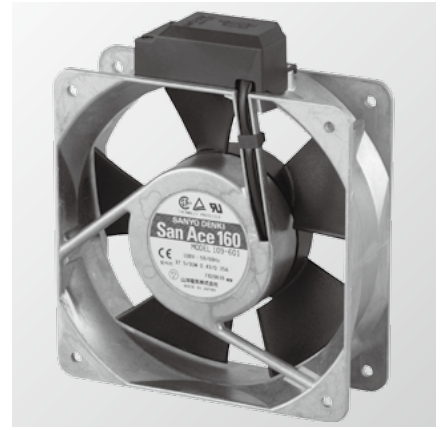


160 mm sq.

San Ace160



Only standard fans (without sensors) have acquired CSA certification.

General Specifications

- Material..... Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate: 90% at 60°C , rated voltage,and continuously run in a free air state)
- Dielectric Strength 50/60Hz 1,500VAC 1minute (between input terminal and frame)
- Dielectric Strength (With Sensor) ... Between AC input and DC input(Sensor output) : 50/60Hz 1,000VAC 1minute
Between AC input and G : 50/60Hz 1,500VAC 1minute,
Between G and DC input(Sensor output) : 50/60Hz 1,000VAC 1minute
- Sensor-Purpose Lead Wire ... ⊕ brown ⊖ black (Sensor) yellow
- Storage Temperature -30°C to +70°C (Non-condensing)
- Operating Voltage Range ... Voltage of each model ±10%

160×160×51mm (Mass : 1,100g)

Specifications Standard

Model No.	Rated Voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked Rotor Current [A]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature Range [°C]	Expected Life [h]
109-601	100	50/60	37.5/33	0.43/0.35	0.72/0.70	2,850/3,350	7.2/8.5 254.4/300.4	156.8/166.6 0.630/0.669	56/60	-30 to +60	25,000/60°C
109-604	115			0.39/0.31	0.62/0.61						
109-602	200			0.23/0.18	0.36/0.35						
109-603	230			0.21/0.16	0.32/0.31						

with Sensor

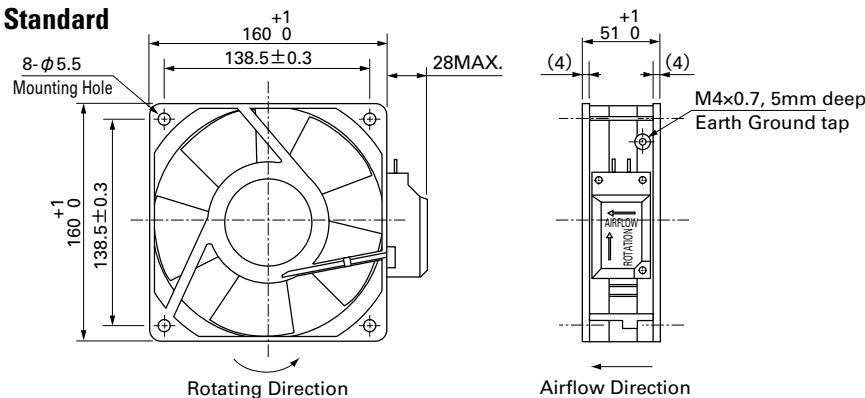
Model No.	Rated Voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked Rotor Current [A]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature Range [°C]	Expected Life [h]
109-641	100	50/60	37.5/33	0.43/0.35	0.72/0.70	2,850/3,350	7.2/8.5 254.4/300.4	156.8/166.6 0.630/0.669	56/60	-10 to +60	25,000/60°C
109-644	115			0.39/0.31	0.62/0.61						
109-642	200			0.23/0.18	0.36/0.35						
109-643	230			0.21/0.16	0.32/0.31						

Two types of power supplies, 5V (ITEM-20) and 12V (ITEM-30), are available in fans with sensor attached.

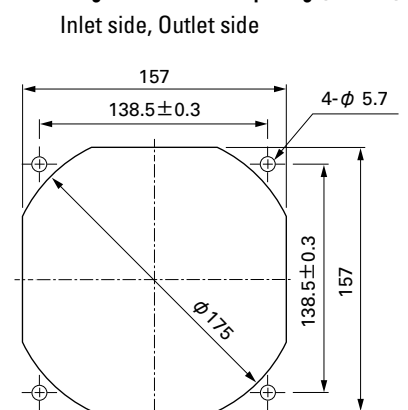
Set Models Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to pp. 453 to 456.

Dimensions (unit: mm)

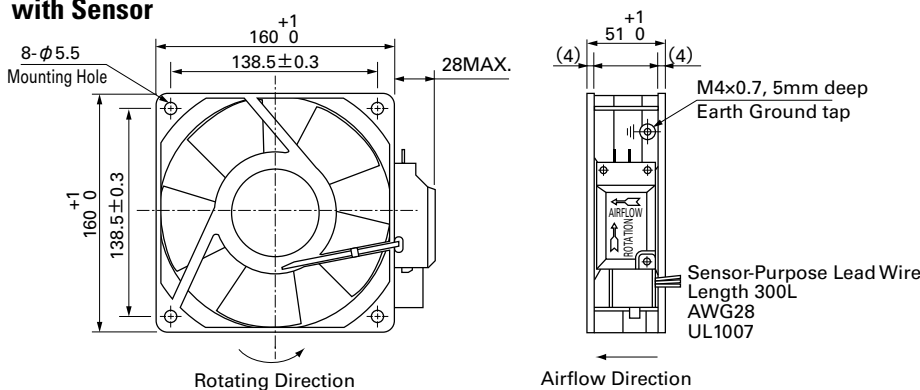
Standard



Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

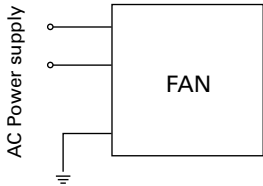


with Sensor

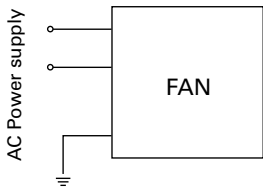


Wiring Diagram

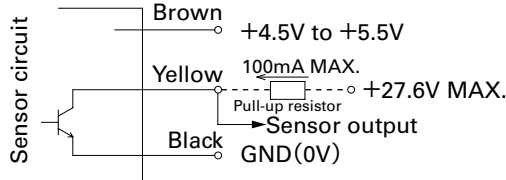
Standard



with Sensor (For fan power supply)

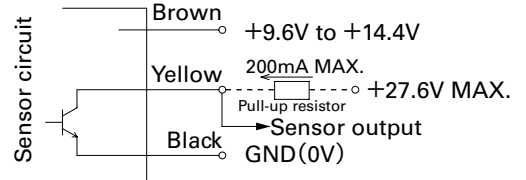


5V (ITEM-20)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

12V (ITEM-30)

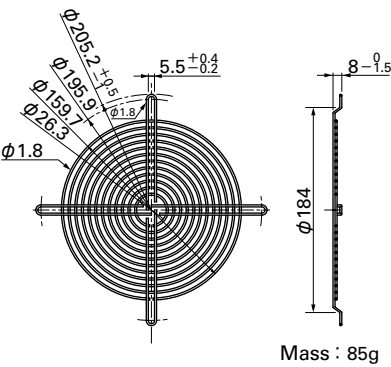


Options (unit: mm)

Finger Guards

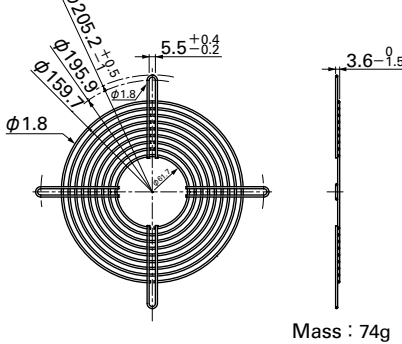
Model : 109-619E Surface treatment : Nickel-chrome plating (silver)
 : 109-619H : Cation electropainting (black)

Inlet side, Outlet side



Model : 109-620 Surface treatment : Nickel-chrome plating (silver)
 Color : Nickel-chrome plating (silver)
 : Cation electropainting (black)

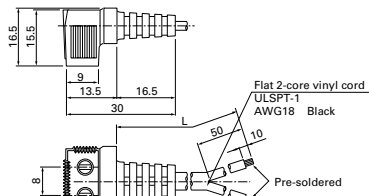
Outlet side



Plug Cord

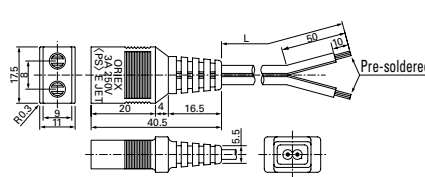
(UL/CSA CERTIFIED)
 UL FILE No.E50197 CSA FILE No.LR67048
 Model : 489-084-L10/489-084-L21

Flat 2-core vinyl cord
 ULSPF-1
 AWG18 Black



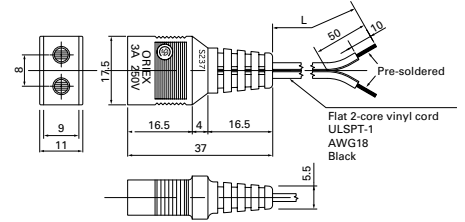
Model	Power cord length (L) [mm]	Mass [g]
489-084-L10	1,000	37
489-084-L21	2,100	70
489-086-L10	1,000	37
489-086-L21	2,100	70

(Products compliant with Electrical Appliance and Material Safety Law)
 Model : 489-1618-L10/489-1618-L21/489-1618-L28

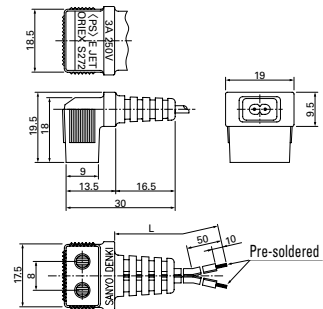


Model	Power cord length (L) [mm]	Mass [g]
489-1618-L10	1,000	34
489-1618-L21	2,100	63
489-1618-L28	2,800	83
489-1619-L10	1,000	34
489-1619-L21	2,100	64

(UL/CSA CERTIFIED)
 UL FILE No.E50197 CSA FILE No.LR67048
 Model : 489-086-L10/489-086-L21

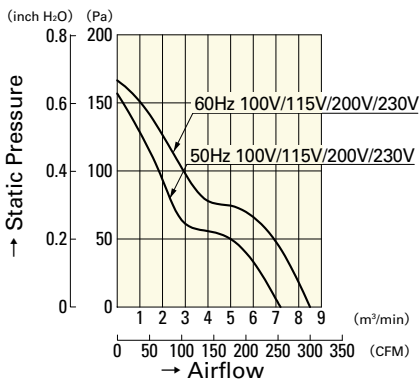


(Products compliant with Electrical Appliance and Material Safety Law)
 Model : 489-1619-L10/489-1619-L21

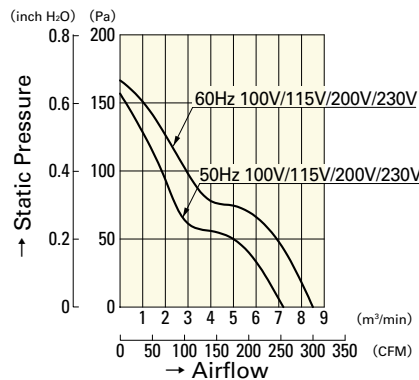


Airflow - Static Pressure Characteristics

Standard



with Sensor



109-601 109-604
 109-602 109-603

109-641 109-644
 109-642 109-643