R3G250-RO40-A9

EC centrifugal fan - RadiCal

backward curved, single inlet

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G250-RO40-A9**
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	min^{-1}	3650
Power input	W	480
Current draw	A	2.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		60.4	44.1	48.1
Efficiency grade N		74.3	58	62
Power input P_{ed}	kW	0.47		
Air flow q_v	m^3/h	1200		
Pressure increase p_{fs}	Pa	784		
Speed n	min^{-1}	3635		

Data established at point of optimum efficiency

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Technical features

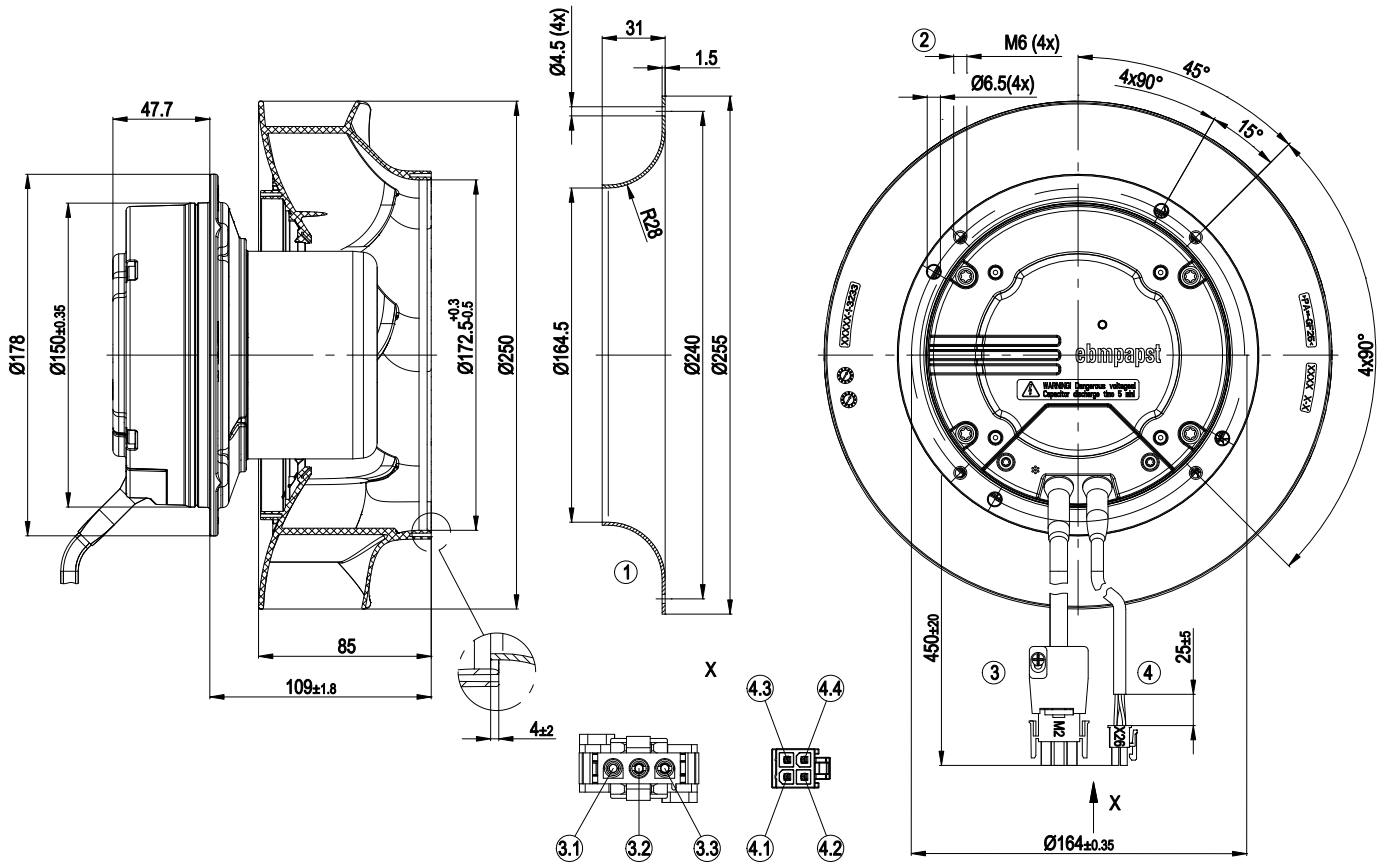
Mass	4.1 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Cable break detection with control line 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)
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 60335-1; CE
Approval	UL 2111; CCC; CSA C22.2 Nr.77

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Product drawing



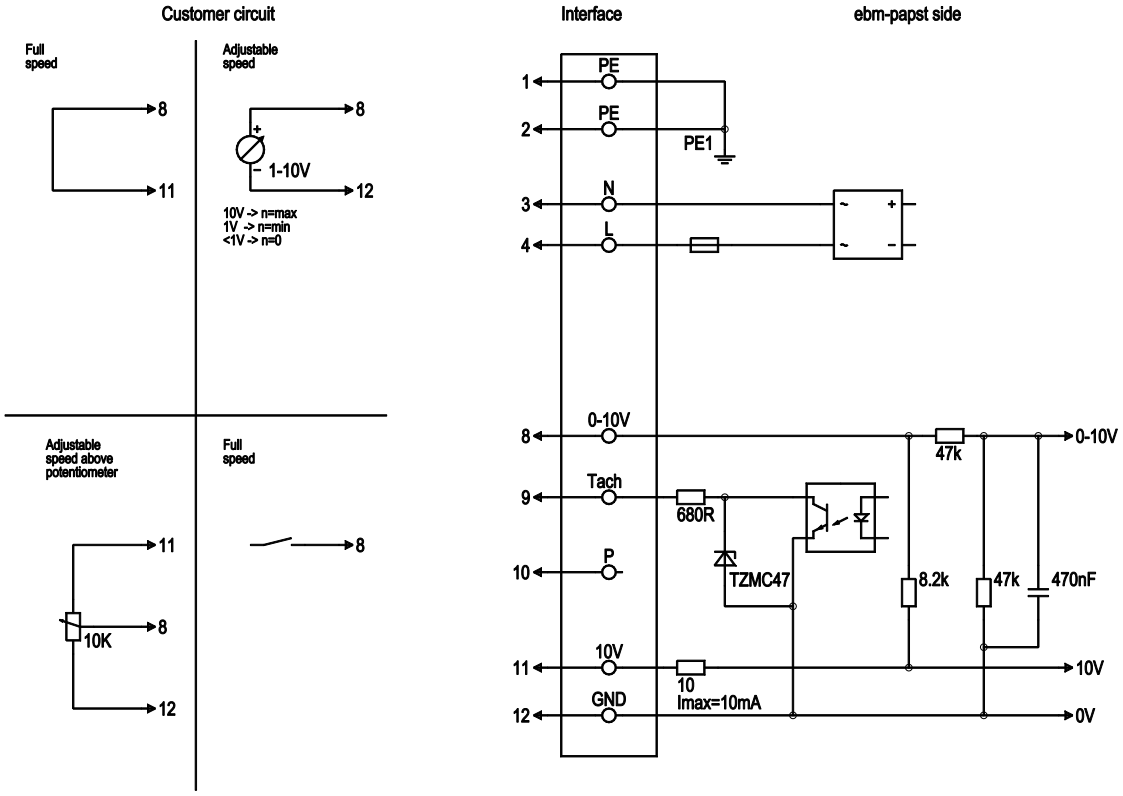
1	Accessory part: Inlet nozzle 96359-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 10 mm
3	Connection line PVC AWG 18 with connector shell 3-pole AMP 350766-4 with AMP plug pin 1x 350654-1, 2x 926883-1 and AMP strain relief 641945-1
3.1	PE (yellow-green)
3.2	N (blue)
3.3	L (black)
4	Connection line PVC AWG 22 with connector shell 4-pole Molex 39-01-2045 with Molex female terminal 39-00-0038
4.1	0-10V (yellow)
4.2	Tach (white)
4.3	10 VDC (red)
4.4	GND (blue)

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Connection screen



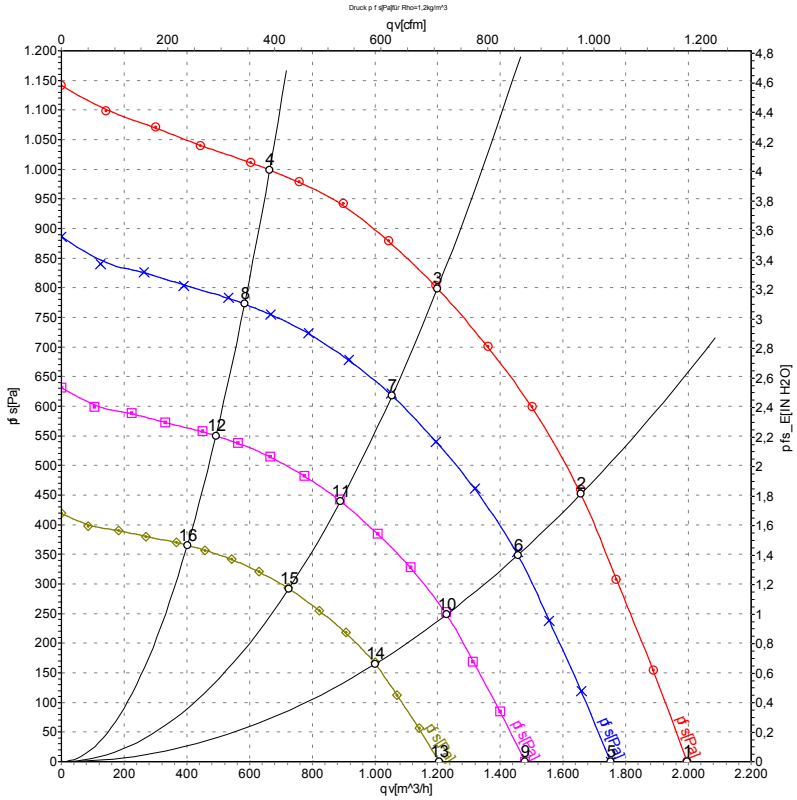
Line	No.	Signal	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, voltage range see rating plate, 50/60 Hz
1	4	L	black	Supply voltage, phase, for voltage range refer to rating plate, 50/60 Hz
2	8	0-10V	yellow	Control input, setpoint 0-10 VDC, full speed with control input open, impedance 100 kOhms, SELV
2	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated, Isink max. 10mA
2	10	P		Not assigned
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for ext. devices (e.g. potentiometer), SELV
2	12	GND	blue	Signal ground for control interface, SELV

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Charts: Air flow 50 Hz



Measurement: LU-131738

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	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	3650	382	1.68	76	85	1995	0
2	230	50	3650	446	1.96	71	80	1655	460
3	230	50	3650	480	2.10	69	77	1200	800
4	230	50	3650	414	1.82	75	83	665	1000
5	230	50	3200	258	1.14	74	82	1750	0
6	230	50	3200	302	1.33	69	77	1455	354
7	230	50	3200	325	1.42	66	74	1055	620
8	230	50	3200	282	1.24	72	81	585	773
9	230	50	2700	155	0.68	70	78	1480	0
10	230	50	2700	182	0.80	65	73	1230	252
11	230	50	2700	195	0.86	62	70	890	441
12	230	50	2700	169	0.74	68	77	495	550
13	230	50	2200	84	0.37	65	74	1205	0
14	230	50	2200	98	0.43	61	69	1000	167
15	230	50	2200	106	0.46	58	66	725	293
16	230	50	2200	92	0.40	64	72	400	365

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 · qv = Air flow
p_{fs} = Pressure increase

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