

NUMATICS®

GR Series

Adjustable Angular Gripper



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EMERSON
Industrial Automation

BCAE
Automation Solutions

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GR90 Series Angular Grippers

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GR90-Series Angular Grippers

The GR90-Series has a double acting piston attached to a cross bar by a connecting rod. The linear movement of the piston is transformed into angular movement of the jaws through a double toggle link mechanism.

A. Body:

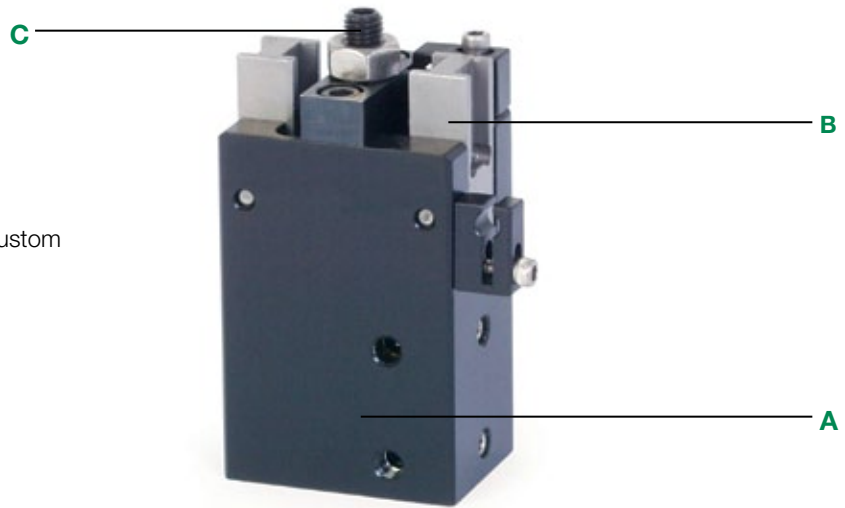
Hardcoat anodized with PTFE, reduced friction, reduced wear. Front and side ports standard.

B. Jaws:

Hardened alloy steel.
Keyway slot for tooling location.
180° jaw motion.

C. Locking Adjustment Screw:

Jaw rotations can be adjusted from 0-90° to be custom fit to each application.



How to Order

GR90 1 6 D X

Seal Type

- 1 = Buna-N Seals
- 2 = FKM Seals

Sensing Type

- Standard Cord Set
 - 4 = Prox Switch – PNP (sourcing)
 - 5 = Prox Switch – NPN (sinking)
 - 6 = No Sensing
 - Quick Disconnect Cord Set
 - W = Prox Switch – PNP (sourcing) Straight
 - V = Prox Switch – NPN (sinking) Straight
 - U = Prox Switch – PNP (sourcing) 90 Deg.
 - T = Prox Switch – NPN (sinking) 90 Deg.
- Prox switches are 4 mm diameter.

Special Options

- X = Standard

Sensing Position

- A = Single Position Open
- B = Single Position Closed
- C = Two Position Sensing
- D = No Sensing

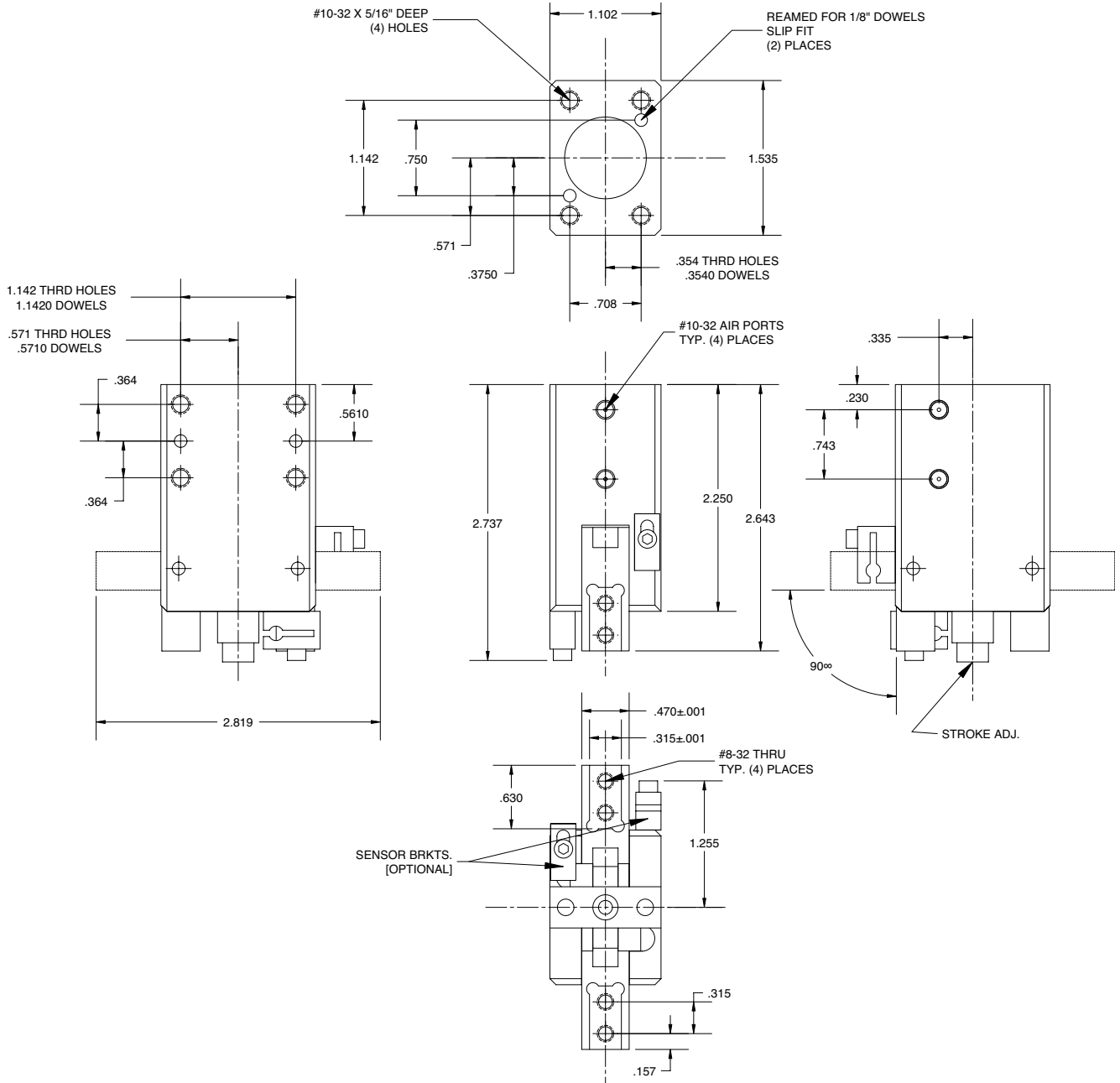
When ordering additional switches & Seal Kits:

Sensing Kits Standard Cord Set	
Hall Effect - PNP Sourcing	PROX-4FL2-P
Hall Effect - NPN Sinking	PROX-4FL2-N

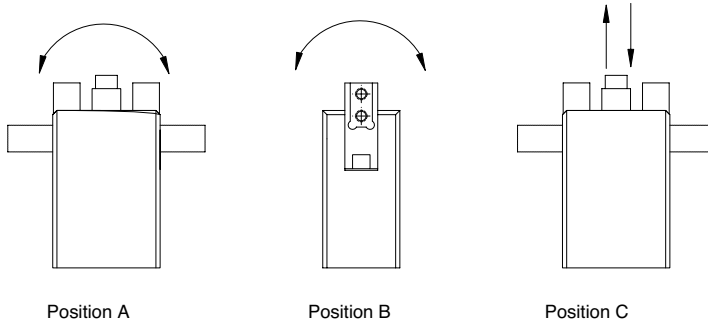
Sensing Kits Quick Disconnect Cord Set	
Hall Effect - PNP Sourcing	PROX-4QDS-P
Hall Effect - NPN Sinking	Not Available
90° 5 meter cable	PXC90
Straight 5 meter cable	PXCST
(5m Cables)	

Dimensions: Inches

GR90 Dimensions



GR90-Series Gripper Performance Data

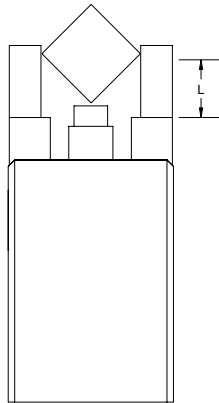


Gripper Specifications

	GR90
Grip Force	
open @ 100 psi	55 lbs
close @ 100 psi	52 lbs.
Displacement	0.46 cu. in.
Max Operating Pressure	120 psi
Side Play	±0.001
Weight	7 oz.

Recommended Maximum Load Ratings

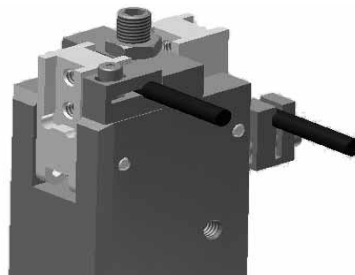
	GR90	
Max Load Position A	30 in-lb	3.4 Nm
Max Load Position B	30 in-lb	3.4 Nm
Max Load Position C	40 lbs.	18Kgf



L (Finger Length)	GR90
1 Inch	30 lbs.
1.5 Inches	25 lbs.
2 Inches	15 lbs.
Force at 80 psi.	

GR90 Series Gripper

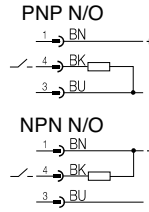
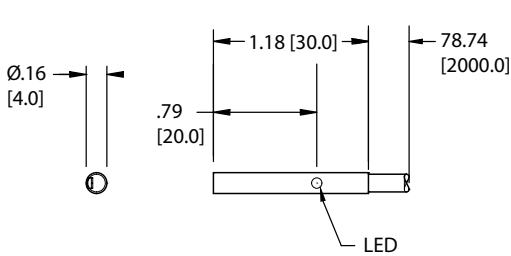
Bore	Bracket P/N
GR90	N5103-1018



Sensor Description	Standard Cord Set	Quick Disconnect
Prox PNP	PROX-4FL2-P	PROX-4QDS-P
Prox NPN	PROX-4FL2-N	Not Available

See page 19 for sensor specifications

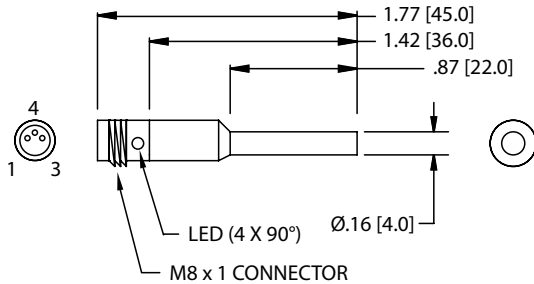
Prox Switch (NPN NO) Flying Lead - PROX-4FL2-N
Prox Switch (PNP NO) Flying Lead - PROX-4FL2-P



Electrical Design
Output
Operating Voltage
Current Rating
Short Circuit Protection
Overload Protection
Reverse Polarity Protection
Voltage Drop
Current Consumption
Real Sensing Range
Switching Frequency
Ambient Temperature
Protection
Switch-Point Drift
Hysteresis
Operating Distance
Correction Factor
Housing Material
Function Display Switching Status
Connection

3-Wire DC PNP/NPN
Normally Open
10-36 VDC
100 mA
Yes (Non-Latching)
Yes
Yes
< 2.5V
< 15 mA @ 24V
.8mm ± 10%
> 2000 Hz
-25°C to 70°C
IP 65, III
-10 - 10% OF Sr
1 - 15% OF Sr
0 - .65mm
Mild Steel=.1, Stainless Steel=.7,
Brass=.5, Alum.=.4,Copper=.3
Housing; Stainless Steel: POM
Yellow LED
PVC Cable, 2m, 3 x .14mm2

Prox Switch (PNP NO), 8 mm connector - PROX-4QDS-P

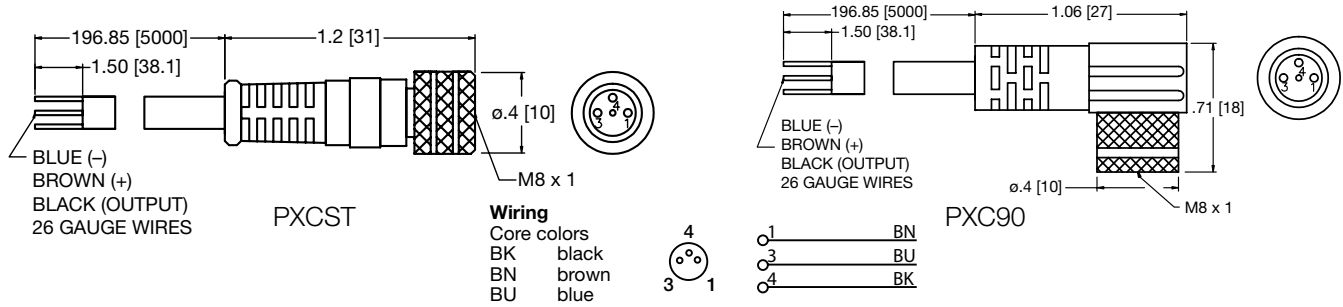


Electrical Design
Output
Operating Voltage
Current Rating
Short Circuit Protection
Overload Protection
Reverse Polarity Protection
Voltage Drop
Current Consumption
Real Sensing Range
Switching Frequency
Ambient Temperature
Protection
Switch-Point Drift
Hysteresis
Operating Distance
Correction Factor
Housing Material
Function Display Switching Status
Connection
Remarks
Accessories
Agency Approvals

3-Wire DC PNP
Normally Open
10-36 VDC
100 mA
Yes (Non-Latching)
Yes
Yes
< 2.5V
< 15 mA @ 24V
.8mm ± 10%
< 2000 Hz
-25°C to 70°C
IP 65, III
-10 - 10% OF Sr
1 - 15% OF Sr
0 - .65mm
Mild Steel=.1, Stainless Steel=.7,
Brass=.5, Alum.=.4,Copper=.3
Housing; Stainless Steel: POM
Red LED (4 X 90°)
M8 Connector
cULus - Class 2 Source
Required
Mounting Clamp



Quick Disconnect Cables



Order Code	Type	Operating Voltage	Current Rating	Cable Material	Protection	Connector
PXCST	Straight 5 m Cable (3 x 26 Gauge wire)	60 AC/75 DC	3 A	PUR	IP 68, III	M8
PXC90	90° 5 m Cable (3 x 26 Gauge wire)	60 AC/75 DC	3 A	PUR	IP 68, III	M8

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