

PRODUCT INFORMATION & INSTALLATION GUIDE 2023

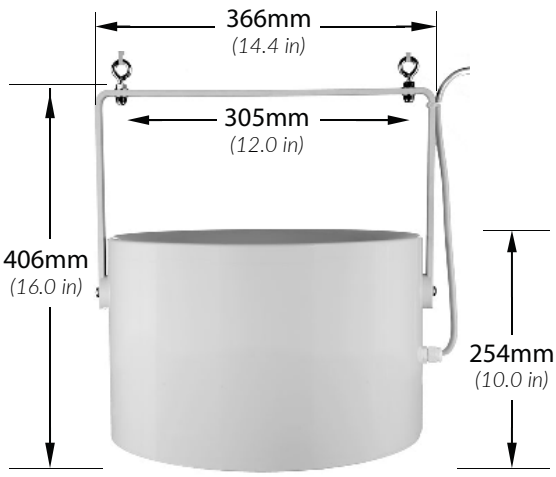
Airius R20/EC Standard
RETAIL SERIES

www.airius.co.uk

AIRIUS®
saving you energy

Product Information & Installation Guide
RETAIL SERIES - Model EC Standard

MODEL EC STANDARD DIMENSIONS AND PROPERTIES



Free hanging units can be angled up to 90° off vertical

UNIT SIZE	STANDARD
Weight:	5.2 kgs *(12 lbs)*
Height to Rim:	254 mm *(10.0 in)*
Total Height:	406 mm *(16.0 in)*
Diameter:	366 mm *(14.4 in)*
MOTOR	**230V @ 50 Hz**
Watts*:	30
RPM*:	1700
L/S*:	292 *(620 CFM)*
m^3/hr:	1053
Centre Line Velocity[1]:	1.59 m/s @ 6 m
AMPS*:	0.26

*Motor data provided by motor manufacturer and is subject to change at anytime
[1]Velocity profile tested in situ

COVERAGE

	Heating	Cooling
Ceiling Height =	Up to 8 m *(26 ft)*	Up to 6 m *(19 ft)*
Nozzle Height =	Up to 7.5 m *(24 ft)*	Up to 5.5 m *(18 ft)*
Floor Area =	Up to 111 m^2 *(1200 ft^2)*	Up to 59.2 m^2 *(637 ft^2)*

All data is indicative only and can change subject to application. For more accurate design please contact Airius.

MOTOR

Single Phase

Electrically commutated, variable speed 92% efficient motor

German EBM Papst EC motor

230 Volt @ 50/60 Hz

OPERATING TEMPERATURES

Operating Temperature = -30°C (-22°F) - 50°C (122°F)

HOUSING

PC/ABS Resin - Inc. internal fixed blade stator, nozzle and cowl

5VA flame resistance rating

Applicable to Titan Series Upgrade - Chemical resistant ABS resin housing and stator blades with stainless steel fixings

INGRESS PROTECTION

IP55 Rated

NOISE LEVELS

Sound Power Level	= 65 dB(A)
Sound Pressure Level @ 3 m	= 44 dB(A)
Sound Pressure Level @ 6 m	= 38 dB(A)

Note: A typical free field environment over a reflecting plane. All acoustic testing conducted at 230 Volt, 50Hz by EBM- Papst Acoustic Laboratories

For additional noise level information contact Airius

COLOUR

Cool gray 2C - Off white as standard

Can be tailor painted to your colour specifications

Titan Series Upgrade - Black as standard

ACCESSORIES & OPTIONS

On/off speed controls allow for variable output from Airius unit.

EC controls available

Fully BMS controllable

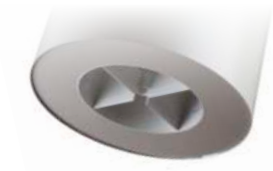
Bacnet Protocol for individual fan control

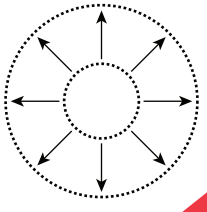
For horizontal installations Airius recommend the use of a cradle, a second cable or a rod attachment to support the fan nozzle

WARRANTY

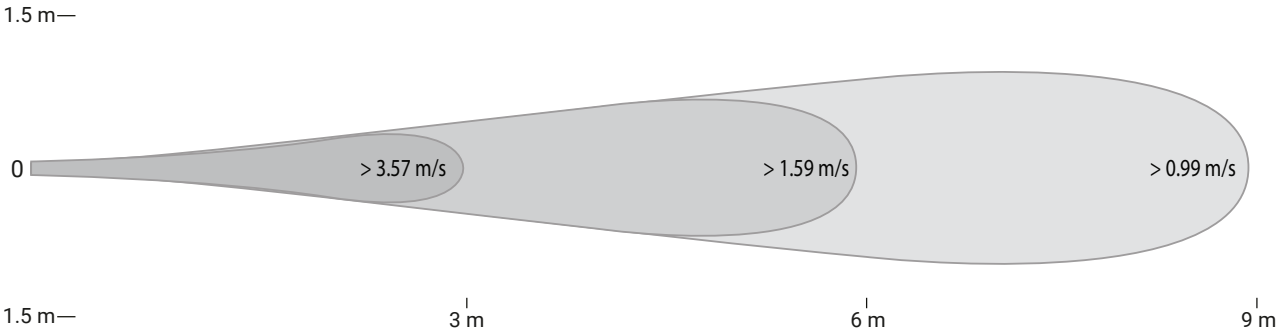
5 years parts and workmanship from shipping date
120 day money back guarantee (T's & C's apply)

NOZZLE COVERAGE PATTERN





VELOCITY PROFILE



UNIT PLACEMENT

PREPARATION

Install electrical circuit(s) and outlet(s) in accordance with national and local electric codes.

Outlets should generally be mounted vertically unless a “twist/locking” type is being used.

Wall switch may be installed in circuit to disable power and prevent electrical hazards when servicing.

Confirm electrical continuity of Airius unit on the ground before permanently mounting in the ceiling.

MAINTENANCE

Frequency of cleaning will vary by application and environment.

You may clean the plastic housing with a damp warm cloth, using mild household detergents.

Do not use petroleum products, thinners or solvents to clean any part of the Airius unit.

If the Airius unit fails, contact manufacturer.

MATERIALS & PROPERTIES

Constructed from recyclable materials.

The outer shell, stator and fan blades are fire rated 5VA materials.

Power cord is a 1.8 m, 3 wire, 1.02 mm diameter 300VAC rated electrical cord - CE/EU compliance rated as HO5VV (PLUG NOT SUPPLIED).

Electrically commutated, variable speed 92% efficient motor.

Motor is thermally protected. Shutoff is at 110°C & reset is at 90°C.

No lubrication required. Bearings are sealed.

OPERATION

Designed to operate 24 hours-a-day, 7 days-a-week to maintain air circulation/thermal equalization/humidity equalization.

Use optional speed control to fine tune RPM if needed.

INSTALLATION

Do not hard connect fans in excess of 10 kgs unless agreed with Airius prior to Installation. When attaching it is preferred if some chain or cable is used between fan and the support. However it is not imperative.

Hang from the ceiling, typically 300 mm (12”) - 450 mm (18”) from the roof deck to fan intake.

For cooling applications fans can be installed slightly lower. Contact Airius for design details and assistance.

The Airius unit performs best when air column from the nozzle is unimpeded to the floor.

The Airius unit should not be mounted directly in front of heat ducts, vents or any other high heat source.

Use professionally installed hardware, capable of supporting a minimum of five times the weight of the fan unit.

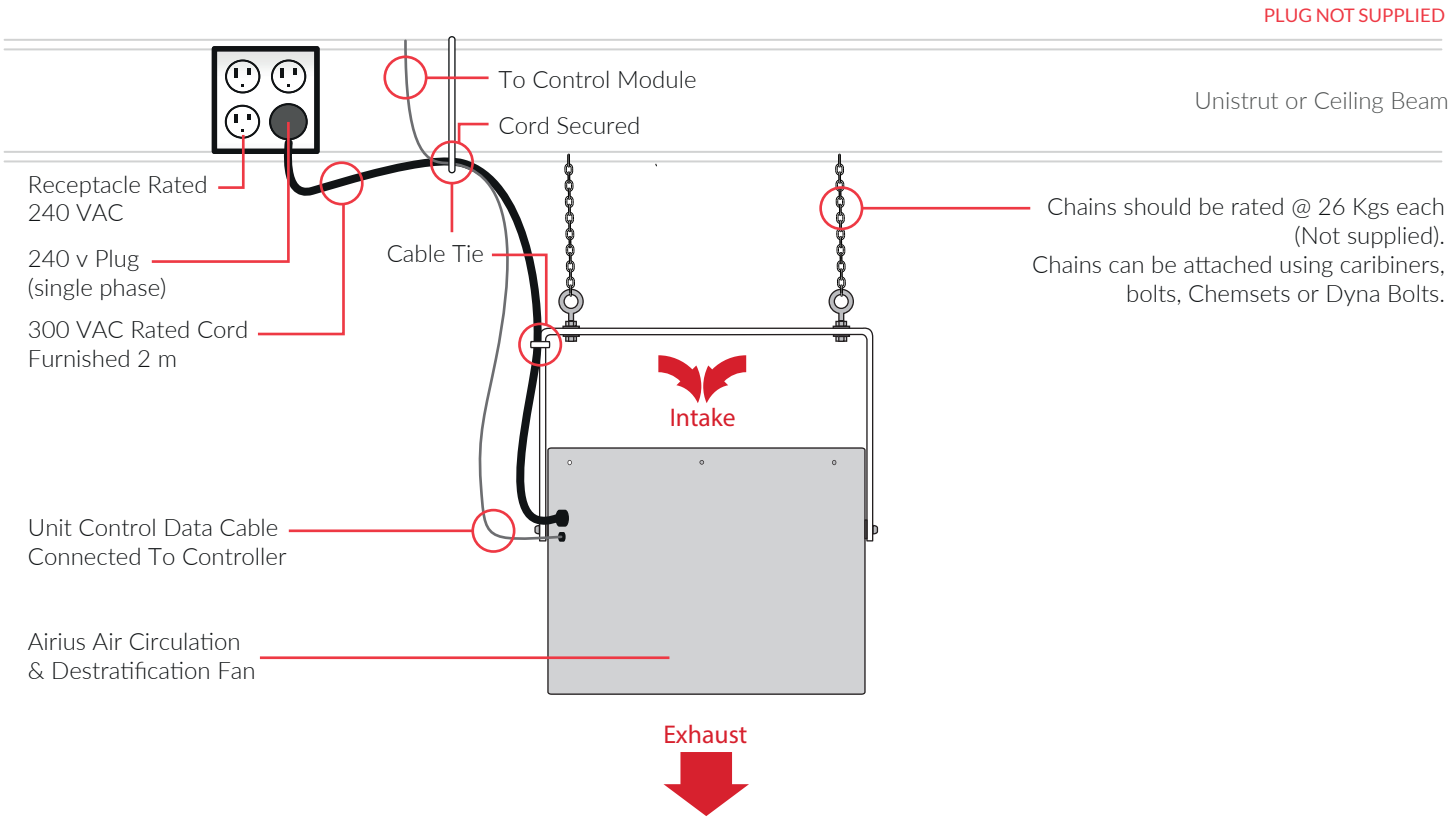
Hardware to hang the unit includes but is not restricted to: Hooks, chains, cables, carabiners, bridle rings, beam clamps and bolts.

Density of the placement is directly related to the effectiveness, performance and savings.

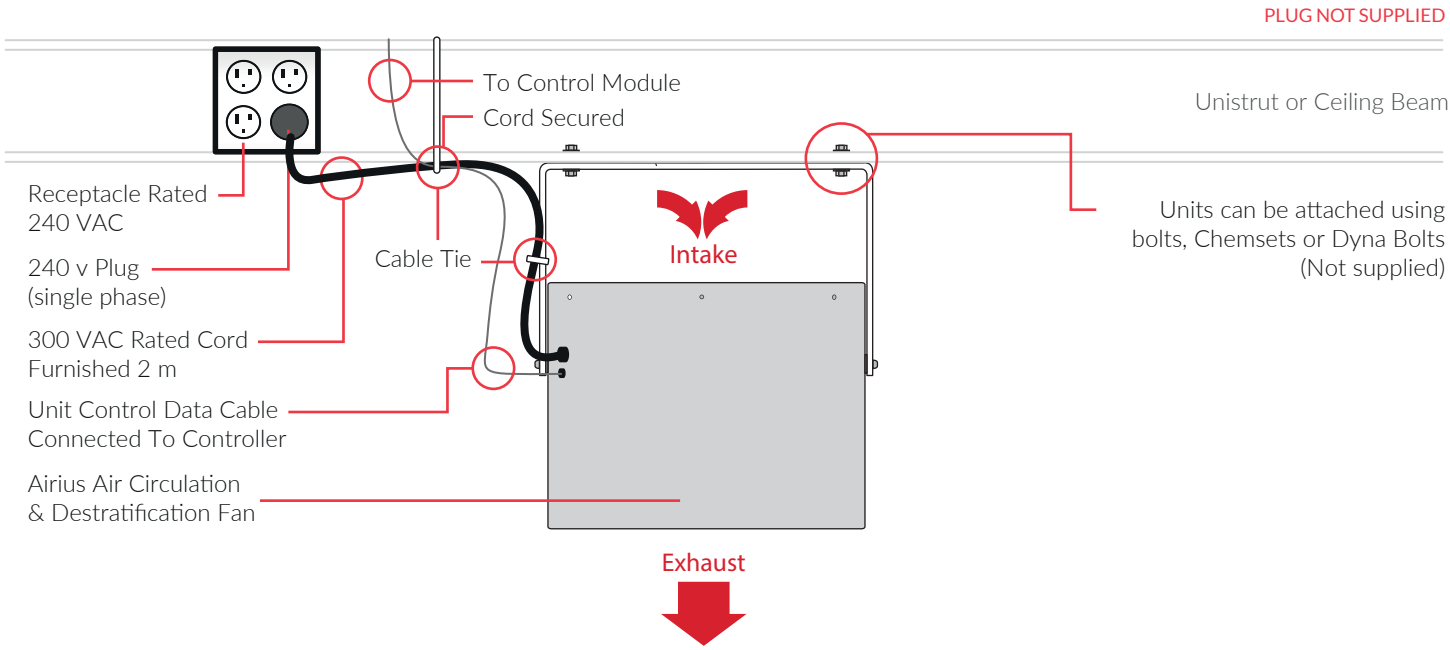
Mount out of reach from people and animals.

Floor plans, mezzanines, office locations, machinery, people placement, plumbing, lighting, duct work, electrical systems, natural light/air systems, cranes, doors, windows, ventilation and fire suppression systems are all factors in properly locating the Airius system within the ceiling.

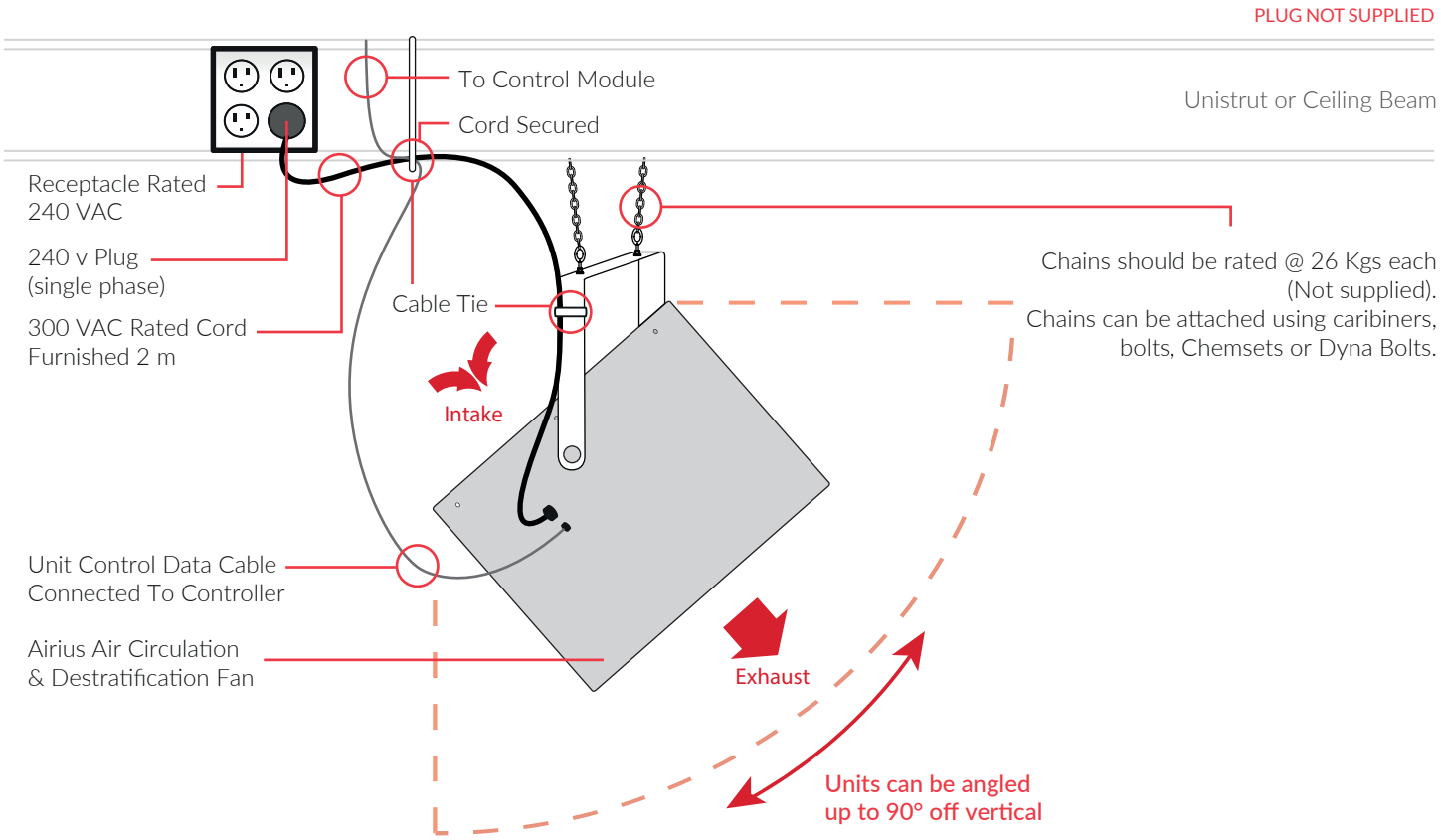
CHAIN HUNG (STRAIGHT)



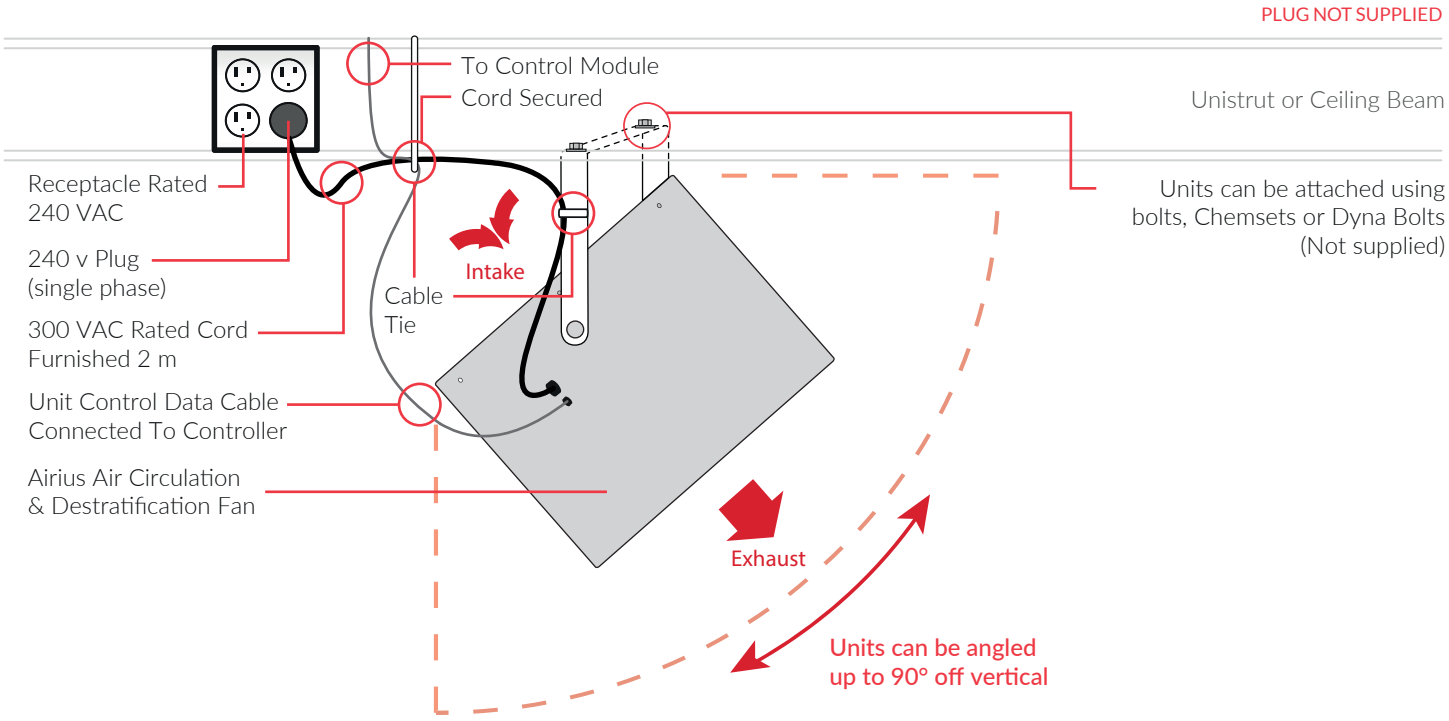
CEILING FIXED (STRAIGHT)



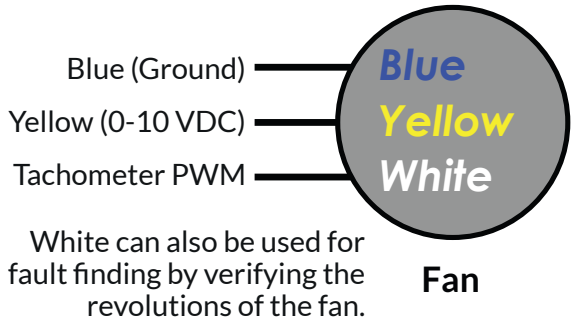
CHAIN HUNG (ANGLED)



CEILING HUNG (ANGLED)



BMS CONTROL WIRING



GENERAL NOTES

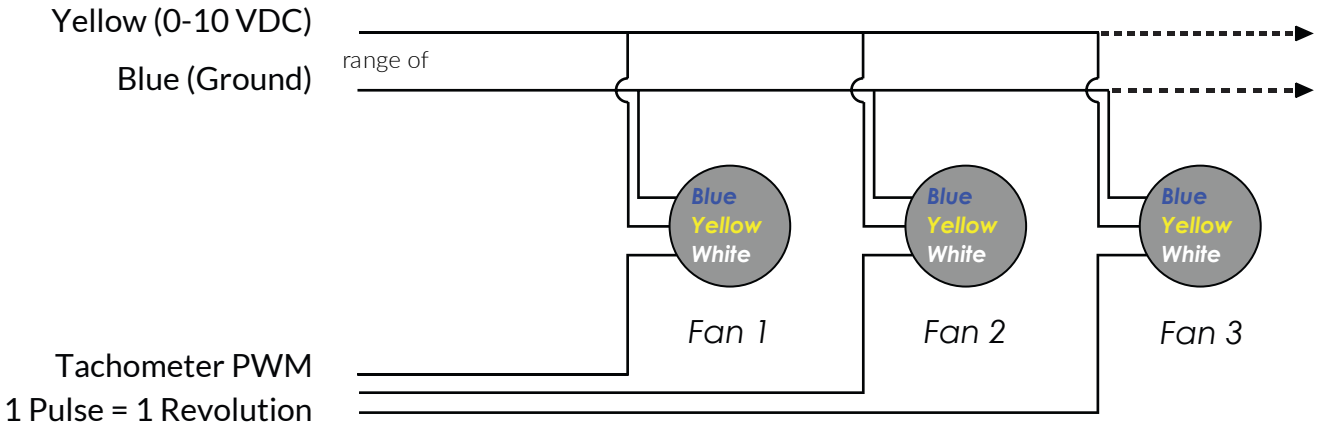
0-10 V signal allows infinitely variable open loop speed control

Connecting the red and yellow leads will allow EC fans to operate at full speed

A single controller can be used to control multiple fans with the same speed setting

The BMS generates this voltage to send to the signal (yellow)

Yellow is labelled as 0-10VDC because that is the acceptable range of voltages that the fan will accept



(0-10V) POTENTIOMETER EC FAN SPEED CONTROLLER



Technical Data

Voltage: 230VAC – 50/60Hz
Output: 0-10 Vdc > 1 kOhm (max 8 mA)

1 X EC CONTROLLER REQUIRED PER CIRCUIT.

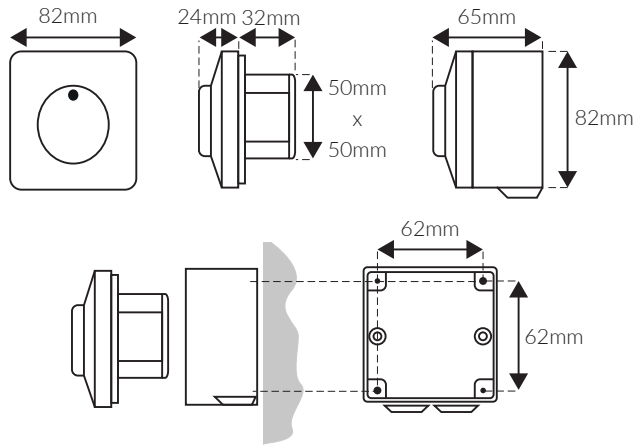
PLEASE CONTACT AIRIUS FOR RECOMMENDED QUANTITY OF FANS PER CONTROLLER FOR YOUR UNIQUE APPLICATION.

WARRANTY

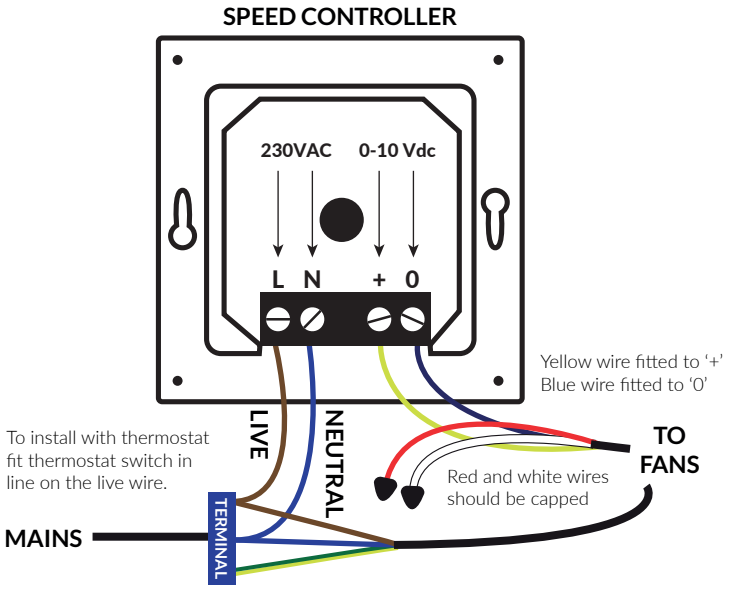
Two years from delivery date against defects in manufacturing. Any modifications or alterations to the product relieve the manufacturer of all responsibility.

The manufacturer bears no responsibility for any misprints or mistakes in this data, and modifications or improvements to the product can be made at any time after date of publication.

DIMENSIONS



WIRING



COMPONENTS


MOUNTING CASE


SPEED CONTROLLER

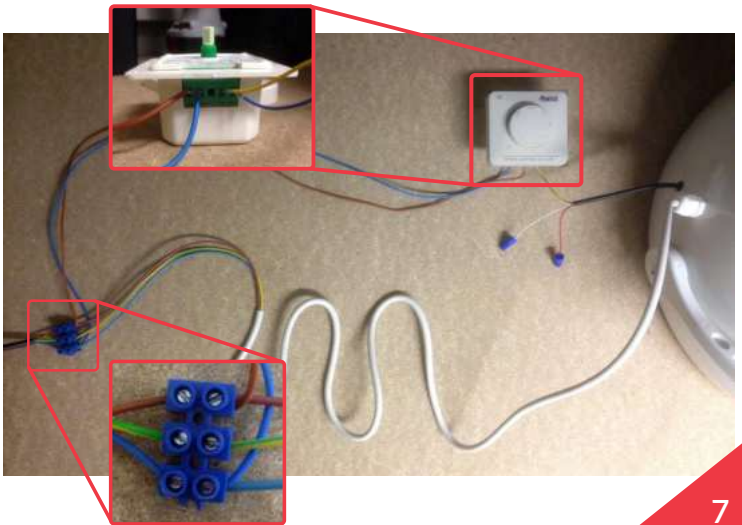

FACEPLATE


SPEED CONTROL DIAL


2 x SCREWS & WASHERS TO FIT CONTROLLER TO MOUNTING CASE


NUT & WASHER TO FIT FACEPLATE TO CONTROLLER

PC/ABS



INSET MOUNTING (IP44)

Break mains voltage. Connect according to diagram. Mount the inner case to the wall with the connections pointing down. Mount cover with nut to the wall. Push knob in place at off position.

SURFACE MOUNTING (IP54)

Break mains voltage. Mount surface mounting case to the wall together with included grommets. Connect according to diagram. Mount inner case in surface mounting case with included screws. Mount cover with nut to surface mounting case. Push knob in place at off position. When needed a 5mm hole for condensation water is to be drilled at the bottom of the surface mounting case.

IN CASE OF FAULTY OPERATION

Please check: right voltage is applied, all connections are correct, the machine to be regulated is functioning.

TRANSPORT AND STOCK KEEPING

Avoid shocks. Stock in original packaging. Avoid extreme conditions.

MAINTENANCE

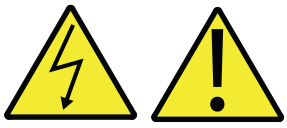
In normal conditions the controllers are maintenance-free. If soiled clean with dry or dampish cloth. In case of heavy pollution clean with a non-aggressive product. In these circumstances the controller should be disconnected from the mains. Pay attention that no fluids enter the controller. Only reconnect the controller to the mains when it is completely dry.

All works may only be carried out by skilled personnel following the local regulations and AFTER the controller is completely separated from the mains.

CAUTION

Electrical installations should only be carried out by qualified personnel only. Follow safety measures to avoid electric shock.

According to the low voltage directive: 2006/95/EC/
The EMC directive: 2004/108/EC





AIRIUS®
saving you energy

Airius Europe, Middle East & Asia

Airius Europe Ltd
Holwell Farm, Cranborne
Dorset
BH21 5QP, UK
Tel - +44 (0) 1202 554200
Fax - +44 (0) 1202 554396
Email - info@airius.co.uk
Web - www.airius.co.uk

Airius Americas

811 South Sherman Street
Longmont
Colorado
80501 USA
Tel - (00) 1 888 247 7327
Email - Info@airiusfans.com
Web - www.airiusfans.com

Airius Oceania & S.E. Asia

P.O. Box 1812
Byron Bay
NSW
2481 AUSTRALIA
Tel - +61 (2) 6608 2736
Email - info@airius.com.au
Web - www.airius.com.au

USA and foreign Patents granted to AIRIUS LLC, USA, further patents pending. AIRIUS & AIRIUS SYSTEMS is the copyright property of AIRIUS LLC, USA. All material issued by, or emanating from, Airius Europe Ltd is the Copyright property of Airius Europe Ltd, UK.

V 1.2