### LCX Series

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<th>Page</th>
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<td>How To Order</td>
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LCX Series

The LCX combines cost-effectiveness with proven dependability. An economical alternative with greater load carrying capabilities.

- Low Cost
- High Load Capability
- Stainless Steel Shafts Available
- Engineered Plastic Polymer Bearing
- Available in 3 Bore Sizes

A. Body:
Hardcoat anodized aluminum……….Lightweight, durable, high strength
Increased load carrying capability

B. Alignment Coupler:
360 Degrees of float………Isolates air cylinder from destructive side loads maximum cylinder life

C. Bushings:
Engineered plastic polymer……….Low friction, high durability, no lubrication required
Maximum rigidity………………….Superior rod diameter to bushing length ratio

D. NuMate™ Mounting:
Direct mount mounting system….Mount other Numatics products directly to tooling plate
How to Order

**LCX 075 04 H 1 6 D XX**

**Bore Sizes**
- 075 = 3/4” Inch
- 106 = 1-1/16” Inches
- 150 = 1-1/2” Inches

**Standard Stroke**
- X5 = 1/2”
- 08 = 8”
- 01 = 1”
- 09 = 9”
- X9 = 1-1/2”
- 10 = 10”
- 02 = 2”
- 11 = 11”
- 03 = 3”
- 12 = 12”
- 04 = 4”
- 13 = 13”
- 05 = 5”
- 14 = 14”
- 06 = 6”
- 15 = 15”
- 07 = 7”

**Guide Shaft Type**
- H = Hardened Steel
- S = Stainless Steel

**Cylinder Type**
- 1 = Buna-N Seals
- 2* = FKM Seals / No Magnet
- 3* = Buna-N Seals w/Cushions
- 4 = FKM Seals / with Magnet

*Cushions available on bore sizes 106 and 150

- Max temperature for LCX Series is 140°F.

**Options**
- XX = No Options
- SE* = Stop Collars for Extend Stroke Adjust
- SR* = Stop Collars for Retract Stroke Adjust
- SB = Stop Collars for Extend and Retract

*Stop collars will be stainless when guide shafts are stainless

**Sensing Position**
- A = Single Position Extend
- B = Single Position Retract
- C = Two Position Sensing
- D = No Sensing

**Sensing Type**
- Standard Cord Set
  - 1 = Hall Effect - PNP (sourcing)
  - 2 = Hall Effect - NPN (sinking)
  - 3 = Reed Switch
  - 4 = Prox Switch on Cylinder - PNP (sourcing)
  - 5 = Prox Switch on Cylinder - NPN (sinking)
  - 6 = No Sensing

*Quick Disconnect Cord Set
  - Z = Hall Effect - PNP (sourcing)
  - Y = Hall Effect - NPN (sinking)
  - X = Reed Switch
  - W = Prox Switch on Cylinder - PNP (sourcing) Straight
  - V = Prox Switch on Cylinder - NPN (sinking) Straight
  - U = Prox Switch on Cylinder - PNP (sourcing) 90 Deg.
  - T = Prox Switch on Cylinder - NPN (sinking) 90 Deg.

**When ordering additional accessories:**

<table>
<thead>
<tr>
<th>Switch Description</th>
<th>Standard Part No.</th>
<th>Quick Disconnect Part No.</th>
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<tbody>
<tr>
<td>Hall Effect - PNP (Sourcing)</td>
<td>PNP-FL2-00-U</td>
<td>PNP-QDS-M8-U</td>
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<tr>
<td>Hall Effect - NPN (Sinking)</td>
<td>NPN-FL2-00-U</td>
<td>NPN-QDS-M8-U</td>
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<tr>
<td>Reed Switch</td>
<td>REED-FL2-00</td>
<td>REED-QDS-M8U</td>
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<tr>
<td>90° 5 meter cable</td>
<td>-</td>
<td>PXC90</td>
</tr>
<tr>
<td>Straight 5 meter cable</td>
<td>-</td>
<td>PXCST</td>
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</table>

*Bands and tracks required for mounting.
Reference bracket in the Switch Application Chart in the Sensor section.
LCX Series Dimensions and Specifications

<table>
<thead>
<tr>
<th>Bore</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
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<td>1.50</td>
<td>0.94</td>
<td>0.31</td>
<td>0.50</td>
<td>0.62</td>
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<th>V</th>
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Maximum Side Loads (lbs) Maximum Moment (in-lbs)

<table>
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<tr>
<th>Stroke</th>
<th>LCX 075</th>
<th>LCX 106</th>
<th>LCX150</th>
<th>LCX 075</th>
<th>LCX 106</th>
<th>LCX 150</th>
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<td>2</td>
<td>82</td>
<td>136</td>
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<td>87</td>
<td>212</td>
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<td>3</td>
<td>66</td>
<td>116</td>
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<td>70</td>
<td>181</td>
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<td>98</td>
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Unit Output Force

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<th>LCX 075</th>
<th>LCX 106</th>
<th>LCX150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extend Force (lbs)</td>
<td>0.44</td>
<td>0.88</td>
<td>1.76</td>
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<tr>
<td>Retract Force (lbs)</td>
<td>0.39</td>
<td>0.81</td>
<td>1.61</td>
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Multiply force factor X input pressure in psi.
Example: LCX075 extend force @ 70psi .44 X 70= 30.8
## Sensing Part Numbers

### PNP-FL2-00-U
- **ELECTRICAL DESIGN**: DC PNP
- **OUTPUT**: Normally Open
- **OPERATING VOLTAGE**: 10-30 VDC
- **CURRENT RATING**: 100 mA
- **SHORT-CIRCUIT PROTECTION**: Yes
- **OVERLOAD PROTECTION**: Yes
- **REVERSE POLARITY PROTECTION**: Yes
- **VOLTAGE DROP**: < 2.5 V
- **CURRENT CONSUMPTION**: < 12 mA
- **REPEATABILITY**: < 0.2 mm
- **POWER-ON DELAY TIME**: < 30 ms
- **SWITCH FREQUENCY**: > 3000 Hz
- **AMBIENT TEMPERATURE**: -25°C to 85°C
- **PROTECTION**: IP 67, III
- **HYSTERESIS**: 1.0 mm
- **MAGNETIC SENSITIVITY**: 2.0 mT
- **TRAVEL SPEED**: > 10 m/s
- **HOUSING MATERIAL**: PA (Polyamide) Black; Fastening Clamp: Stainless Steel
- **FUNCTION DISPLAY**: Yellow LED
- **SWITCHING STATUS**: Flying Leads, Pur Cable (2m Long, 3 x26 Gauge Wire)
- **REMARKS**: Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5 cUlus - Class 2 Source Required
- **ACCESSORIES**: Rubber Placehold, Cable Clip, and Cut Sheet To Be Provided with Every Switch

### PNP-QDS-M8-U
- **ELECTRICAL DESIGN**: DC PNP
- **OUTPUT**: Normally Open
- **OPERATING VOLTAGE**: 10-30 VDC
- **CURRENT RATING**: 100 mA
- **SHORT-CIRCUIT PROTECTION**: Yes
- **OVERLOAD PROTECTION**: Yes
- **REVERSE POLARITY PROTECTION**: Yes
- **VOLTAGE DROP**: < 2.5 V
- **CURRENT CONSUMPTION**: < 12 mA
- **REPEATABILITY**: < 0.2 mm
- **POWER-ON DELAY TIME**: < 30 ms
- **SWITCH FREQUENCY**: > 3000 Hz
- **AMBIENT TEMPERATURE**: -25°C to 85°C
- **PROTECTION**: IP 67, III
- **HYSTERESIS**: 1.0 mm
- **MAGNETIC SENSITIVITY**: 2.0 mT
- **TRAVEL SPEED**: > 10 m/s
- **HOUSING MATERIAL**: PA (Polyamide) Black; Fastening Clamp: Stainless Steel
- **FUNCTION DISPLAY**: Yellow LED
- **SWITCHING STATUS**: M8 Connector (Snap Fit) , Pur Cable (.3 m)
- **REMARKS**: Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5 cUlus - Class 2 Source Required
- **ACCESSORIES**: Rubber Placehold, Cable Clip, and Cut Sheet To Be Provided with Every Switch

*Switches are not designed for wet environments. Please see your distributor for additional information.*
### Electrical Design
- **DC NPN**

### Output
- Normally Open

### Operating Voltage
- 10-30 VDC

### Current Rating
- 100 mA

### Short-Circuit Protection
- Yes

### Overload Protection
- Yes

### Reverse Polarity Protection
- Yes

### Voltage Drop
- < 2.5 V

### Current Consumption
- < 12 mA

### Repeatability
- < .2mm

### Power-On Delay Time
- < 30 ms

### Switch Frequency
- > 3000 Hz

### Ambient Temperature
- -25°C to 85°C

### Protection
- IP 67, III

### Hysteresis
- 1.0mm

### Magnetic Sensitivity
- 2.0 mT

### Travel Speed
- > 10 m/s

### Housing Material
- PA (Polyamide) Black; Fastening Clamp: Stainless Steel

### Function Display Switching Status
- Yellow LED

### Connection
- Flying Leads, Pur Cable (2m Long, 3 x26 Gauge Wire)

### Remarks
- Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5 cULus - Class 2 Source Required

### Accessories
- Rubber Placehold, Cable Clip, and Cut Sheet To Be Provided with Every Switch

### Agency Approvals
- CE, UL, RoHS

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*Screens are not designed for wet environments. Please see your distributor for additional information.

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Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.
### LCX SERIES

#### Sensing Part Numbers

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**REED-FL2-00**

- **ELECTRICAL DESIGN**: AC/DC REED
- **OUTPUT**: Normally Open
- **OPERATING VOLTAGE**: 5-120 VAC/DC
- **CURRENT RATING**: 100 mA
- **SHORT-CIRCUIT PROTECTION**: No
- **OVERLOAD PROTECTION**: No
- **REVERSE POLARITY PROTECTION**: Yes
- **VOLTAGE DROP**: < 5 V
- **REPEATABILITY**: ± .2mm
- **MAKE TIME INCLUDING BOUNCE**: < .6 ms
- **BREAK TIME**: < .1 ms
- **SWITCHING POWER (MAX)**: 5 W
- **SWITCH FREQUENCY**: 1000 Hz
- **AMBIENT TEMPERATURE**: -25°C to 70°C
- **PROTECTION**: IP 67, II
- **HYSTERESIS**: .9mm
- **HOUSING MATERIAL**: PA (Polyamide) Black; Fastening Clamp: Stainless Steel
- **FUNCTION DISPLAY SWITCHING STATUS**: Yellow LED
- **CONNECTION**: Flying Leads, Pur Cable (2m Long, 2 x26 Gauge Wire)
- **REMARKS**: *External Protective Circuit for Inductive Load (Valve, Contactor, Etc.) Necessary. Conforms to 2008 NEC Section 725 III, Class 2 Circuits
  - Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5
  - No LED Function in case of Polarity in DC Operation
- **ACCESSORIES**: Rubber Placehold, Cable Clip, and Cut Sheet To Be Provided with Every Switch
- **AGENCY APPROVALS**: RoHS

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**REED-QDS-M8U**

- **ELECTRICAL DESIGN**: AC/DC REED
- **OUTPUT**: Normally Open
- **OPERATING VOLTAGE**: *5-60 VDC / 5-50 VAC
- **CURRENT RATING**: 100 mA
- **SHORT-CIRCUIT PROTECTION**: No
- **OVERLOAD PROTECTION**: No
- **REVERSE POLARITY PROTECTION**: Yes
- **VOLTAGE DROP**: < 5 V
- **REPEATABILITY**: ± .2mm
- **MAKE TIME INCLUDING BOUNCE**: < .6 ms
- **BREAK TIME**: < .1 ms
- **SWITCHING POWER (MAX)**: 5 W
- **SWITCH FREQUENCY**: 1000 Hz
- **AMBIENT TEMPERATURE**: -25°C to 70°C
- **PROTECTION**: IP 67, II
- **HYSTERESIS**: .9mm
- **HOUSING MATERIAL**: PA (Polyamide) Black; Fastening Clamp: Stainless Steel
- **FUNCTION DISPLAY SWITCHING STATUS**: Yellow LED
- **CONNECTION**: M8 Connector (Snap Fit), Pur Cable (.3m)
- **REMARKS**: *External Protective Circuit for Inductive Load (Valve, Contactor, Etc.) Necessary. Conforms to 2008 NEC Section 725 III, Class 2 Circuits
  - M8 Connector voltage limited to 5-60 vdc / 5-50 vac to conform with 2008 IEC 61076-2-104
  - Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5
  - No LED Function in case of Polarity in DC Operation
- **ACCESSORIES**: Rubber Placehold, Cable Clip, and Cut Sheet To Be Provided with Every Switch
- **AGENCY APPROVALS**: RoHS

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*Switches are not designed for wet environments. Please see your distributor for additional information.*
Quick Disconnect Cables

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