



Thermostats

Additional Information

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Introduction

MRS

Variable Flow

MU

Long Life MDE

MDS · MD

MB

MBD

MF

MFD

Thermostats

Accessories

Before Using a Fan

Axial Flow Fans
AC Input

DC Input
AC Input

Centrifugal Blowers
AC Input DC Input

Cross Flow Fans
AC Input DC Input

Thermostats

AM1-WA1/AM1-XA1

Thermostats make it possible for fans to operate only when cooling is necessary. By running the fans only as needed, energy can be conserved. Examples include:

- At night, when the amount of heat generation declines as a result of fewer machine cycles
- In winter, when the ambient temperature is lower, requiring less air cooling

In addition, the setting is very easy: all you have to do is set the front dial to the desired temperature.



Safety Standards and CE Marking

Standards	Certification Body	CE Marking
UL873	UL	Low Voltage Directives
CSA C22.2 No.24		EMC Directives

- [Details of Safety Standards](#) → Page G-2

Product Line

Type	Model
Fahrenheit	AM1-WA1
Centigrade	AM1-XA1

Specifications



Item	Specifications
Type of Sensor	Thermo bimetal, Contact: Normally open
Operating Temperature Range	32°F(0°C) ± 14.4°F (8°C) ~ 140°F(60°C) ± 14.4°F (8°C)
Differential	[Operating Temperature - 12.6°F(-7°C)] ± 7.2°F (4°C)
Applicable Lead Wire Size	AWG 18~14

General Specifications

Item	Specifications
Dielectric Strength	Sufficient to withstand 3750 kVAC power applied between the frame and terminal for one minute under normal temperature and humidity. Sufficient to withstand 500 VAC power applied between the terminals for one minute under normal temperature and humidity.
Ambient Temperature	-4°F ~ +176°F (-20°C ~ +80°C)
Ambient Humidity	90% or less (noncondensing)
Color	Gray

Notes:

- If foreign objects get into the sensor, the thermostat may not work properly. The use of a filter at the intake is recommended so foreign objects will not enter the area where the sensor is located.
- Install the product on an IEC (DIN) rail. Make sure that no force (tension, stress, etc.) is applied to the terminal section.

Applicable Products

Input	Series	Model	Number of Connectable Fans	
Single-Phase AC Input	MU Series	All models	9 Fans	
		MRS Series		
		MRS25	1 Fan	
		MRS20	2 Fans	
		MRS18	2 Fans	
		MRS16	5 Fans	
	MB Series		MB1255	1 Fan
			MB1040	4 Fans
			MB840	7 Fans
			MB630, MB520	9 Fans
	MF Series	MF930, MF915	5 Fans	

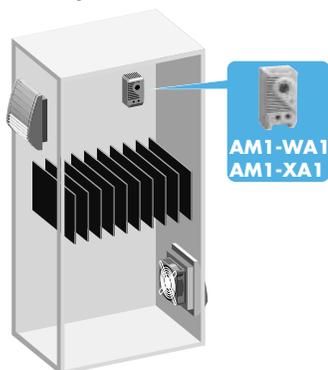
Effective Use of the Thermostat

Using a fan with a thermostat provides automatic on/off control of the fan and air flow switching.

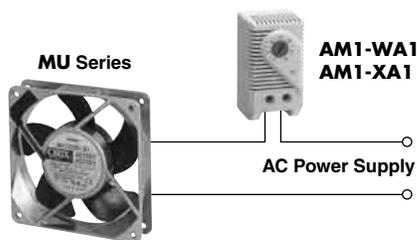
ON/OFF Control of a Single Fan

When the temperature within the enclosure rises to a specified level, the thermostat activates the fan automatically. Once the enclosure interior is sufficiently cooled, it causes the fan to stop. This is a great way to save energy and reduce noise.

Application Example



Connection Example



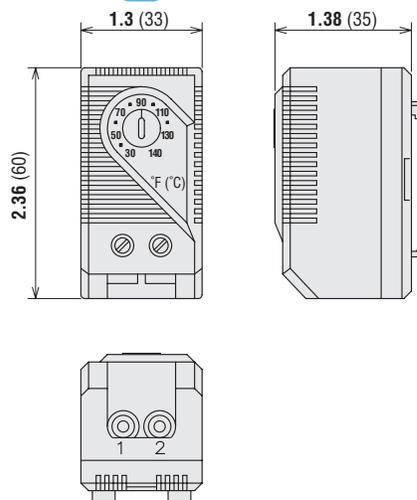
Dimensions

Scale 1/2, Unit = inch (mm)

Weight: 1.6 oz. (45 g)

AM1-WA1: DXF E108

AM1-XA1: DXF E108U

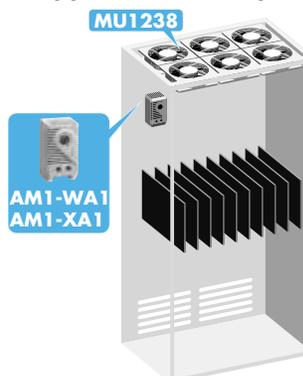


ON/OFF Control of Multiple Fans

Multiple fans can be effectively controlled in cases where more than one fan is needed to produce the required air flow or static pressure.

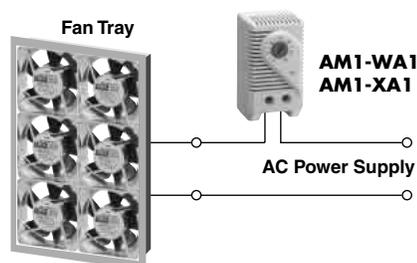
For example, a thermostat can control a maximum of nine MU1238 type fans (a six-fan configuration is shown).

Application Example



Thermostat	Number of Fans	Input W	Noise dB
ON	6	84	51
OFF	—	0	0

Connection Example



● Control the Number of Fans in Operation

The use of two thermostats enables switching the number of fans being operated to change the air force in accordance with temperature. This helps save energy and reduce noise.

* This control method is effective with densely mounted equipment.

◆ Application Example



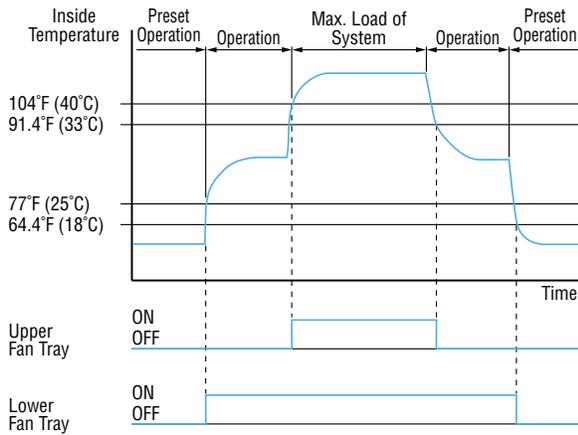
MU1238

AM1-WA1
AM1-XA1

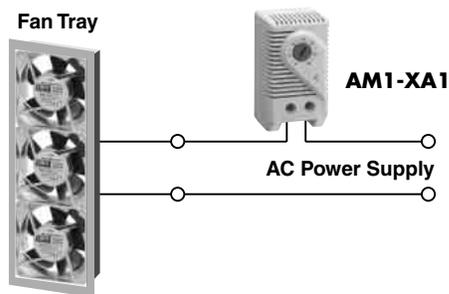
● **MU1238 Type Multiple Switching Control**

Temperature	Number of Fans	Input W	Noise dB
High 104°F (40°C)	6	84	51
Low 77°F (25°C)	3	42	48

■ **Temperature of Lower Fan Tray: 77°F (25°C)**
■ **Temperature of Upper Fan Tray: 104°F (40°C)**



◆ Connection Example



Notes:

- Connect the lead wire to the thermostat as shown in the diagrams, regardless of how many fans are used or of the fan's wire diameter.
- When connecting multiple fans, always use a terminal block. Don't connect the lead wires of multiple fans directly to the thermostat.
- When connecting a variable-flow fan, do not connect with 2 leads for connecting variable resistor.

Recommended crimp terminal: Phoenix Contact Inc: AI 1-8 (not included)
Applicable lead wire size: AWG 18