

PROMATION ENGINEERING

Precision Actuation for Industry



**RUGGED
INDUSTRIAL
ELECTRIC
ACTUATORS**



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ProMation Engineering offers a full range of industrial actuators that are designed and constructed to meet the demands of the most demanding installations and applications.

Printed Circuit Board Mounted Components

Anti-Condensation Heater (Standard Equipment)

Incoming Connections

Form C Auxiliary and Limit Switches

Single Connection for Motor

Epicyclic Gearing

Mechanical End Stops

Easy to see yellow/red 360° Position Indicator

NEMA 4/4X/IP67 Rated Powder Coated Aluminum Enclosure

Color-Coded Aluminum Cams

Clutch-less Manual Override

Quarter Turn Actuators

from 135 to 40,000 in lbs



P1

Torque Value:
135 in lbs-445 in lbs
15 Nm-50 Nm



P2-3

Torque Value:
600 in lbs-1335 in lbs
67 Nm-150 Nm



P4-6

Torque Value:
2200 in lbs-5750 in lbs
248 Nm-650 Nm



P7-8

Torque Value:
8900 in lbs-13250 in lbs
1000 Nm-1500 Nm



P9-13

Torque Value:
17500 in lbs-40000 in lbs
2000 Nm-4500 Nm

Engineered for Installation Ease, Reduced Maintenance, and Exceptional Reliability

Multiple mounting designs to reduce assembly costs

- Multiple mount patterns on P2-P6 actuators
- ISO 5211 and Imperial Mount patterns

Industrial Grade Components and Design Increase Reliability

- Carbon steel permanently lubricated gearing
- 15A Industrial Switches mounted on PCB
- Thermally protected NEMA Class F motor
- Stainless steel hardware

Industrial Design reduces failure modes

- No Clutch
- Reduced electrical connections
- No Motor Brake
- Modular control components

Many Different Control Modes to fit your Application

- Several Modulating Control Options
 - Standard Controller
 - Premium Controller
 - High Resolution Controller
- Modbus
- Multiple Open/Close Control Options
 - Single wire control—Hot control signal to Open, no control signal to Close, no control signal to Open
 - 5.1v to 24v DC or 24-230v AC control to Open or Close regardless of line power.
- Three location stops: 0-45-90, 0-90-180, or three custom degree stop points
- Up to 270° rotation Open/Close or Modulating
- Timer function for autonomous operation
- Potentiometer or 4-20mA Feedback for position sensing
- Wireless control for Open/Close control



PL 680—PL2000
Standard Location
680 lbs - 2000 lbs
4.3 kN - 23.6 kN



PL 680—PL2000
Hazardous Location
680 lbs - 2000 lbs
4.3 kN - 23.6 kN



UM/UL Series
400 in lbs - 5000 in lbs
45 Nm - 565 Nm



PA - PD
445 in lbs - 2300 in lbs
50 Nm - 260 Nm

P-Series Quarter Turn Actuators

Industrial actuators featuring epicyclic gear drives and high reliability internal connections. Two Mounting patterns are available –ISO 5211 and Imperial. All P-Series actuators come with a standard anti-condensation heater, 2 auxiliary switches, clutch-less manual override handwheel and NEMA 4/4X/IP67 enclosure.

Quarter Turn Actuators

Product family	Torque Output		Draw (amps)	Actuator Run Time (sec)		ISO 5211 Mount		Imperial Mount		Shipping Weight (lbs/kg)
	In lbs	Nm		60 Hz	VDC	ISO Pattern	Receiver (mm)	BHC (in)	Receiver (in)	
PZ6	55	6	0.3	8	8	F03/F05	14Sq	*	*	4/2
PZ15	135	15	0.3	19	19	F03/F05	14 Sq	*	*	4/2
P1	300	35	0.6	12	15	F03/F05	14 Sq	1.71/3.25	9/16 x 3/8 DD	5/3
P1.A	445	50	0.6	27	20	F05/F07	17 Sq	3.25	9/16 x 3/8 DD	7/4
P1.B	135	15	0.6	8	8	F03/F05	14 Sq	*	*	5/3
P1.C	135	15	1.8Aat24V	*	3	F03/F05	14 Sq	*	*	5/3
P2	800	90	1.0	17	18	F07/F10	22 Sq	3.25	3/4 x 1/2 DD	26/12
P3	1,335	150	1.2	26	27	F07/F10	22 Sq	3.25	3/4 x 1/2 DD	26/12
P4	3,500	400	1.9	19	21	F10/F12	36 Sq	3.25/5.0	Rnd 1.125	47/22
P5	4,400	500	2.0	26	28	F10/F12	36 Sq	5.0	Rnd 1.125	47/22
P6	5,750	650	2.1	34	37	F10/F12	36 Sq	5.0	Rnd 1.125	47/22
P7	8,900	1,000	3.1	50	52	F12	36 Sq	5.0/6.5	Rnd 1.375	82/37
P8	13,200	1,500	3.3	51	58	F14	36 Sq	5.0/6.5	Rnd 1.625	82/37
P9	17,500	2,000	3.3	62	*	F16	Rnd 75	*	*	145/66
P10	22,000	2,500	4.0	62	*	F16	Rnd 75	*	*	145/66
P11	26,500	3,000	4.5	62	*	F16	Rnd 75	*	*	157/72
P12	31,000	3,500	4.0	62	*	F16	Rnd 75	*	*	157/72
P13	40,000	4,500	4.2	88	*	F25	Rnd 75	*	*	240/109

Running Amps: 120 VAC/24VDC unless otherwise noted

* = Not applicable

Voltage Options	Family	Voltages
Low Voltage Modification	P1-P6	12 VAC or 24 VDC
Low Voltage Modification	P1-P8	24 VAC or 24 VDC
3 Phase Modification	P2-P13	3 Phase 230v, 315v, 380v, 440v, 480v (doesn't include MCC)

Control Options	Family	Voltages
Standard Control	P1, P1A	24 VDC, or 24, 120, or 230
Premium Control	P2-P13	24, 120, or 230 VAC
High Resolution Control	P2-P13 One line	24 VDC Standard Optional for 24, 120, or 230 VAC

Options with Product Suffix (Factory Installed Only)		
Item	Family	Description
-ED	P1, P1A, P2-P8	Extended Duty Motor, 120 VAC, or 230 VAC only, 75% Duty Cycle—on/off/jog
-ED	P9-P13	Extended Duty Motor, 120 VAC or 230 VAC only, 50 % Duty Cycle—on/off/jog
-TS	P2-P9	Torque Switch Assembly (on/off/jog or Select Proportional Controllers)
-MCC	P2-p13	Motor Control Center for 3 Phase Voltage
-68	P2-P8	IP68, tested to 0.7 kgf/cm ² for 72 hours



Options and Accessories

P1 Series Options (Factory Installed Only)

Item	Description
MOD 0-45-90 DEG	Actuator modification for 0-45-90° rotation. Available on 120 VAC or 230 VAC only, (unit will not support field use of auxiliary switches)
MOD 0-90-180 DEG	Actuator modification for 0-90-180° rotation. Available on 120 VAC or 230 VAC only, (unit will not support field use of auxiliary switches)
MOD 0-180 DEG	Actuator modification for 0-180° rotation. Available on on/off/jog models only.
OPT-COLD P1	Cold weather Positive Temperature Coefficient (PTC) auxiliary heater kit. Factory installed, 120 VAC or 230 VAC on/off/jog type actuators. 10 W internal heater.
OPT-P1-1-10K	Factory installed option consists of a 1k-10KΩ feedback potentiometer connected to a convenient 3 terminal block.
OPT-RO-P1	Relay to Open or Relay to Close.
OPT-THERMOSTAT-P1	Integral thermostat for heater control—turns existing heater on at 0°C (+32°F), off at 10°C (+50°F)
OPT-TIMER-LI-P1	Timer set for duration and frequency to slow cycle time or continuous open/close time cycle.

Commonly Used Options for P2-P13 (Factory Installed Only)

Item	Description
OPTION-X	Additional third and fourth auxiliary switch set
OPT-P213-1-10K	Factory installed option consists of a 1k-10kΩ feedback potentiometer connected to a convenient 3 terminal block.
OPT-ROP213	Relay to Open
OPT-RCP213	Relay to close
OPT-DRP213	Dual Relay to isolate incoming control signal for Open/Closed position (5-24VDC to 120/230VDC)
OPT-TIMER-LI-P213	Timer set for duration and frequency to slow cycle time or continuous open /close cycle time.
OPT-COLD-P213	Cold weather auxiliary heater to -40°C/F On at 0°C (+32°F), off at 10°C (+50°F)
OPT-420FB	4-20mA feedback generator for on/off/jog, 24 VAC, 24 VDC, 120 VAC, or 230 VAC
MOD 0-45-90 OR MOD 0-90-180	0° or 45° or 90° OR 0° or 90° or 180°, 3 position stop points in rotation
MOD 0-180	0° or 180°, 2 position stop points in rotation

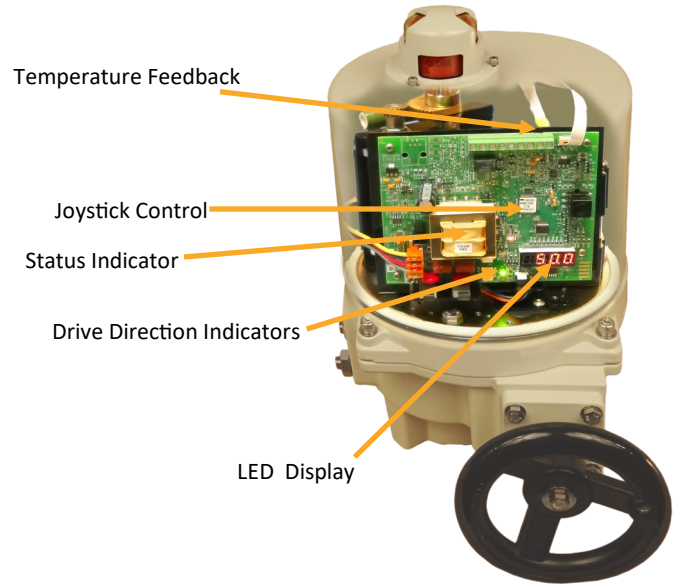
P Series Options and Accessories

Not all options are available for all actuators and not all accessories work currently with other accessories. Other options are available. Please contact your ProMation representative for product and application assistance.

Modulating Control Options

ProMation Engineering offers a wide range of control for nearly all products.

ProMation offers full modulating control utilizing multiple input and feedback signals. Different control packages offer different resolution settings for different applications. The high resolution controller has additional filter and circuitry that give high accuracy while reducing actuator hunting around a setpoint. Other features include fault indicators, data logging and direction indicators to name a few. Modbus communications are also available.



Feature	Parameter	Standard	Premium	High Resolution
Power Indicator	On/off LED	✓	✓	✓
Drive CW Indicator	On/off LED	✓	✓	✓
Drive CCW Indicator	On/off LED	✓	✓	✓
Programmable Loss of Signal Positioning	Stay in Place; Go Open: Go Closed	✓	✓	✓
Resolution	Percent	1%	0.5%	0.25%
Input and Feedback Signal	1-5 VDC	✓	✓	✓
	2-10 VDC	✓	✓	✓
	4-20 VDC	✓	✓	✓
	0-10 VDC		✓	✓
Feedback	DC Voltage Supply	✓	✓	✓
	Loop Current			10-24 VDC
Diagnostic and Fault Indicators	Motor Stall		✓	✓
	Low Voltage		✓	✓
	High Current		✓	Adjustable to limit torque (DC only)
	Motor Temperature		✓	✓
	Cycle Count			✓
Auto Calibration	AutoCal Fail		✓	
	Incorrect Input			✓
			✓	
Self Tuning Feedback Signal			✓	✓
Datta Logger			✓	
Alarm Contact Output			✓	
Alphanumeric Display			✓	

P2-P8 Series explosion Proof Quarter Turn Actuators

Industrial actuators featuring epicyclic gear drives and high reliability internal connections. All P2-P8 explosion proof actuators come with a standard anti-condensation heater, 2 auxiliary switches, clutchless manual override hand wheel and NEMA 7/9 enclosure.

Product Family	Torque (in lbs)	Torque (Nm)	Draw (Amps)	Runtime	ISO 5211	8pt double square	Height (in/mm)	Weight (lbs/kg)
PX1-120N7	300	35	0.6	12	F03/F05	14	6.6/168	4/2
PX1.A-120N7	450	50	0.6	24	F05/F07	17	8.5/215	7/3
P2-120N7	800	90	1.0	15	F07	22	14.1/359	40/18
P3-120N7	1,335	150	1.2	22	F07	22	14.1/359	40/18
P4-120N7	3,500	400	1.9	16	F10	35	15.3/389	58/26
P5-120N7	4,400	500	2.0	22	F10	35	15.3/389	58/26
P6-120N7	5,750	650	2.1	28	F10	35	15.3/389	58/26
P7-120N7	8,900	1,000	3.1	46	F12	36	18.8/478	93/42
P8-120N7	13,250	1,500	3.3	46	F12	36	18.8/478	93/42

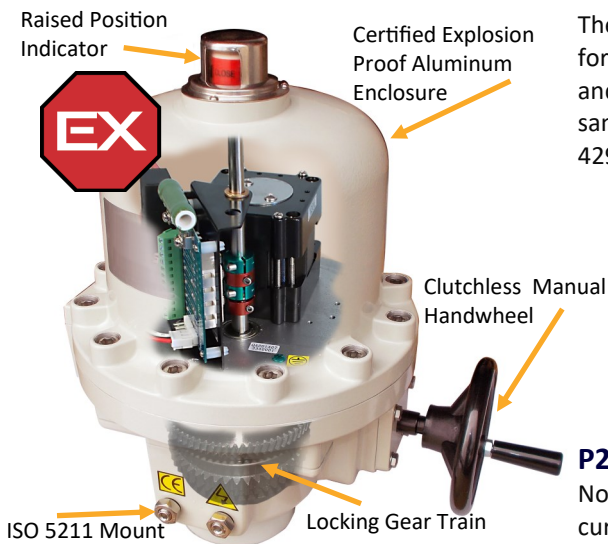
Explosion Proof

The ProMation Engineering explosion/ignition proof actuators are certified for use in hazardous locations per UL 1203 and CSA 22.2 No. 30 and No. 31, and meets NEMA 7 and 9 criteria: The hazardous location actuators share the same electronic and mechanical components as our standard location (UL 429/CSA 22.2 No. 139) products.

Class I, Division 1, Groups C and D
Class II, Division 1, Groups E, F, and G
Class III; T6
Ex d IIB Gb T6, Ex tb IIIC T85°C Db
Class I, Zone 1, AEx d IIB Gb T6

P2-P8 Series of Explosion Proof Options and Accessories

Not all options are available for all actuators and not all accessories work concurrently with other accessories. Please contact the factory for product and application assistance.



Hazardous Location Options P2-P8 (Factory Installed Only)

Low Voltage Modification	24 VAC or VDC
High Voltage Modification	230 VAC Single Pulse
Proportional Control—P	ProMation Premium Proportional Controller 24 VAC, 120 VAC, or 230 VAC
-TS P2-P8	Torque Switch (not available for P2/P3 with Proportional Control)
MOD 0-45-90 DEG	0-45-90 degree rotation
MOD 0-90-180 DEG	0-90-180 degree rotation
MOD 0-180 DEG	0-180 degree rotation (on/off only)
OPTION-X	Third and fourth Auxiliary Switch set

ProMation Fail Safe Actuators

ProMation is the only manufacturer with full set of electrical and mechanical fail safe options utilized in a wide range of critical functions. ProMation fail safe solutions are used in many different applications from simple isolation valves to mission-critical heat exchangers. Call ProMation to help choose the right fail safe solutions for your application.

ProMation Failsafe

Failsafe actuators operate after line power has been lost at the actuator to drive to a predetermined position—either open or close.



ULE-AVN7-EPBA
U-Series with SuperCap



PAO-CW-120254
Mechanical
Spring Return



PBU-104-120-4
Battery Backup

Three types of ProMation failsafe operation:

- Rechargeable electric actuators where the energy is supplied by internal supercapacitors
- Mechanical spring return actuators where the energy is supplied by compressed springs
- Freestanding devices where the energy is supplied by batteries

Typical Applications:

- Hydrogen Flow Control
- Heat Exchanger Inflow Control
- Boiler Fuel/Air Supply
- Holding Tank Outflow Control
- Isolation Valve
- LACT Skids
- 3 Phase Separators
- Emergency Ventilation Systems

Fail Safe Solutions—SuperCap

U-Series Actuators:

Complete Multifunctional Actuators

- **Multiple Field Selectable Control Configurations**
 - 2 wire on/off/jog
 - Single wire on/off
 - Three position
 - Multi-turn, clockwise or counterclockwise
 - Proportional
 - 4-20mA / 0-10 VDC
 - MODBUS RTU/TCP
- **Front Panel LED Display**
- **Supercapacitor Option for Loss of Power**
- **Torque Range 400 to 5000 in lbs (68 to 565 Nm)**
- **Universal Power Input (24 VDC, 24-230 VAC)**

The U-Series Actuators

The U-Series actuators are ProMation's most advanced actuator providing 100% Continuous Duty Cycle using a DC Brushless Motor. Standard Controls include 2 wire/single wire On/OFF, analogue modulation (4-20mA and 0-10VDC) and MODBUS RTU/TCP. The U-Series is Class 1, Division 2, explosion-proof, non-incendive certified for Gas Groups A, B, C, D. The U-Series has an optional fail-safe capability using supercapacitor back up for loss of line power.



The U-Series has universal power input (12 VDC, 24 VDC, 24 VAC, 100-240VAC) as well as only low voltage (12VDC, 24 VDC, or 24VAC).

The U-Series actuator is available with five different torque options. The UL Series has torque output between 600 and 5000 in-lbs. with ISO 5211 F07 and F10 mounting. The UM series, roughly 20% smaller than the UL, has torque output of 400 to 1200 in-lbs with ISO 5211 F05 and F07 mounting.



UL and CE Certified
Class 1, Div 2, Groups A, B, C, D

Group	Hazardous Material in Surrounding Atmosphere
A	Acetylene
B	Hydrogen, ethylene oxide, etc.
C	Hydrogen sulfide, ethylene, etc.
D	Gasoline, natural gas, etc.

Product Family	Torque Output		High voltage Draw	Low voltage Draw	Stroke Speed (in seconds)		Mount Info		Size		Shipping Weight
	In lbs	Nm	amps	amps	Default 90°	90° Range	ISO 5211	dbl sq drive	Inches	mm	lbs/kg
UMB	400	45	3.3	0.65	2.5	1.8-6	F05/07	17 mm	8.4x9.2x8	214x233x204	19/8.6
UMC	600	68	3.3	0.65	4	3-10	F05/07	17 mm	8.4x9.2x8	214x233x204	19/8.6
UMD	1,200	136	3.3	0.65	8	7-20	F05/07	17 mm	8.4x9.2x8	214x233x204	19/8.6
ULC	600	68	3.3	0.65	4	3-10	F07/10	27 mm	8.5x11.25x8.8	216x286x223	26/11.8
ULD	1,200	136	3.3	0.65	8	7-20	F07/10	27 mm	8.5x11.25x8.8	216x286x223	26/11.8
ULE	2,500	282	3.3	0.65	14	12-36	F07/10	27 mm	8.5x11.25x8.8	216x286x223	27/12.2
ULF	5,000	565	3.3	0.65	33	27-85	F07/10	27 mm	8.5x11.25x8.8	216x286x223	28/12.7

PA-PD Series Mechanical Fail Safe Actuators

The PA-PD Series Spring Return Actuators utilize springs to drive rack and pinion gears. Available with and without non-clutchable manual override handwheel. Specify **CW** or **CCW** model when ordering, **they are not interchangeable**. The PA-PD Series actuators are available **Standard or Hazardous (Class 1 Division 1)** location enclosures.

Fail Safe Solutions—Spring Return

Product Family	Torque Output		Draw	Actuator Run Time (sec)			Spring Return Time (sec)		Mounting Information		Height	Shipping Weight
	In lbs	Nm	amps	50 Hz	60 Hz	VDC	120V/230V	24V	ISO 5211	8pt dbl sq	in/mm	lbs/kg
PA	445	50	1.0	9	7	7	3	3	F07	17mm	17/425	65/30
PB	1,150	130	3.8	9	7	8	8	3	F10	22mm	20/503	124/57
PC	1,750	200	3.8	13	11	11	12	3	F12	27mm	23/577	209/95
PD	2,300	260	3.8	17	14	17	12	3	F12	27mm	25/577	209/95
PE	3,185	360	3.8	23	24	24	23	8	F12	36 mm	29/743	228/103

With Manual Override

PAO	445	50	1.0	9	7	7	3	3	F07	17mm	21.1/55	88/40
PBO	1,150	130	3.8	9	7	8	8	3	F10	22mm	25.3/638	184/84
PCO	1,750	200	3.8	13	11	11	12	3	F12	27mm	29.1/732	297/135
PDO	2,300	260	3.8	17	14	17	12	3	F12	27mm	29.1/732	297/135
PEO	3,185	360	3.8	23	24	24	23	8	F12	36 mm	33.5/852	336/152

Running Amps: 120 VAC@ 60 Hz. Actuator Run Times are given for 120 VAC and 24 VDC

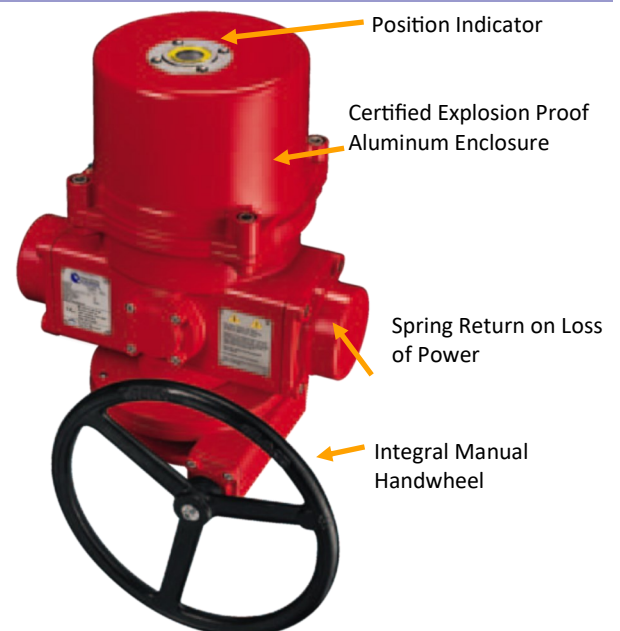
Options common to PA-PD Series (Factory Installed Only)

Low Voltage Modification	24 VAC or 24VDC (12V option NOT AVAILABLE)
3 Phase Voltage Modification	3 Phase 230V, 315V, 380V, 440V, or 480V with custom transformer enclosure
Proportional Control—P	Standard Proportional Controller 120 VAC or 230 VAC (24 V option NOT AVAILABLE)
OPT-COLD-PAD	Cold weather auxiliary heater: On at 0°C (+32°F), off at 10°C (+50°F)
OPTION-X-PA	2 additional Auxiliary Switches

Spring Return Explosion Proof Actuators

Hazardous Location Applications

ProMation Engineering actuators spring return mechanical fail-safe actuators have critical applications in isolation and shut off valves in the Oil and Gas industry in midstream processing, tank isolation, and gas delivery, to name just a few applications. Below grade applications in Waste Water Treatment, Mining, and Chemical Processing many times require explosion proof actuators.



Power Backup Units (PBU) for Electric Fail Safe

PBUs are designed for P and PL series actuators. Replaceable sealed lead-acid battery packs provide backup power for positive positioning in critical applications. Standard with NEMA 4/4X enclosure. Some assembly is required and customer is required to make field connections.



Fail Safe Solutions—Battery

On/Off/Jog Part Number	Proportional Part Number	For Actuator Series	Output Voltage	Required Supply Voltage	Replacement Battery	Height (in/mm)	Weight (lbs/kg)
PBU100-120-4	PBU600-120P-4	P1-P3	120 VAC	120 VAC	RBC-35	14.50/368.3	25/11
PBU100-24A-4	PBU600-24AP-4	P1-P2	24 VAC	120 VAC	RBC-35	14.50/368.3	39/18
PBU102-120-4	PBU602-120P-4	P4-P6	120 VAC	120 VAC	RBC-110	16.04/407.4	30/14
PBU102-230-4	PBU602-230P-4	P1-P6	230 VAC	230 VAC	RBC-51	16.04/407.4	30/14
PBU102-24A-4	PBU602-24AP-4	P3-P6	24 VAC	120 VAC	RBC-110	16.04/407.4	45/20
PBU104-120-4	PBU604-120P-4	P7-P13	120 VAC	120 VAC	RBC-17	16.04/407.4	30/14
PBU104-230-4	PBU604-230P-4	P7-P13	230 VAC	230 VAC	RBC-51	16.04/407.4	30/14

Control Signals can be 2-10 VDC **OR** 4-20 mA and are field selectable. 230 VAC versions not available in PBU100 or PBU60

Options common to PBU Series (Factory Installed Only)

OPT-COLD-PBU	Cold weather auxiliary heater. On at +32°F, off at +50°F. (Contact ProMation)
OPT-PBU-MON	Remote Status Monitoring option.



D Series Spring Return Actuators

Spring return actuators designed for use on valves and dampers. Featuring field adjustable open and close rates and auto switching power supplies which accept AC or DC from 24V to 230V. The D Series actuators are available Standard or Hazardous (Class 1 Division 1) location enclosures.

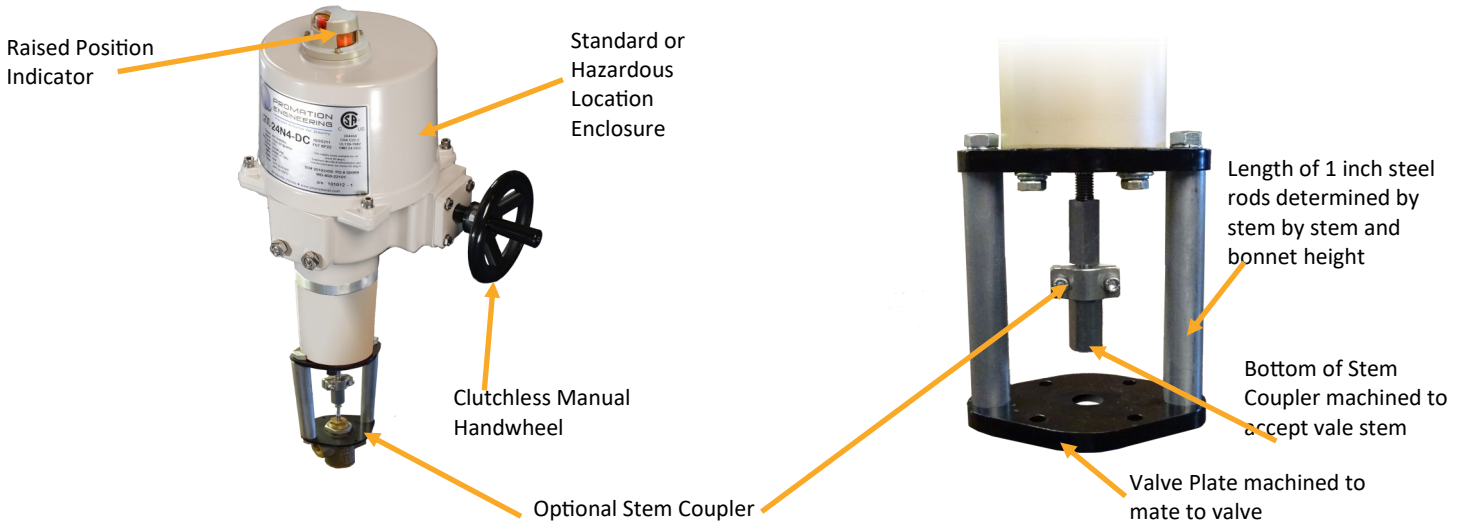
Part Number	Torque (in/lbs)	Torque (Nm)	Runtime (sec) Field Selectable	Spring Drive Speed (sec, 90°)	Control	Height (in/mm)	Weight (lbs/kg)
D2-310S4-0	45/90	5/10	5/15/30/60/120	3 or 10 (Sel)	On/off/jog	3.15/80	10/5
D2-310S4-2	45/90	5/10	5/15/30/60/120	3 or 10 (Sel)	On/off/jog w/aux	4.72/120	11/5
D3-310S4-0	133	15	5/15/30/60/120	3 or 10 (Sel)	On/off/jog	3.15/80	10/5
D3-310S4-2	133	15	5/15/30/60/120	3 or 10 (Sel)	On/off/jog w/aux	4.72/120	11/5
D4-20S4-0	265	30	40/60/90/120/150	20 (Fixed)	On/off/jog	4.57/116	24/11
D4-20S4-2	265	30	40/60/90/120/150	20 (Fixed)	On/off/jog w/aux	6.14/156	25/11
D5-20S4-0	445	50	40/60/90/120/150	20 (Fixed)	On/off/jog	4.57/116	24/11
D5-20S4-2	445	50	40/60/90/120/150	20 (Fixed)	On/off/jog w/aux	6.14/156	25/11



Linear Actuators

Designed for use on rising stem control valves, PL Series actuators provide up to 2000 lbs. (8kN) of force and up to 2 inches (50 mm) travel. The PL Series is available Standard or Hazardous (class 1, Division 1) location enclosures with standard anti-

Linear Actuators



Product Family	Max Stroke		Speed		Force		Weight (lbs/kg)		Height (in/mm)	
	mm	in	Mm/sec	In/sec	Lbs	kN	Standard	Hazardous	Standard	Hazardous
PL680	32	1.25	0.8	0.033	680	kN	20/9	20/9	13.4/339 14.6/371*	13.4/339 14.6/371*
PL1200	50	2	1.1	0.044	1200	kN	39/18	60/28	16.4/417	19.3/489
PL2000	50	2	0.8	0.033	2000	kN	39/18	60/28	16.4/417	19.3/489

*Proportional

PL Specific Options P2-P8

Line Voltage	24 VAC or VDC, 120, 230 VAC
3 Phase Voltage	3 Phase 230, 315, 380, 440, 480, or 575, Standard Location Only
Proportional Control	4-20mA, 1-5VDC, 2-10VDC, 0-10VDC control and feedback, field selectable).
OPT-COLD-PL	Cold weather auxiliary heater. On at 0°C (+32°F), off at 10°C (+50°F). (Contact ProMation)
OPT-P-5K	Potentiometric Feedback Option. Factory installed, 1kΩ, 5kΩ, or 10kΩ
OPT-420FB	4-20mA feedback generator for on/off/jog, 24 VAC, 24VDC, 120 VAC, or 230 VAC
OPT-THERMOSTAT	Thermostat for heater control—turns existing heater on at 0°C (+32°F), off at 10°C (+50°F).
OPT-TIMER-LI	Timer set for duration and frequency to slow cycle time.
OPT-LCS-ALL	Local Control Stations (LCS). See page 11 for a complete listing of all LCS solutions.

Local Control Stations (LCS)

ProMation LCSs are designed to be remotely located or directly mounted to the actuator. Standard with NEMA 4 steel enclosure. Customer is required to make field connections.

Customers with proportional actuators specify when ordering: 4-20mA or DC 2-10V control.



LCS Models	LA	LD	LF	LK
Product	All	All	P1, PA	P2-13
On/off/jog Actuators only	✓	✓		
Proportional Actuators only			✓	✓

Standard LCS Component Features: Common to LCS models listed (Factory Installed Only)

Local/off/Remote Mode Switch	✓	✓	✓	✓
Close-Stop-Open Switch	✓	✓		
Close-Open Switch (2 pos)			✓	
Close/Open Indicator Lights		✓	✓	✓
End of Travel (EOT) outputs to Controller		✓	✓	✓
Mode Switch Position Signal to Controller		✓	✓	✓
Illuminated Power Indicator		✓	✓	

LCS Options

ProMation can configure LCSs to fit your specific needs. Below are the general options that can be changed from our standard LCS offerings. All prices are determined by the scope of the project. Please contact ProMation for application assistance.

Option	Description
Actuator Type	Nearly all our actuators can be optioned with a LCS. LCS can be assembled for ProMation actuators as well as other brand electric actuators.
Control Mounting	Direct Mount (to the actuator) or Remote Mount
Supply Voltage	Supply Voltages including 12 VAC/VDC, 24 VAC/VDC, 120 VAC, 230 VAC, and 3 phase. 3 phase voltages: 230, 315, 380, 440, 480, 575. Not all voltages are compatible with all actuators
Control Type	4-20mA, 2-10VDC, 0-10VDC, 1-5VDC, or 0-135ohm
Enclosure Type	Painted Steel NEMA 4, Stainless Steel NEMA 4/4X, or Fiberglass NEMA 4/4X
Mode Select Switch	2 position knob, 3 position knob, 2 position key, 3 position key, no knob, or custom
Movement Select	2 position switch, variable position potentiometer, no device, or custom
Visual Indicators	Indicator colors: red, green, blue, yellow, and white LEDs are available
Actuator Contacts	Pass through auxiliary switches, end of travel outputs.
Mode Feedback	Remote, Auto, and Monitor modes with Dry Contacts (relays).
Position Readout	4-20 mA or 0-100% Signal Input and Outputs
Other Custom Components	External modular power cabling, remote location of proportional controller (in the LCS enclosure), custom indicators, switches, contact locks, and enclosures upon request



PROMATION ENGINEERING

Precision Actuation for Industry

Product Family Matrix

The ProMation Product Family Matrix gives a quick overview of the entire line at a glance. Please contact ProMation with questions or to request a quote for your specific application.

ACTUATOR FAMILY	Torque Output		Voltage Options					Mount	Control				Fail-safe		Environment										
	In lbs (force lbs)	Nm (force kN)	12 AC	12 DC	24 AC	24 DC	120 AC		230 AC	3 PHASE	ISO 5211	IMPERIAL	ON/OFF/LOG	PROPORTIONAL	HIGH RES. DISPLAY	MODBUS	LCS	SuperCap/Internal	Spring Return	NEMA 4/4X/IP67	IP 68	Class I, Div 1, Groups C, D	Class I, Div 1, Groups E, F, G	Class II, Div 1, Groups A, B, C, D	Class I, Div 2, Groups A, B, C, D
QUARTER TURN	PZ6	135			✓		✓	✓			✓								✓						
	PZ15	135			✓		✓	✓			✓								✓						
	P1	300		✓	✓	✓	✓	✓			✓	✓	✓			✓			✓		✓	✓			
	P1.A	445		✓	✓	✓	✓	✓			✓	✓	✓			✓			✓		✓	✓			
	P1.B	135		✓	✓	✓	✓	✓			✓								✓			✓			
	P1.C	135			✓		✓				✓								✓				✓		
	P2	800		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P3	1,335		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P4	3,500			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P5	4,400			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P6	5,750			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P7	8,900				✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
	P8	13,250				✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
P9	17,500						✓	✓		✓	✓	✓	✓	✓	✓	✓			✓			✓			
P10	22,000						✓	✓		✓	✓	✓	✓	✓	✓	✓			✓			✓			
P11	26,500						✓	✓		✓	✓	✓	✓	✓	✓	✓			✓			✓			
P12	31,000						✓	✓		✓	✓	✓	✓	✓	✓	✓			✓			✓			
P13	40,000						✓	✓		✓	✓	✓	✓	✓	✓	✓			✓			✓			
U-SERIES	UMB	400			✓	✓	✓	✓		✓	✓*	✓*	✓*	✓*		✓			④					✓*	
	UM/ULC	600			✓	✓	✓	✓		✓	✓*	✓*	✓*	✓*		✓			④					✓*	
	UM/ULD	1,200			✓	✓	✓	✓		✓	✓*	✓*	✓*	✓*		✓			④					✓*	
	ULE	2,500			✓	✓	✓	✓		✓	✓*	✓*	✓*	✓*		✓			④					✓*	
	ULF	5,000			✓	✓	✓	✓		✓	✓*	✓*	✓*	✓*		✓			④					✓*	
SPRING RETURN	PA/PAO	445		✓	✓	✓	✓	✓		✓	✓	✓	✓					✓	✓		✓	✓			
	PB/PBO	1,150		✓	✓	✓	✓	✓		✓	✓	✓	✓					✓	✓		✓	✓			
	PC/PCO	1,750		✓	✓	✓	✓	✓		✓	✓	✓	✓					✓	✓		✓	✓			
	PD/PDO	2,300		✓	✓	✓	✓	✓		✓	✓	✓	✓					✓	✓		✓	✓			

* standard with every actuator ④ only available with NEMA 4 Enclosure