

# AUTOMATIC VENT CONTROLLER

EL-VC-AVC002S (Vent System)  
EL-VC-AVC002P (Vent Pack)  
EL-VC-AVC002C (Vent Controller)  
EL-VC-AVC002S+ (Vent System + KeyFob)  
EL-VC-AVC002P+ (Vent Pack + KeyFob)  
EL-VC-AVC002C+ (Vent Controller + Receiver)  
EL-VC-AVC002R (Rain Sensor)  
EL-VC-TX1 (KeyFob)

## Operation Manual



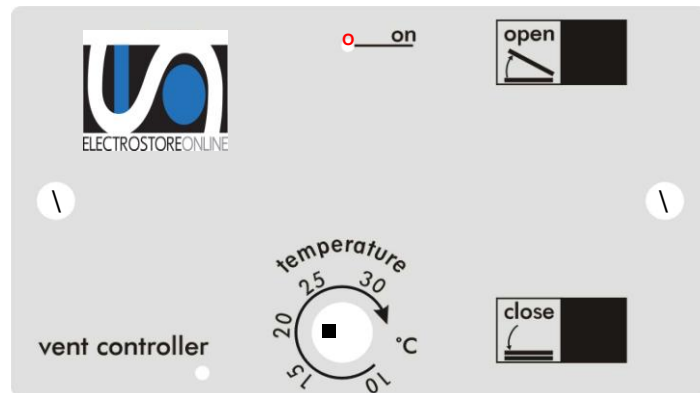
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## OPERATION MANUAL

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## OPERATION MANUAL

### Introduction

The Automatic Vent Controller is designed for automatic and manual operation of motorised roof vents. It is an integrated electronic thermostat and controller with rain sensor.

The roof vents open automatically at high temperatures and close again when the temperature drops, or rain is detected.

Up to eight average actuators can be controlled with type EL-VC-AVC002C or EL-VC-AVC002C+.

The EL-VC-AVC002C+ is used with the EL-VC-TX1 (KeyFob) for remote manual operation.

One EL-VC-AVC002P contains 1 x EL-VC-AVC002C and 1 x EL-VC-AVC002R.

One EL-VC-AVC002S contains 1 x EL-VC-AVC002P and 1 x EL-VC-AVC002M (Motor)\*.

One EL-VC-AVC002P+ contains 1 x EL-VC-AVC002C+, 1 x EL-VC-TX1 and 1 x EL-VC-AVC002R.

One EL-VC-AVC002S+ contains 1 x EL-VC-AVC002P+ and 1 x EL-VC-AVC002M (Motor)\*.

\*EL-VC-AVC002M (Motor/Actuator) data sheet can be downloaded from our web site under product EL-VC-AVC002S.

Note: This product will work usefully to prevent energy wastage when used in combination with an active heating system, just set the vent control temperature setting a few degrees higher than the heating system to ensure that the vents close before the heating system switches on. It would be advisable to position the 2 thermostat controls near to each other so they "see" the same air temperature. This can be fine tuned by trial and error for best results.

Note: If used in combination with a cooling/air conditioning system, it must be appreciated that the vent controller will want to open the vents when it is too hot, whereas the cooler may prefer them closed. In general the user must decide which system to use to cool the air.

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### User Guide

#### MANUAL CONTROL

At any time, the controller can be overridden using the tactile switches. The vents can be set to any position of your choice by selecting "open" or "close". Please note that automatic operation resumes according to climatic conditions.

#### REMOTE CONTROL

Pressing button "A" on the KeyFob opens the vent, while button "B" closes the vent. Releasing the button will stop the opening/closing of the vent; it must be continuously pressed to fully open/close the vent.

#### THERMOSTAT ADJUSTMENT

The thermostat range is 10° to 30°. Select the desired temperature, which will automatically operate the vents. These will open when the temperature exceeds your settings and then close when it falls below.

#### RAIN SENSOR

If the rain sensor (which is mounted on the roof) detects rain, it will automatically close the vents if they were left open.

#### NOTES:

1. To leave the vents in any fixed position:-
  - a) use the open/close tactile switch
  - b) switch off the electric supply at the isolator.
2. After periods of rain, the sensor will take a little time to dry. Whilst it remains wet it will keep the vents closed. If the vents are opened manually by the tactile switch, it will immediately re-close them.
3. If the rain sensor seems to lose sensitivity, it may need cleaning. Avoid chemicals or abrasives.

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### Controller Installation Instructions

**IMPORTANT:**  
**THIS UNIT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN TO THE CURRENT EDITION OF THE "IET WIRING REGULATIONS"**

1. Remove the front panel.
2. Bolt the back-box to the masonry wall inside the conservatory, at the usual height of a wall switch.
3. To prevent damage to the cable insulation, choose the appropriate knock-out for cable entry, then smooth the edges.
4. If the mains cable is not plastered into the wall, the cable should be adequately secured as close to the control box as possible to prevent undue stress to the cable.
5. In accordance with the Wiring Diagram, bring the sheath as close as is possible to the terminal blocks to prevent contact of the inner insulation with the pcb. (A junction box is required in the ridge to bring all the actuator cables together). Feed a single cable through to the control box. Note: a fused isolator must be installed providing a contact separation of at least 3mm in all poles.
6. Replace the front panel.

**THIS UNIT TO BE INSTALLED USING BASEC OR HAR APPROVED CABLE AND MUST BE SUITABLY EARTHED**

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### Rain Sensor Installation Instructions

1. Pass the cable through the cable gland. Strip cable ends then crimp on the terminals that are supplied.
2. Push the terminals onto blades. Do not over tighten nuts and screws or the conductive pattern could be damaged by indentation.

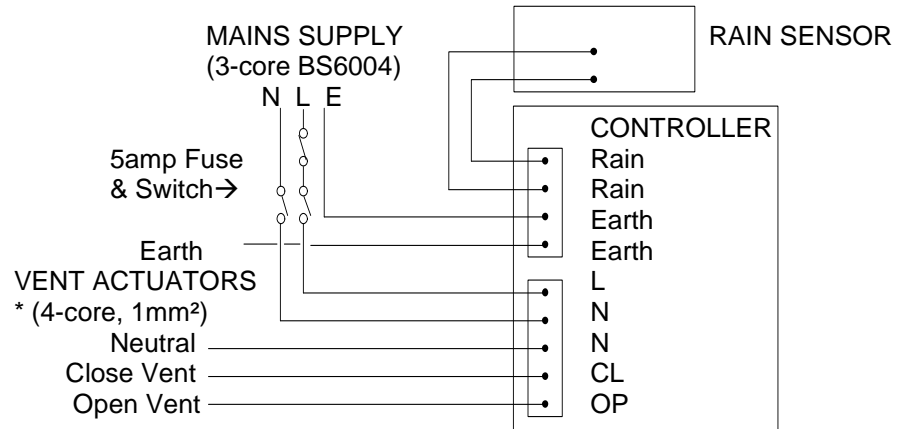
**Note: It is important to use a round 3A mains cable so that the cable gland grips the cable to form a waterproof seal. The cable carries only 9V AC).**

3. Fit the bottom cover without sealing the joint.
4. Place the unit with the self-adhesive pad supplied to an exposed part of roof with the black sensing pattern facing up. The cable can point towards the gutter, ridge or to either side of the conservatory. The unit must slope at a gradient of at least 15° to enable excess water to run off (if the roof is a lean-to style packing may be required). If the conservatory is situated on the side of a taller building, shelter from over hanging eaves is best avoided.

**Note: In the UK the prevailing wind and most rainfall comes from the South West. This is the preferred side of the roof for the rain sensor. It is best to check local conditions, especially on the East Coast or on Mainland Europe.**

## OPERATION MANUAL

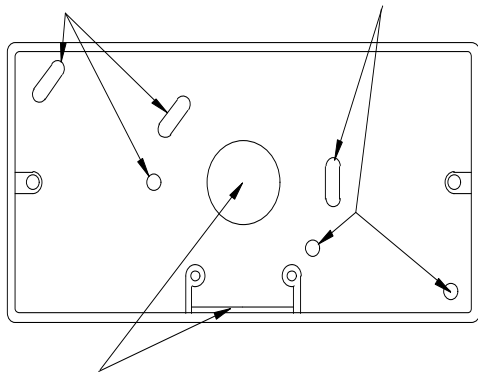
### Controller Wiring Diagram



\* 3-core cable required if Vent Actuator does not require Earth (double-insulated)

### Mounting of Controller

Back-box fixing holes (fix firmly to wall with 2 or more countersunk screws)

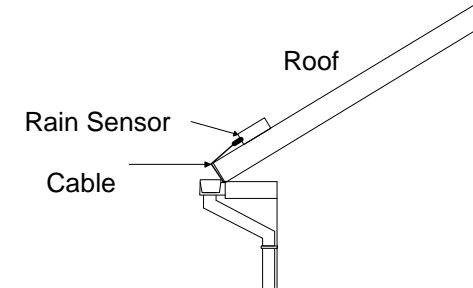


Cable entry/exit points (punch holes through box only where required).  
Use cable-clamping bar in best position and tighten the 2 clamp screws.

## OPERATION MANUAL

### Positioning of Rain Sensor

If the roof slopes less than 15° from horizontal, add packing to increase the slope.



### Vent User Guide

#### OPENING DISTANCE

The automatic opening distance range of the vent is 100-300mm which can be adjusted by turning the control as required. Please note this is not a “customer control” but should be pre-set by the qualified installer if requested by the customer. The opening distance will be reduced by turning the control clockwise.

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### Testing Procedures

1. When installation is completed, insert the supply fuse then switch the isolator on. Note that the vents are likely to open or close on power-up. Note that the power LED will be on continuously with controller type EL-VC-AVC002C but flash slowly with the EL-VC-AVC002C+.
2. First check for correct operation of the vents by use of the tactile open/close switches.  
**Please ensure that the vents are not too tightly closed.**
3. The automatic operation can be tested by turning the thermostat up and down. The vent should open when selecting a low temperature and close when turned high.  
**Note: It is best to do this test in warmer weather.**
4. When testing the rain sensor, the vents must be opened first then clean water sprayed onto the rain sensor. The vents should close within a few seconds.  
**Note:** If testing in actual rain, the surface of the sensor can be dried with a clean, soft tissue. Take care not to scratch the surface. It should also be kept free from grease and sealant.
5. When testing manual operation with the KeyFob, the vent should open or close almost immediately. If not, then check that the LED on the KeyFob illuminates when a button is pressed – change the battery if necessary.
6. Remote operation may also be impeded, causing lack of range or non-operation, by either: interference from other nearby transmitters – try again as the interference is likely to be intermittent; or by obstacles in the path between the KeyFob and the controller – try moving the KeyFob slightly (the radio signal passes through normal household walls but could be affected by large metallic objects).

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### Technical Information

<b>Output current to actuators:</b>	5.2A max at 20% duty cycle
<b>Rain sensor cable:</b>	0.5mm <sup>2</sup> 2-core round flexible cable, dia 5 to 7mm
<b>Rain sensor Mounting angle:</b>	15° to 45°
<b>Rain sensor Operating Voltage:</b>	1V to 6V wet 7.5V to 10V dry (AC)
<b>Rain sensor Equivalent resistance:</b>	Less than 80k ohms wet. Greater than 300k ohms dry
<b>Rain sensor dimensions:</b>	75 x 51 x 28mm excluding cable gland
<b>Thermostat differential temp:</b>	2°C
<b>Opening impulse:</b>	Variable 3 to 9 sec approx (set when installed)
<b>Closing impulse:</b>	11 sec approx
<b>Controller dimensions:</b>	148 x 88 x 52mm excluding thermostat setting knob
<b>Finish:</b>	White
<b>Total weight:</b>	450g
<b>Mains Supply:</b>	230V 5A 50Hz
<b>Radio Frequency:</b>	433.92MHz
<b>Effective Radiated Power:</b>	<0dBm
<b>KeyFob Battery:</b>	Type 23A, 12 Volts (included)
<b>KeyFob Dimensions:</b>	(L)59 x (W)39 x (H)15mm.
<b>KeyFob Weight:</b>	25g
<b>Radio range:</b>	>30m (obstacles or other nearby transmitters could reduce range)

Electrostoreonline hereby declares that these radio products are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

**Electronic Chain Actuator/Motor - EL-VC-AVC002M**



Adjustment of the stroke  
Positions from 100-400mm



Double link stainless  
Steel chain



Small swivel bracket  
(included in the system  
Package EL-VC-AVC002S)

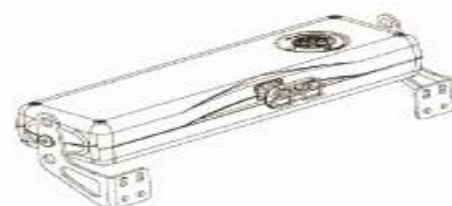


The EL-VC-AVC002M is our standard roof vent actuator/motor and it is the popular industry standard ACK42 chain motor. This is suitable for opening Top, Bottom, Side hung and roof vents. Centre push stainless steel chain with adjustable stroke from 100-400mm. The motors supplied in white 230VAC (50Hz), optional white small (EL-VC-AVC002B2), large (EL-VC-AVC002B1) swivel bracket set or standard bracket (EL-VC-AVC002B3) for top hung windows and standard bracket with fall back (EL-VC-AVC002B) available online, also available in black, brown and silver or ACK44 - 24VDC (EL-VC-AVC002M24) on request.

**Technical Specification**

	<b>ACK 42/MAC41</b>	<b>ACK44/MAC43</b>
Voltage Supply:	230VAC (50Hz)	24VDC
Thrust force:	300N	300N
Traction force:	300N	300N
Stroke (adjustable):	100-150-200-250-300-350-400mm	
Absorbed current:	0.32A	2.10A
Loadless translation speed:	0.28mm/s	18mm/s
Connection of two or more actuator in parallel	Yes	Yes
Electronics device to warn wrong installation	Yes	Yes
Chain position control	Yes	Yes
Stroke end regulation (in closing) to window frame	10mm	
Time rating:	66%	66%
Protection:	IP55	IP55
Operating temperature	-5 to +50C	
Dimensions	288.5x83x47.5mm	
Weight	1.9Kg	

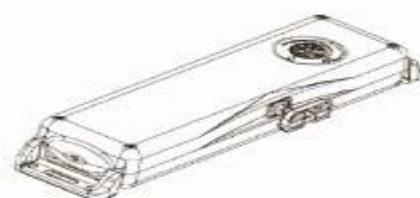
Grey Wire to Neutral, Black Wire to Open signal (Live) and Brown wire to Close signal (Live)



Large swivel brackets set for top hung windows



Standard brackets for top and bottom hung windows



Vertical mounting brackets set for top hung windows

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