

R1G280-AE47-16 ebmpapst Datasheet

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Nominal data

Type	R1G280-AE47-16	
Motor	M1G074-CF	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 58
Type of data definition		fa
Speed	min ⁻¹	1710
Power input	W	95
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+60

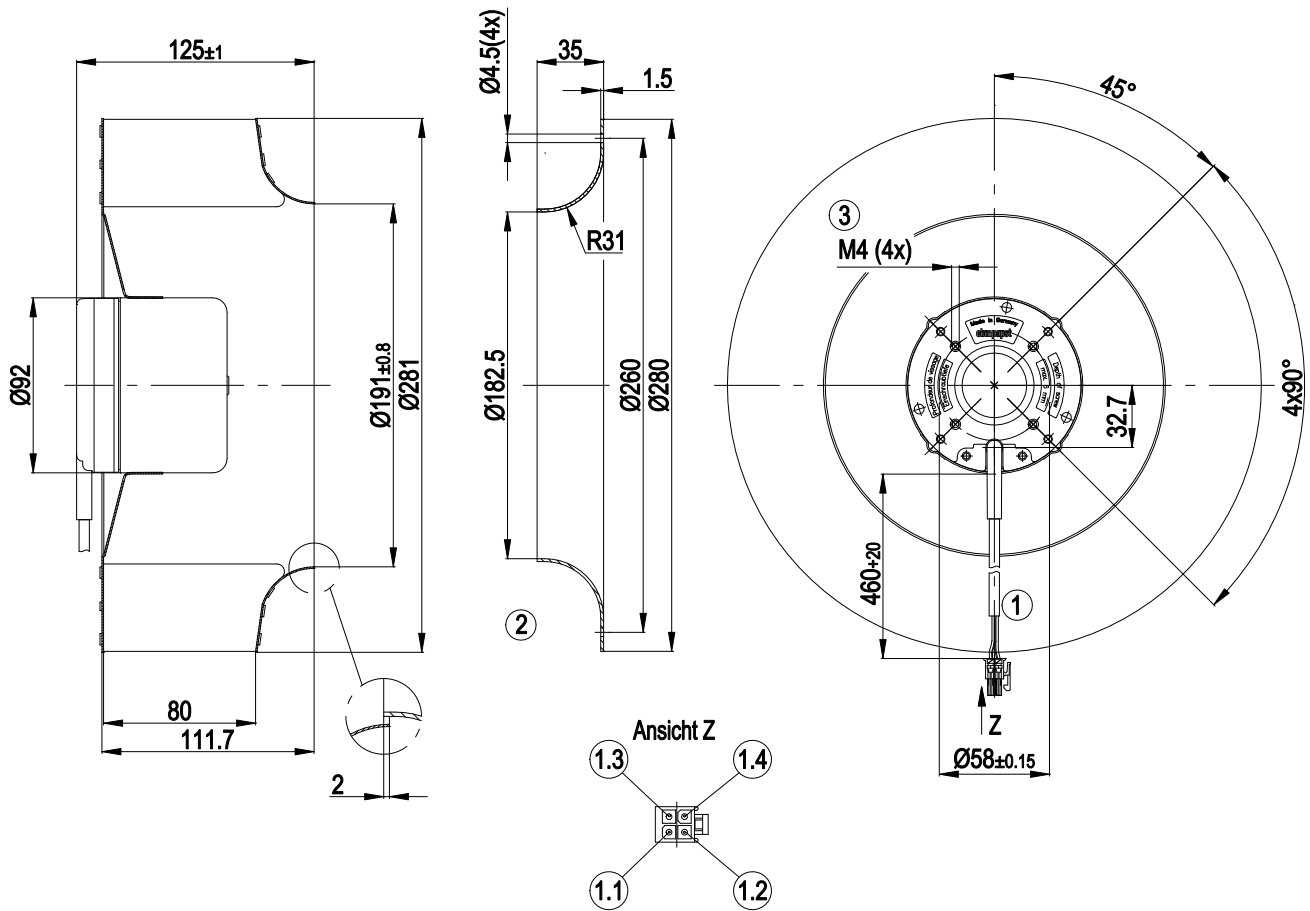
ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit
 Subject to alterations



Technical features

Mass	2.8 kg
Size	280 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, hot-galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 42
Insulation class	"B"
Humidity class	F0
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"> - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B)
Electrical leads	With plug
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Approval	CSA C22.2 Nr.77; UL 1004-1

Product drawing

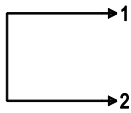


1	Connector housing (Molex 39-01-2040), connection line AWG20 with 4x connector socket (Molex 39-00-0059)
1.1	Control input (yellow)
1.2	S (white)
1.3	(blue)
1.4	+ (red)
2	Accessory part: Inlet nozzle 96360-2-4013, not included in the standard scope of delivery
3	Depth of screw max. 6 mm

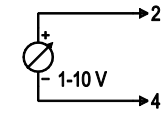
Connection screen

Customer circuit

Full speed

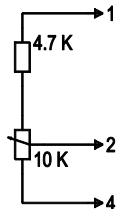


Speed setting

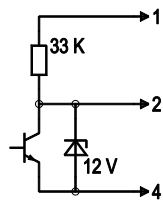


10 V → n = max
 1 V → n = min
 <1 V → n = 0
 Safe start
 at U_{nom} - 30 %
 from 4 V U_{contr}.

Speed setting via potentiometer

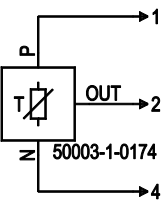


Speed setting via PWM 1-10 kHz



100 % PWM → n = max
 10 % PWM → n = min
 <10 % PWM → n = 0
 Safe start
 at U_{nom} - 30 %
 from 40% PWM

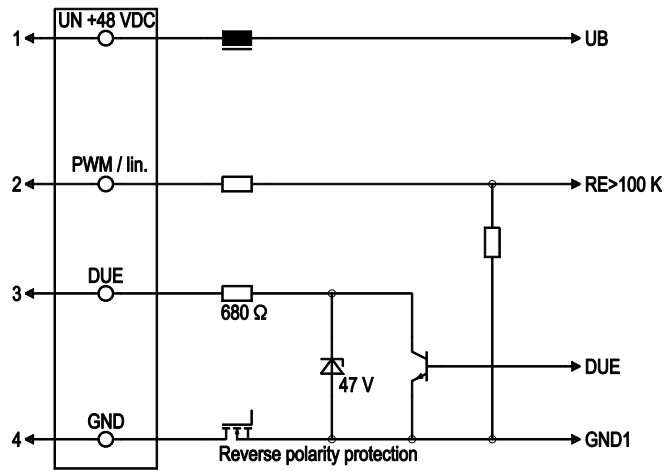
Set value via temperature controller



T < 10 °C → n = 0
 T > 45 °C → n = max

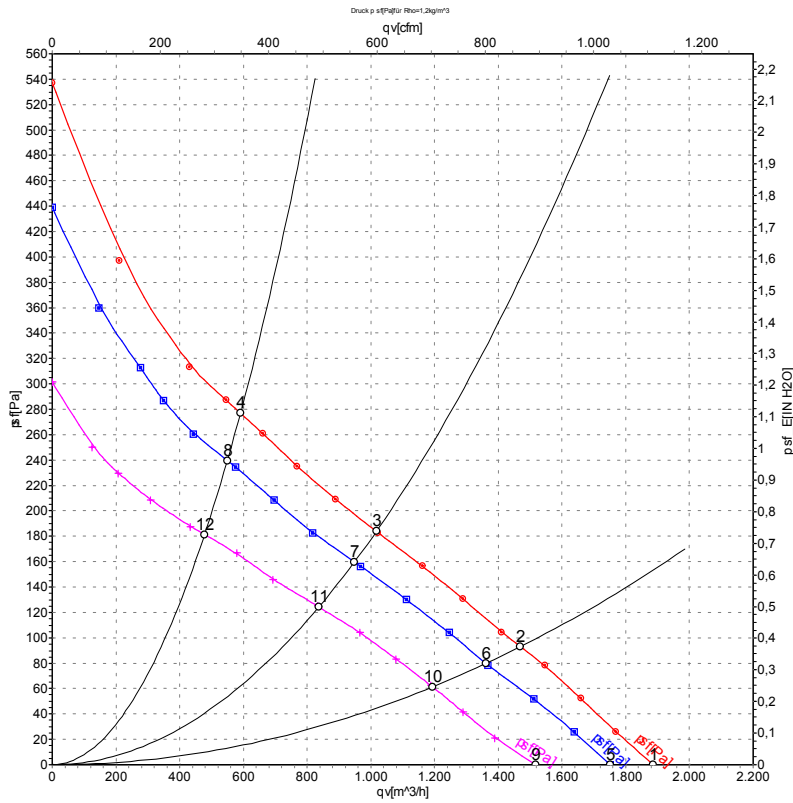
Connection

Fan / motor



Line	No.	Signal	Colour	Function / assignment
1	1	Un +48 VDC	red	Power supply 48 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 rotation, Isink max = 10 mA
1	4	GND	blue	Reference mass

Charts: Air flow



Measurement: LU-54793
 Measurement: LU-54792
 Measurement: LU-54790

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 _e	I	qv	p _{sf}
	V	min ⁻¹	W	A	m ³ /h	Pa
1	57	1845	118	2.54	1885	0
2	57	1695	126	2.76	1470	93
3	57	1620	130	2.87	1020	184
4	57	1755	123	2.66	590	277
5	48	1710	95	2.30	1750	0
6	48	1580	99	2.46	1360	80
7	48	1515	102	2.55	950	160
8	48	1635	98	2.39	550	240
9	36	1480	61	1.90	1515	0
10	36	1385	67	2.10	1195	62
11	36	1335	70	2.19	835	124
12	36	1420	64	2.01	480	181

