

8300101453
VBH0250SSLES

EC centrifugal module - RadiCal

backward-curved, single-intake
with housing

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Nominal data

Item	8300101453	
Motor	E06001-23	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml/ce
Status		prelim.
Speed (rpm)	min ⁻¹	2000
Power consumption	W	85
Current draw	A	0.7
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

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	0.001 kg
Size	250 mm
Motor size	60
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Housing material	PP plastic
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
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
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Locked-rotor detection - Tach output - Speed control - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 60335-1; EN 60034-1; EN 60204-1; CE; UKCA
Comment on CE	Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.

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Approval

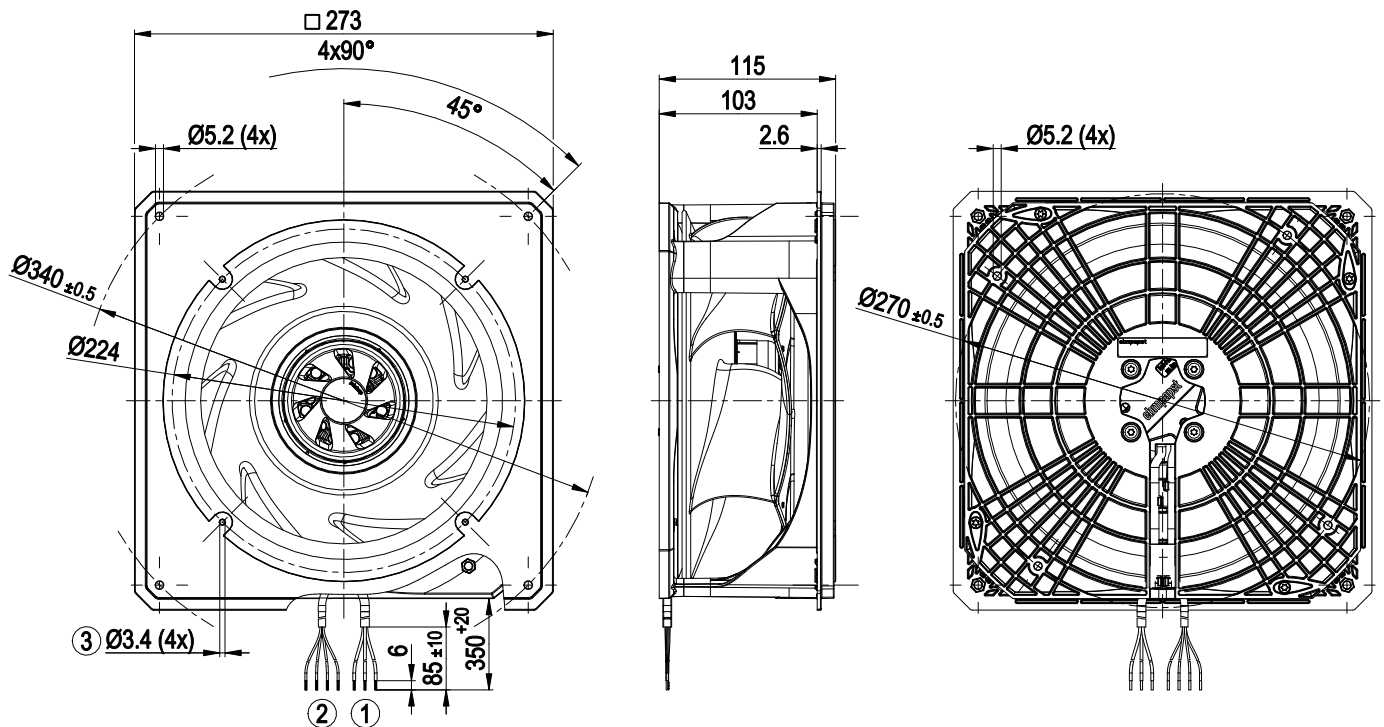
CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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Product drawing

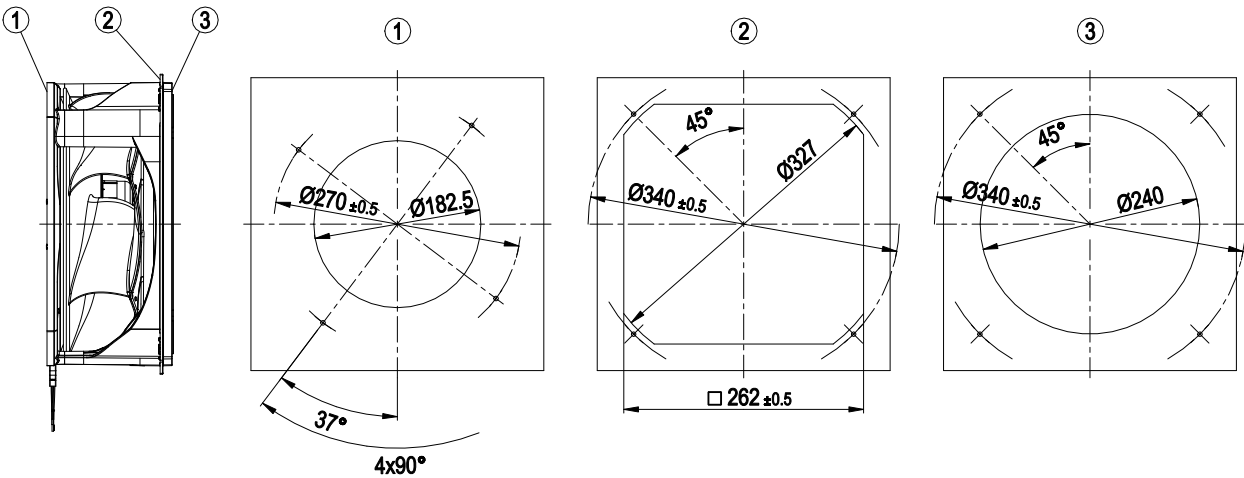


1	Supply line (PWR) PVC AWG20 3x splice
2	Control wire (CTRL) PVC AWG22 4x splice
3	Fastening holes for FlowGrid 8217118468 (not included in scope of delivery) are provided and must only be used for FlowGrid

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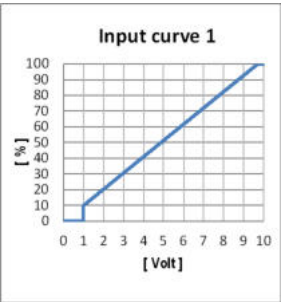
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Mounting dimensions



- | | |
|---|---|
| 1 | Installation of motor plate |
| 2 | Installation of nozzle plate on outlet side |
| 3 | Installation of nozzle plate on intake side |

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	PWR	L	black	Power supply, phase, see nameplate for voltage range
	PWR	N	blue	Power supply, neutral conductor, see nameplate for voltage range
	PWR	PE	green/yellow	Protective earth
	CTRL	GND	blue	Reference ground for control interface, SELV
	CTRL	IO1	yellow	Factory setting: Analog input 0-10 V/PWM, Ri=100 KΩ, fPWM=1 kHz..10 kHz, Function: Speed set value Characteristic curve parameterizable (see "Input curve 1"), SELV Function parameterizable at the factory (see Optional interface functions table)
	CTRL	IO2	white	Factory setting: Open collector output, Umax=50 VDC, Imax= 10 mA, function: Tach output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)
	CTRL	Vout	red	Voltage output 10 VDC +/-3%, Imax=1.1 mA Not short-circuit-proof, power supply for external devices, SELV

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Terminal/plug assignment

Basic (B4)

Factory configuration option upon request

Factory configuration option

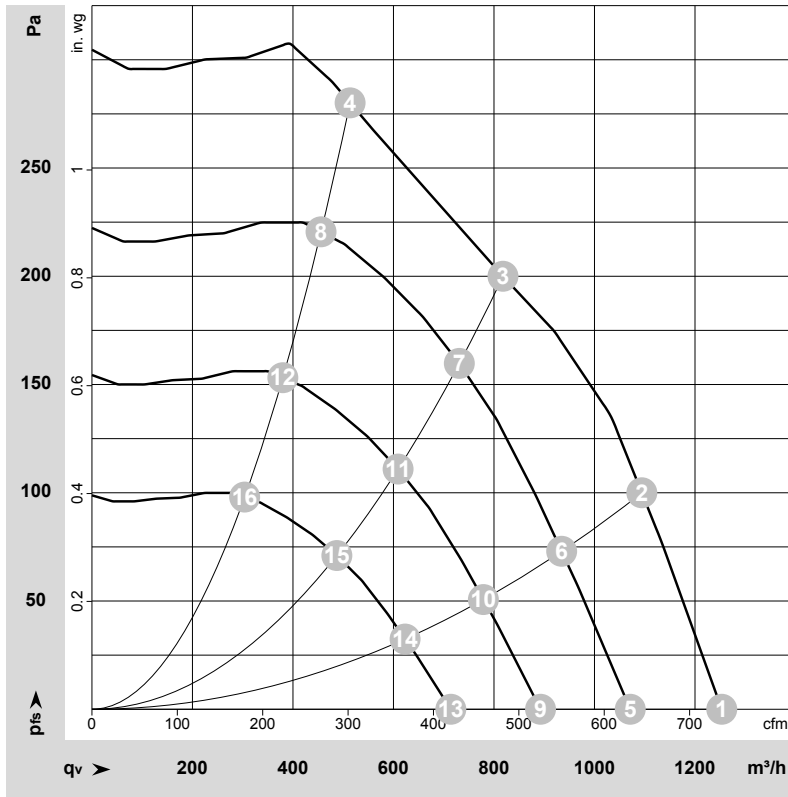
	configurable IO mode	electrical specification	INPUT					OUTPUT						
IO1	○ Din1 (high active): digital input	active: parameterizable voltage x-30 VDC not active: pin open or parameterizable voltage <x VDC, SELV	○	○	○	○								
	○ Ain1 0-10 V/PWM: analog input	Ri = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1k..10 kHz, SELV	○											
IO2	○ Tach out (open collector)	Umax=50 VDC, Imax=10 mA, SELV					○							
	○ Diagnostics out (open collector)	Umax=50 VDC, Imax=10 mA, SELV						○						
	○ Alarm out (open collector)	Umax=50 VDC, Imax=10 mA, SELV							○					
	○ Open collector	Umax=50 VDC, Imax=10 mA, SELV									○	○		
Vout	Voltage output	Voltage 10 VDC, SELV												○

Basic (B4)

Factory configuration option upon request

○ Factory configuration option

Curves: Air performance 50 Hz



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

Measurement: LU-224208-1
Date: 2023-10-05
Nozzle: 8217118132

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)	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	2105	63	0.53	61	69	1255	0	735	0.00
2	1~	230	50	2105	80	0.66	58	66	1095	100	645	0.40
3	1~	230	50	2015	86	0.70	54	62	820	200	480	0.80
4	1~	230	50	2030	86	0.71	58	67	515	280	305	1.12
5	1~	230	50	1800	39	0.33	57	65	1070	0	630	0.00
6	1~	230	50	1800	50	0.41	54	62	935	73	550	0.29
7	1~	230	50	1800	61	0.50	51	59	730	160	430	0.64
8	1~	230	50	1800	60	0.49	55	64	455	221	270	0.89
9	1~	230	50	1500	23	0.19	53	60	895	0	525	0.00
10	1~	230	50	1500	29	0.24	49	57	780	51	460	0.20
11	1~	230	50	1500	35	0.29	47	55	610	111	360	0.45
12	1~	230	50	1500	35	0.29	51	59	380	153	225	0.61
13	1~	230	50	1200	12	0.10	47	55	715	0	420	0.00
14	1~	230	50	1200	15	0.12	44	51	625	32	365	0.13
15	1~	230	50	1200	18	0.15	41	49	485	71	285	0.29
16	1~	230	50	1200	18	0.15	45	53	305	98	180	0.39

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