EC axial fan

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Nominal data

Type	**W1G250-HJ20-02**
Motor	**M1G074-BF**

Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3000
Power consumption	W	121
Current draw	A	2.5
Max. back pressure	Pa	140
Max. back pressure	in. wg	0.56
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}	%	41.4	28.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.3	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.12
09 Air flow q_v	m³/h	1300
09 Pressure increase p_{fs}	Pa	130
10 Speed (rpm) n	min^{-1}	2625
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-217914

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.

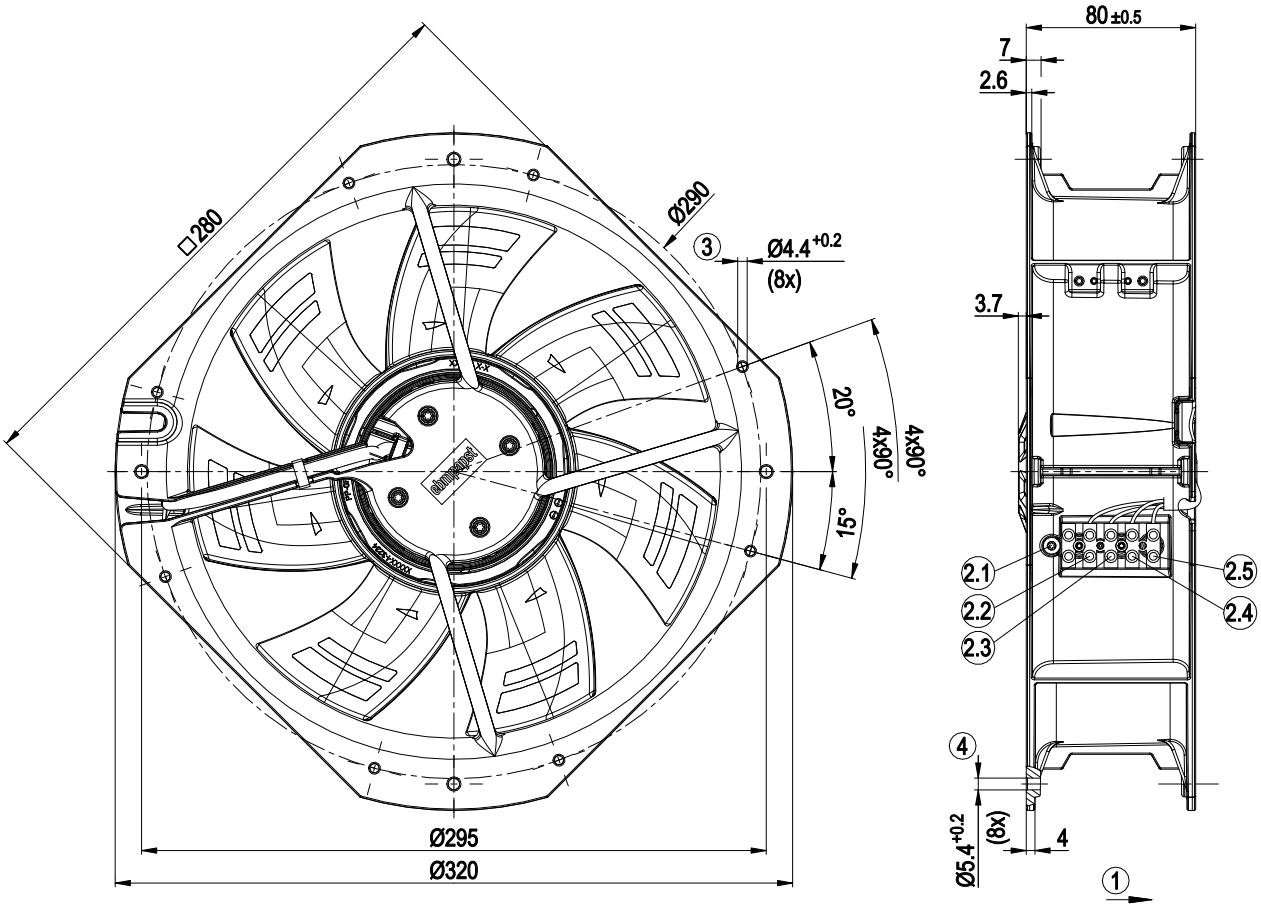
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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)	+80 °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	EAC; UL 507; CSA C22.2 No. 113
Comment	The IP protection is valid up to the motor connection side interface

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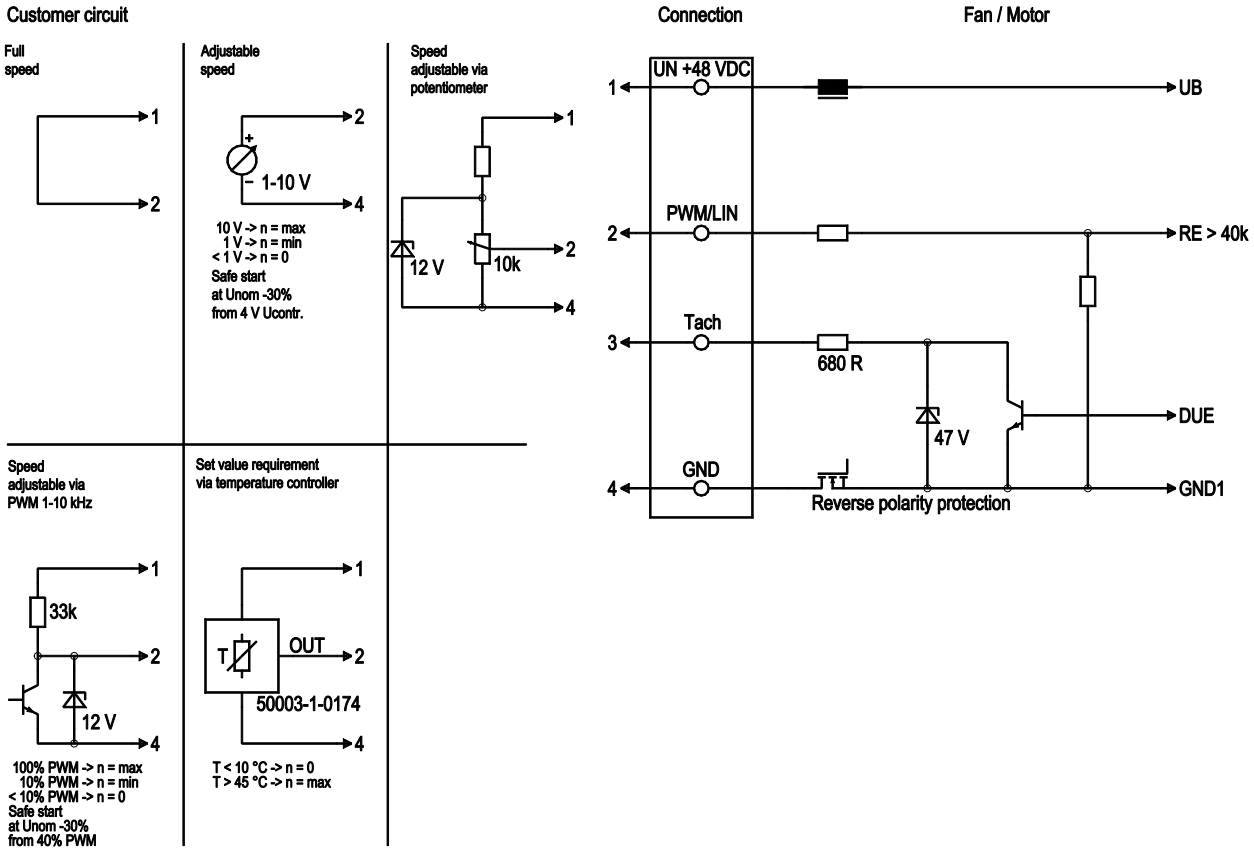
Product drawing



1	Airflow direction "V"
2.1	Ground connection point
2.2	Control input
2.3	Speed monitoring
2.4	-
2.5	+
3	For self-tapping M5 screws
4	For self-tapping M6 screws

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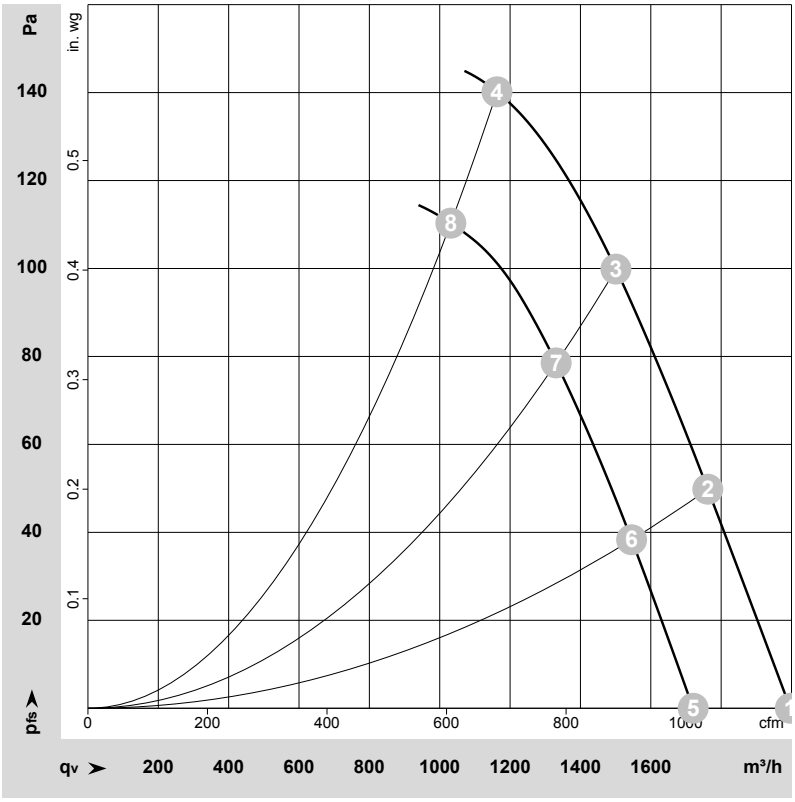
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	UN +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
1	2	PWM/LIN	yellow	Control input Re > 100k
1	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

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Curves: Air performance



ρ = 1.173 kg/m³ ± 2 %

Measurement: LU-217914-1
Measurement: LU-217456-1

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	48-57	3000	121	2.50*	66	73	1995	0	1175	0.00
2	48-57	2825	124	2.60*	65	72	1760	50	1035	0.20
3	48-57	2695	128	2.70*	64	71	1500	100	885	0.40
4	48-57	2620	130	2.70*	67	74	1165	140	685	0.56
5	36	2575	80	2.23			1720	0	1015	0.00
6	36	2490	85	2.37			1545	38	910	0.15
7	36	2400	90	2.49			1330	79	785	0.32
8	36	2335	91	2.53			1030	111	605	0.45

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

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