GLS Series

Miniature Global limit switch

Features

- Double break, direct opening contacts conform to IEC 60947-5-1-3
- EN50047 Mounting
- Dual bearing design on side rotary shaft
- Your choice of rugged metal or double insulated plastic housings
- Full range of actuator heads and levers
- Snap action, slow action basic switches
- Gold contact versions available
- Galvanically isolated contacts (Form Zb)
- Sealing up to IP67/NEMA 4
- CE, UL, CSA
- -40°C (-40°F) standard construction for side rotary and plunger styles

Benefits

- Forced opening of the normally closed circuit in the event of contacts welding
- Meets globally accepted mounting standards
- Prevents side loading
- Design flexibility
- Can be applied for both logic level and power duty loads
- Each contact throw can accept a different voltage (SPDT versions)
- Suitable for outdoor environments
- Designed to IEC electrical standard for world-wide use

Description

GLS miniature limit switches are designed to provide a complete range of globally approved products. These rugged and reliable limit switches are suitable for most industrial applications.

Side rotary versions offer a unique dual bearing design, which prevents side loading during application. The compact housing size makes them ideal for mounting where space is a premium. The extensive product range offers the user a choice of plastic, metal and three conduit version housings, which are all mounting compatible to EN50047. A wide range of actuator and circuitry options makes it easy for the user to customize a switch to his application.

Low energy switching

In today's demanding age of low energy controls, electromechanical switches are frequently used to interface directly with PLC's and other low energy devices. To accommodate this requirement GLS offers a gold plated version of the standard basic switch. This improves reliability of switching at low currents and voltages by protecting the contact surfaces from contamination during operation or storage prior to use. Standard silver contracts have the disadvantage in that the contact surface may tarnish under certain environmental conditions e.g. in the presence of moisture.

Low energy basic switches are rated as follows:
Operating Voltage Ue 1 to 50 Vac or dc
Operating Current Ie 1 microamp to 100 mA

Typical Applications

- Elevators and moving stairs
- Scissor/platform lifts
- Material Handling
- Packaging machinery
- Agricultural equipment
- Machine tool equipment

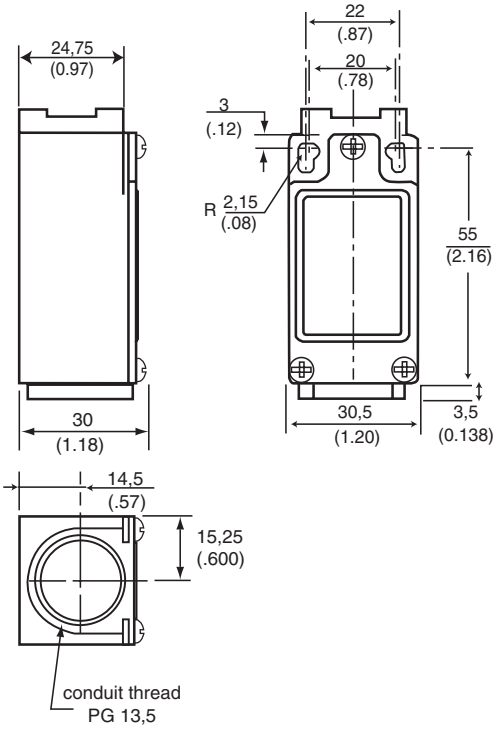
Electrical Ratings

IEC 947-5-1 / EN 90947-5-1									
Designation & Utilization Category		Rated operational current Ie (A) at rated operational voltage Ue						VA rating	
		120V	240V	380V	480V	500V	600V	Make	Break
AC15	A600	6	3	1.9	1.5	1.4	1.2	7200	720
AC15	A300	6	3	-	-	-	-	7200	720
AC15	B300	3	1.5	-	-	-	-	3600	360
AC14	D300	0.6	0.3	-	-	-	-	432	72
		125V	250V						
DC13	Q300	0.55	0.27					69	69
DC13	R300	0.22	0.1					28	28

GLC
EN 50047
Metal standard

Technical data

Mechanical life	up to 15 million operations
Degree of protection	IP 67 (wobble IP 66) NEMA/UL type 1, 4, 12, 13
Temperature range	Operating : -40°C to +85°C -40°F to +185°F Storage : -40°C to +85°C -40°F to +185°F
Approvals	IEC60947-5-1 EN60947-5-1 AC15 A300 DC13 Q300 UL & CSA
Vibration	10 g conforming to IEC 68-2-6
Shock	50 g conforming to IEC 68-2-27 Terminal marking to EN 50013



Conduit thread

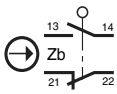
A = 1/2" NPT

B = PG 13,5

C = 20 mm

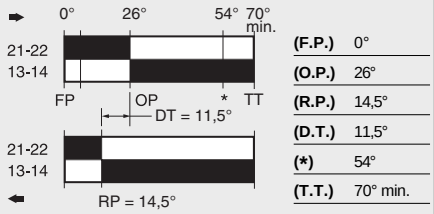
Snap-Action Contacts

1 NORMALLY CLOSED / 1 NORMALLY OPEN

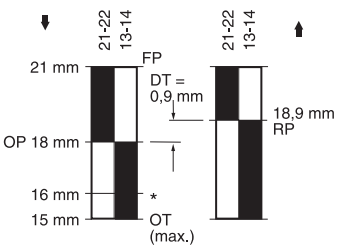


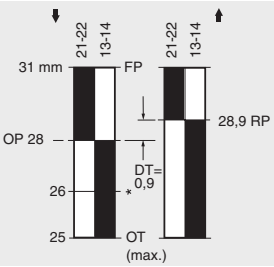
Circuit closed

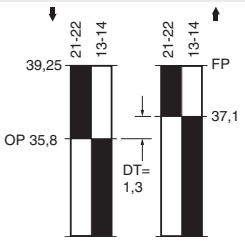
* Positive opening to IEC/EN60947-5-1-3

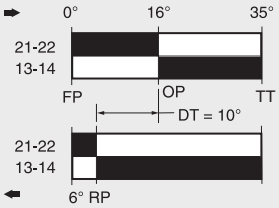


(F.P.)	0°
(O.P.)	26°
(R.P.)	14,5°
(D.T.)	11,5°
(*)	54°
(T.T.)	70° min.







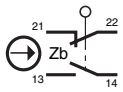


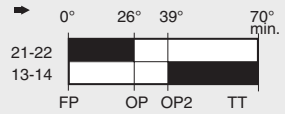
Slow-Action Contacts

BREAK-BEFORE-MAKE

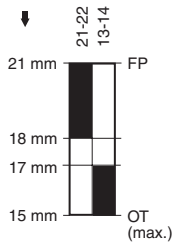
1 NORMALLY CLOSED /

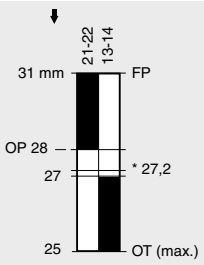
1 NORMALLY OPEN

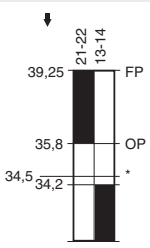


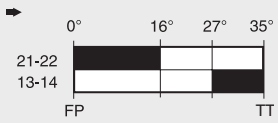


(F.P.)	0°	**(D.T.)**	
(O.P.)	26°	**(O.P.2)**	39°
(R.P.)		**(T.T.)**	70° min.









* Point from which the positive opening is assured

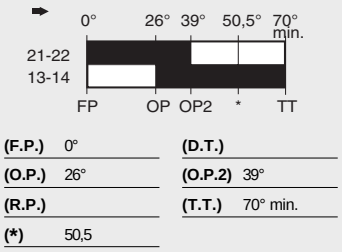
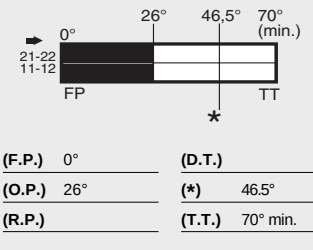
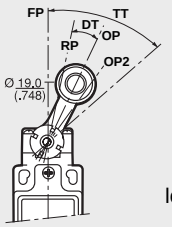
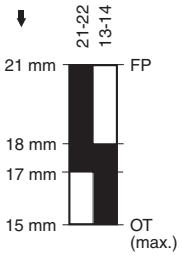
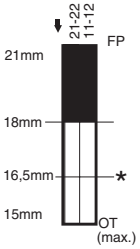
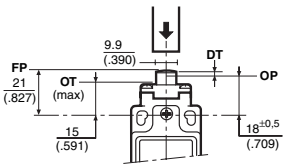
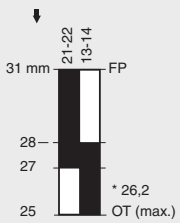
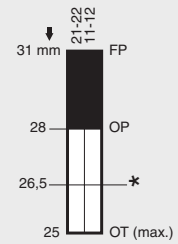
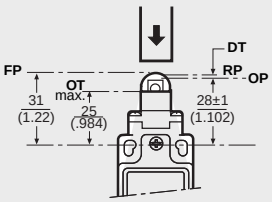
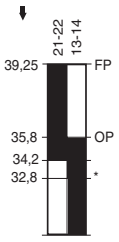
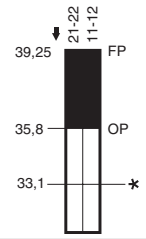
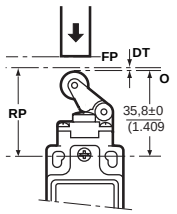
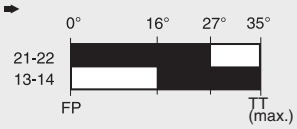
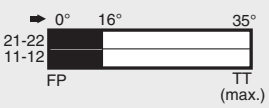
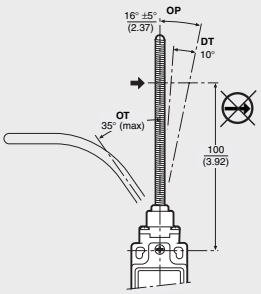
▲ Low Energy Contacts

Note: See page 9

Ordering :

GLC	X		XX
		01	03
		07▲	33▲

Example : GLC B 01 B

Slow-Action Contacts *MAKE BEFORE BREAK* *1 NORMALLY CLOSED/* *1 NORMALLY OPEN*	Slow-Action Contacts *2 NORMALLY CLOSED*	Operating torque/force		Actuator Types
 **(F.P.)** 0° **(D.T.)** **(O.P.)** 26° **(O.P.2)** 39° **(R.P.)** **(T.T.)** 70° min. **(*)** 50,5	 **(F.P.)** 0° **(D.T.)** **(O.P.)** 26° **(*)** 46.5° **(R.P.)** **(T.T.)** 70° min.	0,330 N m (2.90 lb)		 **Side Rotary, Metal Roller** **A1B** Additional levers available (see page 23)
		16,0 N m (3.60 lb)		 **Top Pin Plunger** **B**
		16,0 N m (3.60 lb)		 **Top Roller Plunger** **C**
		9,5 N m (2.10 lb)		 **Top Roller Lever** **D**
		0,1 N m (0.90 lb)		 **Coil Wobble Stick** **E7B**

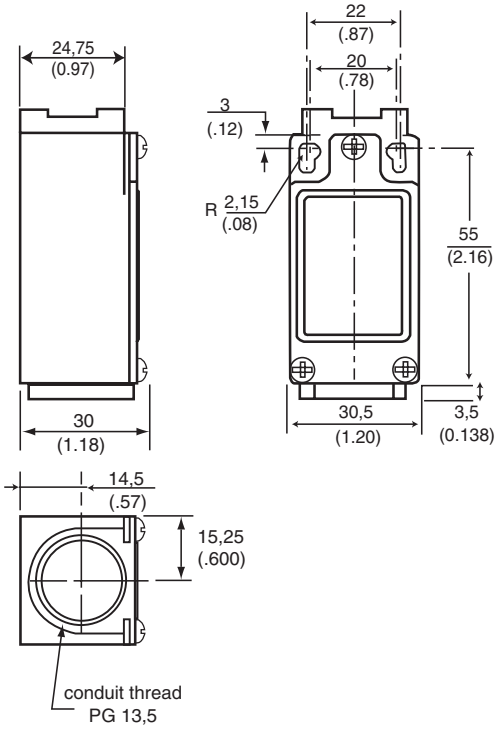
04 34▲ 06 36▲

XXX

GLD
EN 50047
Double insulated standard

Technical data

Mechanical life	up to 15 million operations
Degree of protection	IP66 NEMA/UL type 1, 12, 13
Temperature range	Operating : -40°C to +85°C -40°F to +185°F Storage : -40°C to +85°C -40°F to +185°F
Approvals	IEC/EN60947-5-1 EN60947-5-1 AC15 A600 DC13 Q300 UL & CSA
Vibration	10 g conforming to IEC 68-2-6
Shock	50-g conforming to IEC 68-2-27 Terminal marking to EN 50013



Conduit thread

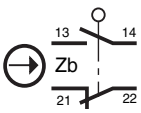
A = 1/2" NPT

B = PG 13,5

C = 20 mm

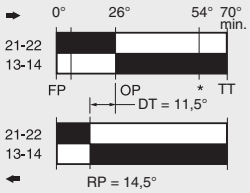
Snap-Action Contacts

1 NORMALLY CLOSED / 1 NORMALLY OPEN

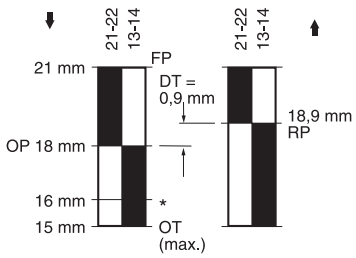


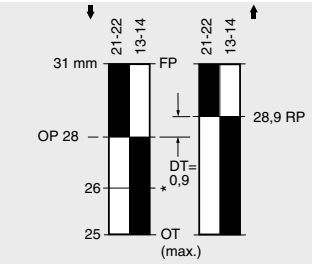
Circuit closed

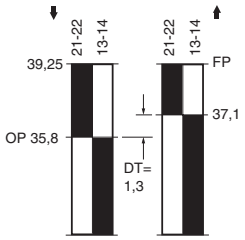
* Positive opening to IEC/EN 60947-5-1-3

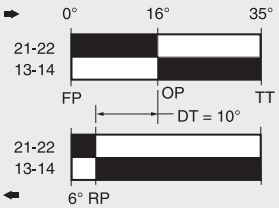


(F.P.)	0°
(O.P.)	26°
(R.P.)	14,5°
(D.T.)	11,5°
(*)	54°
(T.T.)	70° min.







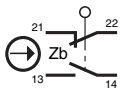


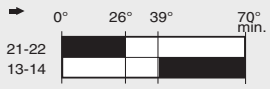
Slow-Action Contacts

BREAK BEFORE MAKE

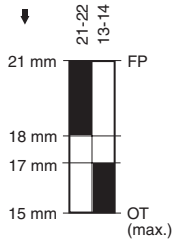
1 NORMALLY CLOSED /

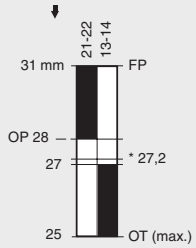
1 NORMALLY OPEN

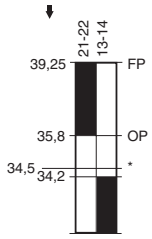




(F.P.)	0°	**(D.T.)**	
(O.P.)	26°	**(O.P.2)**	39°
(R.P.)		**(T.T.)**	70° min.







* Point from which the positive opening is assured

01 **03**

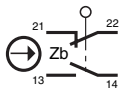
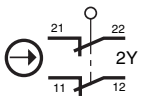
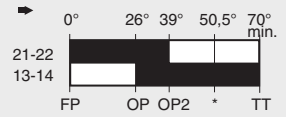
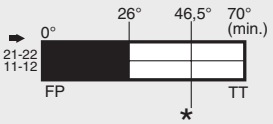
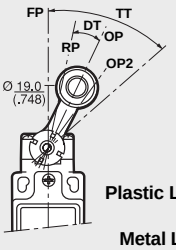
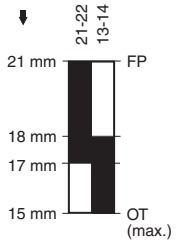
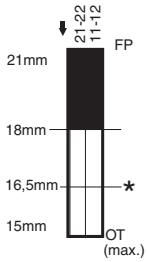
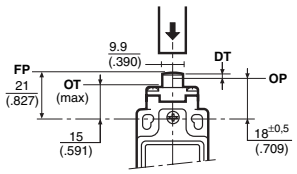
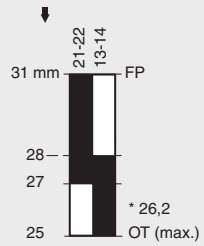
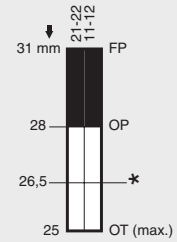
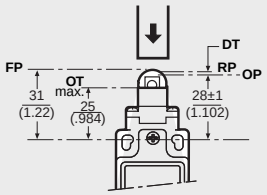
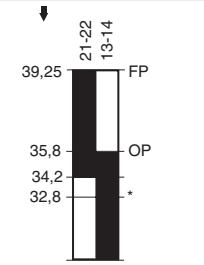
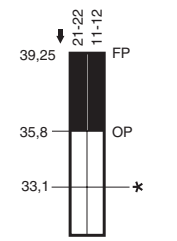
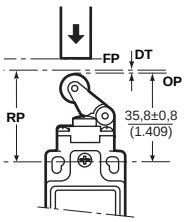
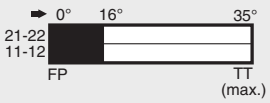
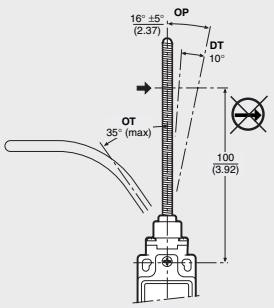
07▲ ▲Low Energy Contacts **33▲**

Note: See page 9

Ordering :

GLD **X**

Example : GLD B 01 B

	Slow-Action Contacts *MAKE BEFORE BREAK* *1 NORMALLY CLOSED /*	Slow-Action Contacts *2 NORMALLY CLOSED* *1 NORMALLY OPEN*	Operating torque/force		Actuator Types	
			SPDT	DPDT		
	 **(F.P.)** 0° **(O.P.)** 26° **(R.P.)** **(*)** 50,5° **(D.T.)** **(O.P.2)** 39° **(T.T.)** 70° min.	 **(F.P.)** 0° **(O.P.)** 26° **(R.P.)** **(D.T.)** **(*)** 46.5° **(T.T.)** 70° min.	0,330 N m (2.90 lb)		 Additional levers available (see page 23) **Plastic Lever and Roller** **A1A** **Metal Lever and Roller** **A1B**	
			16,0 N m (3.60 lb)		 **Top Pin Plunger**	**B**
			16,0 N m (3.60 lb)		 **Top Roller Plunger**	**C**
			9,5 N m (2.10 lb)		 **Top Roller Lever**	**D**
			0,1 N m (0.90 lb)		 **Coil Wobble Stick**	**E7B**

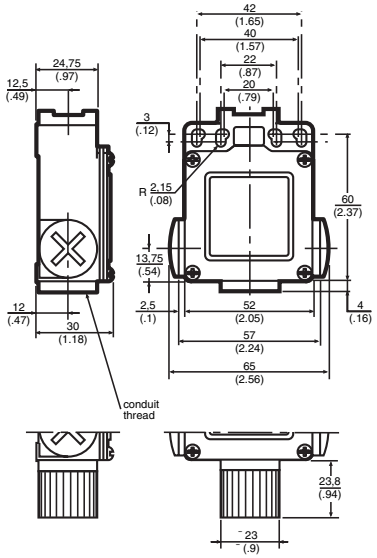
04 34▲ 06 36▲

XX XXX

GLE
EN 50047 Compatible 3 conduit metal standard

Technical data

Mechanical life	up to 15 million operations
Degree of protection	IP 67 (wobble: IP 66) NEMA/UL type 1, 4, 12, 13
Temperature range	Operating: -40°C to +85°C -40°F to +185°F Storage: -40°C to +85°C -40°F to +185°F
Approvals	IEC60947-5-1 EN60947-5-1 AC15 A300 DC13 Q300 UL & CSA
Vibration	10 g conforming to IEC 68-2-6
Shock	50 g conforming to IEC 68-2-27 Terminal marking to EN 50013



Conduit thread

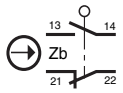
A = 1/2" NPT adaptor

B = PG 13,5

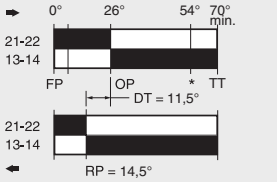
C = 20 mm

Snap-Action Contacts

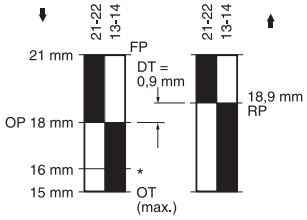
1 NORMALLY CLOSED /
1 NORMALLY OPEN

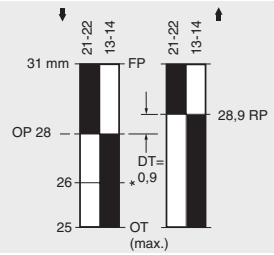


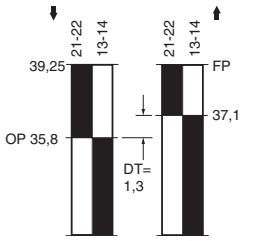
Circuit closed
* Positive opening to IEC/EN60947-5-1-3

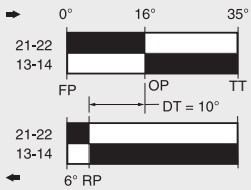


(F.P.)	0°	**(D.T.)**	11,5°
(O.P.)	26°	**(*)**	54°
(R.P.)	14,5°	**(T.T.)**	70° min.



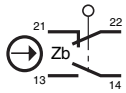


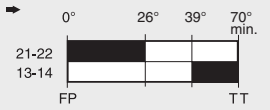




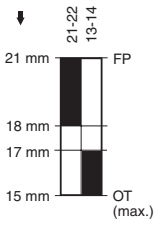
Slow-Action Contacts

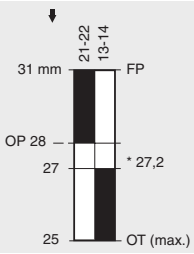
BREAK BEFORE MAKE
1 NORMALLY CLOSED/
1 NORMALLY OPEN

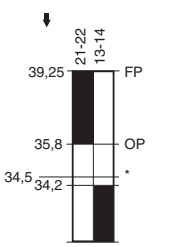


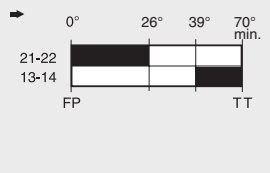


(F.P.)	0°	**(D.T.)**	
(O.P.)	26°	**(O.P.2)**	39°
(R.P.)		**(T.T.)**	70° min.



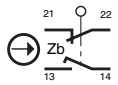


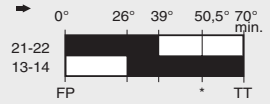




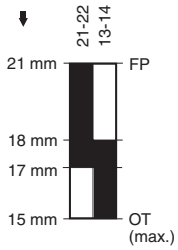
Slow-Action Contacts

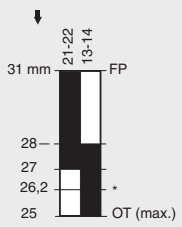
MAKE BEFORE BREAK
1 NORMALLY CLOSED/

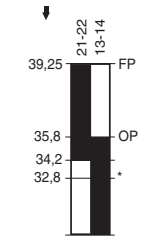


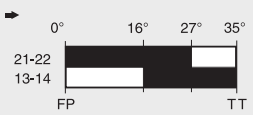


(F.P.)	0°	**(D.T.)**	
(O.P.)	26°	**(O.P.2)**	39°
(R.P.)		**(T.T.)**	70° min.
(*)	50,5°		









* Point from which the positive opening is assured

01 — 03 — 04

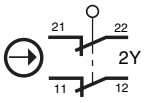
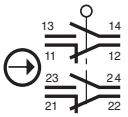
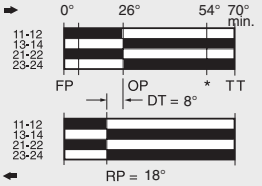
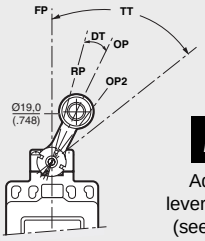
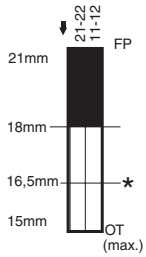
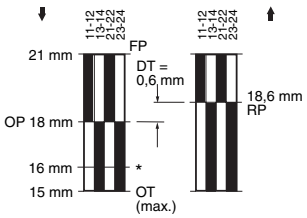
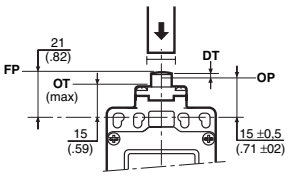
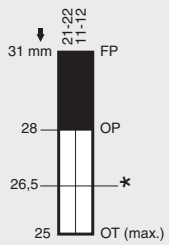
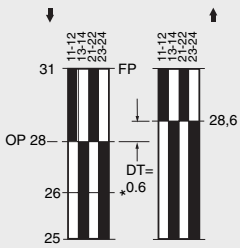
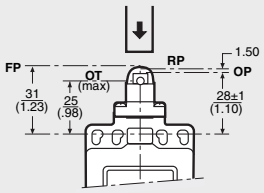
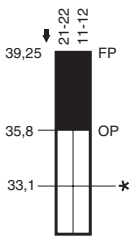
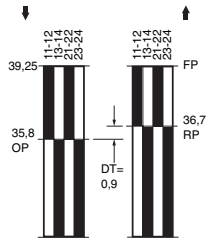
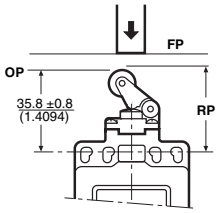
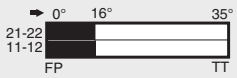
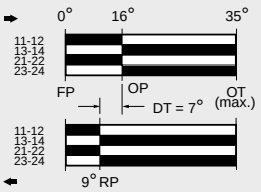
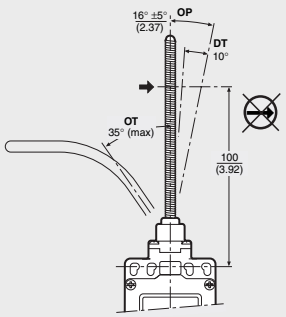
07▲ ▲Low Energy Contacts 33▲ 34▲

Note: See page 9

Ordering :

GLE **X** XX

Example : GLE B 01 B

Slow-Action Contacts *2 NORMALLY CLOSED*	Snap-Action Contacts *DOUBLE POLE* *2 NORMALLY CLOSED/* *2 NORMALLY OPEN*	Operating torque/force		Actuator Types
			SPDT / DPDT	
 **(F.P.)** 0° **(D.T.)** **(O.P.)** 26° **(*)** 46.5° **(R.P.)** **(T.T.)** 70° min.	 **(F.P.)** 0° **(D.T.)** 8° **(O.P.)** 26° **(*)** 54° **(R.P.)** 18° **(T.T.)** 70° min.	0,330 N m (2.90 lb)		 **A1B** Additional levers available (see page 23) **Side Rotary, Metal Roller**
		0,120 N m (1.10 lb)	0,165 N m (1.50 lb) GLE only	
		16,0 N m (3.60 lb)		 **B** **Top Pin Plunger**
		16,0 N m (3.60 lb)	13,0 N m (2.90 lb) GLE only	
		16,0 N m (3.60 lb)		 **C** **Top Roller Plunger**
		16,0 N m (3.60 lb)	13,0 N m (2.90 lb) GLE only	
		9,5 N m (2.10 lb)		 **D** **Top Roller Lever**
		11,0 N m (2.4 lb)	9,0 N m (1.9 lb) GLE only	
		0,1 N m (0.90 lb)		 **E7B** **Coil Wobble Stick**
		1.3 N m (0.29 lb)	1,1 N m (0.25 lb) GLE only	

06 36▲ 24 32▲

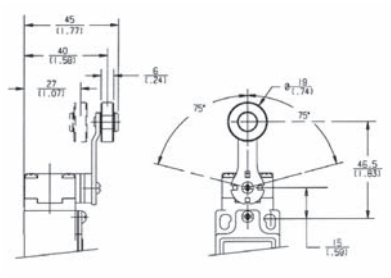
XXX

Additional lever types

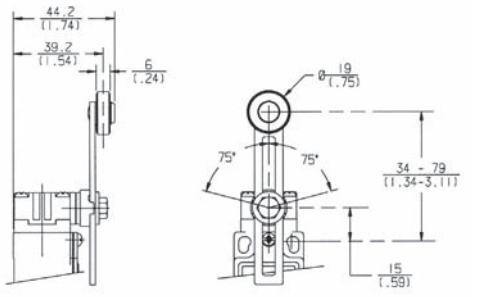
For use with all Side Rotary Head Styles.
Figure 1
illustrates Miniature product lever types conforming to EN 50047 while

Figure 2
illustrates Standard product lever types which conform to EN 50041. All dimensions are in mm/(inches).

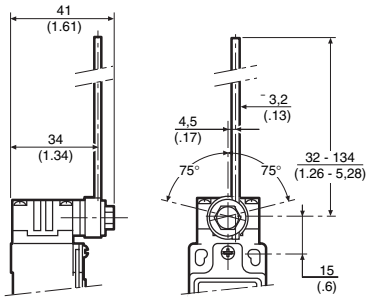
GLC, GLD, GLE (EN 50047)



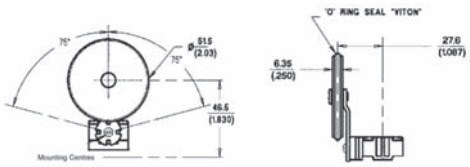
Side Rotary Roller Lever
A1A Plastic Roller
A1B Metal Roller



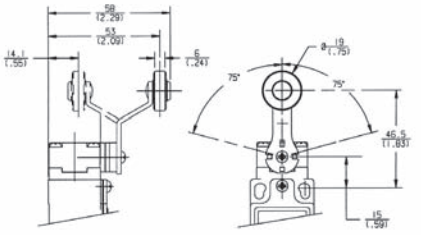
Side Rotary Adjustable Lever
A2A Plastic Roller
A2B Metal Roller



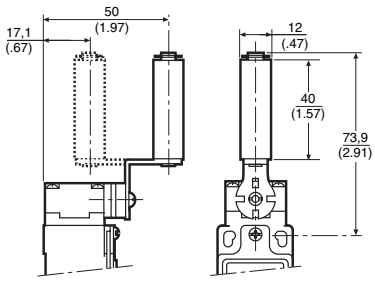
Side Rotary Adjustable Rod
A4J Metal Rod Head



A1Y Large Fixed Plastic Roller
(Suitable for Elevator Applications)



Offset Side Rotary Roller Lever
A5A Plastic Roller
A5B Metal Roller Head



Side Rotary Conveyor Lever
A9A Ceramic Roller

Replacement Parts - Basic switches

Body Type	Basic Switch								
	01	02	03	04	06	12	13	20	24
GLC	GLZ301		GLZ303	GLZ304	GLZ306				
GLD	GLZ301		GLZ303	GLZ304	GLZ306				
GLE	GLZ301		GLZ303	GLZ304	GLZ306				GLZ324

Honeywell

Honeywell
11 West Spring Street
Freeport, Illinois 61032
USA

107147-10-EN FR26 GLO 904 Printed in USA

www.honeywell.com/sensing