

W1G250-HJ87-02

EC axial compact fan

sickle-shaped blades (S series)

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Nominal data

Type	W1G250-HJ87-02	
Motor	M1G074-BF	

Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	3070
Power consumption	W	128
Current draw	A	7
Max. back pressure	Pa	150
Max. back pressure	in. wg	0.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	42.2	28.3	09 Power consumption P_e	kW	0.13
02 Measurement category		A		09 Air flow q_v	m ³ /h	1350
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	138
04 Efficiency grade N		53.9	40	10 Speed (rpm) n	min ⁻¹	2715
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-172294

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

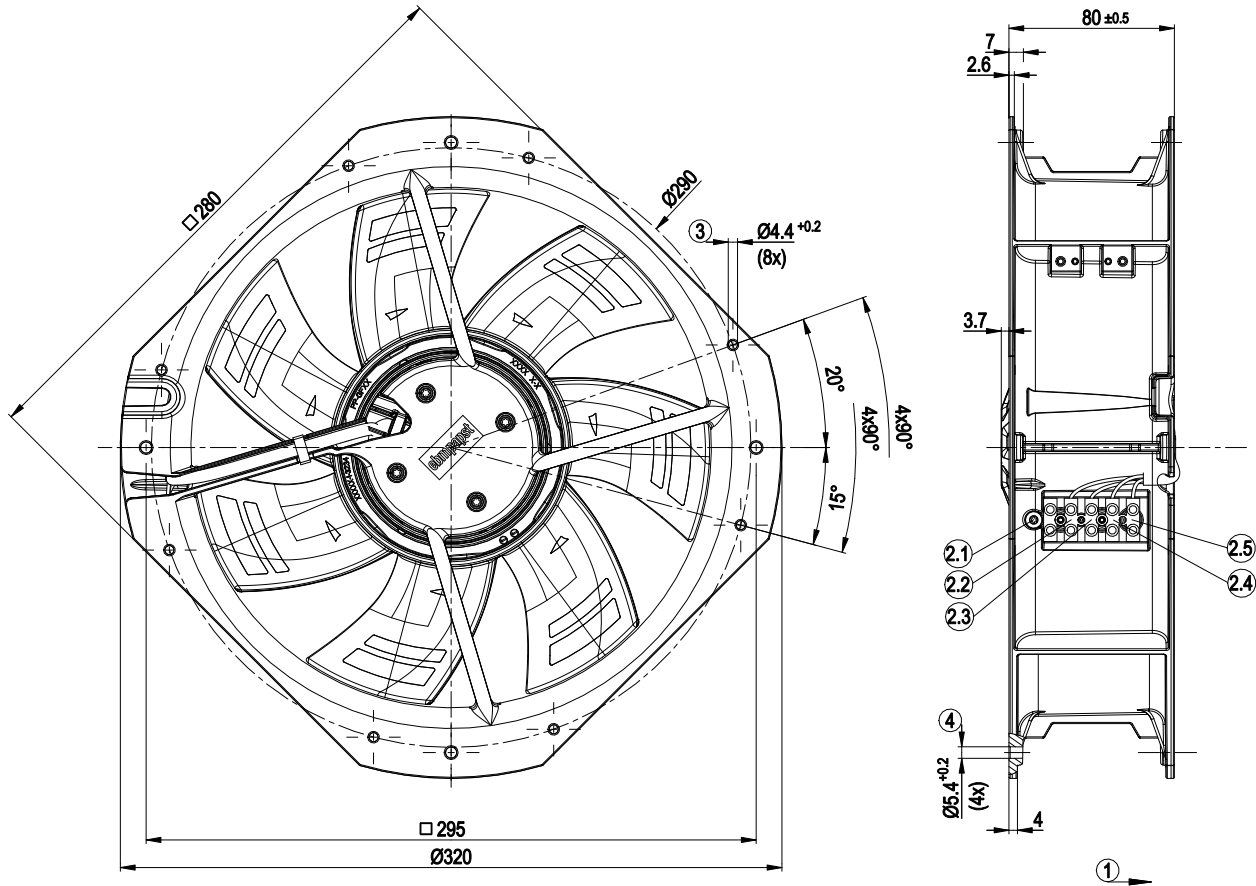
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



Technical description

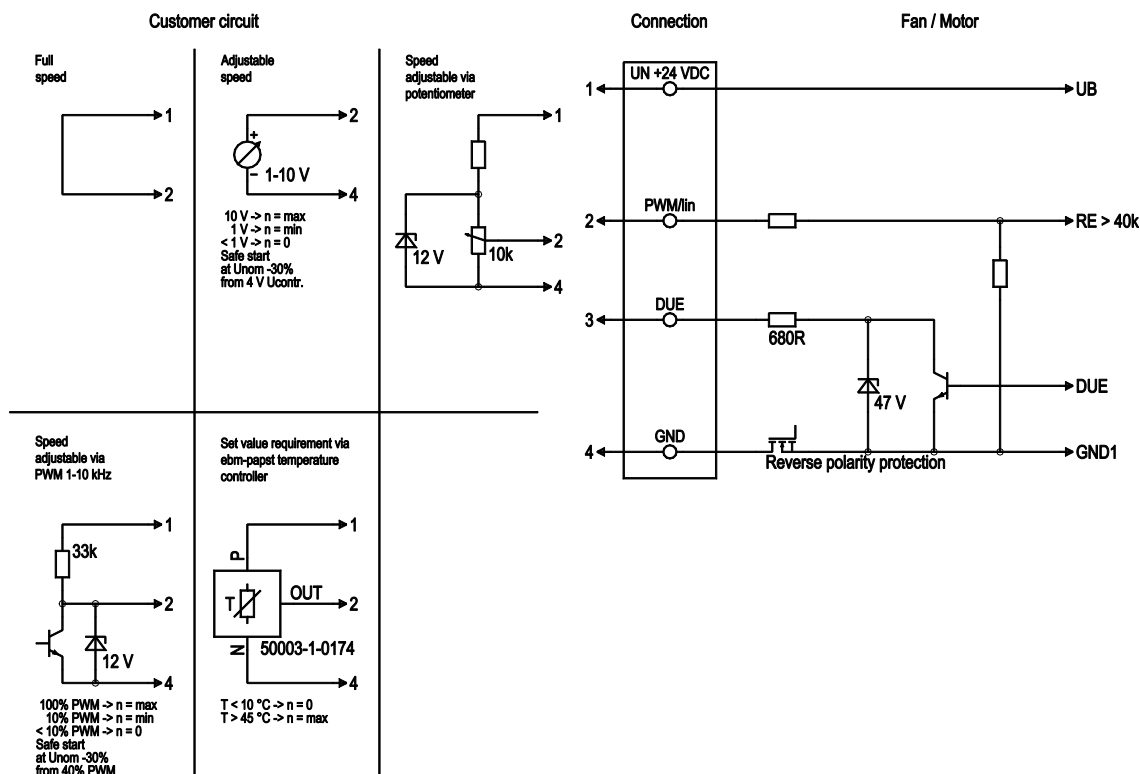
Weight	2.35 kg
Size	250 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic
Fan housing material	Die-cast aluminum
Number of blades	7
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2+
Max. permitted ambient temp. for motor (transport/storage)	+70 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Thermal overload protection for electronics - Reverse polarity protection
Electrical hookup	Terminal strip
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection. If there is a PE connection point on the housing, it must not be visible after installation.
Conformity with standards	UKCA; CE
Approval	UL 507; EAC
Comment	The IP protection is valid up to the motor connection side interface

Product drawing



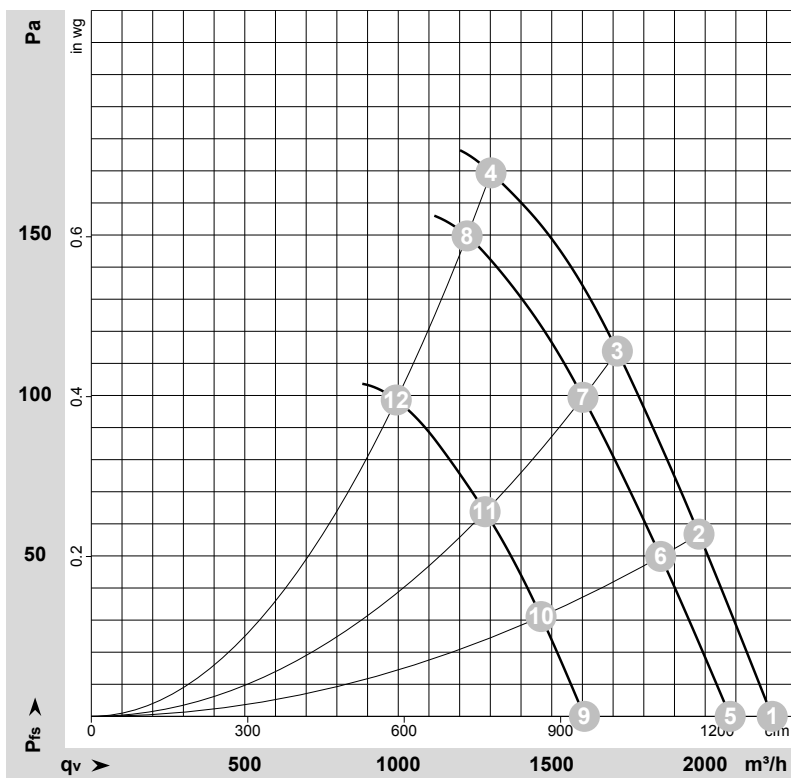
1	Direction of air flow "V"
2.1	Protective earth
2.2	Control input yellow
2.3	Speed monitoring white
2.4	(-) blue
2.5	(+) red
3	For self-tapping M5 screws
4	For self-tapping M6 screws

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	UN +24 VDC		red	Power supply 24 VDC, maximum ripple 3.5%
2	PWM/LIN		yellow	Control input Re > 40k
3	DUE		white	Tach output, 3 pulses per revolution, Isink max = 10 mA
4	GND		blue	Reference ground

Curves: Air performance



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-172450-1
 Measurement: LU-172294-1
 Measurement: LU-172449-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	n	P _{ed}	I	LpA _{in}	LwA _{in}	q _v	P _{fs}	q _v	P _{fs}
	V	min ⁻¹	W	A	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	28	3270	156	7.76			2220	0	1305	0.00
2	28	3125	161	8.22			1980	57	1165	0.23
3	28	2985	167	8.67			1715	114	1010	0.46
4	28	2870	173	9.13			1300	169	765	0.68
5	24	3070	128	7.00	66	74	2080	0	1225	0.00
6	24	2935	131	7.35	66	73	1855	50	1090	0.20
7	24	2805	135	7.74	65	72	1600	100	945	0.40
8	24	2700	140	8.13	66	73	1225	150	720	0.60
9	16	2405	61	4.84			1605	0	945	0.00
10	16	2340	65	5.19			1465	31	860	0.12
11	16	2270	70	5.57			1285	64	755	0.26
12	16	2205	73	5.87			995	99	585	0.40

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side · q_v = Air flow
 P_{fs} = Pressure increase

