Pneumatic Division
Richland, Michigan 49083

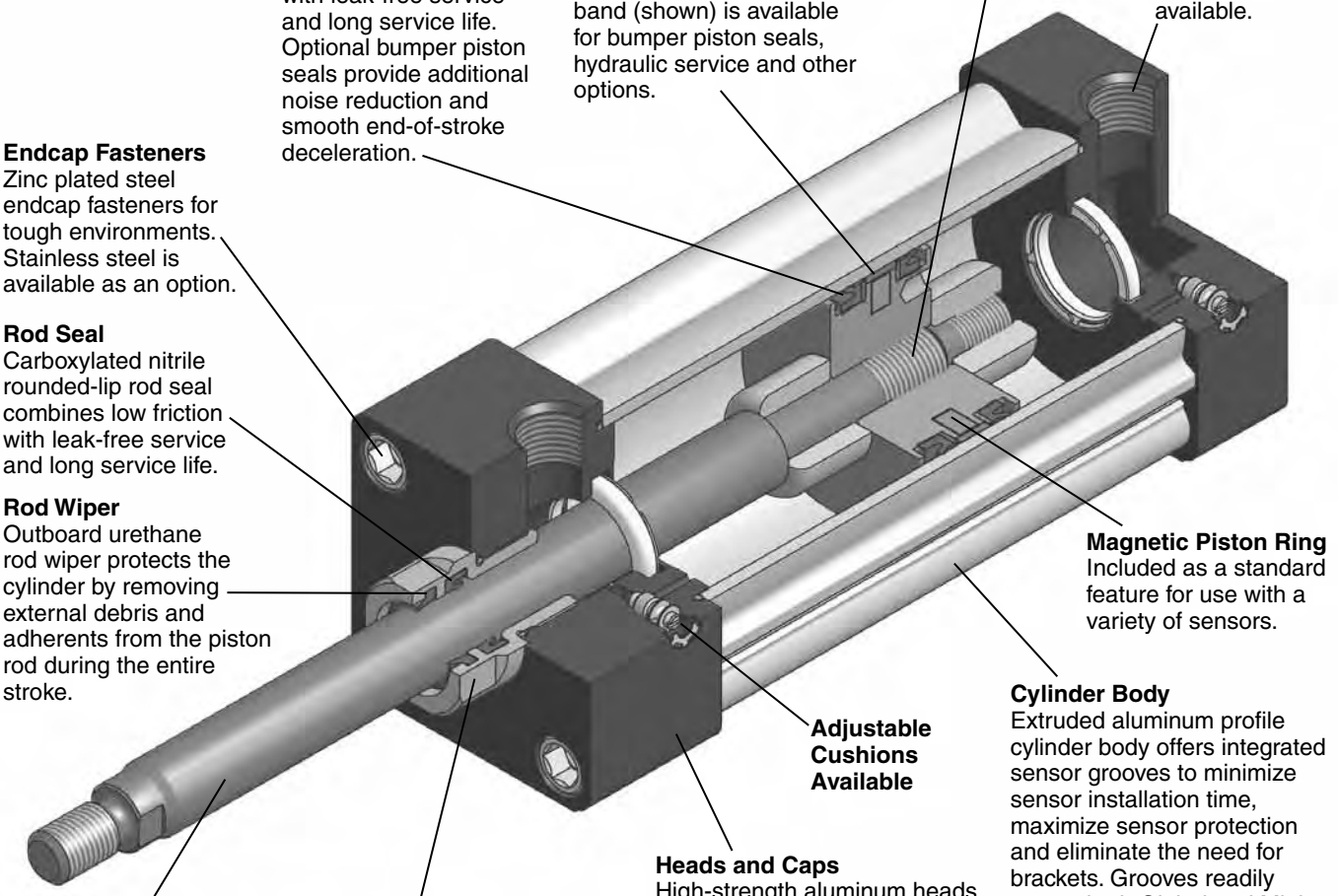
CYL-COM-001
Competitive Cross Reference
Bosch Rexroth Taskmaster to
Parker 4MA Series Cylinder
ISSUED: December, 2013

COMPETITIVE CROSS REFERENCE

Rexroth
Bosch Group

TaskMaster

4MA Series



Piston
Manufactured from tough, impact-resistant, bearing-grade materials, the composite piston provides excellent wear resistance. Other advantages include noise reduction without the need for bumpers and lower friction than other materials. Aluminum piston with wear band (shown) is available for bumper piston seals, hydraulic service and other options.

Piston Assembly
High strength steel fastener or piston rod thread connects the piston to the rod and is secured in place with anaerobic adhesive.

Ports
NPTF ports are standard. Other port styles available.

Piston Seals
Carboxylated nitrile rounded-lip piston seals combine low friction with leak-free service and long service life. Optional bumper piston seals provide additional noise reduction and smooth end-of-stroke deceleration.

Endcap Fasteners
Zinc plated steel endcap fasteners for tough environments. Stainless steel is available as an option.

Rod Seal
Carboxylated nitrile rounded-lip rod seal combines low friction with leak-free service and long service life.

Rod Wiper
Outboard urethane rod wiper protects the cylinder by removing external debris and adherents from the piston rod during the entire stroke.

Magnetic Piston Ring
Included as a standard feature for use with a variety of sensors.

Cylinder Body
Extruded aluminum profile cylinder body offers integrated sensor grooves to minimize sensor installation time, maximize sensor protection and eliminate the need for brackets. Grooves readily accept both Global and Mini-Global Sensors. Single corner lobe of extrusion will accept legacy 2MA sensor brackets. Anodized and bright-dipped for corrosion resistance, maximum seal life and lower friction.

Adjustable Cushions Available

Heads and Caps
High-strength aluminum heads and caps are designed with the most flexible mounting platform. TEF mount is standard. Using our proprietary extrusion, we can offer customization of the endcaps for unique designs, including extra ports, duplex, tandem and many special mountings. Anodized for corrosion resistance.

Piston Rod
Standard case-hardened (50-64 Rc), hard chrome plated and polished carbon steel piston rod for reliable performance, long rod seal life and low friction. Grades of stainless steel are available as options.

Rod Gland/Bearing
Threaded bronze rod gland is externally removable, without cylinder disassembly, for easy maintenance. Machined flats permit the use of common tools for removal and installation. Options include HI LOAD design for side load conditions and metallic wiper design for extremely tough rod contaminant/adherent applications.

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

How to Order 4MA Series Cylinders for 1-1/2" to 5" Bore

4MA cylinders can be specified by model number by using the table below.

2.00			J		4MA		U			1	4		A		6.000

Bore Size

1.50 [1]
2.00
2.50
3.25
4.00
5.00

Double Rod Cylinder [12]

Specify "K" only if double rod cylinder is required.

Mounting Style

Specify mounting style code (see table on following page).

Series

4MA	Air service
4ML	Hydraulic service [2]

Ports

U	NPTF
R	BSPP
B	BSPT
T	SAE

Seals

Blank	Standard (nitrile seals)
V	Fluorocarbon seals [4]
E	Fluorocarbon rod wiper and rod seal only [5]
4	Low temperature seals [4]
M	Metallic rod wiper, nitrile seals [6]

Piston Rod Number

Specify rod code number for required diameter. [8, 2]

Stroke Length

Specify stroke length required in inches. [11]

Cushion Cap End

Blank	Non-cushioned cap end
C	Cushioned cap end (not available for 4ML)

Cushion Head End

Blank	Non-cushioned head end
C	Cushioned head end (n/a for 1.50" bore with 1" rod or 4ML)

Piston Rod Thread Type

A	Standard (UNF Unified Thread)
W	BSF British Fine
M	Metric (see page B106)

Cylinder Construction

Blank	Standard (extruded body, standard round lobe orientation) *
A	Extruded body, round lobe orientation rotated 90 degrees from standard *
N	Extruded body, round lobe orientation rotated 180 degrees from standard *
Z	Extruded body, round lobe orientation rotated 270 degrees from standard *
T	Aluminum round tube and carbon steel tie rods and nuts

* See Table on page B10. Only applies to 1-1/2" to 4" Bore.

Specia Modification

Specify "S" only for special modification other than rod end, and then describe modification in item notes. (Includes 4MA with Linear Position Sensor Option) [7]

Rod Material and Gland Code

Blank	Standard rod and gland
H	Standard rod and HI LOAD gland
Y	17-4 PH stainless steel rod and standard gland
Z	17-4 PH stainless steel rod and HI LOAD gland
J	303 stainless steel rod and standard gland [10]
K	303 stainless steel rod and HI LOAD gland [10]
S	316 stainless steel rod and standard gland [10]
T	316 stainless steel rod and HI LOAD gland [10]

Piston Rod Thread Style

4	Small male
8	Intermediate male
9	Short female
55	For use with Split Coupler [9]
3	Special (and specify all dimensions required)

Piston Type [2]

Blank	Standard (lipseals and magnetic ring) [12]
1	Lipseals, no magnetic ring [12]
2	Lipseals, no magnetic ring (aluminum piston)
3	Lipseals and magnetic ring (aluminum piston) (standard for 4ML)
4	Bumper seals, no magnetic ring
6	Bumper seals and magnetic ring
B	Lipseals, 1/4" thick bumpers both ends [3]
H	Lipseals, 1/4" thick bumper head end [3]
C	Lipseals, 1/4" thick bumper cap end [3]
D	Lipseals and magnetic ring, 1/4" thick bumpers both ends [3]
F	Lipseals and magnetic ring, 1/4" thick bumper head end [3]
R	Lipseals and magnetic ring, 1/4" thick bumper cap end [3]

1 Not available with Linear Position Sensor Option (LPSO).

2 Piston Types (blank), 1, 4 and 6 not available for 4ML. Piston Types (blank) and 1 not available for oversize rod numbers 2 and 3. Seals option V only available with Piston Types 2 and 4. Seals option 4 only available with Piston Types 2 and 3.

3 Addition of 1/4" bumper results in a 1/4" stroke loss per bumper, per end. For example, a 6" stroke cylinder with 1/4" bumpers at both ends (option B) has an effective stroke of 5-1/2".

4 Reed and solid-state sensors only available with standard seals or options E and M. See footnote 2.

5 Used for external chemical compatibility applications, not high temperature.

6 If fluorocarbon seals are required with this option, please place an "S" for special in the Special Modification field and specify the "fluorocarbon seals and metallic rod wiper" in the item notes.

7 For Linear Position Sensor Option (LPSO), please include the following information for the Special Modification item notes:

a. Sensor part number (see pages B100-B104)
b. Sensor position
c. Port position (if other than position 1)
d. Length of stop tubing, gross stroke and net stroke (if required)
Also, Piston Type option (blank), 3, 6, D, F or R is required.

8 Review Piston Rod Selection Chart on page A14 to determine proper piston rod diameter.

9 For additional information regarding this style, refer to page B105. If non-standard Rod Material and Gland Code is required with this option, please place an "S" for special in Special Modification field and specify Rod Material and Gland Code in the item notes.

10 Not available for 4ML.

11 If a stop tube is required, specify gross stroke (net stroke + stop tube) in the model number, then place an "S" for special in the Special Modification field and specify the stop tube length in the item notes. Not available with Piston Types (blank) and 1.

12 Double rod cylinders not available with composite piston type.

How to order 4MA/4ML Series cylinders with sensors:
Sensors must be ordered separately and are not mounted to the cylinder prior to shipment.

1. Cylinder model number must have a Piston Type with a magnetic ring ((blank), 3, 6, D, F or R).
2. Please refer to pages M1-M9 for sensor part numbers and specifications. Global, Mini-Global, NAMUR and Weld Immune Sensors will fit the 4MA/4ML Series.
3. Style DD mounts and tie rod versions with Global Sensors will require tie rod bracket P8S-TMA0X. Please refer to page M9 for more information.

For ordering purposes, when special options or common modifications are requested, the factory will assign a sequential part number in place of the model number.

Parker Hannifin Corporation
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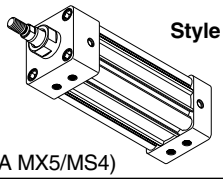
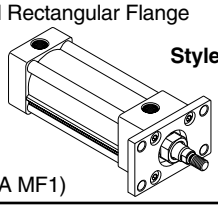
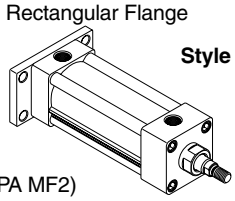
4MA Series Mounting Styles for 1-1/2" to 5" Bore

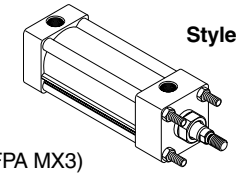
Mounting Code	NFPA Mounting Style	Description	Available Bore Sizes		
			4MA/4ML	4MA/4ML-LPSO w/o Stop Tube	4MA/4ML-LPSO w/Stop Tube
TEF	MX5/MS4	Sleeve Nut with Side Tap (standard mount)	1-1/2 - 5*	2 - 5	2 - 5
T	MX0	No Mount (same construction as TEF)	1-1/2 - 5	2 - 5	2 - 5
TE	MX5	Sleeve Nut (same construction as TEF)	1-1/2 - 5	2 - 5	2 - 5
F	MS4	Side Tap (same construction as TEF)	1-1/2 - 5*	2 - 5	2 - 5
J	MF1	Head Rectangular Flange	1-1/2 - 5	2 - 5**	2 - 5
H	MF2	Cap Rectangular Flange	1-1/2 - 5	2 - 5**	2 - 5**
TB	MX3	Tie Rods Extended Head End	1-1/2 - 5	-	2 - 5
TC	MX2	Tie Rods Extended Cap End	1-1/2 - 5	-	-
TD	MX1	Tie Rods Extended Both Ends	1-1/2 - 5	-	-
C	MS2	Side Lug	1-1/2 - 5	2 - 5	2 - 5
CB	MS1	Side End Angle	1-1/2 - 5	2 - 5	2 - 5
G	MS7	Side End Lug	1-1/2 - 4*	2 - 4	2 - 4
NB	N/A	Base Bar	1-1/2 - 4*	2 - 4	2 - 4
BB	MP1	Cap Fixed Clevis	1-1/2 - 5	2 - 5**	2 - 5**
BC	MP2	Cap Detachable Clevis	1-1/2 - 5	2 - 5**	2 - 5**
BE	MP4	Cap Detachable Eye	1-1/2 - 5	2 - 5**	2 - 5**
D	MT1	Head Trunnion	1-1/2 - 5*	2 - 5	2 - 5
DB	MT2	Cap Trunnion	1-1/2 - 5	2 - 5**	2 - 5**
DD	MT4	Intermediate Trunnion	1-1/2 - 5	-	-
KTEF***	MDX5/MDS4	Double Rod End, TEF Mount	1-1/2 - 5	2 - 5	2 - 5

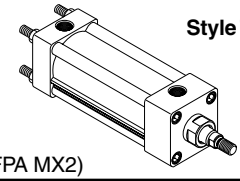
* Mounts TEF, F, G, NB and D not available for 1-1/2" bore with 1" rod.
** May interfere with mounting. Please provide clearance for Linear Position Sensor overhang (see page B101).

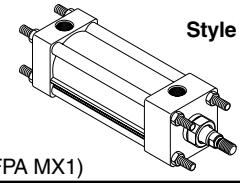
Standard Mount
Style TEF

(NFPA MX5/MS4)

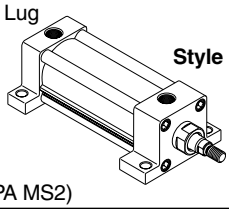
Head Rectangular Flange
Style J

(NFPA MF1)

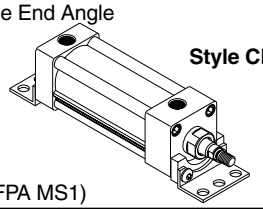
Cap Rectangular Flange
Style H

(NFPA MF2)

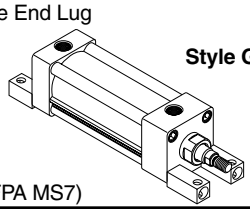
Tie Rods Ext. Head End
Style TB

(NFPA MX3)

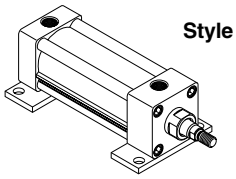
Tie Rods Ext. Cap End
Style TC

(NFPA MX2)

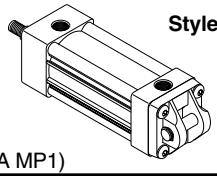
Tie Rods Ext. Both Ends
Style TD

(NFPA MX1)

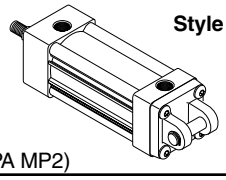
Side Lug
Style C

(NFPA MS2)

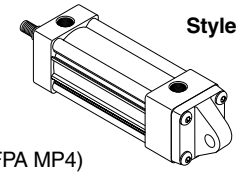
Side End Angle
Style CB

(NFPA MS1)

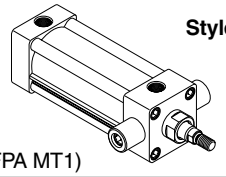
Side End Lug
Style G

(NFPA MS7)

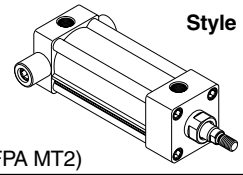
Base Bar Mount
Style NB

(NFPA MP1)

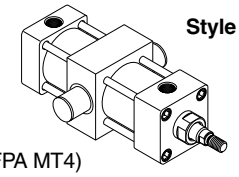
Cap Fixed Clevis
Style BB

(NFPA MP1)

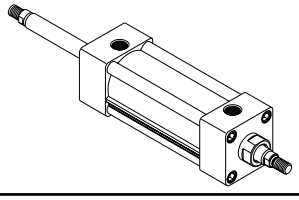
Cap Detachable Clevis
Style BC

(NFPA MP2)

Cap Detachable Eye
Style BE

(NFPA MP4)

Head Trunnion
Style D

(NFPA MT1)

Cap Trunnion
Style DB

(NFPA MT2)

Intermediate Trunnion
Style DD

(NFPA MT4)

Double Rod End
Style KTEF

(NFPA MDX0)

***Double rod end cylinders can be ordered with head mountings, i.e. KJ (see page B21).

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Taskmaster® Pneumatic Cylinder

Design Features, 1-1/2" - 4" Bores

Rexroth
Bosch Group

Model Code - Taskmaster Cylinders up to 4" Bore

TaskMaster Cylinder Model Codes

T M - X X X X X X - X X X X X

STROKE - 1/8" INCREMENTS

STROKE - WHOLE INCH Stokes over 99 7/8" require a special code

CUSHIONING (Not recommended for <3" stroke)

0 NONE
1 HEAD
2 CAP
3 HEAD AND CAP

ZERO

ADDITIONAL DESIGNATION

0 1 DOUBLE ROD
0 2 MT1 MOUNT INTEGRAL TO HEAD (New Design TM-1 only)
0 3 MT2 MOUNT INTEGRAL TO CAP (New Design TM-1 only)
0 4 740 VALVE COMBO WITH BRACKETS & TUBES
0 5 740 VALVE COMBO W/O BRACKETS & TUBES

SEAL MATERIAL

0 BUNA
9 VITON (piston and cushion seals are not Viton)

ROD SIZE* AND THREAD

		1-1/2 - 2-1/2		3 1/4 - 4	
		ROD SIZE	THREAD	ROD SIZE	THREAD
0	FIRST ROD SIZE, KK1 MALE	5/8	7/16-20	1	3/4-16
1	FIRST ROD SIZE, KK2 MALE	5/8	1/2-20	1	7/8-14
2	FIRST ROD SIZE, KK1 FEMALE	5/8	7/16-20	1	3/4-16
3	FIRST ROD SIZE, KK1 STUDDED MALE	5/8	7/16-20	1	3/4-16
4	SECOND ROD SIZE, KK1 MALE	1	3/4-16	1 3/8	1-14
5	SECOND ROD SIZE, KK2 MALE	1	7/8-14	1 3/8	1-1/4-12
6	SECOND ROD SIZE, KK1 FEMALE	1	3/4-16	1 3/8	1-14
7	SECOND ROD SIZE, KK1 STUDDED MALE	1	3/4-16	1 3/8	1-14

*Oversize Rod / Ports available only on TM-1 (NFPA compliant).

BORE SIZE

1 1-1/2
2 2
3 2-1/2
4 3-1/4
5 4

TASKMASTER PRODUCT

0 CUSTOM
1 NEW DESIGN WHOLE CYLINDER
8 OLD STYLE WHOLE CYLINDER

Old custom cylinders converted to new format will be the old part number with the "P" replaced by "TM"
Example: P - 0 2 6 4 6 5 - 0 0 0 0 0 will become
T M - 0 2 6 4 6 5 - 0 0 0 0 0

Custom cylinders begin with T M - 0 3 1 0 0 0 - X X X X X and proceed sequentially from there.
X X X X X is standard suffix format

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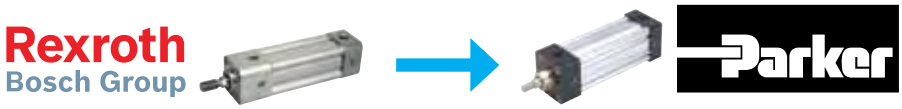

NFPA Compliant Air Cylinder

To specify double rod cylinder option add a "K" to the Parker model number ex: 1.50KTEF4MAU14AXX.XX

To specify fluorocarbon (viton) seal option add a "V" to the Parker model number ex: 1.50TEF4MAUV14AXX.XX

To specify MT1 MOUNT INTEGRAL TO HEAD add "D" to the Parker model number ex: 1.50D4MAU14AXX.XX

To specify MT2 MOUNT INTEGRAL TO HEAD add "DB" to the Parker model number ex: 1.50DB4MAU14AXX.XX

	REXROTH	options		PARKER
1.50 Bore	TM-1100000-00XXX	no cush, std rod size, small male thd		**1.50TEF4MAU14AXX.XX**
	TM-1100000-03XXX	cush both ends, std rod size, small male thd		**1.50CTEF4MAU14ACXX.XX**
	TM-1110000-00XXX	no cush, std rod size, int. male thd		**1.50TEF4MAU18AXX.XX**
	TM-1110000-03XXX	cush both ends, std rod size, int. male thd		**1.50CTEF4MAU18ACXX.XX**
	TM-1120000-00XXX	no cush, std rod size, female thd		**1.50TEF4MAU19AXX.XX**
	TM-1120000-03XXX	cush both ends, std rod size, female thd		**1.50CTEF4MAU19ACXX.XX**
	TM-1140000-00XXX	no cush, oversize rod, small male thd		**1.50TEF4MAU24AXX.XX**
	TM-1140000-03XXX	cush both ends, oversize rod, small male thd		**1.50CTEF4MAU24ACXX.XX**
	TM-1150000-00XXX	no cush, oversize rod, int male thd		**1.50TEF4MAU28AXX.XX**
	TM-1150000-03XXX	cush both ends, oversize rod, int male thd		**1.50CTEF4MAU28ACXX.XX**
	TM-1160000-00XXX	no cush, oversize rod, female thd		**1.50TEF4MAU29AXX.XX**
	TM-1160000-03XXX	cush both ends, oversize rod, female thd		**1.50CTEF4MAU29ACXX.XX**
	REXROTH	options		PARKER
2.00 Bore	TM-1200000-00XXX	no cush, std rod size, small male thd		**2.00TEF4MAU14AXX.XX**
	TM-1200000-03XXX	cush both ends, std rod size, small male thd		**2.00CTEF4MAU14ACXX.XX**
	TM-1210000-00XXX	no cush, std rod size, int. male thd		**2.00TEF4MAU18AXX.XX**
	TM-1210000-03XXX	cush both ends, std rod size, int. male thd		**2.00CTEF4MAU18ACXX.XX**
	TM-1220000-00XXX	no cush, std rod size, female thd		**2.00TEF4MAU19AXX.XX**
	TM-1220000-03XXX	cush both ends, std rod size, female thd		**2.00CTEF4MAU19ACXX.XX**
	TM-1240000-00XXX	no cush, oversize rod, small male thd		**2.00TEF4MAU34AXX.XX**
	TM-1240000-03XXX	cush both ends, oversize rod, small male thd		**2.00CTEF4MAU34ACXX.XX**
	TM-1250000-00XXX	no cush, oversize rod, int male thd		**2.00TEF4MAU38AXX.XX**
	TM-1250000-03XXX	cush both ends, oversize rod, int male thd		**2.00CTEF4MAU38ACXX.XX**
	TM-1260000-00XXX	no cush, oversize rod, female thd		**2.00TEF4MAU39AXX.XX**
	TM-1260000-03XXX	cush both ends, oversize rod, female thd		**2.00CTEF4MAU39ACXX.XX**
	REXROTH	options		PARKER
2.50 Bore	TM-1300000-00XXX	no cush, std rod size, small male thd		**2.50TEF4MAU14AXX.XX**
	TM-1300000-03XXX	cush both ends, std rod size, small male thd		**2.50CTEF4MAU14ACXX.XX**
	TM-1310000-00XXX	no cush, std rod size, int. male thd		**2.50TEF4MAU18AXX.XX**
	TM-1310000-03XXX	cush both ends, std rod size, int. male thd		**2.50CTEF4MAU18ACXX.XX**
	TM-1320000-00XXX	no cush, std rod size, female thd		**2.50TEF4MAU19AXX.XX**
	TM-1320000-03XXX	cush both ends, std rod size, female thd		**2.50CTEF4MAU19ACXX.XX**
	TM-1340000-00XXX	no cush, oversize rod, small male thd		**2.50TEF4MAU34AXX.XX**
	TM-1340000-03XXX	cush both ends, oversize rod, small male thd		**2.50CTEF4MAU34ACXX.XX**
	TM-1350000-00XXX	no cush, oversize rod, int male thd		**2.50TEF4MAU38AXX.XX**
	TM-1350000-03XXX	cush both ends, oversize rod, int male thd		**2.50CTEF4MAU38ACXX.XX**
	TM-1360000-00XXX	no cush, oversize rod, female thd		**2.50TEF4MAU39AXX.XX**
	TM-1360000-03XXX	cush both ends, oversize rod, female thd		**2.50CTEF4MAU39ACXX.XX**

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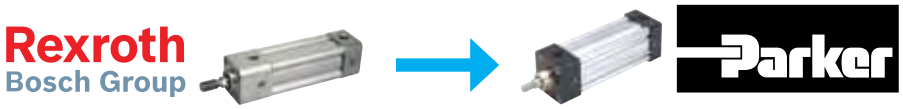

NFPA Compliant Air Cylinder

for fluorocarbon (viton) seals add a "V" to the Parker model number ex: 1.50TEF4MAUV14AXX.XX

	REXROTH	options		PARKER
3.25 Bore	TM-1400000-00XXX	no cush, std rod size, small male thd		**3.25TEF4MAU14AXX.XX**
	TM-1400000-03XXX	cush both ends, std rod size, small male thd		**3.25CTEF4MAU14ACXX.XX**
	TM-1410000-00XXX	no cush, std rod size, int. male thd		**3.25TEF4MAU18AXX.XX**
	TM-1410000-03XXX	cush both ends, std rod size, int. male thd		**3.25CTEF4MAU18ACXX.XX**
	TM-1420000-00XXX	no cush, std rod size, female thd		**3.25TEF4MAU19AXX.XX**
	TM-1420000-03XXX	cush both ends, std rod size, female thd		**3.25CTEF4MAU19ACXX.XX**
	TM-1440000-00XXX	no cush, oversize rod, small male thd		**3.25TEF4MAU34AXX.XX**
	TM-1440000-03XXX	cush both ends, oversize rod, small male thd		**3.25CTEF4MAU34ACXX.XX**
	TM-1450000-00XXX	no cush, oversize rod, int male thd		**3.25TEF4MAU38AXX.XX**
	TM-1450000-03XXX	cush both ends, oversize rod, int male thd		**3.25CTEF4MAU38ACXX.XX**
	TM-1460000-00XXX	no cush, oversize rod, female thd		**3.25TEF4MAU39AXX.XX**
	TM-1460000-03XXX	cush both ends, oversize rod, female thd		**3.25CTEF4MAU39ACXX.XX**
	REXROTH	options		PARKER
4.00 Bore	TM-15200000-00XXX	no cush, std rod size, small male thd		**4.00TEF4MAU14AXX.XX**
	TM-15200000-03XXX	cush both ends, std rod size, small male thd		**4.00CTEF4MAU14ACXX.XX**
	TM-15210000-00XXX	no cush, std rod size, int. male thd		**4.00TEF4MAU18AXX.XX**
	TM-15210000-03XXX	cush both ends, std rod size, int. male thd		**4.00CTEF4MAU18ACXX.XX**
	TM-15220000-00XXX	no cush, std rod size, female thd		**4.00TEF4MAU19AXX.XX**
	TM-15220000-03XXX	cush both ends, std rod size, female thd		**4.00CTEF4MAU19ACXX.XX**
	TM-15240000-00XXX	no cush, oversize rod, small male thd		**4.00TEF4MAU34AXX.XX**
	TM-15240000-03XXX	cush both ends, oversize rod, small male thd		**4.00CTEF4MAU34ACXX.XX**
	TM-15250000-00XXX	no cush, oversize rod, int male thd		**4.00TEF4MAU38AXX.XX**
	TM-15250000-03XXX	cush both ends, oversize rod, int male thd		**4.00CTEF4MAU38ACXX.XX**
	TM-15260000-00XXX	no cush, oversize rod, female thd		**4.00TEF4MAU39AXX.XX**
	TM-15260000-03XXX	cush both ends, oversize rod, female thd		**4.00CTEF4MAU39ACXX.XX**

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Accessories

MF1 Flange Mounting Kit (Aluminum)

Bore	Bosch Part Number	Parker Part Number MF1 (J) Mount
1.50	R432013373	**L079700150**
2.00	R432012520	**L079700200**
2.50	R432013382	**L079700250**
3.25	R432013388	**L079700325**
4.00	R432013396	**L079700400**

MF2 Flange Mounting Kit (Aluminum)

Bore	Bosch Part Number	Parker Part Number MF2 (H) Mount
1.50	R432013373	**L079700150**
2.00	R432012520	**L079700200**
2.50	R432013382	**L079700250**
3.25	R432013388	**L079700325**
4.00	R432013396	**L079700400**

MP1 Clevis Mounting Kit, Cast Iron, Includes Pivot Pin

Bore	Bosch Part Number	Parker Part Number MP1 (BB) Mount
1.50	R432015731	**L079710150**
2.00	R432015733	**L079710200**
2.50	R432015735	**L079710250**
3.25	R432015737	**L079710325**
4.00	R432015739	**L079710400**

MP2 Clevis Mounting Kit, Includes Pivot Pin

Bore	Bosch Part Number	Parker Part Number MP2 (BC) Mount
1.50 AL	R432013371	**L079730150**
1.50 STL	R432008309	n/a
2.00 AL	R432012512	**L079730200**
2.00 STL	R432008305	n/a
2.50 AL	R432013379	**L079730250**
2.50 STL	R432008306	n/a
3.25 AL	R432013394	**L079730325**
3.25 STL	R432008307	n/a
4.00 AL	R432013402	**L079730400**
4.00 STL	R432008308	n/a

MP4 Eye Bracket Mounting Kit, Aluminum

Bore	Bosch Part Number	Parker Part Number MP4 (BE) Mount
1.50	R432013369	**L079720150**
2.00	R432012549	**L079720200**
2.50	R432013377	**L079720250**
3.25	R432013392	**L079720325**
4.00	R432013400	**L079720400**

MS1 Mounting Kit

Bore	Bosch Part Number	Parker Part Number MS1 (CB) Mount
1.50	R432013623	**L079740150**
2.00	R432013625	**L079740200**
2.50	R432013628	**L079740250**
3.25	R432013631	**L079740325**
4.00	R432013634	**L079740400**

MS2 Mounting Kit

Bore	Bosch Part Number	Parker Part Number MS2 (C) Mount
1.50	R432013616	**L079830150**
2.00	R432013641	**L079830200**
2.50	R432013641	**L079830250**
3.25	R432013648	**L079830325**
4.00	R432013651	**L079830400**

Female Rod Clevis

Size	Bosch Part Number	Parker Part Number
1/2-20	R432012516	**1458030050**
7/8-14	R432013386	**1458030088**

Eye Bracket

Bore	Bosch Part Number	Parker Part Number
1.50	R432013368	**1458060050**
2.00	R432012551	**1458060050**
2.50	R432013376	**1458060050**
3.25	R432008890	**1458060075**
4.00	R432008892	**1458060075**

Female Rod Eye (Knuckle)

Size	Bosch Part Number	Parker Part Number
1/2-20	R432006533	**1458040050**
7/8-14	R432013437	**1458040075**

Clevis Bracket

Bore	Bosch Part Number	Parker Part Number
1.50	R432013366	**1458050050**
2.00	R432012511	**1458050050**
2.50	R432013381	**1458050050**
3.25	R432008891	**1458050075**
4.00	R432008893	**1458050075**

Pivot Pin (Steel), Includes Retaining Rings

SIZE	Bosch Part Number	Parker Part Number
.50	R422012619	**0856640050**
.75	R433012621	**0856640075**
1.00	R433012623	**0856640100**

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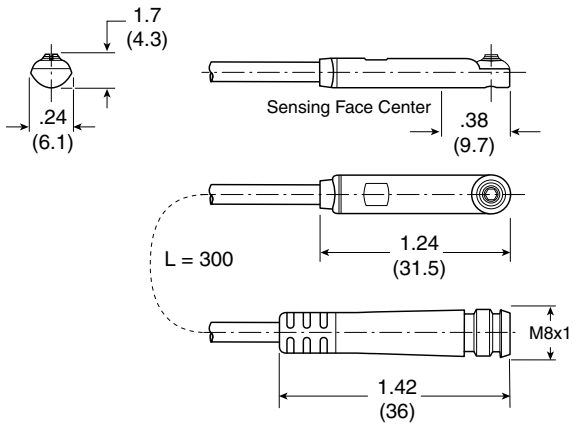
Global Drop-In Solid State Sensors

Wiring	PNP Sensor	NPN Sensor	PNP Sensor ATEX Certified
3m Flying Leads	P8S-GPFLX	P8S-GNFLX	P8S-GPFLX/EX
10m Flying Leads	P8S-GPFTX	P8S-GNFTX	N/A
0.3m Lead with 8mm Connector	P8S-GPSHX	P8S-GNSHX	
0.3m Lead with 12mm Connector	P8S-GPMHX	P8S-GNMHX	
1m Lead with 8mm Connector	P8S-GPSCX	P8S-GNSCX	

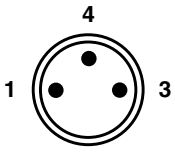
Specifications

Switch Classification	Standard PNP or NPN	ATEX Certified PNP
Type	Electronic	
Output Function	Normally Open	
Sensor Output	PNP/NPN	PNP
Operating Voltage	10 - 30VDC	180 - 30VDC
Continuous Current	100 mA max.	70 mA max.
Response Sensitivity	28 Gauss min.	
Switching Frequency	1 KHz	
Power Consumption	10 mA max.	
Voltage Drop	2.5 VDC max.	
Ripple	10% of Operating Voltage	
Hysteresis	1.5 mm max.	
Repeatability	0.1 mm max.	
EMC	EN 60 947-5-2	
Short-circuit Protection	Yes	
Power-up Pulse Suppression	Yes	
Reverse Polarity Protection	Yes	
Enclosure Rating	IP 68	
Shock and Vibration Stress	30g, 11 ms, 10 to 55 Hz, 1 mm	
Operating Temperature Range	-25°C to +75°C (-13°F to 167°F)	-20°C to +45°C (-4°F to 113°F)
Housing Material	PA 12, Black	
Connector Cable	PVC	
Connector	PUR	—
Approval for ATEX	—	3D/3G

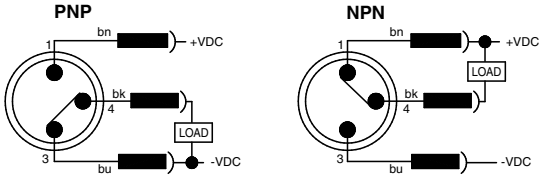


SOLID STATE SENSOR – WIRING CONNECTION

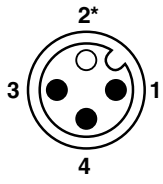
Flying Lead or 8 mm Connector (shown)



Pin	Wire	Function
1	Brown	Operating Voltage (+VDC)
4	Black	Output signal (N.O.)
3	Blue	-VDC

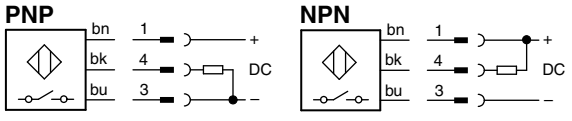


12 mm Connector



* Pin 2 not present.

Pin	Wire	Function
1	Brown	Operating Voltage (+VDC)
4	Black	Output Signal (N.O.)
2*	White	Not Used
3	Blue	-VDC



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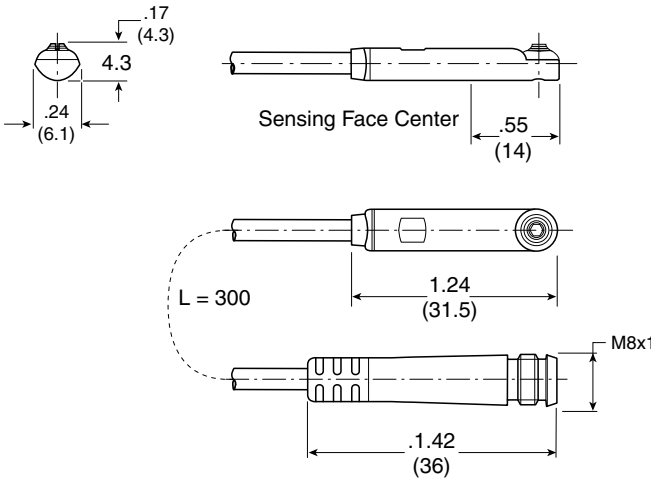
Global Drop-In Reed Sensors

Wiring	Reed Sensor
3m Flying Leads	P8S-GRFLX
10m Flying Leads	P8S-GRFTX
0.3m Lead with 8mm Connector	P8S-GRSHX
0.3m Lead with 12mm Connector	P8S-GRMHX
1m Lead with 8mm Connector	P8S-GRSCX



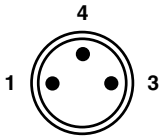
Specifications

Type ..... 2-Wire Reed
Output Function ..... Normally Open
Operating Voltage ..... 10 - 120 VAC*
10 - 30 VDC
Switching Power ..... 6 W/VA
Continuous Current ..... 100 mA max.
Response Sensitivity ..... 30 Gauss min.
Switching Frequency ..... 400 Hz
Voltage Drop ..... 2.5 V max.
Ripple ..... 10% of Operating Voltage
Hysteresis ..... 1.5 mm max.
Repeatability ..... 0.2 mm max.
EMC ..... EN 60 947-5-2
Reverse Polarity Protection ..... Yes
Enclosure Rating ..... IP 68
Shock and Vibration Stress ..... 30g, 11 ms, 10 to 55 Hz, 1 mm
Operating Temperature Range .... -25°C to +75°C (-13°F to 167°F)
Housing Material ..... PA 12, Black
Connector Cable ..... PVC
Connector ..... PUR cable with 8 or
12 mm connector

*8mm connector rated for 50 VAC max.

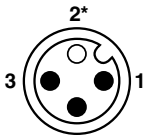
REED SENSOR - WIRING CONNECTION

Flying Lead or 8 mm Connector



Pin	Wire	Function
1	Brown	Operating Voltage (+V)
4	Black	Not Used
3	Blue	Output Signal (-V or Ground)

12 mm Connector



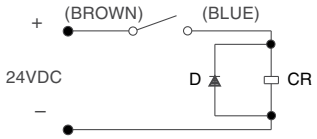
* Pin 2 not present.

Pin	Wire	Function
1	Brown	Operating Voltage (+V)
2*	White	Not Used
3	Blue	Output Signal (-V or Ground)
4	Black	Not Used

Circuit for Switching Contact Protection (For Inductive Loads, e.g. Solenoids, Relays)

(Required for proper operation 24V DC)

Put Diode parallel to load (CR) following polarity as shown below.



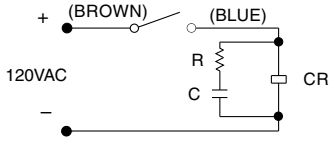
D: Diode: select a Diode with the breakdown voltage and current rating according to the load.

Typical Example – 100 Volt, 1 Amp Diode
CR: Relay coil (under 0.5W coil rating)

(Recommended for longer life 120 VAC)

Put a resistor and capacitor in parallel with the load (CR). Select the resistor and capacitor according to the load.

Typical Example:
CR: Relay coil (under 2W coil rating)
R: Resistor 1 KΩ - 5 KΩ, 1/4 W
C: Capacitor 0.1 ΩF, 600 V



⚠ Caution

– Use an ampmeter to test reed sensor current. Testing devices such as incandescent light bulbs may subject the reed sensor to high in-rush loads.
– **NOTE:** When checking an unpowered reed sensor for continuity with a digital ohmmeter the resistance reading will change from infinity to a very large resistance (2 M ohm) when the sensor is activated. This is due to the presence of a diode in the reed sensor.
– Anti-magnetic shielding is recommended for reed sensors exposed to high external RF or magnetic fields.
– The magnetic field strength of the piston magnet is designed to operate with our sensors. Other manufacturers' sensors may not operate correctly in conjunction with these magnets.
– Use relay coils for reed sensor contact protection.
– The operation of some 120 VAC PLC's (especially some older Allen-Bradley PLC's) can overload the reed sensor. The sensor may fail to release after the piston magnet has passed. This problem may be corrected by the placement of a 700 to 1K OHM resistor between the sensor and the PLC input terminal. Consult the manufacturer of the PLC for appropriate circuit.
– Sensors with long wire leads (greater than 15 feet) can cause capacitance build-up and sticking will result. Attach a resistor in series with the reed sensor (the resistor should be installed as close as possible to the sensor). The resistor should be selected such that R (ohms) >E/0.3.

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8mm Cordset with Female Quick Connect

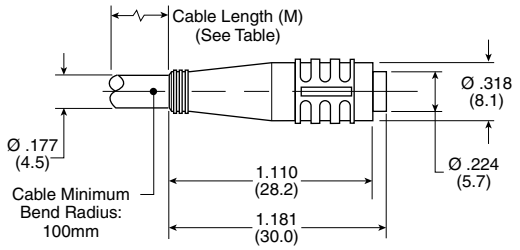
A female connector is available for all sensors with the male 8mm quick connect option. The male plug will accept a snap-on or threaded connector. Cordset part numbers are listed below:

Cable Length	Threaded Connector	Snap On Connector
5 meters	086620T005	086620S005
2 meters	086620T002	086620S002

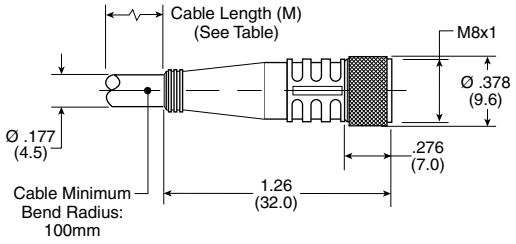
Cordset Specifications

Connector ..... Oil resistant polyurethane body material, PA 6 (Nylon) contact carrier, spacings to VDE 0110 Group C, (150 AC/DC)
Contacts ..... Gold plated beryllium copper, machined from solid stock
Coupling Method ..... Snap-Lock or chrome plated brass nut
Cord Construction ..... Oil resistant black PUR jacket, non-wicking, non-hygroscopic, 300V. Cable end is stripped and tinned.
Conductors ..... Extra high flex stranding, PVC insulation
Temperature ..... -40 to 194°F (-40 to 90°C)
Protection ..... NEMA 1, 3, 4, 6P and IEC 1P67
Cable Length ..... 6.56 ft (2m) or 16.4 ft (5m)

Snap-On Straight Connector



Threaded Straight Connector



12mm Cordset with Female Quick Connect

M12 Straight Connector	
Cable Length	Part Number
5 meters	9126487205
2 meters	9126487202

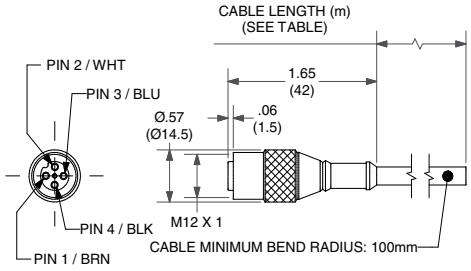
M12 Right Angle Connector	
Cable Length	Part Number
5 meters	9126487305
2 meters	9126487302

A female connector is available for all sensors with the male 12mm quick connect option. The cordsets are available with a right angle or straight connector. Cordset part numbers are listed above.

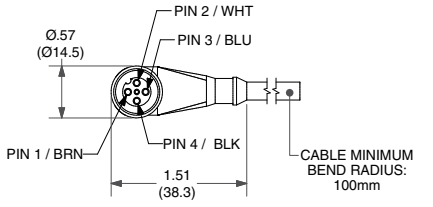
Cordset Specifications

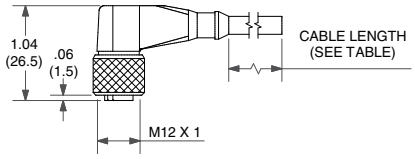
Connector ..... Polyvinylchloride (PVC) body material, PVC contact carrier, spacing to VDE 0110 Group C, (250VAC / 300VDC)
Contacts ..... Gold Plated Copper Tin (CuSn), stamped from stock.
Coupling Method ..... Threaded nut: Chrome plated brass.
Cord Construction..... PVC non-wicking, non-hygroscopic, 250VAC / 300VDC. Cable end is stripped.
Conductors ..... Extra high flex stranding with PVC insulation
Temperature ..... -13°F to 158°F (-25°C to 70°C)
Protection ..... NEMA 1, 3, 4, 6P and IEC 1P67
Cable Length ..... 6.56 ft (2m) or 16.4 ft (5m)

Straight Connector



Right Angle Connector





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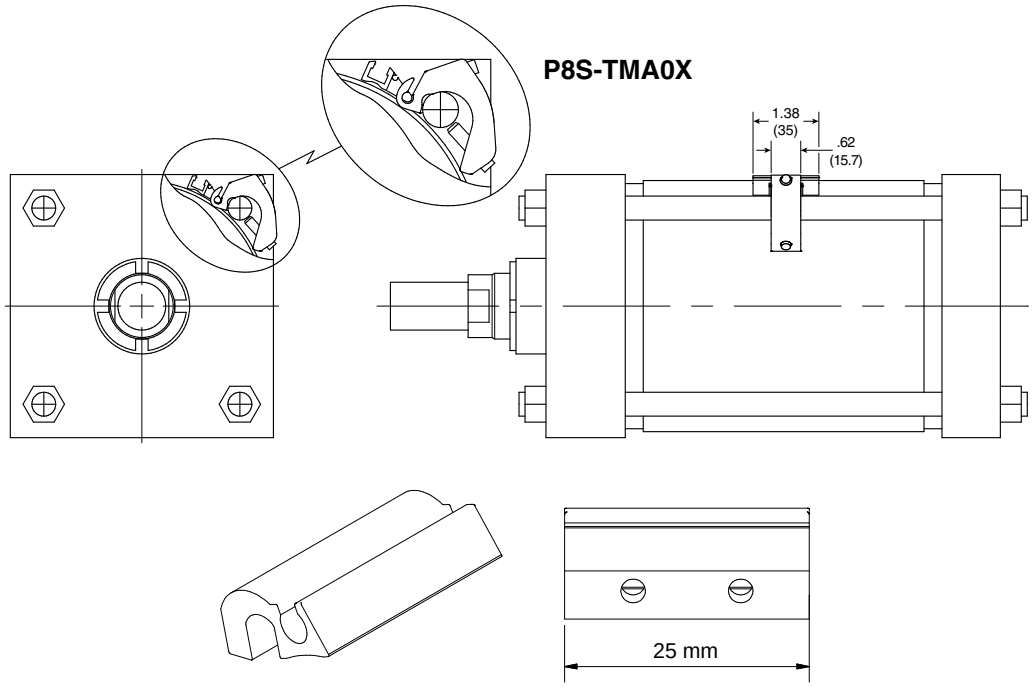
Tie Rod Bracket Assembly Part Number and Dimensions

Tie Rod Bracket Assembly is necessary for Global and Mini-Global Sensor installation on all tie rod construction cylinders. This includes all Intermediate Trunnion mounts (Style DD or MT4); some 1-1/8" bore 3MA Series mounts; and all 6"-8" bore Sensors and bracket assemblies must be ordered separately.

Part number P8S-TMA0X fits 1-1/2" to 8" bores and 32-200mm bores for Global Sensors
Part number P8S-TMA0Z fits 1-1/8" bore for Mini-Global Sensors



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Taskmaster® Pneumatic Cylinder

Optional Configurations

Rexroth
Bosch Group

Proximity Switches for 1 1/2" - 4" bore Taskmaster Cylinders

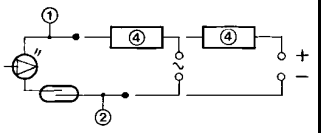
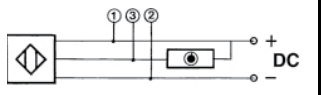
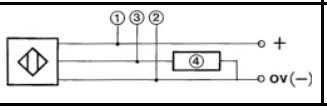
Features **For all bore sizes of Taskmaster Cylinders**
New, low-profile designs
Meets NEMA 1, 4, and 13
Easy to adjust
Handles from 6 VDC to 120 VAC (unless otherwise indicated)
LED indicators
Built-in surge suppression

Switch specifications
Single pole, normally open
0° F to 160° F

Operation

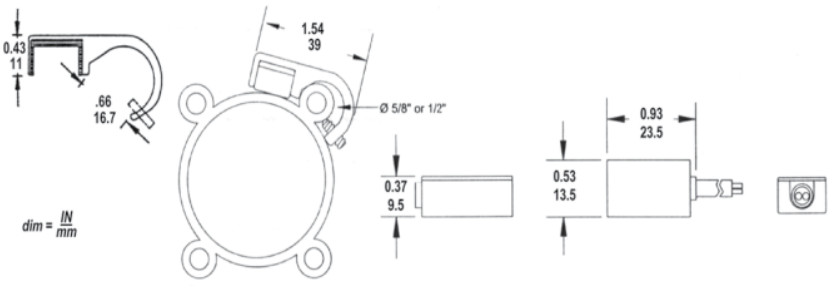
REXROTH magnetically operated Proximity Switches are the normally open, single pole, and single throw style. The switch is designed to close in the presence of a magnetic field, produced by the magnetic piston of the cylinder.
Signals, useful for operating lights, valves, or other devices, are possible anywhere along the stroke of the cylinder.
Multiple switches may be spaced as close as 0.62 inches by using more than one rib of the cylinder for mounting.

Part No. (all include clamp)

Symbol	Type	Bore Size	Fig.	mA Rating	Part No.	Desc. & Cable Length L
	Reed	1.5" - 6"	2 & 5	500	**R432008720**	Surge suppression, LED, 3' leads
	Reed	1.5" - 6"	2 & 5	500	**R432008721**	Surge suppression, LED, 12' leads
	Reed	1.5" - 6"	2 & 3	500	**R432008722**	Surg. supp.,LED,Brad Harrison®,1' leads
	Reed	1.5" - 6"	2 & 4	500	**P -026966-00003**	Surge supp.,LED,Molex/GM, 4" leads
	Reed	1.5- 2.5"	1	25	**R432008731**	3-pin quick disconnect (8mm), 6" leads
	Reed	1.5- 2.5"	1 & 5	25	**R432008724**	Pigtail, two 3' leads
	Reed	1.5- 2.5"	1 & 5	25	**R432008725**	Pigtail, two 9' leads
	Reed	1.5- 2.5"	1 & 3	25	**R432008726**	Brad Harrison 1' leads
	Reed	1.5- 2.5"	1 & 4	25	**P -026966-00007**	Molex/GM
	NPN	1.5- 2.5"	1 & 5	300/6-24VDC	**R432008730**	9' pigtail
	NPN	1.5- 2.5"	1	300/6-24VDC	**R432008733**	3-pin quick disconnect (8mm), 6" leads
	PNP	1.5- 2.5"	1 & 5	300/6-24VDC	**R432008729**	9' pigtail
	PNP	1.5- 2.5"	1	300/6-24VDC	**R432008732**	3-pin quick disconnect (8mm), 6" leads

Note: See following page for 3-pin connector cables with female connector

Proximity Switch & Clamp - Figure 1



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Taskmaster® Pneumatic Cylinder

Optional Configurations

Rexroth
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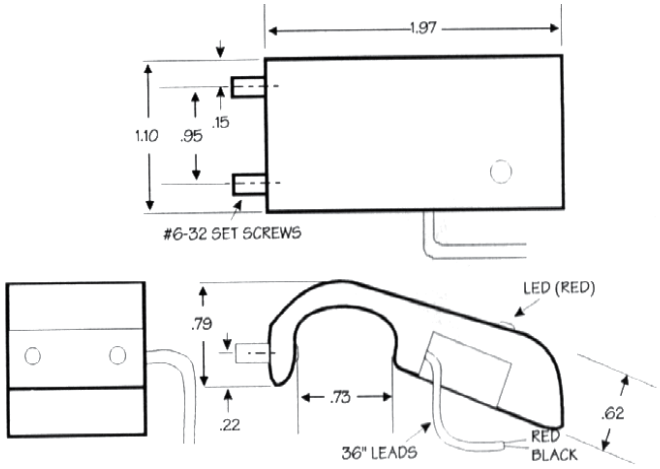
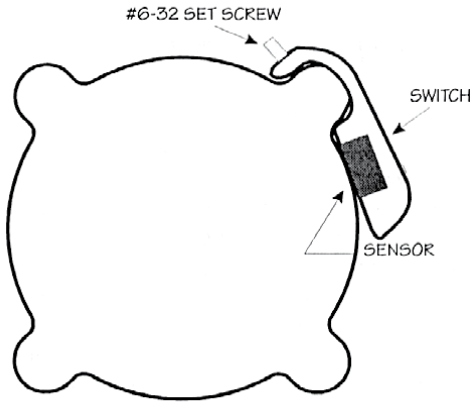
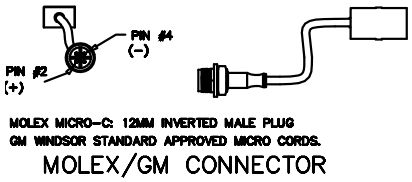
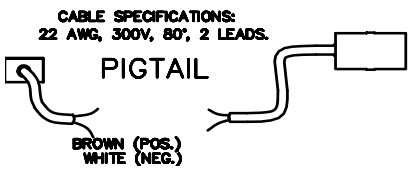
Proximity Reed Switch & Clamp - Figure 2





Connector styles

Schematic	Figure No.	Description
	3	Brad Harrison® style
	4	Molex/GM style
	5	Pigtail

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The Parker 5-Year Extended Warranty

Parker Hannifin Corporation will extend its warranty on all pneumatic components to sixty (60) months providing they are correctly installed and protected by Parker pneumatic filters which are properly maintained. Components covered by this warranty include all cylinders, valves, and pneumatic automation components manufactured by Parker in any of our global facilities. This warranty covers our components anywhere in the world you may ship your equipment.

Parker's obligation under this warranty is limited to the replacement or repair of any failed components. The buyer understands that the seller will not be liable for any other costs or damages.

The buyers of quality Parker components and filters benefit by having ONE source for all pneumatic needs - Parker.

Yoon "Michael" Chung
President
Automation Group

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