

ECO-1200 One Motor Interface Box



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WARNINGS



Specifications:

Motor power: 300W Motor voltage: 26-32V AC input power (during motor operation) 500W AC input power when idle <10W

Features:

- •Built-in DC power supply to operate a motor up to 600W
- Front panel manual control of motor
- •Automatic operation with proper connection to an environmental controller
- Rugged circuitry for reliable operation

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Introduction

This booklet is for the ECO model 1200, if your Interface Box is a different model, please visit our website where you can find the supporting documents for your model: @

advancingalternatives.com/knowledge-center. Or scan the QR code below.



We greatly appreciate your business and would like to thank you for choosing Advancing Alternatives for your greenhouse needs. Our customers are our top priority, and our goal is 100% customer satisfaction. If we did not meet this goal, please contact us today so we can make it right. We look forward to serving you again.

Sincerely, The Advancing Alternatives Team

Introduction

The motor interface box can be used in conjunction with an Advancing Alternatives environmental controller to operate 24V DC low voltage motors for rolling curtains or other types of vents. It can also be used as a stand-alone manual controller to operate low voltage motors in the forward and reverse direction.

Operation: To operate a motor manually, set the "Auto/Manual" switch to "Manual", and use the "Open/Close" switch to run the motor. To operate a motor by remote control, set the motor's "Auto/Manual" switch to "Auto", allowing a connected controller to control the motors. Setting the "Auto/Manual" switch to "off" disables the motor.

Motor connections: There are two terminal connections for the low voltage DC motor. The control box will apply approximately 30VDC to the pair of terminals connected to the low voltage DC motor. The polarity of the voltage determines the direction that the motor will run; in greenhouse operations this corresponds to whether a vent is being opened or closed. If, after making connections the vent runs in the wrong direction, simply reverse the wires.

Control connections: For remote and/or automatic control of the motors, the interface box sends a +24V signal to a controller, and the controller returns the signal by way of relay contacts. To connect the control box to a controller for automatic and/or remote control, connect the signal terminals to an appropriate controller. All Advancing Alternatives controllers are designed to operate properly with a motor interface box. The connection to the controller will go to a set of dry relay contacts, one for vent open and one for vent close. There is a "+24V" terminal to send 24V to the controller, and one each "Open" and "Close" terminal, to receive the 24V back from the controller to operate the motor relays in the interface box.

Note: This interface box is designed to operate with controllers that provide dry relay contact outputs. Some controllers in the industry have outputs of 24V AC or 24V DC; this model is not designed to interface with such controllers; Advancing Alternatives has a separate model designed to work with 24V DC and 24V AC input signals.

OVERVIEW

Installation: There is one set of connections for the motor and one set for signals. The connections are labeled.



Note: Mount box at 4 corners to a smooth flat surface with provided brackets. Preferably shaded from direct sunlight.

OVERVIEW



This line sends 24volts out to the motor, where it connects to the normally open relay contacts.

Wiring Diagram



The two switches located on the front lid are for Auto/Manual. When in Manual you can open or close the motor, bypassing your environmental controller.

Wiring Diagram



Troubleshooting

The motor does not run.

1. There are three points controlled by circuit breakers: the AC line, the secondary supply voltage, and the individual motors.

2. Confirm presence of 26-32V DC at the relay board terminals labeled "-24V+" (NOT the terminals labeled ("+24V"). If this voltage is not present, it is likely that the rectifier is damaged.

The motor breaker trips.

1. Excessive load on the motor will cause a breaker to trip. Check for curtains that are not rolling smoothly, ridge vent hardware such as hinges or rack/pinion assemblies that are not lubricated, or for any obstructions or damage to vent mechanisms.

- 2. Check for damaged wires.
- 3. Measure motor current, or substitute motor with a proven working motor.

4. Make sure the proper breaker amperage is used. Larger motors such as the LVM180 require a 7.5A breaker, or in some heavy applications, a 10A breaker. Do not use a larger breaker than necessary.

The Secondary supply breaker or the AC breaker trips.

 This is usually a sign of a damaged rectifier. Apply power with the DC rectifier terminals disconnected. If the breaker still trips, the rectifier needs replacement.
If the breaker does not trip with the DC rectifier terminals disconnected, disconnect the "24V+" wires from the relay boards one board at a timeto determine if the breaker trips. The board causing the tripping is suspect and should be substituted or replaced.

NOTE: The rectifier DC output is unfiltered DC voltage. Some meters may give slightly inaccurate readings with this type of voltage. Furthermore, abnormally high DC voltages may be seen with no load on the rectifier output. The most accurate DC voltage readings can be obtained with at least one relay engaged. This can be accomplished by setting a channel to "Manual" and setting the motor control to "Open' or "Close".

All electrical connections must be made by a qualified, licensed electrician. All connections must be made in accordance with all state and local codes.

Though this unit operates in 24v, the side of the box housing the transformer and line in have high voltage which can be dangerous.



Replacement parts and further technical information can be found in the Knowledge Center of the website: **advancingalternatives.com/knowledge-center/**

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Always wear appropriate protective equipment in accordance with OSHA regulations and follow common sense practices at all times.

READ THROUGH ALL INSTRUCTIONS BEFORE ATTEMPTING TO INSTALL

ALWAYS WEAR PROPER PROTECTION

ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED, LICENSED ELECTRICIAN. ALL CONNECTIONS MUST BE MADE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES

Technical support

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