

8300101013
VBH0175SSLBS

EC centrifugal module - RadiCal

backward-curved, single-intake
with housing

ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.fansco.com

www.fansco.com

Limited partnership · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300101013	
Motor	E06001-10	

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	3900
Power consumption	W	85
Current draw	A	0.7
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

8300101013
VBH0175SSLBS

EC centrifugal module - RadiCal

backward-curved, single-intake
with housing

Technical description

Weight	1.228 kg
Size	175 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
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. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
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.
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

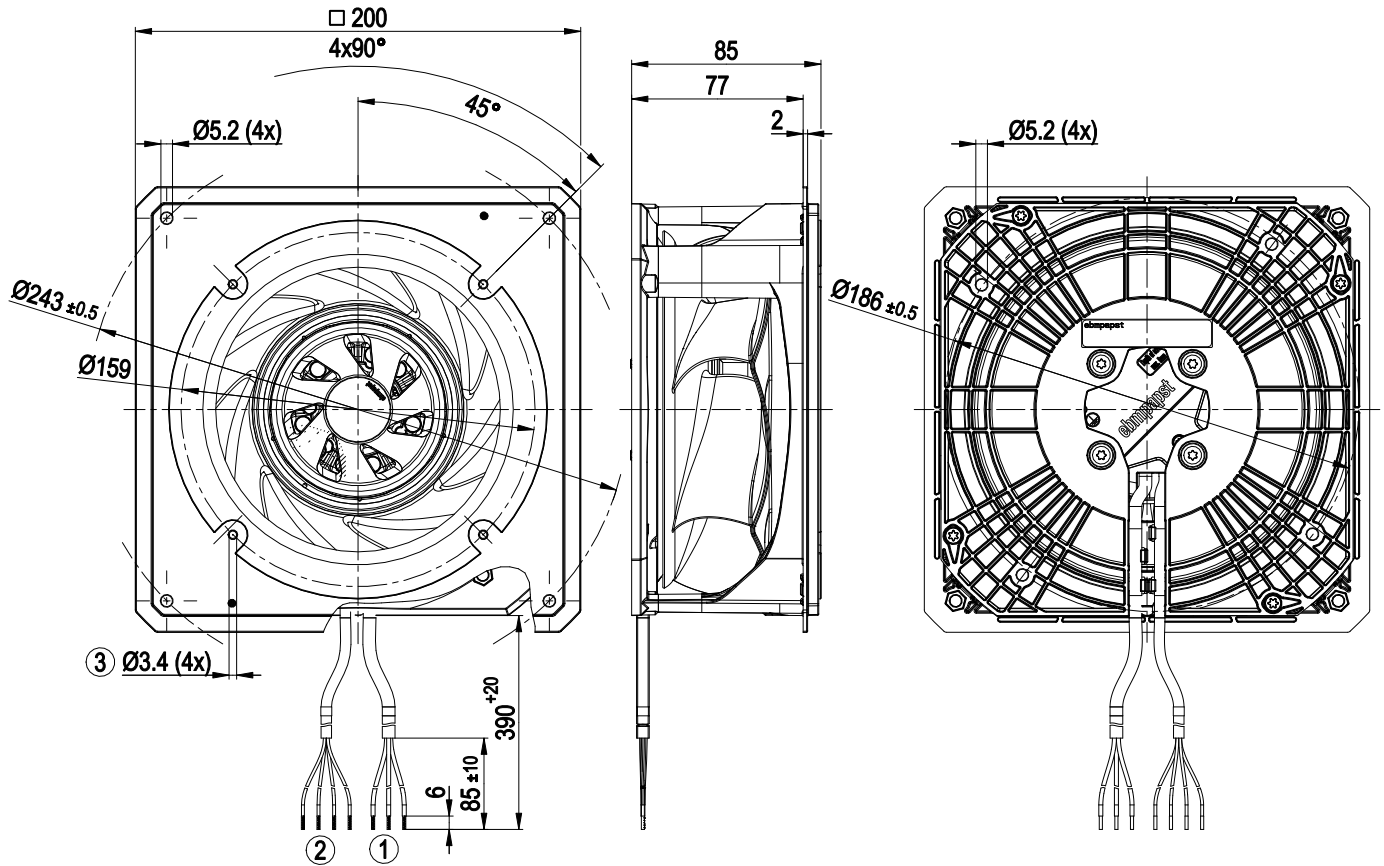
8300101013

VBH0175SSLBS

EC centrifugal module - RadiCal

backward-curved, single-intake
with housing

Product drawing

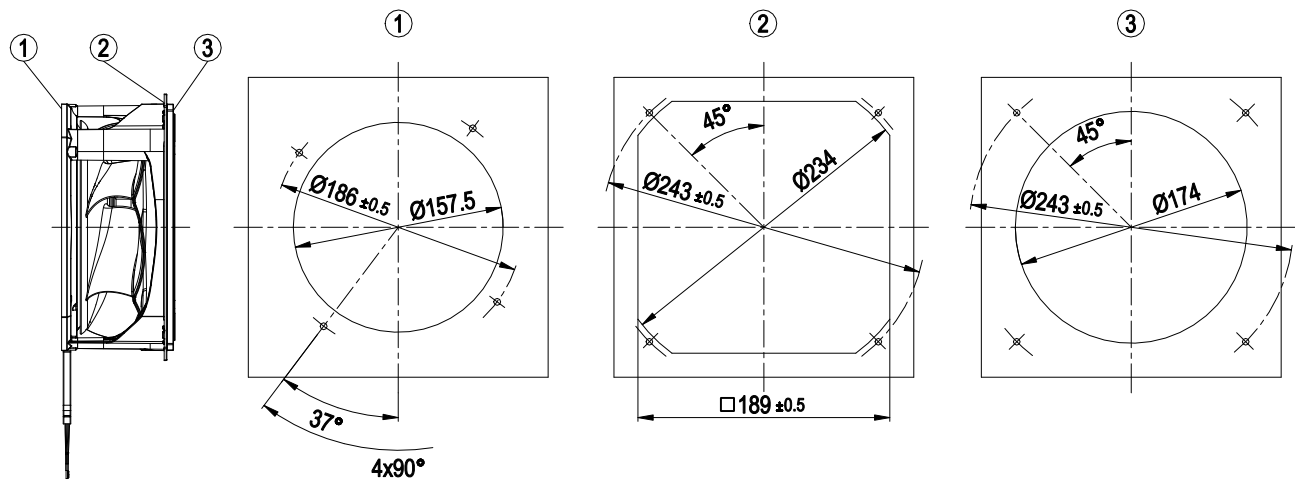


1	Supply line (PWR) PVC AWG20 3x splice
2	Control wire (CTRL) PVC AWG22 4x splice
3	Fastening holes for FlowGrid 8217118111 (not included in scope of delivery) are provided and must only be used for FlowGrid

EC centrifugal module - RadiCal

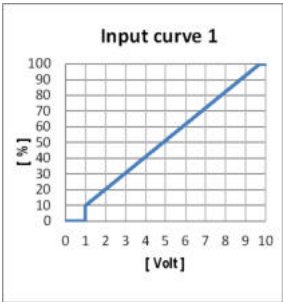
backward-curved, single-intake
with housing

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

8300101013
VBH0175SSLBS

EC centrifugal module - RadiCal

backward-curved, single-intake

with housing

Terminal/plug assignment

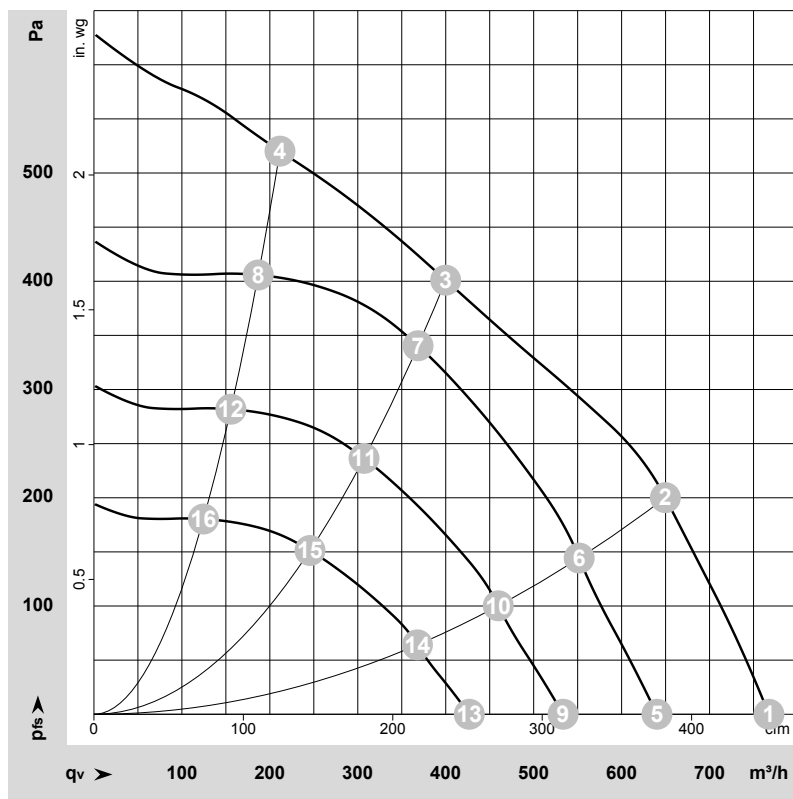
		electrical specification		configurable IO mode		INPUT		OUTPUT			
IO1	Din1 (high active): digital input	active: parameterizable voltage x-30 VDC not active: pin open or parameterizable voltage <x VDC, SELV Ri = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1k..10 kHz, SELV		Ain1 0-10 V/PWM: analog input		source: set value					
						switch: parameter set: #1 / #2					
						switch: direction of rotation: cw / ccw					
						switch: enable/disable input					
						configurable function					
IO2	Tach out (open collector) Diagnostics out (open collector) Alarm out (open collector) Open collector	Umax=50 VDC, Imax=10 mA, SELV Umax=50 VDC, Imax=10 mA, SELV Umax=50 VDC, Imax=10 mA, SELV Umax=50 VDC, Imax=10 mA, SELV				signal: tach out					
						signal: diagnostics out					
						signal: alarm out					
						signal: run monitoring					
Vout	Voltage output	Voltage 10 VDC, SELV				signal: status					
						signal: configurable function					

Basic (B4)

Factory configuration option upon request

Factory configuration option

Curves: Air performance 50 Hz



$$\rho = 1.173 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-223910-1
Date: 2023-02-13
Nozzle: 8217117486

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	4315	73	0.61	68	76	770	0	450	0.00
2	1~	230	50	4240	85	0.70	65	72	650	200	385	0.80
3	1~	230	50	3900	85	0.70	63	70	400	400	235	1.61
4	1~	230	50	4075	85	0.70	69	77	210	520	125	2.09
5	1~	230	50	3600	43	0.36	63	71	640	0	375	0.00
6	1~	230	50	3600	54	0.44	60	68	550	144	325	0.58
7	1~	230	50	3600	69	0.56	60	68	370	341	215	1.37
8	1~	230	50	3600	61	0.49	66	74	185	406	110	1.63
9	1~	230	50	3000	25	0.21	59	66	535	0	315	0.00
10	1~	230	50	3000	31	0.25	56	64	460	100	270	0.40
11	1~	230	50	3000	40	0.32	56	64	305	237	180	0.95
12	1~	230	50	3000	35	0.29	61	70	155	282	90	1.13
13	1~	230	50	2400	13	0.11	53	61	425	0	250	0.00
14	1~	230	50	2400	16	0.13	50	58	370	64	215	0.26
15	1~	230	50	2400	21	0.17	50	58	245	152	145	0.61
16	1~	230	50	2400	18	0.15	56	64	125	180	75	0.72

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