

# MRS Series

High-Efficiency, Low-Noise Models

7.87 in. sq. × 3.54 in. thick  
(200 mm sq. × 90 mm thick)



**Materials**  
 Frame: Die Cast Aluminum  
 Blades: Resin  
 Flammability Grade: V-O

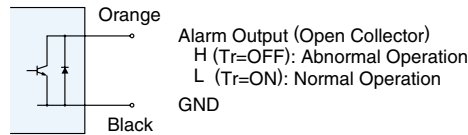
## Specifications

Model		Voltage V	Frequency Hz	Current A	Input Power W	Speed r/min	Max. Air Flow		Max. Static Pressure		Noise Level dB (A)	Capacitor μF
Electronic Alarm Type	Standard Type						CFM	m <sup>3</sup> /min	in H <sub>2</sub> O	Pa		
<b>MRS20-BM</b>	<b>MRS20-BUL</b>	Single-Phase 100	50	0.8	75	2850	466	13.2	0.89	221	56	6.0
		Single-Phase 100	60	1.0	95	3350	547	15.5	0.75	186	60	
		Single-Phase 115	60	1.0	95	3400	547	15.5	0.75	186	61	
<b>MRS20-DM</b>	<b>MRS20-DUL</b>	Single-Phase 200	50	0.4	75	2850	466	13.2	0.89	221	56	6.0
		Single-Phase 200	60	0.5	95	3350	547	15.5	0.75	186	60	
		Single-Phase 230	60	0.5	95	3400	547	15.5	0.75	186	61	
<b>MRS20-TM</b>	<b>MRS20-TUL</b>	Three-Phase 200	50	0.4	75	2850	466	13.2	0.89	221	56	—
		Three-Phase 200	60	0.4	95	3350	547	15.5	1.06	265	60	
		Three-Phase 230	60	0.4	95	3400	547	15.5	1.06	265	61	

- Values for maximum air flow and maximum static pressure are measured by the double-chamber method.
- Noise level is measured in the A range, at a distance of 3.3 feet from the fan intake side.
- A thermal protector is installed. If the fan heats up, the thermal protector goes into operation and the fan stops. Once the fan temperature drops, it will automatically restart. Perform inspection work after turning off the power source.
- Fans bearing the CE mark should only be used with Class I equipment. When installing into the equipment, either ground the fan or ensure that there is no contact with bare hands. For protection, use the optional finger guard.  
Standards specifications are listed on page D-2

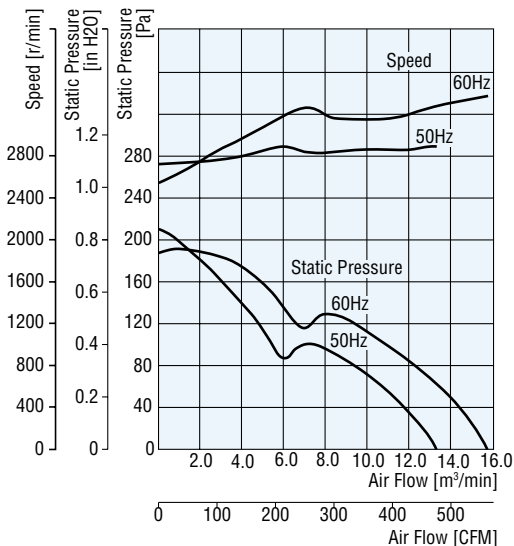
- **Alarm Specifications** Alarm Activation Speed : 1800±300r/min  
 When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.  
 Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.

### Alarm Circuit



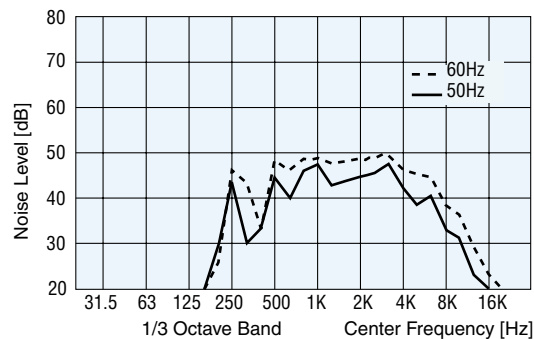
Maximum voltage: Vout = 30V DC max.  
 Maximum current: Iout = 15mA max.

## Air Flow — Static Pressure Characteristics



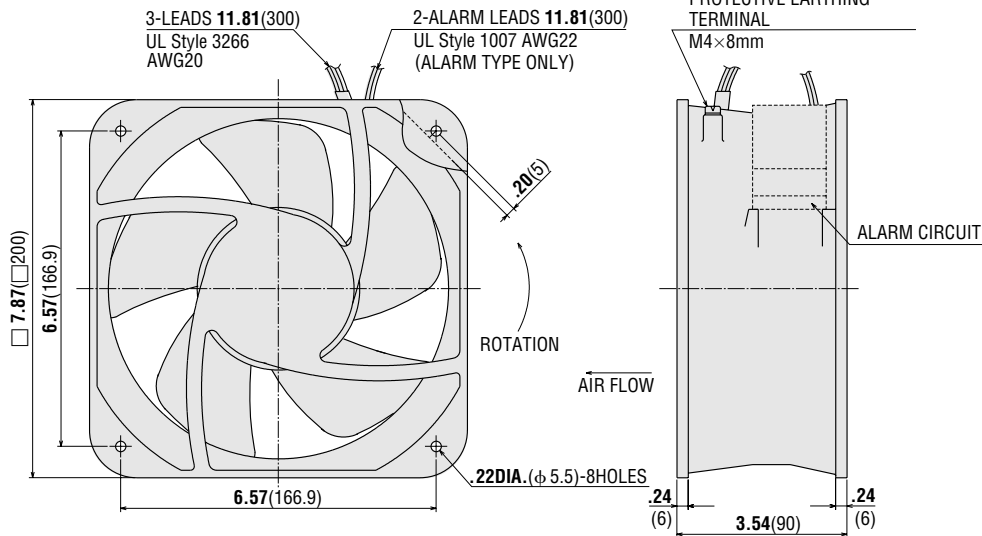
## Audible Noise Frequency Analysis

Measured at a distance of 3.3 feet from the fan intake side



## ■ Dimensions Scale 1/4, Unit = inch (mm)

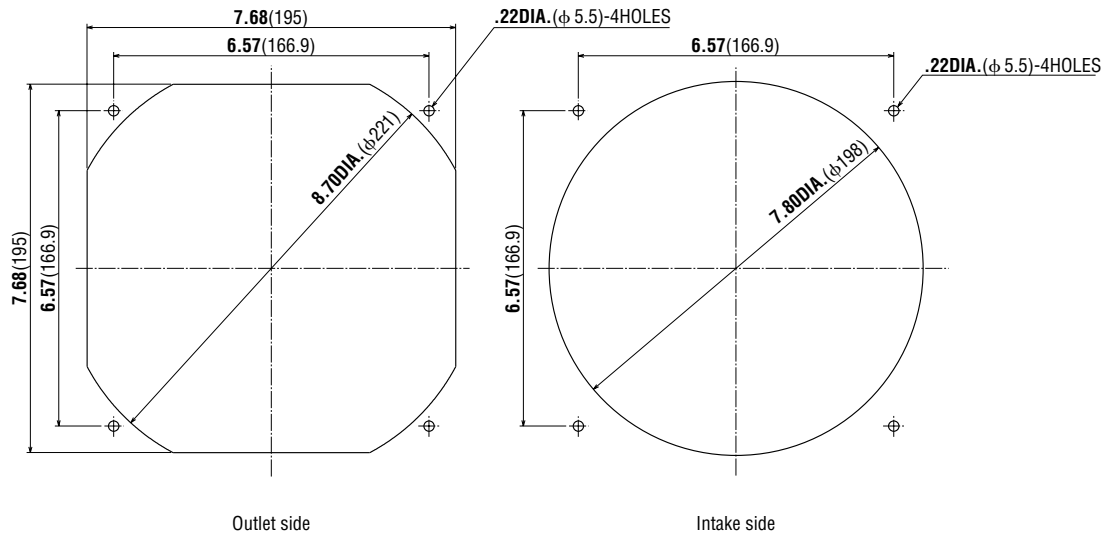
● Weight (Mass) : 5.5 lb. (2.5kg)



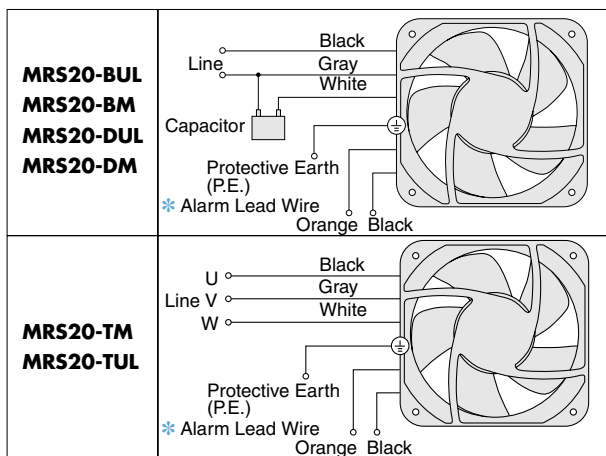
● Capacitor CH60UL

Weight (Mass) : 1.13 oz. (32g)  
(Capacitor and capacitor cap are provided with single-phase fans.)

## ■ Panel Cut-Out Scale 1/4, Unit = inch (mm)



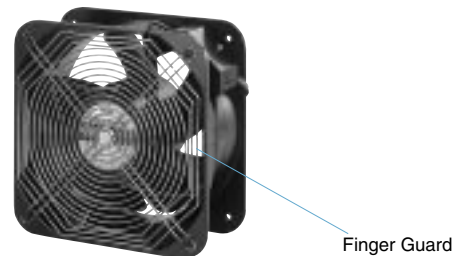
## ■ Wiring Diagrams



\* Alarm type only.

## ■ Accessories

● Finger Guard: **FG20D** (Sold Separately)



● See page C-100 for information on finger guard.

# MRS Series

High-Efficiency, Low-Noise Models

7.09 in. sq. × 3.54 in. thick  
(180 mm sq. × 90 mm thick)



### Materials

Frame: Die Cast Aluminum  
Blades: Resin  
Flammability Grade: V-O

## Specifications

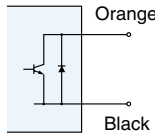


Model		Voltage V	Frequency Hz	Current A	Input Power W	Speed r/min	Max. Air Flow		Max. Static Pressure		Noise Level dB (A)	Capacitor μF
Electronic Alarm Type	Standard Type						CFM	m <sup>3</sup> /min	in H <sub>2</sub> O	Pa		
<b>MRS18-BTM</b>	<b>MRS18-BUL</b>	Single-Phase 100	50	0.8	75	2850	388	11.0	0.79	196	56	6.0
		Single-Phase 100	60	1.0	95	3300	452	12.8	0.98	245	60	
		Single-Phase 115	60	1.0	95	3350	452	12.8	0.98	245	61	
<b>MRS18-DTM</b>	<b>MRS18-DUL</b>	Single-Phase 200	50	0.4	75	2850	388	11.0	0.79	196	56	6.0
		Single-Phase 200	60	0.5	95	3300	452	12.8	0.98	245	60	
		Single-Phase 230	60	0.5	95	3350	452	12.8	0.98	245	61	
<b>MRS18-TTM</b>	<b>MRS18-TUL</b>	Three-Phase 200	50	0.4	75	2850	388	11.0	0.79	196	56	—
		Three-Phase 200	60	0.4	95	3300	452	12.8	0.98	245	60	
		Three-Phase 230	60	0.4	95	3350	452	12.8	0.98	245	61	

- Values for maximum air flow and maximum static pressure are measured by the double-chamber method.
- Noise level is measured in the A range, at a distance of 3.3 feet from the fan intake side.
- A thermal protector is installed. If the fan heats up, the thermal protector goes into operation and the fan stops. Once the fan temperature drops, it will automatically restart. Perform inspection work after turning off the power source.
- Fans bearing the CE mark should only be used with Class I equipment. When installing into the equipment, either ground the fan or ensure that there is no contact with bare hands. For protection, use the optional finger guard. Standards specifications are listed on page D-2

- **Alarm Specifications** Alarm Activation Speed : 1800±300r/min  
When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.  
Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.

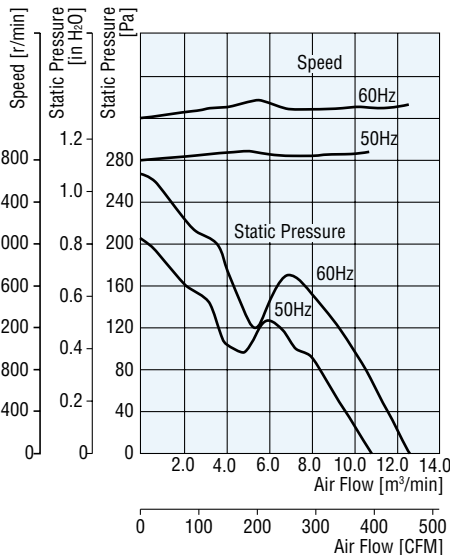
### Alarm Circuit



Orange  
Alarm Output (Open Collector)  
H (Tr=OFF): Abnormal Operation  
L (Tr=ON): Normal Operation  
Black  
GND

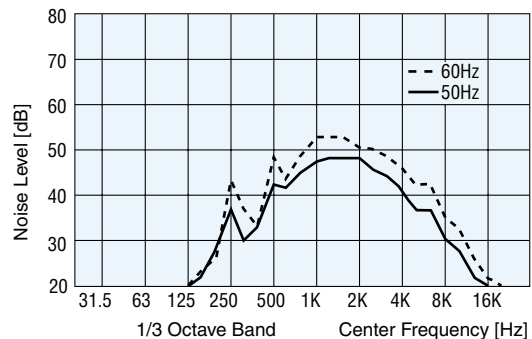
Maximum voltage: Vout = 30V DC max.  
Maximum current: Iout = 15mA max.

## Air Flow — Static Pressure Characteristics



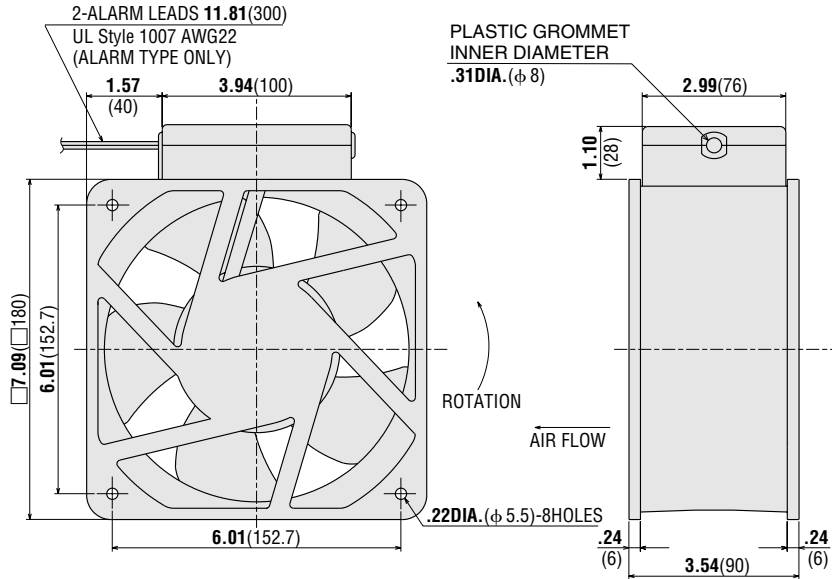
## Audible Noise Frequency Analysis

Measured at a distance of 3.3 feet from the fan intake side



## ■ Dimensions Scale 1/4, Unit = inch (mm)

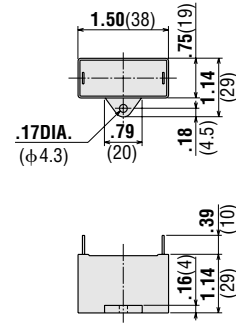
● Weight (Mass) : 5.5 lb. (2.5kg)



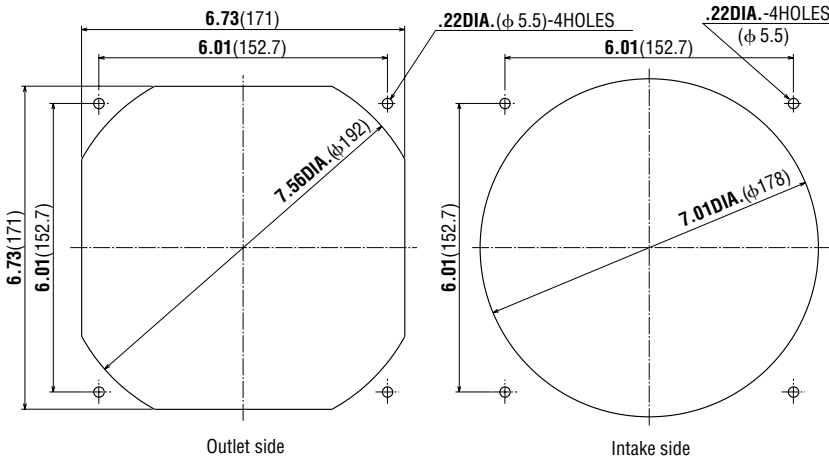
● Capacitor CH60UL

Weight (Mass) : 1.13 oz. (32g)

(Capacitor and capacitor cap are provided with single-phase alarm type fans. Single-Phase standard types of fans contain a built-in capacitor.)



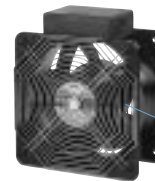
## ■ Panel Cut-Out Scale 1/4, Unit = inch (mm)



## ■ Accessories (Sold separately)

Item	Model	Safety Standards	Page
Finger Guard	<b>FG18D</b>	*	C-100
Filter	<b>FL18</b>	—	C-103

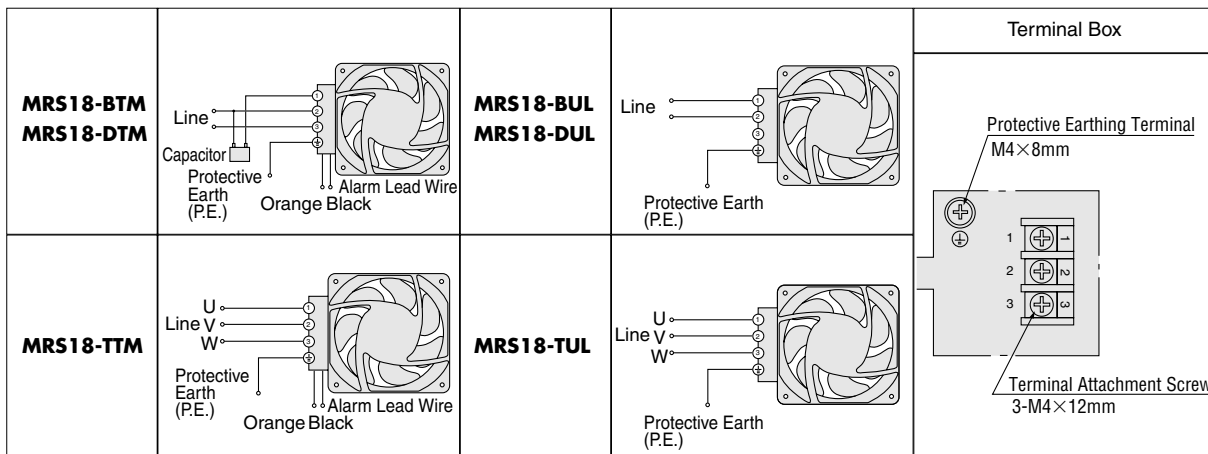
\* These products have been designed to pass tests set forth under the UL and CSA standards for equipment used in fans. They conform to the standards only when used in an **ORIX.FAN**.



Finger Guard

● A filter can be installed in place of the finger guard.

## ■ Wiring Diagrams



# MRS Series

High-Efficiency, Low-Noise Models

6.30 in. sq. × 2.44 in. thick  
(160 mm sq. × 62 mm thick)



### Materials

Frame: Die Cast Aluminum

Blades: Resin

Flammability Grade: V-O

## Specifications

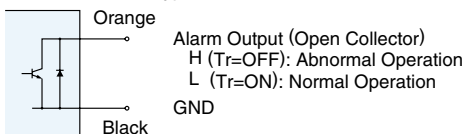
Model			Voltage V	Frequency Hz	Current A	Input Power W	Speed r/min	Max Air Flow		Max. Static Pressure		Noise Level dB (A)	Capacitor μF
Electronic Alarm Type	Contact Alarm Type	Standard Type						CFM	m <sup>3</sup> /min	in H <sub>2</sub> O	Pa		
<b>MRS16-BTM</b>	<b>MRS16-BTA</b>	<b>MRS16-BUL</b>	Single-Phase 100	50	0.47	45	2800	219	6.2	0.51	127	49	3.0
			Single-Phase 100	60	0.46	45	3250	258	7.3	0.63	157	52	
			Single-Phase 115	60	0.49	55	3300	258	7.3	0.63	157	53	
<b>MRS16-DTM</b>	<b>MRS16-DTA</b>	<b>MRS16-DUL</b>	Single-Phase 200	50	0.24	45	2800	219	6.2	0.51	127	49	3.0
			Single-Phase 200	60	0.24	45	3250	258	7.3	0.63	157	52	
			Single-Phase 230	60	0.25	55	3300	258	7.3	0.63	157	53	
<b>MRS16-TTM</b>	<b>MRS16-TTA</b>	<b>MRS16-TUL</b>	Three-Phase 200	50	0.19	38	2800	219	6.2	0.51	127	49	—
			Three-Phase 200	60	0.17	41	3250	258	7.3	0.63	157	52	
			Three-Phase 230	60	0.18	48	3300	258	7.3	0.63	157	53	

- Values for maximum air flow and maximum static pressure are measured by the double-chamber method.
- Noise level is measured in the A range, at a distance of 3.3 feet from the fan intake side.
- A thermal protector is installed. If the fan heats up, the thermal protector goes into operation and the fan stops. Once the fan temperature drops, it will automatically restart. Perform inspection work after turning off the power source.
- Fans bearing the CE mark should only be used with Class I equipment. When installing into the equipment, either ground the fan or ensure that there is no contact with bare hands. For protection, use the optional finger guard. Standards specifications are listed on page D-2

- **Alarm Specifications** Alarm Activation Speed : 1800±300r/min  
When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.  
Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.

### Alarm Circuit

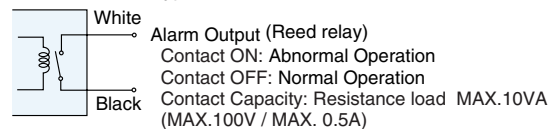
<Electronic Alarm Type>



Alarm Output (Open Collector)  
H (Tr=OFF): Abnormal Operation  
L (Tr=ON): Normal Operation  
GND

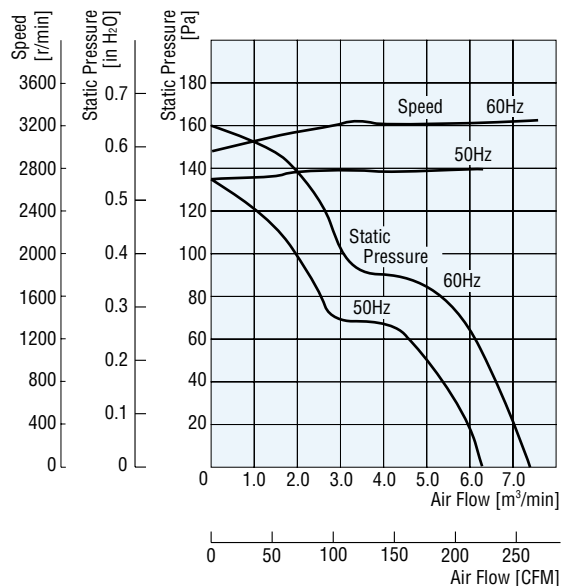
Maximum voltage: Vout = 30V DC max.  
Maximum current: Iout = 15mA max.

### <Contact Alarm Type>



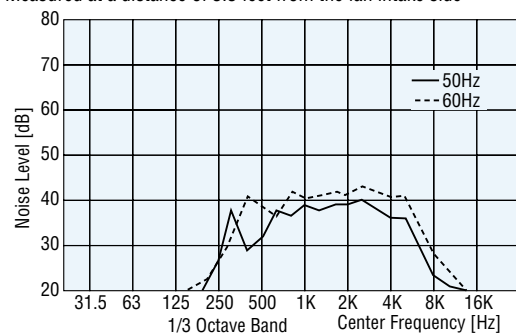
Alarm Output (Reed relay)  
Contact ON: Abnormal Operation  
Contact OFF: Normal Operation  
Contact Capacity: Resistance load MAX.10VA  
(MAX.100V / MAX. 0.5A)

## Air Flow — Static Pressure Characteristics



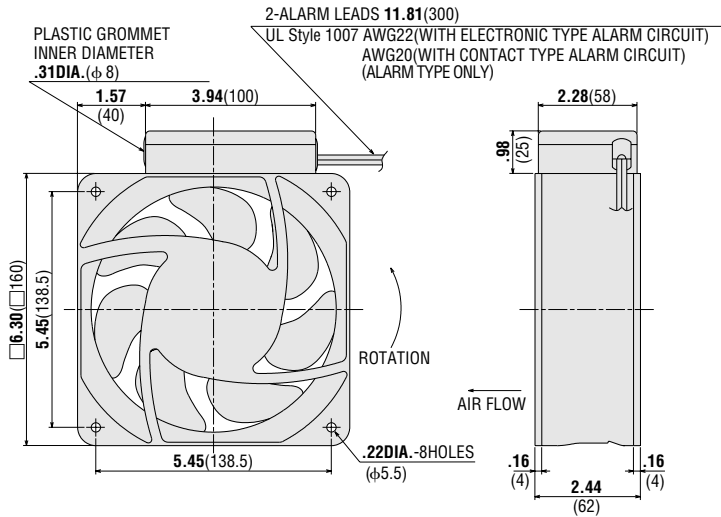
## Audible Noise Frequency Analysis

Measured at a distance of 3.3 feet from the fan intake side

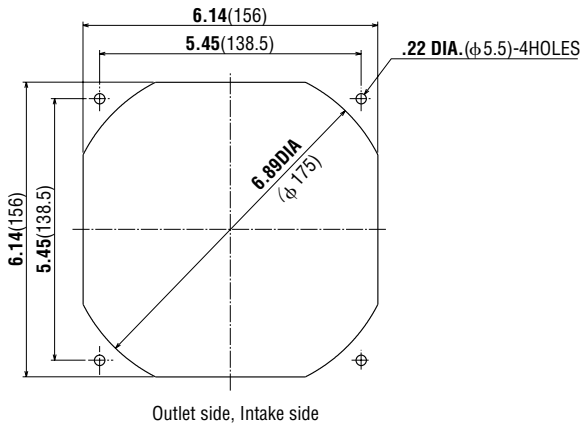


## ■ Dimensions Scale 1/4, Unit = inch (mm)

● Weight (Mass) : 3.0 lb. (1.35kg)

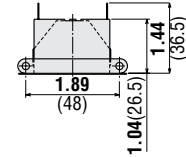
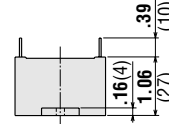
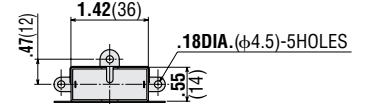
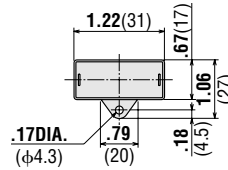


## ■ Panel Cut-Out Scale 1/4, Unit = inch (mm)



● Capacitor For **MRS16-□TM** CH30UL  
Weight (Mass) : 0.81 oz. (23g)  
(Capacitor and capacitor cap are provided with single-phase alarm type fans.)

● Capacitor For **MRS16-□TA** CH30  
Weight (Mass) : 1.06 oz. (30g)  
(Capacitor is provided with the single-phase alarm type fan. Capacitor cap is sold separately as an optional part.)



\* Single-phase standard types of fans contain a built-in capacitor.

## ■ Accessories (Sold separately)

Item	Model	Safety Standards	Page
Finger Guard	<b>FG16D</b>	*	C-100
Filter	<b>FL16</b>	—	C-103

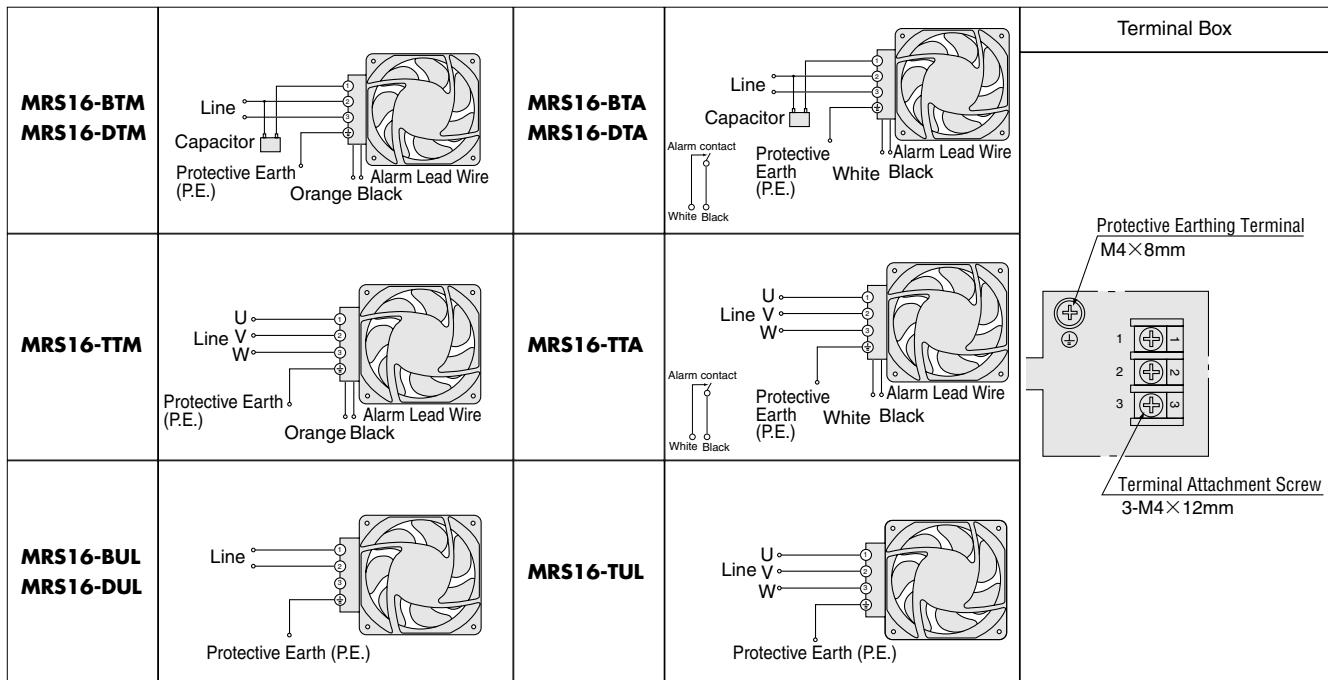
\* These products have been designed to pass tests set forth under the UL and CSA standards for equipment used in fans. They conform to the standards only when used in an **ORIX.FAN**.



Finger Guard

● A filter can be installed in place of the finger guard.

## ■ Wiring Diagrams



# MRS Series

## High-Efficiency, Low-Noise Models

5.51 in. sq. × 1.85 in. thick  
(140 mm sq. × 47 mm thick)



### Materials

Frame: Die Cast Aluminum

Blades: Resin

Flammability Grade: V-0

## Specifications

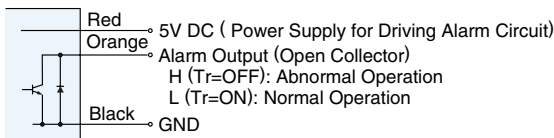
Model		Voltage V	Frequency Hz	Current A	Input Power W	Speed r/min	Max. Air Flow		Max. Static Pressure		Noise Level dB (A)
Electronic Alarm Type	Standard Type						CFM	m <sup>3</sup> /min	in H <sub>2</sub> O	Pa	
		Three-Phase 200	50	0.08	18.0	2600	159	4.5	0.37	92	48
<b>MRS14-TTM</b>	<b>MRS14-TUL</b>	Three-Phase 200	60	0.09	22.0	2650	162	4.6	0.33	81	49
		Three-Phase 230	60	0.09	24.5	2950	177	5.0	0.44	109	49

- Values for maximum air flow and maximum static pressure are measured by the double-chamber method.
- Noise level is measured in the A range, at a distance of 3.3 feet from the fan intake side.
- A thermal protector is installed. If the fan heats up, the thermal protector goes into operation and the fan stops. Once the fan temperature drops, it will automatically restart. Perform inspection work after turning off the power source.
- Fans bearing the CE mark should only be used with Class I equipment. When installing into the equipment, either ground the fan or ensure that there is no contact with bare hands. For protection, use the optional finger guard. Standards specifications are listed on page D-2

### Alarm Circuit Specifications

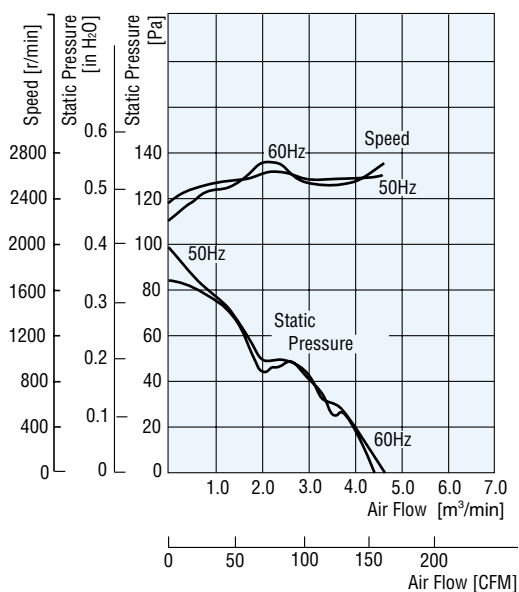
Alarm Activation Speed	1800±300r/min	When fan a speed drops below 1800±300r/min, signal is output at H level by open collector
Start Delay Time	25 sec.max.	Normal operation signals are output when power is turned on, and alarm function begins monitoring within 25 seconds.
Alarm Detection Delay Time	10 sec.max.	Alarm output signals are output within 10sec. from the time that fan speed falls below 1800±300r/min
Alarm return delay Time	10 sec.max.	Alarm output signals return to low level within 10sec. after the fan returns to normal speed.
Power Supply for Driving Alarm Circuit	DC5V±5%	

### Alarm Circuit



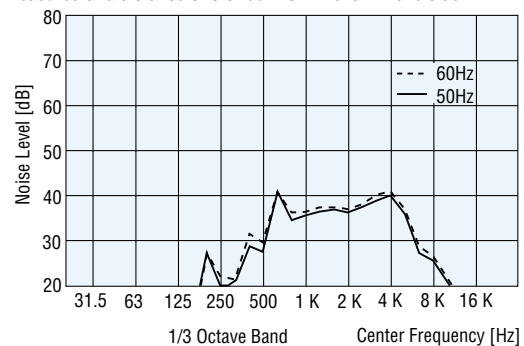
Maximum voltage: V<sub>out</sub> = 30V DC max.  
Maximum current: I<sub>out</sub> = 15mA max.

## Air Flow — Static Pressure Characteristics



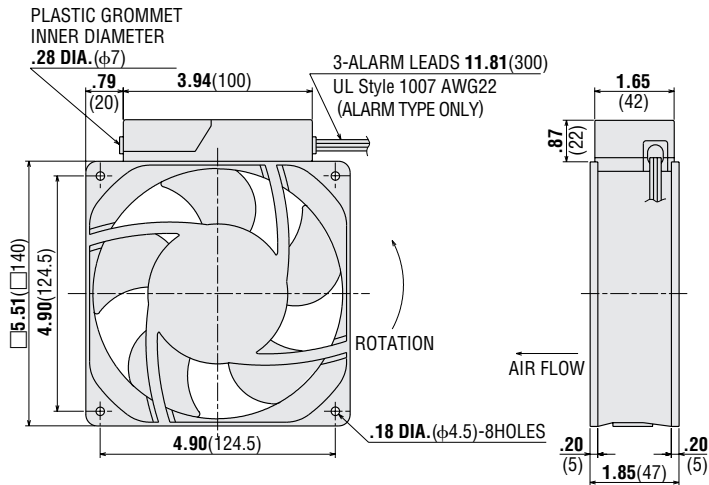
## Audible Noise Frequency Analysis

Measured at a distance of 3.3 feet from the fan intake side

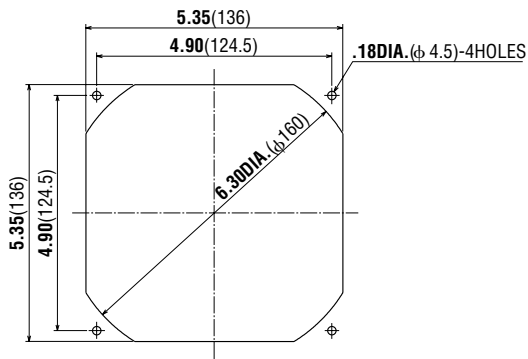


■ **Dimensions** Scale 1/4, Unit = inch (mm)

● Weight (Mass) : 2.0 lb. (0.9kg)



■ **Panel Cut-Out** Scale 1/4, Unit = inch (mm)

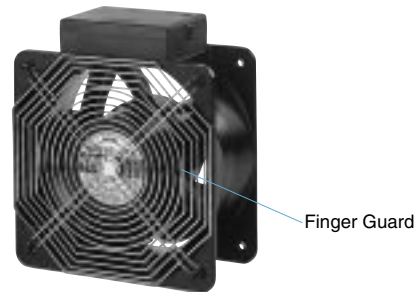


Outlet side Intake side

■ **Accessories** (Sold separately)

Item	Model	Safety Standards	Page
Finger Guard	<b>FG14D</b>	*	C-100

\* These products have been designed to pass tests set forth under the UL and CSA standards for equipment used in fans. They conform to the standards only when used in an **ORIX.FAN**.



■ **Wiring Diagrams**

