R3G310-AN12-92

EC centrifugal fan

backward-curved, single-intake

for rail applications

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Nominal data

Type	**R3G310-AN12-92**	
Motor	**M3G084-FA**	
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 145
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2300
Power consumption	W	410
Current draw	A	3.7
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	40

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

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Technical description

Weight	5.4 kg
Fan size	310 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Control input 0-10 VDC / PWM - Output 10 VDC, max. 1.1 mA - Thermal overload protection for electronics/motor - Alarm relay - Line undervoltage detection - Motor current limitation - Soft start
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Conformity with standards	EN 61800-5-1
Approval	CCC

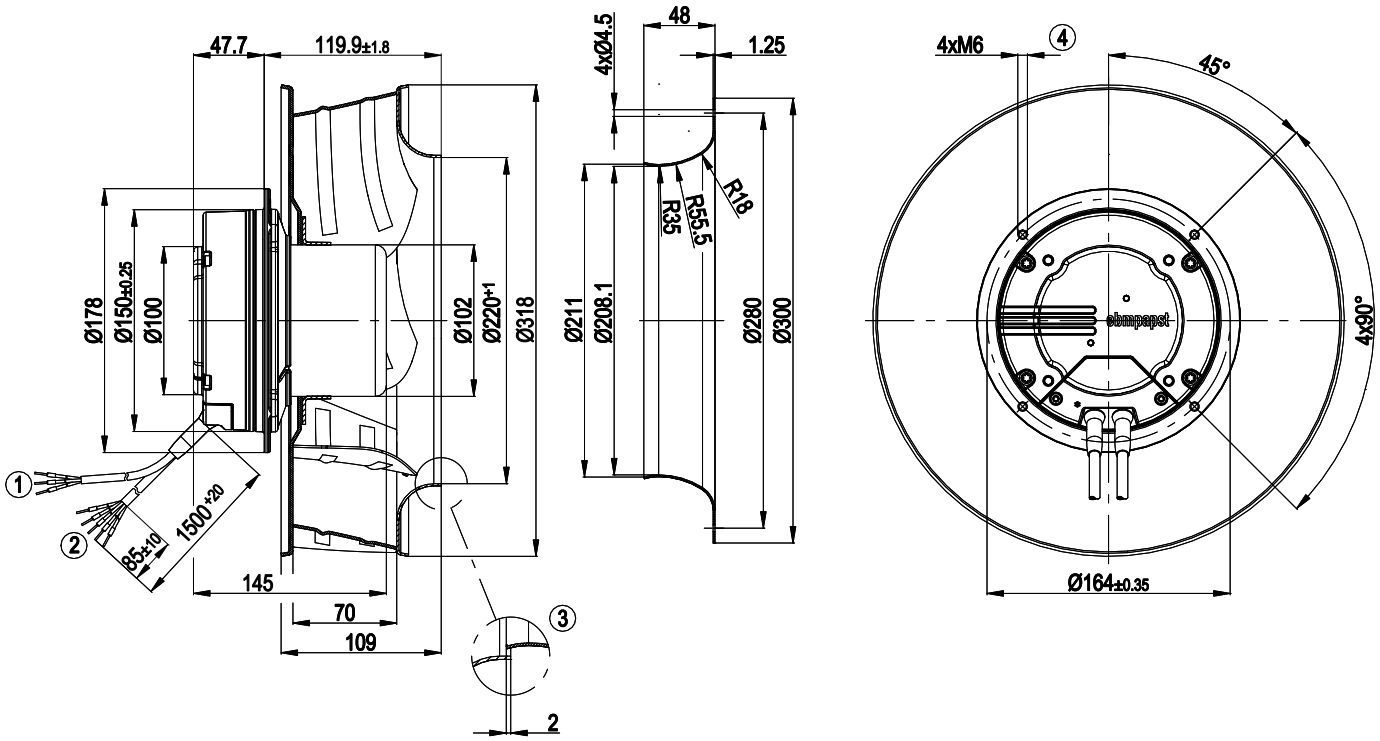
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Product drawing



1	Cable halogen-silicone-free, 3 x 0.33 mm², 3 x crimped ferrules
2	Cable halogen-silicone-free, 5 x 1.00 mm², 5 x crimped ferrules
3	Accessory part: Inlet ring 31050-2-4013 not included in scope of delivery, other inlet rings on request
4	Clearance for screw 8 - 10 mm

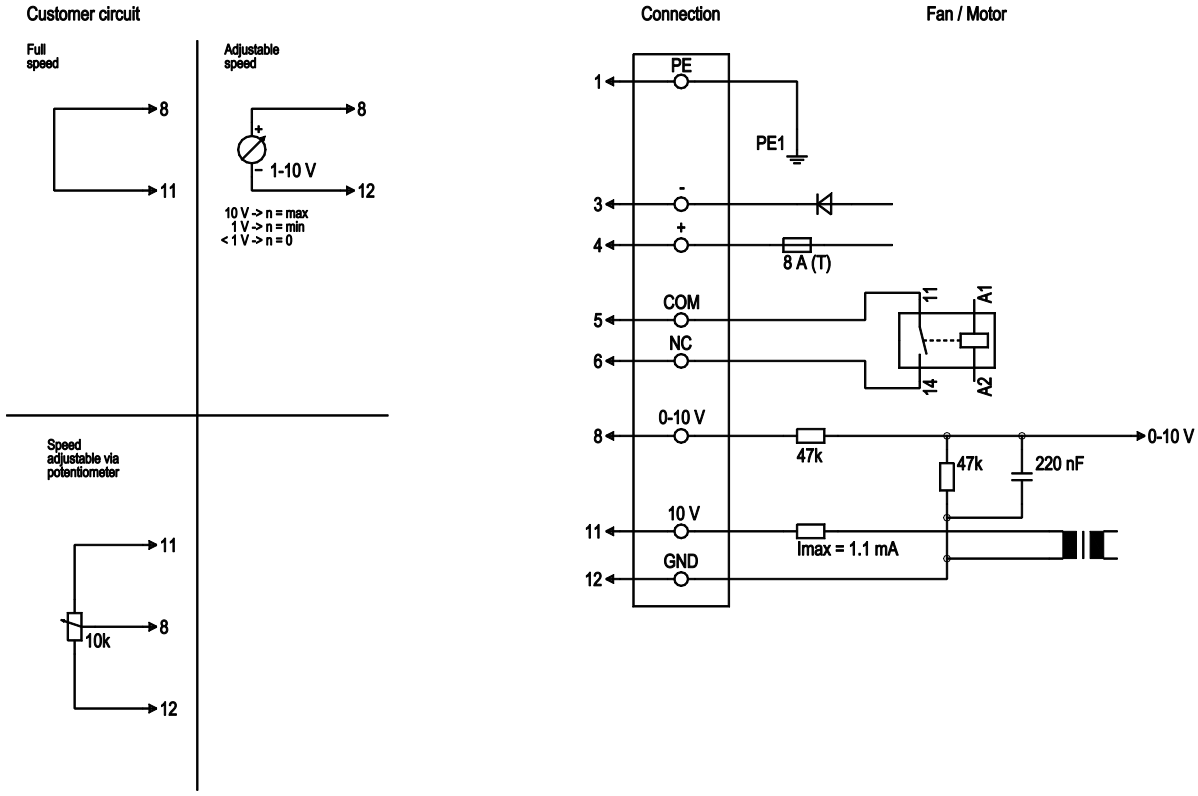
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	PE	green/yellow	Protective earth
1	3	-	blue	Power supply, GND (110 VDC)
1	4	+	red	Power supply, 110 VDC
1	5	NC	white 1	Floating status contact, break for failure
1	6	COM	white 2	Floating status contact, break for failure (0.6 A-110 VDC, 1 A-80 VDC, 3 A-30 VDC)
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (±3%), max. 1.1 mA, power supply for external devices (e.g. potentiometers), SELV
2	12	GND	blue	Reference ground for control interface, SELV

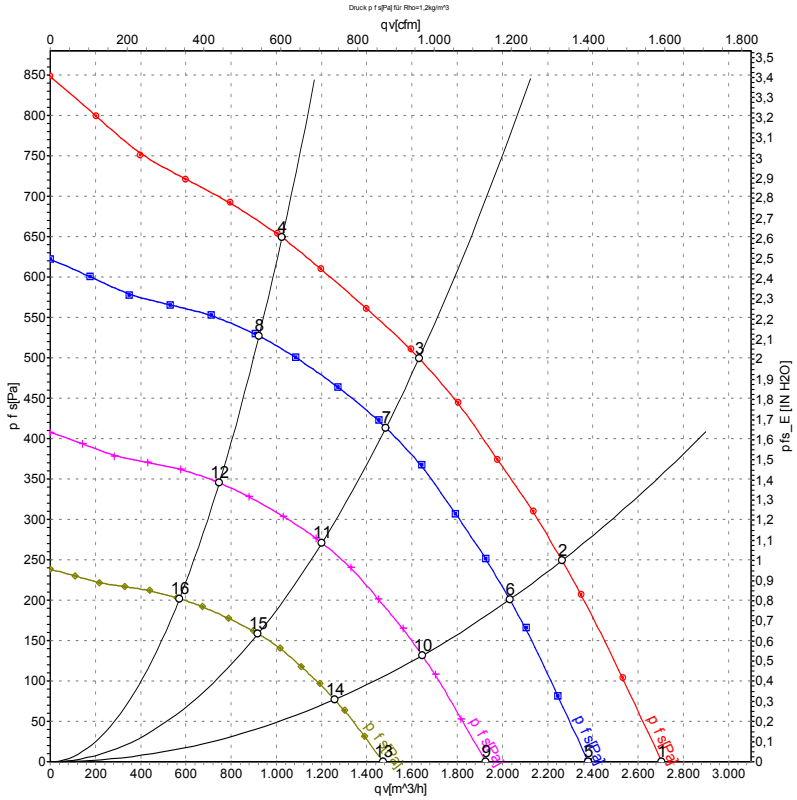
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Curves: Air performance



Measurement: LU-104537-1

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	inH2O
1	110	2385	309	2.80	2705	0	1590	0.00
2	110	2340	369	3.35	2265	250	1335	1.00
3	110	2300	410	3.70	1630	500	960	2.01
4	110	2330	385	3.50	1025	650	605	2.61
5	110	2100	211	1.91	2380	0	1400	0.00
6	110	2100	267	2.43	2030	201	1195	0.81
7	110	2100	308	2.80	1485	414	875	1.66
8	110	2100	282	2.56	925	527	545	2.12
9	110	1700	112	1.01	1925	0	1135	0.00
10	110	1700	142	1.29	1645	132	970	0.53
11	110	1700	163	1.48	1200	271	705	1.09
12	110	1700	150	1.36	750	346	440	1.39
13	110	1300	50	0.45	1475	0	870	0.00
14	110	1300	63	0.58	1260	77	740	0.31
15	110	1300	73	0.66	920	159	540	0.64
16	110	1300	67	0.61	570	202	335	0.81

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

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