Most versatile pin locating clamp in the industry
**MODULAR PIN LOCATING CLAMPS**

**Major Benefits**

- Completely enclosed fingers
- Available in pin diameters from 12.00 to 30.00 mm diameter
- 5 or 10 mm clamping stroke
- Short, medium, and long pin top shapes
- Finger direction easily changed in the field
- Interchangeable pin sizes, styles, and heights
- Position sensing provides open and closed sensing with industry standard AC and DC weld field immune switch mounted in a protected housing
- Self-locking internal threads throughout eliminate need for thread locking adhesives or additional locking components

**PIN STYLES**

- **“B” (short)**
- **“C” (medium)**
- **“N” (long)**

3 different pin top shapes in diameters from 12.00 - 30.00 mm

part support can be ordered in extensions up to 30.0 mm taller than standard

lock mechanism holds panels in place if pressure is lost

port location can be changed in 90° increments by rotating the cylinder

enclosed single or dual finger provides minimum opening for metal particles or weld slag

NAAMS mounting hole pattern allows convenient mounting with shims and L blocks

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+49 (0)2401-619 77 0
www.phdinc.com/plk
www.phdinc.com/plkd
# Ordering Data: Series PLK Clamps

## CAD & Sizing Assistance
Use PHD's free online Product Sizing and CAD Configurator at www.phdinc.com/myphd

## To Order, Specify:
- Model, Unit Size and Stroke, Design No., Pin Size and Style and additional Options if desired.

### Notes:
1. To have the lock preset for sheet metal thickness, order MT and (the thickness). Lock may be preset at factory for material thickness in 0.1 mm [0.004 in] increments. MT11 would be for 1.1 mm material, MT20 would be for 2.0 mm material. Lock range is from 0 to 4 mm [0 to 0.157 in]. Unless otherwise specified, factory lock default setting is MT20.
2. Magnet will be installed if cylinder switches are ordered.
3. Metric units have metric ports, imperial units have imperial ports.
4. Dual fingers are available in 15-30 mm pin diameters only.

### CAD & Sizing Assistance
- Use PHD’s free online Product Sizing and CAD Configurator at www.phdinc.com/myphd

### Design No.
- 2 - Imperial
- 6 - Metric
- See Note 3

### Pin Diameter
- Pin diameters available from 12.00 to 30.00 in 0.01 increments.
- Examples: For 18.72 mm nominal pin, specify 1872
- For 25.50 mm nominal pin, specify 2550
- +0.00 / -0.02 mm Pin Tolerance

### Port Fittings
- Blank - No fittings
- LAA - 90° Swivel elbow, Metal
- LBB - 90° Swivel elbow, Plastic

### Cylinder Switch Option
- Blank - No Magnet (see Note 2)
- SW00 - Magnet for switches installed
- SW41 - 1 NPN Switch installed
- SW42 - 2 NPN Switches installed
- SW51 - 1 PNP Switch installed
- SW52 - 2 PNP Switches installed

### Port Position
- PP1 - Position 1 (standard)
- PP2 - Position 2
- PP3 - Position 3
- PP4 - Position 4

### Position Sensor Options
- Blank - No sensor
- Px1xx - Position sensor (see Position Sensor Option Code)

### MISCELLANEOUS OPTIONS
- (specify all that apply)
  - Blank - None
  - R01 - Sensor Flag
  - R02 - Double Rod

### Optional Mounting Patterns
- Blank - Standard flange body
- B01 - 45 x 30 pattern 4X M10 threads + 2X 8 mm dowel
- B02 - 30 x 60 pattern 4X M10 threads + 2X 8 mm dowel
- B03 - 40 x 40 pattern 2X M10 threads + 2X 8 mm dowel
- B04 - 40 x 40 pattern 2X M12 threads + 2X 10 mm dowel
- B05 - 30 x 30 pattern 2X M10 threads + 2X 10 mm dowel
- B06 - 45 x 30 pattern 2X M12 threads + 2X 10 mm dowel

### Position Sensor Option Code
- P - Positional Sensing
- S - Standard
- R - Reversed

<table>
<thead>
<tr>
<th>Connector Position</th>
<th>Switch Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Parallel to Main Pin</td>
<td>A - 5-Pin AC/DC Switch (Turck)</td>
</tr>
<tr>
<td>9 - Perpendicular to Main Pin</td>
<td>B - 4-Pin DC Switch (P + F)</td>
</tr>
</tbody>
</table>

*NONE: Connector position 9 is not available with switch option A.
## ENGINEERING DATA: SERIES PLK CLAMPS

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>SEALS</th>
<th>OPERATING TEMPERATURE</th>
<th>LUBRICATION</th>
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<tbody>
<tr>
<td>Polyurethane</td>
<td>-20° to +180°F [-28° to +82°C]</td>
<td>Factory lubricated for life</td>
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### MODEL SUMMARY

<table>
<thead>
<tr>
<th>MODEL</th>
<th>UNIT WEIGHT</th>
<th>CLAMP FORCE 87 psi [6 bar]</th>
<th>CLAMP FORCE FACTOR Cf</th>
<th>CLOSE OR OPEN TIME 87 psi [6 bar]</th>
<th>DISPLACEMENT</th>
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<td></td>
<td>lb</td>
<td>kg</td>
<td>lb</td>
<td>Imperial sec cm³</td>
<td>Metric in³ cm³</td>
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<td>223</td>
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<td>PLK5XX-X-1250N1-E300-FD4S-PP1</td>
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<td>991</td>
<td>165</td>
<td>2,56</td>
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<td>2,47</td>
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<td>0,5</td>
<td>2,47</td>
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<td>0,5</td>
<td>2,47</td>
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<tr>
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<td>2,56</td>
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<td>2,47</td>
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<td>2,21</td>
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<td>2,58</td>
<td>2,56</td>
<td>0,5</td>
<td>2,47</td>
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### CONNECTIONS

[Image of connections]
## DIMENSIONS: SERIES PLK CLAMPS

### Model Number

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<thead>
<tr>
<th>Dimension</th>
<th>PLK5xx-x-1200 thru</th>
<th>PLK5xx-x-1250 thru</th>
<th>PLK5xx-x-1270 thru</th>
<th>PLK5xx-x-1499</th>
<th>PLK5xx-x-1600 thru</th>
<th>PLK5xx-x-1700 thru</th>
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<tbody>
<tr>
<td>A - N Style</td>
<td>1.143 29.0</td>
<td>1.143 29.0</td>
<td>1.143 29.0</td>
<td>1.138 28.8</td>
<td>1.358 34.5</td>
<td>1.358 34.5</td>
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<tr>
<td>A - C Style</td>
<td>0.867 22.0</td>
<td>0.867 22.0</td>
<td>0.867 22.0</td>
<td>0.985 25.0</td>
<td>0.985 25.0</td>
<td>0.985 25.0</td>
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<tr>
<td>B</td>
<td>1.104 28.0</td>
<td>1.104 28.0</td>
<td>1.104 28.0</td>
<td>1.181 30.0</td>
<td>1.181 30.0</td>
<td>1.181 30.0</td>
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<tr>
<td>C</td>
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<td>0.263 6.7</td>
<td>0.263 6.7</td>
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<td>0.348 8.8</td>
<td>0.348 8.8</td>
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<td>D</td>
<td>0.056 1.4</td>
<td>0.056 1.4</td>
<td>0.068 1.7</td>
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<td>E</td>
<td>— — — — — —</td>
<td>0.217 5.5</td>
<td>0.217 5.5</td>
<td>0.217 5.5</td>
<td>0.217 5.5</td>
<td>0.217 5.5</td>
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<tr>
<td>F</td>
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<td>0.041 1.0</td>
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<td>0.064 1.6</td>
<td>0.064 1.6</td>
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<td>0.714 18.1</td>
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<table>
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<tr>
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<th>PLK5xx-x-1800 thru</th>
<th>PLK5xx-x-1999</th>
<th>PLK5xx-x-2000 thru</th>
<th>PLK5xx-x-2299 thru</th>
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<th>PLK5xx-x-2500 thru</th>
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<td>1.379 35.0</td>
<td>1.379 35.0</td>
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<td>1.083 27.5</td>
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<tr>
<td>B</td>
<td>1.338 34.0</td>
<td>1.338 34.0</td>
<td>1.338 34.0</td>
<td>1.338 34.0</td>
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</tr>
<tr>
<td>C</td>
<td>0.348 8.8</td>
<td>0.348 8.8</td>
<td>0.348 8.8</td>
<td>0.348 8.8</td>
<td>0.348 8.8</td>
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<tr>
<td>D</td>
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<td>0.108 2.75</td>
<td>0.108 2.75</td>
<td>0.108 2.75</td>
<td>0.108 2.75</td>
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<td>E</td>
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<td>0.312 7.9</td>
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<td>0.376 9.6</td>
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<td>0.074 1.9</td>
<td>0.074 1.9</td>
<td>0.074 1.9</td>
</tr>
<tr>
<td>G (E000)</td>
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<td>— — — — — —</td>
<td>— — — — — —</td>
<td>— — — — — —</td>
<td>— — — — — —</td>
</tr>
</tbody>
</table>

All dimensions are reference only unless specifically tolerated.
**OPTIONS: SERIES PLK CLAMPS**

**Exxx**

**PART SUPPORT EXTENSION**

The Exxx option allows for an optional part support extension. The -Exxx can be ordered in 0.5 mm increments from 0.5 to 30.0 mm taller. The Exxx option is available with all bodies or pin styles.

<table>
<thead>
<tr>
<th>Option</th>
<th>Height</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E000</td>
<td>27.5 mm</td>
<td>Standard</td>
</tr>
<tr>
<td>E005</td>
<td>32.0 mm</td>
<td>0.5 mm taller than standard</td>
</tr>
<tr>
<td>E150</td>
<td>42.5 mm</td>
<td>15.0 mm taller than standard</td>
</tr>
<tr>
<td>E300</td>
<td>57.5 mm</td>
<td>30.0 mm taller than standard</td>
</tr>
</tbody>
</table>

For part support extensions greater than 30.0 mm (E300), consult PHD.

**FDxx**

**FINGER DIRECTION**

The FDxx option provides alternate finger directions for flexibility and customer convenience.

**SINGLE FINGERS:**

FD1S  
FD2S  
FD3S  
FD4S

**DUAL FINGERS:**

FD1D  
FD2D

**NOTE:**

Number in Hex indicates position in relation to pin housing.
OPTIONS: SERIES PLK CLAMPS

PPx PORT LOCATION

The PPx option provides alternate port locations for the cylinder providing flexibility and customer convenience. The cylinder can be rotated in the field by removing the cylinder mounting screws and rotating to the desired location in 90° increments.

Lxx PORT FITTINGS

The LAA (metal) or LBB (plastic) accessory provides 90° swivel fittings for ease of air line hook up.

FITTINGS MAY SWIVEL 360° FROM LOCATION SHOWN

CLOSE PORT P1 (CLAMP)
OPEN PORT P1 (UNCLAMP)

SELF SEALING SWIVEL MALE ELBOW FOR 1/4" [6 mm] TUBING

NOTE: NUMBER IN HEX INDICATES PORT POSITION IN RELATION TO PIN HOUSING

LETTER DIM

<table>
<thead>
<tr>
<th>LETTER</th>
<th>MODEL NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF1</td>
<td>0.529</td>
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<tr>
<td>PF2</td>
<td>0.885</td>
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<tr>
<td>PF3</td>
<td>0.472</td>
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OPTION CODE

<table>
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<tr>
<th>OPTION CODE</th>
<th>PART NUMBER</th>
</tr>
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<tbody>
<tr>
<td>LAA</td>
<td>62178-003</td>
</tr>
<tr>
<td>LBB</td>
<td>71128-001</td>
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</table>

NOTE: NUMBER IN HEX INDICATES PORT POSITION IN RELATION TO PIN HOUSING

All dimensions are reference only unless specifically tolerated.
# OPTIONS: SERIES PLK CLAMPS

## PS1xx
### STANDARD POSITION SENSING

This option provides clamp and unclamp sensing by affixing an aluminum housing to the side of the clamp body. The unclamp switch is fixed needing no adjustment. The clamp switch is adjustable throughout the entire clamp stroke. Loosening the M5 screw and sliding it up or down adjusts the clamp switch position. PS positions the S02 switch to sense unclamped and the S01 switch to sense clamped. PR positions the S01 switch to sense unclamped and the S02 switch to sense clamped. See diagrams for satellite switch to quick disconnect pin number relationships on page 10.

## PR1xx
### REVERSED POSITION SENSING

### POSITION SENSOR OPTION CODE

```
PS 1 D 1
```

- **HOUSING OPTION**
  - P - Positional Sensing
  - R - Reversed

- **SENSING POSITION**
  - S - Standard

- **SWITCH HOUSING POSITION**
  - 1 - Position 1

- **SWITCH OPTION**
  - N - No Switch
  - A - 5-Pin AC/DC Switch (Turck)
  - D - 4-Pin DC Switch (P + F)
  - E - 4-Pin DC Switch (Turck)
  - F - 4-Pin DC Switch (Efecter)
  - H - 4-Pin DC Switch (P + F)
  - J - 4-Pin DC Switch (Turck)

- **CONNECTOR POSITION**
  - 1 - Parallel to Main Pin
  - 9 - Perpendicular to Main Pin

### NOTE:
Connector position 9 is not available with switch option A.

### FLANGE STYLE BODY

- **0.197 (5.0) HEX PIN RETRACTED SWITCH**
- **0,860 [21,8]**
- **2,822 [71,7]**
- **1,652 [42,0]**
- **2,822 [71,7]**

### THREADER BODY STYLE

- **0,425 [10,8]**
- **4,107 [104,3]**
- **90°**

### TABLE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CABLE CONNECTION</th>
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<tbody>
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<tr>
<td>PS(R)1D1(9)</td>
<td>M12 x 1</td>
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<tr>
<td>PS(R)1E1(9)</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>PS(R)1F1(9)</td>
<td>M12 x 1</td>
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<tr>
<td>PS(R)1H1(9)</td>
<td>M12 x 1</td>
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<tr>
<td>PS(R)1J1(9)</td>
<td>M12 x 1</td>
</tr>
</tbody>
</table>

All dimensions are reference only unless specifically tolerated.
# OPTIONS: SERIES PLK CLAMPS

## Switch Numbers if Ordered Separately

<table>
<thead>
<tr>
<th>PLK Housing Body Style</th>
<th>Switch Housing Kit Number</th>
<th>Switch Number</th>
<th>Switch Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Flange Style Housing**
  PS1xx Switch          |                           |               | N             | Switch; No Switch |
| 79092-00               | 71483-001-PLK             | No Switch     | D             | Switch; 4 Pin DC, PNP, P & F |
| 79092-01               | 71483-002-PLK             | A             | Switch; 5 Pin AC/DC, Turck |
| 79092-02               | 71483-003-PLK             | E             | Switch; 4 Pin DC, PNP, Turck |
| 79092-03               | 71483-004-PLK             | F             | Switch; 4 Pin DC, PNP, Efector |
| 79092-04               | 71483-005-PLK             | H             | Switch; 4 Pin DC, NPN, P & F |
| 79092-05               | 71483-006-PLK             | J             | Switch; 4 Pin DC, NPN, Turck |

| **Flange Style Housing**
  PR1xx Switch          |                           |               | N             | Switch; No Switch |
| 79093-00               | 71483-001-PLK             | No Switch     | D             | Switch; 4 Pin DC, PNP, P & F |
| 79093-01               | 71483-002-PLK             | A             | Switch; 5 Pin AC/DC, Turck |
| 79093-02               | 71483-003-PLK             | E             | Switch; 4 Pin DC, PNP, Turck |
| 79093-03               | 71483-004-PLK             | F             | Switch; 4 Pin DC, PNP, Efector |
| 79093-04               | 71483-005-PLK             | H             | Switch; 4 Pin DC, NPN, P & F |
| 79093-05               | 71483-006-PLK             | J             | Switch; 4 Pin DC, NPN, Turck |

| **Threaded BXX Style Housing**
  PS1xx Switch          |                           |               | N             | Switch; No Switch |
| 79094-00               | 71483-001-PLK             | No Switch     | D             | Switch; 4 Pin DC, PNP, P & F |
| 79094-01               | 71483-002-PLK             | A             | Switch; 5 Pin AC/DC, Turck |
| 79094-02               | 71483-003-PLK             | E             | Switch; 4 Pin DC, PNP, Turck |
| 79094-03               | 71483-004-PLK             | F             | Switch; 4 Pin DC, PNP, Efector |
| 79094-04               | 71483-005-PLK             | H             | Switch; 4 Pin DC, NPN, P & F |
| 79094-05               | 71483-006-PLK             | J             | Switch; 4 Pin DC, NPN, Turck |

| **Threaded BXX Style Housing**
  PR1xx Switch          |                           |               | N             | Switch; No Switch |
| 79095-00               | 71483-001-PLK             | No Switch     | D             | Switch; 4 Pin DC, PNP, P & F |
| 79095-01               | 71483-002-PLK             | A             | Switch; 5 Pin AC/DC, Turck |
| 79095-02               | 71483-003-PLK             | E             | Switch; 4 Pin DC, PNP, Turck |
| 79095-03               | 71483-004-PLK             | F             | Switch; 4 Pin DC, PNP, Efector |
| 79095-04               | 71483-005-PLK             | H             | Switch; 4 Pin DC, NPN, P & F |
| 79095-05               | 71483-006-PLK             | J             | Switch; 4 Pin DC, NPN, Turck |

## Matching Cordsets 2 Meters Long

<table>
<thead>
<tr>
<th>Switch Option</th>
<th>PHD Part Number</th>
<th>Cordset Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>73317-00-02</td>
<td>KB 57-2</td>
</tr>
<tr>
<td>D</td>
<td>65440-001-02</td>
<td>V1-G-YE2M-PVC</td>
</tr>
<tr>
<td>E</td>
<td>78039-00-02</td>
<td>RK 4.4T-2</td>
</tr>
<tr>
<td>F</td>
<td>65440-001-02</td>
<td>V1-G-YE2M-PVC</td>
</tr>
<tr>
<td>H</td>
<td>65406-001-02</td>
<td>V1-G-YE2M-PVC</td>
</tr>
<tr>
<td>J</td>
<td>78039-00-02</td>
<td>RK 4.4T-2</td>
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</table>

Kit includes: Switch housing, plate, switch specified with parts pre-assembled. Mounting fasteners included.
OPTIONS: SERIES PLK CLAMPS

SWITCH OPTION A 71483-002-PLK  Turck Part #: Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304

SWITCH OPTION D 71483-001-PLK  P + F Part #: NBN2-F581-160S6-E8-V1  (PNP)
SWITCH OPTION H 71483-005-PLK  P + F Part #: NBN2-F581-160S6-E10-V1  (NPN)

SWITCH OPTION E 71483-003-PLK  Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34  (PNP)
SWITCH OPTION J 71483-006-PLK  Turck Part #: Ni 2-Q6.5-AN6-0.16-FS 4.4X3/S304  (NPN)

SWITCH OPTION F 71483-004-PLK  Efector Part #: IN 5375  (PNP)

All dimensions are reference only unless specifically tolerated.
**OPTIONS: SERIES PLK CLAMPS**

**R01 SENSOR FLAG**

Provides an external flag on a piston rod that extends out of the bottom of the clamp. The position of the flag indicates if the pin is extended or retracted. Flag travel varies with the panel thickness. 1 mm min. to 10 mm max. The white composite flag can be seen by optical sensing systems. Manually pushing the flag toward the clamp body will overcome the internal locking feature.

**R02 DOUBLE ROD**

Provides manual unlocking ability from below the clamp. Manually pushing the external rod that extends out the bottom will overcome the internal lock.

All dimensions are reference only unless specifically tolerated.
OPTIONS: SERIES PLK CLAMPS

SW41 1 NPN SWITCH INSTALLED
SW42 2 NPN SWITCHES INSTALLED

PART NO.  DESCRIPTION
73360-01 Solid State NPN (Sink) 5 - 28V DC, 165 mm Cable with Quick Disconnect

SPECSIFICATIONS 73360-01
SWITCHING LOGIC Solid State Output, Normally Open
SENSOR TYPE NPN Current Sinking
OPERATING VOLTAGE 5 - 28 VDC
SWITCHING CURRENT 200 mA max
SWITCHING RATING 6 W max
CURRENT CONSUMPTION 20 mA @ 24V max (Switch Active)
VOLTAGE DROP 0.5 V @ 200 mA max
LEAKAGE CURRENT 0.01 mA max
INDICATOR Red LED
CABLE Ø 2.8, 3C, PVC
SENSITIVITY 40 Gauss
TEMPERATURE RANGE -10° to 70°C
SHOCK 50G
VIBRATION 9G
ENCLOSURE CLASSIFICATION IP67 (NEMA 6)
PROTECTION CIRCUIT Power Source Reverse Polarity, Surge Suppression

SW51 1 PNP SWITCH INSTALLED
SW52 2 PNP SWITCHES INSTALLED

PART NO.  DESCRIPTION
73360-02 Solid State PNP (Source) 5 - 28V DC, 165 mm Cable with Quick Disconnect

SPECIFICATIONS 73360-02
SWITCHING LOGIC Solid State Output, Normally Open
SENSOR TYPE PNP Current Sourcing
OPERATING VOLTAGE 5 - 28 VDC
SWITCHING CURRENT 200 mA max
SWITCHING RATING 6 W max
CURRENT CONSUMPTION 20 mA @ 24V max (Switch Active)
VOLTAGE DROP 0.5 V @ 200 mA max
LEAKAGE CURRENT 0.01 mA max
INDICATOR Green LED
CABLE Ø 2.8, 3C, PVC
SENSITIVITY 40 Gauss
TEMPERATURE RANGE -10° to 70°C
SHOCK 50G
VIBRATION 9G
ENCLOSURE CLASSIFICATION IP67 (NEMA 6)
PROTECTION CIRCUIT Power Source Reverse Polarity, Surge Suppression

SWITCH SLOT LOCATIONS
When switches are ordered on a unit, they will be installed on side 2.

63549-xx CORDSET WITH FEMALE QUICK CONNECT

MODEL NO. LETTER DIM.
63549-02 78,74 [2 m]
63549-05 196,85 [5 m]

All dimensions are reference only unless specifically tolerated.
**OPTIONS: SERIES PLK CLAMPS**

**BODY MOUNTING OPTIONS**

This option provides for six standard body mounting patterns to suit mounting requirements.

<table>
<thead>
<tr>
<th>BODY MOUNTING OPTIONS</th>
<th>MODEL NUMBER</th>
<th>MODEL NUMBER</th>
<th>MODEL NUMBER</th>
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<td>12.5</td>
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</table>

*NOTE: ALL M8 DIMENSIONS ARE FOR 6000 PART SUPPORT STANDARD HEIGHT*

All dimensions are reference only unless specifically tolerated.
Lock Setting: Series PLK Clamps

MTxx Material Thickness Adjustment

Provides the clamp with the adjustable lock already set for the maximum material thickness for the application. Specify the thickest material.

Example: 1.6 mm material = MT16
Specify MT16 and the clamp will arrive preset to lock at that material thickness. The sequenced design prevents the finger from retracting until the pin is fully extended. The part can move the amount of clearance between the lock bracket and adjustment screw, but the extended finger keeps the part trapped securely on the pin.

Unless otherwise specified, the factory lock default setting is MT20 = 2.0 mm material.

Lock Setting Procedure

Adjustment procedures for PLK lock with material specified:

1) Start in the unclamped position, with the pin up, and the finger(s) retracted into the pin.
2) Install the part support (item 5) with the adjustment slot over the adjustment screw (item 8). Install the flange plate over the part support aligning the adjustment screw and two holes as shown. Hand tighten two times (item 7). (See Figures 1 and 2.)
3) Install the shims to match the panel thickness requested. Close the clamp on the shims with air pressure (87 psi [6 bar]).
4) Make sure the lock bracket (item 14) rotates counterclockwise into position under the adjustment screw (see Figure 3). Turn the adjustment screw clockwise until it contacts the top of the lock bracket (see Figure 4).
5) After touching, back the adjustment screw one full turn to assure clearance so the lock bracket is free to rotate clockwise when the clamp opens (see Figure 5).
6) Unclamp the unit, remove the shim and two fasteners (item 7).
7) Rotate the flange plate (item 6) on the part support and align the four mounting holes as shown. (Figure 6)
8) Add the four screws (item 7) and tighten to 44 in-lbs [5 Nm].

- MT20 = 2.0 mm material thickness
- MT40 = 4.0 mm (max)
Lock may be preset in 0.1 mm increments

Note Adjustment screw aligned with part support slot and flange slot

1 FULL TURN COUNTER-CLOCKWISE

2.0 mm Shim
(MT20)

1 FULL TURN COUNTER-CLOCKWISE

FIGURE 3

FIGURE 4

FIGURE 5

FIGURE 5 TOP VIEW

FIGURE 6
LOCKING MECHANISM & MANUAL OPENING

The Series PLK incorporates a locking mechanism that keeps the pin retracted and the finger extended so panels are trapped in position on the pin. The locking mechanism does not maintain clamp force when pressure is lost. During normal operation, air pressure moves the piston, releasing the lock, allowing the pin to extend, the finger to retract, and unclamp the part. To manually unlock the clamp, first remove air pressure, then loosen the screw and rotate the cover out of the way. Insert a small screwdriver under the dowel pin and lift it up. This will release the lock, extend the pin, and retract the finger (see diagram). The R01 or R02 option can also manually unlock the clamp. First, remove air pressure then push the rod into the cylinder, moving the piston. This will release the lock, extend the pin, and retract the finger. (See diagram.)

WITH R01 OR R02 OPTION:

STEP 1

STEP 2

STEP 3
**PROCEDURES: SERIES PLK CLAMPS**

**HOW TO CHANGE FINGER DIRECTION**

1) With the pin in the unclamped position, remove flange and part support. Carefully slide dowel pin out of pin assembly.

2) Carefully rotate pin top to desired position (90° increments). **Do not lift up on pin top.** Slide dowel pin back into pin. Dowel pin must be parallel to finger pocket.

3) Assemble part support into counterbore in top of body. Align slot in support flange with dowel in body counterbore.

4) Install flange and tighten screws.

**Position 1 is complete with finger direction change.**

Dowel pin installs through hole in pin base, pin top, and slot in drive rod.
EXPLODED VIEW: SERIES PLK CLAMPS

EXPLANATION OF PARTS:

1. Body
2. Nut
3. Spindle
4. Set Screw
5. Clamping Plate
6. Spindle Nut
7. Clamping Cylinder
8. Gasket
9. Washer
10. Washer
11. Set Screw
12. Spacer
13. Retainer
14. End Cap
15. Screw
16. Washer
17. Washer
18. Bolt
19. Washer
20. Nut
21. Washer
22. Nut
23. Bolt
24. Washer
25. Washer

TORQUE SPECIFICATIONS:

- 44 in-lb (5.0 Nm)
- 60 in-lb (6.8 Nm)
- 125 in-lb (14.1 Nm)
## PARTS LIST: SERIES PLK CLAMPS

### PART NUMBERS FOR PIN SIZE RANGE FROM 12.00 TO 21.99 mm

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
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<td>Assembly, Pin N Style Std 79088-121-xxxx-Exxx = 79088-151-xxxx-Exxx = 79088-181-xxxx-Exxx</td>
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<tr>
<td>1</td>
<td>1A</td>
<td>Pin Top 79036-121-xxxx-Exxx = 79036-151-xxxx-Exxx = 79036-181-xxxx-Exxx</td>
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<tr>
<td>1</td>
<td>1B</td>
<td>Pin Base 79103-01 = 79103-01 = 79103-01</td>
</tr>
<tr>
<td>1</td>
<td>1C</td>
<td>Dowel Pin 17831-081 = 17831-081 = 17831-081</td>
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<tr>
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<td>1A</td>
<td>Assembly, Pin C Style Std 79089-121-xxxx-Exxx = 79089-151-xxxx-Exxx = 79089-181-xxxx-Exxx</td>
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<td>Pin Base 79103-01 = 79103-01 = 79103-01</td>
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<td>Dowel Pin 17831-081 = 17831-081 = 17831-081</td>
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<tr>
<td>1</td>
<td>1C</td>
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<td>Dowel Pin 17831-081 = 17831-081 = 17831-081</td>
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<td>Finger, Single FDxS Std 79070-121-xxxx = 79070-151-xxxx = 79070-181-xxxx</td>
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<td>Cover Plate Mounting Screws 59104-126 = 59104-126 = 59104-126</td>
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<tr>
<td>1</td>
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<td>Cylinder Mounting Screws 59104-126 = 59104-126 = 59104-126</td>
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</table>

### NOTES:
1) = denotes the same part number as imperial
2) N/A denotes not applicable

(parts list continued on next page)
## PARTS LIST: SERIES PLK CLAMPS

**PART NUMBERS FOR PIN SIZE RANGE FROM 22.00 TO 30.00 mm**

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<td>Assembly: Pin C Style Std</td>
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<td></td>
<td></td>
<td>1A Pin Top Std</td>
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<tr>
<td></td>
<td></td>
<td>1B Pin Base 79103-01</td>
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<td>19 Assembly: Cylinder with SW00, 41, 42, 43, 51, 52</td>
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### NOTES:
1) = denotes the same part number as imperial
2) N/A denotes not applicable
DISAPPEARING PIN LOCATING CLAMPS

Major Benefits

- Completely enclosed finger/pin
- Available in pin diameters from 12.5 to 24.5 mm diameter
- 5 or 10 mm clamping stroke
- NAAMS™ mounting
- Short pin length for blind applications
- Position sensing provides open or closed sensing with industry standard AC or DC weld field immune switch mounted in a protected housing
- Self-locking internal threads throughout eliminate need for thread locking adhesives or additional locking components

PLKD’s locating pin retracts fully into part support, allowing greater ease of panel removal

PLKD’s weld field immune switch option provides consistent position sensing

Disappearing pin provides sideways loading/unloading of panels, eliminates potential damage to parts. See page 32.

Enclosed finger provides minimum opening for metal particles and weld slag to enter

Internal pistons to independently actuate finger

NAAMS™ mounting hole pattern allows convenient mounting with shims and L blocks

Long life seals can withstand dirt and H₂O present in shop air

Locking mechanism holds panels in place if pressure is lost

Cylinder mounted switches provide a low cost solution for position sensing

Fingers may extend or retract independent of main pin
ORDERING DATA: SERIES PLKD CLAMPS

TO ORDER, SPECIFY:
Model, Unit Size and Stroke, Design No., Pin Size,
Material Thickness, and Additional Options if desired.

NOTES:
1) To have the lock preset for sheet metal thickness, order MT and (the thickness).
   Lock may be preset at factory for material thickness in 0.1 mm [0.004 in] increments.
   MT11 would be for 1,1 mm material, MT20 would be for 2.0 mm material.
   Lock range is from 0 to 4.0 mm [0 to 0.157 in].
   Unless otherwise specified, factory lock default setting is MT20.
   NEW adjustment procedure. See pages 24 and 29.
2) Magnet will be installed if cylinder switches are ordered.
3) Metric units have metric ports, imperial units have imperial ports.

PIN SIZE/STYLE
1250B - 12.50 mm dia. Pin with -0.05 mm Tolerance
1500B - 15.00 mm dia. Pin with -0.05 mm Tolerance
1850B - 18.50 mm dia. Pin with -0.05 mm Tolerance
2450B - 24.50 mm dia. Pin with -0.05 mm Tolerance

PORT POSITION
BLANK - (PP1) Standard Position 1
PP2 - Position 2
PP3 - Position 3
PP4 - Position 4
Ports in Position 1 required for PS/PRxxx.

SWITCH OPTIONS
BLANK - No Sensor
Px1xx - Position Sensor (See Position Sensor Option Code)

MISCELLANEOUS OPTIONS
BLANK - None
R01 - Sensor Flag
FR2 - Manual Finger Retract

MODEL
PLKD - Disappearing Pin Clamp

DESIGN NO.
1 - Imperial
5 - Metric

PLKD 505 - 5 - 1850B - MT07 - LAA - PS1D9 - R01 - SW00

UNIT SIZE / CLAMP STROKE
505 - 50 mm Bore
5 mm Stroke
510 - 50 mm Bore
10 mm Stroke

MATERIAL THICKNESS
LOCK ADJUSTMENT
(See Note 1)
MT07 - (0.7 mm) 0.027 in
MT10 - (1.0 mm) 0.039 in
MT140 - (4.0 mm) 0.157 in

FINGER DIRECTION
BLANK - Standard Single Finger Position (FD4)
FD1 - Single Finger Position 1
FD2 - Single Finger Position 2
FD3 - Single Finger Position 3

PORT FITTINGS (BOTH PORTS)
BLANK - No Fittings
LAA - 90° Swivel Elbow, Metal
LBB - 90° Swivel Elbow, Plastic

POSITION SENSOR OPTION CODE
P S 1 D 9

HOUSING OPTION
P - Positional Sensing
S - Standard
R - Reversed

SENSING POSITION
1 - Position 1

SWITCH HOUSING POSITION
N - No Switch
A - 5-Pin AC/DC Switch (Turck)
D - 4-Pin DC Switch (P + F)
E - 4-Pin DC Switch (Turck)
F - 4-Pin DC Switch (Elector)
H - 4-Pin DC Switch (P + F)
J - 4-Pin DC Switch (Turck)

SWITCH OPTION
CONNECTOR POSITION
1 - Parallel to Fingers
9 - Perpendicular to Fingers

NOTE:
Connector position 9 is not available with switch option A.

NEW adjustment procedure. See pages 24 and 29.

1) Magnet will be installed if cylinder switches are ordered.
2) Metric units have metric ports, imperial units have imperial ports.

NEW adjustment procedure. See pages 24 and 29.

1250B - 12.50 mm dia. Pin with -0.05 mm Tolerance
1500B - 15.00 mm dia. Pin with -0.05 mm Tolerance
1850B - 18.50 mm dia. Pin with -0.05 mm Tolerance
2450B - 24.50 mm dia. Pin with -0.05 mm Tolerance

PORT POSITION
BLANK - (PP1) Standard Position 1
PP2 - Position 2
PP3 - Position 3
PP4 - Position 4
Ports in Position 1 required for PS/PRxxx.

SWITCH OPTIONS
BLANK - No Sensor
Px1xx - Position Sensor (See Position Sensor Option Code)

MISCELLANEOUS OPTIONS
BLANK - None
R01 - Sensor Flag
FR2 - Manual Finger Retract

MODEL
PLKD - Disappearing Pin Clamp

DESIGN NO.
1 - Imperial
5 - Metric

PLKD 505 - 5 - 1850B - MT07 - LAA - PS1D9 - R01 - SW00

UNIT SIZE / CLAMP STROKE
505 - 50 mm Bore
5 mm Stroke
510 - 50 mm Bore
10 mm Stroke

MATERIAL THICKNESS
LOCK ADJUSTMENT
(See Note 1)
MT07 - (0.7 mm) 0.027 in
MT10 - (1.0 mm) 0.039 in
MT140 - (4.0 mm) 0.157 in

FINGER DIRECTION
BLANK - Standard Single Finger Position (FD4)
FD1 - Single Finger Position 1
FD2 - Single Finger Position 2
FD3 - Single Finger Position 3

PORT FITTINGS (BOTH PORTS)
BLANK - No Fittings
LAA - 90° Swivel Elbow, Metal
LBB - 90° Swivel Elbow, Plastic

POSITION SENSOR OPTION CODE
P S 1 D 9

HOUSING OPTION
P - Positional Sensing
S - Standard
R - Reversed

SENSING POSITION
1 - Position 1

SWITCH HOUSING POSITION
N - No Switch
A - 5-Pin AC/DC Switch (Turck)
D - 4-Pin DC Switch (P + F)
E - 4-Pin DC Switch (Turck)
F - 4-Pin DC Switch (Elector)
H - 4-Pin DC Switch (P + F)
J - 4-Pin DC Switch (Turck)

SWITCH OPTION
CONNECTOR POSITION
1 - Parallel to Fingers
9 - Perpendicular to Fingers

NOTE:
Connector position 9 is not available with switch option A.
## ENGINEERING DATA: SERIES PLKD CLAMPS

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>CLAMP FORCE 87 psi [6 bar]</th>
<th>CLAMP FORCE FACTOR Cf</th>
<th>MAIN PIN UNCLAMP OR CLAMP TIME 87 psi [6 bar]</th>
<th>FINGER RETRACT OR EXTEND TIME 87 psi [6 bar]</th>
<th>MAIN PIN POWER CYLINDER DISPLACEMENT</th>
<th>FINGER POWER CYLINDER DISPLACEMENT</th>
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<tbody>
<tr>
<td><strong>Model</strong></td>
<td><strong>UNIT WEIGHT</strong></td>
<td><strong>WEIGHT</strong></td>
<td><strong>FORCE</strong></td>
<td><strong>TIME</strong></td>
<td><strong>DISPLACEMENT</strong></td>
<td><strong>DISPLACEMENT</strong></td>
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<tr>
<td>PLKD505-x-1250B</td>
<td>5.5 lb, 2.49 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
<td>4.60, 75.4 in³, 4.60, 75.4, 0.26, 4.3 in³, 6.3, 4.3 cm³</td>
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<td></td>
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<tr>
<td>PLKD505-x-1550B</td>
<td>5.5 lb, 2.49 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
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<td></td>
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<tr>
<td>PLKD505-x-1850B</td>
<td>5.7 lb, 2.56 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
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<tr>
<td>PLKD505-x-2450B</td>
<td>6.0 lb, 2.72 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
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<tr>
<td>PLKD510-x-1250B</td>
<td>5.5 lb, 2.49 kg, 223 lb, 1,991 N</td>
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<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
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<td>PLKD510-x-1850B</td>
<td>5.7 lb, 2.56 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
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<td>PLKD510-x-2450B</td>
<td>6.0 lb, 2.72 kg, 223 lb, 1,991 N</td>
<td>2.56, 165</td>
<td>0.5 sec, 0.3 sec, 3.85 in³, 63 cm³, 0.26 in³, 6.3 cm³</td>
<td></td>
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</tbody>
</table>

### SEALS
- Polyurethane

### OPERATING TEMPERATURE
- -20° to +180°F [-28° to +82°C]

### LUBRICATION
- Factory lubricated for life
DIMENSIONS: SERIES PLKD CLAMPS

NOTE: “°” for PLKD5xx-x-1250B

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>MODEL NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLKD5xx-x-1250B</td>
<td>PLKD5xx-x-1550B</td>
</tr>
<tr>
<td>A MAX</td>
<td>0.4921 12.50</td>
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<tr>
<td>A MIN</td>
<td>0.4902 12.45</td>
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<tr>
<td>B</td>
<td>0.984 25.00</td>
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<tr>
<td>C</td>
<td>0.4829 12.27</td>
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<tr>
<td>D</td>
<td>0.239 6.07</td>
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<tr>
<td>E</td>
<td>0.075 1.91</td>
</tr>
</tbody>
</table>

All dimensions are reference only unless specifically tolerated.
**OPTIONS: SERIES PLKD CLAMPS**

**MTxx**  **MATERIAL THICKNESS ADJUSTMENT**

Provides the clamp with the adjustable lock already set for the maximum material thickness for the application. Specify the thickest material.

**Example:** 1.6 mm material = MT16

Specify MT16 and the clamp will arrive preset to lock at that material thickness. The sequenced design prevents the finger from retracting until the pin is fully extended. The part can move the amount of clearance between the lock bracket and adjustment screw, but the extended finger keeps the part trapped securely on the pin.

Unless otherwise specified, the factory lock default setting is MT20 = 2.0 mm material.

**FDx**  **FINGER DIRECTION**

Provides alternate finger directions for flexibility and customer convenience. For FD1 and FD3, consult factory for delivery.

**PPx**  **PORT LOCATION**

Provides alternate port locations for the cylinder providing flexibility and customer convenience. If PS or PR switches are ordered, ports must be on side 1.

**Lxx**  **PORT FITTINGS**

LAA (metal) or LBB (plastic) accessory provides 90° swivel fittings for ease of air line hook up.

All dimensions are reference only unless specifically tolerated.
OPTIONS: SERIES PLKD CLAMPS

PS1xx STANDARD POSITION SENSING

PR1xx REVERSED POSITION SENSING

This option provides sensing by affixing an aluminum housing to the side of the clamp body.

SERIES PLKD SWITCH SENSING

<table>
<thead>
<tr>
<th>OPTION</th>
<th>FULL RETRACT</th>
<th>CLAMPED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS1xx</td>
<td>S02, S01</td>
<td>S01</td>
</tr>
<tr>
<td>PR1xx</td>
<td>S01, S02</td>
<td>S02</td>
</tr>
</tbody>
</table>

Full retract is fixed, needing no adjustment. The clamp switch is adjustable throughout the entire clamp stroke. Loosening the M5 screw and sliding it up or down adjusts the clamp switch position.

See diagrams for satellite switch to quick disconnect pin number on page 26.

POSITION SENSOR OPTION CODE

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CABLE CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS(R)1A1</td>
<td>1/2-20 UNF</td>
</tr>
<tr>
<td>PS(R)1D1(9)</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>PS(R)1E1(9)</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>PS(R)1F1(9)</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>PS(R)1H1(9)</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>PS(R)1J1(9)</td>
<td>M12 x 1</td>
</tr>
</tbody>
</table>

NOTE: Connector position 9 is not available with switch option A.

All dimensions are reference only unless specifically tolerated.
OPTIONS: SERIES PLKD CLAMPS

SWITCH OPTION A 71483-002-PLKD     Turck Part #: Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304

SWITCH OPTION D 71483-001-PLKD     P + F Part #: NBN2-F581-160S6-E8-V1 (PNP)
SWITCH OPTION H 71483-005-PLKD     P + F Part #: NBN2-F581-160S6-E10-V1 (NPN)

SWITCH OPTION E 71483-003-PLKD     Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (PNP)
SWITCH OPTION J 71483-006-PLKD     Turck Part #: Ni 2-Q6.5-AN6-0.16-FS 4.4X3/S304 (NPN)

SWITCH OPTION F 71483-004-PLKD     Efector Part #: IN 5375 (PNP)

All dimensions are reference only unless specifically tolerated.
OPTIONS: SERIES PLKD CLAMPS

1 NPN SWITCH INSTALLED
1 SW41
2 NPN SWITCHES INSTALLED
1 SW42

SWITCH SLOT LOCATIONS
When switches are ordered, they will be installed on side 2.

63549-xx CORDSET WITH FEMALE QUICK CONNECT

All dimensions are reference only unless specifically tolerated.
OPTIONS: SERIES PLKD CLAMPS

R01 SENSOR FLAG

Provides an external flag on a piston rod that extends out of the bottom of the clamp. The position of the flag indicates if the pin is extended or retracted. Flag travel varies with the panel thickness, 1 mm min. to 10 mm max. The white composite flag can be seen by optical sensing systems. Manually pushing the flag toward the clamp body will overcome the internal locking feature. When used with FR2 option on Series PLKD, pulling down manually will retract the pin below the top of the part support.

FR2 MANUAL FINGER RETRACT

Provides the ability to remove panels from the clamp by manually retracting the finger into the pin. Remove air pressure from the clamp ports and push the button in. As you do this, the finger will retract into the main pin and the part can be removed by pulling it up off the pin.

If used in conjunction with the R01 option and after the finger is retracted, pulling on the R01 flag will retract the pin below the top of the part support. This allows the part to be removed in any direction.

WITH FR2 OPTION:
Step 1: Push finger button in order to retract finger into pin
Step 2: Pull panel off top of pin

WITH FR2 AND R01 OPTION:
Step 1: Push finger button in order to retract finger into pin
Step 2: Pull flag out to retract pin below part support
Step 3: Remove panel in any direction

All dimensions are reference only unless specifically tolerated.
Adjustment procedures for PLKD lock with material specified:

1) Start in the unclamped position, with the pin up, and the finger(s) retracted into the pin.
2) Install the part support (item 1) with the adjustment hole over the adjustment screw (item 12). Only install two fasteners (item 11) and hand tighten. (See Figures 1 and 2.)
3) Install the shims under the finger(s) to match the panel thickness required. (See Figure 3.) Actuate the PLKD to clamp on the shims with air pressure (87 psi [6 bar]). The lock bracket assembly (item 7) will rotate counter-clockwise into position under the adjustment screw.
4) Turn the adjustment screw clockwise until it contacts the top of the lock bracket (see Figure 4).
5) After touching, back the adjustment screw off one full turn counter-clockwise to assure clearance so the lock bracket is free to rotate clockwise when the clamp opens (see Figure 5).
6) Unclamp the unit, remove the shim and two fasteners (item 11).
7) Rotate the part support (item 1) 180° so the adjustment screw is hidden as shown (Figure 6).
8) Add the four screws (item 11) back on and tighten to 44 in-lbs [5 Nm].

**CAUTION:** The PLKD unit requires the cover plate (item 22) with the cover plate assembly (item 20) to be completely mounted to the unit with the screws (3X item 14). The locking bracket assembly (item 7) will not properly sequence without these correctly assembled. Figures 3 through 5 are for reference to describe how to set the lock.

---

**PLKD LOCK MECHANISM:**

**STEP 1**
- Remove cover and screws

**STEP 2**
- Insert screwdriver between pins

**STEP 3**
- Lift upper pin with screwdriver to retract finger

**STEP 4**
- Push lower pin down to retract pin below top of part support

---

MT20 = 2.0 mm material thickness
MT30 = 3.0 mm material thickness
MT40 = 4.0 mm (max)
Lock may be preset in 0.1 mm increments
EXPLODED VIEW: SERIES PLKD CLAMPS

FINGER DIRECTION

NOTES:
1) -FD4 FINGER DIRECTION SHOWN IS STANDARD
2) PP1 PORT POSITION SHOWN IS STANDARD
## PARTS LIST: SERIES PLKD CLAMPS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>1250</th>
<th>1550</th>
<th>1850</th>
<th>2450</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>IMPERIAL</td>
<td>METRIC</td>
<td>IMPERIAL</td>
<td>METRIC</td>
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<tr>
<td>1</td>
<td>Part Support Assembly</td>
<td>79944-02-1250</td>
<td>79944-02-1550</td>
<td>79944-02-1850</td>
<td>79944-02-2450</td>
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<tr>
<td>2</td>
<td>Locating Pin Assembly</td>
<td>79943-01-1250</td>
<td>79943-01-1550</td>
<td>79943-01-1850</td>
<td>79943-01-2450</td>
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<tr>
<td>3</td>
<td>Finger STD, FDX</td>
<td>79952-01-1250</td>
<td>79952-01-1550</td>
<td>79952-01-1850</td>
<td>79952-01-2450</td>
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<tr>
<td>4</td>
<td>Drive Rod FD2, FD4 (STD)</td>
<td>79954-25</td>
<td>79954-16</td>
<td>79954-24</td>
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<tr>
<td></td>
<td>FD1, FD3</td>
<td>79954-26</td>
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<td>5</td>
<td>Body 505 Assembly 510</td>
<td>81350-01</td>
<td>81350-02</td>
<td>81350-04</td>
<td>81350-03</td>
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<td>6</td>
<td>Sequence Cam</td>
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<td>7</td>
<td>Lock Bracket Assembly</td>
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<td>9</td>
<td>Cylinder Assembly without Magnet SW00, 41, 42, 51, 52</td>
<td>79970-01-01-01-1</td>
<td>79970-01-01-01-1</td>
<td>79970-01-01-01-1</td>
<td>79970-01-01-01-1</td>
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<td>79970-01-04-01-1</td>
<td>79970-01-04-01-1</td>
<td>79970-01-04-01-1</td>
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<tr>
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<td>505-R01 (Flag Rod)</td>
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<td>11</td>
<td>Part Support Mounting Screws</td>
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<td>16</td>
<td>Drive Pin Assembly</td>
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<td>17</td>
<td>Cover Plate Mounting Screw</td>
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<td>Stop Off Piston Seal</td>
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<td>26</td>
<td>Bore Plug</td>
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<td>27</td>
<td>Retaining Ring</td>
<td>57618-034</td>
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</tbody>
</table>
SERIES PLKD CLAMP ACTUATION STEPS

Series PLKD’s locating pin can fully retract below the part support, allowing for easier panel removal.

A 3 position open center valve is required to control the extending and retracting of the main pin. A 2 position valve controls the extending and retracting of the finger.

### PORT PRESSURIZATION SEQUENCE

<table>
<thead>
<tr>
<th>STEP</th>
<th>PIN EXTEND PORT</th>
<th>PIN RETRACT PORT</th>
<th>FINGER EXTENDED PORT</th>
<th>FINGER RETRACTED PORT</th>
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</thead>
<tbody>
<tr>
<td>1. Load Panel</td>
<td>High</td>
<td>Off</td>
<td>Off</td>
<td>High</td>
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<tr>
<td>2. Extend Finger</td>
<td>High</td>
<td>Off</td>
<td>High</td>
<td>Off</td>
</tr>
<tr>
<td>3. Retract Main Pin</td>
<td>Off</td>
<td>High</td>
<td>High</td>
<td>Off</td>
</tr>
<tr>
<td>4. Perform Operation to Panel</td>
<td>Off</td>
<td>High</td>
<td>High</td>
<td>Off</td>
</tr>
<tr>
<td>5. Drop Pressure</td>
<td>Off</td>
<td>Off</td>
<td>High</td>
<td>Off</td>
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<tr>
<td>6. Retract Finger</td>
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<td>Off</td>
<td>Off</td>
<td>High</td>
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<tr>
<td>7. Fully Retract Main Pin</td>
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<td>8. Remove Panel</td>
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<td>9. Extend Pin</td>
<td>High</td>
<td>Off</td>
<td>Off</td>
<td>High</td>
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</tbody>
</table>

If a single world switch is used (which is standard), the conditions typically sensed are:
- Pin in clamped position (Finger will be extended)
- Pin fully retracted below top of part support (Finger will be retracted)

### DISPLACEMENT FOR PLKD

**Pin Cylinder:**
- PLKD505 Clamp 3.85 in³ [63.0 cm³]
- Unclamp 4.6 in³ [75.4 cm³]
- PLKD510 Clamp 4.30 in³ [70.5 cm³]
- Unclamp 5.2 in³ [85.3 cm³]

**Finger Cylinder:**
- PLKDxxx Clamp 0.26 in³ [4.3 cm³]
- Unclamp 0.26 in³ [4.3 cm³]

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**SUGGESTED SETUP FOR PLKD UNIT**