# **CUI** DEVICES

date 10/18/2021

page 1 of 8

**SERIES:** CFM-60CF **DESCRIPTION: DC AXIAL FAN** 

#### **FEATURES**

- omniCOOL™ bearing system
- 60 x 60 mm frame
- multiple speed options
- tachometer signal available



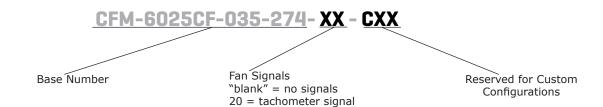


MODEL		iput Itage	input current¹	input power¹	rated speed <sup>1</sup>	airflow <sup>2</sup>	static pressure³	noise <sup>4</sup>
	rated (Vdc)	range (Vdc)	max (A)	max (W)	typ (RPM±10%)	(CFM)	(inch H <sub>2</sub> O)	<b>typ</b> (dBA)
CFM-6015CF-225-204	24	21.6~26.4	0.04	0.96	2,500⁵	11.01	0.05	20.5
CFM-6015CF-235-278	24	21.6~26.4	0.06	1.44	3,500 <sup>6</sup>	15.41	0.09	27.8
CFM-6015CF-245-332	24	21.6~26.4	0.11	2.64	4,500 <sup>6</sup>	19.82	0.16	33.2
CFM-6015CF-255-375	24	21.6~26.4	0.15	3.60	5,500 <sup>6</sup>	24.22	0.23	37.6
CFM-6025CF-035-274	5	4.5~5.5	0.39	1.95	3,500	16.76	0.11	27.5
CFM-6025CF-050-351	5	4.5~5.5	0.51	2.55	5,000	23.95	0.22	35.2
CFM-6025CF-135-274	12	10.8~13.2	0.15	1.80	3,500	16.76	0.11	27.5
CFM-6025CF-150-351	12	10.8~13.2	0.29	3.48	5,000	23.95	0.22	35.2
CFM-6025CF-165-408	12	10.8~13.2	0.50	6.00	6,500	31.13	0.37	40.9
CFM-6025CF-235-274	24	21.6~26.4	0.08	1.92	3,500	16.76	0.11	27.5
CFM-6025CF-250-351	24	21.6~26.4	0.14	3.36	5,000	23.95	0.22	35.2
CFM-6025CF-265-408	24	21.6~26.4	0.23	5.52	6,500	31.13	0.37	40.9

Notes:

- 1. At rated voltage, after 3 minutes. 2. At rated voltage, room temperature, 65% humidity, 0 inch  $\rm H_20$  static pressure.
- 3. At rated voltage, 0 CFM airflow.
- 4. Measured in an anechoic chamber as per ISO3745/GB4214-84 at rated voltage, with background noise 20±2 dBA at 1 m from the fan intake. 5. Typical rated speed is measured as RPM±400 at rated voltage.
- 6. Typical rated speed is measured as RPM±600 at rated voltage.
  7. All specifications are measured at 25°C, 65% relative humidity unless otherwise specified.

#### **PART NUMBER KEY**



#### **INPUT**

parameter	conditions/description	min	typ	max	units
	5 Vdc input models	4.5	5	5.5	Vdc
operating input voltage <sup>8</sup>	12 Vdc input models	10.8	12	13.2	Vdc
	24 Vdc input models	21.6	24	26.4	Vdc
	5 Vdc input models		4		Vdc
starting voltage	12 Vdc input models		7		Vdc
	24 Vdc input models		14		Vdc

Note: 8. See Model section on page 1 for specific input voltage ranges.

#### **PERFORMANCE<sup>9</sup>**

parameter	parameter conditions/description		typ	max	units
rated speed	at rated voltage, 25°C, after 3 minutes	2,500		6,500	RPM
air flow	at 0 inch H <sub>2</sub> O, see performance curves	11.01		31.13	CFM
static pressure	at 0 CFM, see performance curves	0.05		0.37	inch H₂O
noise	at 1 m, rated speed	20.5		40.9	dBA

Note: 9. See Model section on page 1 for specific values.

### PROTECTIONS / FEATURES<sup>10</sup>

parameter	conditions/description	min	typ	max	units
auto restart	on all models				
polarity protection	on all models				
tachometer signal	available on "20" models				

Notes: 10. See Application Notes for details.

#### **SAFETY & COMPLIANCE**

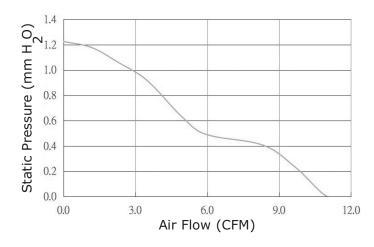
parameter	conditions/description	min	typ	max	units
insulation resistance	at 500 Vdc between frame and positive terminal	10			МΩ
dielectric strength	ctric strength at 500 Vac, 60 Hz, 1 minute between housing and positive terminal			5	mA
safety approvals	UL/cUL 507, TUV (EN/IEC 62368-1:2020+A11)				
EMI/EMC	EN 55032:2015, EN 55035:2017				
life expectancy	at 40°C, 65% RH, 90% confidence level		70,000		hours
RoHS	ves		-		

#### **ENVIRONMENTAL**

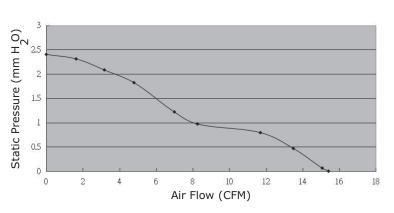
parameter	conditions/description	min	typ	max	units
operating temperature		-10		70	°C
storage temperature		-40		75	°C
operating humidity	non-condensing	35		85	%
storage humidity	non-condensing	35		85	%

#### **PERFORMANCE CURVES**

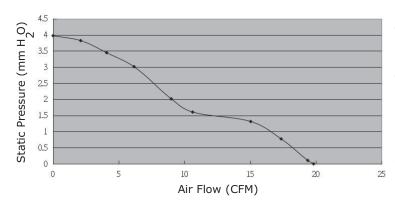
#### CFM-6015CF-225-204



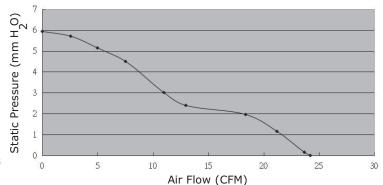
#### CFM-6015CF-235-278



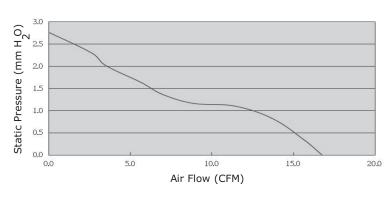
#### CFM-6015CF-245-332



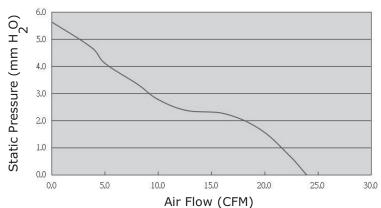
#### CFM-6015CF-255-375



#### CFM-6025CF-035-274



#### CFM-6025CF-050-351



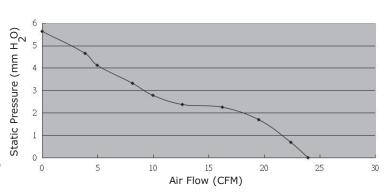
## **PERFORMANCE CURVES (CONTINUED)**

#### CFM-6025CF-135-274

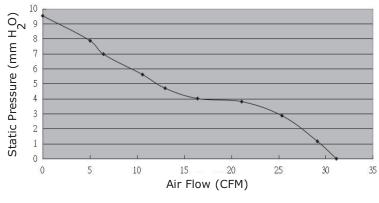
#### 3.0 Static Pressure (mm $H_2^{O}$ ) 2.5 1.5 1.0 0.5 0.0 15.0 20.0 0.0 10.0

Air Flow (CFM)

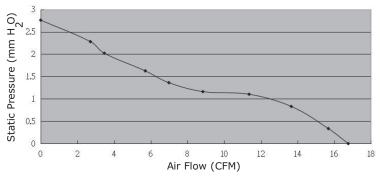
#### CFM-6025CF-150-351



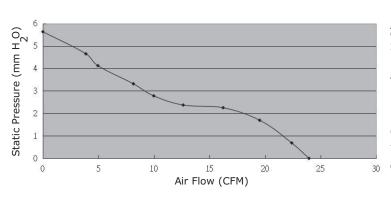
#### CFM-6025CF-165-408



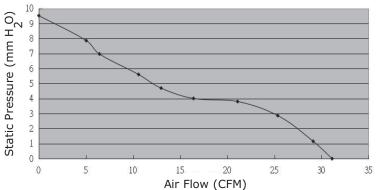
#### CFM-6025CF-235-274



#### CFM-6025CF-250-351



#### CFM-6025CF-265-408



#### **MECHANICAL**

parameter	conditions/description	min	typ	max	units
motor	4 pole DC brushless				
bearing system	omniCOOL™ bearing system				
direction of rotation	counter-clockwise viewed from front of fan blade				
dimensions	CFM-6015CF models: 60 x 60 x 15.5 CFM-6025CF models: 60 x 60 x 25.4		mm mm		
material	PBT (UL94V-0)				
weight	CFM-6015CF models: weight varies by models CFM-6025CF models: weight varies by models	39.6 56.7		42.5 77.5	g g

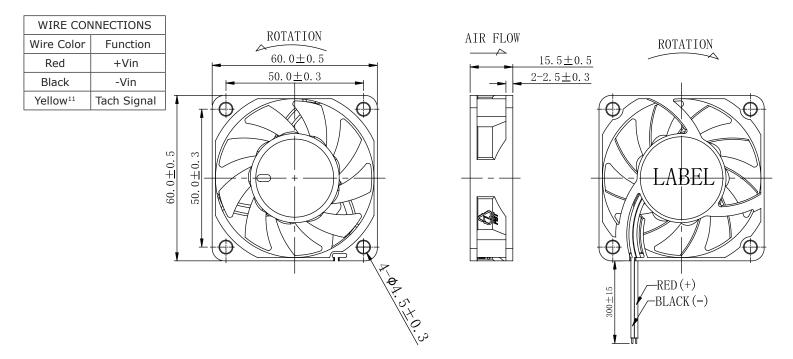
#### **MECHANICAL DRAWING**

units: mm

wire: UL 1007, 26 AWG

MOUNTING SCREW (Pan Head)						
Screw Type	Size	Standard	Torque			
Machine Screw	M4	JIS B1111-1974	7.5 kgf-cm			
Self-tapping Screw	M5	JIS B1122 Type 2	7.5 kgf-cm			

#### **CFM-6015CF**



Notes: 11. Wires only present on versions with output signals.

# **MECHANICAL DRAWING (CONTINUED)**

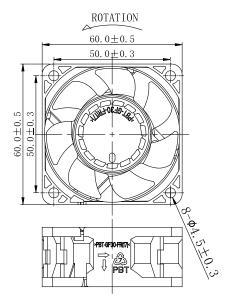
units: mm

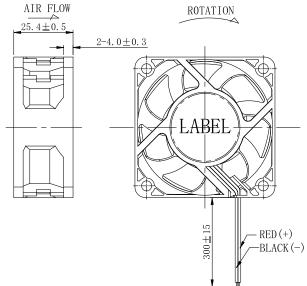
wire: UL 1007, 24 AWG

# MOUNTING SCREW (Pan Head) Screw Type Size Standard Torque Machine Screw M4 JIS B1111-1974 4.5 kgf-cm Self-tapping Screw M5 JIS B1122 Type 2 5.5 kgf-cm

#### **CFM-6025CF**

WIRE CONNECTIONS				
Wire Color	Function			
Red	+Vin			
Black	-Vin			
Yellow <sup>11</sup> Tach Signal				





Notes: 11. Wires only present on versions with output signals.

#### **APPLICATION NOTES**

#### **Auto Restart Protection**

When the fan motor is locked by an external force, the device will temporarily turn off electrical power to the motor and restart automatically when the locked rotor condition is released.

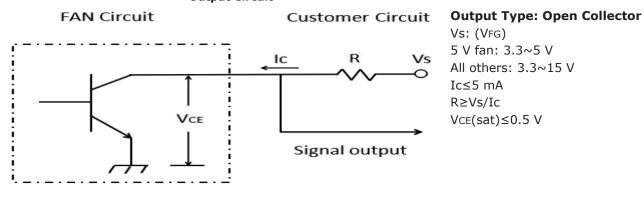
#### **Polarity Protection**

Able to withstand 10 minutes of reverse polarity connection between the positive and negative wires without causing damage.

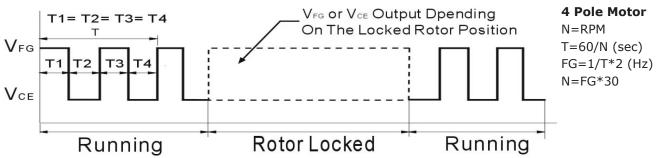
#### **Tachometer Signal (Yellow Wire)**

The tachometer signal is for detecting the rotational speed of the fan motor. The output will be a square wave when fan is operating and VFG or VCE depending on the locked rotor position when fan motor is locked (See Figures 1~2 below).

Figure 1: Tachometer **Output Circuit** 







Additional Resources: Product Page

CUI Devices | SERIES: CFM-60CF | DESCRIPTION: DC AXIAL FAN date 10/18/2021 | page 8 of 8

#### **REVISION HISTORY**

rev.	description	date
1.0	initial release	10/18/2021

The revision history provided is for informational purposes only and is believed to be accurate.

# **CUI** DEVICES

CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

CUI Devices reserves the right to make changes to the product at any time without notice. Information provided by CUI Devices is believed to be accurate and reliable. However, no responsibility is assumed by CUI Devices for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI Devices products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for DC Fans category:

Click to view products by CUI Devices manufacturer:

Other Similar products are found below:

F1238H24B-FHR F1238X24B1-FSR-TTL PMD1204PBB1-A (2).GN AUB0612L F6025X12B1-RHR G4020H05B2-RSR-EM 4318/12T AUB0912H-F00 3412N/2ME W2G110-AM39-01 USTF501005HW 8412GLV 8412NGL-12 6448-384 3258JH 4114N/17-251 4412F/2D OD127AP-28HTB 424JMU 3110KL-05W-B50-G00 1608KL-04W-B29-L00 EF40101BX-1000U-G99 4414/2HH 512F/2P-549 4112 N/12GL-175 9GA0924L4021 9GA0924M4021 9GA0924M4011 9GA0912M4D011 9GA0924W4D01 9GA0912F4021 9GA0912H4D011 9GA0824L20021 9GA0824L20021 9GA0812A2002 9GA0812B2D001 9GA0812L20021 9WP1248M1021 9GA0812A2D001 9GA0824L2D001 9GA0924W4D011 9GA0912W402 9GA0912M402 9GA0824B2D001 9GA0824A20021 9GA0912W4021 9GA0912W402 9GA0924W4001 9GA0812A2D001 9GA0824A20021 9GA0912W4021 9GA0924W4001 9GA0812A2D001 9GA0824B2D001 9GA0824A20021 9GA0912W4021