

R1G310-AD17-20

Qingdao Haier Special Electrics Co.,Ltd

EC centrifugal fan

backward-curved, single-intake

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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R1G310-AD17-20	
Motor	M1G074-CF	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 52
Frequency	Hz	-
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	1800
Power consumption	W	120
Current draw	A	3.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	54.1	42.2	09 Power consumption P_e	kW	0.13
02 Measurement category		A		09 Air flow q_v	m ³ /h	1115
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	200
04 Efficiency grade N		73.9	62	10 Speed (rpm) n	min ⁻¹	1520
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-53928

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).



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Technical description

Weight	2.68 kg
Size	310 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP42
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none">- Tach output- Motor current limitation- Soft start- Control input 0-10 VDC / PWM- Reverse polarity protection
Electrical hookup	Connector with cable
With cable	Variable
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.
Conformity with standards	EN 62368-1; CE
Approval	CSA C22.2 No. 77; CCC; UL 1004-1



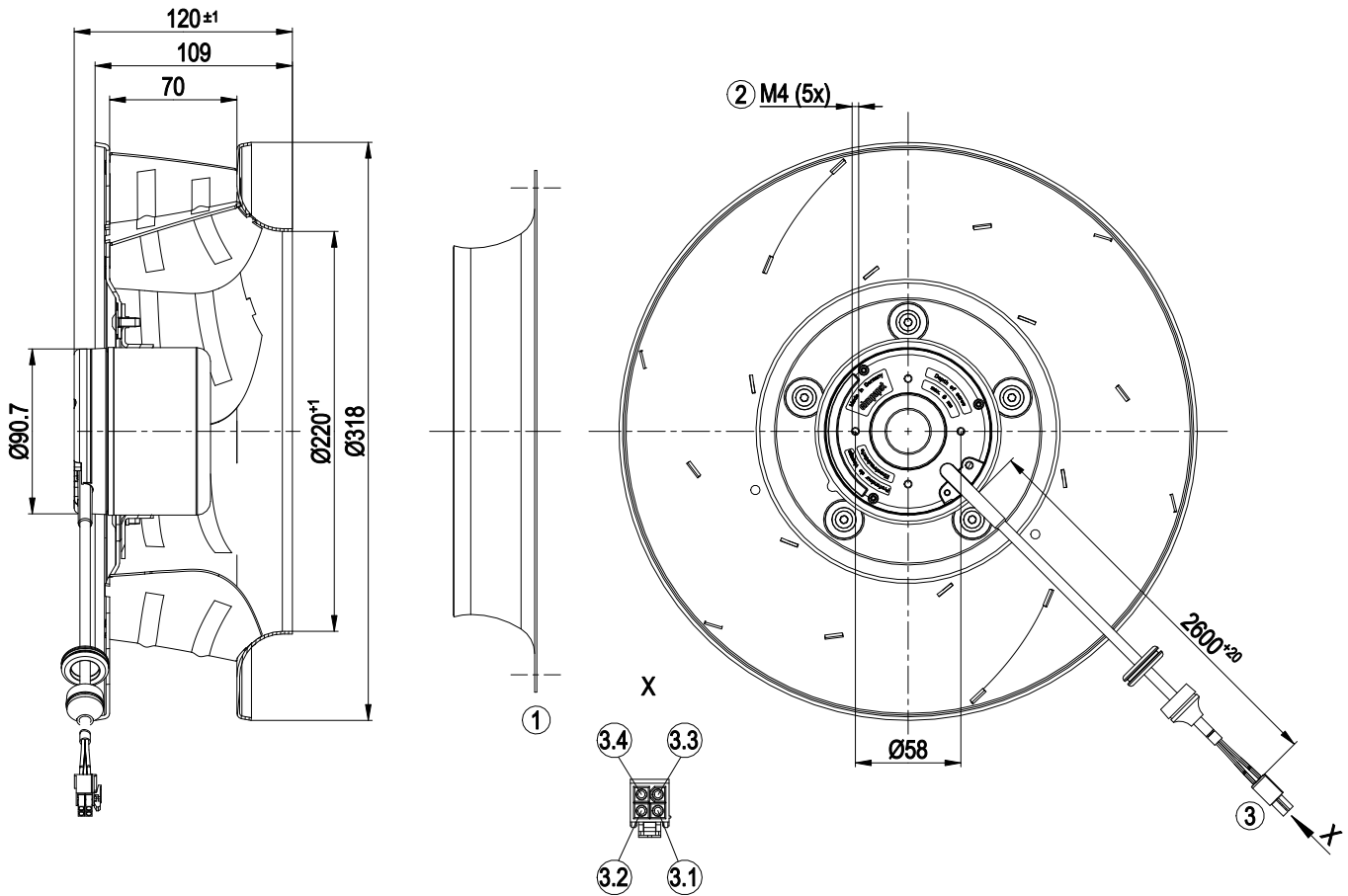
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Product drawing



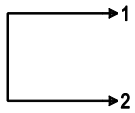
1	Accessory part: inlet ring 31050-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Cable PVC AWG20 4-pole connector housing TE 172167-1, 4x socket TE 170362-1
3.1	GND (blue)
3.2	PWM/LIN (yellow)
3.3	DUE (white)
3.4	UN +48 VDC (red)



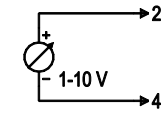
Connection diagram

Customer circuit

full speed

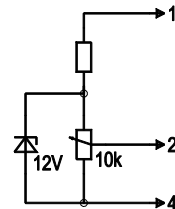


adjustable speed

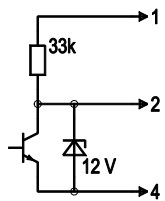


10 V → n = max
1 V → n = min
<1 V → n = 0
safe start
at Unom -30%
from 4 V Ucontr.

speed adjustable via potentiometer

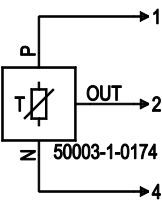


speed adjustable via PWM 1-10 kHz



100% PWM → n = max
10% PWM → n = min
<10% PWM → n = 0
safe start
at Unom -30%
from 40% PWM

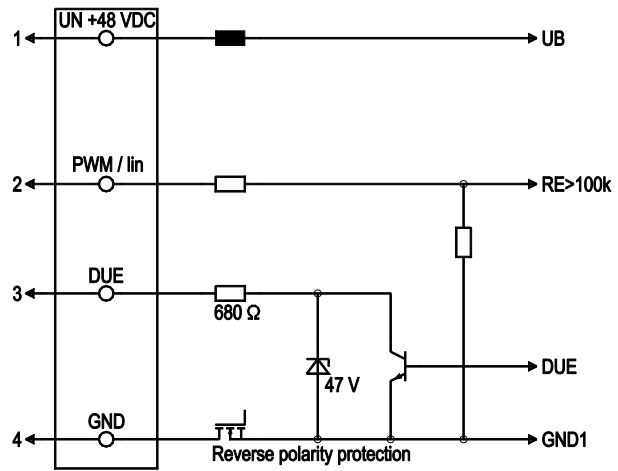
Set value requirement via ebm-papst temperature controller



T < 10°C → n = 0
T > 45°C → n = max

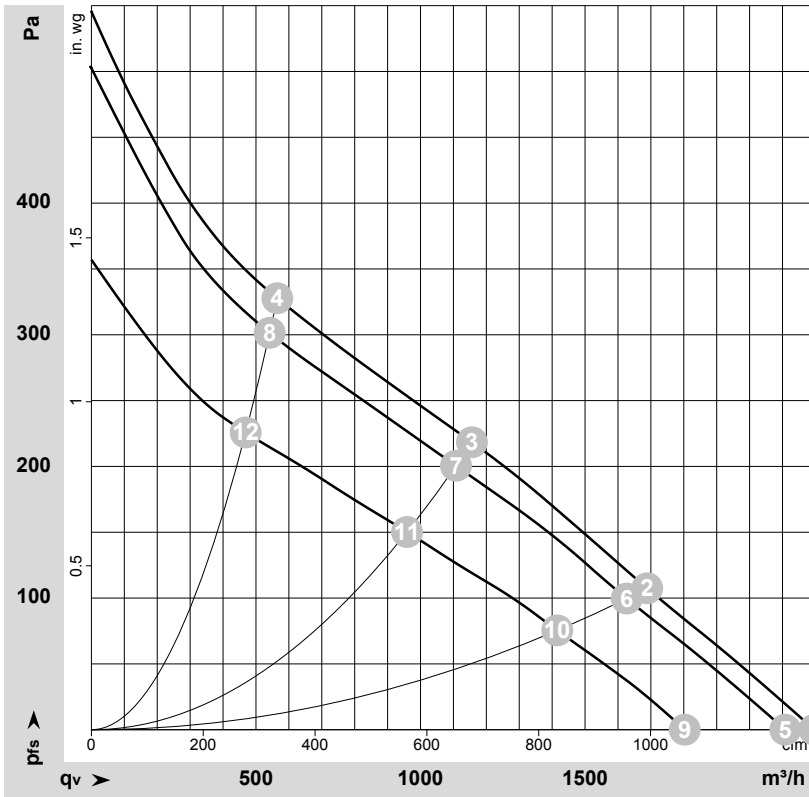
Connection

Fan/Motor



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	PWM/lin. Control input, 0-10 V
1	3	DUE	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

Curves: Air performance



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

Measurement: LU-53929-1
 Measurement: LU-53928-1
 Measurement: LU-52983-1

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	q _v	p _{fs}	q _v	p _{fs}
	V	min ⁻¹	W	A	m ³ /h	Pa	cfm	in. wg
1	53	1860	135	3.07	2195	0	1295	0.00
2	53	1675	144	3.37	1690	107	995	0.43
3	53	1580	151	3.55	1155	218	680	0.88
4	53	1665	145	3.38	565	328	335	1.32
5	48	1800	120	3.00	2110	0	1240	0.00
6	48	1610	127	3.18	1625	100	960	0.40
7	48	1520	131	3.33	1110	200	650	0.80
8	48	1595	127	3.19	540	300	320	1.20
9	36	1570	74	2.34	1805	0	1060	0.00
10	36	1430	80	2.55	1415	75	835	0.30
11	36	1350	83	2.65	960	150	565	0.60
12	36	1405	81	2.56	470	225	275	0.90

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

