SUNON

SPECIFICATION FOR APPROVAL

FOR REFERENCE

CUSTOMER	:	
DESCRIPTION	:	EC 630 AXIAL FAN
DIMENSION	:	805X805X242 MM
SUNON MODEL	:	CFAP563LG-1000U-IJ9
SUNON SEQ NO	:	
REV	:	0
ISSUE DATE	:	2025.09.29
APPROVED BY CUSTOMER	:	

Preliminary Data Sheet is for reference only, final specification might be changed according to design verification (or mass production) data.

APPROVED BY	JUSTIN	CHECKED BY	TOM	DESIGNED BY	NANCY

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1. SCOPE

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE EC AXIAL FAN.

2. CHARACTERISTICS

ITEM	DESCRIPTION
NOMINAL VOLTAGE	3~ 400 VAC 50/60HZ
RATED VOLTAGE	3~ 380 - 480 VAC
RATED POWER	627 W @ FREE AIR
MAX. LOAD POWER	1165 W
SPEED CONTROL	PWM RS485 (MODBUS-RTU) VOLTAGE CONTROL(0-10 VDC) CURRENT CONTROL(4-20mA)
RATED SPEED	1170 RPM
MAX. AIRFLOW	14532 m^3/h 8548 CFM
MAX. STATIC PRESSURE	211 Pa 0.85 inch-H_2O
INSULATION CLASS	F
PROTECTION CLASS	I
INGRESS PROTECTION	IP55
LIFE EXPECTANCY	60,000 HOURS AT 40 °C WITH 15~65% RH
DIRECTION OF ROTATION	COUNTER-CLOCKWISE FROM IMPELLER SIDE
EMC	EN61000-6-2,EN61000-6-3
SAFETY	CSA C22.2 N0.77 ; UL 1004-7 + 60730-1 ; EN 60335-1(IN PROCESS)

3. MECHANICAL

3.1	BEARING SYSTEM	:	BALL BEARING SYSTEM
3.2	FRAME	:	STEEL
3.3	FAN GUARD	:	STEEL
3.4	SUPPORT BRACKET	:	NA
3.5	SUPPORT PLATE	:	NA
3.6	INLET NOZZLE	:	NA
3.7	BLADE	:	PA66+25%GF
3.8	ELECTRONIC ENCLOSURE	:	DIE-CAST ALUMINUM
3.9	IMPELLER BALANCE GRADE	:	G6.3 PER ISO 1940-1:2003(E)
3.10	WEIGHT		25.2 KG (REF.)

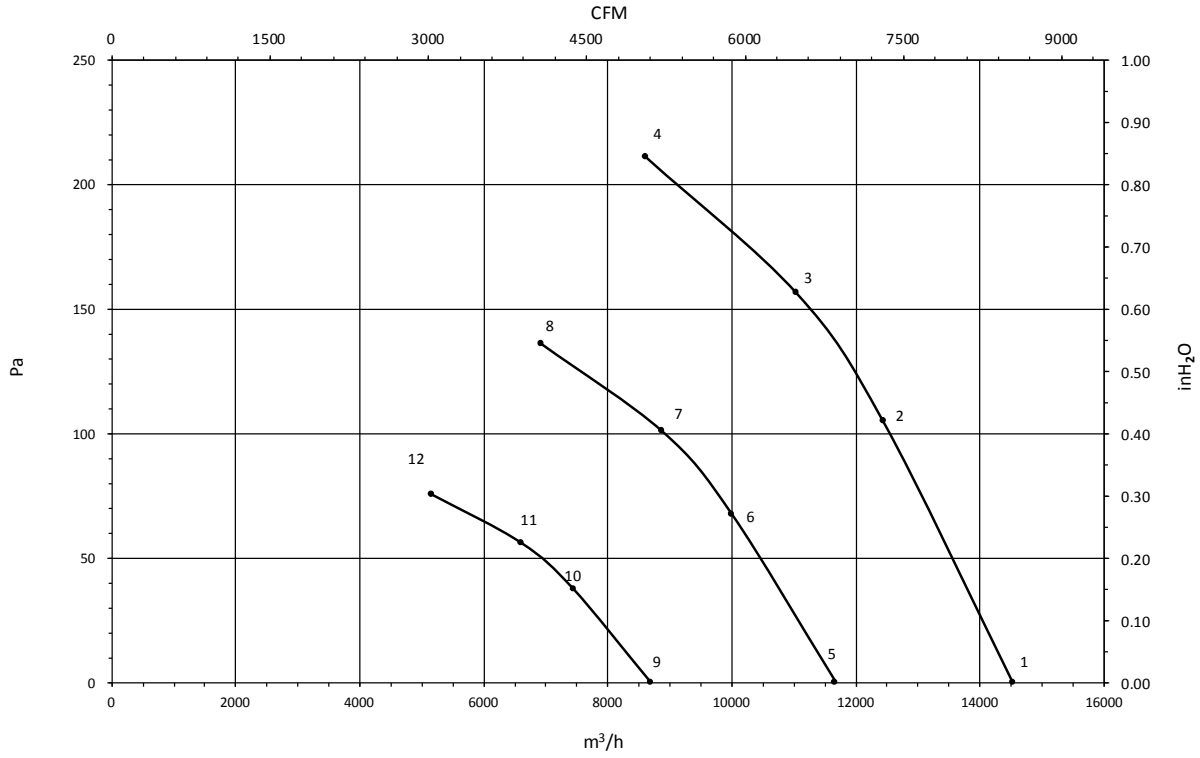
4. ENVIRONMENTAL

4.1	OPERATING TEMPERATURE RANGE	:	-25 TO + 60 DEGREE C
4.2	STORAGE TEMPERATURE RANGE	:	-40 TO + 80 DEGREE C

5. PROTECTION

- ☑ AUTOMATIC RESTART
- ☑ SOFT START
- ☑ OVER TEMPERATURE PROTECTION
- ☑ OVER LOAD PROTECTION
- ☑ OVER VOLTAGE PROTECTION
- ☑ LOCKED ROTOR PROTECTION

6. AIR FLOW & STATIC PRESSURE CURVE



MEASURE DATA:

Index	Static pressure		Air volume		Speed	Power	Current	Lp
	Pa	inH_2O	m^3/h	CFM	R.P.M.	W	A	dB(A)
1	0	0.00	14532	8548	1170	627	1.13	81.6
2	105	0.42	12444	7320	1170	883	1.51	
3	156	0.63	11049	6500	1170	1002	1.69	
4	211	0.85	8623	5072	1170	1165	1.94	
5	0	0.00	11675	6868	940	325	0.86	76.8
6	68	0.27	9998	5881	940	458	1.21	
7	101	0.40	8877	5222	940	520	1.37	
8	136	0.55	6928	4075	940	604	1.59	
9	0	0.00	8694	5114	700	134	0.35	70.4
10	37	0.15	7445	4380	700	189	0.50	
11	56	0.22	6611	3889	700	215	0.56	
12	75	0.30	5159	3035	700	249	0.66	

TEST CONDITION:
INPUT VOLTAGE: NOMINAL VOLTAGE.
TEMPERATURE: ROOM TEMPERATURE.
MEASURED WITHOUT FAN GUARD
NOISE (LP) IS MEASURED AT A DISTANCE OF ONE METER FROM THE INLET SIDE.

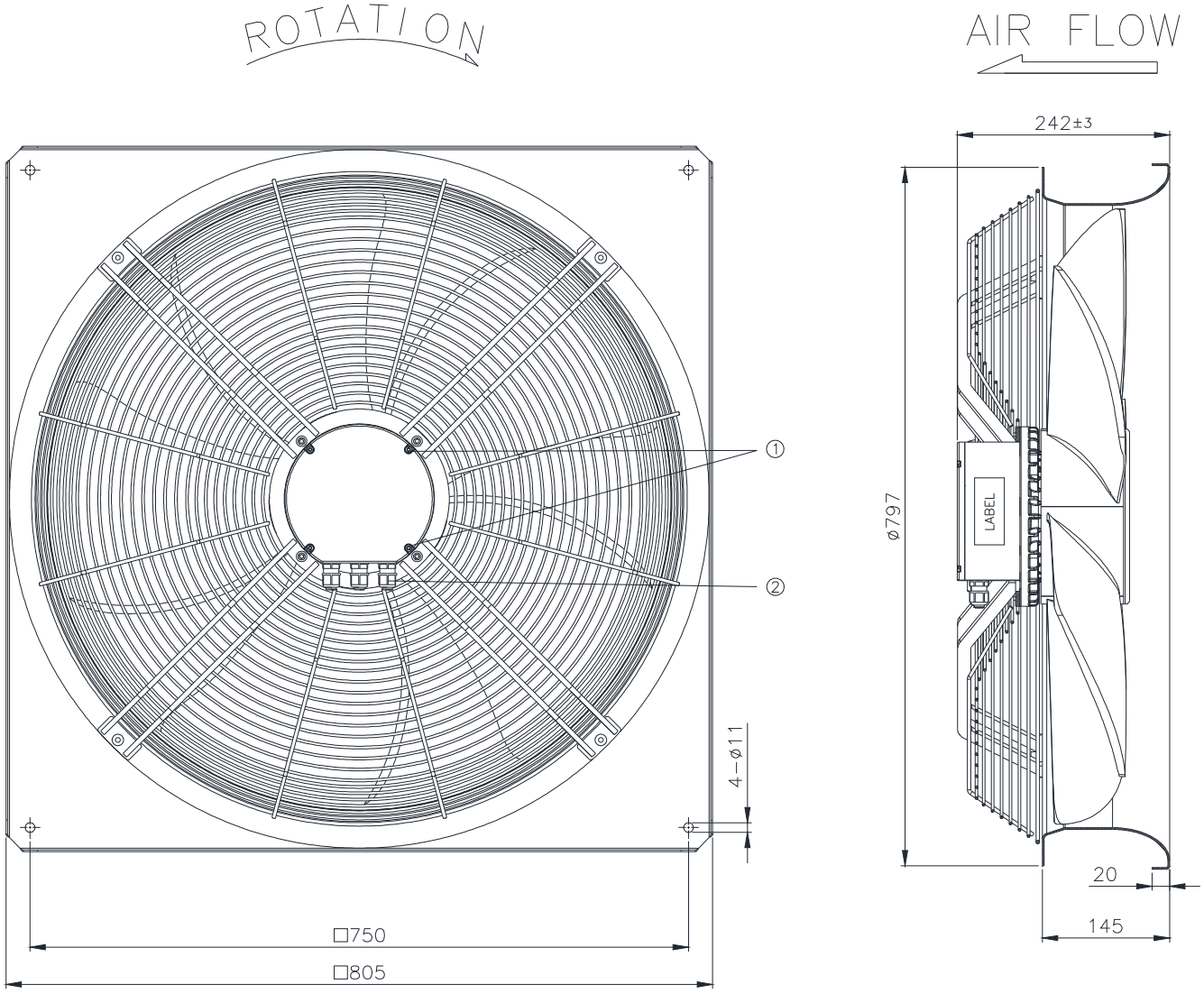
ERP DIRECTIVE:

	Actual	2026
Over all Eff%	47.8	39.5
Eff Grade N	58.3	50
Power(kW)	1.002	
Air Flow(m^3/h)	11049	
Pressure(Pa)	156	
Speed(RPM)	1170	

NOTE: The airflow and static pressure are measured with SUNON' s specific fixture.

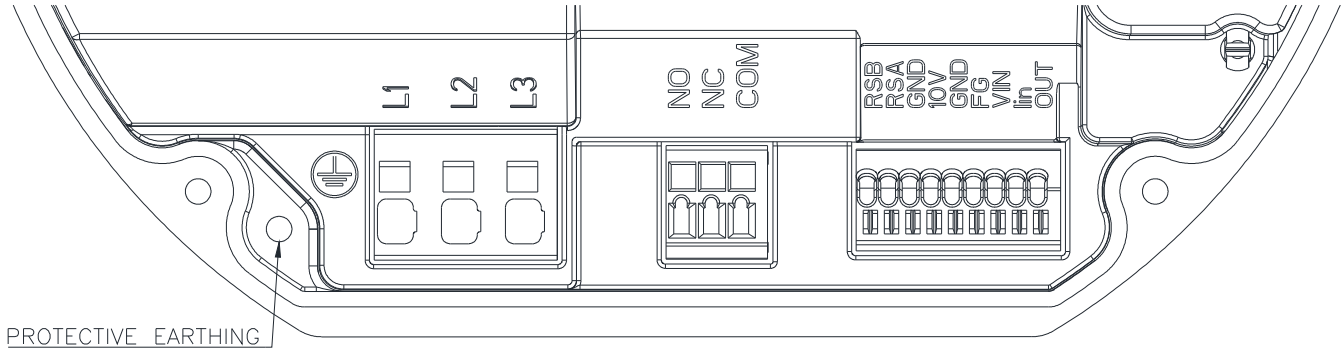
7. DIMENSIONS

1	SCREW	TIGHTTENING TORQUE: 7~9 KGF-CM
2	CABLE GLAND	CABLE DIAMETER: 6~10 mm, TIGHTTENING TORQUE: 25~31 KGF-CM



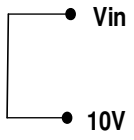
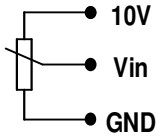
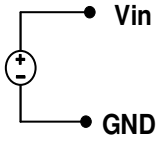
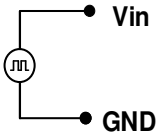
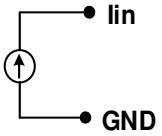
UNIT:mm

8. DEFFINITION OF TERMINAL BLOCK



	Text	Functions
Power	L1	AC main(3~ 380-480VAC)
	L2	AC main(3~ 380-480VAC)
	L3	AC main(3~ 380-480VAC)
Status	NO	Alarm relay,close by failure
	NC	Alarm relay,open by failure
	COM	Alarm relay, common (2A/250VAC)
Signal	RSB	RS485-B
	RSA	RS485-A
	GND	Ground
	10V	+10 V output, MAX 10 mA
	GND	Ground
	FG	Frequency generator (FG) signal
	Vin	Speed control, input 0-10 VDC
	Iin	Speed control, input 4-20 mA
	OUT	Control Voltage output 0-10 V

9. SPEED SETTING

Full Speed  	**Short Vout & Vin** Fan will run at full speed.
Voltage Control A  	**Connector 1-10kΩ variable resistor** Between 10V with GND and Vin (0-10V/PWM) Vary the variable resistance, to change the 'Vin' voltage (0-10V),then change FAN speed.
Voltage Control B 0-10V DC Source  	**Use voltage source supply 0~10V_{DC} voltage** DC+ : connector to Vin(+) DC- : connector to GND(-)
PWM Control PWM Generator  	**PWM duty control** PWM amplitude is 10V_{DC}(±5%) Frequency Range is 100Hz-100kHz - PWM duty higher than 10%, fan start up. - PWM duty lower than 5%, fan stop.
Current Control 4-20mA Current Source  	**4~20mA current control** Open 0-10V/PWM PIN - 4.0mA → Fan stop - 5.6mA → Fan start up -18.6mA → Maximum Speed

10. SIGNAL FUCTION

RS485 control function

RS485 control function

-Select the control mode of speed, fixed speed or fixed PWM duty

-Speed and power consumption feedback.

-Allow multiple FANs control and status patrol.

Cable: A MODBUS over Serial Line Cable must be shielded. At one end of each cable its shield must be connected to protective ground.

Control O/P

The analog signal level is the derivative of current control level.

Current (mA)	Control O/P (VDC) (REF)
4.0	0
5.6	1.0
11.9	5.0
18.6	9.5

Voltage/PWM control

The speed comparison will control level

Voltage (V)	PWM (%)	Speed (RPM) (REF)
0	0	0
1.0	10	100 ± 50 RPM
5.0	50	635 ± 10%
9.0	90	1170± 5%

Current control

The speed comparison will control level

Current (mA)	Speed (RPM) (REF)
4.0	0
5.6	100 ± 50 RPM
11.9	635 ± 10%
18.6	1170 ± 5%

Alarm state

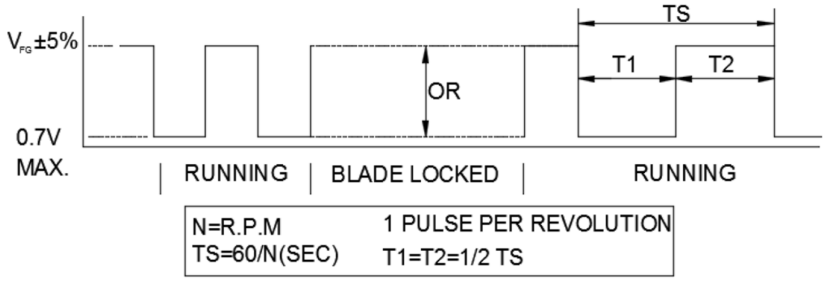
1. NC and COM will OPEN
2. NO and COM will CLOSE.

FG Signal

V_{CE}(sat) = 0.7V MAX. V_{FG} = 30.0V MAX.

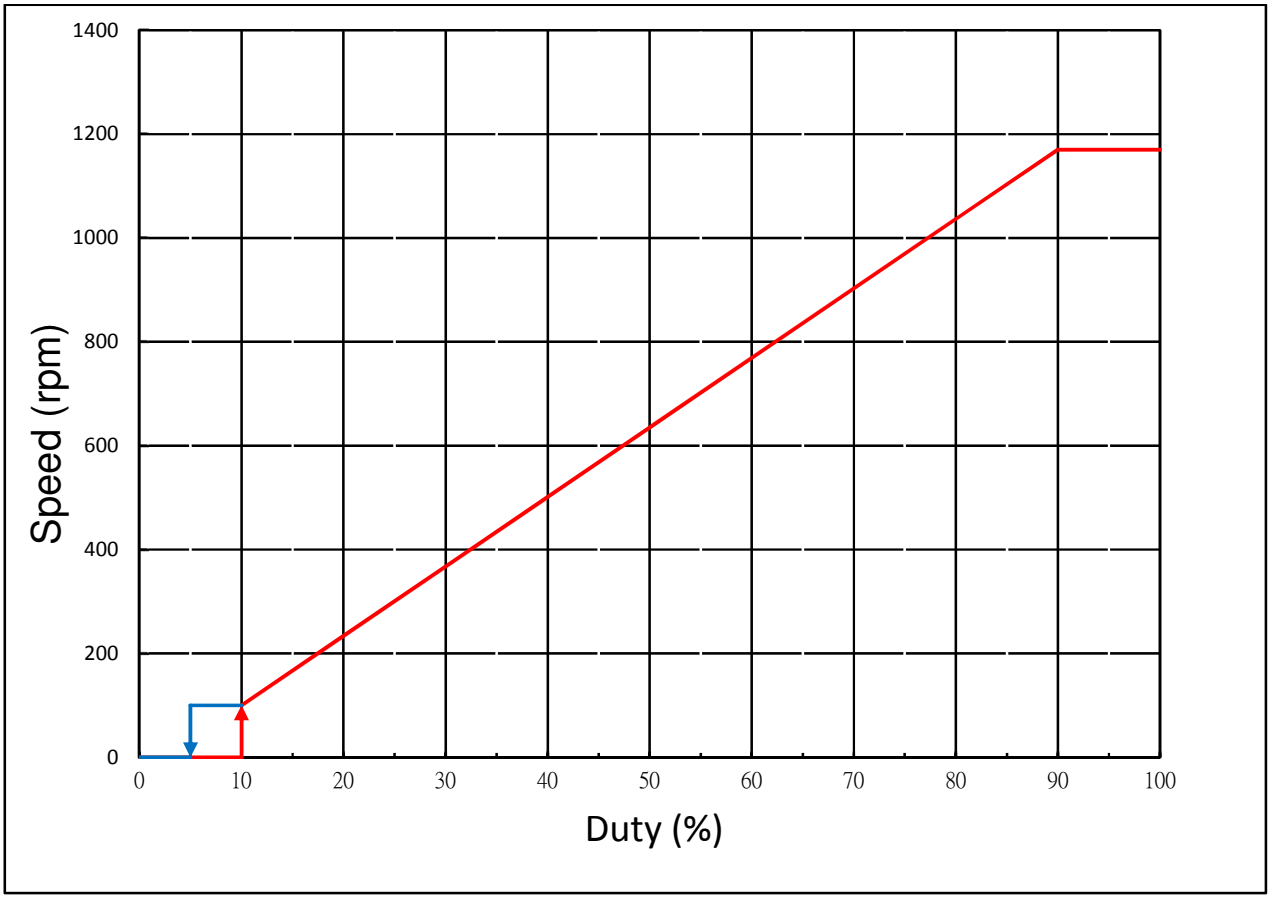
I_C = 5mA MAX. R ≥ V_{FG} / I_C

Frequency generator waveform



11. VOLTAGE、PWM、CURRENT CONTROL VS SPEED CURVE

VOLTAGE	0	0.5	1	2	3	4	5	6	7	8	9	10
PWM DUTY(%)	0	5	10	20	30	40	50	60	70	80	90	100
Current Control	4	5	5.6	6.9	8.4	10	11.9	13.5	15.1	16.7	18.6	20
Speed(rpm)	0	100	100	234	368	501	635	769	903	1036	1170	1170



NOTE:It is tested under free air condition. The same spec is not able to apply in static pressure condition.