

EC centrifugal fan

backward curved, single inlet



R3G450-AT14-13 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Nominal data

Type	R3G450-AT14-13	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed	min ⁻¹	2150
Power input	W	2700
Current draw	A	8.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

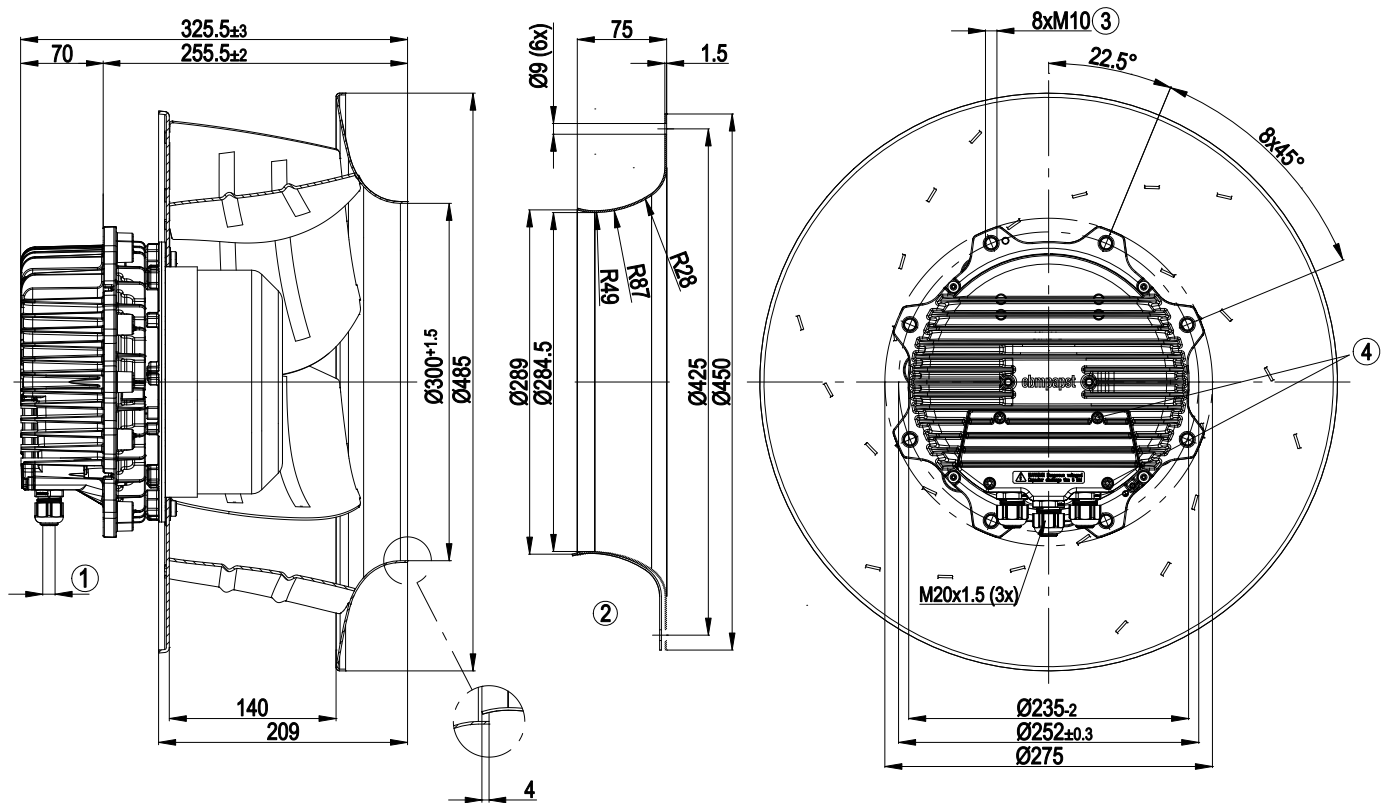
ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations



Technical features

Mass	21 kg
Size	450 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
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 - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 ebmBUS - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 Nr.77; EAC; UL 2111

Product drawing

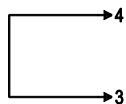


1	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 4±0.6 Nm
2	Accessory part: inlet nozzle 63045-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
3	Depth of screw max. 25 mm
4	Tightening torque 3.5±0.5 Nm

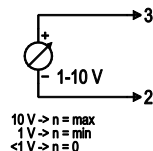
Connection screen

Customer circuit

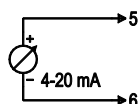
Full speed



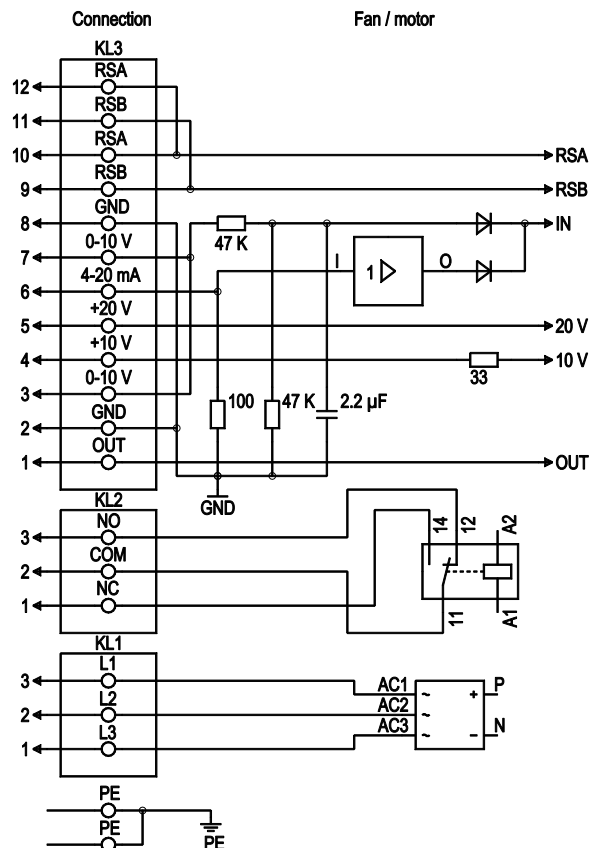
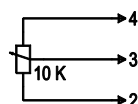
Speed setting



Setting of values, e.g. via pressure



Speed setting via potentiometer

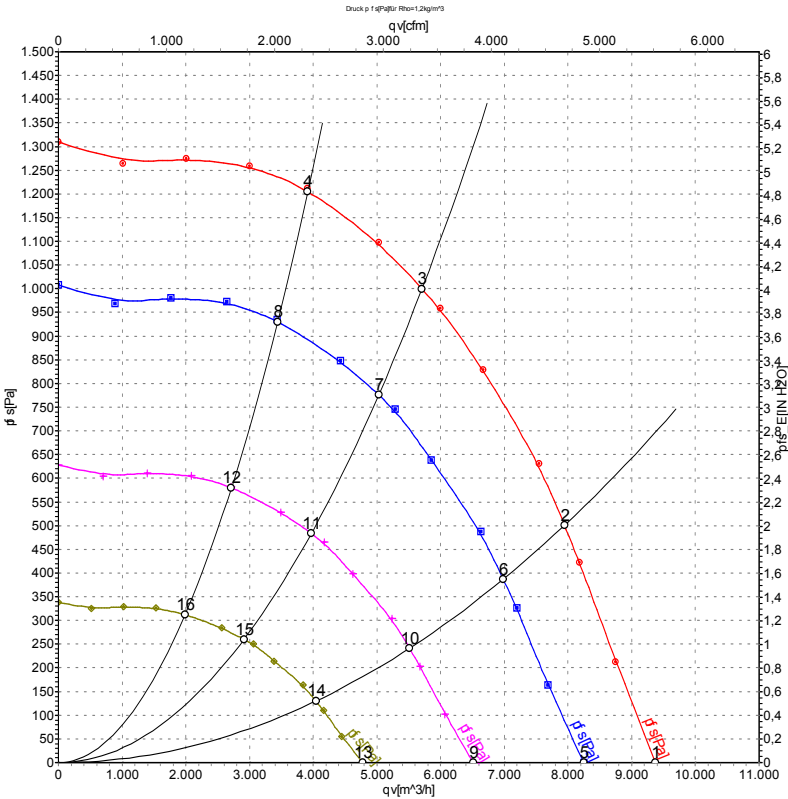


No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10 % level control coefficient. 10 V equate to 100 % level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/-3 %), max. 10 mA, supply voltage for ext. devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25 %/-10 %), max. 50 mA, supply voltage for ext. devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBus, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBus, RSA, SELV

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Charts: Air flow 50 Hz



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: L_{wA} measured as per ISO 13347 /
L_{pA} 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	LpA _{in}	LwA _{in}	LwA _{out}	qv	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m³/h	Pa
1	200	50	2150	1868	5.73	89	97	99	9370	0
2	200	50	2150	2482	7.71	87	92	97	7945	500
3	200	50	2150	2700	8.40	77	85	91	5705	1000
4	200	50	2150	2483	7.69	79	87	94	3915	1200
5	200	50	1900	1273	3.91	87	94	97	8245	0
6	200	50	1900	1686	5.24	84	89	94	6985	387
7	200	50	1900	1874	5.83	74	82	88	5030	777
8	200	50	1900	1683	5.21	76	84	91	3440	934
9	200	50	1500	626	1.92	81	89	92	6510	0
10	200	50	1500	830	2.58	79	84	89	5515	241
11	200	50	1500	922	2.87	69	77	83	3970	484
12	200	50	1500	828	2.56	71	79	86	2715	582
13	200	50	1100	247	0.76	75	82	85	4775	0
14	200	50	1100	327	1.02	72	77	82	4045	130
15	200	50	1100	364	1.13	62	70	77	2910	260
16	200	50	1100	326	1.01	64	72	79	1990	313

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase

