



PROMATION ENGINEERING

Precision Actuation for Industry

Data Sheet

P1.B, P1.C Series

On/Off/Jog

ISO5211 F03/F05 8P14

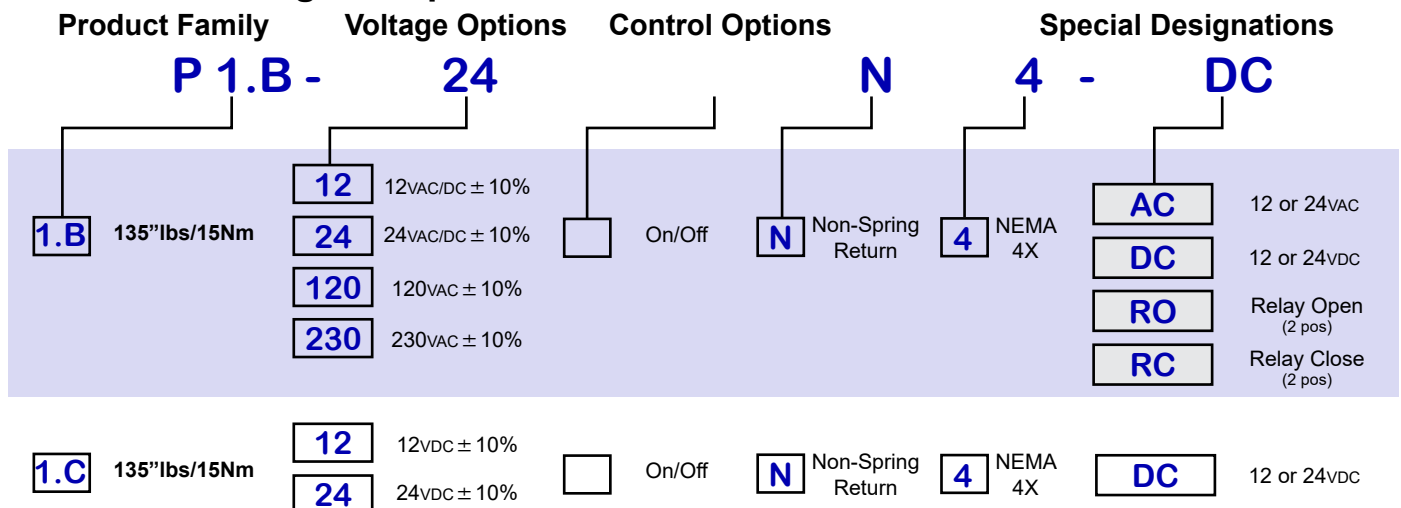
Actuator Specifications	P1.B				P1.C	
	Torque "lb/Nm	135"lbs/15Nm				
Supply Voltage	12v ac/dc	24v ac/dc	120vac	230vac	12v dc	24v dc
Max Inrush Current	2.0A	1.1A	0.6A	0.4A	5.1A	5.4A
Running Current	1.9A	1.1A	0.6A	0.3A	1.7A	1.8A
Motor	DC Brush Type		Split Phase Capacitor		DC Brush Type	
Runtime (90°@60Hz/vdc)	8 sec		8 sec		3 sec	
Runtime (90°@50Hz)	8 sec		10 sec		no AC option	
Duty Cycle	75%		25%		75%	
Motor Starts	1200 per hour					
Weight	5lbs/3kg					
Mechanical Connections	ISO5211 F03/F05 8pt 14mm					
Electrical Entry	(2) 1/2" NPT					
Electrical Terminations	14-18ga					
Environmental Rating	NEMA 4/4X					
Manual Override	8mm Socket Drive					
Control	On/Off/Jog ONLY					
Actuator Case material	Aluminum Alloy, Powder coated					
Motor Protection (12/24vac/ dc or 120/230vac Operation)	230°F/110°C Thermal F* Class *Totally Enclosed Non-Ventilated Motors					
Ambient Temperature	-22°F to +125°F					
Operating Range	-30°C to +52°C					



Electric actuators designed for load requirements of up to **135"lbs but with different speeds**. P1.B has a rotation time of 8 seconds and the P1.C has a rotation time of 3 seconds (90° opening). Each actuator comes standard with two auxiliary switches (shared common, rated at 3A 250V Max), an internal low power heater, a NEMA 4X environmental rating, but are available in different supply voltages: P1.B is available in 12VAC/DC, 24VAC/DC, 120VAC and 230VAC. P1.C is available in 12VDC and 24VDC.

The P1 series mechanical connections are ISO5211 compliant, utilizing an F03/F05 bolt pattern and an 8 point 14mm female drive. Both P1.B and P1.C are available **ONLY** as on/off (two position) models that can also be used in bump/jog applications.

Product Ordering Example:

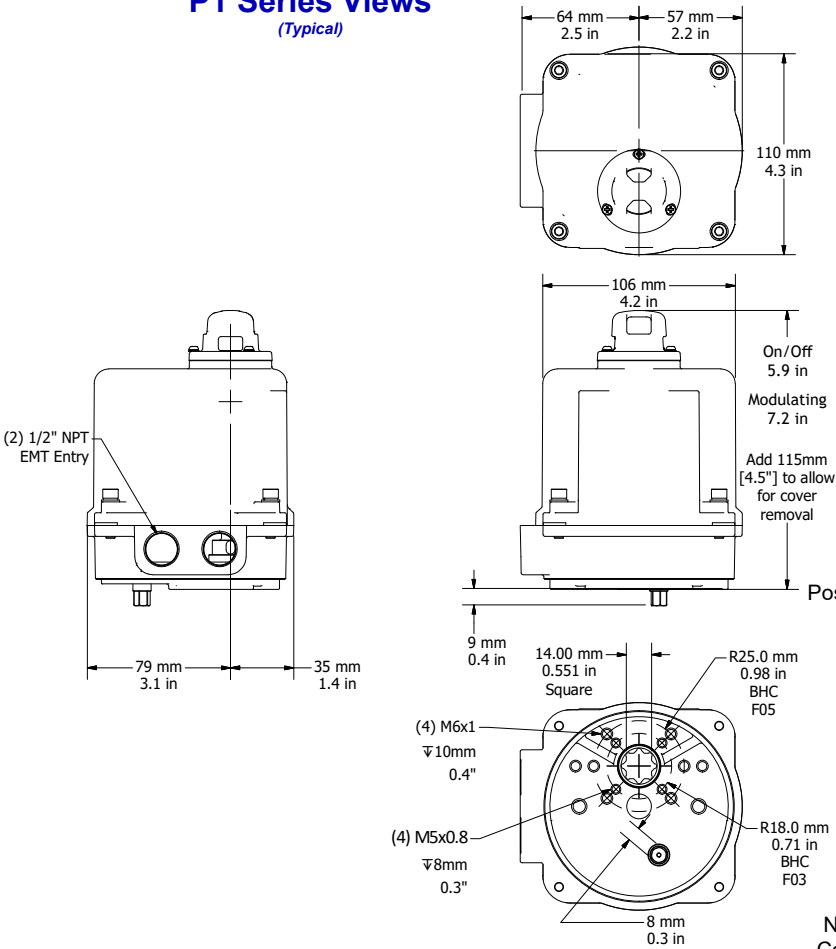


Note: Not all combinations are possible. Please consult factory.

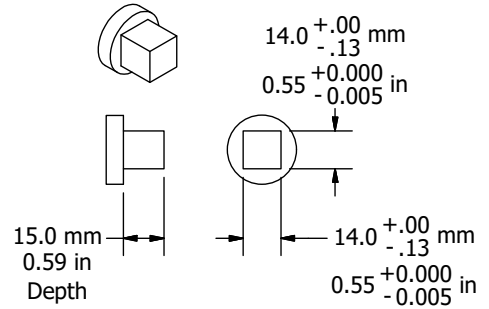
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P1 Series Dimensional Data

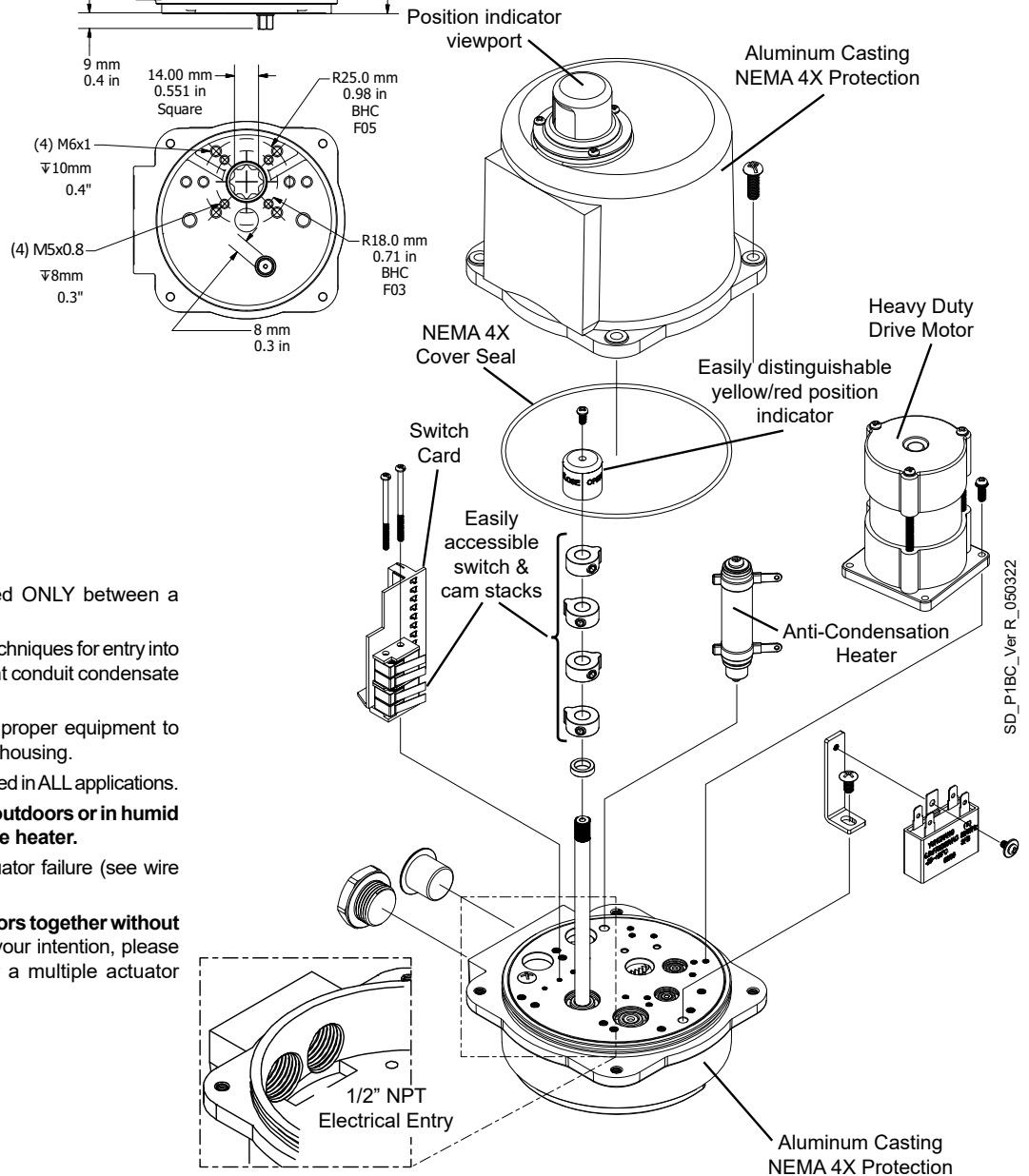
P1 Series Views (Typical)



Drive Coupling Fabrication Data



P Series Exploded View (P1-24N4 shown)



Application Notes:

1. These actuators are to be mounted **ONLY** between a horizontal and upright position.
2. When installing conduit, use proper techniques for entry into the actuator. Use drip loops to prevent conduit condensate from entering the actuator.
3. Both NPT conduit ports **MUST** use proper equipment to protect the NEMA 4X integrity of the housing.
4. The anti-condensate heater is to be used in **ALL** applications.
5. **Do not install or store the actuator outdoors or in humid environments without power to the heater.**
6. Use proper wire size to prevent actuator failure (see wire sizing chart).
7. **Do not parallel wire multiple actuators together without utilizing isolation relays!** If this is your intention, please contact ProMation Engineering for a multiple actuator parallel wiring diagram.

Wiring Diagrams for P1.B Series

On/Off/Jog Control

SAMPLE DIAGRAM

Refer to the proper IOM for your actuator for the correct wiring diagram or visit www.promationei.com.

Wiring Information common to both

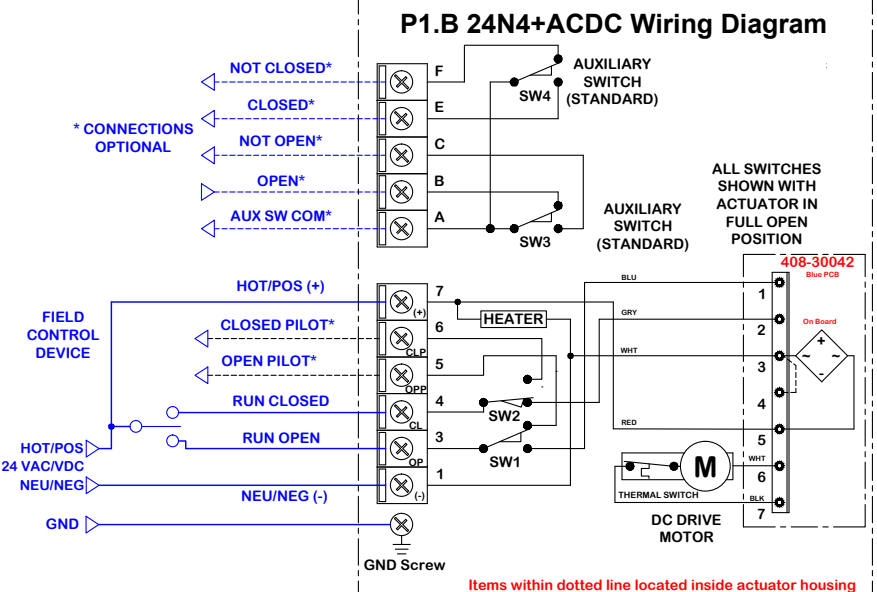
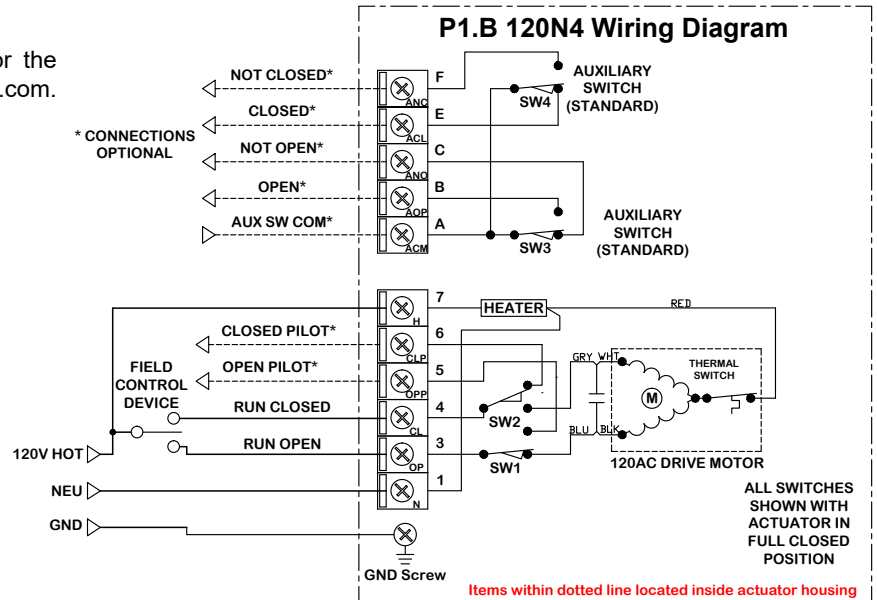
- Field Control Device may be relay contact, Switch or Triac type.
- Pilot device 3A MAX. Auxiliary switches are rated 3A @ 250vac MAX.
- Terminals A-F are dry type Form C.

Wire Sizing Data

Wire sizing data is provided to assist in the selection of the proper wire size for ProMation P1 series actuators using various wire sizes over distance. Please make sure to reference the correct voltage and do not exceed the indicated length of the wire run for each model.

MAX distance between Actuator and Supply (feet)				
Actuator/ Voltage	P1.B 12V	P1.B 24V	P1.B 120VAC	P1.B 230VAC
Amps	2.0A	1.1A	0.6A	0.4A
Wire Gage				
18	41	150	1377	3960
16	65	236	2165	6223
14	105	381	3497	10052

Terminals accept 14-18ga solid/stranded wire.



Wiring Diagram for P1.C Series

On/Off/Jog Control

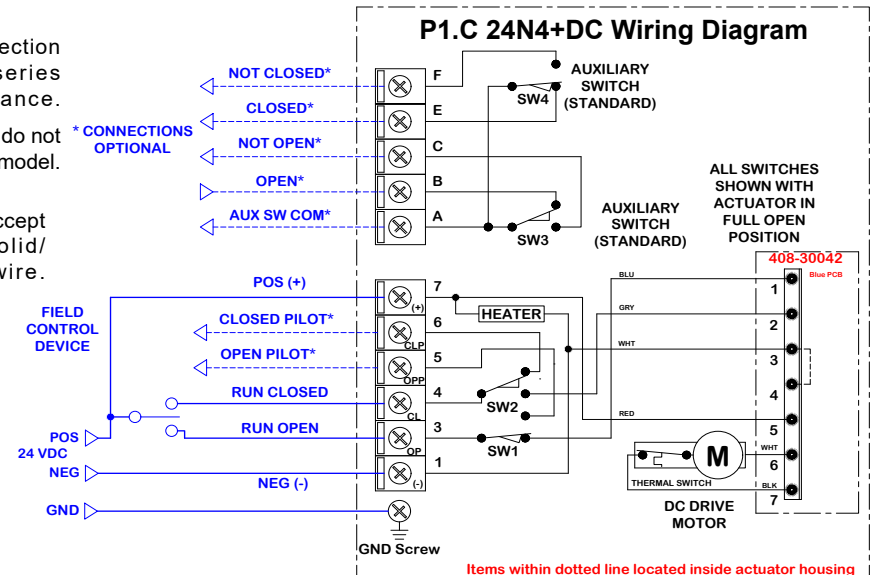
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Please make sure to reference the correct voltage and do not exceed the indicated length of the wire run for each model.

MAX distance between Actuator and Supply (feet)		
Actuator/ Voltage	P1.C 12VDC	P1.C 24VDC
Amps	5.1A	5.4A
Wire Gage		
18	—	—
16	25	48
14	41	78
12	63	119

Terminals accept 12-16ga solid/stranded wire.



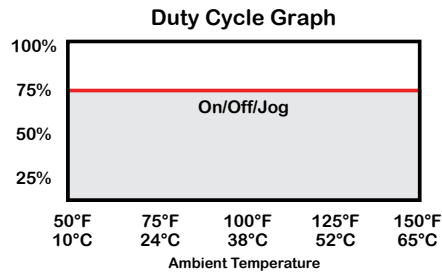
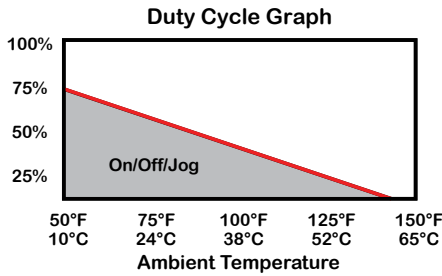
FEATURES



ISO F03/05 Mounting Detail, 8mm socket override and 8 point 14mm female drive on P1 Series actuators.



Simplified wiring under the cover makes field connections easier and less prone to loose connections and wiring errors.



- Duty cycle is defined as the ratio of run time vs. total cycle time, and is a function of environmental conditions including ambient temperature, supply voltage and control signal stability
- Duty Cycle rating on 120/230VAC actuators is 25%.
- Duty Cycle rating on all 12/24VAC/VDC actuators is 75%.

ProMation Product Line



PL Series Linear Drive

Up to 4400lbs down/up force.
Up to 100mm (4") stem travel



P Series Non-Spring Return

55"lbs through 40,000"lbs.
Quarter-Turn, with manual Override



PA~PD Series Spring Return

445"lbs through 2300"lbs.
Quarter-Turn, available with or without manual override handwheel.



PBU Battery Back-Up Systems

Provides power sufficient to drive **P Series actuators**
Electric fail-safe option for P Series & PL Series

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ProMation Engineering follows a policy of continual product updates and enhancements. Our website is the best place to obtain the latest product documentation, including the wiring diagrams for these controllers. Visit us at www.promationei.com or use the QR code below to link to the site.



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