

# EC centrifugal fan

backward curved, single inlet

R1G250-AQ21-14 ebmpapst Datasheet

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## Nominal data

<b>Type</b>	<b>R1G250-AQ21-14</b>	
<b>Motor</b>	<b>M1G074-CF</b>	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Type of data definition		fa
Speed	min <sup>-1</sup>	2540
Power input	W	93
Current draw	A	4.3
Min. ambient temperature	°C	- 25
Max. ambient temperature	°C	+60

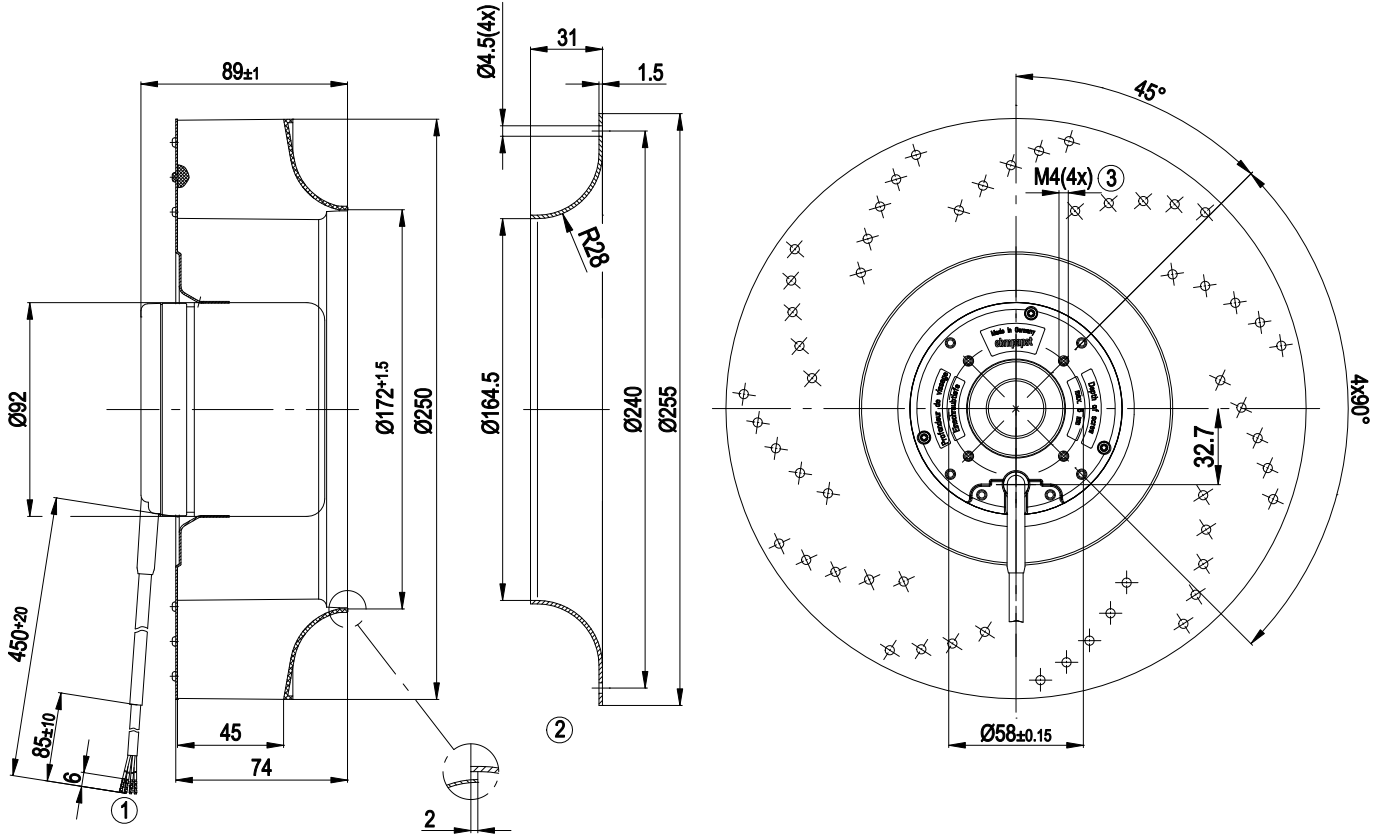
ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit  
 Subject to alterations



### Technical features

Mass	2.14 kg
Size	250 mm
Surface of rotor	Coated in black
Material of impeller	PA plastic, red-brown
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F4-2
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> <li>- Tach output</li> <li>- Motor current limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> </ul>
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B)
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Product conforming to standard	EN 60950-1
Approval	CSA C22.2 Nr.77; UL 1004-1

Product drawing

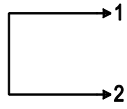


1	Connection line AWG 20, 4 x brass lead tips crimped
2	Accessory part: inlet nozzle 96359-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
3	Depth of screw max. 6 mm

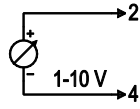
## Connection screen

### Customer circuit

#### Full speed

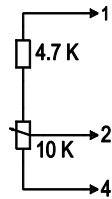


#### Speed setting

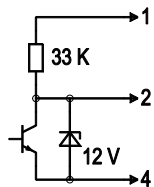


10 V → n = max  
1 V → n = min  
<1 V → n = 0  
Safe start  
at Unom -30%  
from 4 V Ucontr.

#### Speed setting via potentiometer

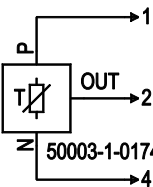


#### Speed setting via PWM 1-10 kHz



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

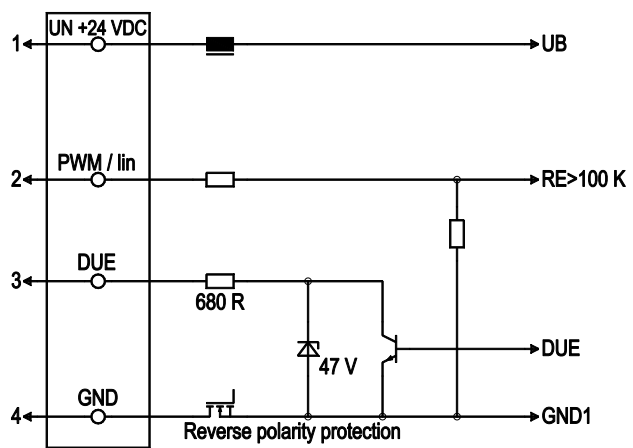
#### Set value via temperature controller



T < 10°C → n = 0  
T > 45°C → n = max

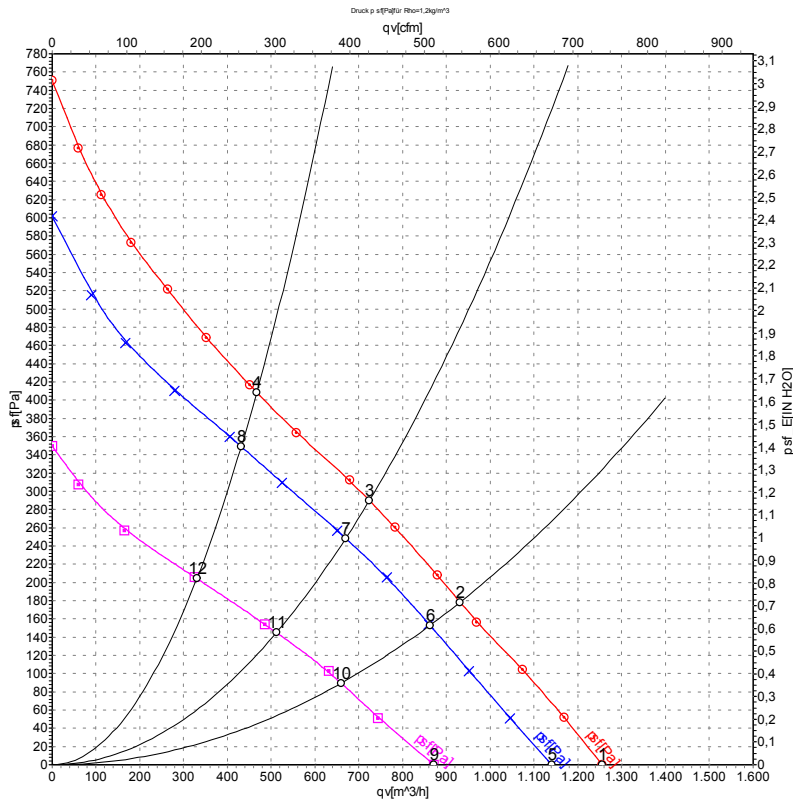
### Connection

### Fan / motor



Line	No.	Signal	Colour	Function / assignment
1	1	Un +24V	red	Power supply 24 VDC, residual ripple 3.5 %
1	2	PWM / lin	yellow	PWM / lin, control input, 0-10 V
1	3	DUE	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference mass

## Charts: Air flow



Measurement: LU-43855  
 Measurement: LU-43854  
 Measurement: LU-43856

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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	n	P <sub>e</sub>	I	qv	p <sub>sf</sub>
	V	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	28	2795	124	4.92	1255	0
2	28	2560	132	5.34	930	178
3	28	2505	134	5.43	725	290
4	28	2550	132	5.33	465	408
5	24	2540	93	4.30	1140	0
6	24	2370	105	4.90	860	150
7	24	2330	108	5.02	670	250
8	24	2375	106	4.91	430	350
9	16	1935	42	3.08	870	0
10	16	1825	49	3.47	660	90
11	16	1795	50	3.57	510	145
12	16	1820	49	3.47	330	204

