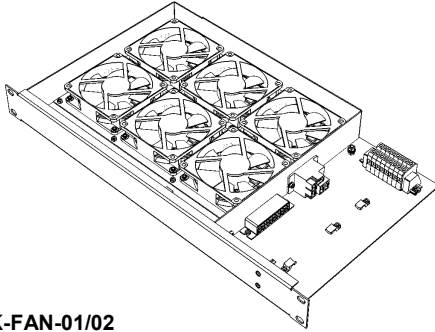
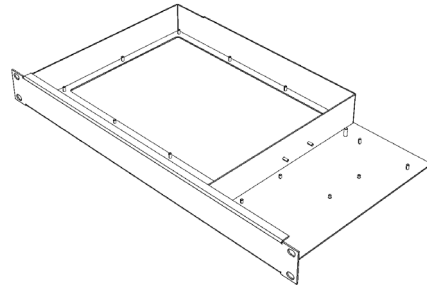


## Installation Guide



### RAK-FAN-01/02

Power Supply .....	20 V - 27.6 V
Max. Current Consumption .....	1.1 A (RAK-FAN-01) 3.5 A (RAK-FAN-02)
Thermal Switch Activation Temperature .....	50°C
Temperature / Humidity Range .....	refer to V2000 specification
Dimensions (H x W x D) .....	44.4 x 483 x 263.6 mm
Weight .....	2.4 kg












### RAK-DUCT-01

Temperature / Humidity Range .....	refer to V2000 specification
Dimensions (H x W x D) .....	44.4 x 483 x 263.6 mm
Weight .....	1.3 kg

### Safety and Precautions

Observe all safety information both on the equipment and in this section.

-  The temperature and humidity ranges for this equipment must not be exceeded.
-  The RAK-FAN must be installed in a restricted access location such that there is no operator access to the wiring or fan blades.
-  This equipment must not be installed in an area that is subject to a corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with the unit or its external connections.
-  Objects containing liquids should not be placed upon the equipment.
-  Ensure power supply cabling is adequately rated for the unit's operating current and temperature, and is protected against short-circuit by a correctly rated fuse or circuit breaker.
-  Always replace blown fuses with the correct type and rating.
-  Proper care should be taken to prevent contact with spinning fan blades.
-  Always disconnect power and wait for fans to stop spinning before servicing or maintenance
-  This product must be disposed of in accordance with the WEEE directive.

### Additional User Documentation:

Additional reference information is available from the ASL's website: [www.asl-control.co.uk](http://www.asl-control.co.uk)



This product is designed and manufactured to comply with the following EC Directives for electrical and electronic equipment:

- 1) Restriction of Hazardous Substances (RoHS) Directive: 2011/65/EU
- 2) Electromagnetic Compatibility (EMC) Directive: 2014/30/EU
- 3) Low Voltage (LVD) Directive: 2014/35/EU

A "Declaration of Conformity" statement to the above Directives, listing the applicable harmonised standards to which the equipment conforms, is available on request.

This product is assessed for safety as suitable for pollution degree 2 environments.

Failure to use the equipment in the manner described in the product literature will invalidate the warranty.

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## Introduction

This document describes how to install the Fan Tray and Cooling Duct into an equipment rack.

This is the installation sequence:

1. Preparation (page 2)
2. Unpacking and Handling (page 2)
3. Installation (page 3)

## Preparation

1. Read and observe the safety instructions and guidelines above.



Failure to follow these instructions and guidelines may cause personal injury and/or damage to the equipment.

2. Gather the following documentation and tools:

- The system design documentation of the specific location
- A flat-bladed screwdriver (small)
- A pair of wire cutters/strippers
- Ferrules and crimping tool
- 19-inch rack-mount fixing screws as required by the system design
- For the Thermal Switch installation (recommended):
  - 2 x red insulated 6.35 x 0.80 mm female push-on crimp terminals
  - Wire size of 16/0.2 or greater

3. Gather the equipment as required by the system design (in their original packing).

4. A standard 19-inch rack is required for the installation.



The rack should be fitted with supporting rails (for V2000 mainframes, VIPEDIA-12 units and Fan Tray) and wired with power supply, signal, and control wiring to suit the requirements of the specific system design and should meet the rules and guidelines provided in the ASL System Design Guide.

No supporting rails are needed for the Cooling Duct.

## Unpacking and Handling

1. Observe any markings or warnings on the package prior to handling and opening.
2. Check the equipment package for signs of damage during transport. Report problems to the carrier or supplier.
3. Unpack the equipment in a dry area handling the equipment with care.
4. Check the equipment package contents for completeness. Report any missing items immediately.

RAK-FAN-01/02 packing contents:

- 1 x Fan Tray
- 1 x Thermal Switch Assembly
- 1 x Installation Guide

RAK-DUCT-01 packing contents:

- 1 x Cooling Duct
- 1 x Installation Guide

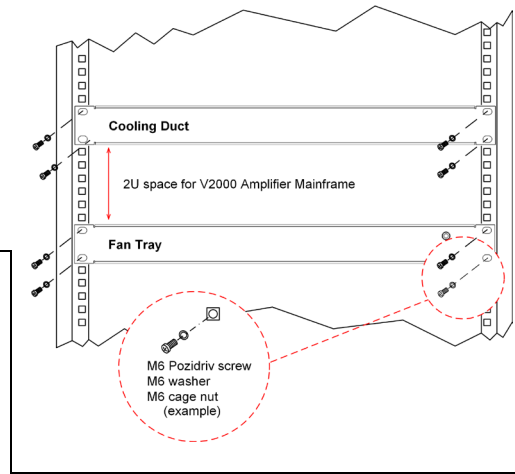
5. It is advisable to retain the original equipment packing (containers and materials) in the event that the equipment ever needs returning for service.
6. If the packing is not to be retained, the packing materials should be either recycled or disposed of according to local regulations.
7. Ensure that the name and address of the Authorised Distributor from whom you purchased the product is recorded on the 'Service and Warranty' page of this document for future reference.
8. Repacking instructions are provided in Section '10 Packing for Return' (page 4).

**Installation**

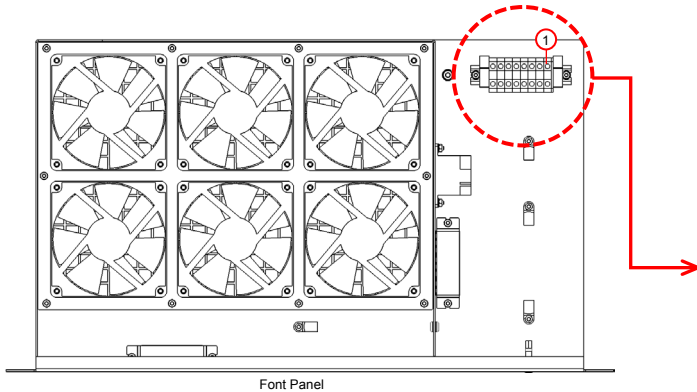
1. Ensure that the power supply to the equipment rack is isolated.
2. Mount the Fan Tray and Cooling Duct using suitable fixings screws and washers.



Refer to your system design documentation for correct mounting position of the Fan Tray and Cooling Duct.



3. Connect the external wiring to the Fan Tray.



Terminal	Description
1	0V Supply (20 - 27.6 V)
2	+V Supply (20 - 27.6 V)
3	Direct Control
4	Direct Control
5	Thermal Switch / Vikipedia 0V return
6	Thermal Switch / Vikipedia open-collector

**Notes:**

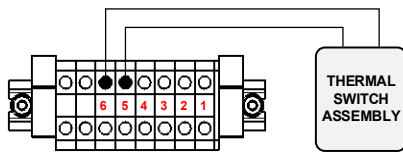
- 1) Pins 3 and 4: For permanent fan operation (short-circuit pin 3-4) or control via suitably rated contacts.
- 2) Pins 5 and 6: For operation controlled by an ASL Thermal Switch (ASL PN A0623202) or a Vikipedia GPIO (digital output, refer to ASL for availability).



Do not remove the diode fitted to the other two terminals.

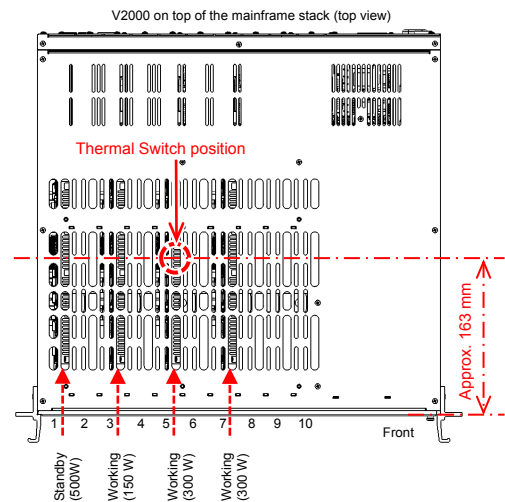
4. If used, place the ASL Thermal Switch Assembly (ASL PN A0623202) **on top of the V2000 that is on top of the mainframe stack.**

- a. Cut a pair of wires (size of 16/0.2 or greater) to length and terminate one end with suitable ferrules and the other end with a female push-on crimp terminals (6.35 x 0.80 mm).
- b. Connect the pair of wires to terminals 5 and 6 of the Fan Tray terminal block and the Thermal Switch.



Make sure that the Thermal Switch is positioned **on top of one of the highest power working amplifiers approx. 163 mm from the front panel.** Refer to ASL System Design Guide for further details.

Do not obstruct the ventilation holes.



The example above shows the Thermal Switch position on a V2000 mainframe with standby amplifier in slot 1 (500 W) and working amplifiers in slots 3 (150 W), 5 (300 W) and 7 (300 W).

5. Connect power to the Fan Tray.
6. Confirm that the green **power** LED is lit.

The fan status is indicated by the blue **fans running** LED.



The Fan Tray should remain powered up while the V2000 system is running.



Proper care should be taken to prevent contact with spinning fan blades.

**power:** green LED lit when unit is powered  
**fans running:** blue LED lit when fans are spinning



## Storage and Preservation

This product should be packed for storage in the original packing as described in 'Packing for Return' section below and stored in the following environmental conditions:

- Away from harsh environmental conditions, such as areas that are subject to corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with the unit or its external connections.
- In a heated and humidity controlled storage areas where the temperature and humidity are within the product specification.

## Packing for Return

If a product is being returned for servicing, try to use the containers and materials of the original packaging. Attach a tag indicating the type of service required, return address, equipment type and full serial number.

If the original packing can no longer be used, the following general instructions should be used for repacking with commercially available materials:

- All electronics assemblies must be properly packed in ESD protective packing for transport, to prevent physical and ESD damage.
- The filler material used for packing must be antistatic or static dissipative, as this may come into contact with exposed connectors, wiring, or PCB assemblies. The use of non-conductive filler material may cause damage to the electronic assemblies reducing their operational life, or even destroying them.
- Use a sturdy cardboard box that will support the weight and size of the equipment.
- Attach a tag indicating the type of service required, return address, equipment type and full serial number.
- Completely wrap the equipment in bubble wrap (all sides must be protected) and secure the wrap in place with tape.
- Place the wrapped equipment inside the box surrounded by filler material, ensuring that there is no room for movement.
- Seal the box securely with packing tape.

## Service and Warranty

Name and Address of Authorised Distributor:

This product carries a full warranty. For full details of warranty and service agreements, please contact the Authorised Distributor who supplied the product to you.

### Exclusions

The warranty does NOT cover:

1. Customer misuse, including incorrect installation.
2. Damage other than manufacturing defects.
3. Transit / Courier damage.
4. Incorrect voltage or power supply used.
5. Incorrect input signal.
6. Abnormal environmental operating conditions.
7. Damage incurred by accident, fire, lightning or other hazard.
8. Modification to the unit or inexpert / attempted repair.
9. No fault found – where no fault can be found after extensive testing, indicating user error or failure in ancillary equipment.
10. Electronic assemblies which are improperly packed when returned for repair or service. All electronics assemblies must be properly packed in ESD protective packing for transport to prevent physical and ESD damage.

Should any of the above apply, Application Solutions (Safety and Security) Limited reserves the right to raise any relevant charges to the customer.

Application Solutions (Safety and Security) Limited shall not be liable for any indirect, special or consequential loss or damage (including without limitation any loss of profits) arising from the use of this product or for any breach of this warranty.

In the interest of continual product development, Application Solutions (Safety and Security) Limited reserves the right to make changes to product specification without notice or liability.