R1G225-AF11-21

EC centrifugal fan

backward curved, single inlet



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Nominal data

Type	**R1G225-AF11-21**	
Motor	**M1G074-BF**	
Nominal voltage	[VDC]	48
Nominal voltage range	[VDC]	36 .. 57
Type of data definition		rfa
Speed	[min^{-1}]	2700
Power input	[W]	95
Current draw	[A]	2,2
Min. ambient temperature	[°C]	- 25
Max. ambient temperature	[°C]	+ 60
Air flow	[m^3/h]	1120
Back pressure	[Pa]	0

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

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Technical features

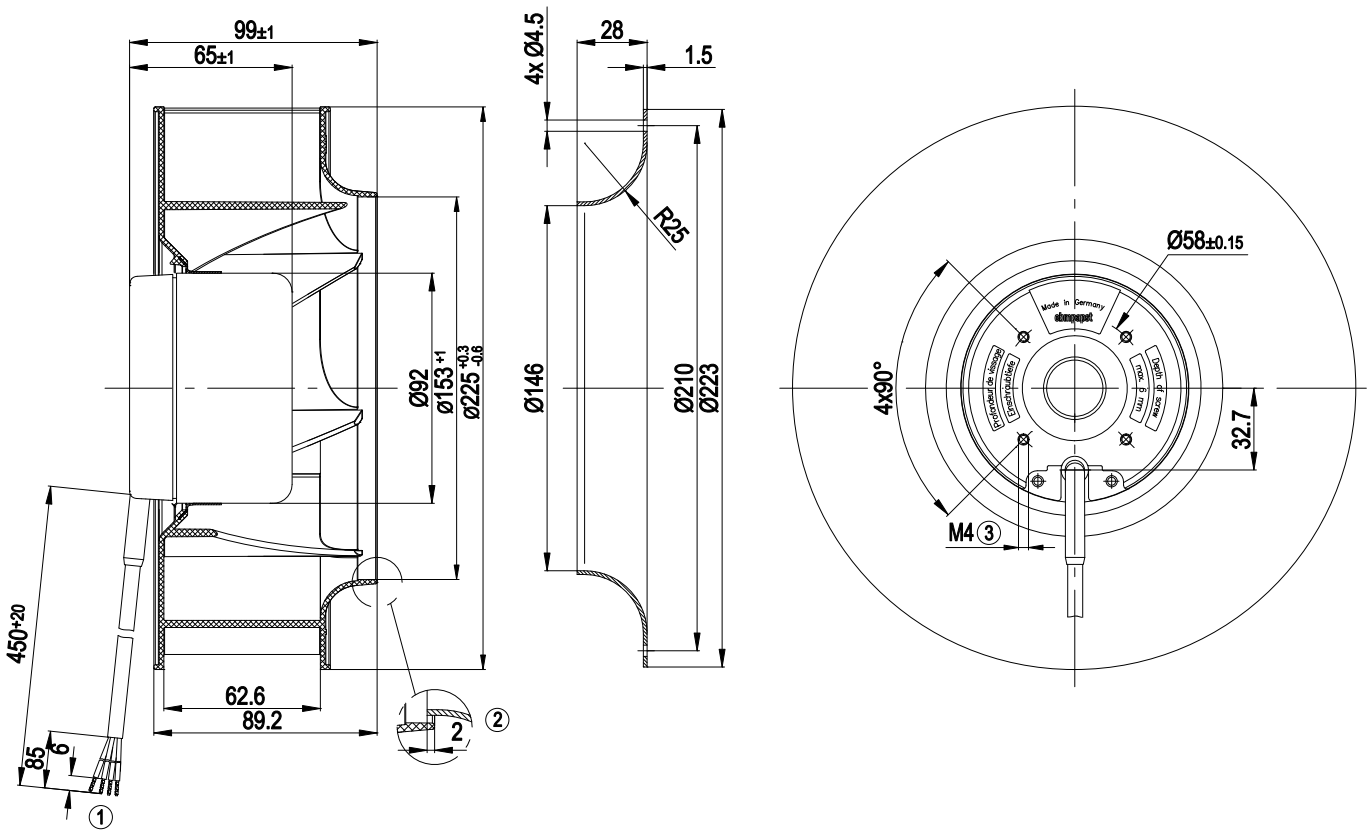
Leackage current	<= 0,25 mA
Size	225 mm
Stability	Salt fog resistant in accordance with TELCORDIA GR-487-CORE, release No. 2, March 2000
Operation mode	S1
Direction of rotation	Clockwise, seen on rotor
Mounting position	Any
EMC interference emission	Acc. to EN 61000-6-3
EMC interference immunity	Acc. to EN 61000-6-2
Insulation class	"B"
Cable exit	Variable
Condensate discharge holes	None
Bearing motor	Ball bearing
Mass	1.5 kg
Material of impeller	Plastic PA66, fibreglass-reinforced, round sheet-metal plate coated in black
Motor protection	Reverse polarity and locked-rotor protection
Product conforming to standard	EN 60950-1
Surface of rotor	Coated in black
Number of blades	7
Type of protection	IP 44 - depending on position
Technical features	- Control input 0-10 VDC / PWM - Tach output - Motor current limit - Soft start
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Approval	CCC; CSA C22.2 Nr.77; UL 1004

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Product drawing



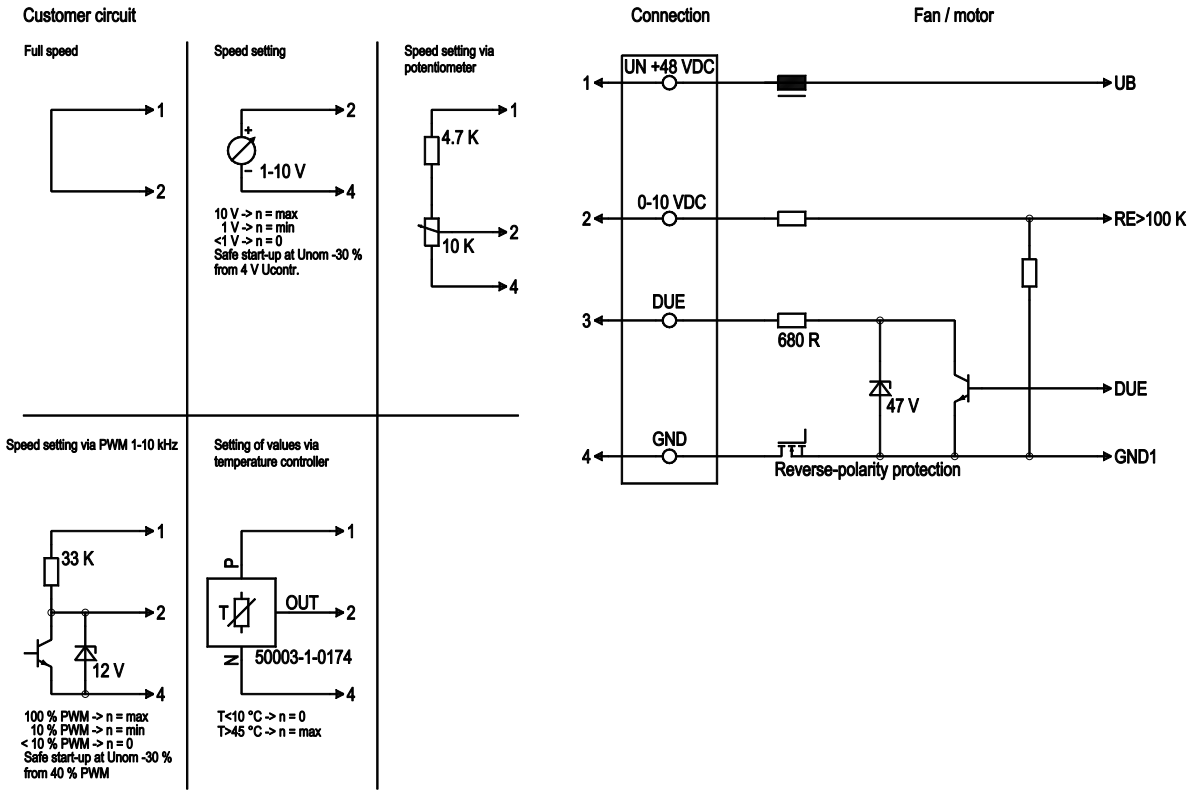
1	Connection line AWG20, 4 x brass lead tips crimped
2	Accessory part: Inlet nozzle 96358-2-4013, not included in the standard scope of delivery
3	Screw depth max. 6 mm

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Connection screen



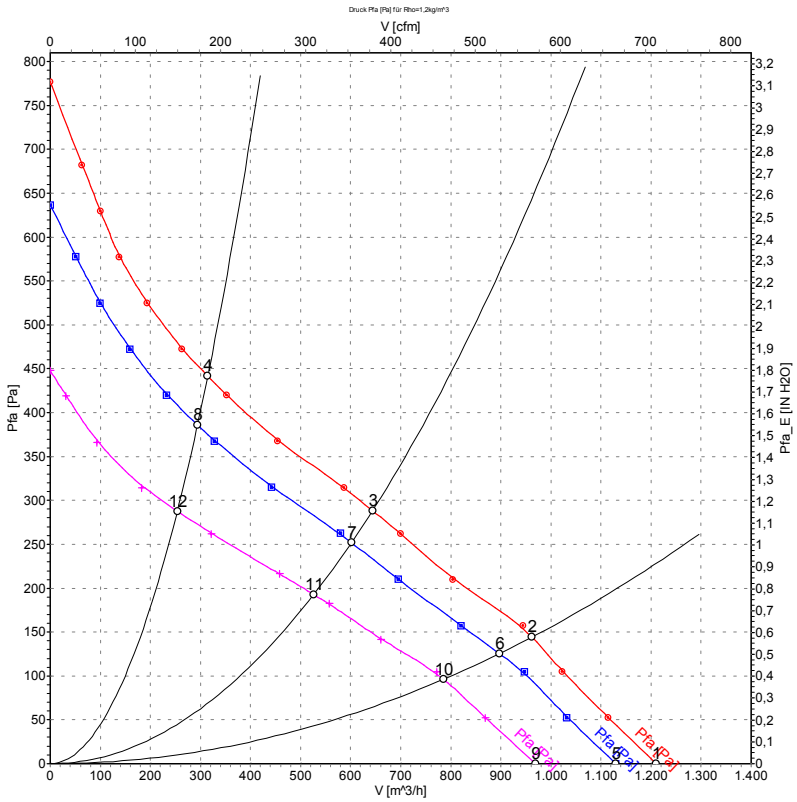
Line	No.	Signal	Colour	Function / assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
1	2	0-10 VDC	yellow	Control input Re > 100 K
1	3	DUE	white	Speed monitoring output, 3 pulses per rotation, Isink max = 10 mA
1	4	GND	blue	Reference mass

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Charts: Air flow



Measurement: LU-53006
Measurement: LU-53007
Measurement: LU-53005

Measured values

	U	n	P_1	I	$\dot{V}$	p_{fa}
	[V]	[min^{-1}]	[W]	[A]	[m^3/h]	[Pa]
1	57	2780	112	2.39	1210	0
2	57	2635	116	2.52	960	146
3	57	2580	117	2.58	645	288
4	57	2755	113	2.42	315	442
5	48	2600	91	2.20	1130	0
6	48	2475	93	2.28	895	126
7	48	2410	95	2.34	600	252
8	48	2580	92	2.21	295	386
9	36	2235	59	1.84	970	0
10	36	2150	63	1.96	785	98
11	36	2115	64	2.00	525	193
12	36	2230	59	1.84	255	288

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TECHNICAL INFORMATION

ball bearing life expectancy calculation

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calculation number:	13050	note:	Data and temperature of bearings based on reference measurements. Calculated for 700 m³/h @ 200 Pa.
date:	10.07.2014		
type:	R1G 225-AF11-21		
motor:	M1G 074-BF -		
customer:	IT		

motor date		general data	
voltage [V]:	48	lubricant :	Asonic GHY 72
frequency [Hz]:	0	rotor side ball bearing :	Kugellager
capacitor [µF]	0	stator side ball bearing :	Kugellager
power [W]:	95	ambient temperature [°C] :	40
speed [1/min]:	2420	probability a1 :	1

operating pos	rotor above	bearing :	rotor side	coeff. of grease a_{23} :	0,80
nominal life expectancy			L_{nh}	= 146910,00	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 118371*	
lubricant life expectancy			t_f	= 61017	

*The life expectancy is limited to 61017 by the lubricant life expectancy.

operating pos	rotor below	bearing :	stator side	coeff. of grease a_{23} :	0,84
nominal life expectancy			L_{nh}	= 146910,00	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 124611*	
lubricant life expectancy			t_f	= 61017	

*The life expectancy is limited to 61017 by the lubricant life expectancy.

operating pos	horizontal shaft	bearing:	rotor side	coeff. of grease a_{23} :	0,80
nominal life expectancy			L_{nh}	= 162960,10	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 131303*	
lubricant life expectancy			t_f	= 61017	

*The life expectancy is limited to 61017 by the lubricant life expectancy.

This calculation only takes influences into account, which occur within the scope of optimal application of the above motor and ventilator type.
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