

8300100337

VCS0190RSLDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)

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	8300100337	
Motor	E06002-17	
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	3650
Power consumption	W	120
Current draw	A	1.0
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



8300100337

VCS0190RSLDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)

Technical description

Size	190 mm
Motor size	60
Rotor surface	Thick-film passivated
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. 10 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 60034-1; EN 60204-1; EN 60335-1; CE
Comment on CE	Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.



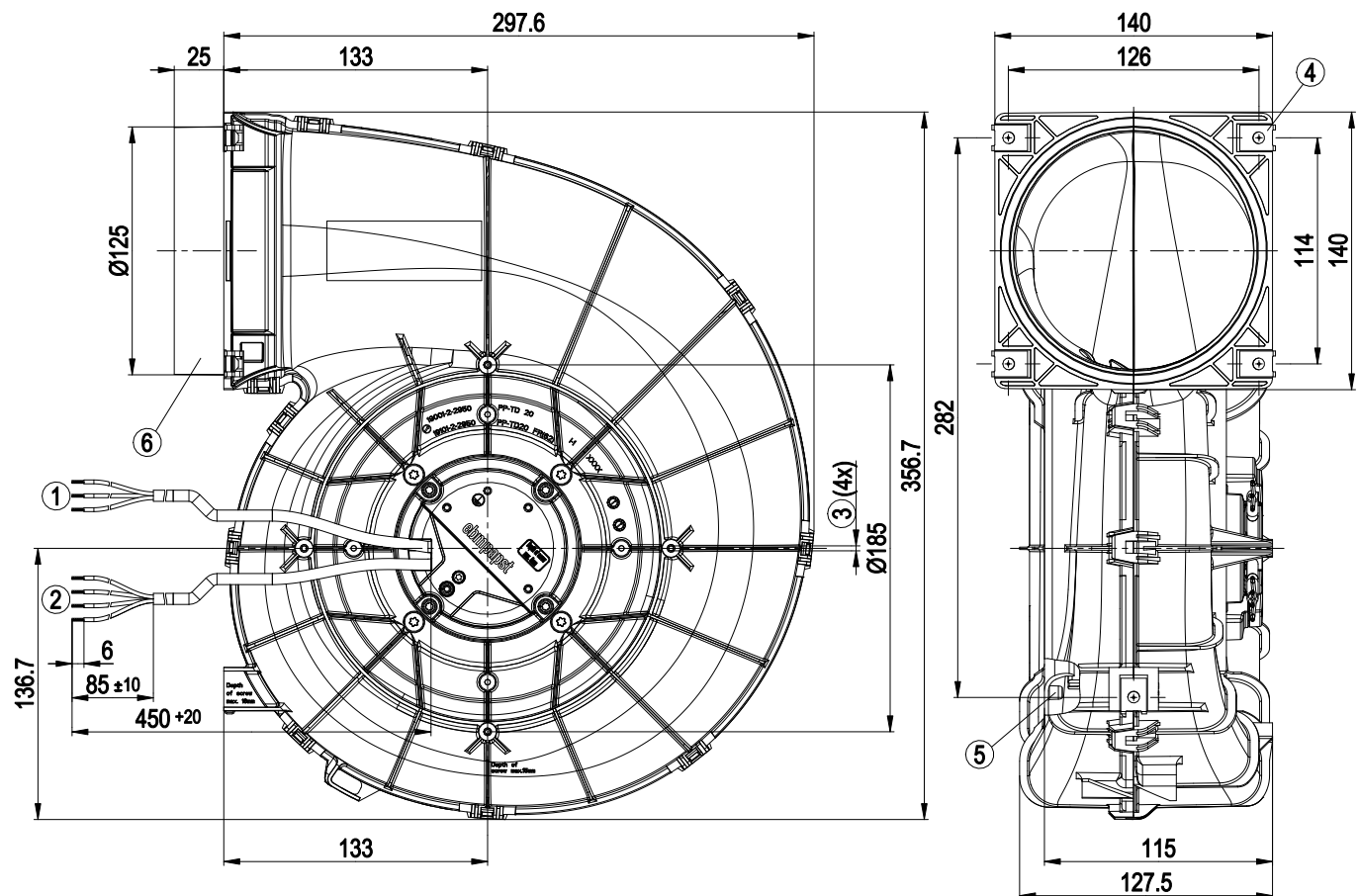
8300100337

VCS0190RSLDS

EC centrifugal fan - RadiCal

backward-curved, single-intake
with housing (flange)

Product drawing



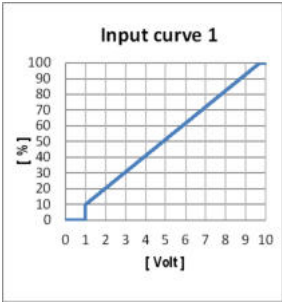
1	Supply line (PWR) PVC AWG20 3x splice
2	Control wire (CTRL) PVC AWG22 4x splice
3	Tapping hole prepared for self-tapping screw for fastening plastics (Remform) dia. 4 mm, max. screw-in depth 15 mm, torque is to be determined depending on the screw.
4	5x sheet metal nut for thread EN ISO 1478-ST4.8 (max. screw length 16 mm plus thickness of mounting material)
5	Screw-on domes are only permissible for Flowgrid!
6	Connecting sleeve not suitable for installation with pipe clamps



EC centrifugal fan - RadiCal

backward-curved, single-intake
with housing (flange)

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=10 mA Short-circuit-proof, power supply for external devices, SELV



8300100337
VCS0190RSLDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)

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		switch: parameter set: #1 / #2	○	configurable function	○	signal: tach out	○
						switch: direction of rotation: cw / ccw	○	switch: enable/disable input	○	signal: diagnostics out	○
										signal: alarm out	○
										signal: run monitoring	○
										signal: status	○
IO2	Tach out (open collector) Diagnostics out (open collector) Alarm out (open collector) Open collector	U _{max} =50 VDC, I _{max} =10 mA, SELV U _{max} =50 VDC, I _{max} =10 mA, SELV U _{max} =50 VDC, I _{max} =10 mA, SELV U _{max} =50 VDC, I _{max} =10 mA, SELV				source: set value	○			signal: configurable function	○
Vout	Voltage output	Voltage 10 VDC, SELV									

Basic (B4)

Factory configuration option upon request

Factory configuration option



8300100337

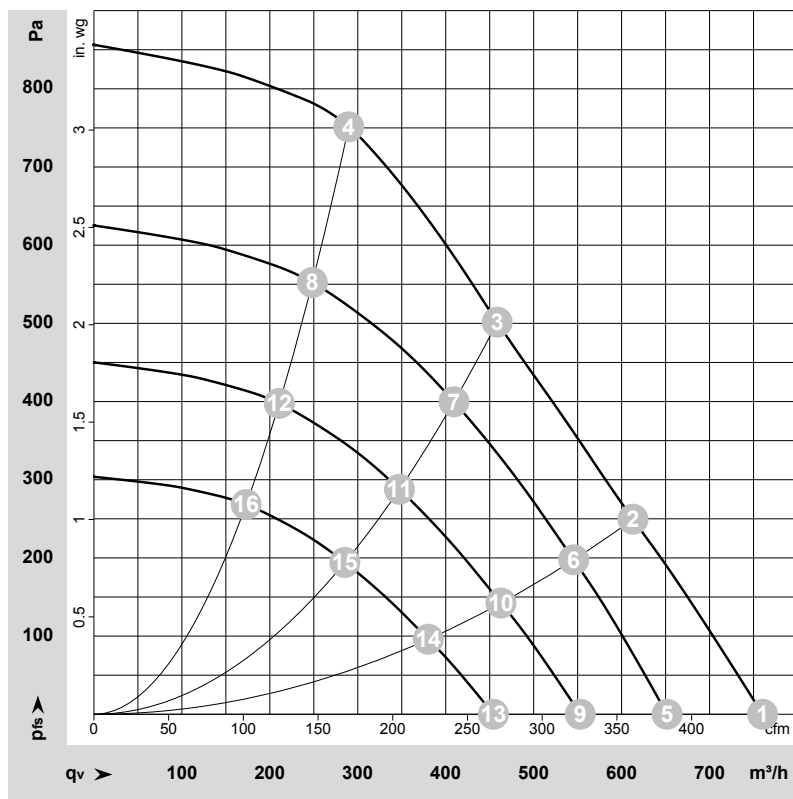
VCS0190RSLDS

EC centrifugal fan - RadiCal

backward-curved, single-intake

with housing (flange)

Curves: Air performance 50 Hz



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

Measurement: LU-219624-1

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

	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	3850	120	1.00	71	76	760	0	445	0.00
2	1~	230	50	3710	120	1.00	66	72	615	250	360	1.00
3	1~	230	50	3650	120	1.00	64	70	460	500	270	2.01
4	1~	230	50	3850	114	0.95	67	73	290	750	170	3.01
5	1~	230	50	3300	75	0.61	67	73	650	0	385	0.00
6	1~	230	50	3300	84	0.69	64	69	545	198	320	0.79
7	1~	230	50	3300	85	0.70	61	68	410	400	240	1.61
8	1~	230	50	3300	72	0.60	63	69	250	553	145	2.22
9	1~	230	50	2800	46	0.38	63	68	555	0	325	0.00
10	1~	230	50	2800	51	0.42	59	65	465	142	275	0.57
11	1~	230	50	2800	52	0.43	57	63	345	288	205	1.16
12	1~	230	50	2800	44	0.36	59	65	210	398	125	1.60
13	1~	230	50	2300	25	0.21	58	63	455	0	265	0.00
14	1~	230	50	2300	28	0.23	54	60	380	96	225	0.39
15	1~	230	50	2300	29	0.24	52	58	285	194	170	0.78
16	1~	230	50	2300	24	0.20	54	60	175	269	100	1.08

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

