Automation

Technical Support E-mail
emn_support@parker.com

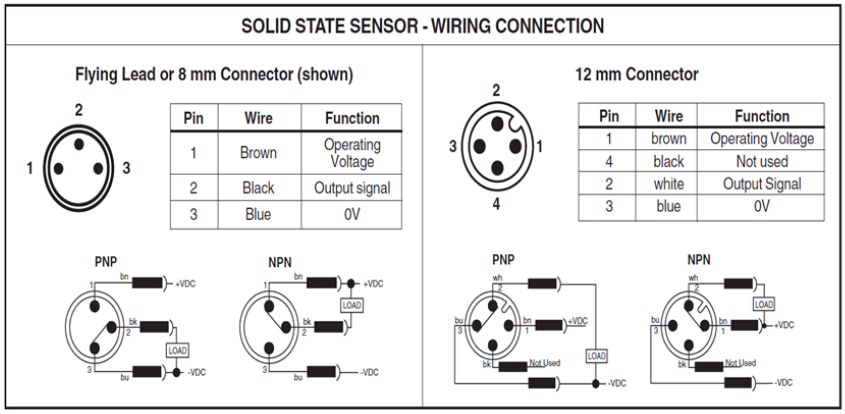
Application Notes:
ACR9000 Inputs

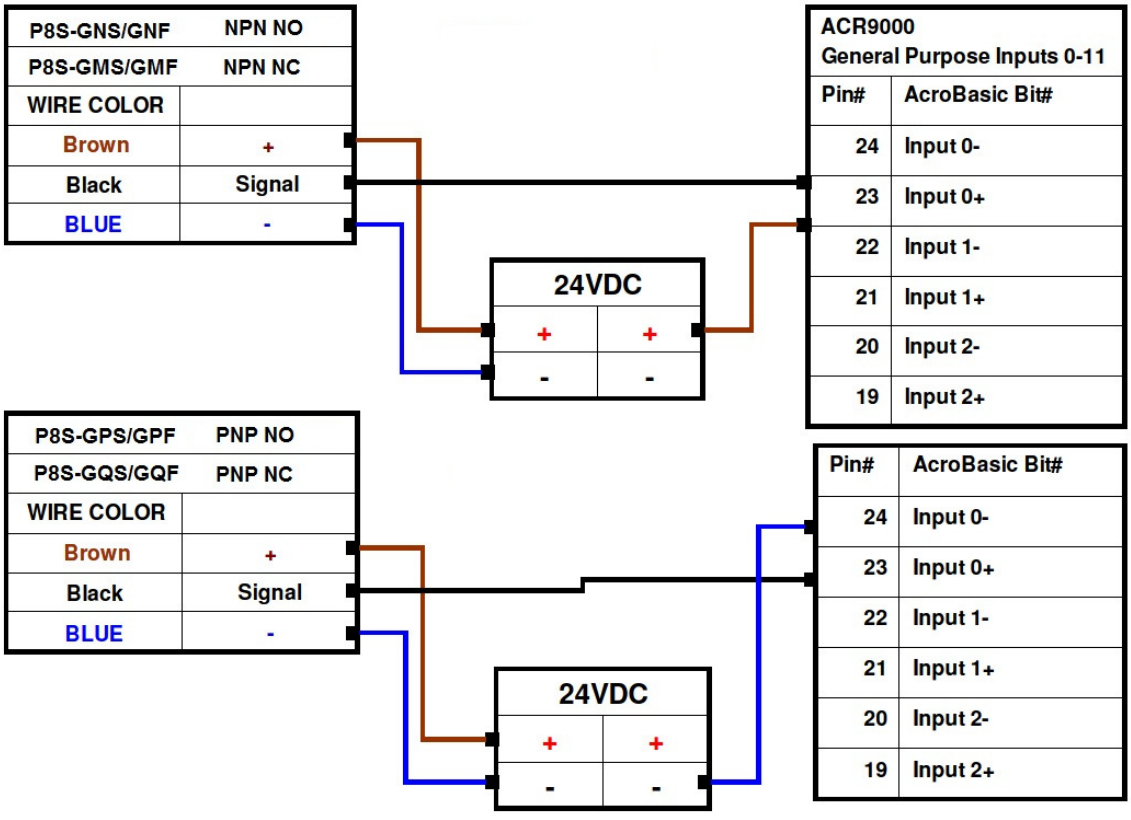
ACR9000 with P8S global sensors

Solid State Sensor
SPECIFICATIONS

Type	Electronic
Output Function	Normally Open
Sensor Output	PNP/NPN
Operating Voltage	10 - 30VDC
Continuous Current	200 mA max.*
Response Sensitivity	2.8 mT min.
Switching Frequency	5 KHz
Power Consumption	10 mA max.
Voltage Drop	2 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 67
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 w/8 or 12 mm conn.

*M12 connector is rated for 100 mA maximum continuous current.





For P8S-G_M sensors with 12mm connector, change black wire to white wire.

Normally open / Normally closed polarity set in ACR-View software.

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Application Notes:
ACR9000 Inputs

ACR9000 with 400XR series

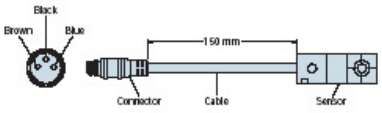
Home H_ or Limit Sensor L_

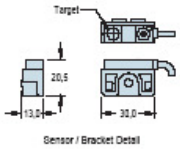
End of Travel and Home Sensors for the 400XR series are available in a variety of styles. The sensors can be ordered as part of the table or as separate components with the associated mounting hardware or in an enclosed sensor pack. A 5 meter "hi-flex" extension cable (Part No. 003-2918-01) is available for use with the 401XR thru 406XR models having the locking connector option.

Input Power	5-30VDC, 20mA
Output	100mA max
Wire Color Code	(+) Supply: Brown (-) Supply: Blue NO Output: Black NC Output: White

- NPN (Sinking) or PNP (Sourcing)
- Normally Closed (N.C.) or Normally Open (N.O.)
- Flying Leads or Locking Connector

Order Code	Part No.** (Includes Mounting Bracket)	Switch Type	Logic	Cable Length	Connector Option
H2 or L2	006-1639-01	N.C.	Sinking	2,0 m	Flying Leads
H3 or L3	006-1639-02	N.O.	Sinking	2,0 m	Flying Leads
H4 or L4	006-1639-03	N.C.	Sourcing	2,0 m	Flying Leads
H5 or L5	006-1639-04	N.O.	Sourcing	2,0 m	Flying Leads
H6 or L6	006-1639-09	N.C.	Sinking	150 mm	Locking Connector
H7 or L7	006-1639-08	N.O.	Sinking	150 mm	Locking Connector
H8 or L8	006-1639-11	N.C.	Sourcing	150 mm	Locking Connector
H9 or L9	006-1639-10	N.O.	Sourcing	150 mm	Locking Connector





Sensor / Bracket Detail

* Applies to 401XR thru 406XR models. 412XR models have limits and homes internally mounted with a connector termination.

**Sensor triggers (targets) ordered separately.

L2 (006-1639-01)	
NPN N.C.	
WIRE COLOR	
Brown	+
Black	NO Signal
White	NC Signal
BLUE	-

L2 (006-1639-01)	
NPN N.C.	
WIRE COLOR	
Brown	+
Black	NO Signal
White	NC Signal
BLUE	-

H3 (006-1639-02)	
NPN N.O.	
WIRE COLOR	
Brown	+
Black	NO Signal
White	NC Signal
BLUE	-

24VDC	
+	+
-	-

ACR9000 General Purpose Inputs 0-11	
Pin#	Bit#
24	Input 0-
23	Input 0+
22	Input 1-
21	Input 1+
20	Input 2-
19	Input 2+

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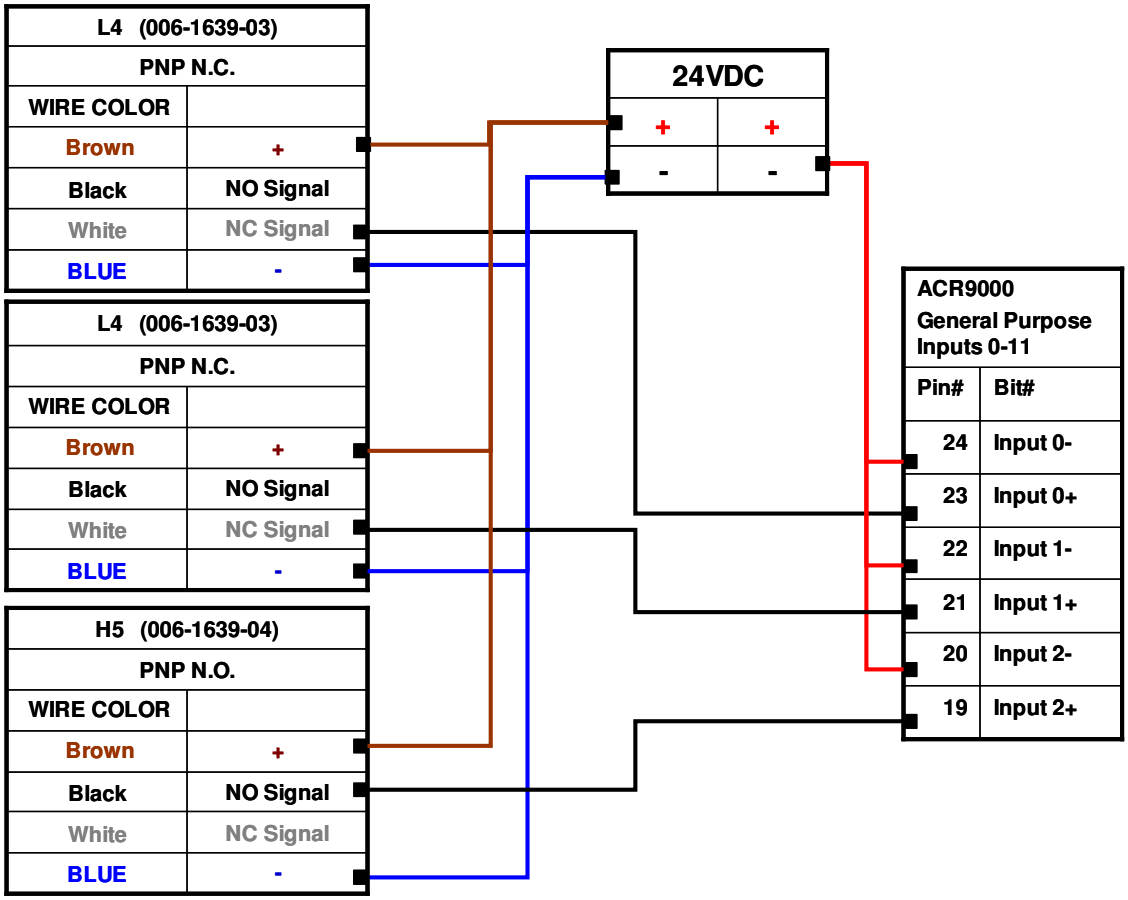
Application Notes: ACR9000 Inputs



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Application Notes:
ACR9000 Inputs

ACR9000 with 400LXR

Limit and Home Sensor Specifications

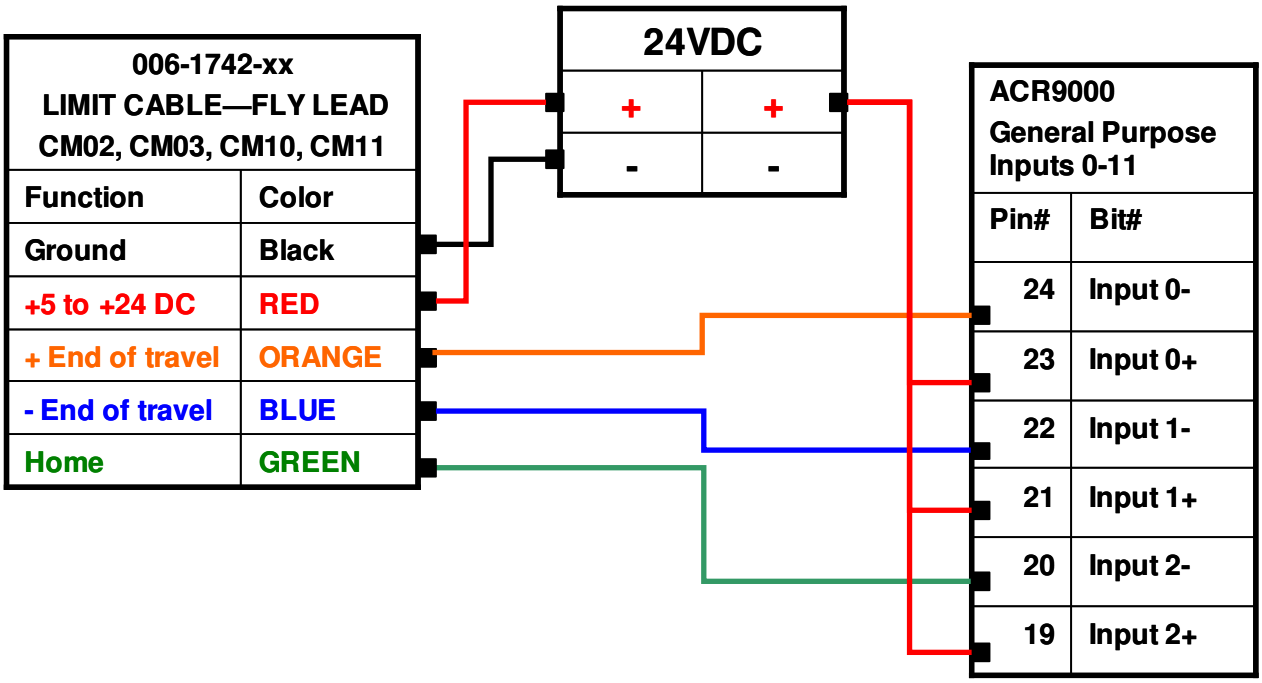
Description	Specification
Input Power	+5 to +24 VDC 60 mA (20 mA per sensor)
Output	Output form is selectable with product: Normally Closed Current Sinking Normally Open Current Sinking Normally Closed Current Sourcing Normally Open Current Sourcing All types Sink or Source maximum of 50 mA
Repeatability	Limits: +/- 10 microns (unidirectional) Home: See Z channel specifications

Home Sensor

- None-Free Travel (only) H1
- N.C. Current Sinking H2
- N.O. Current Sinking H3
- N.C. Current Sourcing H4
- N.O. Current Sourcing H5

Limit Sensor

- None-Free Travel (only) L1
- N.C. Current Sinking L2
- N.O. Current Sinking L3
- N.C. Current Sourcing L4
- N.O. Current Sourcing L5



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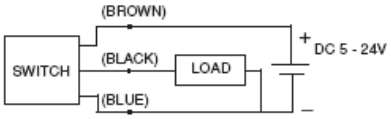
Application Notes:
ACR9000 Inputs

ACR9000 with Electric Cylinders

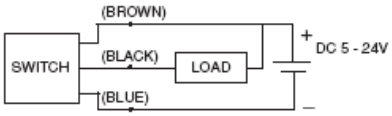
Hall Effect Sensors

Two types of Hall effect sensors are available for use with ET Series and ER Series actuators. The normally open sensor is typically used for mid-position sensing, such as homing applications. The normally closed sensor is generally used to indicate over-travel at the end of the stroke, and is used in a safety circuit to prevent damage to components caused by over-travel.

PNP Wiring Connection



NPN Wiring Connection



Note: End of travel sensors do not reduce available stroke.

ZETA6104 controls use NPN sensors for Home and End-of-Travel.

Specifications

Type:	Solid State Type (PNP or NPN)
Switching Logic:	Normally Open or Normally Closed
Supply Voltage Range:	5 - 24 VDC
Max. Switch Current:	150 mA
Current Consumption:	7 mA at 12 VDC, 14 mA at 24 VDC
Switching Response:	500 Hz Maximum
Residual Voltage:	0.8 V Maximum (150 mA)
Leakage Current:	10 uA Maximum
Insulation Resistance:	100 M Ohm min.
Min. Current for LED:	1mA
Operating Temperature:	-10° to 85°C (14° to 185°F)**
Lead Termination	1500 mm (60 in) or 150 mm (6 in) with connector
Industrial Protection:	IP67
Shock Resistance:	50 g's, 490 m/sec²

Basic Connection Diagram (PNP and NPN)

- Brown: DC Voltage (5-24 VDC)
- Black: Limit Input
- Blue: Ground

SMH-1N	
NPN N.O.	
WIRE COLOR	
Brown	+
Black	Signal
BLUE	-

24VDC	
+	+
-	-

ACR9000 General Purpose Inputs 0-11	
Pin#	AcroBasic Bit#
24	Input 0-
23	Input 0+
22	Input 1-
21	Input 1+
20	Input 2-
19	Input 2+

SMH-1P	
PNP N.O.	
WIRE COLOR	
Brown	+
Black	Signal
BLUE	-

24VDC	
+	+
-	-

Pin#	AcroBasic Bit#
24	Input 0-
23	Input 0+
22	Input 1-
21	Input 1+
20	Input 2-
19	Input 2+