EC axial compact fan

W1G180-AB89-38 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W1G180-AB89-38**	
Motor	**M1G074-BF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min-1	4950
Power consumption	W	123
Current draw	A	3
Max. back pressure	Pa	380
Max. back pressure	inH2O	1.53
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	30

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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	39.7	28.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.2	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.15
09 Air flow q_v	m³/h	640
09 Pressure increase p_{fs}	Pa	300
10 Speed (rpm) n	min-1	4835
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-125464

ebmpapst

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Technical description

Weight	1.78 kg
Fan size	180 mm
Rotor surface	Galvanized
Impeller material	Glass-fiber reinforced PA plastic
Fan housing material	Die-cast aluminum, painted black
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F2-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Control input 0-10 VDC / PWM - Tach output - Motor current limitation - Soft start
EMC immunity to interference	According to EN 61000-6-2
EMC interference emission	According to EN 55022 (Class B)
Electrical hookup	With plug
Motor protection	Reverse polarity and locked-rotor protection
With cable	Lateral
Conformity with standards	EN 60950-1
Approval	CSA C22.2 No. 77; UL 1004-1

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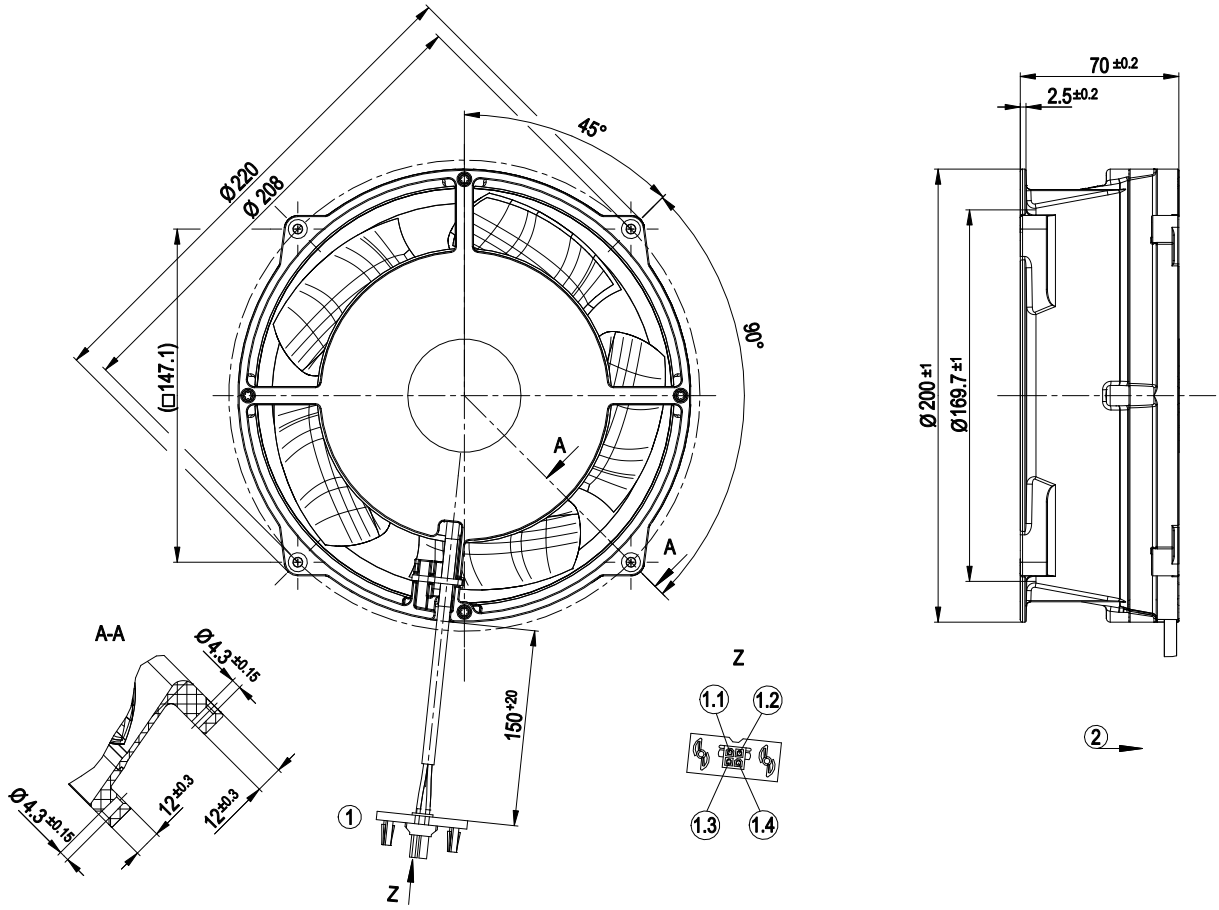
Product drawing



Z	View Z
1	Connector housing Molex no. 15-06-0041; cable AWG20 with 4 sockets Molex no. 39-00-0038
1.1	white (s)
1.2	red (+)
1.3	blue (-)
1.4	yellow (control input)
2	Airflow direction "V"

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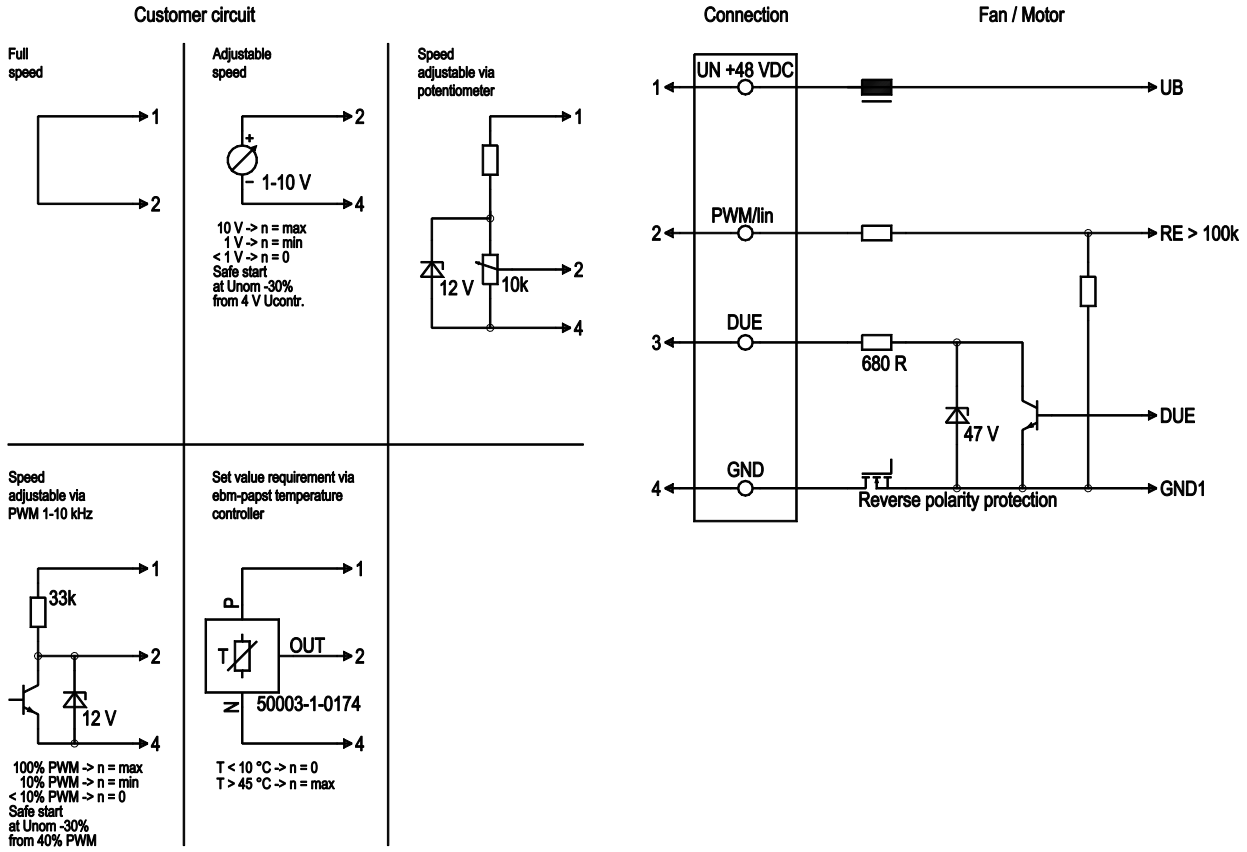
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
1	2	0-10 VDC	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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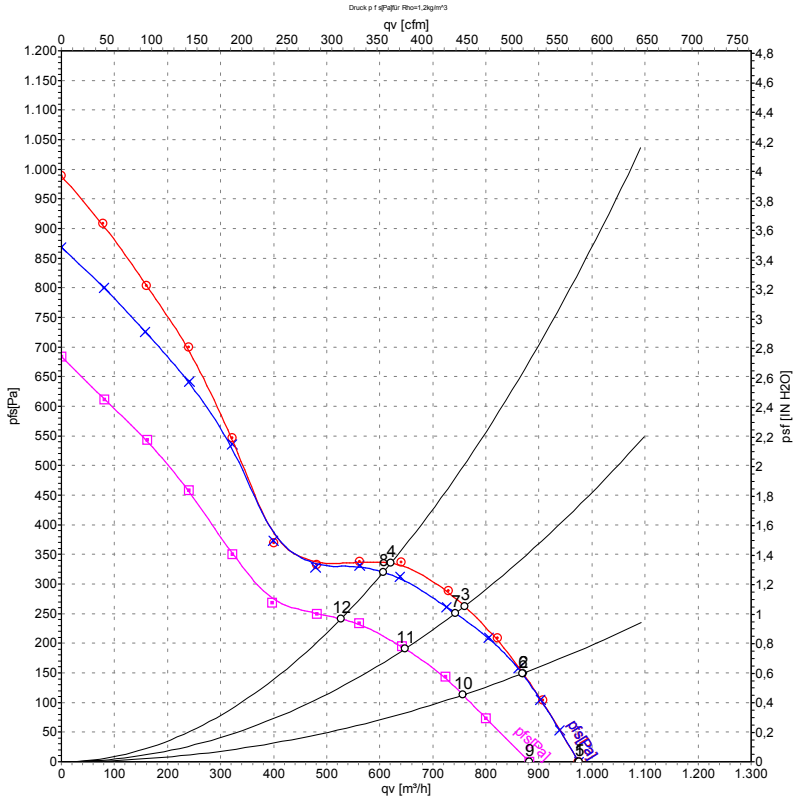
Curves: Air performance



Measurement: LU-125465-1
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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	qv	p_{fs}	qv	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	57	4950	123	3.00	975	0	575	0.00
2	57	4960	149	3.56	870	150	510	0.60
3	57	4955	165	3.89	760	263	445	1.06
4	57	4960	160	3.79	620	337	365	1.35
5	48	4950	123	3.00	975	0	575	0.00
6	48	4955	146	3.59	870	150	510	0.60
7	48	4855	153	3.77	745	250	435	1.00
8	48	4880	152	3.75	605	320	355	1.28
9	36	4500	89	2.80	880	0	520	0.00
10	36	4320	96	3.03	755	113	445	0.45
11	36	4220	100	3.16	650	192	380	0.77
12	36	4250	99	3.11	525	241	310	0.97

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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