

Sensing

To achieve the sensing or feedback function, pneumatic sensors can be:

- Limit switches in a variety of sizes and configurations
- Pressure switches with many adjustable ranges
- Components designed specifically for pneumatic technology using pressure variation, air bleed or blocking for detection.

A wide variety of pneumatic sensors are available to suit any application requirement.



Material specifications



Body	Zinc alloy
Poppets	Polyurethane
Seals	Nitrile (Buna N)

Operating information

Operating pressure:	40 to 115 PSIG (3 to 8 bar)
Operating temperature:	
Operating	32°F to 122°F (0°C to 50°C)
Storage	-22°F to 140°F (-30°C to 60°C)

3/2 Miniature Direct Acting Limit Switches

1/16" I.D. Internal Orifice

	Actuator	Type of switching*	Flow SCFM (NI/min)	Nominal bore	Connection	Part number
	Steel plunger operating levers available	NNP	2.2 (60)	1/16" (1.5mm)	5/32" instant	PXCM111
					10-32 UNF	PXCM115
	Plastic roller	NNP	3.0 (85)		5/32" instant	PXCM121
					10-32 UNF	PXCM125

7/64" I.D. Internal Orifice




	Plastic roller	NNP			5/32" instant	PXCM521
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Actuators For Steel Plunger (Use with PXCM11*)


	Plastic roller lever					PXCZ11
	Plastic roller lever, one way trip					PXCZ12

3/2 Compact Pilot Operated Limit Switches

7/64" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port

	Actuator	Type of switching*	Flow SCFM (NI/min)	Nominal bore	Connection	Part number
	Steel plunger operating levers available					PXCM601A110
	Steel roller plunger	NNP	8.8 (250)	7/64" (2.5mm)	5/32" instant	PXCM601A102
	90° Steel roller plunger					PXCM601A103





* NNP: Normally non-passing. 

 Most popular.

Standard Duty Limit Switches – “K” Series



Plunger Operated Limit Switches

1/8" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port


	Actuator	Type of switching*	Flow SCFM (NI/min)	Nominal bore	Connection	Part number
	Steel plunger	NNP	7.4 (210)	1/8" (3mm)	5/32" instant	PXCK21101
		NP				PXCK22101
	Steel roller plunger	NNP				PXCK21102
		NP				PXCK22102
	Plastic roller plunger	NNP				PXCK21121
		NP				PXCK22121
	Cats whisker	NNP				PXCK21106
		NP				PXCK22106

Roller Operated Limit Switches


1/8" I.D. Internal Orifice, 5/32" Instant Connections, Pipeable Exhaust Port


	Actuator	Type of switching*	Flow SCFM (NI/min)	Nominal bore	Connection	Part number
	Fixed delrin roller lever multi-function head actuates: - from right and left - from right - from left	NNP	7.4 (210)	1/8" (3mm)	5/32" instant	PXCK2110031
		NP				PXCK2210031
	Adjustable delrin roller lever multi-function head actuates: - from right and left - from right - from left	NNP				PXCK2110041
		NP				PXCK2210041

Separate Pneumatic Switch Bodies

	Actuator	Type of switching*	Part number
	For use with ZCK series operating heads	NNP	PXCK211
		NP	PXCK221

Pneumatic Switch Bodies with Rotary Heads


	Actuator	Type of switching*	Part number
	Multi-function head actuates: - from right and left - from right - from left	NNP	PXCK21100
		NP	PXCK22100

* NNP: Normally non-passing. 
 NP: Normally passing. 

Standard Duty Limit Switches – “K” Series



Operating Heads

For Use With PXCK Switch Bodies

Actuator	Description	Part number
Rotary operated		
	Die cast zinc	ZCKG00
Plunger operated		
Roller plunger	Plunger operated	ZCKD02
Whisker		ZCKD06
Rod plunger		ZCKD10
Delrin roller lever on plunger		ZCKD21
Steel roller lever on plunger		ZCKD23


Operating Levers for Rotary Heads

For Use With Rotary Head ZCKG00


Actuator	Description	Part number
	Steel 1/8" square	ZCKY51
	Fiberglass 1/8" dia. round	ZCKY52
	Plastic spring rod lever	ZCKY81
	Metal spring rod lever	ZCKY91
	Delrin roller lever	ZCKY11
	Steel roller lever	ZCKY13
	Adjust. delrin roller lever	ZCKY41
	Adjust. steel roller lever	ZCKY43

Heavy Duty Limit Switches – “J” Series

Switch Bodies Only





	Type of switching*	Part number
	NNP	PXCJ117
	NP	PXCJ127

Separate Pneumatic Switch Bodies

	Direction of actuator	Type of switching*	Part number
	Right & left, spring return	NNP	PXCJ11701
	Right or left, spring return		PXCJ11705
	Right & left, spring return	NP	PXCJ12701
	Right or left, spring return		PXCJ12705



Operating Levers for Rotary Heads



Die Cast Zinc. For Use With PXCJ Switch Bodies

Operator	Description	Part number	
	Delrin roller	ZC2JY11	
	Steel roller	ZC2JY13	
	Offset delrin roller	ZC2JY21	
	Plastic spring rod	ZC2JY81	
	Metal spring rod	ZC2JY91	
	Delrin roller	Adjustable roller	ZC2JY31
	Offset delrin roller		ZC2JY41
	Rod lever		ZC2JY51
	Single track, delrin roller	Fork lever	ZC2JY71
	Double track, delrin rollers		ZC2JY61

Top Plunger & Rotary Operating Heads

Die Cast Zinc. For Use With PXCJ Switch Bodies

Operation	Description	Part number	
Top Plunger Type			
	Top push	ZC2JE61	
	Top roller push	ZC2JE62	
	Side push	Spring return	ZC2JE63
	Cat's whisker		ZC2JE70
Rotary Type			
	From left & right	ZC2JE01	
	Counterclockwise from right	Spring return	ZC2JE02
	Clockwise from left		ZC2JE03
	From left or right		ZC2JE05
	Maintained positions	ZC2JE09	

* NNP: Normally non-passing. 
 NNP: Normally passing. 

Control Panel Products
 Sensing / Limit Switches
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 Accessories Valve Products

The blocking valve is a single acting spring return 2/2 valve in a fitting format. The device requires a pneumatic pilot signal to open, which allows free flow of air or neutral gas. As long as a pilot signal is present, the device will remain open. When the pilot signal is removed, the internal spring will close the blocking valve, bubble tight.

These devices have two primary design uses: (1) to prevent unwanted gravity induced motion in cylinders during shut down procedures or during periods of lost supply pressure and (2) freezing the cylinder position by using a blocking valve at each end of the cylinder. Application needs such as tool or work piece protection, horizontal indexing or inspection stops are often satisfied by these devices.





Material specifications

Body	Zinc alloy
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

Operating information

Operating pressure:	0 to 150 PSIG (0 to 10.3 bar)
Operating temperature:	
Operating	5°F to 140°F (-15°C to 60°C)
Storage	-40°F to 160°F (-40°C to 70°C)

For Cylinder Mounting
 (Can also be mounted in Threshold Sensor Banjo)
With Instant Tube Fittings

BSPP				NPT				
Symbol	Connection for pilot	Cylinder port thread (male)	Connection for tube	Part number	Connection for pilot	Cylinder port thread (male)	Connection for tube	Part number
  PWBA3469	4mm Tube	1/8"	6mm	PWBA1468	5/32" Tube	1/8"	1/4"	PWBA3468
		1/4"	6mm	PWBA1469		1/4"	1/4"	PWBA3469
		1/4"	8mm	PWBA1489		3/8"	3/8"	PWBA3493
		3/8"	8mm	PWBA1483		1/2"	1/2"	PWBA3412
		3/8"	10mm	PWBA1493				
		1/2"	12mm	PWBA1412				

With Threaded Connections and Tube Pilot Port

BSPP				NPT				
Symbol	Connection for pilot	Cylinder port thread (male)	Connection from valve (female)	Part number	Connection for pilot	Cylinder port thread (male)	Connection from valve (female)	Part number
  PWBA3833	4mm Tube	1/8"	1/4"	PWBA1898	5/32" * Tube	1/8"	1/8"	PWBA3888
		1/4"	1/4"	PWBA1899		1/4"	1/4"	PWBA3899
	M5 Female	3/8"	3/8"	PWBA1833		3/8"	3/8"	PWBA3833
		1/2"	1/2"	PWBA1822		1/2"	1/2"	PWBA3822

* Instant fitting

With Threaded Connections and Threaded Pilot Port

NPT			
Connection for pilot	Cylinder port thread (male)	Connection from valve	Part number
1/8" pipe	1/8"	1/8"	PWBA38887
	1/4"	1/4"	PWBA38997
	3/8"	3/8"	PWBA38337
	1/2"	1/2"	PWBA38227

The plug-in threshold sensors provide feedback information on pneumatic cylinder status in either pneumatic or electrical outputs. Mounted into the cylinder port, these devices monitor the back pressure of the cylinder's exhaust. When the cylinder's piston stops, the back pressure rapidly drops and the threshold sensor provides the desired output. Ideal for variable stroke applications such as robotics where other sensor type devices such as limit switches are impractical, these devices provide a signal whenever the cylinder stops motion.

The threshold sensor consists of two complementary sub assemblies (1) the banjo fitting and (2) the plug-in sensor element. In all cases, the sensor is easily plugged into the banjo fitting and locked in place with a spring clip. The banjo fitting is designed to accept (piggy backed) other functional fittings such as flow controls or blocking valves. Simply select the sensor based on the type feedback signal that best fits the application.




Material specifications

Body	Thermoplastic
Mounting screw	Brass



Operating information

Operating pressure:	0 to 150 PSIG (0 to 10.3 bar)
Operating temperature:	
Operating	5°F to 140°F (-15°C to 60°C)
Storage	-40°F to 160°F (-40°C to 70°C)

Banjo Sockets (with Sensor Clip)

	Port size	Wrench	Part number
	10-32	5/16" Hex	PWSB1557
	1/8"	3/16" Allen	PWSB1887
	1/4"	5/16" Allen	PWSB1997
	3/8"	3/8" Allen	PWSB1337
	1/2"	1/2" Allen	PWSB1227

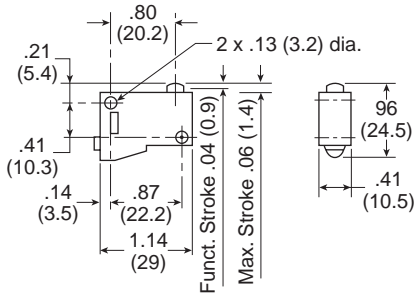
Plug-in Sensors

	Output	Connection	Part number
	Pneumatic	5/32" push-in	PWSP111
	Electrical	3-wire cable (6 ft)	PWSM1012

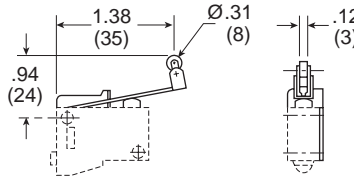
Control Panel Products
 Sensing / Limit Switches
D
 Accessories Valve Products

Miniature Limit Switches

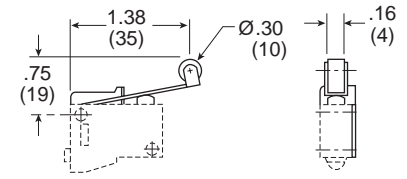
PXCM111



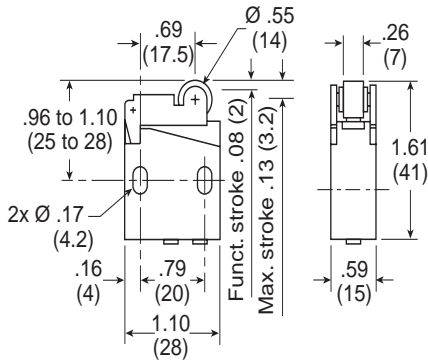
PXCZ12



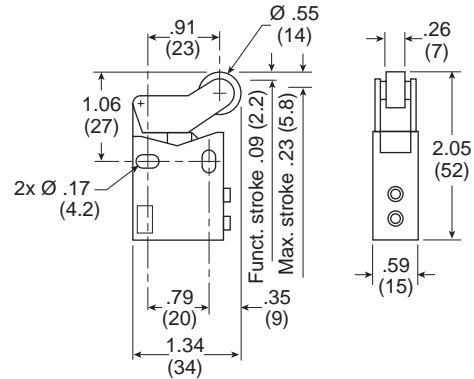
PXCZ11



PXCM121, PXCM131

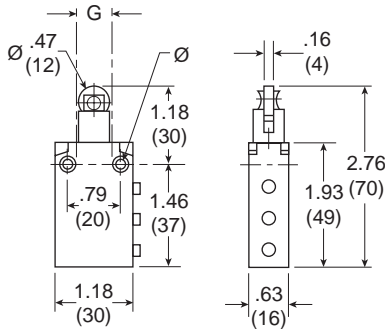


PXCM521

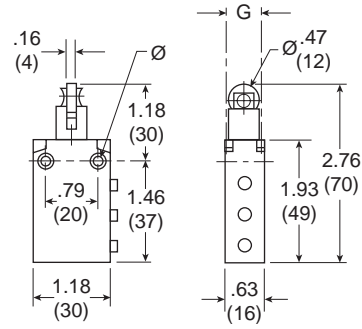


Compact Limit Switches

PXCM601A102



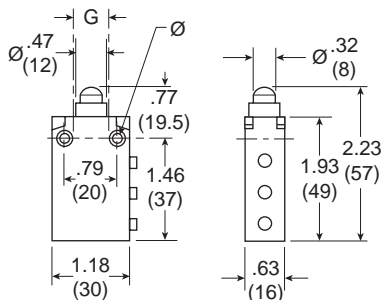
PXCM601A103



Ø: 2 mounting holes Ø .17" (4.3)
 2 countersunk Ø .32" (8.2)
 depth 4 mm

G: top mounting holes, 2 x M5
 .71" (18 mm) centers

PXCM601A110



Control Panel
 Products

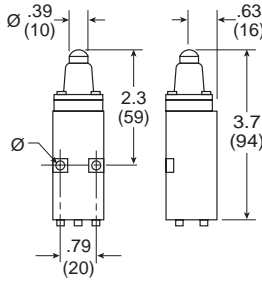
Sensing /
 Limit Switches

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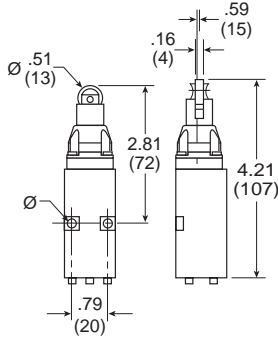
Accessories
 Valve Products

K Series

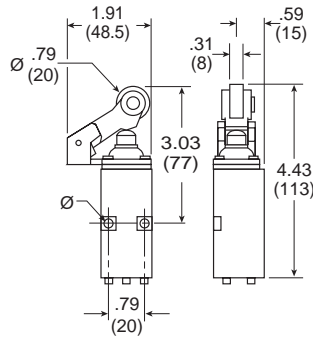
PXCK21101, PXCK22101



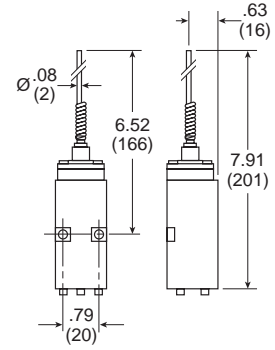
PXCK21102, PXCK22102



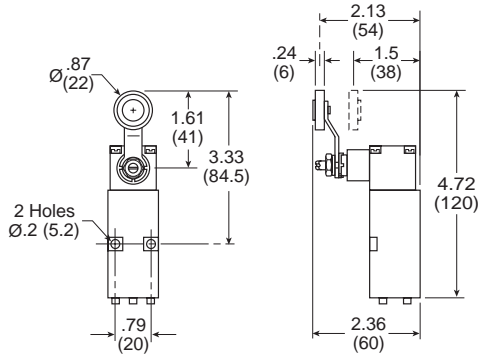
PXCK21121, PXCK22121



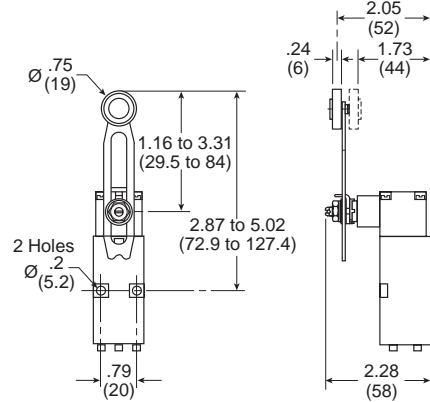
PXCK21106, PXCK22106



PXCK2110031, PXCK2210031

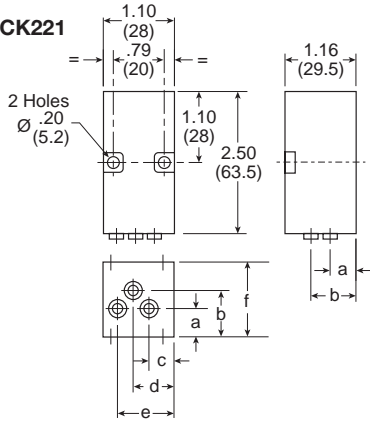


PXCK2110041, PXCK2210041



Pneumatic Switch Bodies

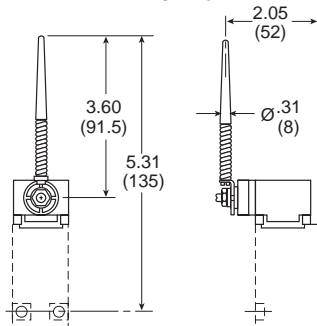
PXCK211, PXCK221



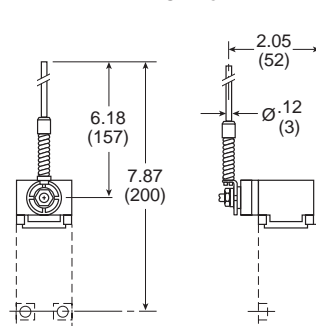
	inch	mm
a	.39	10
b	.77	19.5
c	.35	9
d	.61	15.5
e	.87	22
r	1.66	29.5

Rotary Heads with Operating Levers

ZCKY81



ZCKY91



Control Panel Products

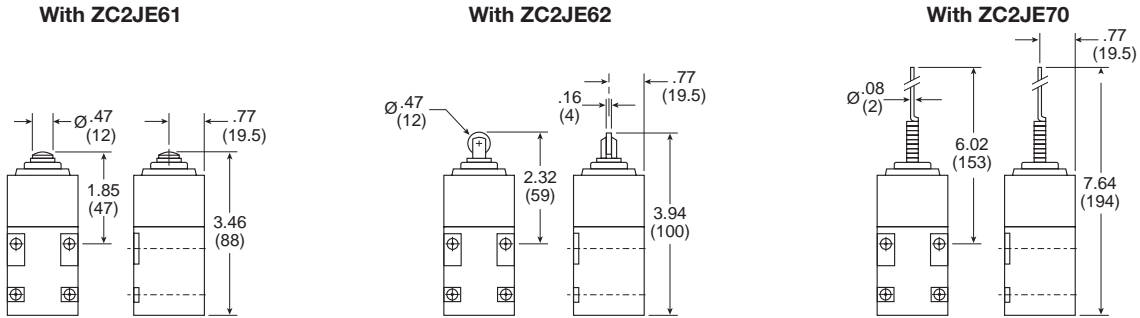
Sensing / Limit Switches

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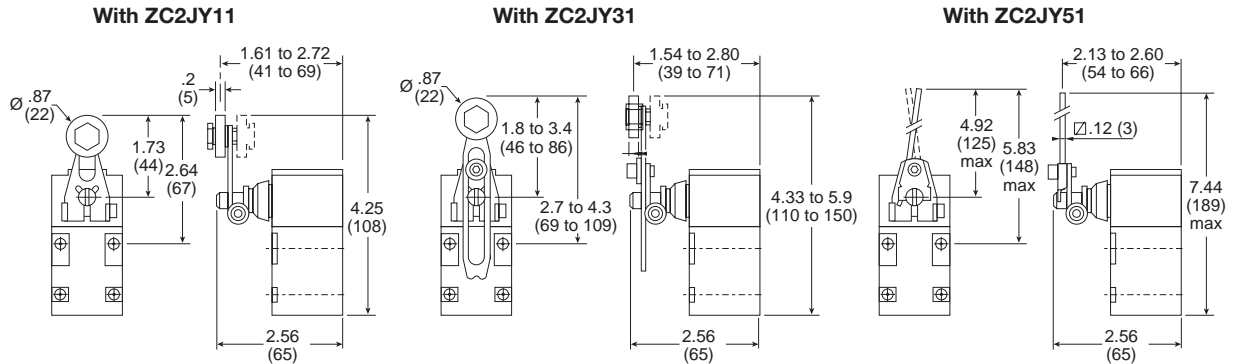
Accessories Valve Products

J Series

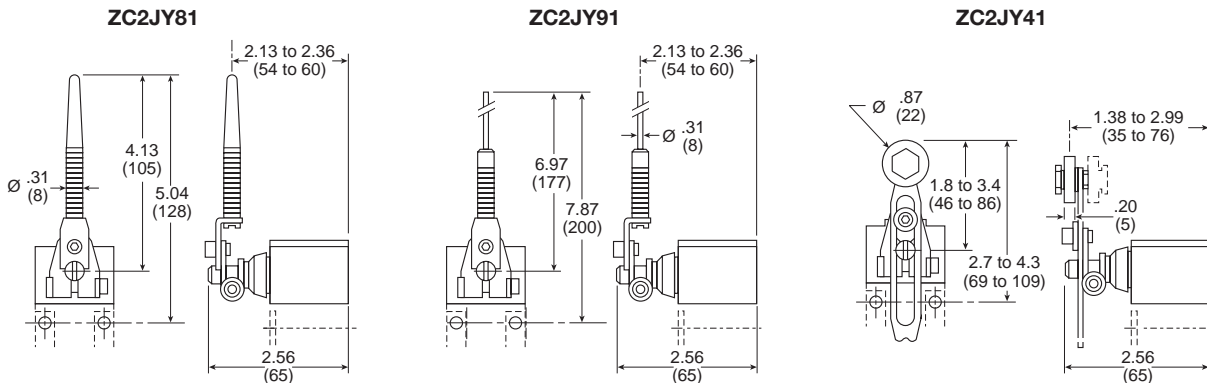
Switch Body With Plunger Heads



Switch Body With Rotary Heads and Operating Levers

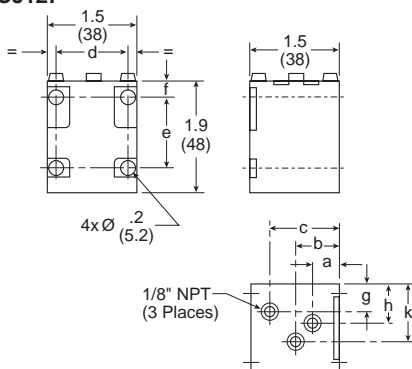


Rotary Heads With Operating Levers



Pneumatic Switch Bodies

PXCJ117, PXCJ127



	inch	mm
a	.47	12
b	.75	19
c	1.16	29.5
d	1.14 to 1.18	29 to 30
e	1.18	30
f	.28	7
g	.43	11
h	.51	13
k	.94	24

Control Panel Products

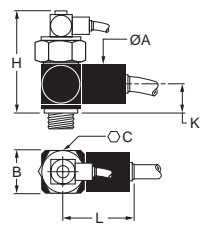
Sensing / Limit Switches

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Accessories Valve Products

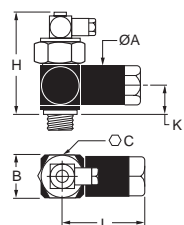
Blocking Valves

PWBA14/34



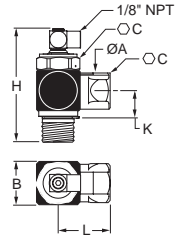
ØA	B	C	K	H	L	Flow*	Part number
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.54" (39)	14.8	PWBA1468/3468
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.54" (39)	19.4	PWBA1469/3469 PWBA1489
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	1.98" (50)	45.9	PWBA1483 PWBA1493/3493
1.22" (31)	1.30" (33)	1.30" (33)	0.94" (24)	2.59" (66)	2.59" (66)	81.2	PWBA1412/3412

PWBA18/38



0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.32" (59)	1.71" (43.5)	14.8	PWBA1898/3888
0.86" (22)	0.82" (21)	0.94" (24)	0.53" (13.5)	2.09" (53)	1.71" (43.5)	19.4	PWBA1899/3899
1.06" (27)	1.10" (28)	0.94" (24)	0.55" (14)	2.09" (53)	2.18" (55)	45.9	PWBA1833/3833
1.22" (31)	1.30" (33)	1.30" (33)	0.94" (24)	2.59" (66)	2.47" (63)	81.2	PWBA1822/3822

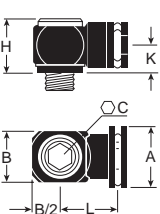
PWBA38



0.75" (19)	0.87" (22)	0.83" (21)	0.67" (17)	2.20" (56)	1.73" (44)	14.8	PWBA38887
0.75" (19)	0.87" (22)	0.83" (21)	0.67" (17)	2.20" (56)	1.73" (44)	19.4	PWBA38997
1.06" (27)	1.18" (30)	1.06" (27)	0.91" (23)	2.64" (67)	1.42" (36)	45.9	PWBA38337
1.06" (27)	1.18" (30)	1.06" (27)	0.91" (23)	2.64" (67)	1.42" (36)	81.2	PWBA38227

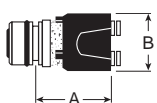
Threshold Sensors

Banjo Socket



A	B	C	H	K	L	Part number
.98 (25)	.43 (11)	5/16" Hex	.79 (20)	.40 (10)	.67 (17)	PWSB1557
.98 (25)	.63 (16)	3/16" Allen	.71 (18)	.40 (10)	.79 (20)	PWSB1887
.98 (25)	.83 (21)	5/16" Allen	.71 (18)	.40 (10)	.87 (22)	PWSB1997
.98 (25)	1.10 (28)	3/8" Allen	.79 (20)	.47 (12)	.98 (25)	PWSB1337
.98 (25)	1.30 (33)	1/2" Allen	.93 (24)	.55 (14)	1.02 (26)	PWSB1227

PWSP111



A	B	Part number
.87 (22)	.79 (20)	PWSP111
1.26 (32)	.79 (20)	PWSM1012

PWSM1012



Control Panel
Products

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Limit Switches

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Accessories
Valve Products