

R1G280-AE47-52

EC centrifugal fan

backward-curved, single-intake



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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R1G280-AE47-52	
Motor	M1G074-CF	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	1710
Power consumption	W	95
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

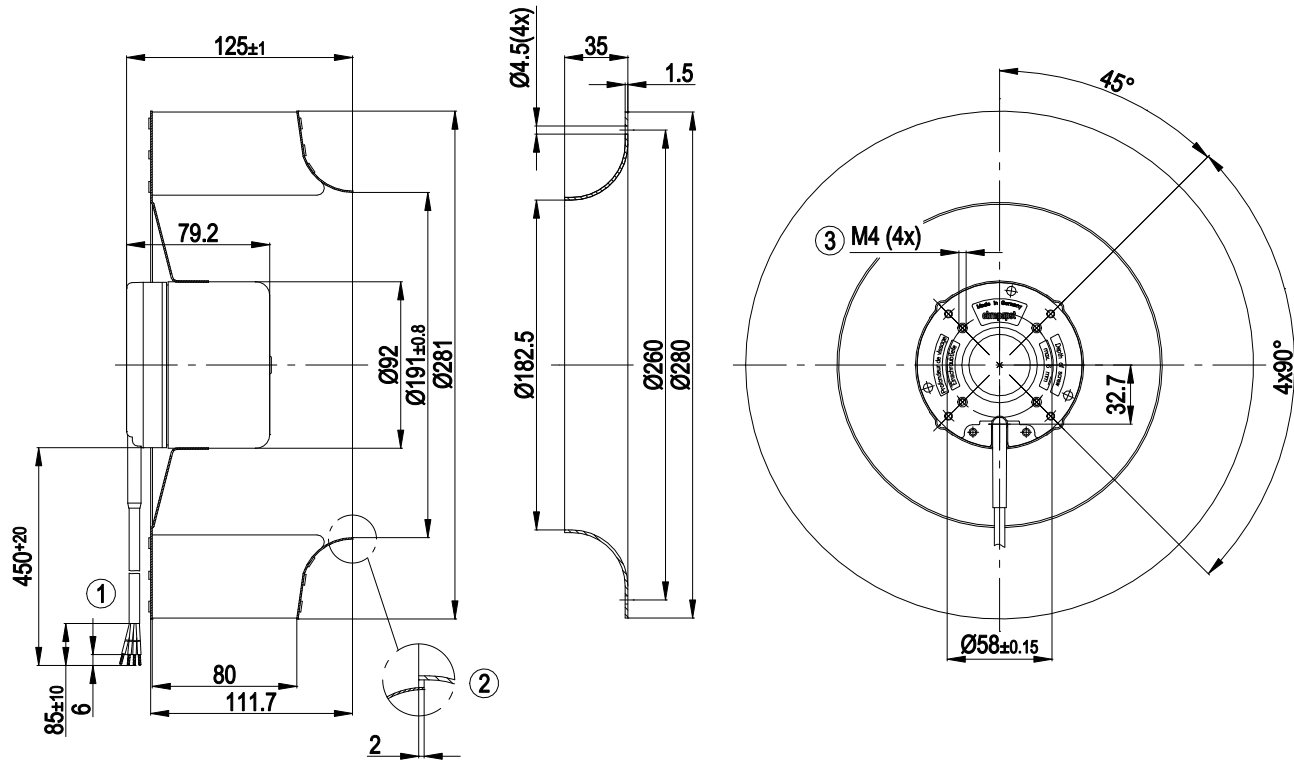
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change



Technical description

Weight	2.8 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP42
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F0
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM
Motor protection	Reverse polarity and locked-rotor protection
With cable	Variable
Conformity with standards	EN 60950-1
Approval	CSA C22.2 No. 77; UL 1004-1; EAC

Product drawing

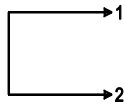


1	Cable AWG20, 4x crimped splices
2	Accessory part: inlet ring 96360-2-4013 not included in scope of delivery
3	Max. clearance for screw 6 mm

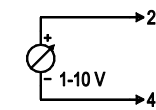
Connection diagram

Customer circuit

Full speed

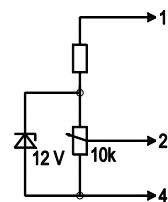


Adjustable speed

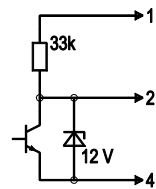


10 V → n = max
 1 V → n = min
 < 1 V → n = 0
 Safe start
 at Unom -30%
 from 4 V Ucontr.

Speed adjustable via potentiometer

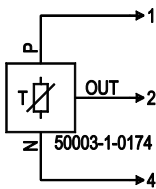


Speed adjustable via PWM 1-10 kHz



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

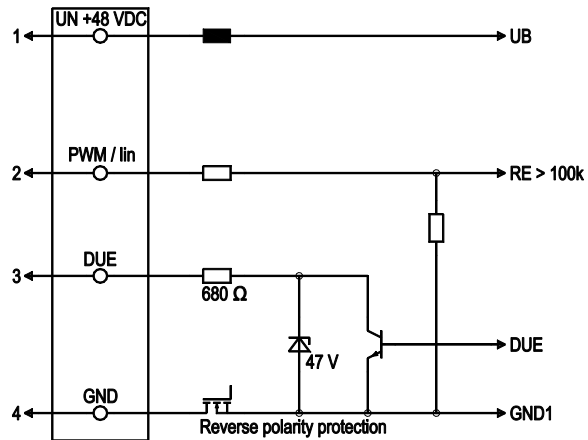
Set value requirement via ebm-papst temperature controller



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

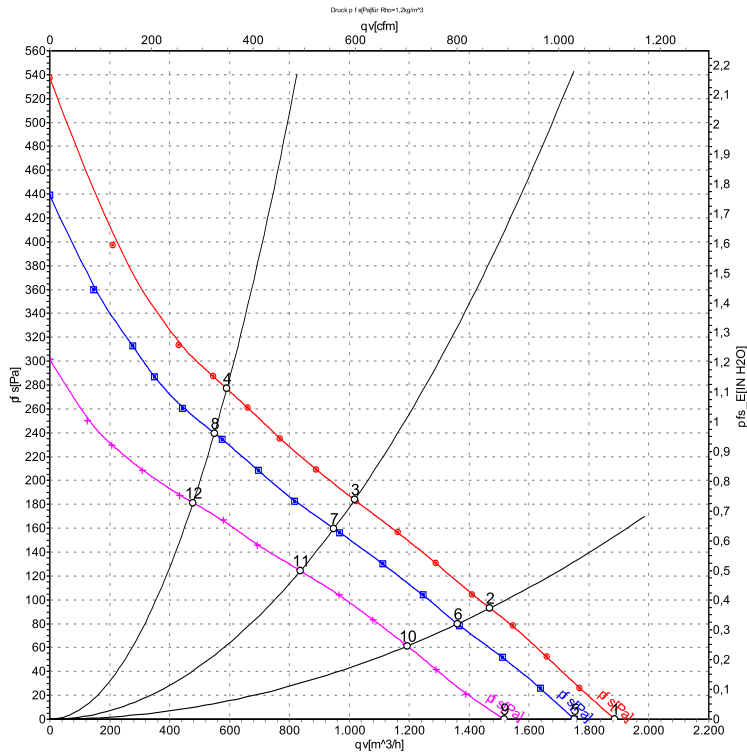
Connection

Fan / Motor



No.	Conn.	Designation	Color	Function/assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
1	2	PWM / lin	yellow	PWM / lin. Control input 0-10 V
1	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

Curves: Air performance



Measurement: LU-54793-1
 Measurement: LU-54792-1
 Measurement: LU-54790-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	n	P _{ed}	I	q _v	p _{fs}	q _v	p _{fs}
	V	min ⁻¹	W	A	m ³ /h	Pa	cfm	inH ₂ O
1	57	1845	118	2.54	1885	0	1110	0.00
2	57	1695	126	2.76	1470	93	865	0.37
3	57	1620	130	2.87	1020	184	600	0.74
4	57	1755	123	2.66	590	277	350	1.11
5	48	1710	95	2.30	1750	0	1030	0.00
6	48	1580	99	2.46	1360	80	800	0.32
7	48	1515	102	2.55	950	160	560	0.64
8	48	1635	98	2.39	550	240	325	0.96
9	36	1480	61	1.90	1515	0	895	0.00
10	36	1385	67	2.10	1195	62	700	0.25
11	36	1335	70	2.19	835	124	495	0.50
12	36	1420	64	2.01	480	181	280	0.73

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

