

R1G133-AA17-02

# EC centrifugal fan

backward-curved, single-intake



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## Nominal data

Type	R1G133-AA17-02	
Motor	M1G055-BD	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min <sup>-1</sup>	3900
Power consumption	W	28
Current draw	A	1.3
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



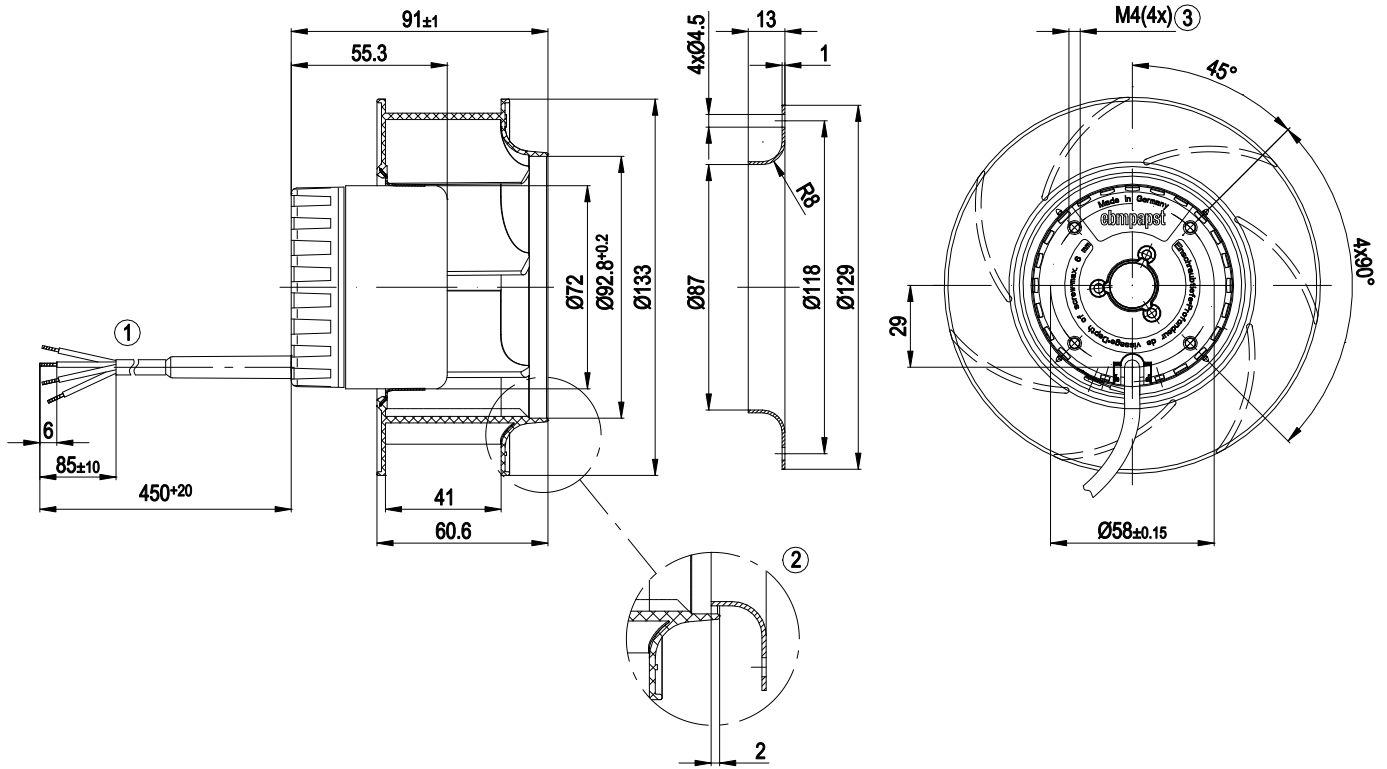
### Technical description

<b>Weight</b>	0.65 kg
<b>Fan size</b>	133 mm
<b>Rotor surface</b>	Thick-film passivated
<b>Electronics housing material</b>	Die-cast aluminum
<b>Impeller material</b>	PA66 plastic, glass-fiber reinforced
<b>Number of blades</b>	7
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP20
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	F0
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Any
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Control input 0-10 VDC / PWM</li> <li>- Tach output</li> <li>- Motor current limitation</li> <li>- Soft start</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment)
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<b>With cable</b>	Variable
<b>Approval</b>	CSA C22.2 No. 77; UL 1004-1; EAC

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## Product drawing



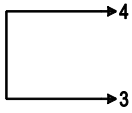
1	Cable AWG20, 4x crimped splices
2	Accessory part: inlet ring 09566-2-4013 not included in scope of delivery
3	Max. clearance for screw 6 mm



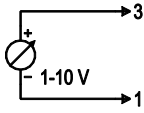
## Connection diagram

### Customer circuit

Full speed

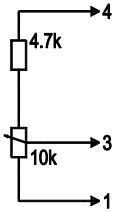


Adjustable speed

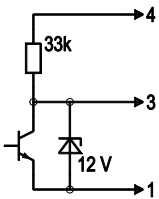


10 V → n = max  
1 V → n = min  
< 1 V → n = 0  
Safe start at Unom -30% from 4 V Ucontr.

Speed adjustable with fixed resistor

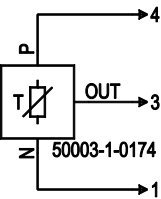


Speed adjustable via PWM 1-10 kHz



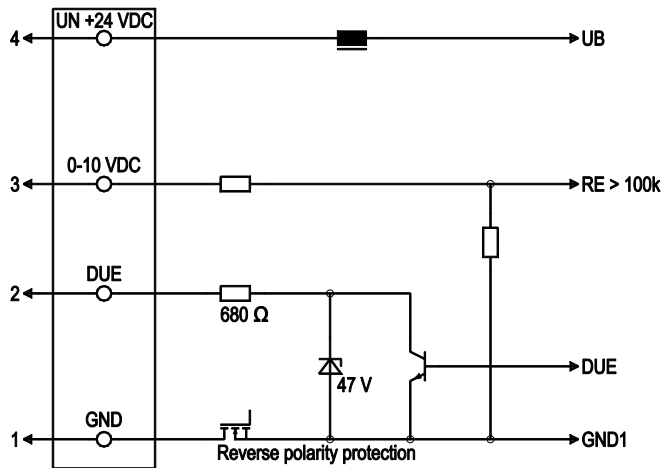
100% PWM → n = max  
10% PWM → n = min  
< 10% PWM → n = 0  
Safe start at Unom -30% from 40% PWM

Set value requirement via temperature controller



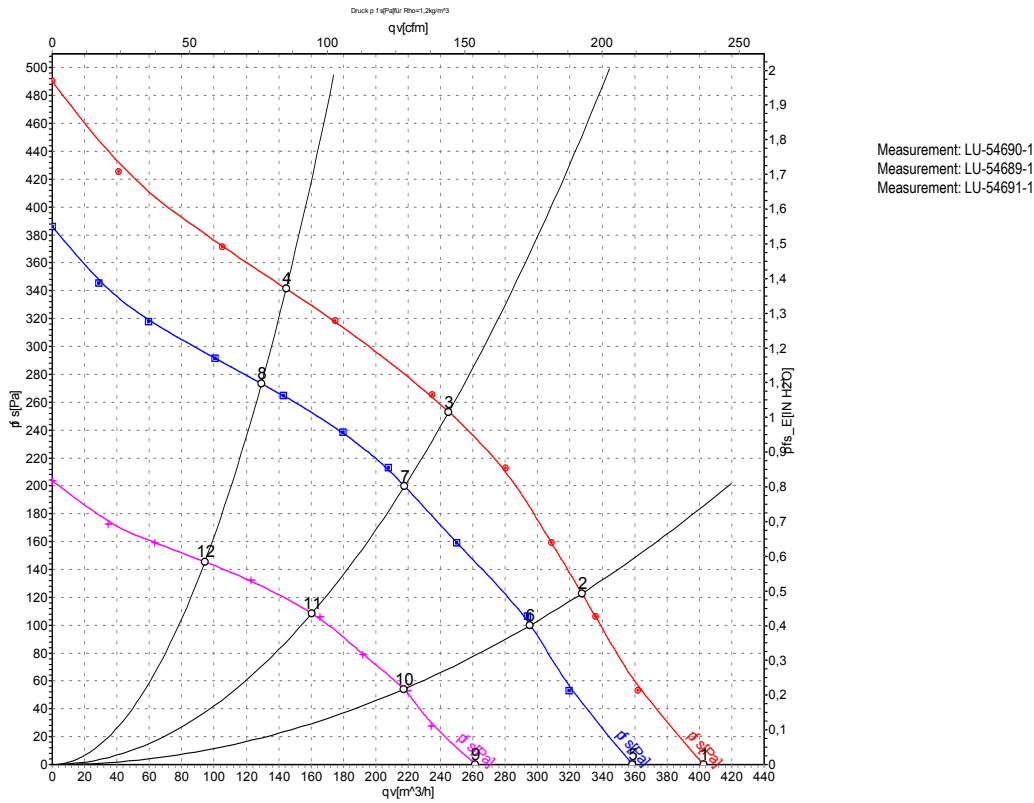
### Connection

### Fan / Motor



No.	Conn.	Designation	Color	Function/assignment
1	1	GND	blue	Reference ground
1	2	Tach	white	Tach output, 2 pulses per revolution, Isink max = 10 mA
1	3	0-10 VDC	yellow	Control input Re > 100k
1	4	Un +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%

## Curves: Air performance



## Measured values

	U	n	P <sub>ed</sub>	I	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
	V	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	CFM	inH <sub>2</sub> O
1	28	4345	36	1.43	405	0	235	0.00
2	28	4170	40	1.60	325	123	190	0.49
3	28	4155	41	1.61	245	253	145	1.02
4	28	4255	38	1.51	145	342	85	1.37
5	24	3900	28	1.30	360	0	210	0.00
6	24	3725	30	1.39	295	100	175	0.40
7	24	3710	30	1.40	220	200	130	0.80
8	24	3800	28	1.32	130	275	75	1.10
9	16	2830	11	0.88	260	0	155	0.00
10	16	2750	13	0.95	215	55	130	0.22
11	16	2745	13	0.95	160	109	95	0.44
12	16	2795	12	0.91	95	145	55	0.58

U = Power supply · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase