R3G250-AK39-A2

EC centrifugal fan

backward curved, single inlet

R3G250-AK39-A2 ebmpapst Datasheet
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Nominal data

Type	**R3G250-AK39-A2**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3470
Power input	W	525
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	57.8	48
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.8	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.46
09 Air flow q_v	m^3/h	1350
09 Pressure increase p_{fs}	Pa	645
10 Speed (rpm) n	min^{-1}	3480
11 Specific ratio*		1.01

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-137628

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Technical features

Mass	4.7 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limit - PFC, active - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1
Approval	CSA C22.2 No.77; UL 2111

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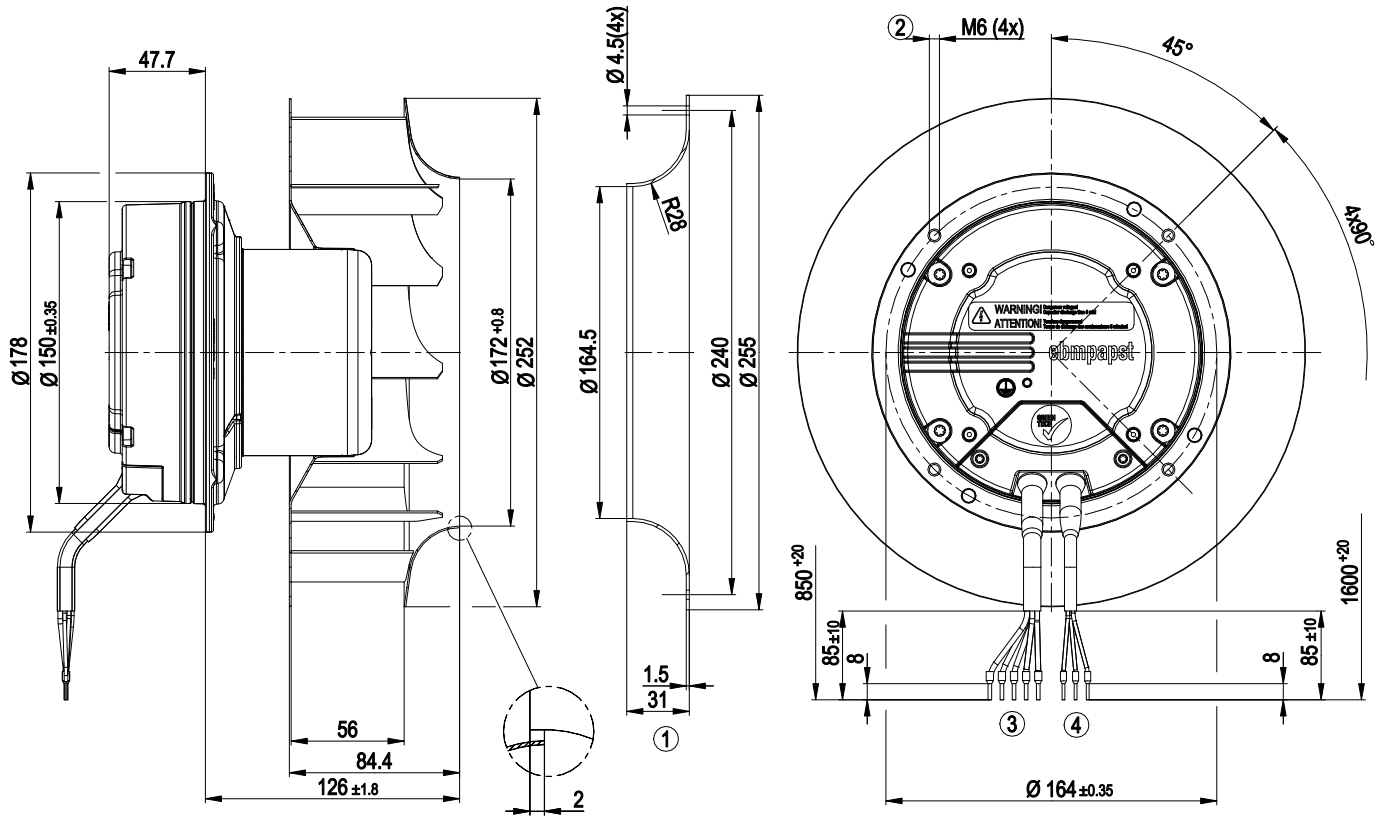
Product drawing



1	Accessory part: Inlet nozzle 96359-2-4013, not included in the standard scope of delivery.
2	Depth of screw 8-10 mm
3	Connection line PVC AWG18, 5x crimped core-end sleeves
4	Connection line PVC AWG, 3x crimped core-end sleeves

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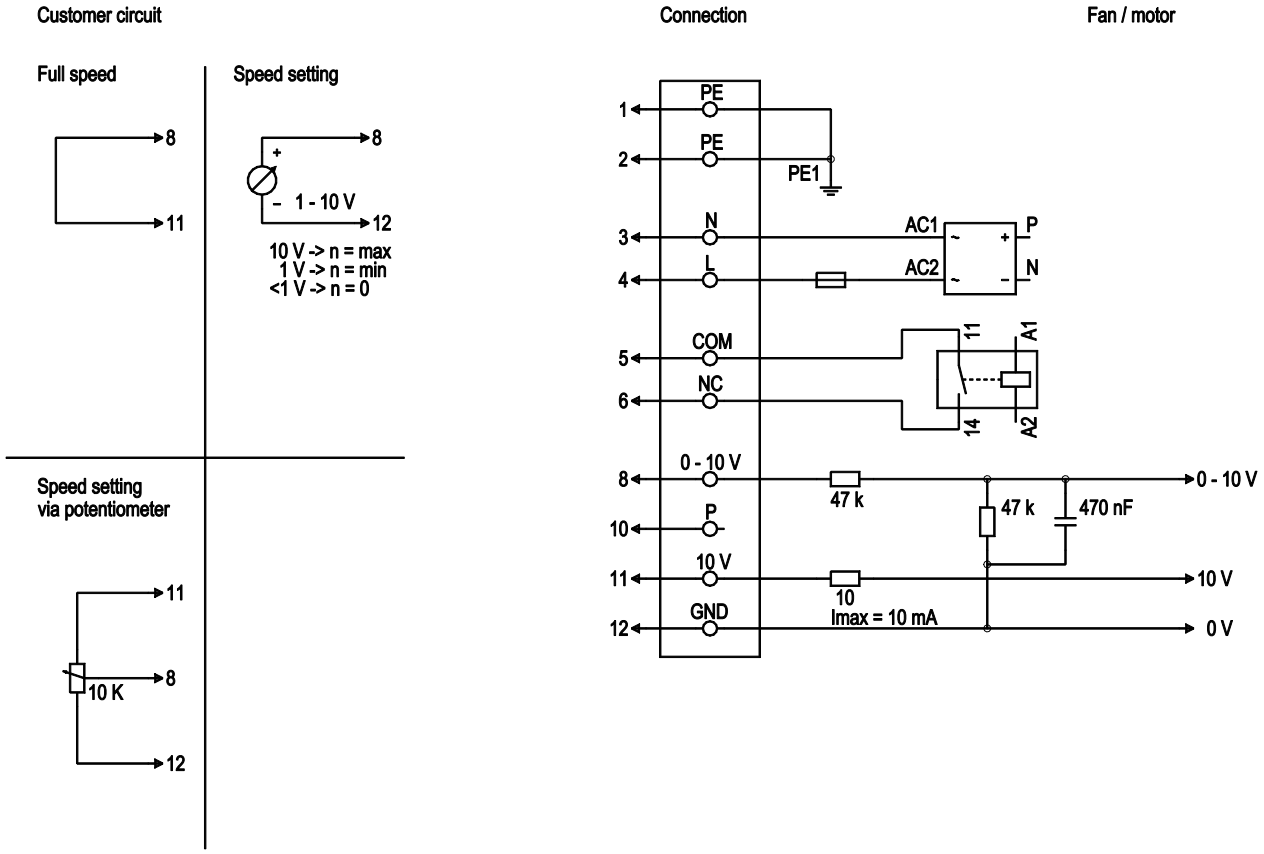
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, voltage range see rating plate, 50 / 60 Hz
1	4	L	black	Supply voltage, phase, voltage range see rating plate, 50 / 60 Hz
1	5	COM	white 1	Floating status message contact, normally closed connection (2 A, max. 250 VAC, min. 10 mA)
1	6	NC	white 2	Floating status message contact, normally closed connection
2	8	0 -10 V	yellow	Control input, set value 0 - 10 VDC, impedance 100 kOhm, SELV
2	10	P	orange	Not assigned
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for ext. devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

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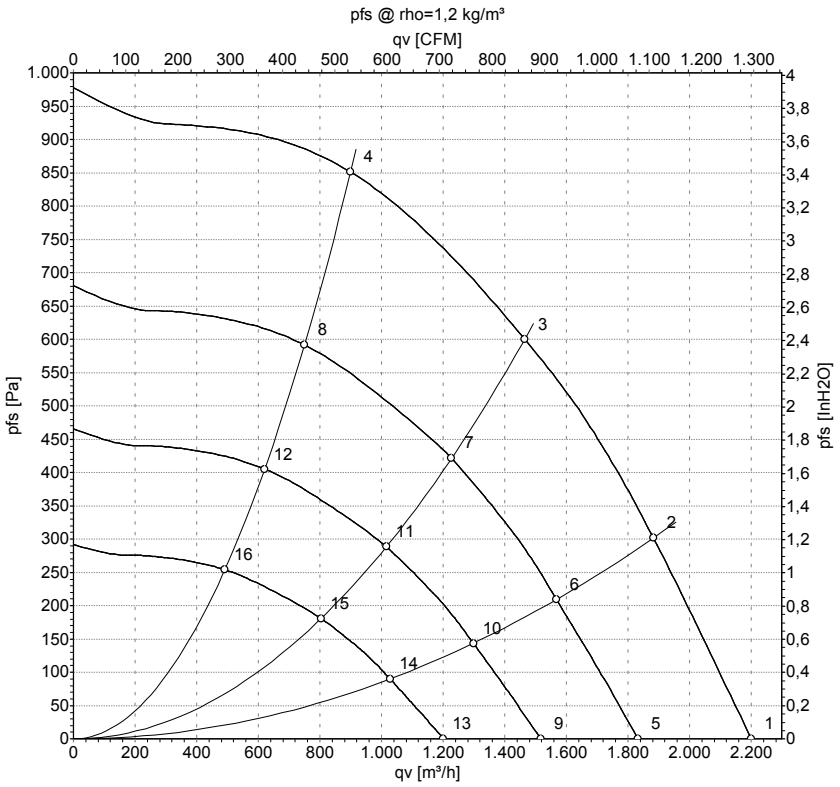
Charts: Air flow 50 Hz



Measurement: LU-140617-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	3470	348	1.53	2200	0	1295	0.00
2	230	50	3470	461	2.03	1885	300	1110	1.20
3	230	50	3470	525	2.30	1465	600	860	2.41
4	230	50	3470	461	2.02	900	850	530	3.41
5	230	50	2900	201	0.89	1835	0	1080	0.00
6	230	50	2900	266	1.17	1570	209	925	0.84
7	230	50	2900	312	1.37	1230	423	725	1.70
8	230	50	2900	267	1.17	750	591	440	2.37
9	230	50	2400	114	0.50	1515	0	895	0.00
10	230	50	2400	151	0.66	1300	143	765	0.57
11	230	50	2400	177	0.77	1015	290	600	1.16
12	230	50	2400	151	0.66	620	405	365	1.63
13	230	50	1900	57	0.25	1200	0	705	0.00
14	230	50	1900	75	0.33	1030	90	605	0.36
15	230	50	1900	88	0.38	805	182	475	0.73
16	230	50	1900	75	0.33	490	254	290	1.02

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase