

8300102014
VBH0225SSNFS

EC centrifugal module - RadiCal

backward-curved, single-intake
with support bracket

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Nominal data

Item	8300102014	
Motor	E07434-29	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	4800
Power consumption	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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

Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	69.2	48.1	09 Power consumption P_{ed}	kW	0.47
02 Measurement category		A		09 Air flow q_v	m ³ /h	1450
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	736
04 Efficiency grade N		83.1	62	10 Speed (rpm) n	min ⁻¹	4815
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-230308

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Size	225 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, coated with black plastic (RAL 9005)
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1 = Moist – occasional or constantly high level of humidity
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, open rotor
Motor bearing	Ball bearing
Technical features	- Locked-rotor detection - Speed control - Alarm relay - Power limiter - Motor current limitation - PFC, active - Soft start - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Power Factor Correction (PFC)	Active
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Lateral
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE; UKCA

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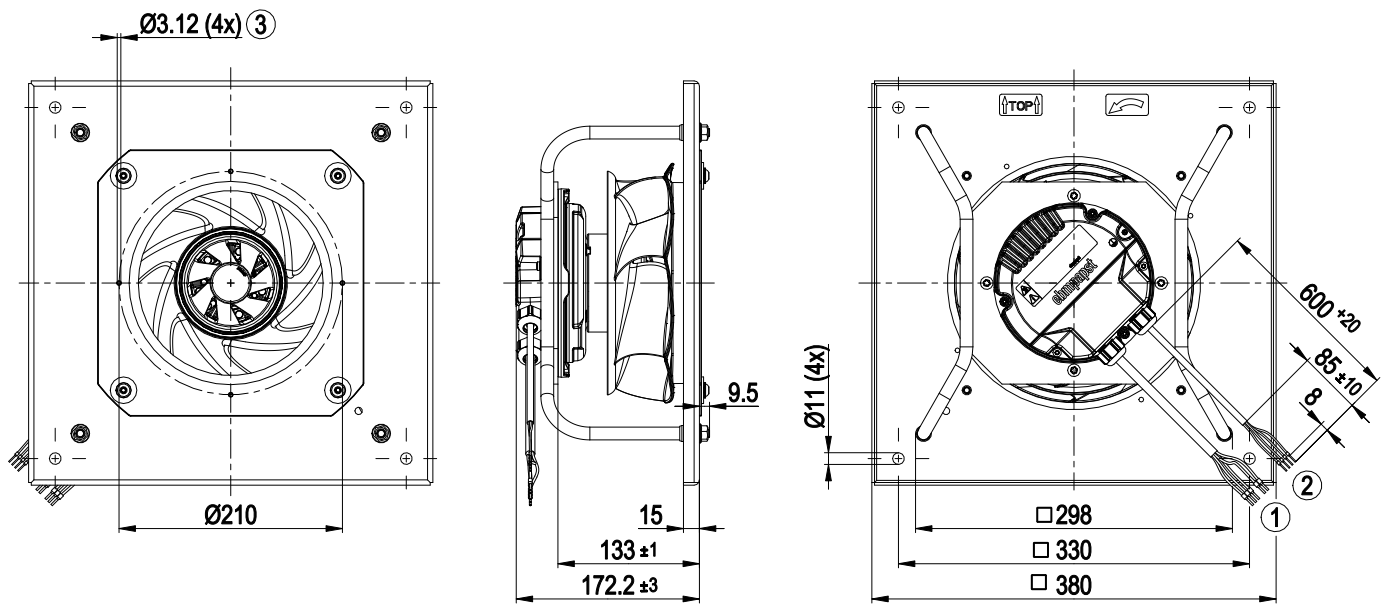
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Product drawing



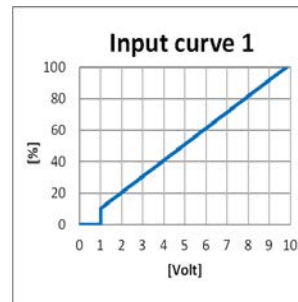
1	Supply line (PWR) PVC AWG18 5x wire-end ferrule
2	Control wire (CTRL) PVC AWG22 4x wire-end ferrule
3	Fastening holes for FlowGrid 8217118468 (not included in scope of delivery) are provided and must be subsequently opened as required

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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	PE	green/yellow	Protective earth
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	COM	orange	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	PWR	NC	orange	Status relay, floating status contact, break for failure
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, I _{max} =10 mA Short-circuit-proof, power supply for external devices, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V / PWM, R _i =100 kΩ, function: set value Characteristic curve parameterizable (see input characteristic curve "Input curve 1"), SELV Function parameterizable at the factory (see table Optional interface functions)
	CTRL	IO2	white	Factory setting: Open collector output, U _{max} =50 VDC, I _{max} =20 mA, function:Tacho output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)

Terminal/plug assignment

		electrical specification		INPUT		OUTPUT			
configurable IO mode		active: parametrizable voltage x - 30 VDC not active: pin open or parametrizable voltage < x VDC, SELV		switch: parameter set: #1 / #2		signal: tach out		signal: configurable function	
Din1 (high active): digital input		Ri = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1 k - 10 kHz, SELV		switch: direction of rotation: cw / ccw		configurable function		signal: alarm out	
Ain1 0-10 V/PWM: analog input		Umax = 50 VDC, Imax = 20 mA, SELV		switch: enable/disable input		signal: diagnostics out		signal: run monitoring	
Tach out (open collector)		Umax = 50 VDC, Imax = 20 mA, SELV				signal: tach out		signal: status	
Diagnostics out (open collector)		Umax = 50 VDC, Imax = 20 mA, SELV							
Alarm out (open collector)		Umax = 50 VDC, Imax = 20 mA, SELV							
Open collector		Umax = 50 VDC, Imax = 20 mA, SELV							
Relais		250 VAC / 2 A (AC1)							
Voltage output		Voltage 10 VDC, SELV							
Vout									

Basic (B5)

Factory configuration option upon request

o factory configuration option

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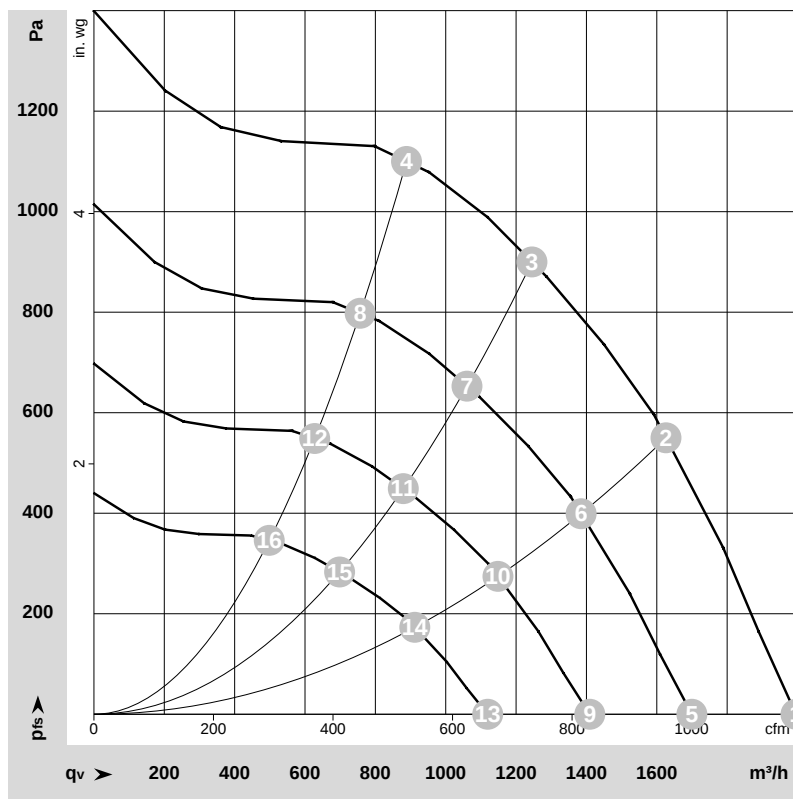
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Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-230308-1

Date: 2024-01-19

Nozzle: 8217118485

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

	Wired	U	f	n	P _e	I	LpA _{in}	LwA _{in}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	1~	230	50	4815	292	1.30	74	82	1995	0	1175	0.00
2	1~	230	50	4815	438	1.93	70	78	1625	550	955	2.21
3	1~	230	50	4815	503	2.21	69	77	1245	900	735	3.61
4	1~	230	50	4815	497	2.18	72	81	890	1100	525	4.42
5	1~	230	50	4100	181	0.80	70	78	1700	0	1000	0.00
6	1~	230	50	4100	271	1.19	66	74	1385	399	815	1.60
7	1~	230	50	4100	311	1.36	65	73	1060	653	625	2.62
8	1~	230	50	4100	307	1.35	68	77	755	798	445	3.20
9	1~	230	50	3400	103	0.46	66	74	1410	0	830	0.00
10	1~	230	50	3400	154	0.68	62	70	1150	274	675	1.10
11	1~	230	50	3400	177	0.78	60	68	880	449	515	1.80
12	1~	230	50	3400	175	0.77	64	72	630	549	370	2.20
13	1~	230	50	2700	52	0.23	60	68	1120	0	660	0.00
14	1~	230	50	2700	77	0.34	56	64	910	173	535	0.69
15	1~	230	50	2700	89	0.39	54	63	700	283	410	1.14
16	1~	230	50	2700	88	0.38	58	66	500	346	295	1.39

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_v = Air flow · p_{fs} = Pressure increase