



# PRODUCT INFORMATION & INSTALLATION GUIDE 2022

Airius Model PS-4  
**ONYX SERIES**

[www.airius.co.uk](http://www.airius.co.uk)

**AIRIUS**<sup>®</sup>  
saving you energy

## MODEL PS-4 DIMENSIONS AND PROPERTIES



### UNIT SIZE

Weight:	6 kgs (13 lbs)
Height to Rim:	307 mm (12.1 in)
Total Height:	424 mm (16.7 in)
Diameter:	391 mm (15.4 in)

### STANDARD

### MOTOR

Watts*:	77
RPM*:	1371
L/S*:	513
m <sup>3</sup> /hr:	1850 (1089 CFM)
Centre Line Velocity <sup>1</sup> :	1.02 m/s @ 9 m
AMPS*:	0.30

### 230V @ 50 Hz

\*Motor data provided by motor manufacturer and is subject to change at anytime  
<sup>1</sup>Velocity profile tested in situ

### COVERAGE

Ceiling Height	= Up to 13m (42ft)
Nozzle Height	= Up to 12m (39ft)
Floor area	= Up to 120m <sup>2</sup> (1291ft <sup>2</sup> )

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

### MOTOR

Single Phase  
PSC - Permanent Split Capacitor motor  
230 Volt @ 50 Hz

### OPERATING TEMPERATURES

Min start temp (approx.)	= - 10° C
Min running temp	= - 25° C
Shut off	= 135° C
Reset	= 125° C

### HOUSING

PC/ABS Resin - Inc. internal fixed blade stator  
5VA flame resistance rating

### INGRESS PROTECTION

IP44 Rated

### NOISE LEVELS

Sound Pressure Level @ 13 mts = 40 dB(A)

Note: A typical free field environment over a reflecting plane.  
All acoustic testing conducted at 230 Volt, 50Hz and undertaken at the EBM- Papst Acoustic Laboratories in Connecticut USA during August 2014

Please contact Airius for full Noise Testing Report

### COLOUR

Off white only available ex factory

If black or another colour required, an extra cost will be charged for spray painting the fan.

### ACCESSORIES & OPTIONS

Airius Transformer type speed controller 1 and 5 Amp available.  
0-100% in 5 steps

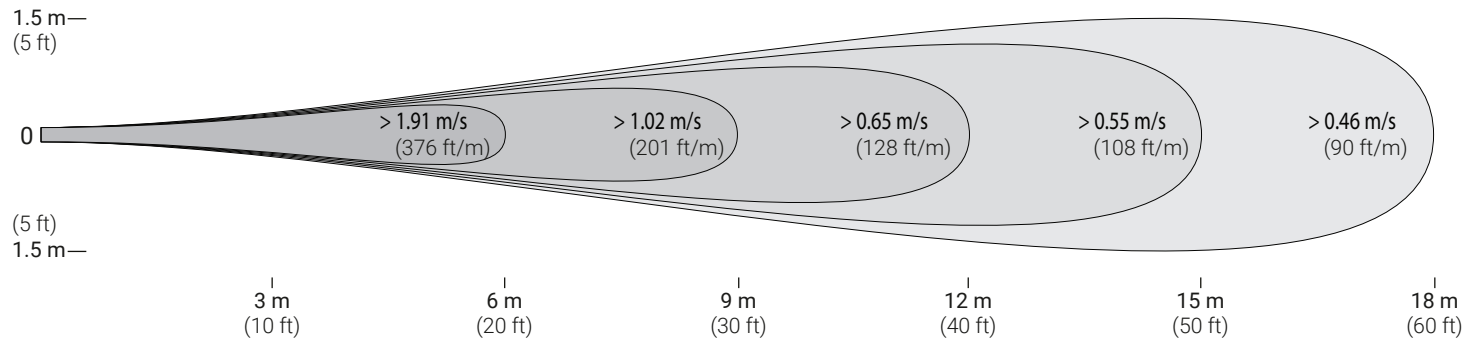
NPBI kit - Needlepoint BiPolar Ionization - Leading Ion technology  
- Used to mitigate air contaminants

For horizontal installations Airius recommend the use of the Airius proprietary cradle or a second cable or rod attachment to the discharge end to provide balance

### WARRANTY

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

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

Single phase, shaded pole, single speed, axial 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.

For Cooling the Airius fan should be located to suit client's requirements. Suggested locations are from just under the ceiling or closer to the floor to ensure suitable air-cooling flow.

For Heating or Conditioned Spaces the Airius fan should be securely installed as close as possible to the ceiling.

For combination applications fans can be installed close to ceiling or lowered slightly. 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.

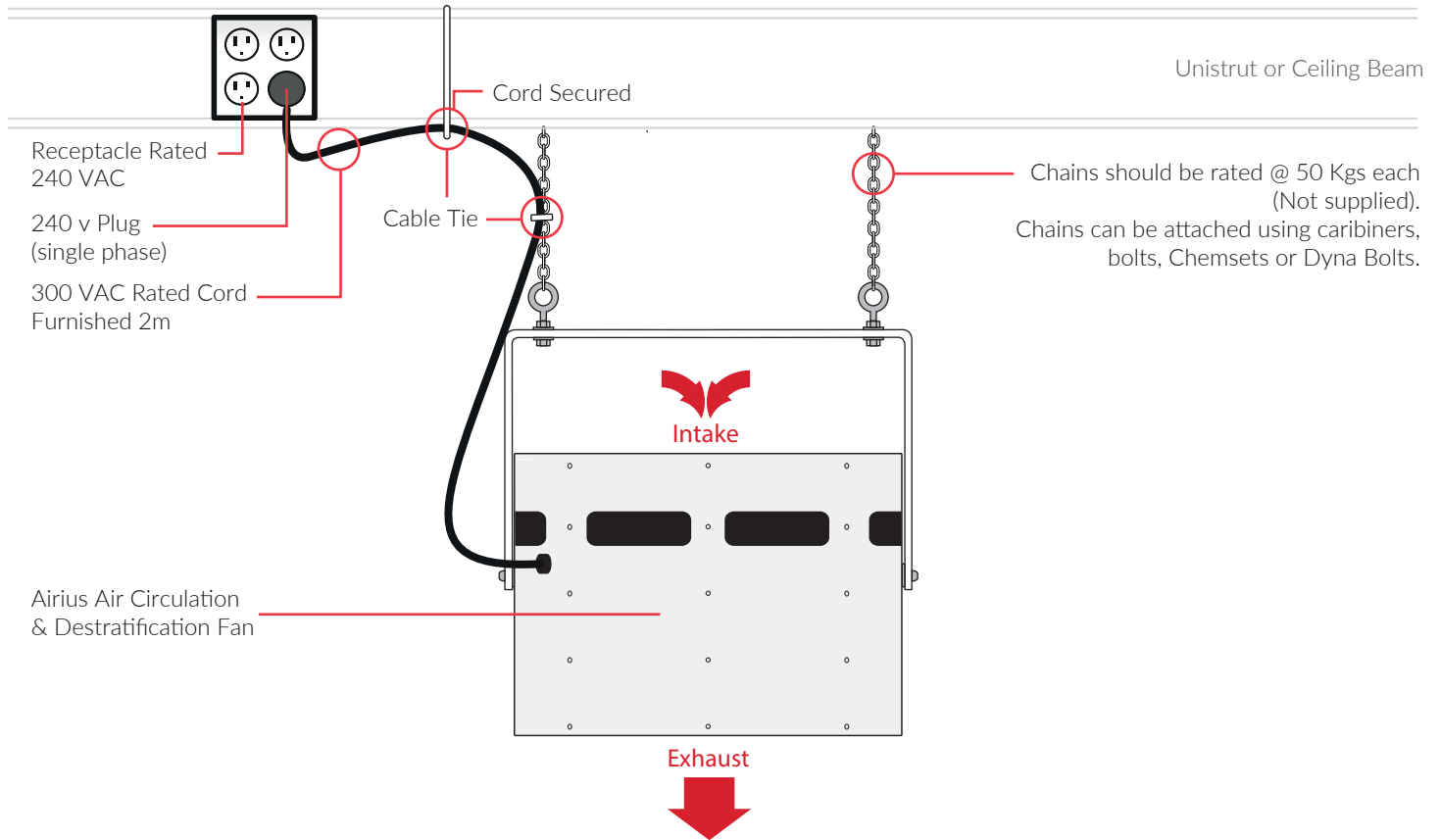
Density of the placement is directly related to the effectiveness, performance and savings.

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.

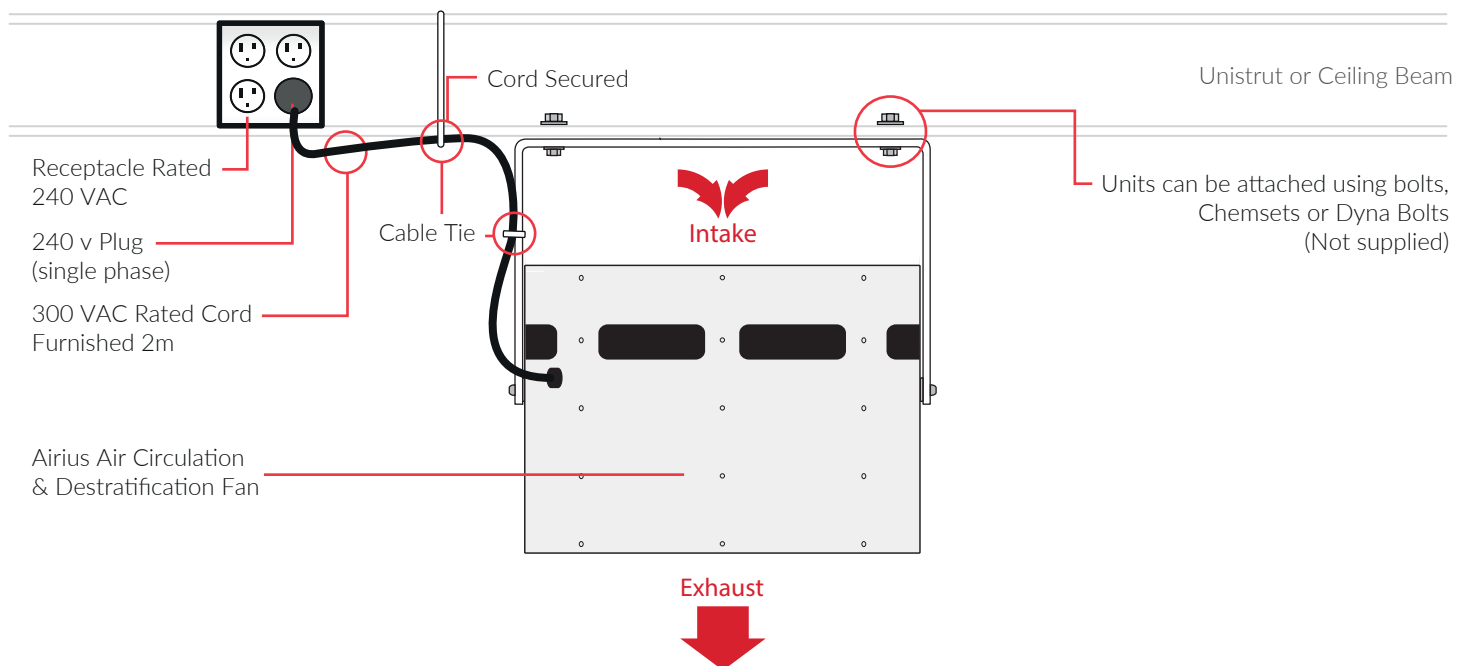
**CHAIN HUNG (STRAIGHT)**

PLUG NOT SUPPLIED



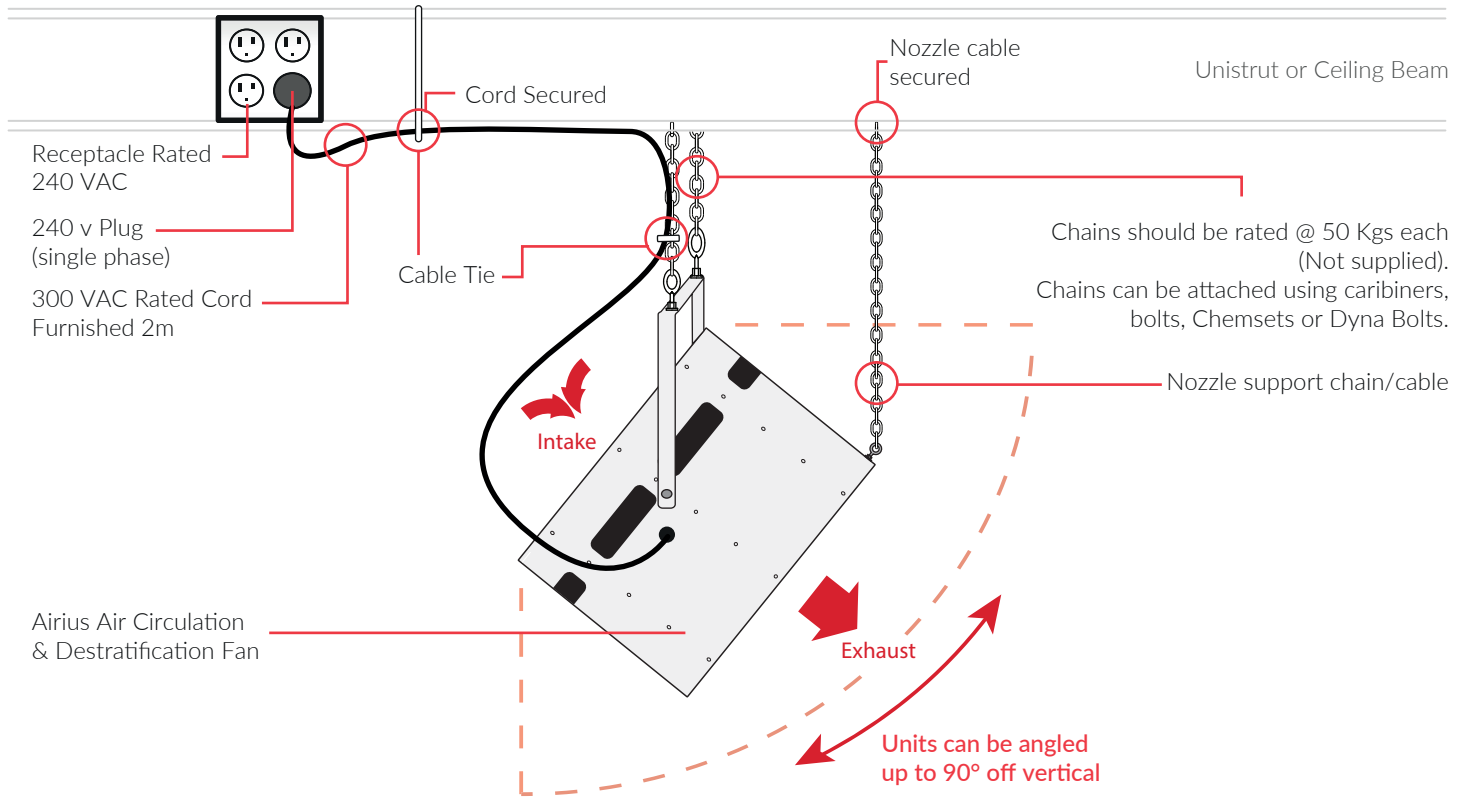
**CEILING FIXED (STRAIGHT)**

PLUG NOT SUPPLIED



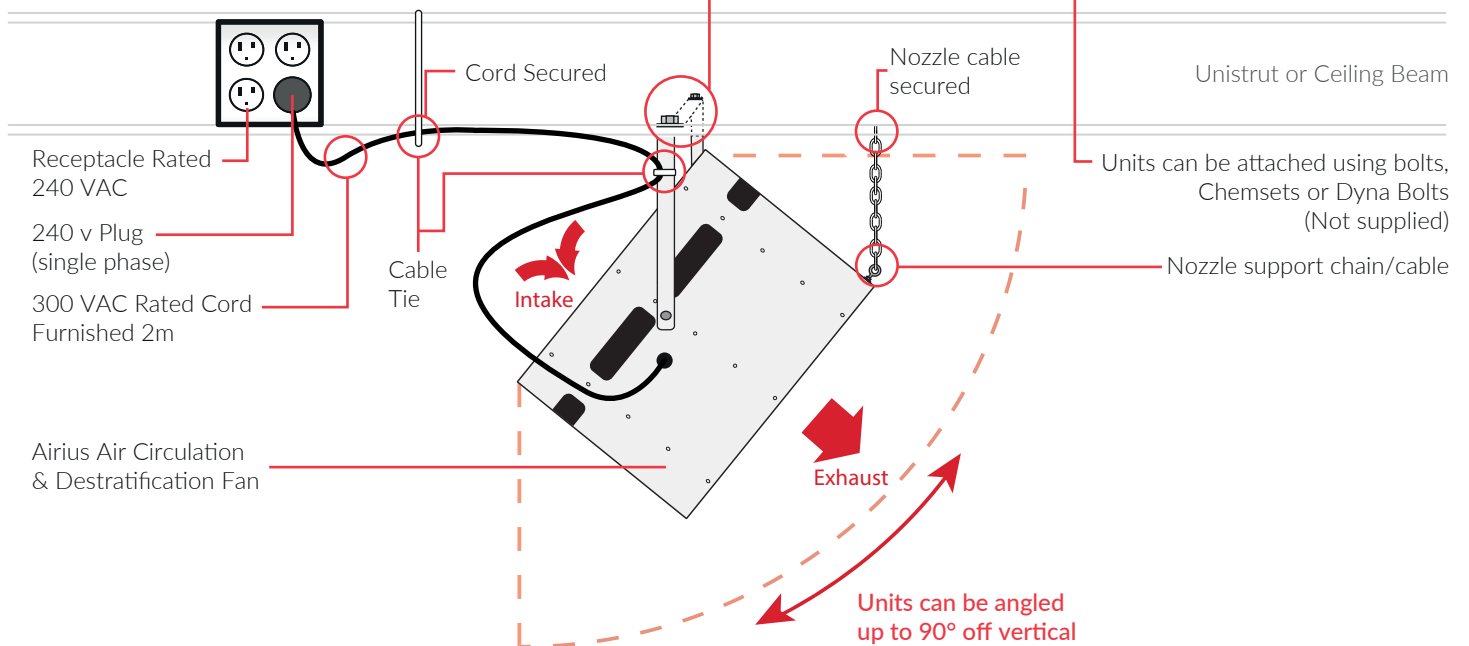
## CHAIN HUNG (ANGLED)

PLUG NOT SUPPLIED



## CEILING HUNG (ANGLED)

PLUG NOT SUPPLIED



## AIRIUS SPEED CONTROLLER 1 AMP



AIRIUS MODEL	10	15/S2	25/S1	45/PS-4	45/PS-2	Onyx PS-4	50/PS-4	60/PS-4	G400/PS-4
NO. OF UNITS	13	10	5	4	1	2	2	1	1

### MOUNTING

The controllers are to be mounted on a smooth surface. Connect voltage supply, motor(s) and earth as shown in the scheme with cables of the proper diameter. On the mains side, a safety switch with recommend pre-fuses has to be installed.

### TRANSPORT AND STOCK KEEPING

Avoid shocks and extreme conditions, stock in original packaging.

### 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.

### TECHNICAL DATA

**Voltage:** 230Vac – 50/60Hz  
**Weight:** 1 kg  
**IP Rating:** IP54

	<b>MAX AMPS</b>	<b>FUSE</b>
<b>STR-1-10L10</b>	1.0	FT-1.25 A

**Enclosure:** Plastic R-ABS, UL94-V0, grey RAL 7035 or sheet steel (RAL 7032, polyester powder coating).

**Recommended prim. Fuse:** ca 1,5 x trafo.

**Max ambient temperature:** 35°C

These transformer speed controllers are based on the principle of voltage control with auto-transformers. They are applicable to voltage-controllable motors (230V – 50/60Hz) to control the speed (of fans, pumps etc.). When choosing a controller it is important to know the current intensity consumption on the taps.

### 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.

### MOTOR PROTECTION

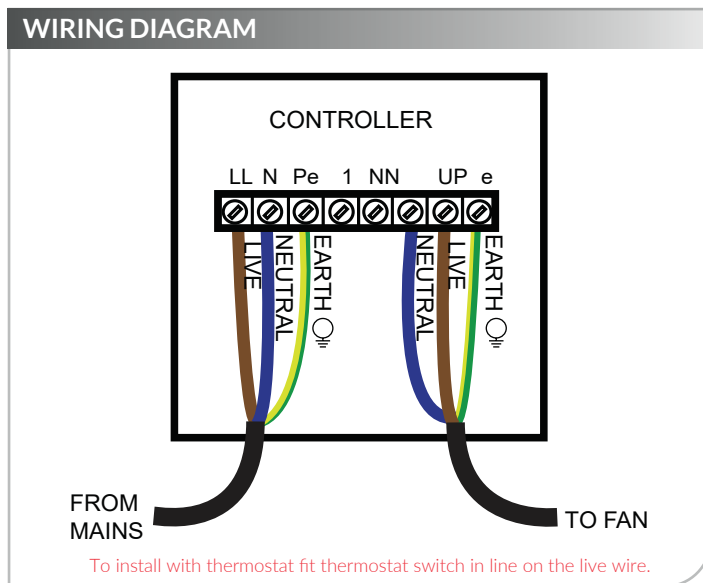
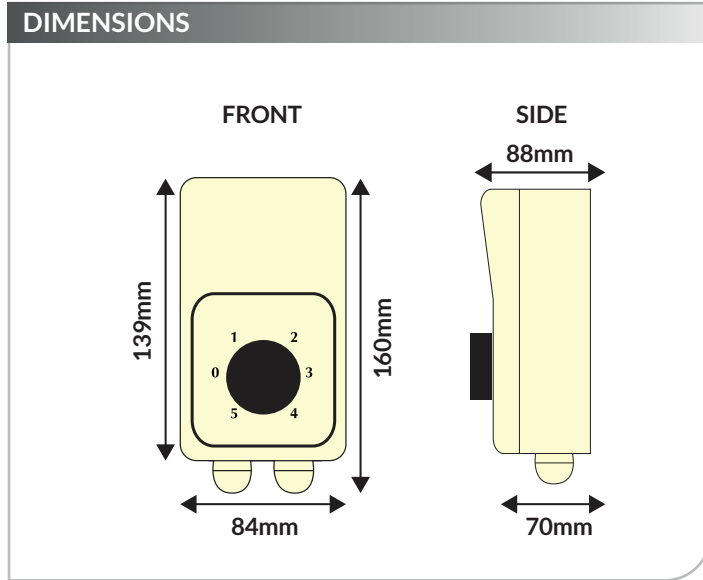
It is always recommended to install a proper motor protection device.

All works may only be carried out by skilled personnel following the local regulations and AFTER the controller is completely separated from the mains. Replace fuse only with same type and rating.

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



## AIRIUS SPEED CONTROLLER 1 AMP



PLEASE NOTE: THIS CONTROLLER MUST BE EARTHED



## AIRIUS SPEED CONTROLLER 5 AMP



AIRIUS MODEL	10	15/S2	25/S1	45/PS-4	45/PS-2	Onyx PS-4	50/PS-4	60/PS-4	G400/PS-4
NO. OF UNITS	67	53	25	20	6	11	11	6	5

### MOUNTING

The controllers are to be mounted on a smooth surface. Connect voltage supply, motor(s) and earth as shown in the scheme with cables of the proper diameter. On the mains side, a safety switch with recommend pre-fuses has to be installed.

### TRANSPORT AND STOCK KEEPING

Avoid shocks and extreme conditions, stock in original packaging.

### 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.

### TECHNICAL DATA

**Voltage:** 230Vac – 50/60Hz  
**Weight:** 5.5 kg  
**IP Rating:** IP54

	<b>MAX AMPS</b>	<b>FUSE</b>
<b>STR-1-50L22</b>	5.0	FT-8.0 A

**Enclosure:** Plastic R-ABS, UL94-V0, grey RAL 7035 or sheet steel (RAL 7032, polyester powder coating).

**Recommended prim. Fuse:** ca 1,5 x trafo.  
**Max ambient temperature:** 35°C

These transformer speed controllers are based on the principle of voltage control with auto-transformers. They are applicable to voltage-controllable motors (230V – 50/60Hz) to control the speed (of fans, pumps etc.). When choosing a controller it is important to know the current intensity consumption on the taps.

### 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.

### MOTOR PROTECTION

It is always recommended to install a proper motor protection device.

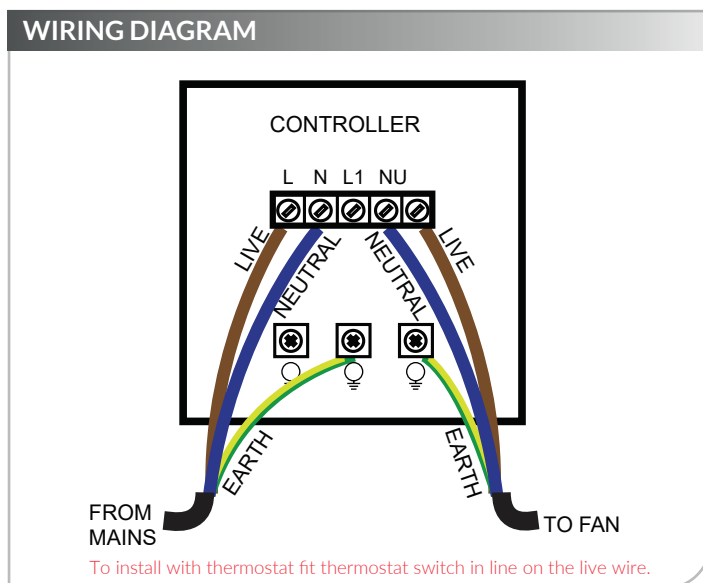
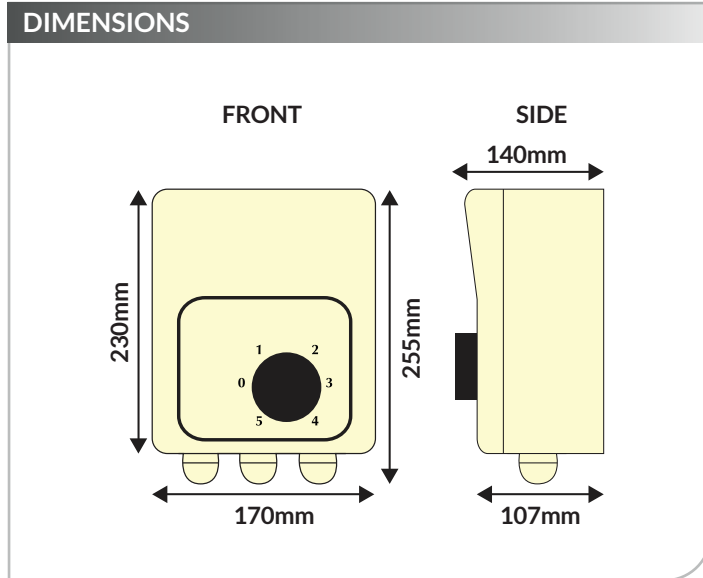
All works may only be carried out by skilled personnel following the local regulations and AFTER the controller is completely separated from the mains. Replace fuse only with same type and rating.

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





## AIRIUS SPEED CONTROLLER 5 AMP



PLEASE NOTE: THIS CONTROLLER MUST BE EARTHED

## AIRIUS STVS1 SMART SPEED CONTROLLER 5 AMP



AIRIUS MODEL	10	15/S2	25/S1	45/PS-4	45/PS-2	Onyx PS-4	50/PS-4	60/PS-4	G400/PS-4
NO. OF UNITS	67	53	25	20	6	11	11	6	5

### MOUNTING

The controllers are to be mounted on a smooth surface. Connect voltage supply, motor(s) and earth as shown in the scheme with cables of the proper diameter. On the mains side, a safety switch with recommend pre-fuses has to be installed.

### TRANSPORT AND STOCK KEEPING

Avoid shocks and extreme conditions, stock in original packaging.

### 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.

### KEY FEATURES

- Analogue input signal (0–10 VDC) galvanically isolated
- TK monitoring for thermal motor protection
- 5 switching levels according to the input signal
- LED status indication
- +12 VDC output (e.g. as supply for MTP-X10K potentiometer from Sentera)

### TECHNICAL DATA

**Voltage:** 230Vac – 50/60Hz  
**Weight:** 5.5 kg  
**IP Rating:** IP54

	<b>MAX AMPS</b>	<b>FUSE</b>
<b>STR-1-50L22</b>	5.0	(5* 20 mm) T-8,0 A-H

**Enclosure:** Plastic R-ABS, UL94-V0, grey RAL 7035 or sheet steel (RAL 7032, polyester powder coating).

**Recommended prim. Fuse:** ca 1,5 x trafo.  
**Max ambient temperature:** 35°C

The STVS1 series of transformer fan speed controllers regulate the rotational speed of single-phase voltage controllable motors in five steps by varying the output voltage according to an 0–10 VDC analogue input signal. They are equipped with autotransformer(s) and feature TK monitoring for thermal motor protection.

### 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.

### MOTOR PROTECTION

It is always recommended to install a proper motor protection device.

All works may only be carried out by skilled personnel following the local regulations and AFTER the controller is completely separated from the mains. Replace fuse only with same type and rating.

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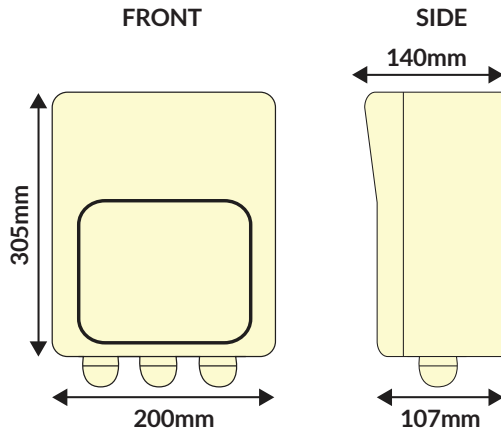


### MOTOR DATA

Control signal input:	0–10 VDC
Output:	12 VDC / I <sub>max</sub> 50 mA
Unregulated output:	230 VAC (max. 2 A)
Switching levels	Switching levels
Up:	2; 4; 6; 8; 9,5 VDC
Down:	Up level – 0,2 VDC
Max. Rel. humidity:	5–95 % rH (non-condensing)

## AIRIUS STVS1 SMART SPEED CONTROLLER 5 AMP

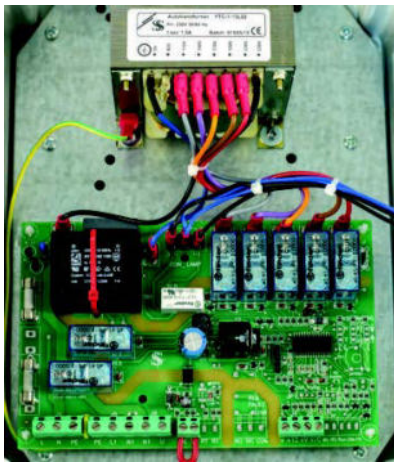
### DIMENSIONS



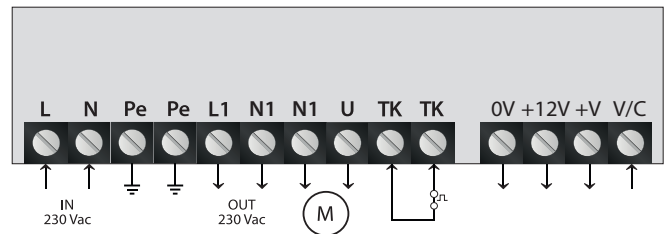
### SPEED CONTROLLER COMPONENTS



### WIRING DIAGRAM









To install with thermostat fit thermostat switch in line on the live wire.



PLEASE NOTE: THIS CONTROLLER MUST BE EARTHED

### VOLTAGE

0–10 VDC or external potentiometer positions (MTV or MTP)*	0	-	1	2	3	4	5
Wires		-					
	<b>Regulated Output (VAC)</b>						
Voltages**	0	80***	110	140	170	190	230
	<b>Unregulated Output (VAC)</b>						
L1	0	230	230	230	230	230	230

\* See the operational diagram on the next page for the corresponding voltages.

\*\* If more than 5 output voltages are available, adjust the 5 steps by changing the internal wiring.

\*\*\* Available but not connected.

### WIRING & CONNECTIONS

L	Power supply, phase (230 VAC / 50–60 Hz)
N	Power supply, neutral
Pe	Earth terminal
L1	Unregulated output, line
N1	Unregulated output, neutral
U	Regulated output to motor, line
TK	Input - TK monitoring for thermal motor protection
0V	Ground
+12V	Output 12 VDC / I <sub>max</sub> 50 mA
+V*	Digital output 12 VDC / I <sub>max</sub> 50 mA (0 VDC = TK fault; 12 VDC = normal operation)
V/C	Input U: 0–10 VDC



### **Arius Europe, Middle East & Asia**

Arius Europe Ltd  
Holwell Farm, Cranborne  
Dorset  
BH21 5QP, UK  
Tel - +44 (0) 1202 554200  
Fax - +44 (0) 1202 554396  
Email - [info@airius.co.uk](mailto:info@airius.co.uk)  
Web - [www.airius.co.uk](http://www.airius.co.uk)

### **Arius Americas**

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

### **Arius Oceania & S.E. Asia**

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

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