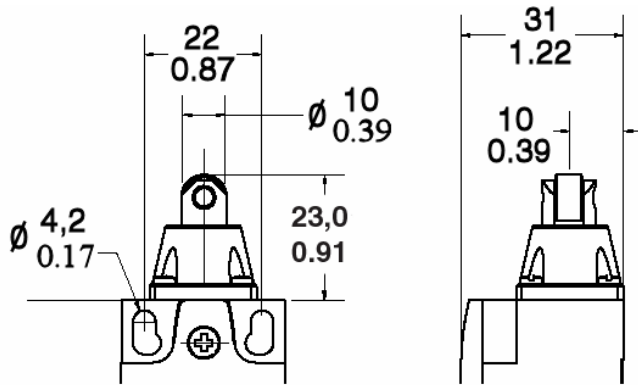
Top Plunger



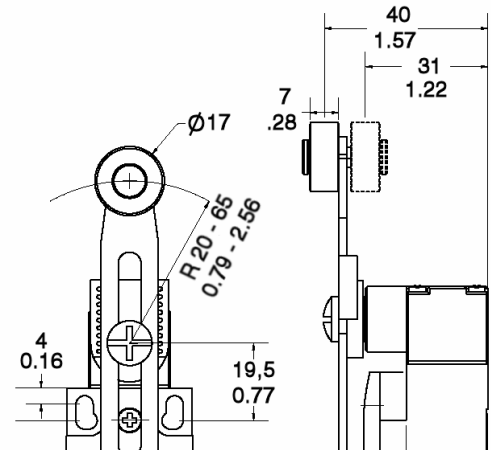
Fixed Lever



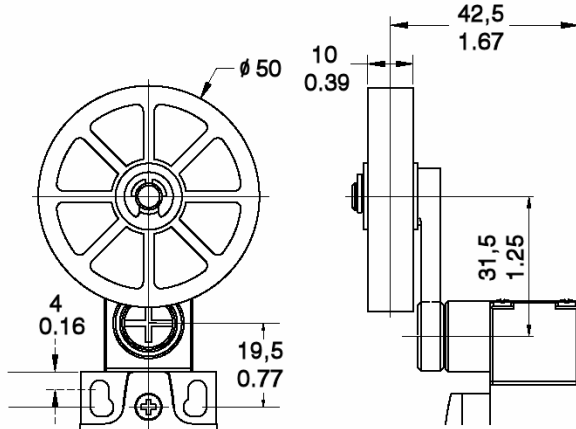
Roller Plunger



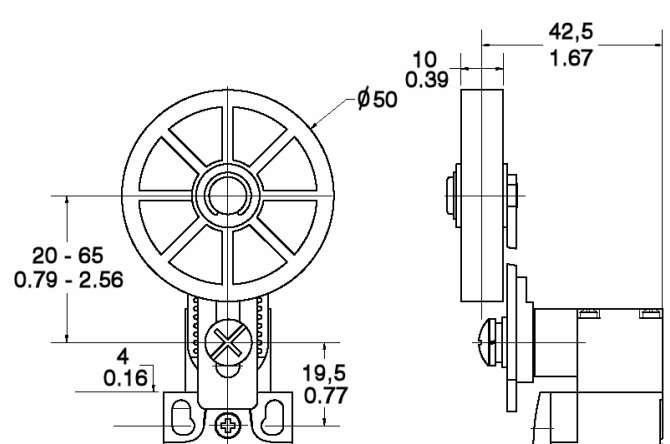
Adjustable Lever



Fixed Lever 50 mm [1.97 in] Roller




Adjustable Lever 50 mm [1.97 in] Roller



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.

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Phone and Fax:

Asia Pacific	+65 6355-2828
	+65 6445-3033 Fax
Europe	+44 (0) 1698 481481
	+44 (0) 1698 481676 Fax
Latin America	+1-305-805-8188
	+1-305-883-8257 Fax
USA/Canada	+1-800-537-6945
	+1-815-235-6847
	+1-815-235-6545 Fax

Automation and Control Solutions

Sensing and Control

Honeywell

1985 Douglas Drive North

Golden Valley, Minnesota 55422

www.honeywell.com/sensing

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