EC centrifugal fan - RadiCal®

backward curved, single inlet

R3G310-RNB1-02 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G310-RNB1-02**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
State		prelim.
Speed	min^{-1}	1650
Power input	W	130
Current draw	A	2.7
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	65.4	39.1	43.1
Efficiency grade N		84.3	58	62
Power input P_e	kW	0.16		
Air flow q_v	m^3/h	1405		
Pressure increase p_{fs}	Pa	239		
Speed n	min^{-1}	1550		

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

ebmpapst

EC centrifugal fan - RadiCal®

backward curved, single inlet

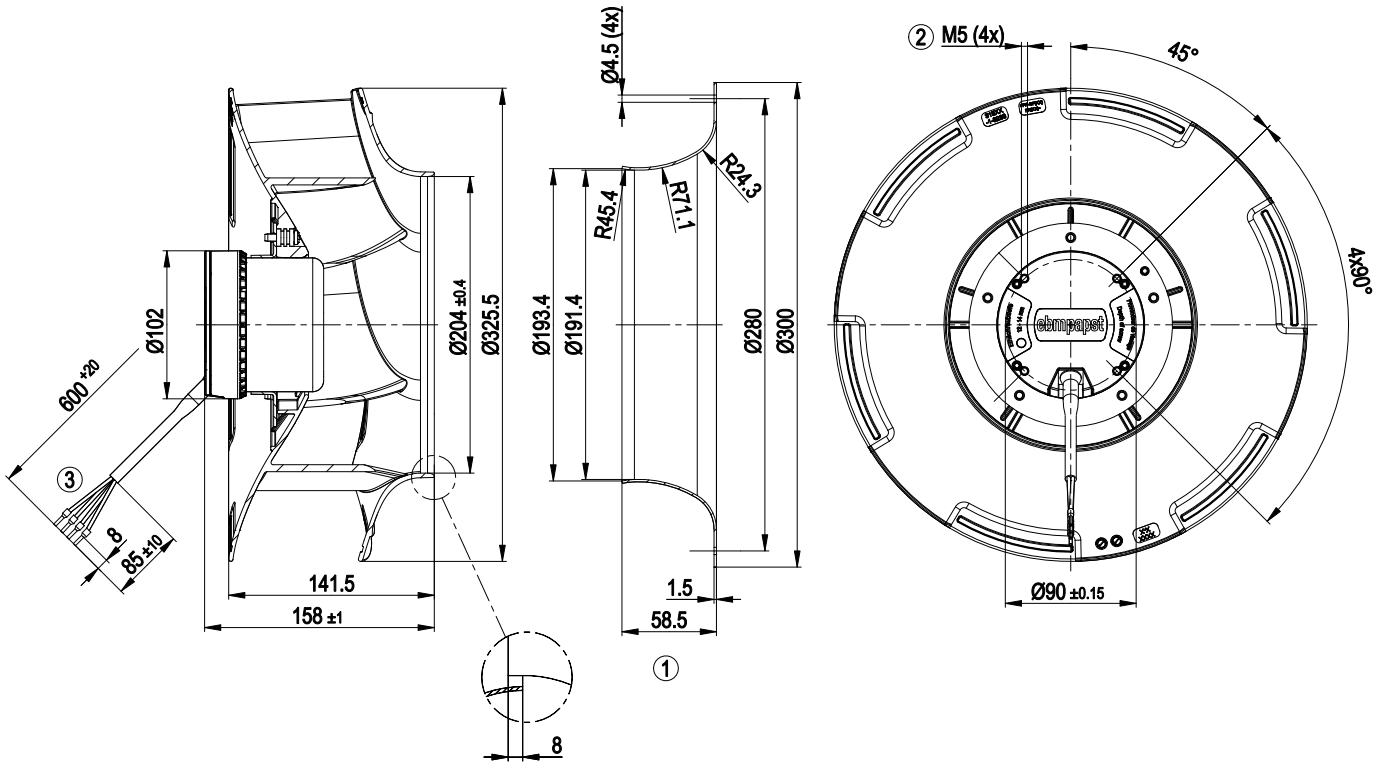
Technical features

Mass	2.83 kg
Size	310 mm
Surface of rotor	Coated in black
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
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	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Product conforming to standard	EN 60950-1
Approval	GOST

EC centrifugal fan - RadiCal®

backward curved, single inlet

Product drawing

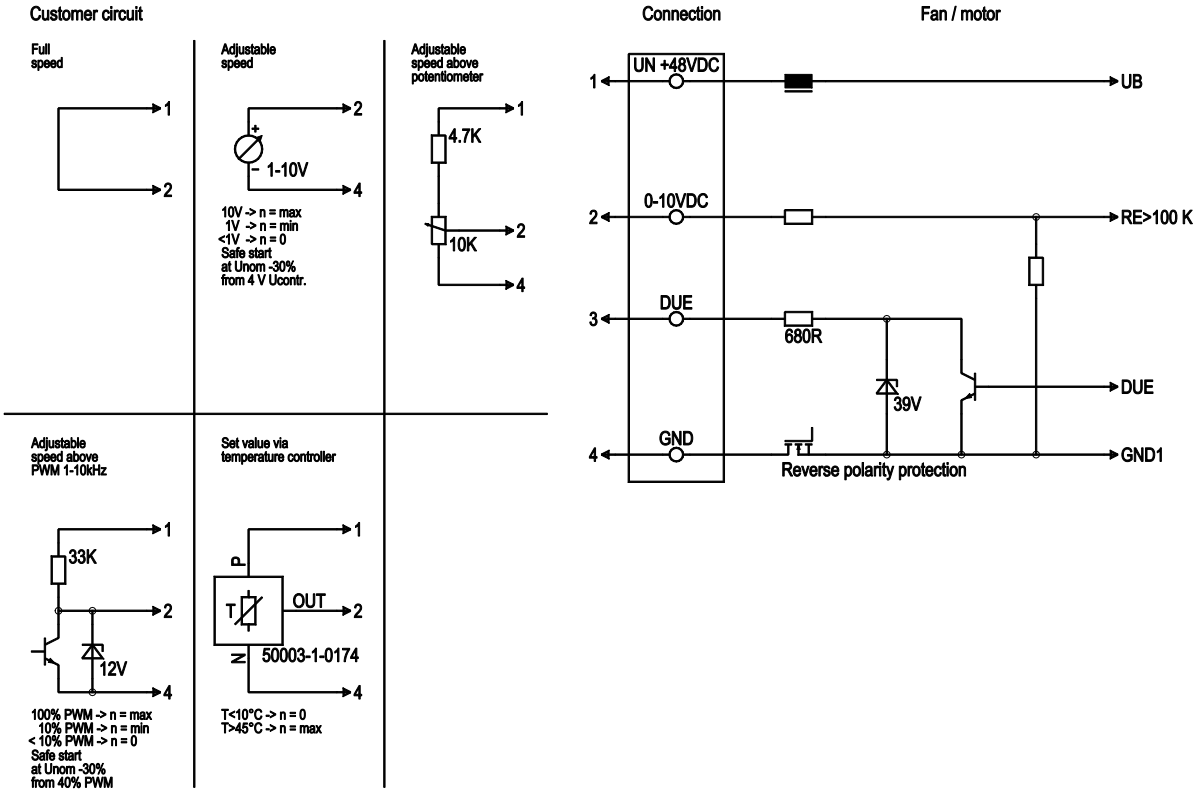


1	Accessory part: Inlet nozzle 31000-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 14 mm
3	Connection line PVC AWG16, 4x crimped core-end sleeves

EC centrifugal fan - RadiCal®

backward curved, single inlet

Connection screen

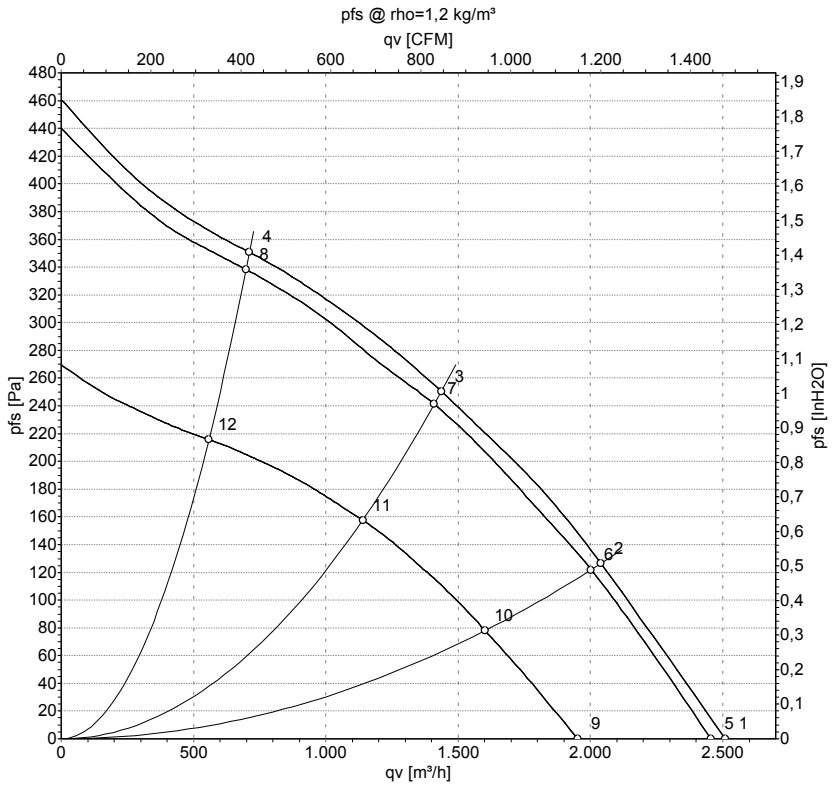


Line	No.	Signal	Colour	Function / assignment
	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
	2	0-10 VDC	yellow	Control input Re>100 K
	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference mass

EC centrifugal fan - RadiCal®

backward curved, single inlet

Charts: Air flow



Measurement: LU-140606
Measurement: LU-140603
Measurement: LU-140609

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	57	1685	139	2.45			2510	0
2	57	1605	164	2.88			2040	127
3	57	1580	174	3.06			1435	251
4	57	1635	155	2.72			710	351
5	48	1650	130	2.70	63	71	2455	0
6	48	1575	154	3.22	58	65	2005	120
7	48	1550	163	3.40	55	63	1410	240
8	48	1605	145	3.02	60	68	700	340
9	36	1320	67	1.88			1950	0
10	36	1275	80	2.23			1600	78
11	36	1260	87	2.40			1140	158
12	36	1290	76	2.11			560	216

U = Supply voltage · 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