R3G310-AJ33-93

EC centrifugal fan

backward curved, single inlet

for railway applications

R3G310-AJ33-93 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G310-AJ33-93**	
Motor	**M3G084-DF**	
Phase		1~
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Type of data definition		fa
Speed	min^{-1}	2425
Power input	W	340
Current draw	A	3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+40

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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive integrated	No
Specific ratio*	1,01

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		57,5	44,2	48,2
Efficiency grade N		71,3	58	62
Power input P_e	kW	0,48		
Air flow q_v	m^3/h	1810		
Pressure increase p_{fs}	Pa	506		
Speed n	min^{-1}	2405		

Data established at point of optimum efficiency

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Technical features

Mass	5.3 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Alarm relay - Cable break detection with control line - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Over-temperature protected electronics / motor - Line undervoltage detection
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1

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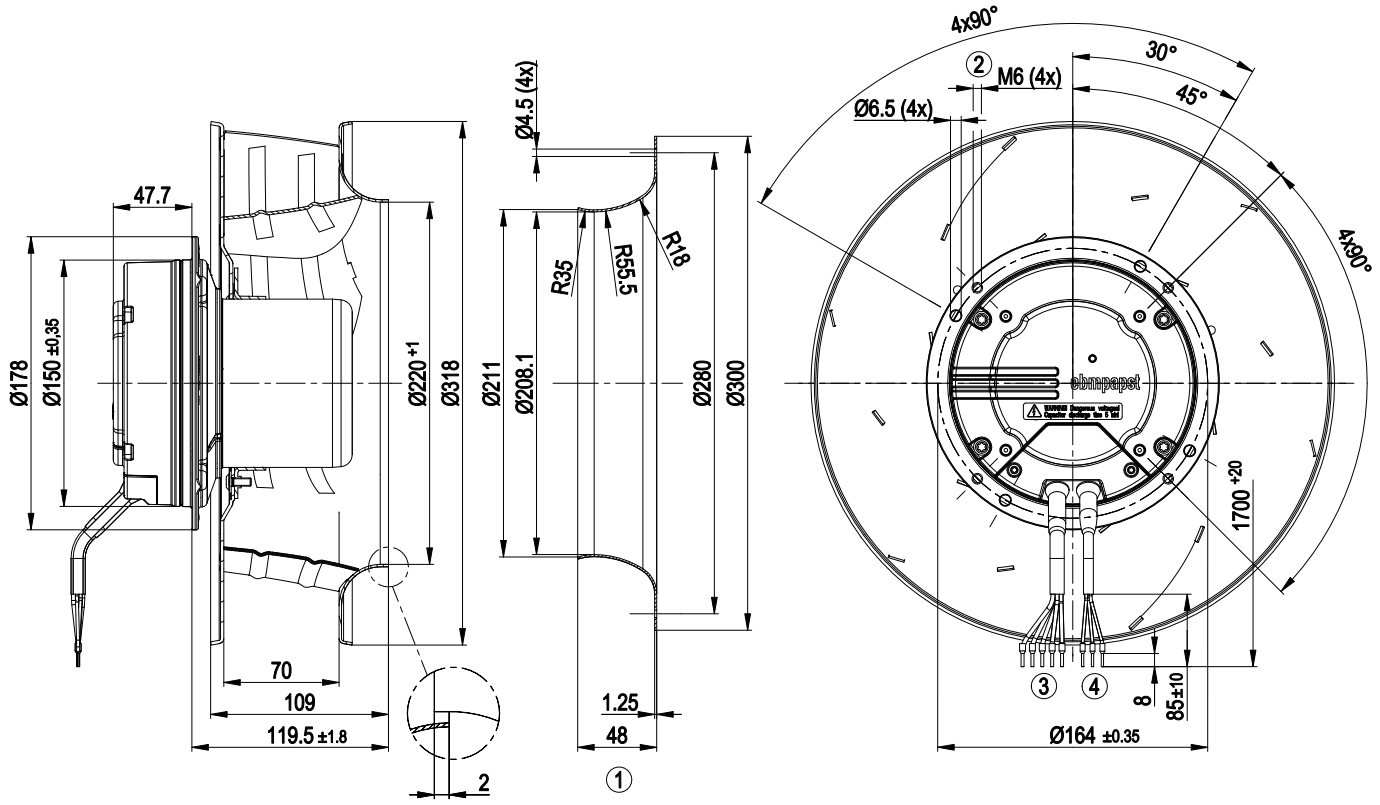
Product drawing



1	Accessory part: Inlet nozzle 31050-2-4013, not included in the standard scope of delivery
2	Depth of screw 8 - 10 mm
3	Connection line XLPO 5G 1.0 mm², 5x crimped core-end sleeves
4	Connection line XLPO 3G 0.33 mm², 3x crimped core-end sleeves

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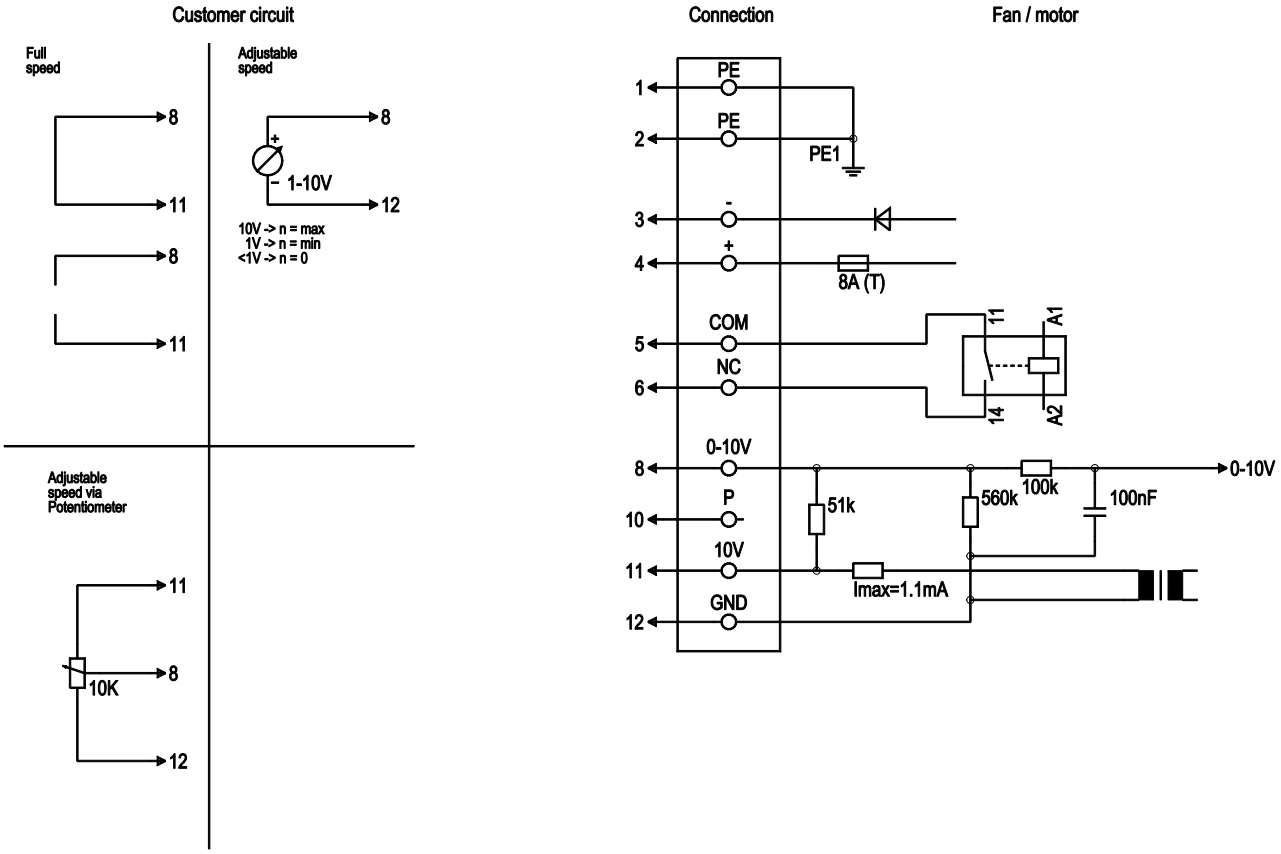
Connection screen



Line	No.	Signal	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	-	blue	Supply voltage, GND (110 VDC)
1	4	+	red	Supply voltage, 110 VDC
1	5	COM	white 1	Floating status contact, break for failure (0.6 A-110 VDC, 1 A-80 VDC, 3 A-30 VDC)
1	6	NC	white 2	Floating status contact, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	10	P	orange	Not assigned
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 1.1 mA, supply voltage for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface, SELV

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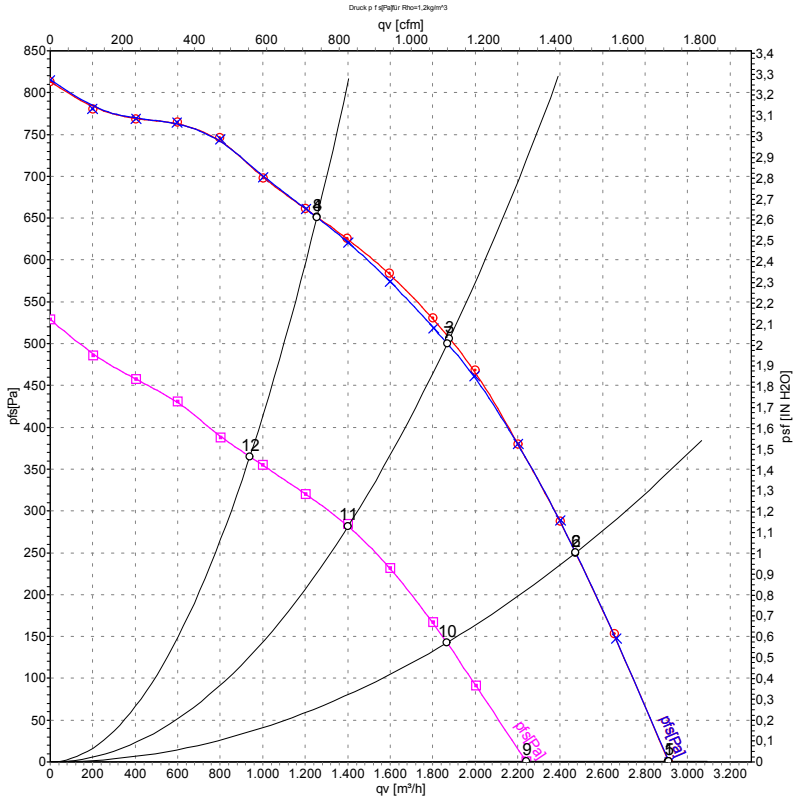
Charts: Air flow



Measurement: LU-141311
Measurement: LU-141306
Measurement: LU-141310

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_{ed}	I	qv	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa
1	138	2425	340	2.44	2910	0
2	138	2420	430	3.12	2475	250
3	138	2420	497	3.61	1880	506
4	138	2420	476	3.45	1255	650
5	110	2425	340	3.00	2910	0
6	110	2420	430	3.90	2475	250
7	110	2410	488	4.43	1870	500
8	110	2420	475	4.31	1255	650
9	77	1870	159	2.06	2240	0
10	77	1830	187	2.43	1865	143
11	77	1805	208	2.69	1400	284
12	77	1805	202	2.62	940	365