COOLING FANS

DC Long life MDE
AC MRS
AC MU
DC MDS•MD
Variable Flow
AC MB
DC MBD
AC MF
DC MFD
Accessories

Axial Flow Fans
Centrifugal Blowers
Cross Flow Fans

MRS Series

High-Efficiency, Low-Noise Models

□ **250**mm-120mm

CE c**UL** UL

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

■ Specifications

Model		Voltage	Frequency	Current	Input Power	Speed	Max. Air Flow	Max. Static Pressure	Noise Level	Capacitor
Electronic Alarm Type	Standard Type	V	Hz	A	W	r/min	m³/min (m³/h)	Pa	dB (A)	μF
MRS25-DM	MRS25-D	Single-Phase200	50	0.4	85	2790	21 (1260)	290	58	4.5
		Single-Phase200	60	0.7	120	3220	24 (1440)	320	62	4.5
		Single-Phase220	50	0.4	95	2820	21 (1260)	310	58	4.5
		Single-Phase220	60	0.7	130	3260	24 (1440)	360	62	4.5
		Single-Phase230	50	0.5	100	2830	21 (1260)	320	58	4.5
		Single-Phase230	60	0.7	135	3290	24 (1440)	360	62	4.5
MRS25-BM	MRS25-B	Single-Phase100	50	0.8	80	2800	21 (1260)	290	58	16
		Single-Phase100	60	1.1	110	3220	24 (1440)	320	62	16
		Single-Phase110	60	1.1	120	3280	24 (1440)	340	62	16
		Single-Phase115	60	1.1	125	3300	24 (1440)	360	62	16

● 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 1m 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 earth 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.
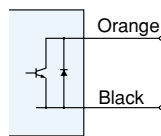
Alarm Specifications　Alarm Activation Speed ······ 1800±300r/min
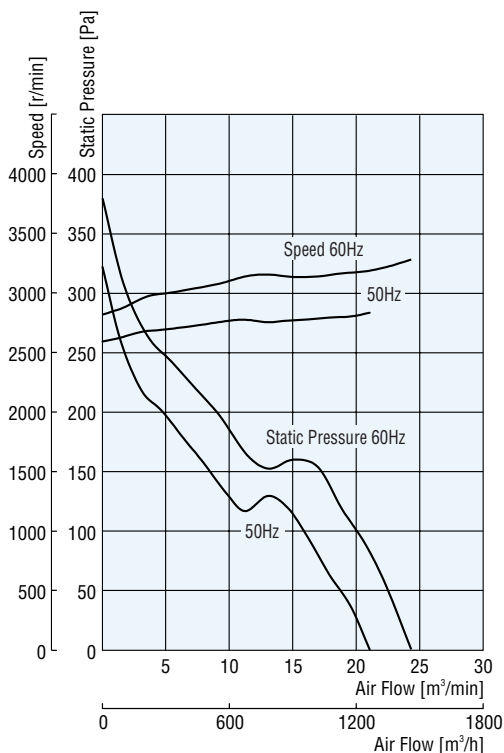When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.
Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.
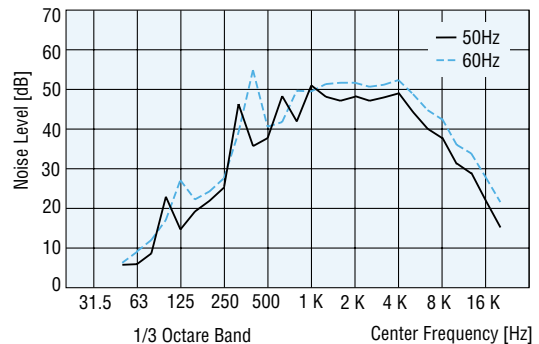
Alarm Circuit

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.
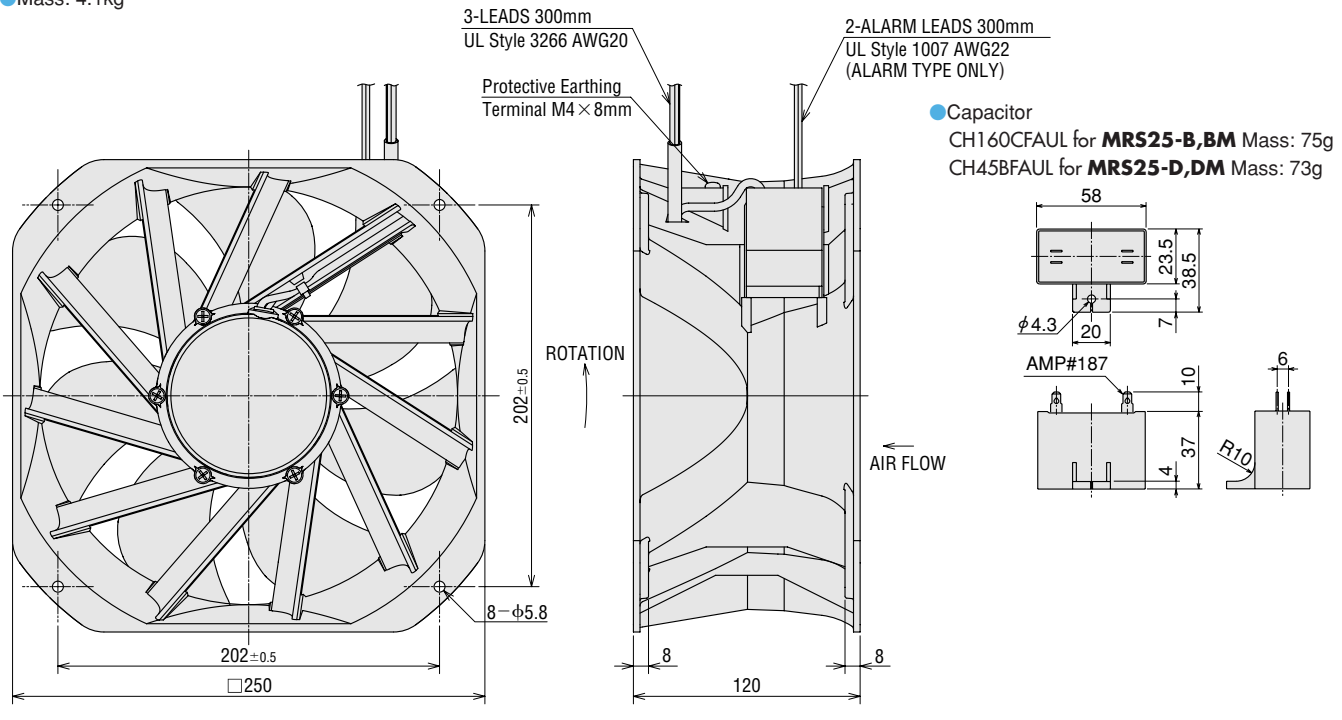
■ Air Flow – Static Pressure Characteristics

■ Audible Noise Frequency Analysis
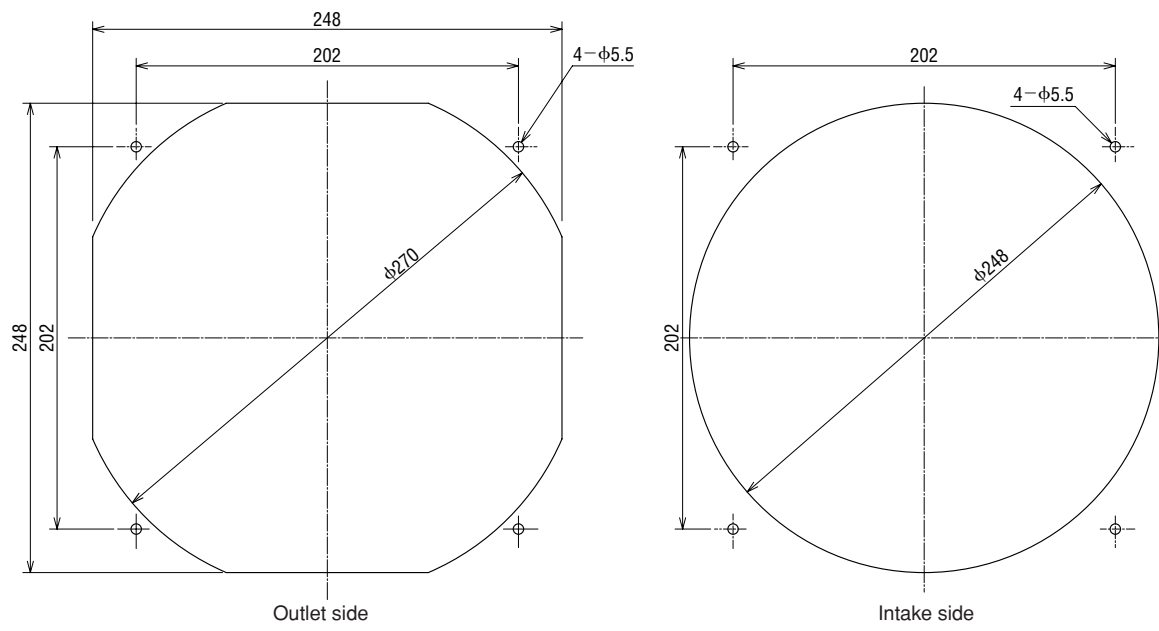
Measured at a distance of 1m from the fan intake side
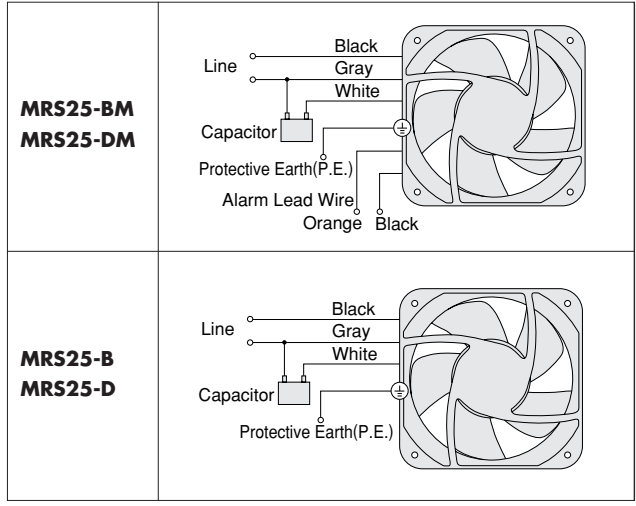
■Dimensions (Scale 1/5, Unit=mm)

● Mass: 4.1kg

3-LEADS 300mm
UL Style 3266 AWG20

2-ALARM LEADS 300mm
UL Style 1007 AWG22
(ALARM TYPE ONLY)

Protective Earthing
Terminal M4×8mm

● Capacitor
CH160CFAUL for **MRS25-B,BM** Mass: 75g
CH45BFAUL for **MRS25-D,DM** Mass: 73g

58
23.5
38.5
φ4.3
20
7
AMP#187
10
6
37
4
R10

ROTATION

202±0.5

AIR FLOW

8−φ5.8

202±0.5
□250

8　8
120

■Panel Cut-Out (Scale 1/5, Unit: mm)

248
202
4−φ5.5
248
202
φ270

Outlet side

202
4−φ5.5
202
φ248

Intake side

■Wiring Diagrams

MRS25-BM / MRS25-DM
Line — Black, Gray, White
Capacitor
Protective Earth(P.E.)
Alarm Lead Wire — Orange, Black

MRS25-B / MRS25-D
Line — Black, Gray, White
Capacitor
Protective Earth(P.E.)

■Accessories (Sold Separately)

Item	Model	Safety Standards	Page
Finger Guard	**FG25D**	＊	C-99

＊ 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

● Refer to page C-99 for further detail.

COOLING FANS

DC Long life MDE
AC MRS
AC MU
DC MDS·MD
Variable Flow
AC MB
DC MBD
AC MF
DC MFD
Accessories

Axial Flow Fans
Centrifugal Blowers
Cross Flow Fans

MRS Series

High-Efficiency, Low-Noise Models

□200mm-90mm

CE VDE UL CSA

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

■Specifications

Model		Voltage	Frequency	Current	Input Power	Speed	Max. Air Flow	Max. Static Pressure	Noise Level	Capacitor
Electronic Alarm Type	Standard Type	V	Hz	A	W	r/min	m³/min (m³/h)	Pa	dB (A)	μF
MRS20-EM	**MRS20-E**	Single-Phase230	50	0.4	75	2850	13.2(792)	221	56	6.0
		Single-Phase230	60	0.5	95	3400	15.5(930)	226	60	
MRS20-BM	**MRS20-BUL**	Single-Phase100	50	0.8	75	2850	13.2(792)	221	56	
		Single-Phase100	60	1.0	95	3350	15.5(930)	186	60	6.0
		Single-Phase115	60	1.0	95	3400	15.5(930)	186	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 1m 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 earth 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.
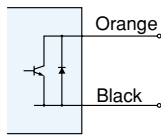
Alarm Specifications Alarm Activation Speed ······ 1800±300r/min
When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.
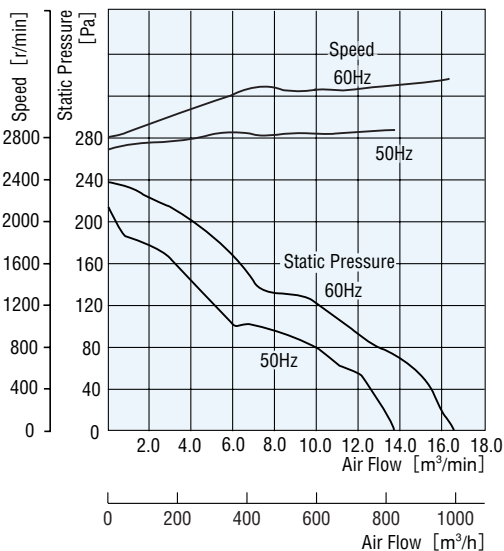Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.
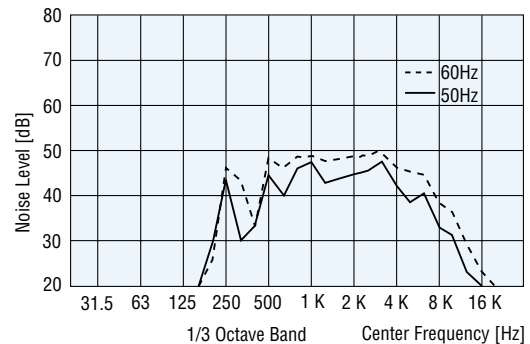
Alarm Circuit

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.

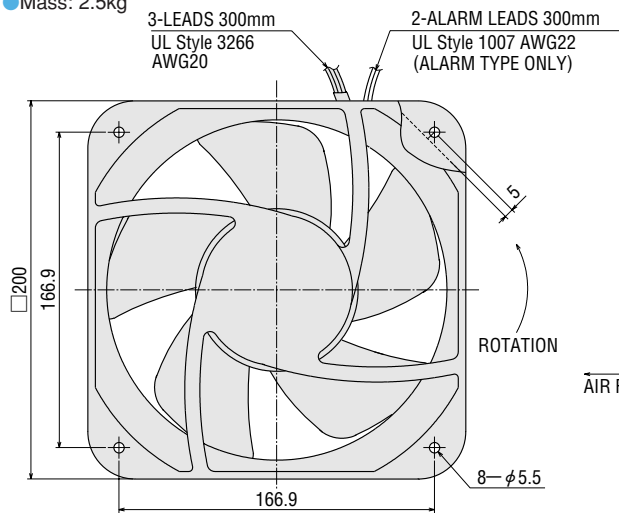## ■Air Flow – Static Pressure Characteristics

■Audible Noise Frequency Analysis
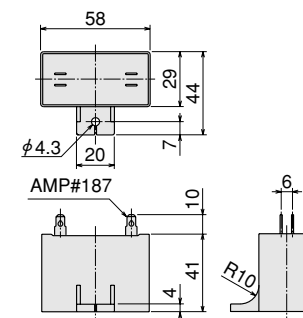
Measured at a distance of 1m from the fan intake side
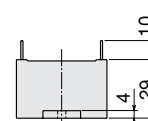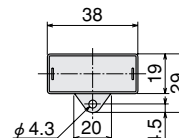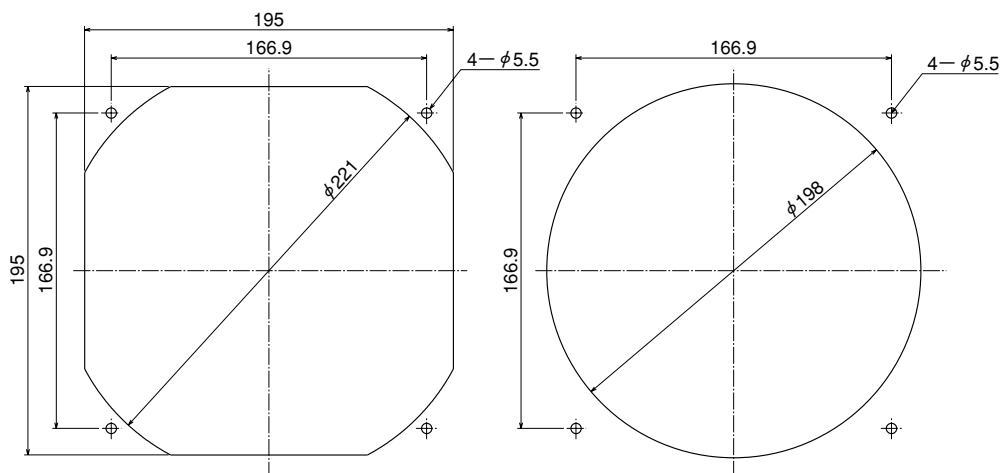
■ Dimensions (Scale 1/4, Unit=mm)

● Mass: 2.5kg

3-LEADS 300mm
UL Style 3266
AWG20

2-ALARM LEADS 300mm
UL Style 1007 AWG22
(ALARM TYPE ONLY)

Protective Earthing
Terminal M4×8mm

ROTATION

AIR FLOW

ALARM CIRCUIT

● Capacitor
CH60BFAUL for **MRS20-E,-EM** Mass: 85g
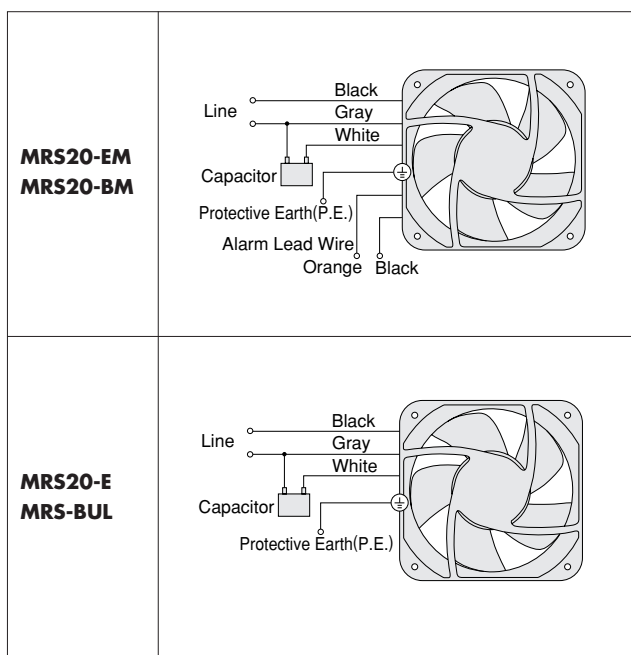
AMP#187

CH60UL for **MRS20-BUL,-BM** Mass: 32g

8—φ5.5

■ Panel Cut-Out (Scale 1/4, Unit: mm)

4—φ5.5

4—φ5.5

φ221

φ198

Outlet side

Intake side

■ Wiring Diagrams

MRS20-EM
MRS20-BM

Line
Black
Gray
White
Capacitor
Protective Earth(P.E.)
Alarm Lead Wire
Orange   Black

MRS20-E
MRS-BUL

Line
Black
Gray
White
Capacitor
Protective Earth(P.E.)

■ Accessories (Sold Separately)

Item	Model	Safety Standards	Page
Finger Guard	**FG20D**	＊	C-99

＊ 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

● Refer to page C-99 for further detail.

COOLING FANS

DC Long life MDE
AC MRS
AC MU
DC MDS・MD
Variable Flow

Axial Flow Fans

AC MB
DC MBD

Centrifugal Blowers

AC MF
DC MFD

Cross Flow Fans

Accessories

MRS Series

High-Efficiency, Low-Noise Models

☐180mm-90mm

CE VDE UL SA

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

■Specifications

Model		Voltage	Frequency	Current	Input Power	Speed	Max. Air Flow	Max. Static Pressure	Noise Level	Capacitor
Electronic Alarm Type	Standard Type	V	Hz	A	W	r/min	m³/min (m³/h)	Pa	dB (A)	μF
MRS18-ETM	**MRS18-E**	Single-Phase230	50	0.4	75	2850	11.0(660)	196	56	6.0
		Single-Phase230	60	0.5	95	3350	12.5(750)	245	60	
MRS18-BTM	**MRS18-BUL**	Single-Phase100	50	0.8	75	2850	11.0(660)	196	56	6.0
		Single-Phase100	60	1.0	95	3300	12.8(768)	245	60	
		Single-Phase115	60	1.0	95	3350	12.8(768)	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 1m 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 earth 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.
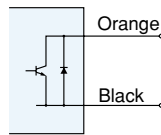
Alarm Specifications　Alarm Activation Speed ······ 1800±300r/min
　　　　　　　　　　　When fan a speed drops drop below 1800±300r/min, the alarm output signal is output continuously at H level.
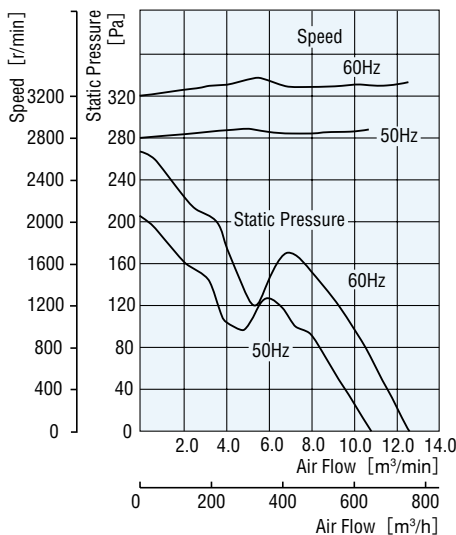　　　　　　　　　　　Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.
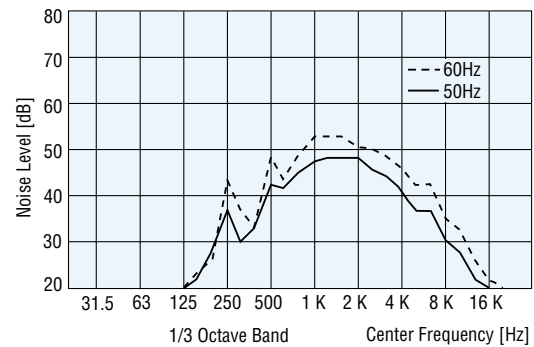
Alarm Circuit

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.
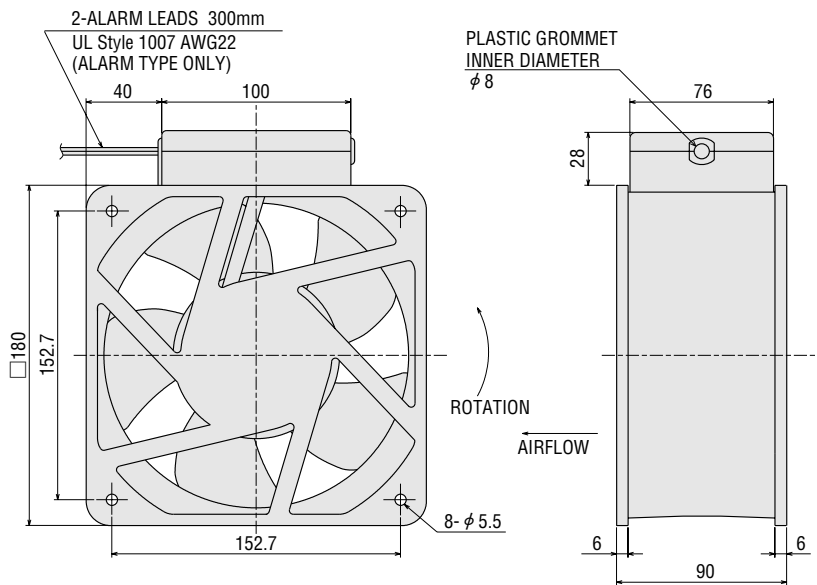
■Air Flow – Static Pressure Characteristics

Speed [r/min]

Static Pressure [Pa]

Speed

60Hz

50Hz

Static Pressure

60Hz

50Hz

Air Flow [m³/min]
Air Flow [m³/h]

■Audible Noise Frequency Analysis

Measured at a distance of 1m from the fan intake side

Noise Level [dB]

- - - 60Hz
―― 50Hz

31.5　63　125　250　500　1 K　2 K　4 K　8 K　16 K

1/3 Octave Band　　　Center Frequency [Hz]

■Dimensions (Scale1/4, Unit=mm)

●Mass: 2.5kg

2-ALARM LEADS 300mm
UL Style 1007 AWG22
(ALARM TYPE ONLY)

40 100

□180

152.7

152.7

8- φ5.5

ROTATION

AIRFLOW

PLASTIC GROMMET
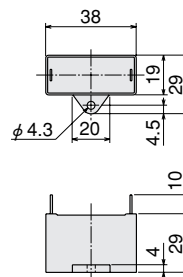INNER DIAMETER
φ8

76

28

6   6
90

●Capacitor (Single-Phase standard types of fans contain a built-in capacitor.)

CH60BFAUL for **MRS18-ETM** Mass: 85g

58
29
44
φ4.3
20
7

AMP#187
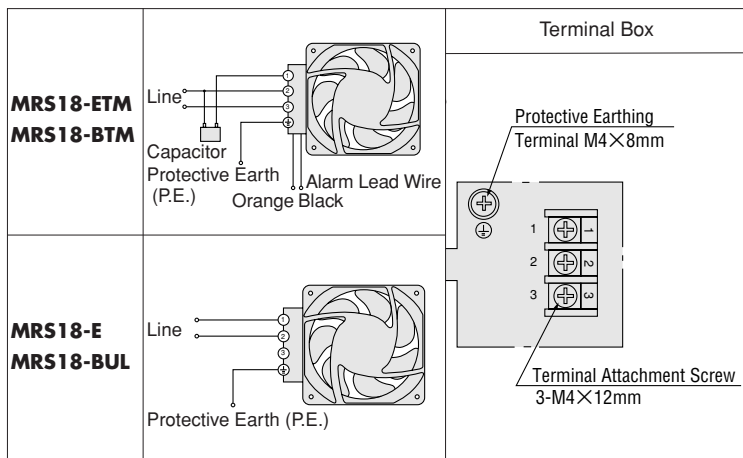10
41
4

6
R10
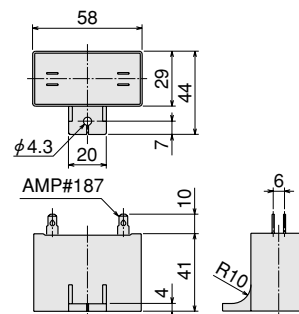
CH60UL for **MRS18-BTM** Mass: 32g
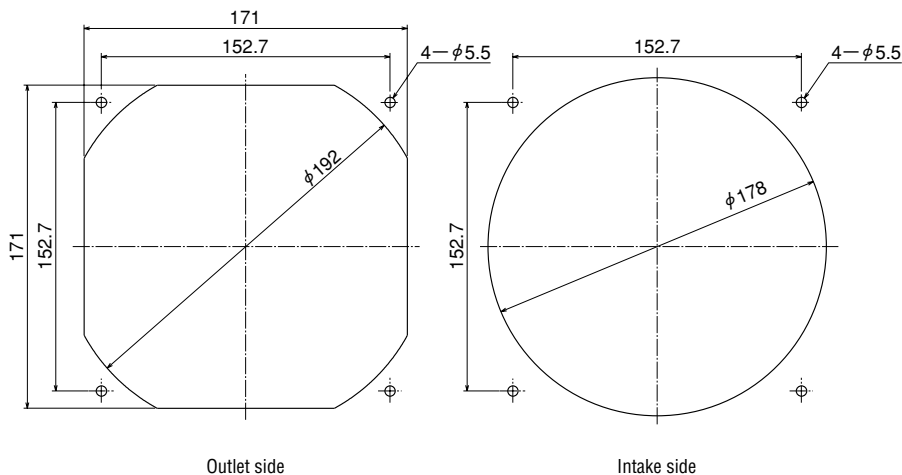
38
19
29
φ4.3
20
4.5

10
29
4

■Panel Cut-Out (Scale 1/4, Unit=mm)

171
152.7
4—φ5.5

171
152.7

φ192

Outlet side

152.7
4—φ5.5

152.7

φ178

Intake side

■Wiring Diagrams

| MRS18-ETM MRS18-BTM | Line, Capacitor, Protective Earth (P.E.), Alarm Lead Wire Orange Black | Terminal Box, Protective Earthing Terminal M4×8mm, Terminal Attachment Screw 3-M4×12mm |
| MRS18-E MRS18-BUL | Line, Protective Earth (P.E.) | |

■Accessories (Sold Separately)

Item	Model	Safety Standards	Page
Finger Guard	FG18D	✱	C-98
Filter	FL18	—	C-101

✱ 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.

COOLING FANS

DC Long life MDE

AC MRS

AC MU

DC MDS·MD

Variable Flow

AC MB

DC MBD

AC MF

DC MFD

Accessories

Axial Flow Fans

Centrifugal Blowers

Cross Flow Fans
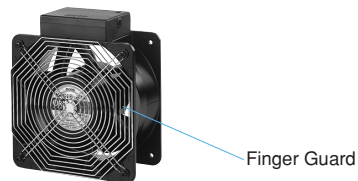
MRS Series

High-Efficiency, Low-Noise Models

□160mm-62mm

CE 〔VDE〕 〔UL〕 〔CSA〕

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

■Specifications

Model		Voltage	Frequency	Current	Input Power	Speed	Max. Air Flow	Max. Static Pressure	Noise Level	Capacitor
Electronic Alarm Type	Standard Type	V	Hz	A	W	r/min	m³/min (m³/h)	Pa	dB (A)	μ F
MRS16-ETM	**MRS16-E**	Single-Phase230	50	0.21	47	2800	6.2(372)	127	49	3.0
		Single-Phase230	60	0.21	45	3300	7.3(438)	157	54	
MRS16-BTM	**MRS16-BUL**	Single-Phase100	50	0.47	45	2800	6.2(372)	127	49	3.0
		Single-Phase100	60	0.46	45	3250	7.3(438)	157	52	
		Single-Phase115	60	0.49	55	3300	7.3(438)	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 1m 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 earth 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.
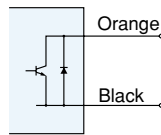
Alarm Specifications　　Alarm Activation Speed ······ 1800±300r/min
　　　　　　　　　　　　When fan a speed drops below 1800±300r/min, the alarm output signal is output continuously at H level.
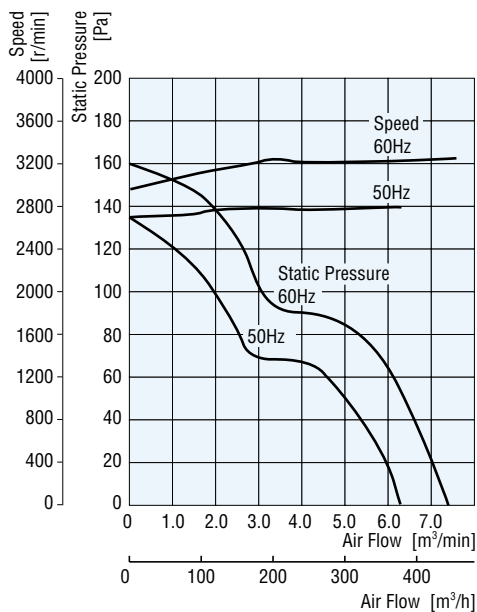　　　　　　　　　　　　Since alarm circuits do not have delay functions, an external delay circuit is required to prevent speed detection when starting the fan or at other times when fan speed is below the alarm activation speed. The delay time should be at least 10 seconds.
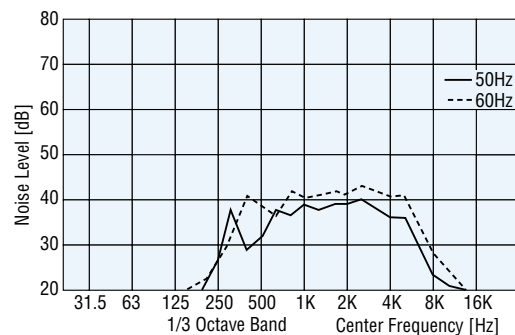
Alarm Circuit

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.
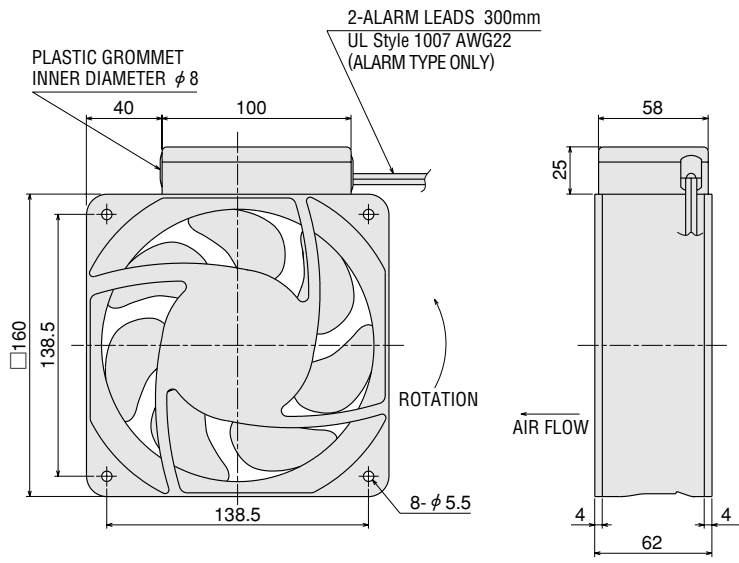
■Air Flow – Static Pressure Characteristics

Speed [r/min] / Static Pressure [Pa]

Speed 60Hz
50Hz
Static Pressure 60Hz
50Hz

Air Flow [m³/min]
Air Flow [m³/h]

■Audible Noise Frequency Analysis

Measured at a distance of 1m from the fan intake side

Noise Level [dB]
50Hz
60Hz

1/3 Octave Band
Center Frequency [Hz]

■Dimensions (Scale1/4, Unit=mm)

●Mass: 1.35kg

PLASTIC GROMMET
INNER DIAMETER φ8

2-ALARM LEADS 300mm
UL Style 1007 AWG22
(ALARM TYPE ONLY)

40   100

□160
138.5

ROTATION

8-φ5.5

138.5

58

25

AIR FLOW
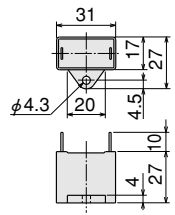
4   4

62

●Capacitor (Single-Phase standard types of fans contain a built-in capacitor.)

CH30FAUL2 for **MRS16-ETM** Mass: 22g

31
17
27
φ4.3   20   4.5
10
4   27
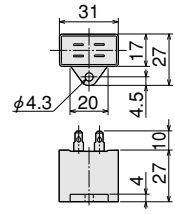
CH30UL for **MRS16-BTM** Mass: 23g

31
17
27
φ4.3   20   4.5
10
4   27

■Panel Cut-Out (Scale 1/4 , Unit=mm)

156
138.5
4─φ5.5

φ175

156
138.5
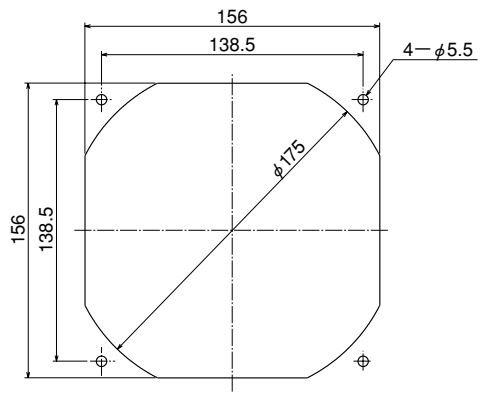
Outlet Side, Intake Side

■Accessories (Sold Separately)

Item	Model	Safety Standards	Page
Finger Guard	**FG16D**	✳	C-98
Filter	**FL16**	—	C-101

✳ 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** .
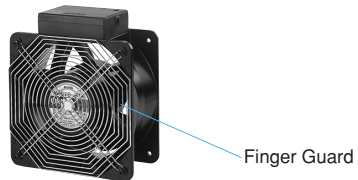
Finger Guard

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

■Wiring Diagrams

		Terminal Box
MRS16-ETM **MRS16-BTM**	Line / Capacitor / Protective Earth (P.E.) / Alarm Lead Wire / Orange Black / ①②③	Protective Earthing Terminal M4✕8mm / 1 2 3 / Terminal Attachment Screw 3-M4✕12mm
MRS16-E **MRS16-BUL**	Line / Protective Earth (P.E.) / ①②③	