

PLK & PLKD

PIN LOCATING CLAMPS FOR THE AUTOMOBILE INDUSTRY



Series PLK



*Ideal for part
clamping in
weld areas*

- Completely enclosed finger/pin prevents weld slag from entering
- Locking mechanism holds panel in place if pressure is lost



Series PLKD
Disappearing
Pin



NEW

**ISO-9001
CERTIFIED**

Quality Management
System Certified

PLK02



PHD is a member of the
MAC Distributor Network

phd
SOLUTIONS FOR INDUSTRIAL AUTOMATION

PHD, Inc. • P.O. Box 9070 • Fort Wayne, IN 46899 • (260) 747-6151 • FAX (260) 747-6754
www.phdinc.com • phdinfo@phdinc.com

ORDERING DATA: SERIES PLK CLAMPS

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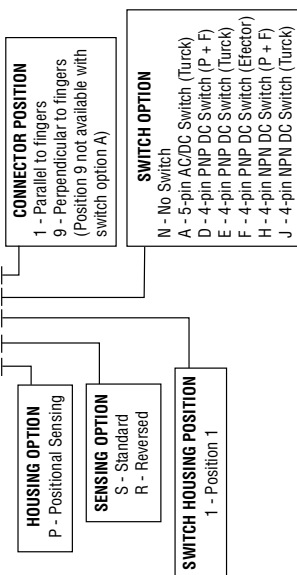
SERIES PLK & PLKD

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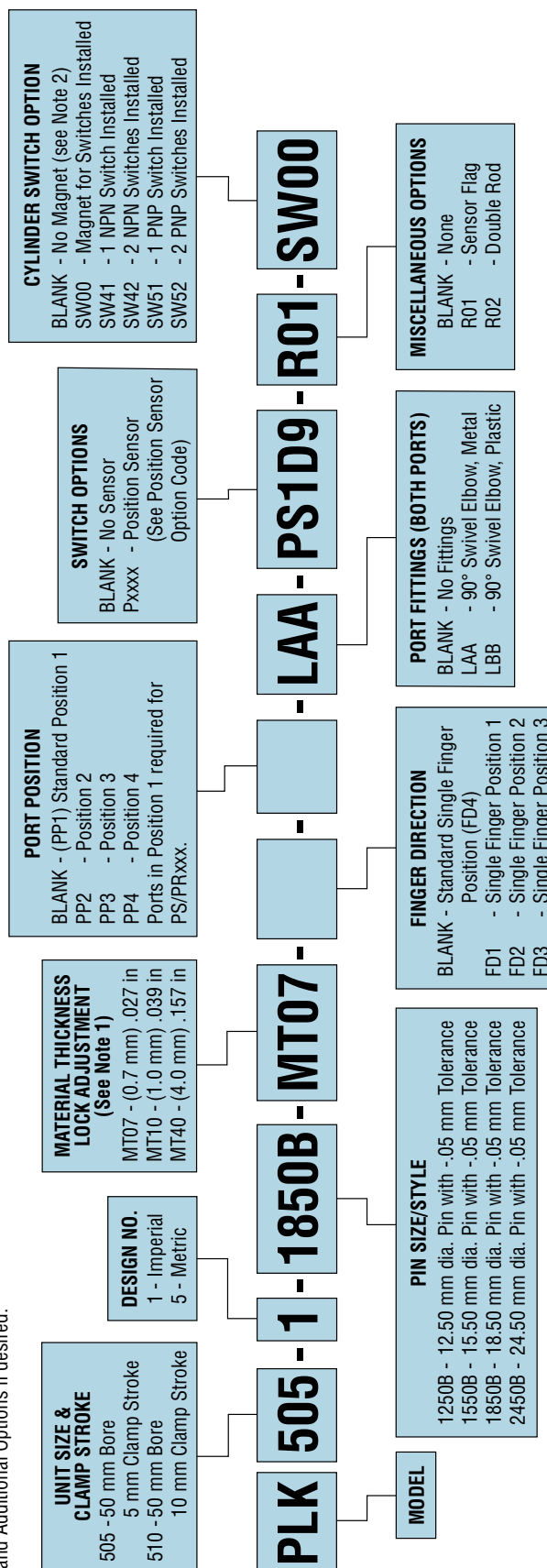
POSITION SENSOR OPTION CODE

-P S 1 D 9



TO ORDER SPECIFY:

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

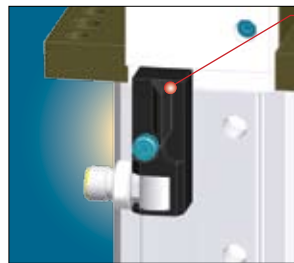


NOTES:

- 1) a. Lock may be preset at factory for material thickness in .004 in [0.1 mm] increments.
b. Lock range is from 0 to .156 in [0 to 4.0 mm].
c. If MT section is left blank, clamp will be set for 2 mm material thickness (MT26).
- 2) Magnet will be installed if cylinder switches are ordered.
- 3) Metric units have metric ports, imperial units have imperial ports.



Ideal for Part Clamping in Weld Areas



weld field immune switch option provides consistent position sensing

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

locking mechanism holds panels in place if pressure is lost

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

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

cylinder mounted switches provide a low cost solution for position sensing

PATENT PENDING

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

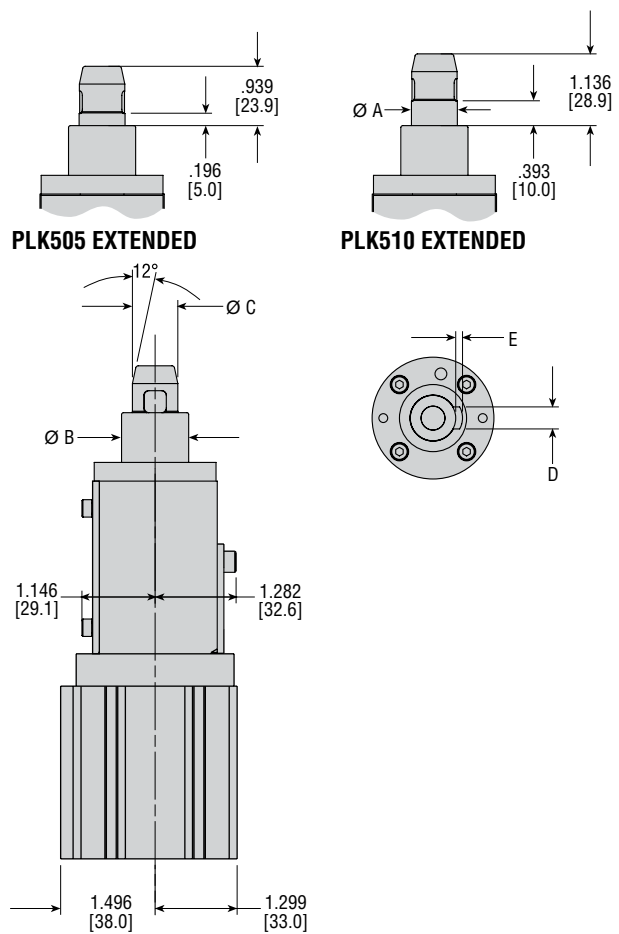
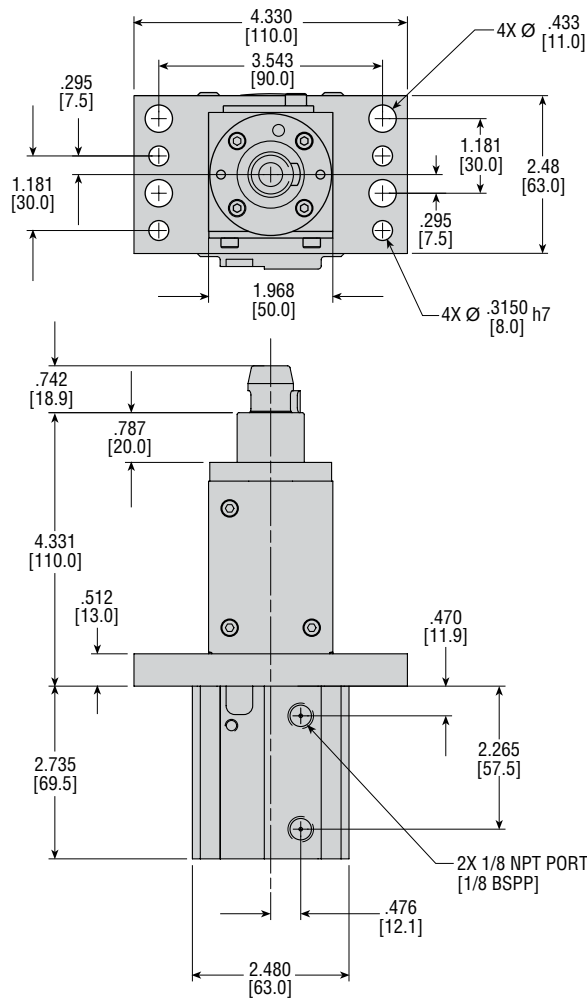
Industry Uses

- Automotive Assembly and Welding



*From receipt of order

DIMENSIONS: SERIES PLK CLAMPS



NOTE: CLAMP SHOWN RETRACTED

DIMENSION	MODEL NUMBER							
	PLK5xx-x-1250B		PLK5xx-x-1550B		PLK5xx-x-1850B		PLK5xx-x-2450B	
	in	mm	in	mm	in	mm	in	mm
A MAX	.4921	12.50	.6102	15.50	.7283	18.50	.9646	24.50
A MIN	.4902	12.45	.6083	15.45	.7264	18.45	.9626	24.45
B	.984	25.00	.984	25.00	1.063	27.00	1.378	35.00
C	.4829	12.27	.6010	15.27	.7191	18.27	.9553	24.26
D	.239	6.07	.349	8.86	.349	8.86	.349	8.86
E	.075	1.91	.108	2.75	.108	2.75	.108	2.75

ENGINEERING DATA: SERIES PLK CLAMPS

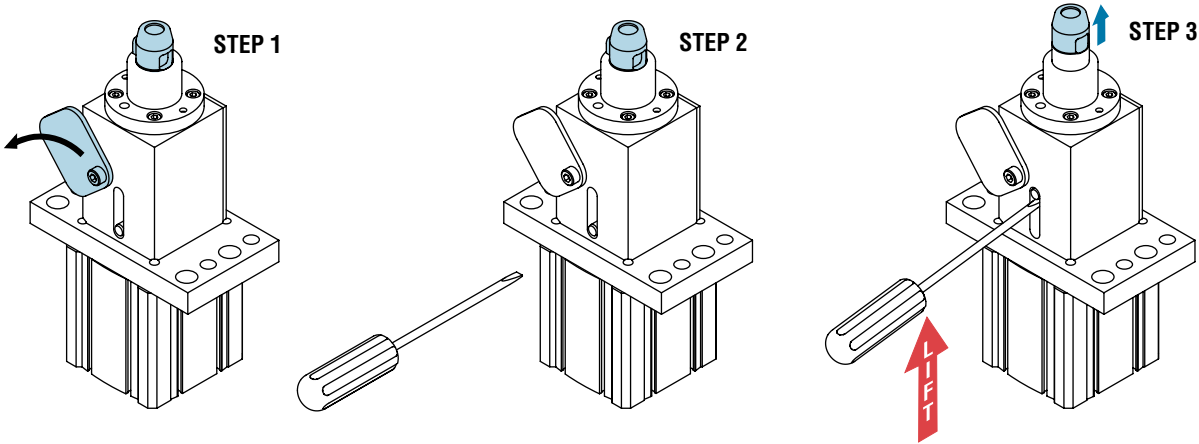
SPECIFICATIONS	SERIES PLK
SEALS	Polyurethane
OPERATING TEMPERATURE	-20° to +180°F [-28° to +82°C]
LUBRICATION	Factory lubricated for life

MODEL	UNIT WEIGHT		CLAMP FORCE 87 psi [6 bar]		CLAMP FORCE FACTOR Cf		CLOSE OR OPEN TIME 87 psi [6 bar] sec	DISPLACEMENT			
	lb	kg	lb	N	imperial	metric		CLOSE in³	cm³	OPEN in³	cm³
PLK5xx-x-1250B	4.0	1.81	223	991	2.56	165	0.5	2.47	40.5	2.95	48.3
PLK5xx-x-1550B	4.0	1.81	223	991	2.56	165	0.5	2.47	40.5	2.95	48.3
PLK5xx-x-1850B	4.2	1.91	223	991	2.56	165	0.5	2.47	40.5	2.95	48.3
PLK5xx-x-2450B	4.5	2.04	223	991	2.56	165	0.5	2.47	40.5	2.95	48.3

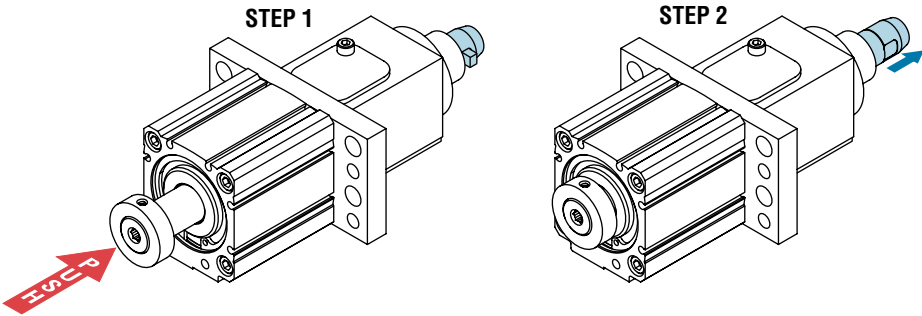
LOCKING MECHANISM & MANUAL OPENING

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:



OPTIONS & KITS: SERIES PLK CLAMPS

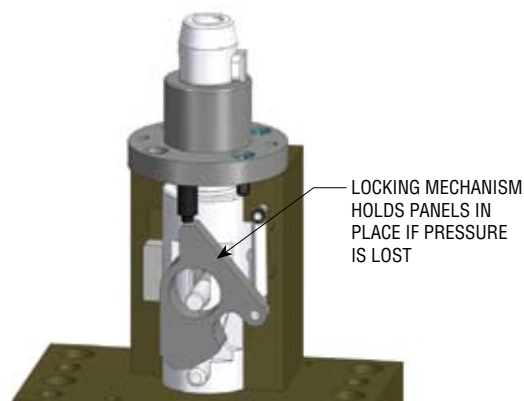


MATERIAL THICKNESS ADJUSTMENT

Provides the clamp with the adjustable lock already set for the maximum material thickness for the application. Specify the thickest material including tolerances and add .02 inches [.5 mm] for clearance.

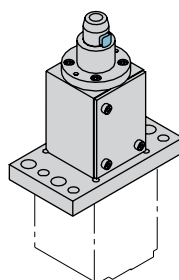
Example: 1 mm material with a tolerance of ± 0.1 mm plus 0.5 mm clearance = 1.6 mm

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.

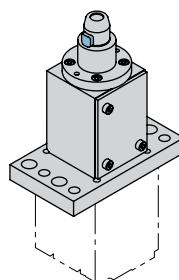


FINGER DIRECTION

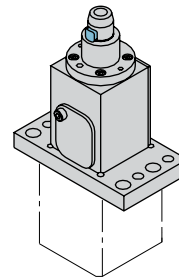
Provides alternate finger directions for flexibility and customer convenience. For FD1 and FD3, consult factory for delivery.



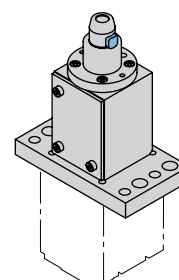
FD1



FD2



FD3

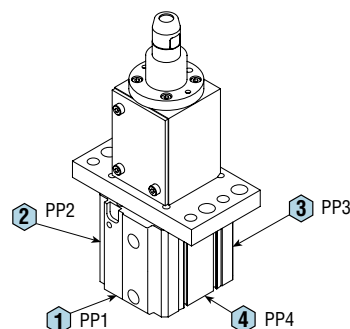


FD4 (STANDARD)



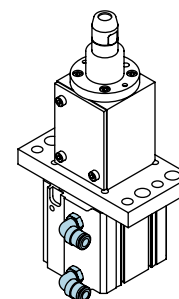
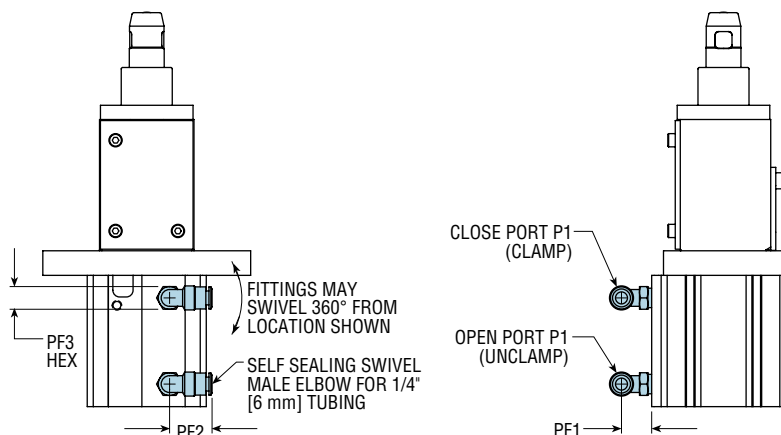
PORT LOCATION

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.



PORT FITTINGS

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



LETTER DIM	MODEL NUMBER	
	PLK5xx	
	in	mm
P1	1/8 NPT	1/8 BSPP
PF1	.629	16.0
PF2	.885	22.5
PF3	.472	12.0

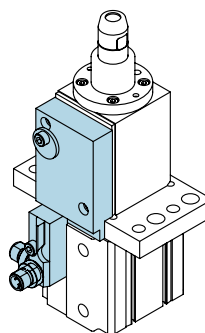
OPTION CODE	PART NUMBER	
	IMPERIAL	METRIC
LAA	62178-003	62195-005
LBB	71120-001	71121-001

OPTIONS & KITS: SERIES PLK CLAMPS

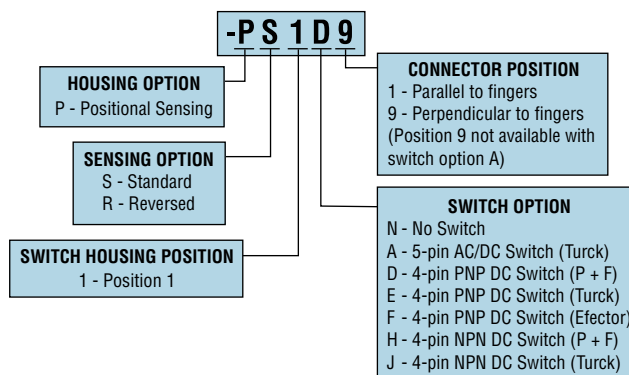
PSxxx STANDARD POSITION SENSING

PRxxx REVERSED POSITION SENSING

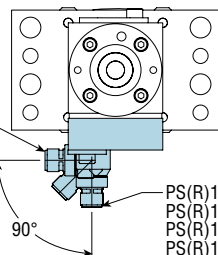
This option provides clamp and unclamp sensing by affixing an aluminum housing to the side of the clamp body. The unclamp switch is fixed needing no adjustment. The clamp switch is adjustable throughout the entire clamp stroke. Loosening the M5 screw and sliding it up or down adjusts the clamp switch 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 22.



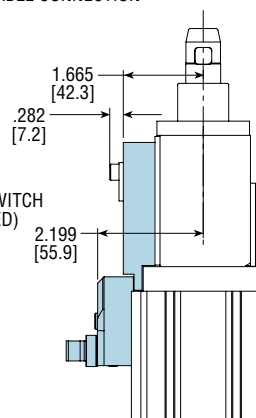
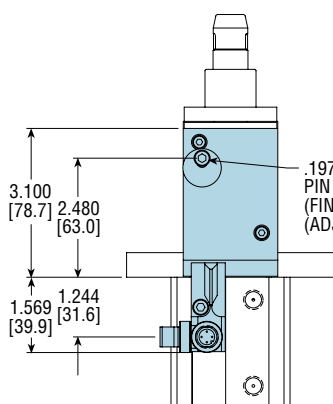
POSITION SENSOR OPTION CODE



PS(R)1A1 = 1/2-20 UNF CABLE CONNECTION
PS(R)1D1 = M12 x 1 CABLE CONNECTION
PS(R)1E1 = M12 x 1 CABLE CONNECTION
PS(R)1F1 = M12 x 1 CABLE CONNECTION
PS(R)1H1 = M12 x 1 CABLE CONNECTION
PS(R)1J1 = M12 x 1 CABLE CONNECTION



PS(R)1D9 = M12 x 1 CABLE CONNECTION
PS(R)1E9 = M12 x 1 CABLE CONNECTION
PS(R)1F9 = M12 x 1 CABLE CONNECTION
PS(R)1H9 = M12 x 1 CABLE CONNECTION
PS(R)1J9 = M12 x 1 CABLE CONNECTION



MATCHING CORDSETS 2 METERS LONG

SWITCH OPTION	PHD PART NUMBER	CORDSET PART NUMBER
A	73317-00-02	KB 5T-2
D	65440-001-02	V1-G-YE2M-PVC
E	78039-00-02	RK 4.4T-2
F	65440-001-02	V1-G-YE2M-PVC
H	65440-001-02	V1-G-YE2M-PVC
J	78039-00-02	RK 4.4T-2

SWITCH HOUSING KIT

KIT NUMBER 79947-02

Kit includes: housing, plate, all pins and screws required for installation. Switches sold separately. (See page 22.)

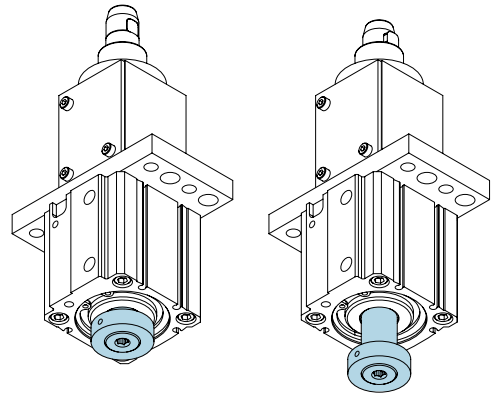
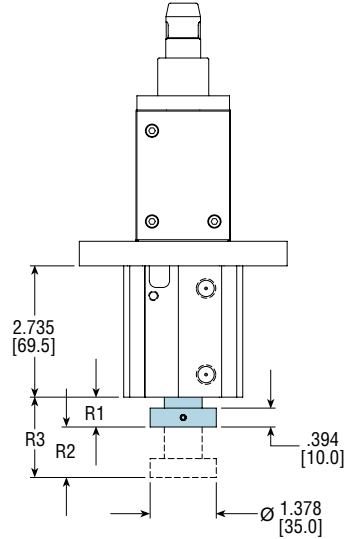
OPTIONS & KITS: SERIES PLK CLAMPS



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.

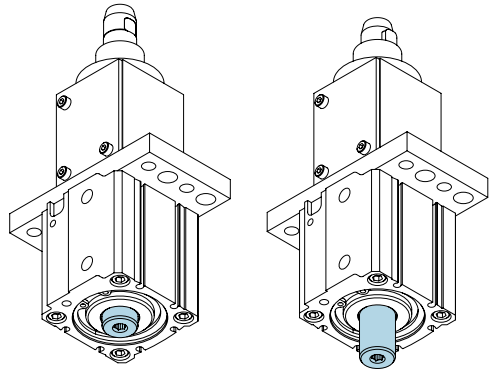
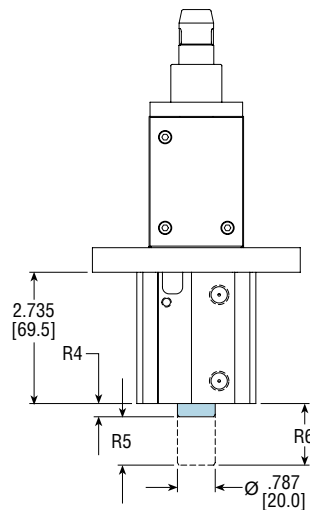


DIMENSION	MODEL NUMBER			
	PLK505		PLK510	
	in	mm	in	mm
R1	.819	20.8	.622	15.8
R2	.665	16.9	.862	21.9
R3	1.484	37.7	1.484	37.7



DOUBLE ROD

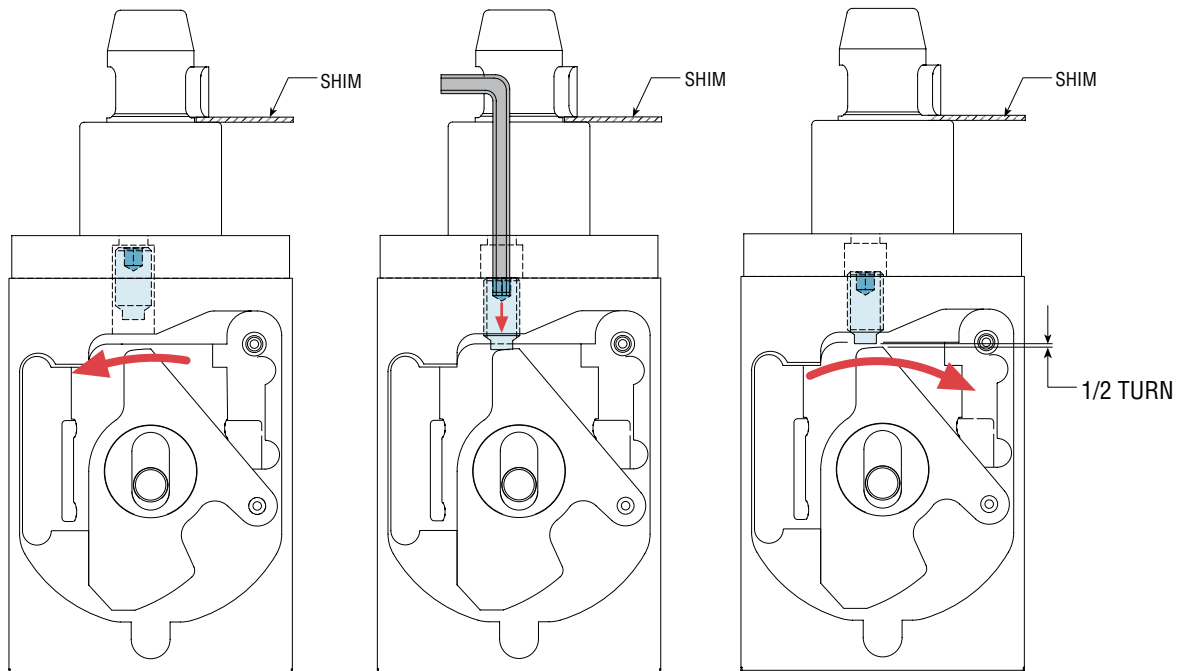
Provides manual unlocking ability from below the clamp. Manually pushing the external rod that extends out the bottom will overcome the internal lock.



DIMENSION	MODEL NUMBER			
	PLK505		PLK510	
	in	mm	in	mm
R4	.473	12.0	.276	7.0
R5	.665	16.9	.862	21.9
R6	1.138	28.9	1.138	28.9

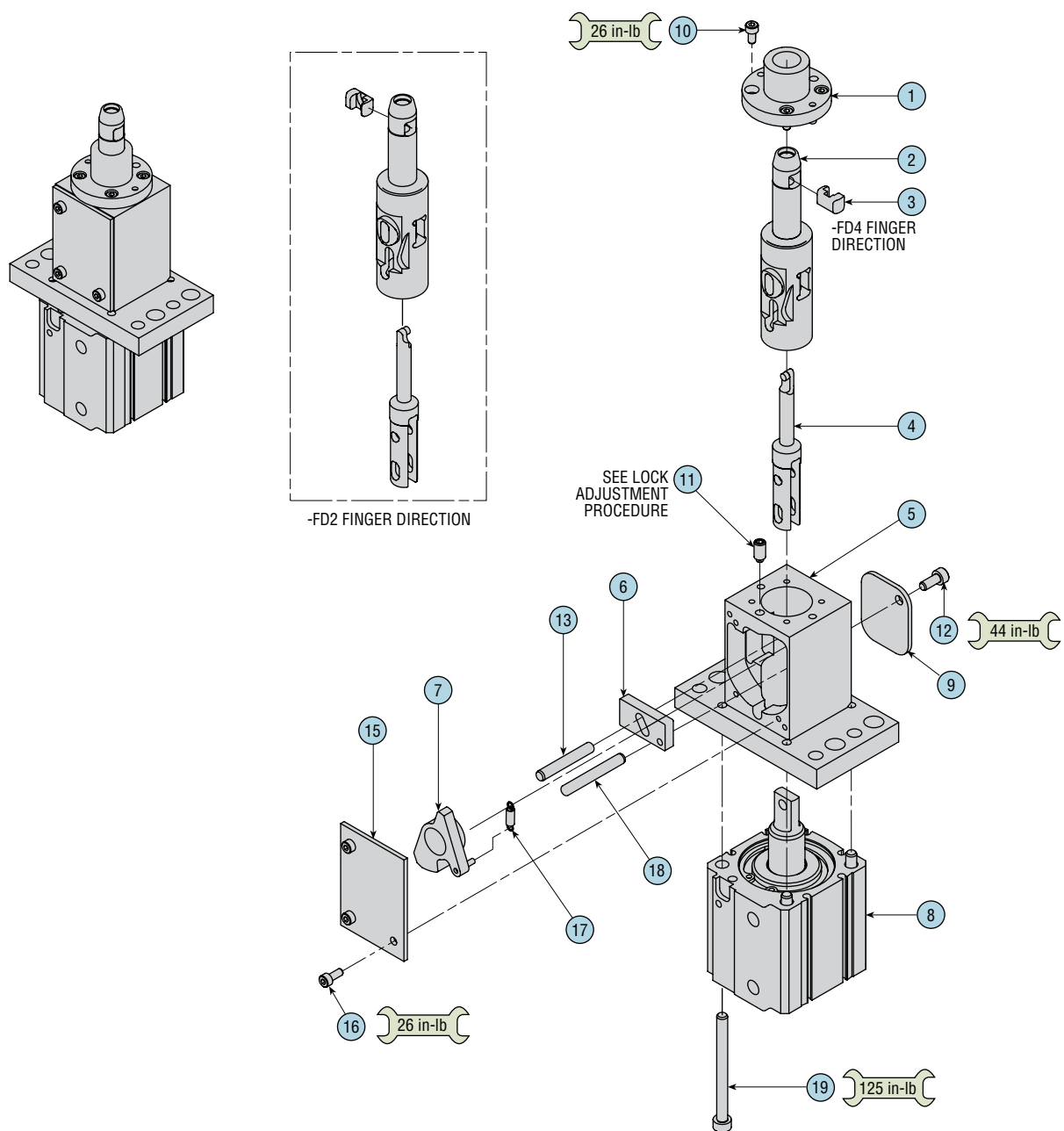
LOCK ADJUSTMENT PROCEDURE: SERIES PLK & PLKD

- 1) Loosen and remove the four socket head cap screws (see exploded views).
- 2) Lift the part support and rotate it 180° until the wrench hole is over the lock adjustment screw.
- 3) Replace the two screws to hold the part support in place during lock setup. Back the adjustment screw out until it touches the bottom of the part support.
- 4) Now, determine the thickest material the lock needs to hold. Add the material thickness, its tolerance, and add .02 inches [.5 mm] for clearance.
Example:
2 mm material with a tolerance of $\pm .1$ mm + .5 mm clearance = 2.6 mm setup dimension
- 5) Place a 2.6 mm setup part (or feeler gage) under the finger and close the clamp with pressure.
- 6) With the finger clamping the 2.6 mm setup part, turn the lock screw in gently until you feel it touch the top of the lock lever. Once it touches, back it off 1/2 turn.
- 7) Drop air pressure on the clamp and try to pull the pin and finger up with the setup part. The pin should move very little and the finger will stay extended. (The clamp's 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.)
- 8) Now, extend the pin with pressure or the manual opener. Remove the two screws holding the part support in place. Lift and rotate it 180° to hide the lock adjustment screw and retighten the four screws to 46 in-lb [5.2 Nm]. The lock is set.



SERIES PLK SHOWN

EXPLODED VIEW: SERIES PLK CLAMPS



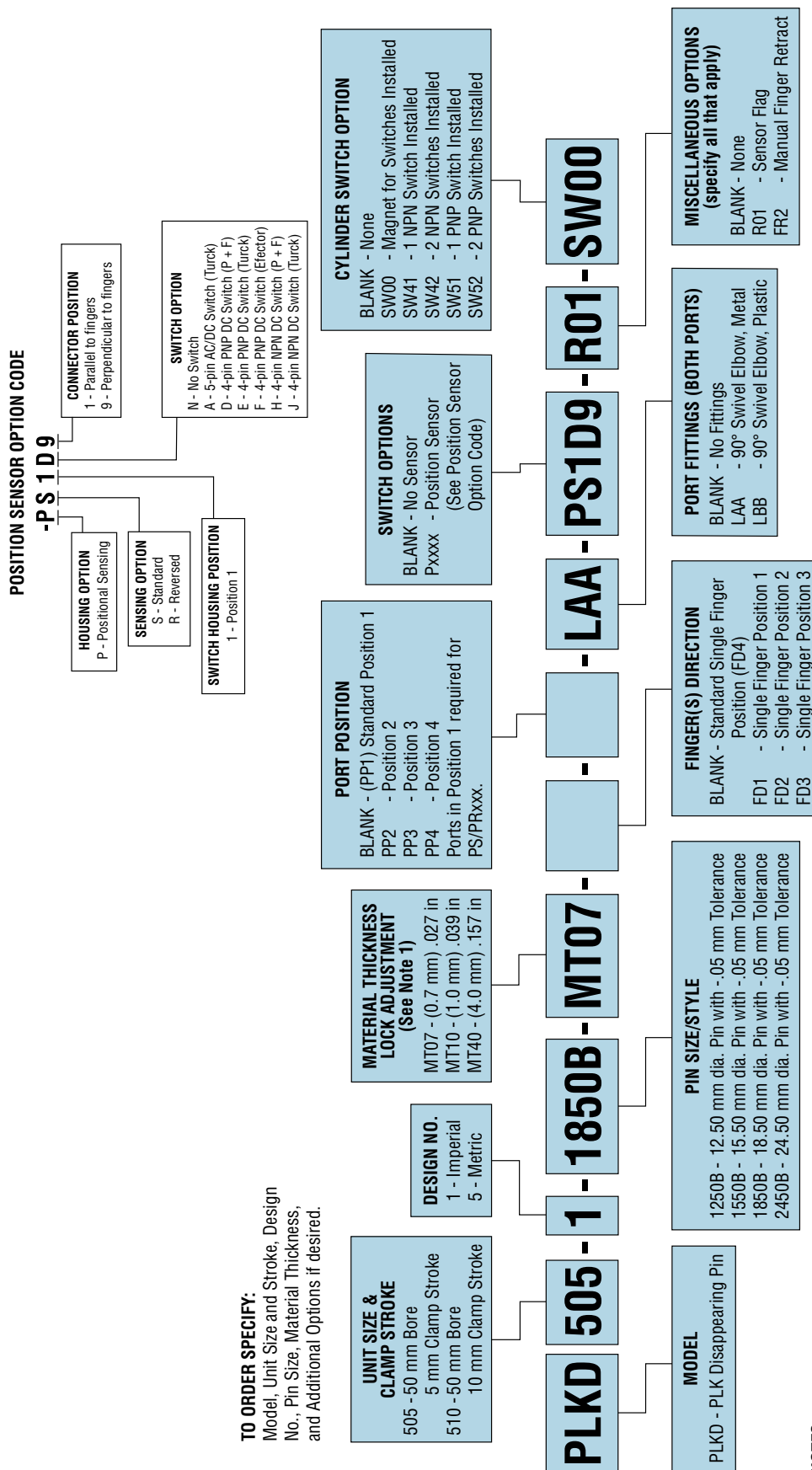
NOTES:

- 1) -FD4 FINGER DIRECTION SHOWN IS STANDARD
- 2) PORT POSITION SHOWN IN POSITION 1

PARTS LIST: SERIES PLK CLAMPS

ITEM NO.	DESCRIPTION	CLAMP SIZE								
		1250		1550		1850		2450		
		IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	
1	Part Support Assembly	79944-01-1250		79944-01-1550		79944-01-1850		79944-01-2450		
2	Locating Pin Assembly	79943-01-1250		79943-01-1550		79943-01-1850		79943-01-2450		
3	Finger	79952-01-1250		79952-01-1550		79952-01-1850		79952-01-2450		
4	Drive Rod	79954-01-1250		79954-01-1550		79954-01-1550		79954-01-1550		
5	Body Assembly PLK510	79946-01								
5	Body Assembly PLK505	79946-02								
6	Sequence Cam	79958-01								
7	Lock Bracket Assembly	79945-01								
8	Cylinder Assembly without Magnet	Standard	79969-01-01-01-1	79969-02-01-01-1	79969-01-01-01-1	79969-02-01-01-1	79969-01-01-01-1	79969-02-01-01-1	79969-01-01-01-1	79969-02-01-01-1
		R01 (flag rod)	79969-01-03-01-1	79969-02-03-01-1	79969-01-03-01-1	79969-02-03-01-1	79969-01-03-01-1	79969-02-03-01-1	79969-01-03-01-1	79969-02-03-01-1
		R02 (double rod)	79969-01-02-01-1	79969-02-02-01-1	79969-01-02-01-1	79969-02-02-01-1	79969-01-02-01-1	79969-02-02-01-1	79969-01-02-01-1	79969-02-02-01-1
	Cylinder Assembly with Magnet	Standard	79969-01-01-02-1	79969-02-01-02-1	79969-01-01-02-1	79969-02-01-02-1	79969-01-01-02-1	79969-02-01-02-1	79969-01-01-02-1	79969-02-01-02-1
		R01 (flag rod)	79969-01-03-02-1	79969-02-03-02-1	79969-01-03-02-1	79969-02-03-02-1	79969-01-03-02-1	79969-02-03-02-1	79969-01-03-02-1	79969-02-03-02-1
		SW00, 41, 42, 51, 52 R02 (double rod)	79969-01-02-02-1	79969-02-02-02-1	79969-01-02-02-1	79969-02-02-02-1	79969-01-02-02-1	79969-02-02-02-1	79969-01-02-02-1	79969-02-02-02-1
9	Cover Plate	74747-01								
10	Part Support Mounting Screws	59104-086								
11	Socket Set Screw	17424-136								
12	Cover Plate Mounting Screw	59104-099								
13	Dowel Pin	17831-009								
15	Cover Plate	79962-00								
16	Switch Cover Mounting Screws	59104-018								
17	Tension Spring	2579-045								
18	Dowel Pin	17831-059								
19	Cylinder Mounting Screws	59104-127								

ORDERING DATA: SERIES PLKD CLAMPS



SERIES PLKD PIN LOCATING CLAMPS

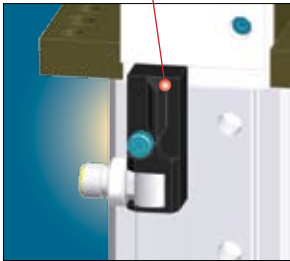
NEW



Ideal for Part Clamping or Transporting in Weld Areas



weld field immune switch option provides consistent position sensing



locating pin retracts fully into part support allowing greater ease of panel removal

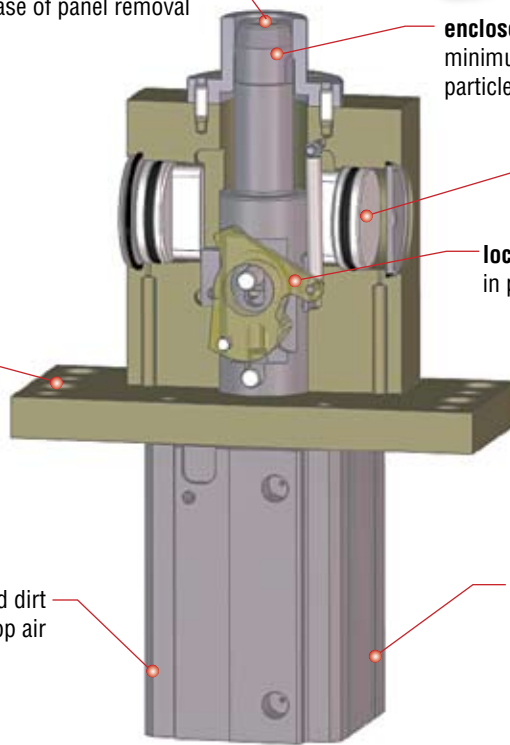


enclosed finger provides minimum opening for metal particles and weld slag to enter

internal pistons to independently actuate finger

locking mechanism holds panels in place if pressure is lost

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



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

cylinder mounted switches provide a low cost solution for position sensing

PATENT PENDING

Major Benefits

- Completely enclosed finger/pin. Main pin retracts fully into part support. Fingers may extend or retract independent of the main 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

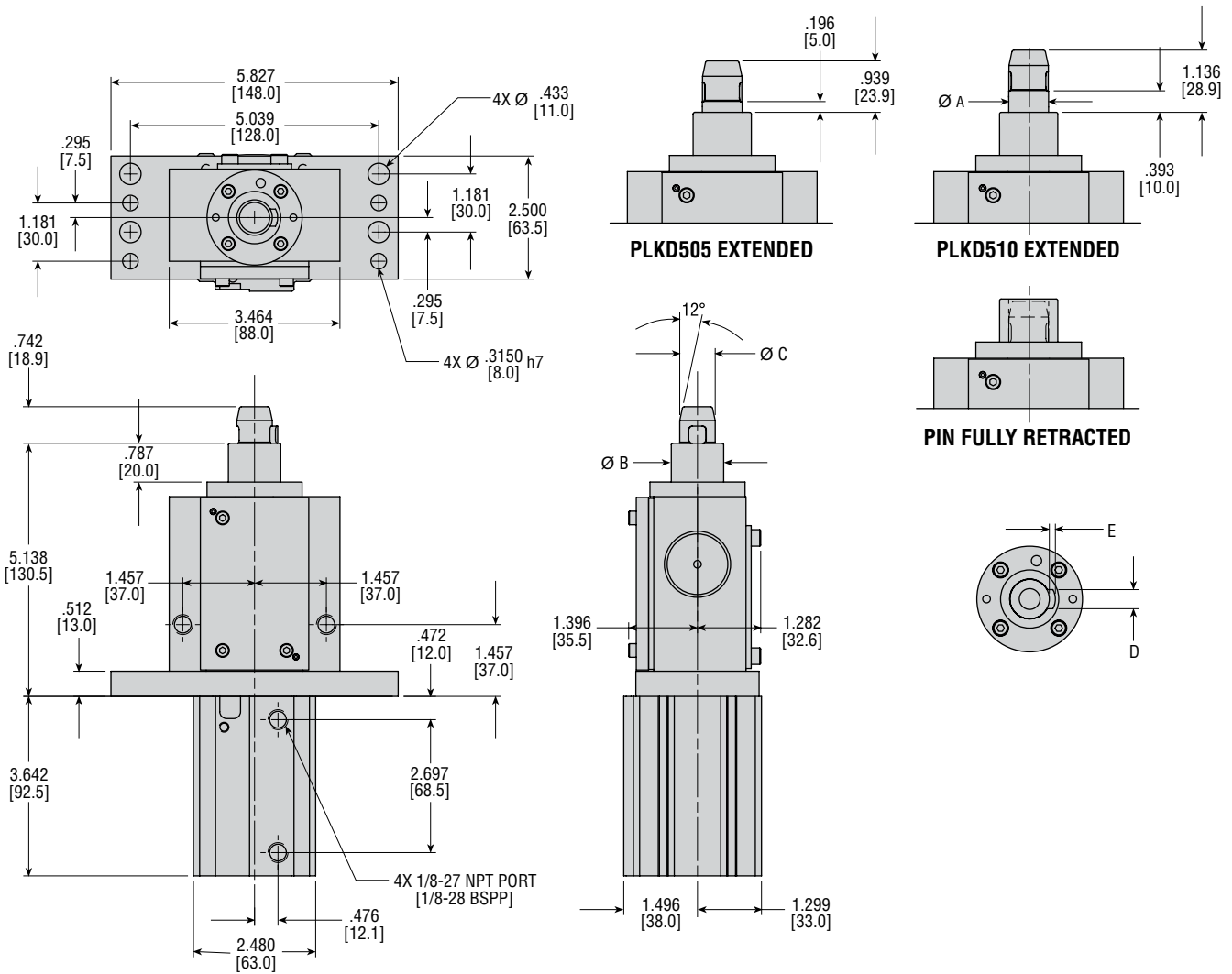
Industry Uses

- Automotive Assembly and Welding



*From receipt of order

DIMENSIONS: SERIES PLKD



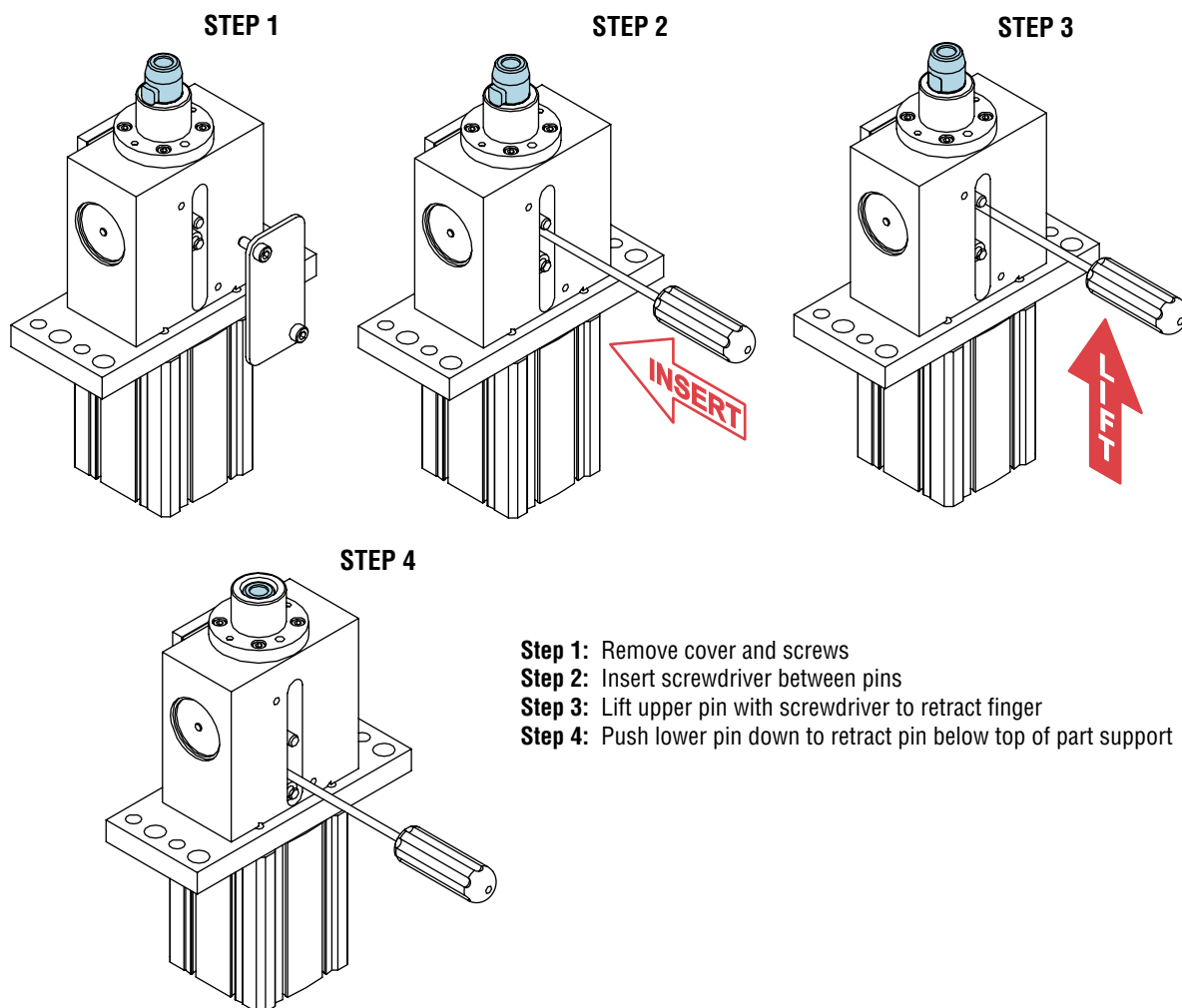
	MODEL NUMBER							
	PLKD5xx-x-1250B		PLKD5xx-x-1550B		PLKD5xx-x-1850B		PLKD5xx-x-2450B	
DIMENSION	in	mm	in	mm	in	mm	in	mm
A MAX	.4921	12.50	.6102	15.50	.7283	18.50	.9646	24.50
A MIN	.4902	12.45	.6083	15.45	.7264	18.45	.9626	24.45
B	.984	25.00	.984	25.00	1.063	27.00	1.378	35.00
C	.4829	12.27	.6010	15.27	.7191	18.27	.9553	24.26
D	.239	6.07	.349	8.86	.349	8.86	.349	8.86
E	.075	1.91	.108	2.75	.108	2.75	.108	2.75

ENGINEERING DATA: SERIES PLKD

SPECIFICATIONS	SERIES PLKD
SEALS	Polyurethane
OPERATING TEMPERATURE	-20° to +180°F [-28° to +82°C]
LUBRICATION	Factory lubricated for life

MODEL	UNIT WEIGHT		CLAMP FORCE 87 psi [6 bar]		CLAMP FORCE FACTOR Cf		MAIN PIN UNCLAMP OR CLAMP TIME 87 psi [6 bar]	FINGER RETRACT OR EXTEND TIME 87 psi [6 bar]	MAIN PIN POWER CYLINDER DISPLACEMENT				FINGER POWER CYLINDER DISPLACEMENT			
									CLAMP		UNCLAMP		EXTEND		RETRACT	
	lb	kg	lb	N	imperial	metric	sec	sec	in	cm	in	cm	in	cm	in	cm
PLKD5xx-x-1250B	5.5	2.49	223	991	2.56	165	0.5	0.3	2.47	40.5	2.95	48.3	0.26	4.3	0.26	4.3
PLKD5xx-x-1550B	5.5	2.49	223	991	2.56	165	0.5	0.3	2.47	40.5	2.95	48.3	0.26	4.3	0.26	4.3
PLKD5xx-x-1850B	5.7	2.56	223	991	2.56	165	0.5	0.3	2.47	40.5	2.95	48.3	0.26	4.3	0.26	4.3
PLKD5xx-x-2450B	6.0	2.72	223	991	2.56	165	0.5	0.3	2.47	40.5	2.95	48.3	0.26	4.3	0.26	4.3

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

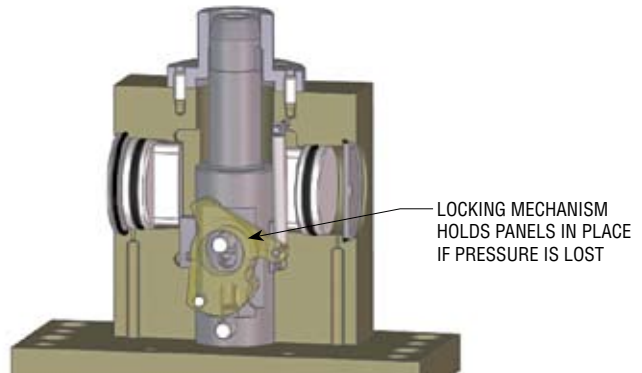
OPTIONS & KITS: SERIES PLKD CLAMPS

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 including tolerances and add .02 inches [.5 mm] for clearance.

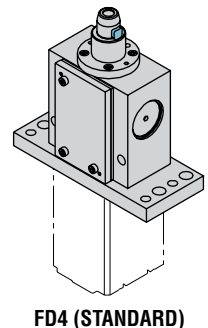
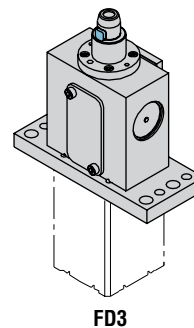
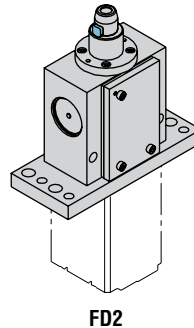
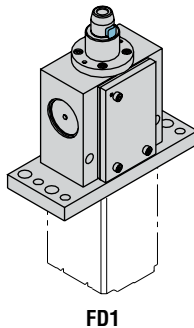
Example: 1 mm material with a tolerance of ± 0.1 mm plus 0.5 mm clearance = 1.6 mm

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.



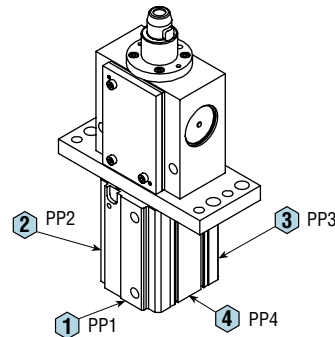
FDx FINGER DIRECTION

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



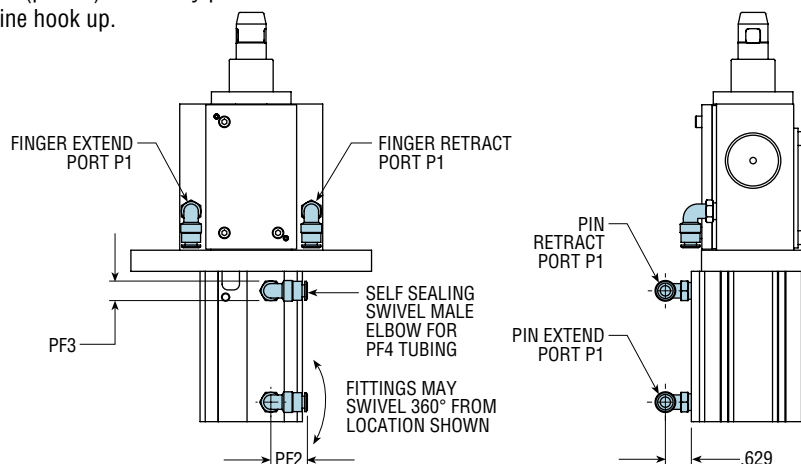
PPx PORT LOCATION

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.



LETTER DIM	MODEL NUMBER	
	PLKD5xx	
	in	mm
P1	1/8 NPT	1/8 BSPP
PF1	.629	16.0
PF2	.885	22.5
PF3 -LAA	.472	12.0
PF3 -LBB	.473	12.1
PF4 -LAA	1/4	6.0
PF4 -LBB	1/5	6.0

OPTION CODE	PART NUMBER	
	IMPERIAL	METRIC
LAA	62178-003	62195-005
LBB	71120-001	71121-001

OPTIONS & KITS: SERIES PLKD CLAMPS

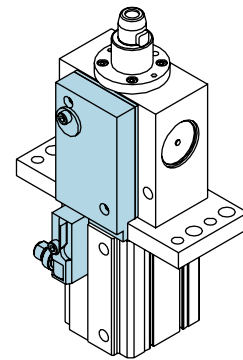
PSxxx

STANDARD POSITION SENSING

PRxxx

REVERSED POSITION SENSING

This option provides clamp and full retract sensing by affixing an aluminum housing to the side of the clamp body. The full retract 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 full retract and the S01 switch to sense clamped. PR positions the S01 switch to sense full retract and the S02 switch to sense clamped. See diagrams for satellite switch to quick disconnect pin number relationships on page 22.



POSITION SENSOR OPTION CODE

-PS 1 E 9

HOUSING OPTION
P - Positional Sensing

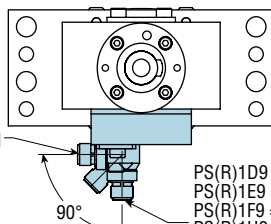
CONNECTOR POSITION
1 - Parallel to fingers
9 - Perpendicular to fingers

SENSING OPTION
S - Standard
R - Reversed

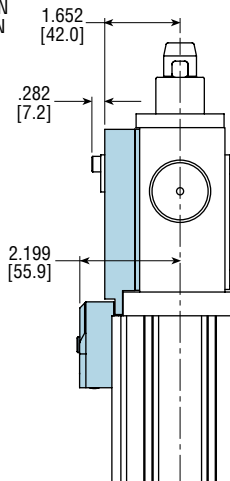
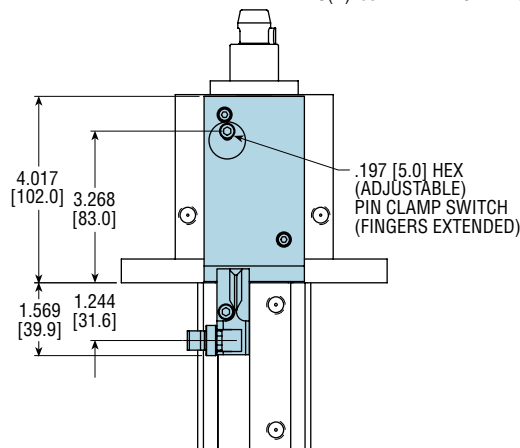
SWITCH HOUSING POSITION
1 - Position 1

SWITCH OPTION
N - No Switch
A - 5-pin AC/DC Switch (Turck)
D - 4-pin PNP DC Switch (P + F)
E - 4-pin PNP DC Switch (Turck)
F - 4-pin PNP DC Switch (Efector)
H - 4-pin NPN DC Switch (P + F)
J - 4-pin NPN DC Switch (Turck)

PS(R)1A1 = 1/2-20 UNF CABLE CONNECTION
PS(R)1D1 = M12 x 1 CABLE CONNECTION
PS(R)1E1 = M12 x 1 CABLE CONNECTION
PS(R)1F1 = M12 x 1 CABLE CONNECTION
PS(R)1H1 = M12 x 1 CABLE CONNECTION
PS(R)1J1 = M12 x 1 CABLE CONNECTION



PS(R)1D9 = M12 x 1 CABLE CONNECTION
PS(R)1E9 = M12 x 1 CABLE CONNECTION
PS(R)1F9 = M12 x 1 CABLE CONNECTION
PS(R)1H9 = M12 x 1 CABLE CONNECTION
PS(R)1J9 = M12 x 1 CABLE CONNECTION



MATCHING CORDSETS 2 METERS LONG

SWITCH OPTION	PHD PART NUMBER	CORDSET PART NUMBER
A	73317-00-02	KB 5T-2
D	65440-001-02	V1-G-YE2M-PVC
E	78039-00-02	RK 4.4T-2
F	65440-001-02	V1-G-YE2M-PVC
H	65440-001-02	V1-G-YE2M-PVC
J	78039-00-02	RK 4.4T-2

SWITCH HOUSING KIT

KIT NUMBER 79947-05

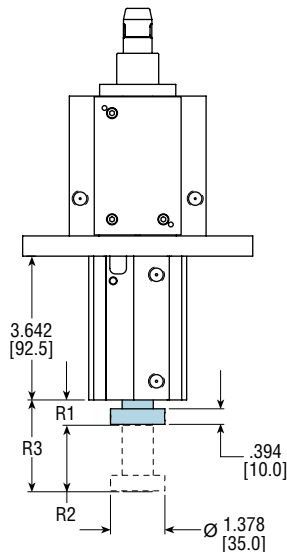
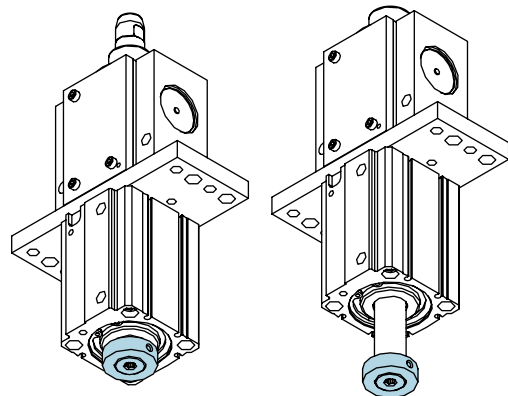
Kit includes: housing, plate, all pins and screws required for installation. Switches sold separately. (See page 22.)

OPTIONS & KITS: 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. When used with FR2 option, pulling the flag down manually will retract the pin below the top of the part support.



DIMENSION	MODEL NUMBER			
	PLKD505		PLKD510	
	in	mm	in	mm
R1	.622	15.8	.622	15.8
R2	1.506	38.3	1.703	43.3
R3	2.128	54.1	2.325	59.1

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.

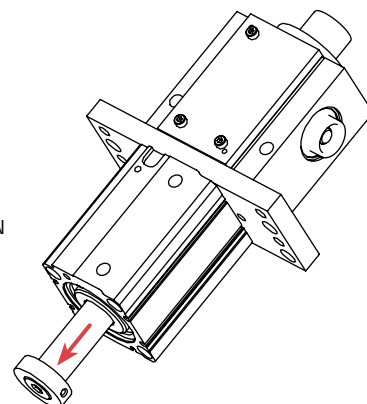
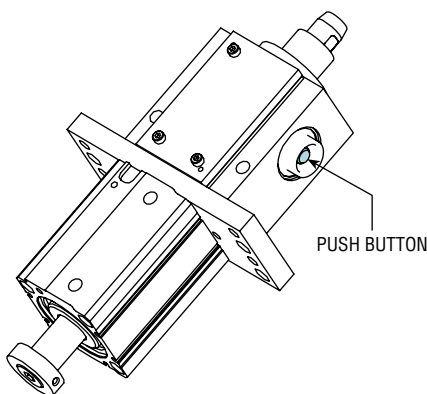
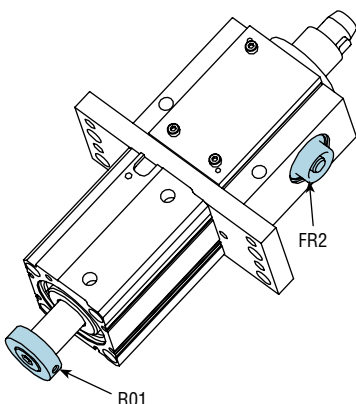
If used in conjunction with the R01 option and after the finger is retracted, pulling on the R01 flag will retract the pin below the top of the part support. This allows the part to be removed in any direction.

WITH FR2 OPTION:

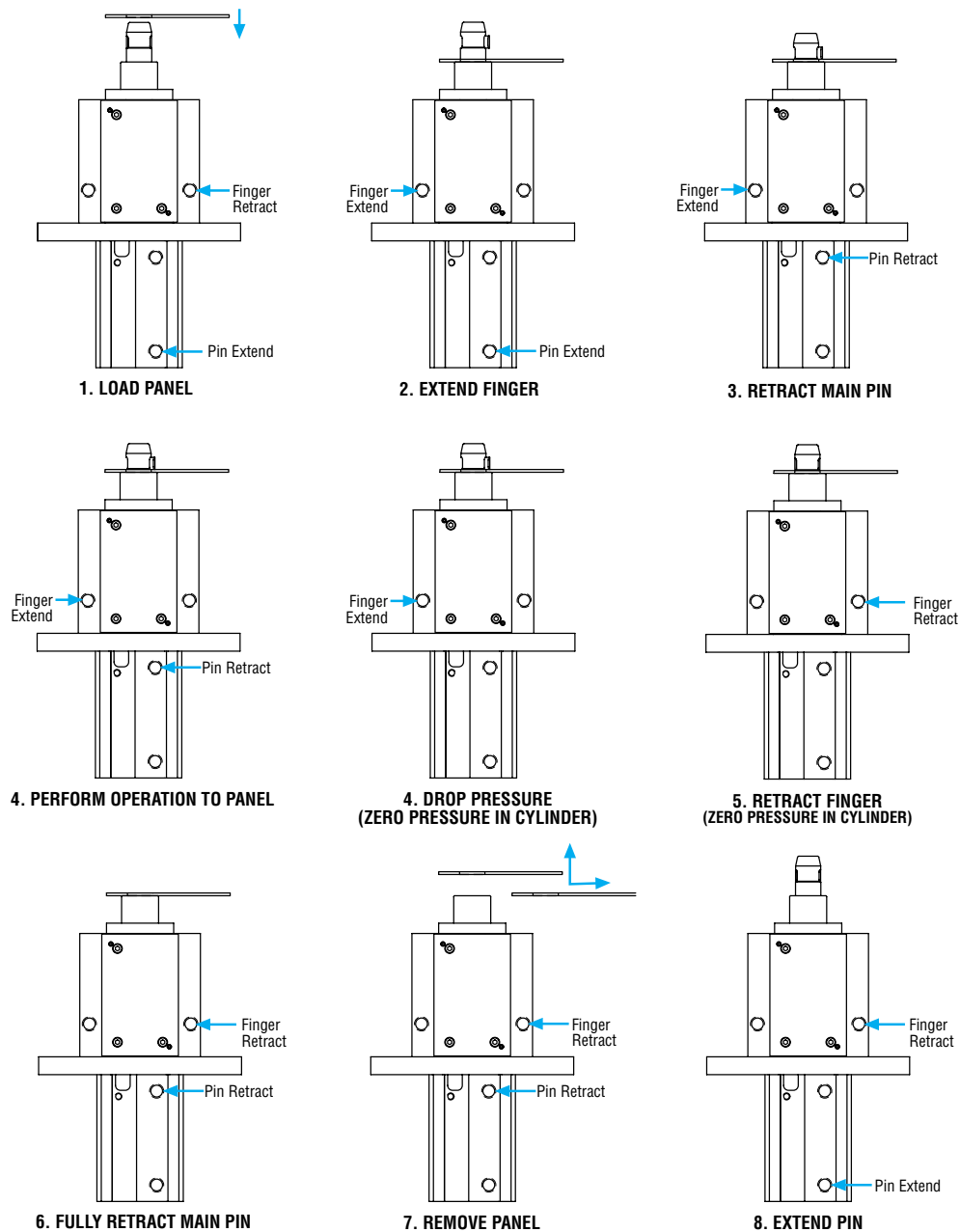
- Step 1:** Push finger button into retract finger into pin
- Step 2:** Pull panel off top of pin

WITH FR2 AND R01 OPTION:

- Step 1:** Push finger button into retract finger into pin
- Step 2:** Pull flag out to retract pin below part support
- Step 3:** Remove panel in any direction



CLAMP ACTUATION STEPS: SERIES PLKD CLAMPS



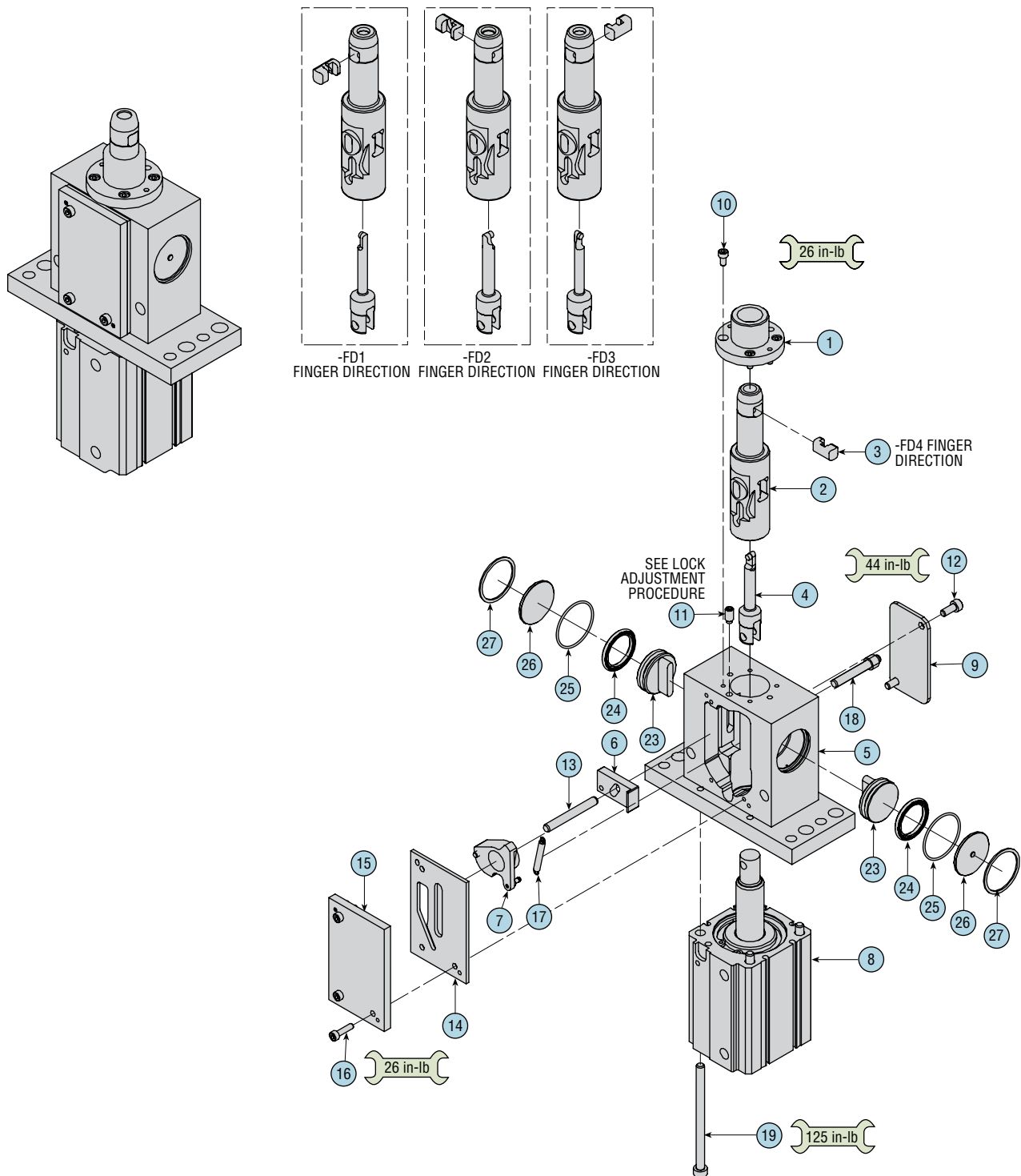
PORT PRESSURIZATION SEQUENCE

STEP	PE	PR	FE	FR
1. Load Panel	High	Off	Off	High
2. Extend Fingers	High	Off	High	Off
3. Retract Main Pin	Off	High	High	Off
4. Perform Operation to Panel	Off	High	High	Off
5. Drop Pressure	Off	Off	High	Off
6. Retract Finger	Off	Off	Off	High
7. Partially retract Main Pin	Off	High	Off	High
8. Remove Panel	Off	High	Off	High
9. Extend Pin	High	Off	Off	High

NOTES:

- 1) PE - Port Extend Port
PR - Port Retract Port
FE - Fingers Extended Port
FR - Fingers Retracted Port
- 2) A 3 position open center valve controls the extending and retracting of the main pin.
- 3) A 2 position valve controls the extending and retracting of the fingers.

EXPLODED VIEW: SERIES PLKD CLAMPS



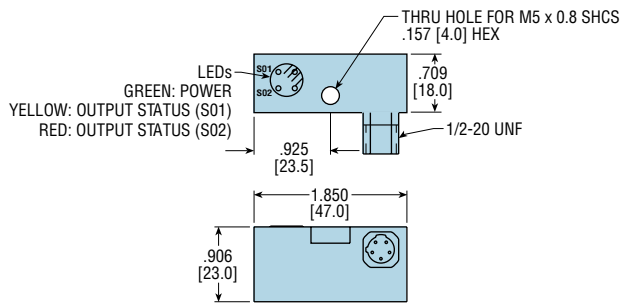
NOTES:
 1) -FD4 FINGER DIRECTION SHOWN IS STANDARD
 2) PP1 PORT POSITION SHOWN IS STANDARD

PARTS LIST: SERIES PLKD CLAMPS

ITEM NO.	DESCRIPTION	CLAMP SIZE								
		1250		1550		1850		2450		
		IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	
1	Part Support Assembly	79944-02-1250		79944-02-1550		79944-02-1850		79944-02-2450		
2	Locating Pin Assembly	79943-01-1250		79943-01-1550		79943-01-1850		79943-01-2450		
3	Finger Standard, FDx	79952-01-1250		79952-01-1550		79952-01-1850		79952-01-2450		
4	Drive Rod FD2, FD4 (Standard) FD1, FD3	79954-25		79954-16		79954-16		79954-16		
		79954-26		79954-24		79954-24		79954-24		
5	Body Assembly 505 510	81350-01	81350-02	81350-01	81350-02	81350-01	81350-02	81350-01	81350-02	
		81350-03	81350-04	81350-03	81350-04	81350-03	81350-04	81350-03	81350-04	
6	Sequence Cam	79958-02		79958-02		79958-02		79958-02		
7	Lock Bracket Assembly	79945-02		79945-02		79945-02		79945-02		
8	Cylinder Assembly without Magnet	505-Standard	79970-01-01-01-1	79970-02-01-01-1	79970-01-01-01-1	79970-02-01-01-1	79970-01-01-01-1	79970-02-01-01-1	79970-01-01-01-1	79970-02-01-01-1
		510-Standard	79970-01-04-01-1	79970-02-04-01-1	79970-01-04-01-1	79970-02-04-01-1	79970-01-04-01-1	79970-02-04-01-1	79970-01-04-01-1	79970-02-04-01-1
		505-R01 (flag rod)	79970-01-03-01-1	79970-02-03-01-1	79970-01-03-01-1	79970-02-03-01-1	79970-01-03-01-1	79970-02-03-01-1	79970-01-03-01-1	79970-02-03-01-1
		510-R01 (flag rod)	79970-01-06-01-1	79970-02-06-01-1	79970-01-06-01-1	79970-02-06-01-1	79970-01-06-01-1	79970-02-06-01-1	79970-01-06-01-1	79970-02-06-01-1
	Cylinder Assembly with Magnet	505-Standard	79970-01-01-02-1	79970-02-01-02-1	79970-01-01-02-1	79970-02-01-02-1	79970-01-01-02-1	79970-02-01-02-1	79970-01-01-02-1	79970-02-01-02-1
		510-Standard	79970-01-04-02-1	79970-02-04-02-1	79970-01-04-02-1	79970-02-04-02-1	79970-01-04-02-1	79970-02-04-02-1	79970-01-04-02-1	79970-02-04-02-1
		505-R01 (flag rod)	79970-01-03-02-1	79970-02-03-02-1	79970-01-03-02-1	79970-02-03-02-1	79970-01-03-02-1	79970-02-03-02-1	79970-01-03-02-1	79970-02-03-02-1
	510-R01 (flag rod)	79970-01-06-02-1	79970-02-06-02-1	79970-01-06-02-1	79970-02-06-02-1	79970-01-06-02-1	79970-02-06-02-1	79970-01-06-02-1	79970-02-06-02-1	
9	Cover Plate	79962-06								
10	Part Support Mounting Screws	59104-086								
11	Socket Set Screw	17424-136								
12	Cover Plate Mounting Screw	59104-099								
13	Dowel Pin	17831-010								
14	Cover	79962-05								
15	Cover Plate Assembly	79942-02								
16	Cover Mounting Screws	59104-020								
17	Tension Spring	81349								
18	Drive Pin Assembly	81351-01								
19	Cylinder Mounting Screws	59104-130								
23	Strip Off Piston	79984-02								
24	Strip Off Piston Seal	74042-008								
25	Bore Plug Seal	3642-027-1								
26	Bore Plug	61467								
27	Retaining Ring	57618-034								

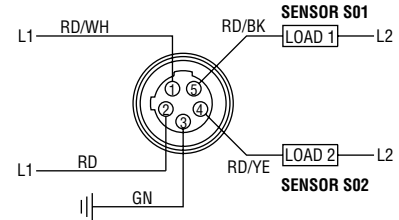
OPTIONS & KITS: SERIES PLK & PLKD CLAMPS

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

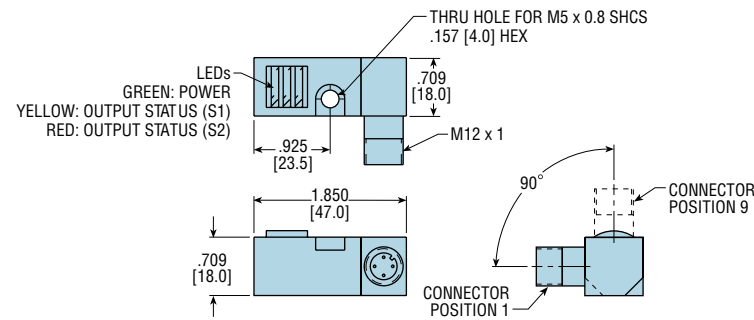


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxAx	S02	S01	S01 = PIN 5
PRxAx	S01	S02	S02 = PIN 4

4-WIRE AC/DC

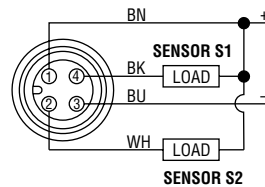


SWITCH OPTION D 71483-001-PLK(D) P + F Part #: NBN2-F581-160S6-E8-V1 (PNP)
SWITCH OPTION H 71483-005-PLK(D) P + F Part #: NBN2-F581-160S6-E10-V1 (NPN)

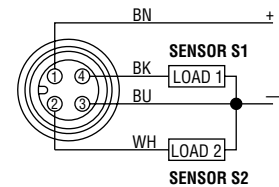


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxDx	S2	S1	S1 = PIN 4
PRxDx	S1	S2	S2 = PIN 2

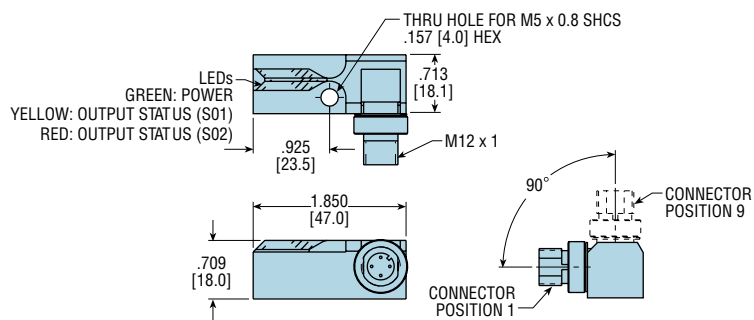
4-WIRE DC (V1 TYPE) NPN DUAL NORMALLY OPEN



4-WIRE DC (V1 TYPE) PNP DUAL NORMALLY OPEN

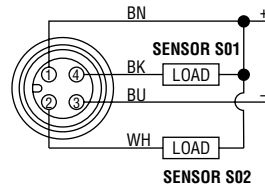


SWITCH OPTION E 71483-003-PLK(D) Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (PNP)
SWITCH OPTION J 71483-006-PLK(D) Turck Part #: Ni-2-Q6.5-AN6-0.16-FS 4.4X3/S304 (NPN)

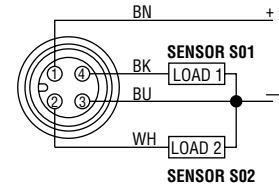


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxEx	S02	S01	S01 = PIN 4
PRxEx	S01	S02	S02 = PIN 2

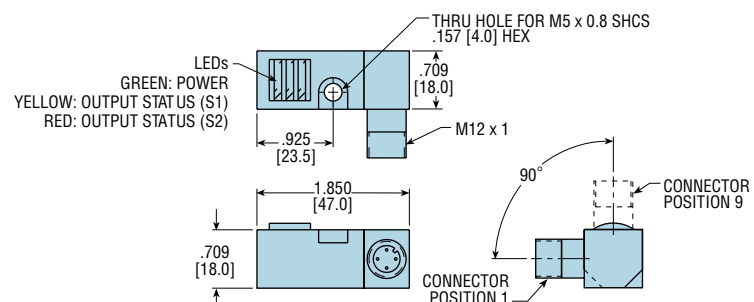
4-WIRE DC (V1 TYPE) NPN DUAL NORMALLY OPEN



4-WIRE DC PNP DUAL NORMALLY OPEN

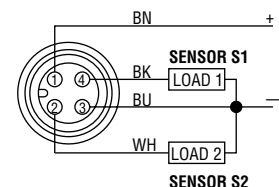


SWITCH OPTION F 71483-004-PLK(D) Efecter Part #: IN 5375 (PNP)

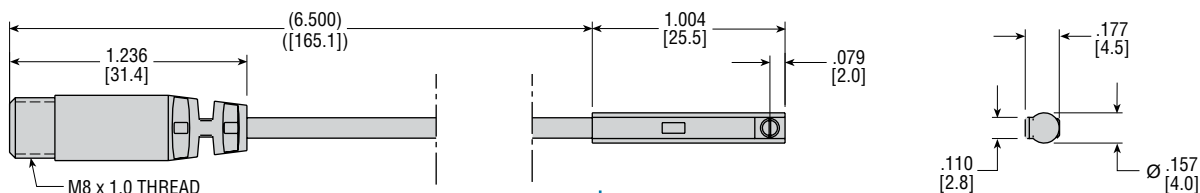


OPTION CODE	SATELLITE		QUICK DISCONNECT PIN NUMBER
	UNCLAMPED	CLAMPED	
PSxFx	S2	S1	S1 = PIN 4
PRxFx	S1	S2	S2 = PIN 2

4-WIRE DC PNP DUAL NORMALLY OPEN



OPTIONS & KITS: SERIES PLK & PLKD CLAMPS



SW41

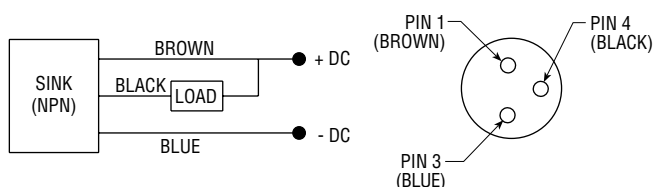
1 NPN SWITCH INSTALLED

SW42

2 NPN SWITCHES INSTALLED

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

SPECIFICATIONS	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

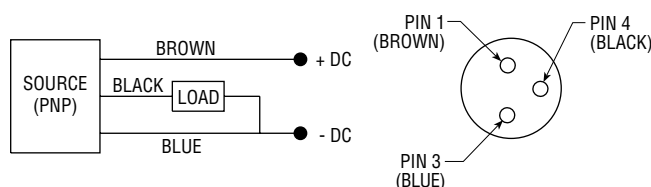
1 PNP SWITCH INSTALLED

SW52

2 PNP SWITCHES INSTALLED

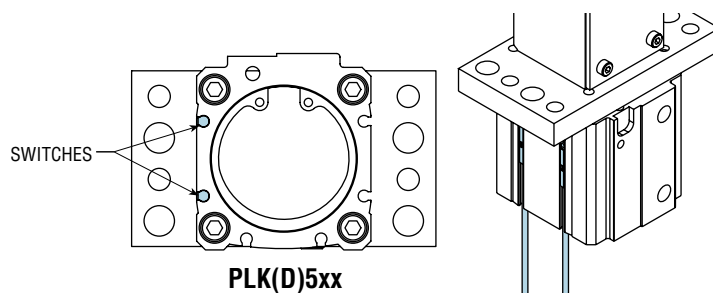
PART NO.	DESCRIPTION
73360-02	Solid State PNP (Source) 5 - 28V DC, 165 mm Cable with Quick Disconnect

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

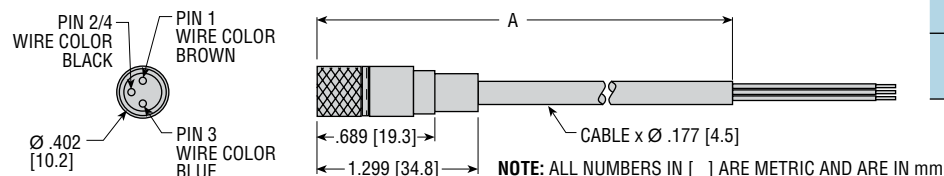


SWITCH SLOT LOCATIONS

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



63549-xx CORDSET WITH FEMALE QUICK CONNECT



MODEL NO.	LETTER DIM. A
63549-02	78.74 [2 m]
63549-05	196.85 [5 m]

All dimensions are reference only unless specifically toleranced.

23

SPECIAL SHAPES & MOUNTING: SERIES PLK & PLKD

The Series PLK or PLKD mechanism is very modular and easily modified into special clamps that have different shapes and mounting. They can be made into drop-in replacements for many units in the field. Below are some of the shapes that have been produced with the basic PLK(D) mechanism. Call PHD if you need assistance with a special clamp.

