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PA-CB30-2-12V24V

Two Channel Mid Power Control Box

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Safety Precautions

When installing and using your Progressive Automations Control Box, basic safety precautions should always be taken. Please read all safety precautions thoroughly and be familiar with all functions of the product before use. Apply all other relevant precautions when operating electrical devices.

DANGER

To mitigate the risk of damage and injuries:

- Do not attempt to modify or repair the Control Box.
- Avoid using the Control Box beyond its specified Ingress Protection rating.
- Avoid programming the Control Box (changing mode of operation or adding removing remotes) under load or connected to a load. Always disconnect it from any load before programming or changing settings.

WARNING

To reduce the risk of burns, fire, electrical shock, and injury to people:

- Ensure the applied power to the Control Box has correct polarity, meets the minimum requirements, and has a regulated output.
- Follow recommended load ratings and specifications for the Control Box.
- Avoid operating the Control Box where there may be high electromagnetic interference.
- Ensure that the Control Box and controlled device is visible to the user during operation, with no obstructions or potential for bodily harm.
- Progressive Automations does not assume any liability for preventing damage or bodily harm when using the Control Box. All necessary precautions must be taken by the user to ensure safe operation.

Operating Notes

Warranty

Any attempts to disassemble or tamper with the Control Box's internal components or operation outside of the advertised usage limitations will result in immediate voiding of the product's warranty. For more information on our warranty terms, visit: <https://www.progressiveautomations.com/pages/warranty-terms>.

Specifications

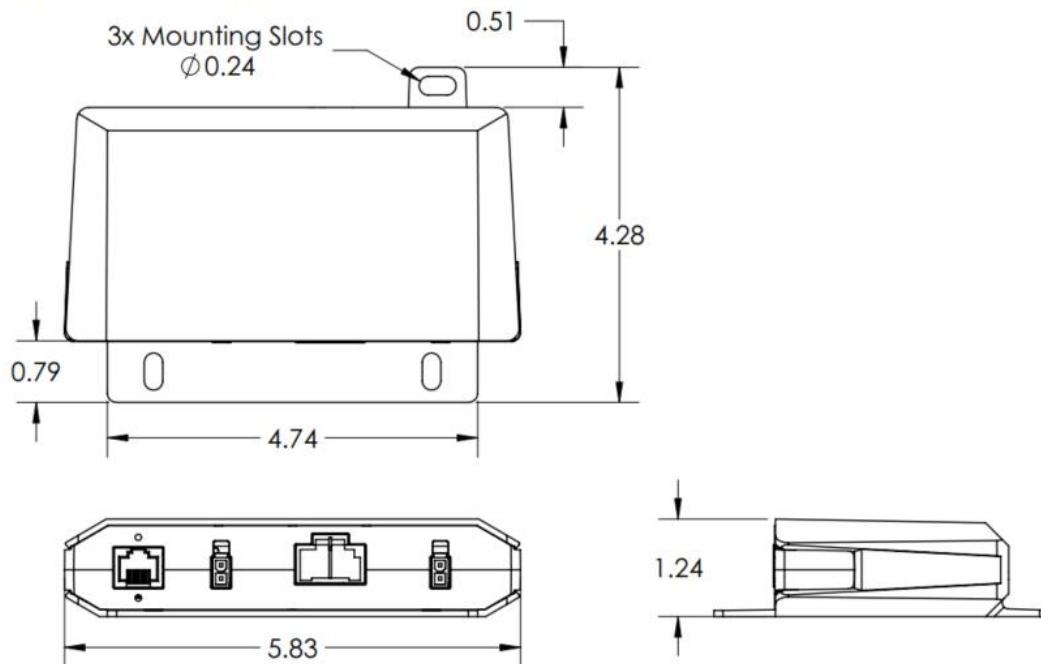
This Control Box must be used within the specified power, voltage and current input and current output ratings outlined in this documentation. Load must be evenly distributed within an application. Exceeding the recommended ratings may result in failure of the Control Box or permanent damage. Providing reverse voltage input to the Control Box may damage the product and void the warranty.

Specifications

Number of Channels	2
Input Voltage	12/24VDC (10VDC - 26VDC)
Output Voltage	12/24VDC (10VDC - 26VDC)
Current	12.5A @12VDC Per Channel 6.25A @24VDC Per Channel
Efficiency	99%
Ambient Current Draw	4mA
Standby Response Time	60mS
Sleep Mode Response Time	100mS
Duty Cycle	25% (Max 5 minutes continuous)
Operational Temperature	-10°C to 50°C (14°F to 122°F)
Housing Color	Black / Blue
Housing Material	ABS Plastic
Kit Includes	1x Control Box, 1x Wireless Remote (with Battery)
Wireless Frequency	433.92 MHz
Wireless Range	Minimum 60 Feet
Wireless Remote Functions	RT-40 Remote: Up, Down, Programming Modes, Stop RT-41 Remote: Actuator 1 Up / Down, Actuator 2 Up / Down, Programming Modes, Stop
Remote Battery Type	12V 27A Alkaline (included)
Dimensions (LxWxH)	5.83" x 4.28" x 1.25" (148.10 x 108.75 x 31.62 mm)
Unit Weight	0.31 lbs (140g)
Features	• 300-Watt Total Power Output / 150-Watt Per Channel • Automatic Power Saving Mode • Instant Wake Up (Single press, 100mS response time) • Wireless Remote Mode Selection • Wireless Remote Pairing • Pair Up to 4 Remotes • Smooth Motion Mode • Momentary and Non-momentary Control • Parallel and Individual Control Modes • 2x LED Indicator, Buzzer, and Push Button
Safety Features	• Output Short Circuit • Overload • Out of Range Input Voltage • Reverse Input Voltage

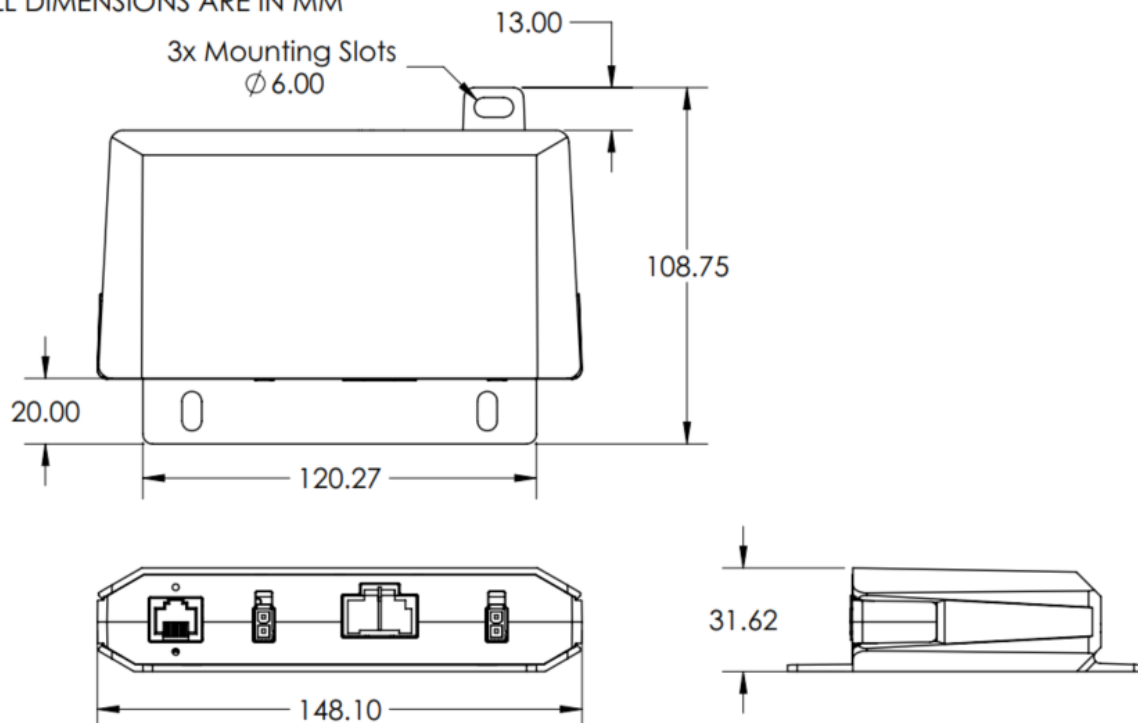
Dimensional Drawing (Imperial)

ALL DIMENSIONS ARE IN INCHES



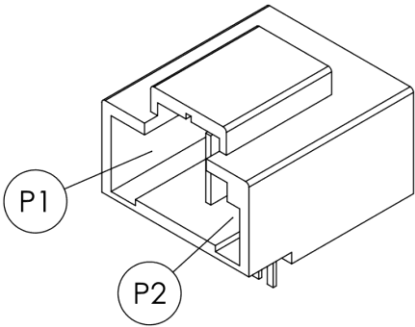
Dimensional Drawing (Metric)

ALL DIMENSIONS ARE IN MM



Connectors

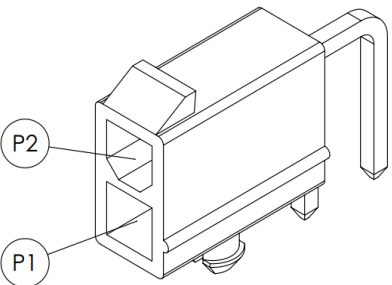
Power Input

	Pin Location	Function	Wire Color	Wire Gauge
	P1	Power Input COM / Negative (-)	Black	10 AWG
	P2	Power Input VCC / Positive (+)	Red	10 AWG

Parts List

	Part Name	Part Number	Mating Part Number
Power Input Housing	Hirose Connector Header, Through Hole, Right Angle, 2 Position	DF60-2P-10.16DS(27)	DF60A-2S-10.16C
Power Input Terminals			DF60-1012SCA

Actuator Port

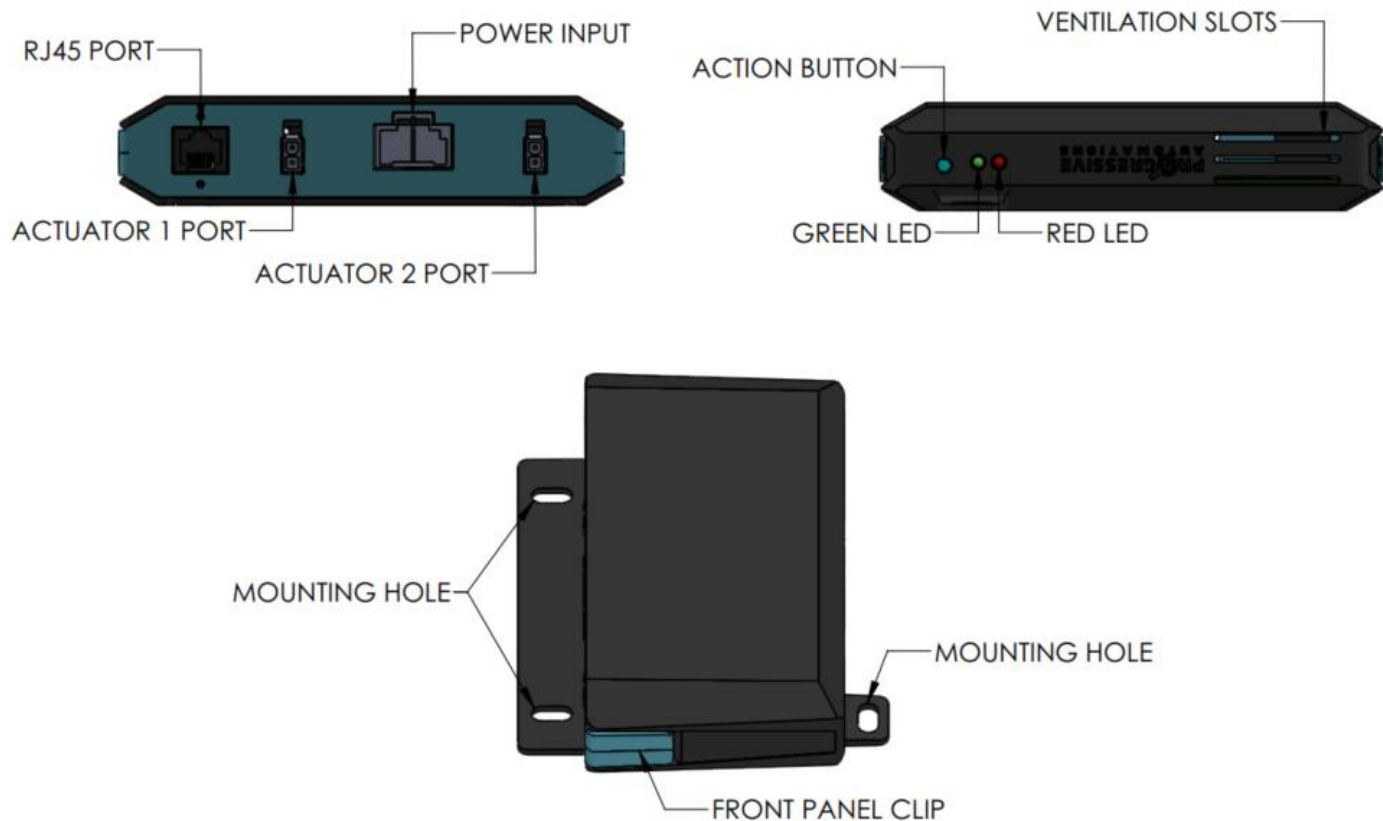
	Pin Location	Function	Wire Color	Wire Gauge
	P2	M+ / Extend actuator when (+) voltage applied	Red	16 AWG
	P1	M- / Retract actuator when (+) voltage applied	Black	16 AWG

Parts List

	Part Name	Part Number	Mating Part Number
Actuator Output Port Housing	Molex Mini-Fit Jr. Connector Header Through Hole, Right Angle, 2 position	39301020	39012025
Actuator Output Port Terminals			457503111

Instructions

Control Box



Wireless Remote Options



RT-40-N-H-Black

4-Button Wireless Remote for Parallel Mode



RT-41-N-H-White

6-Button Wireless Remote for Individual Mode

NOTE: Ensure Control Box is connected to a power source that is capable of the linear actuator's full load voltage and current requirements. Ensure the linear actuators are free from obstruction before operation.

General Commands

- M: Programming Mode
- S: Toggle between Parallel and Individual mode
- Stop behavior while moving:
 - Pressing M or S stops all actuators.
 - Pressing UP, DN, Up 1, Down 1 stops Actuator 1.
 - Pressing Up 2 or Down 2 stops Actuator 2.

Actuator Operation Setting

The Actuator Operation Setting determines how the Control Box functions. The correct Wireless Remote is required to access full capability.

Changing Setting

1. Apply power to Control Box.
2. On either the RT-40 or RT-41 remote, press and hold the S button for 7 seconds.
 - a. The Green LED will blink to confirm.
 - b. Release the button.
3. The setting will toggle between Parallel Mode and Individual Mode.

Individual Mode - RT-41 6-button wireless remote

- Each actuator can be controlled separately using the Actuator 1 and Actuator 2 Up/Down buttons.
- Only one button can be pressed at a time.
 - For smoother operation, use Non-Momentary Mode to start movements back-to-back.
- If the RT-40 (4-button remote) is used in this mode, the Up/Down buttons will only control Actuator 1.

Parallel Mode - RT-40 4-button wireless remote (Default)

- Both actuators move at the same time using the Up/Down buttons.
- **Note:** This mode does not provide feedback synchronization.
 - Differences in speed, load, or other factors may cause actuators to drift out of alignment.
 - For precise synchronization, a Synchronized Control Box is recommended.
- If the RT-41 (6-button remote) is used, Actuator 1 and 2 Up/Down buttons will control both actuators together.

Wireless Remote Pairing

The Control Box can be paired with up to 4 Wireless Remotes. The included Wireless Remote must be paired before it can be used. A mixture of RT-40 and RT-41 Wireless Remotes can be paired.

Pairing Using the Control Box Action Button

1. Press the Action Button on the Control Box for at least 1 second, then release.
 - a. You have now entered Pairing Mode.
 - i. Normal Mode will resume after 15 seconds if no buttons are pressed.
2. On the Wireless Remote that is being paired:
 - a. Press any button once.
 - b. The new Wireless Remote has been paired.
 - c. Normal Mode will resume automatically.

Pairing Using a Paired Wireless Remote

1. On the paired Wireless Remote:
 - a. Enter Programming Mode (see Instructions).
 - b. Press the DN button once.
 - c. You have now entered Pairing Mode.
 - i. Normal Mode will resume after 15 seconds if no buttons are pressed.

2. On the new Wireless Remote that is being paired:
 - a. Press any button once.
 - b. The new Wireless Remote has been paired.
 - c. Normal Mode will resume automatically.

Removing Paired Wireless Remote

- If more than 4 Wireless Remotes are paired, the oldest paired Wireless Remote will be removed.
- A single Wireless Remote can be paired up to four times to remove all other paired Wireless Remotes.

Programming Mode

Programming Mode allows the user to program the Control Box settings.

1. Apply power to Control Box.
2. Entering Programming Mode: Press and hold the M button for 7 seconds, then release the button.
3. Programming Mode: Pressing a button will initiate a specific programming mode, see Instructions.
4. Exiting Programming Mode:
 - a. Pressing M button once will return to Normal Mode.
 - b. Normal Mode will resume after 15 seconds if no buttons are pressed while in Programming Mode.

Momentary / Non-Momentary Control

Non-Momentary Control (Default)

Press UP or DN once. The actuator will keep moving until a button is pressed again or the actuator reaches its travel limit. When the actuator reaches its travel limit, the Control Box will power it off automatically.

Momentary Control

Hold UP or DN to operate the actuator. Movement stops when you release the button or reach the travel limit.

Changing Control Setting

1. Enter Programming Mode (see Instructions).
2. Press the UP button once to switch between Momentary and Non-Momentary control.
3. Normal Mode automatically resumes.

Smooth Motion Control (OFF by default)

Smooth Motion gradually ramps the actuator's speed when it starts or stops, ensuring smoother operation. By default, Smooth Motion is OFF for immediate starts and stops, which is useful for precise positioning.

Changing Control Setting

1. Enter Programming Mode (see Instructions).
2. Press the S button once to toggle Smooth Motion ON or OFF.
3. Normal Mode automatically resumes after pressing the button.

Reset Procedure

If the Control Box is not functioning as expected, it can be reset using one of the following methods:

Action Button Reset

1. Press and hold the Action Button for at least 12 seconds.
2. Release the button when the GREEN and RED LEDs flash simultaneously.
3. The Control Box will reset.

Power Input Reset

1. Disconnect the power supply from the Control Box.
2. Wait at least 10 seconds.
3. Reconnect the power to complete the reset.

Control Box Status and Errors

Status	Green LED Action	Red LED Action	Buzzer Action	Other Action	Troubleshooting Steps
Initial Power-Up	Blinks once	Blinks once	Beeps once		
Motor Output ON	ON	-	-		
Wireless Pairing Mode	Slow blinking	-	-		
Mode Change Confirmation	Momentary fast blinking	-	-		
Error Detected:					
Output Short Circuit: Each output current exceeds 37.5A	Fast blinking	-	-	Motor Output OFF	- Disconnect power - Check for wiring faults (e.g. broken or shorted wires) - Confirm actuator load is within rated limits - Verify actuator inrush current is below 37.5A - Try enabling Smooth Motion Mode - Reapply power to the Control Box
Output Overload: Each output power exceeds 165 W for 5 sec	Fast blinking	-	-	Motor Output OFF	- Disconnect power - Check for wiring faults (e.g. broken or shorted wires) - Confirm actuator load is within rated limits - Reapply power to the Control Box
Out of Range Input Voltage: Input voltage is above 29.5 VDC or below 10 VDC.	Fast blinking	-	-	Motor Output OFF	- Disconnect power - Verify input voltage is within 10 VDC – 29.5 VDC - Reapply power to the Control Box
Reverse Input Voltage: Power Input polarity is incorrect	OFF	OFF	-	Motor Output and Control Box OFF	- Disconnect power - Verify Power Input polarity is correct - Reapply power to the Control Box