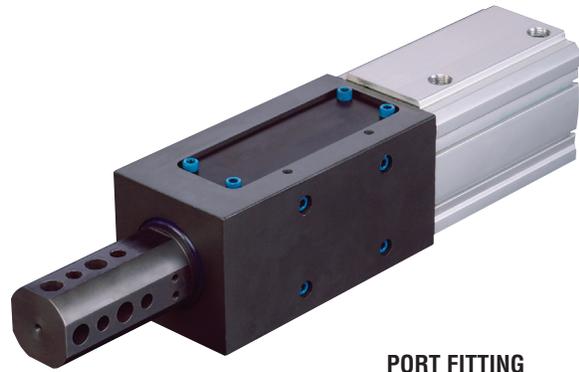


## PSP

### Major Benefits

- Smaller, more compact design
- After millions of cycles, adjustable bearing system can be used to make worn-in units “like-new” providing better accuracy over a much longer period of time
- Internal porting and shock absorption eliminates the need to adjust air cushions or flow controls and still provide quick cycle rates
- Self-locking internal threads throughout eliminate need for thread locking adhesives or additional locking components



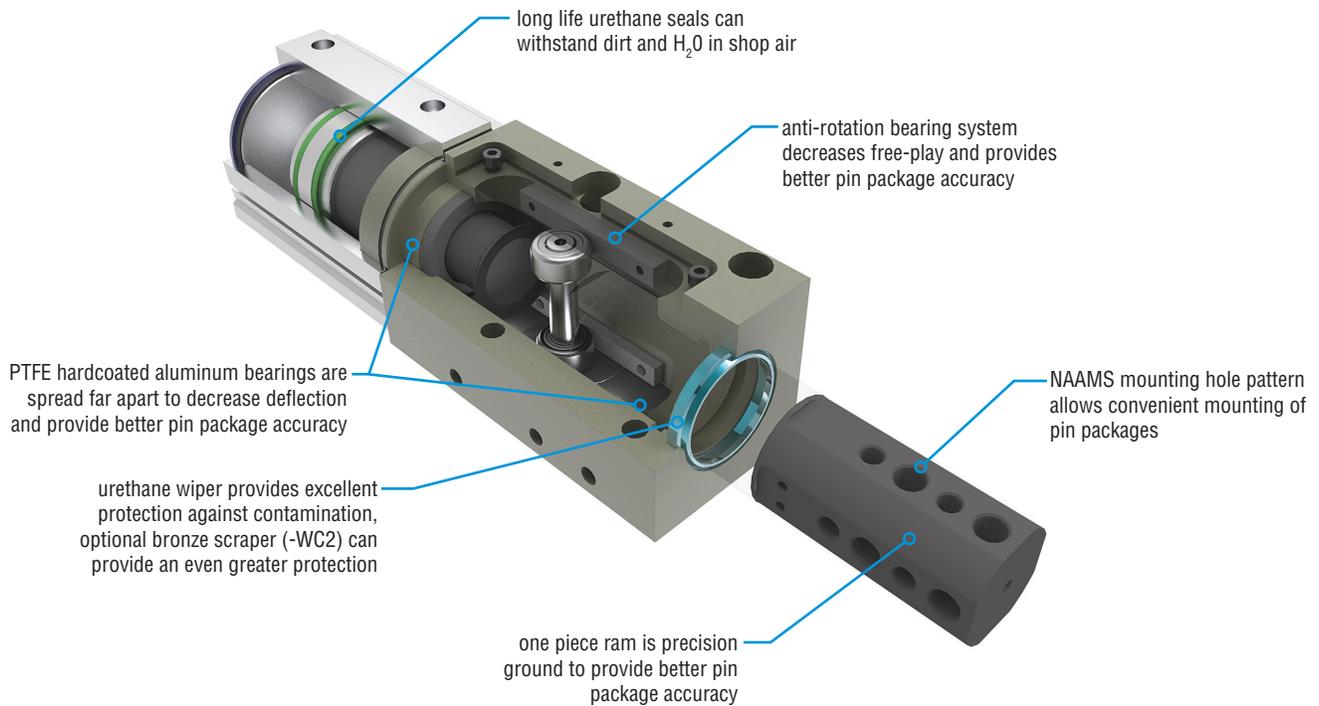
PORT FITTING  
OPTION



SWITCH OPTION



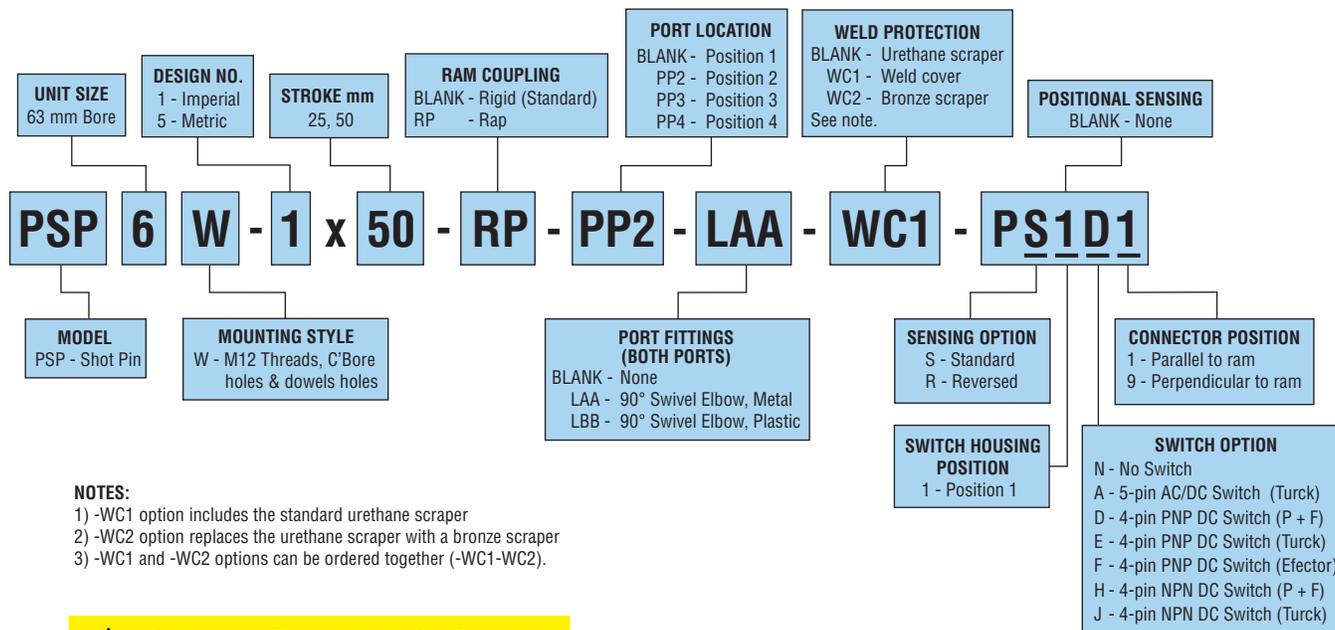
WELD COVER  
OPTION



# ORDERING DATA: Series PSP

## TO ORDER SPECIFY:

Model, Unit Size, Mounting Style, Design No., Stroke, and additional options if desired.



### NOTES:

- 1) -WC1 option includes the standard urethane scraper
- 2) -WC2 option replaces the urethane scraper with a bronze scraper
- 3) -WC1 and -WC2 options can be ordered together (-WC1-WC2).

 Options may affect unit length. See dimensional pages and option information details.

## CAD & Sizing Assistance

Use PHD's free online Product Sizing and CAD Configurator at [phdinc.com/myphd](http://phdinc.com/myphd)

# ENGINEERING DATA: Series PSP

SPECIFICATIONS	SERIES PSP
SEALS	Polyurethane
WORKING PRESSURE	40 psi min. - 100 psi max.
OPERATING TEMPERATURE	-20° to +180°F [-28° to +82°C]
LUBRICATION	Factory lubricated for life

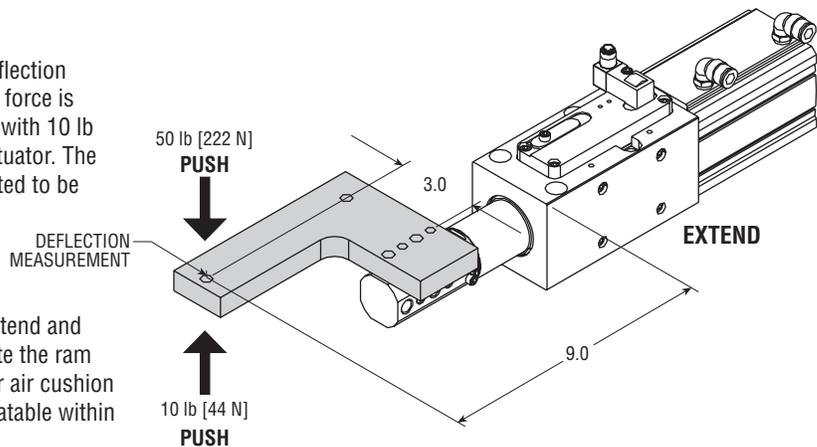
MODEL SIZE	STROKE	BORE	UNIT WEIGHT		THEORETICAL CYLINDER FORCE 87 psi [6 bar]				EXTEND AND RETRACT TIME	DISPLACEMENT				MIN. VALVE RATING
					EXTEND		RETRACT			EXTEND		RETRACT		
					mm	mm	lb	kg		lb	N	lb	N	
PSP6	25	63	14	6.4	387	1721	287	1277	0.15	9.6	157	5.9	97	0.5
	50	63	14	6.4	387	1721	287	1277	0.20	11.4	187	7.7	126	1.0

## DEFLECTION

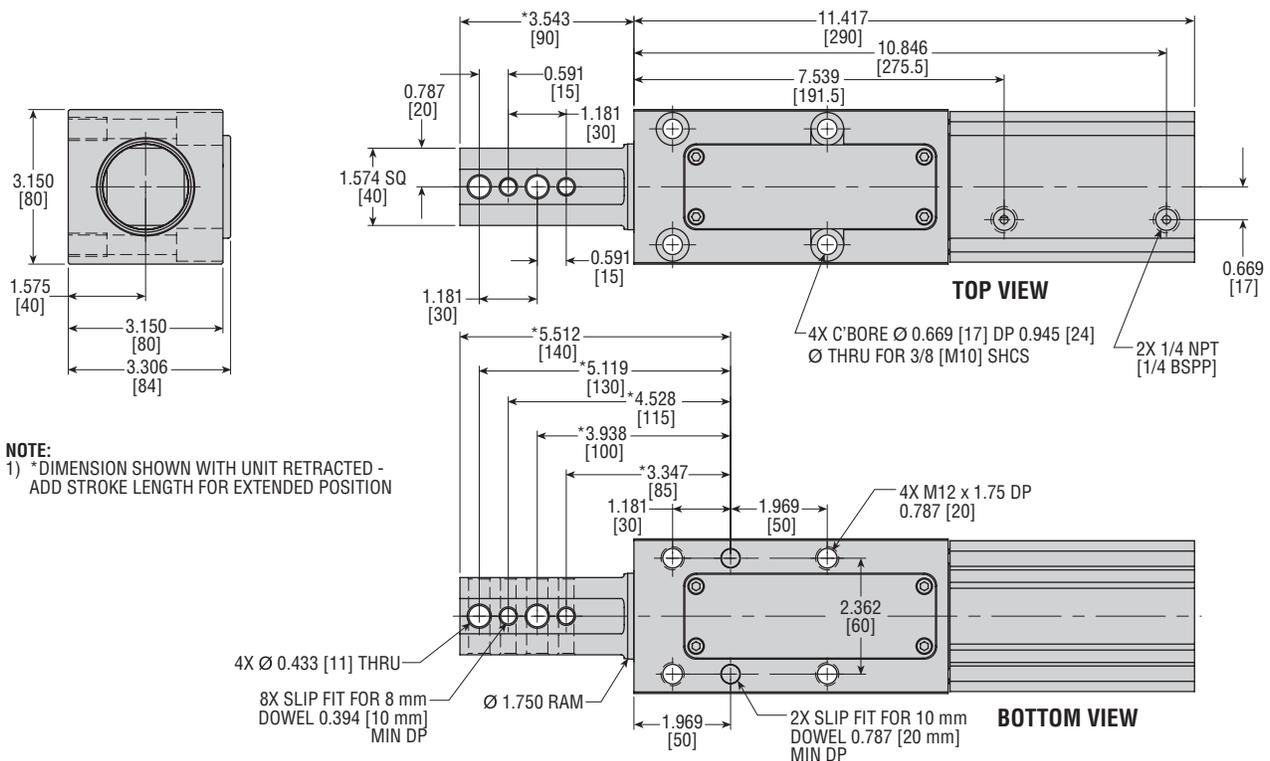
The Series PSP shot pin cylinder is adjusted so that deflection is less than 0.008" [0.20 mm] at the load point. A 50 lb force is pushed down on the ram as shown and then pulled up with 10 lb to determine the total deflection and free play of the actuator. The change in deflection after 3 million cycles has been tested to be less than 0.003" [0.08 mm] at the load point.

## REPEATABILITY

The Series PSP shot pin cylinder has shock pads on extend and retract of the actuator. These shock pads help decelerate the ram and eliminate the need for external flow controls and/or air cushion adjustments. Testing has shown that the stroke is repeatable within 0.005" [0.13 mm] after 3 million cycles.



## DIMENSIONS: Series PSP



All dimensions are reference only unless specifically tolerated.

## RP

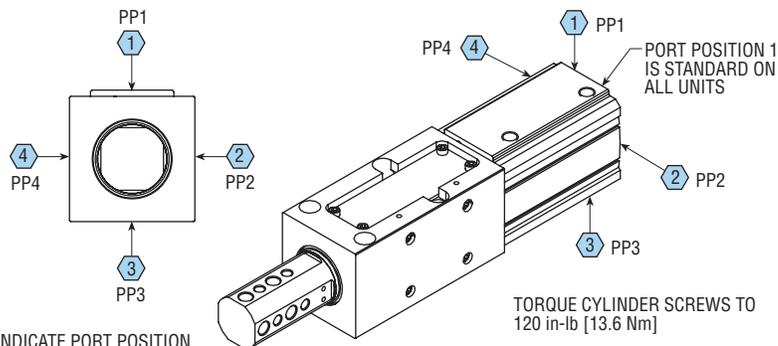
### RAP COUPLING

Allows the piston to move before moving the ram. The impact helps free tooling from a bound condition. This option does not reduce the stroke of the unit.

## PPx

### PORT LOCATION

This option specifies alternate port location for the cylinder providing flexibility and customer convenience. The port position can be changed by removing the cylinder bolts and rotating the cylinder body.



NOTE: NUMBERS ENCLOSED IN HEX INDICATE PORT POSITION

## Lxx

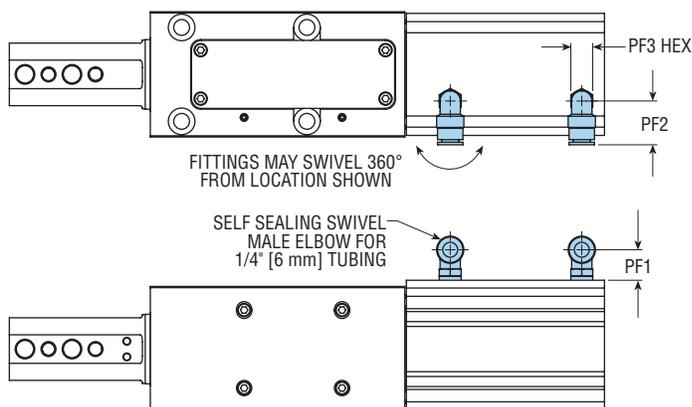
### PORT FITTINGS

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



OPTION CODE	PART NUMBER	
	Imperial	Metric
LAA	62178-010	62195-010
LBB	71120-002	71121-002

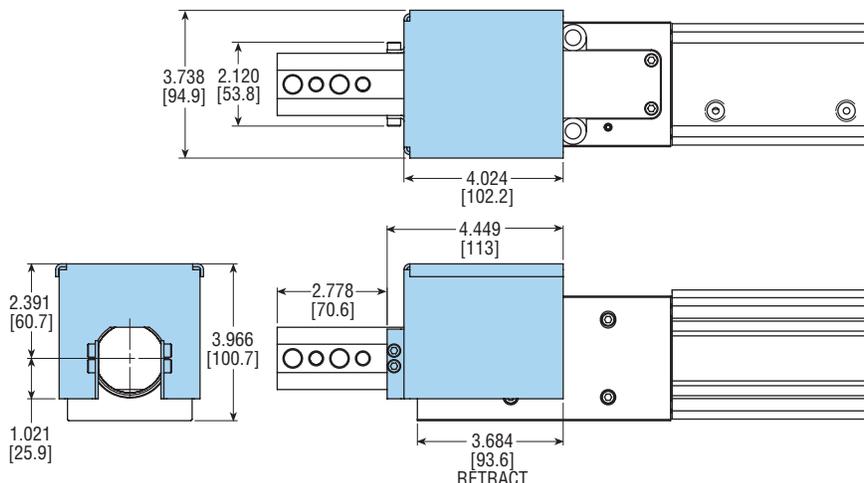
LETTER DIM	MODEL NUMBER PSP6	
	in	mm
PORT	1/4 NPT	1/4 BSPP
PF1 (MIN)	0.767	20.5
PF2	1.102	28.0
PF3	0.551	14.0



## WC1

### WELD COVER

WC1 provides an additional weld cover that surrounds the ram and helps prevent weld slag from damaging the wiper and bushing area.

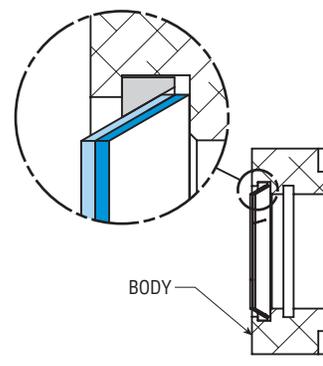


All dimensions are reference only unless specifically tolerated.

## WC2

### BRONZE SCRAPER

WC2 provides a metallic bronze scraper to help remove excess contamination better than the standard urethane wiper. This option can be used when there is not enough room for a weld cover.



# SWITCH OPTIONS: Series PSP

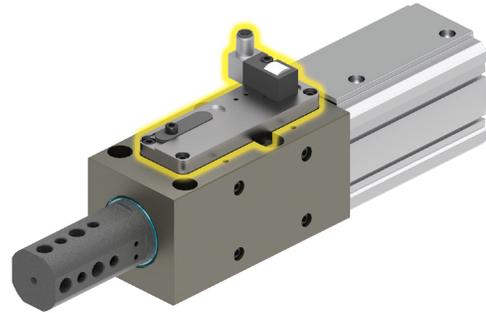
## PSxxx

### STANDARD POSITION SENSING

## PRxxx

### REVERSED POSITION SENSING

This option provides extend and retract sensing by affixing an aluminum housing to the top of the ram body. The retract switch is fixed needing no adjustment. The extend switch is adjustable at the end of stroke to sense either the leading or trailing edge of the target and has about 3/8" of adjustment. Loosening the M5 screw and sliding it up or down adjusts the extend switch position. PS positions the S01/S1 switch to sense the extend position and S02/S2 switch to sense the retract position. PR positions the S01/S1 switch to sense the retract position and S02/S2 to sense the extend position.



#### POSITION SENSOR OPTION CODE

**P x 1 x x**

**SENSING OPTION**  
S - Standard  
R - Reversed

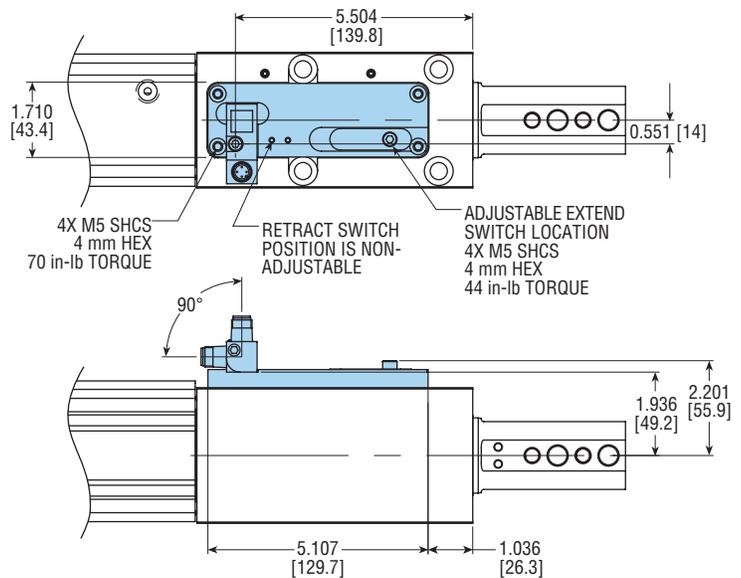
**CONNECTOR POSITION**  
1 - Parallel to output shaft  
9 - Perpendicular to output shaft\*

**SWITCH HOUSING OPTION**  
1 - Position 1

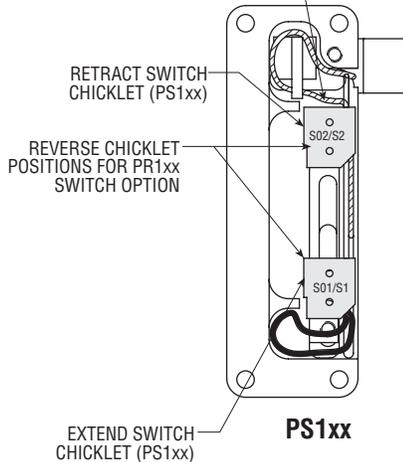
**SWITCH OPTION**  
N - No Switch  
A - 5-pin AC/DC Switch (Turck)  
D - 4-pin PNP DC Switch (P + F)  
E - 4-pin PNP DC Switch (Turck)  
F - 4-pin PNP DC Switch (Efector)  
H - 4-pin NPN DC Switch (P + F)  
J - 4-pin NPN DC Switch (Turck)

**\*NOTE:**

Connector position 9 is not available with switch option A.



LOOP CABLE UNDER SWITCH OR WRAP SEVERAL TIMES AROUND SWITCH CLAMP



RETRACT

S02/S2

S01/S1

EXTEND

**PS1xx**

RETRACT

S01/S1

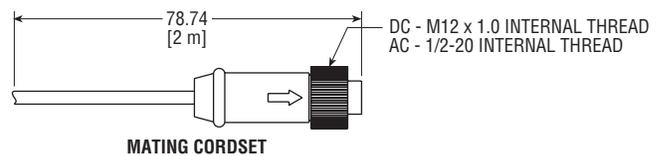
S02/S2

EXTEND

**PR1xx**

#### MATCHING CORDSETS 2 METERS LONG

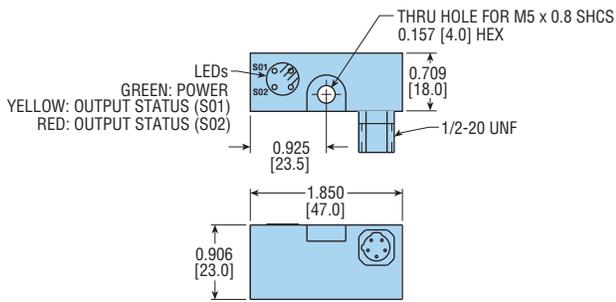
SWITCH OPTION	PHD PART NUMBER	CORDSET PART NUMBER
A	73317-00-02	KB 5T-2
D	65440-001-02	V1-G-YE2M-PVC
E	78039-00-02	RK 4.4T-2
F	65440-001-02	V1-G-YE2M-PVC
H	65440-001-02	V1-G-YE2M-PVC
J	78039-00-02	RK 4.4T-2



All dimensions are reference only unless specifically tolerated.

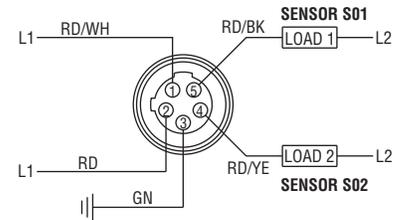
# SWITCH OPTIONS: Series PSP

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

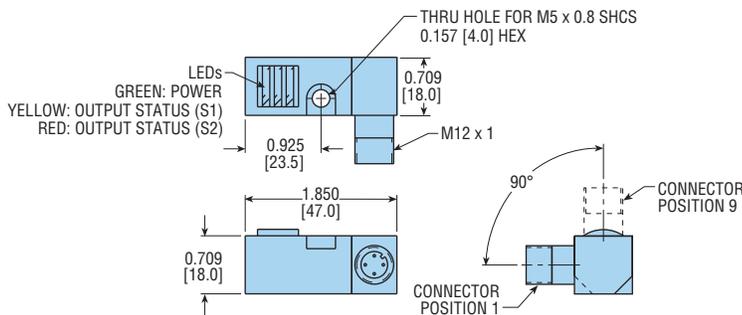


OPTION CODE	SATELLITE		QUICK DISCONNECT
	UNCLAMPED	CLAMPED	PIN NUMBER
PS1A1	S02	S01	S01 = Pin 5
PR1A1	S01	S02	S02 = Pin 4

### 4-WIRE AC/DC

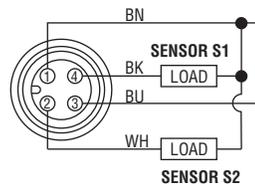


## SWITCH OPTION D 71483-001-PSP P + F Part #: NBN2-F581-160S6-E8-V1 (PNP) SWITCH OPTION H 71483-005-PSP P + F Part #: NBN2-F581-160S6-E10-V1 (NPN)

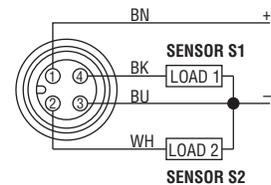


OPTION CODE	SATELLITE		QUICK DISCONNECT
	UNCLAMPED	CLAMPED	PIN NUMBER
PS1Dx or PS1Hx	S2	S1	S1 = Pin 4
PR1Dx or PR1Hx	S1	S2	S2 = Pin 2

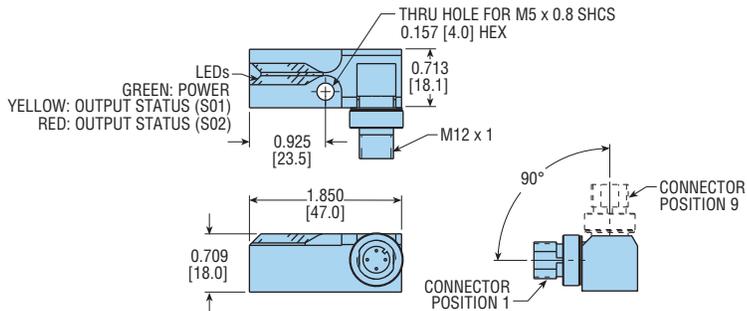
### 4-WIRE DC (V1 TYPE) NPN DUAL NORMALLY OPEN



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

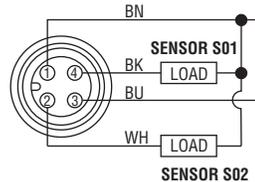


## SWITCH OPTION E 71483-003-PSP Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (PNP) SWITCH OPTION J 71483-006-PSP Turck Part #: Ni 2-Q6.5-AN6-0.16-FS 4.4X3/S304 (NPN)

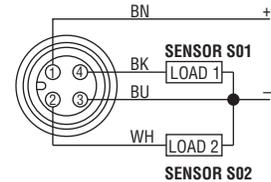


OPTION CODE	SATELLITE		QUICK DISCONNECT
	UNCLAMPED	CLAMPED	PIN NUMBER
PS1Ex or PS1Jx	S02	S01	S01 = Pin 4
PR1Ex or PR1Jx	S01	S02	S02 = Pin 2

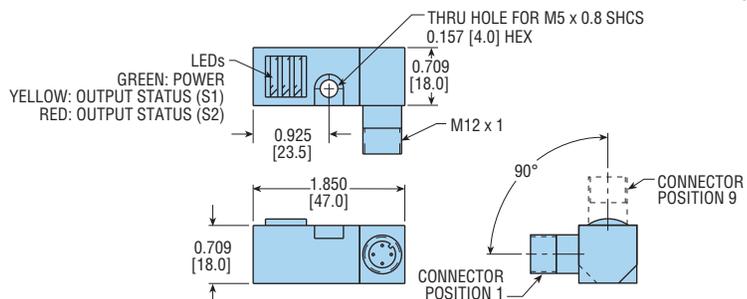
### 4-WIRE DC NPN DUAL NORMALLY OPEN



### 4-WIRE DC PNP DUAL NORMALLY OPEN

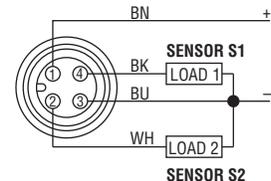


## SWITCH OPTION F 71483-004-PSP Efector Part #: IN 5375 (PNP)



OPTION CODE	SATELLITE		QUICK DISCONNECT
	UNCLAMPED	CLAMPED	PIN NUMBER
PS1Fx	S2	S1	S1 = Pin 4
PR1Fx	S1	S2	S2 = Pin 2

### 4-WIRE DC PNP DUAL NORMALLY OPEN



All dimensions are reference only unless specifically tolerated.