

HEAVY-DUTY PRECISION LIMIT SWITCHES FOR MACHINE CONTROL APPLICATIONS

Design Features

NAMCO Series EA510 STANDARD Miniature Mechanical FLEX-LOCK Limit Switches provide compact, highly dependable units for modern control systems. The simple flex leaf spring mechanism is designed for millions of fast, trouble-free operations and requires light operating forces.

CONTACTS . . . are BUTT TYPE, QUICK MAKE, QUICK BREAK . . . are silver with special arc extinguishing properties and housed in a self-contained miniature cartridge . . . cartridges are available with 1NO-1NC or 2NO-2NC contact configurations.

ENCLOSURES . . . are water, oil and dust tight with high quality gaskets and "O" Ring protection . . . made of rugged die-cast aluminum . . . available with two mounting arrangements (front or back) . . . ample wiring space for maximum convenience . . . all switches have ground screws . . . meet NEMA type requirements 1, 4, 13.

OPERATING HEADS . . . many individual variations with simple unique operating mechanisms are available . . . they can be interchanged and rotated in 90° increments.

CAM OPERATIONS . . . available are clockwise, counter-clockwise, or both directions of operation.

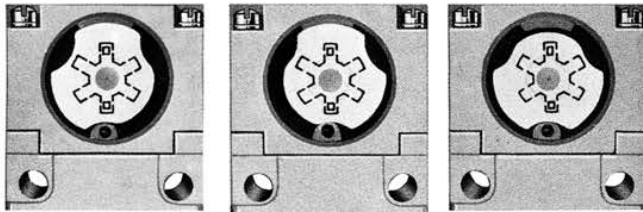
Design Features

- Enclosure meets NEMA Type 1, 4, 13 Requirements.
- 90°C Maximum Continuous Use Temperature.
- -20°C Minimum Continuous Use Temperature.
- Shipping Weight: One lb.
- UL & NEMA 600 Volt Spacings.
- Universal Mounting.
- Anti-Rotation Interlock between Head and Body.
- Adequate Wiring Space for Four No. 12 AWG Conductors (1NO-1NC).
- Adequate Wiring Space for Eight No. 16 AWG Conductors (2NO-2NC).

Changing Direction of Operating Cam

The lever actuates the contacts through a cam that can be arranged for clockwise, counterclockwise, or both directions of operation.

Operations:

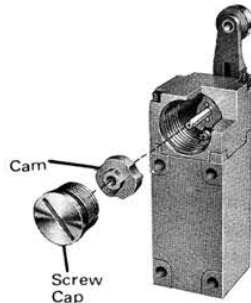


Clockwise

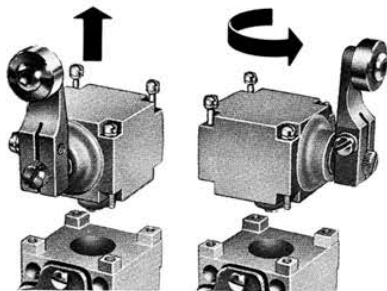
Counterclockwise

Clockwise and
Counterclockwise

1. Remove Screw Cap.
2. Drop out Cam.
3. Reinsert cam in desired position. Depress actuating plunger to seat cam slots on locking key.
4. Replace Screw Cap.



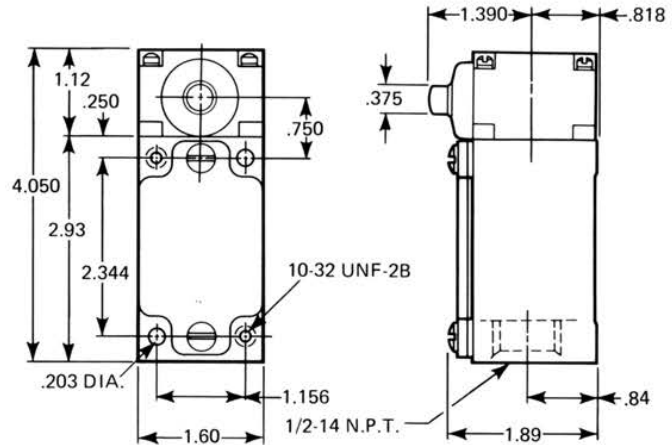
Changing Direction of Indexing Head



1. Loosen Four Screws.
2. Lift Indexing Head and return to desired position.
3. Reassemble.

Side Rod Plunger Head

PART NUMBER	CONTACTS
EA510-12700	1NO-1NC
EA510-22700	2NO-2NC

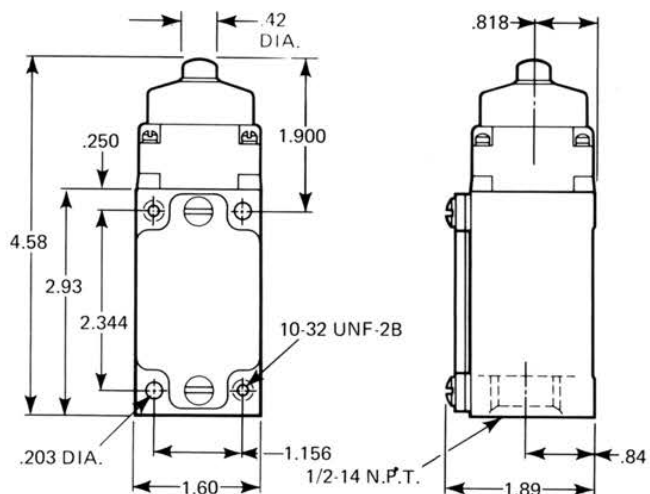


Operating Characteristics (Inches)

Pretravel	.090
Differential Travel	.039/.031
Recommended Travel	.15
Total Travel	.260/.240
Lbs. Force Req'd to Trip	5.2
Lbs. Force at .25 Stroke	5.5

Top Rod Plunger Head

PART NUMBER	CONTACTS
EA510-14700	1NO-1NC
EA510-24700	2NO-2NC



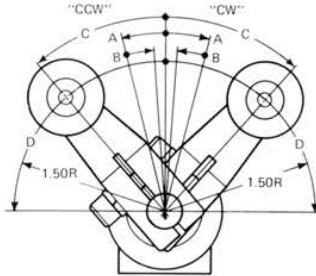
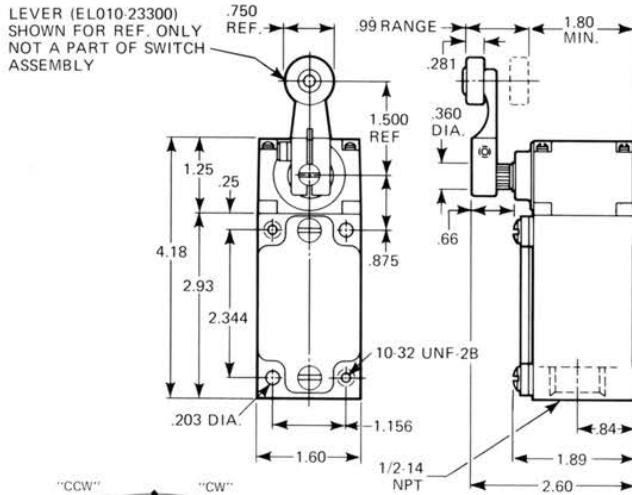
Operating Characteristics (Inches)

Pretravel	.050/.046
Differential Travel	.027/.023
Recommended Travel	.15
Total Travel	.260/.240
Lbs. Force Req'd to Trip	2.8
Lbs. Force at .25 Stroke	7.3

Lever Operated Switch

ORDERING NUMBERS		
1NO-1NC	OPERATION	2NO-2NC
EA510-17700	C.W.	EA510-27700
EA510-17701	C.C.W.	EA510-27701
EA510-17702	BOTH	EA510-27702

Lever not Included



LEVER
ORDERING NO.
EL010-23300

Operating Characteristics (Inches)

A. Pretravel	12°
B. Differential Travel	5°
C. Recommended Travel	40°
D. Total Travel	90°
E. Operating Torque	1.5 in.-lbs

Ratings

For 1NO-1NC; 2NO-2NC Switches

CONT. CARRYING CURRENT AMPS	CURRENT IN AMPERES						VOLT - AMPERES	
	120 VOLTS		240 VOLTS		480 VOLTS		Make	Break
	Make	Break	Make	Break	Make	Break		
10	60	6.00	30	3.00	15	1.50	7200	720

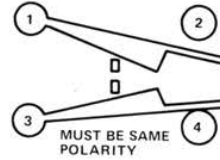
MAX. RATINGS FOR D.C. NEMA Q600

CONT. CARRYING CURRENT AMPS	MAKE OR BREAK CURRENT AMPERES			MAX. MAKE OR BREAK VOLT - AMPERES AT 300 VOLTS OR LESS
	125 VOLTS	250 VOLTS	480 VOLTS	
2.5	0.55	0.27	0.10	69

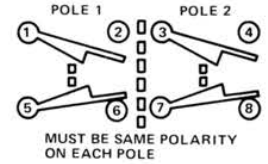
600 VOLT A.C. MAX. PILOT DUTY
AC INDUCTIVE LOAD LAGGING POWER FACTOR OF 0.35
DC INDUCTIVE LOAD PER NEMA ICS 2-125

Contact Configurations

1NO-1NC



2NO-2NC

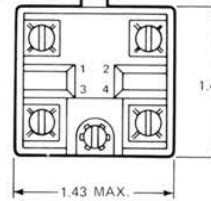


Contact Arrangement is NEMA Form Z Single Pole Double Throw Contacts With Four Terminals . . . Two for Normally Open (1-2) and Two for Normally Closed (3-4). (Quick Make-Quick Break)

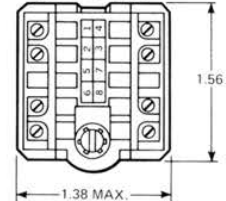
Contact Arrangement is double pole, double throw (Quick Make-Quick Break). There are eight terminals . . . four are normally open (1-2-3-4) and four are normally closed (5-6-7-8).

Snap-Action Cartridges

1NO-1NC



2NO-2NC



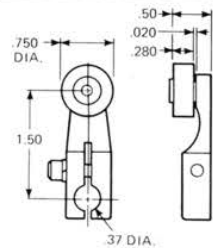
Ordering Numbers

1NO-1NC	EA511-11600	2NO-2NC	EA511-21600
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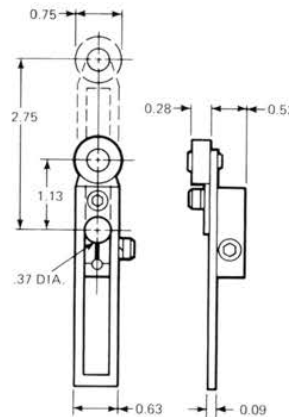
Operating Levers

Order as Separate Item

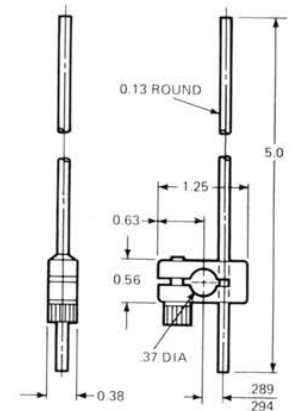
NOTE: See Series "EL" operating lever brochure for additional levers.



STANDARD "STR" LEVER
EL010-23300 (SA160)



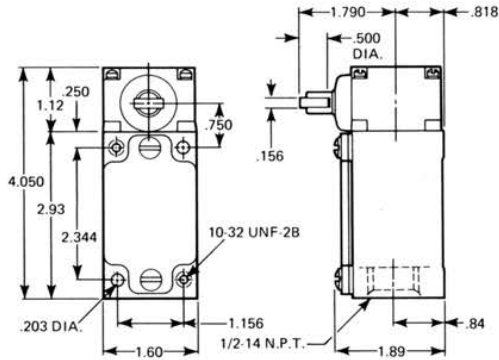
ADJUSTABLE LEVER
EL120-30302 (SA170)



ROD LEVER
EL140-28900 (SA170-1)

Side Roller Plunger Head Style "A"

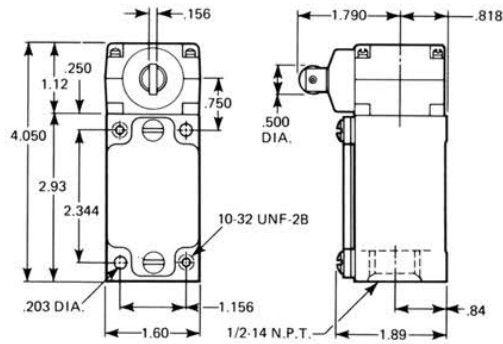
PART NUMBER	CONTACTS
EA510-13701	1NO-1NC
EA510-23701	2NO-2NC



Operating Characteristics (Inches)	Pretravel	.090
	Differential Travel	.039/.031
	Recommended Travel	.15
	Total Travel	.260/.240
	Lbs. Force Req'd to Trip	5.2
	Lbs. Force at .25 Stroke	5.5

Side Roller Plunger Head Style "B"

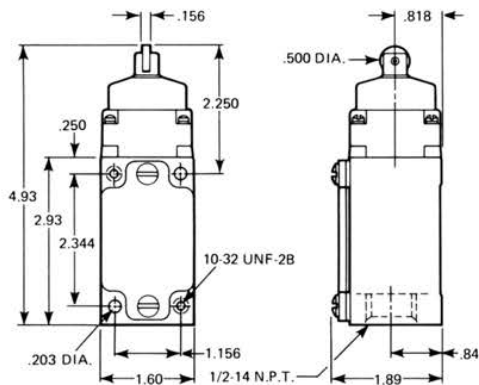
PART NUMBER	CONTACTS
EA510-13700	1NO-1NC
EA510-23700	2NO-2NC



Operating Characteristics (Inches)	Pretravel	.090
	Differential Travel	.039/.031
	Recommended Travel	.15
	Total Travel	.260/.240
	Lbs. Force Req'd to Trip	5.2
	Lbs. Force at .25 Stroke	5.5

Top Roller Plunger Head Style "A"

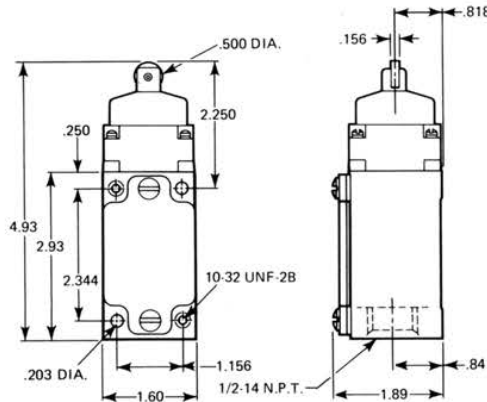
PART NUMBER	CONTACTS
EA510-15701	1NO-1NC
EA510-25701	2NO-2NC



Operating Characteristics (Inches)	Pretravel	.050/.046
	Differential Travel	.027/.023
	Recommended Travel	.15
	Total Travel	.260/.240
	Lbs. Force Req'd to Trip	2.8
	Lbs. Force at .25 Stroke	7.3

Top Roller Plunger Head Style "B"

PART NUMBER	CONTACTS
EA510-15700	1NO-1NC
EA510-25700	2NO-2NC



Operating Characteristics (Inches)	Pretravel	.050/.046
	Differential Travel	.027/.023
	Recommended Travel	.15
	Total Travel	.260/.240
	Lbs. Force Req'd to Trip	2.8
	Lbs. Force at .25 Stroke	7.3