

8300101249
VBH0630CTTPS

EC centrifugal module - RadiPac

backward-curved, single-intake
with support bracket

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Nominal data

Item	8300101249	
Motor	E15031-85	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1630
Power consumption	W	3720
Current draw	A	5.7
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	40

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}	%	75	57.4	09 Power consumption P_{ed}	kW	3.63
02 Measurement category		A		09 Air flow q_v	m³/h	13670
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	687
04 Efficiency grade N		79.6	62	10 Speed (rpm) n	min ⁻¹	1630
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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).

* Specific ratio = $1 + p_b / 100\,000\text{ Pa}$ LU-228938



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Technical description

Size	630 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic
Support plate material	Sheet steel, galvanized and painted light gray (RAL 7035)
Support bracket material	Steel, painted light gray (RAL 7035)
Inlet nozzle material	ABS plastic
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2+S
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	See legend on product drawing
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.3 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection - Vibration sensor
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Electronic motor protection



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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 61800-5-1; UKCA; CE
Approval	EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1



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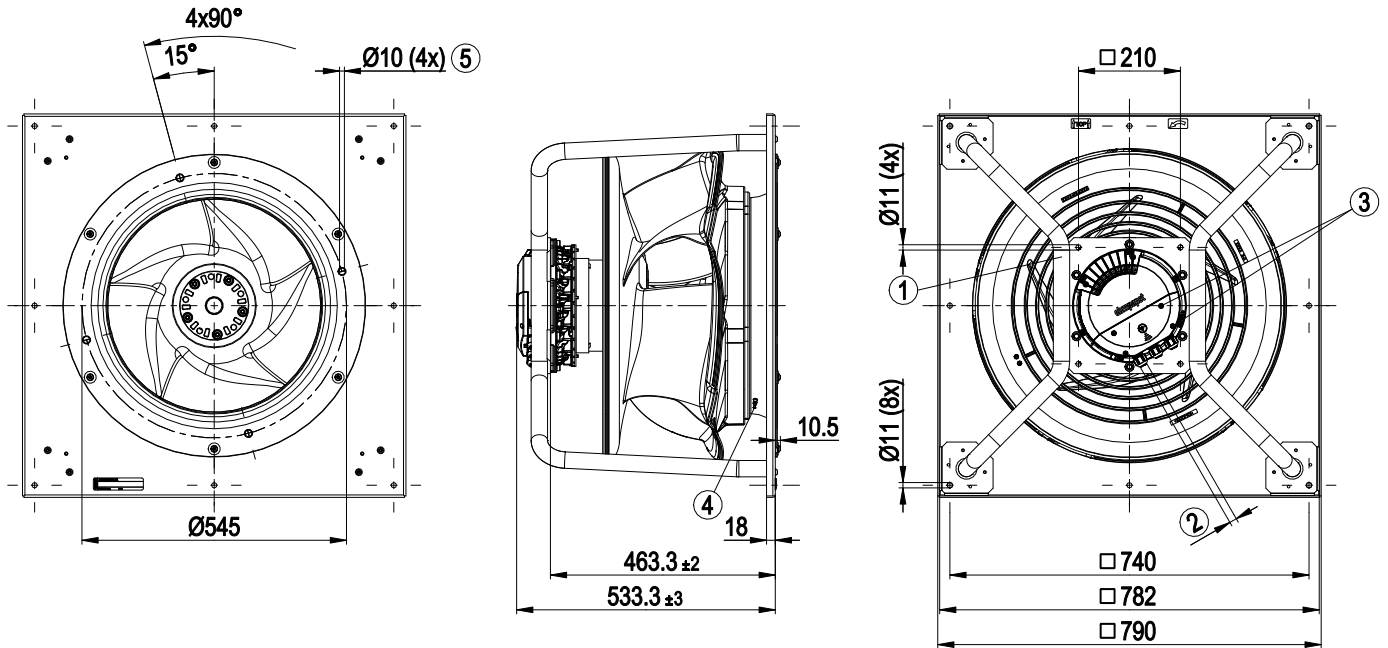
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Product drawing



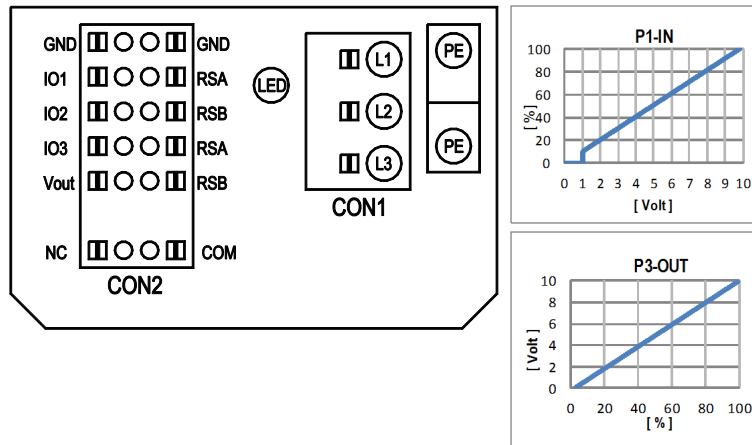
1	Installed position: shaft horizontal (install support struts only vertically as illustrated) or rotor on bottom; rotor on top on request
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 1.5 ± 0.2 Nm
4	Inlet ring with pressure tap (k-factor: 463)
5	Fastening holes for FlowGrid 00630-2-2957 (not included in scope of delivery) are provided and must be subsequently opened as required



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Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V/PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Actual speed Characteristic curve parametrizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	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
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

Terminal/plug assignment

○ configurable option				configurable IO functions: normal / inverse	MODBUS Register for IO mode configuration	electrical specification		OUTPUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
CON2	configurable IO mode	Din1 (active high): digital input	active: applied voltage 3.5-50VDC, SELV			D158 [0]	○	switch: fan enable / disable	D16A [...]	D16C [...]	D148 [...]	○	switch: set value source	D147 [...]	D104 [...]	D12E [...]	○	switch: direction of rotation: cw / ccw	D16C [...]	D16A [...]	(selected directly via IO mode)	D130 [0]	○	signal: tach out	(selected directly via IO mode)	D130 [0]	○	signal: fan modulation level %	D130 [1]	○	signal: actual speed	D130 [2]	○	signal: system modulation level %	D130 [5]	○	signal: remote control output 0-10V	D130 [1]	○	pulse output for auto-addressing	D130 [4]	○	pulse input for auto-addressing	D130 [1]	○	pulse output for auto-addressing	D130 [4]	○	pulse input for auto-addressing	D130 [1]	○	pulse output for auto-addressing	D130 [4]	○	pulse input for auto-addressing	D130 [1]	○	pulse output for auto-addressing	D130 [4]	○	pulse input for auto-addressing	D130 [1]	○	pulse output for auto-addressing	D130 [4]	○	pulse input for auto-addressing	D130 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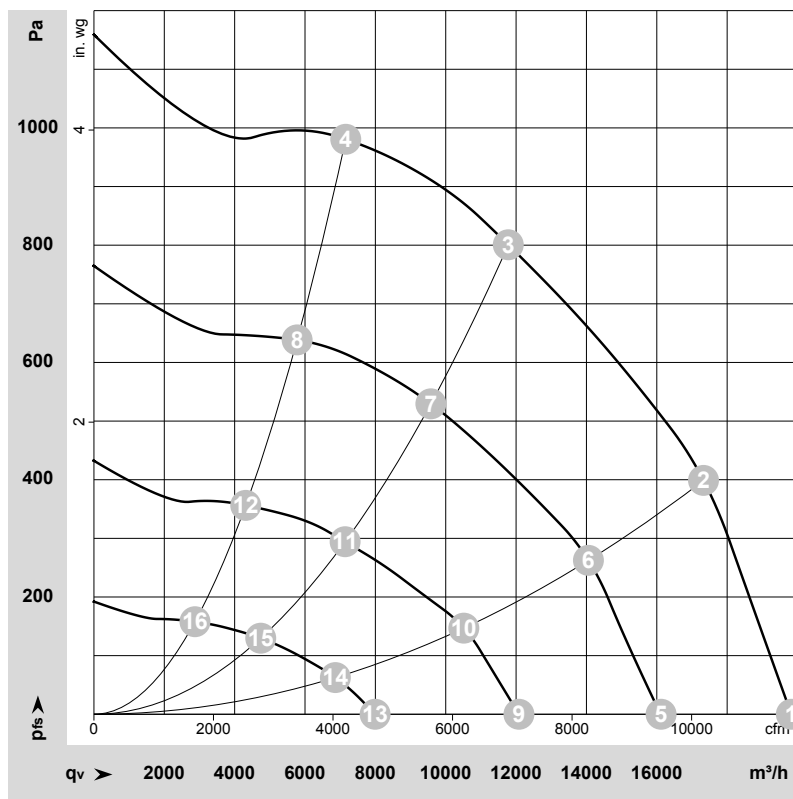
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Curves: Air performance 50 Hz



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

Measurement: LU-228938-1

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}	LwA _{out}	LwA	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	dB	m³/h	Pa	cfm	in. wg
1	3~	400	50	1630	2249	3.50	85	92	95	96	19825	0	11670	0.00
2	3~	400	50	1630	3245	4.98	78	86	89	91	17330	410	10200	1.65
3	3~	400	50	1630	3720	5.70	70	78	83	84	11780	800	6930	3.21
4	3~	400	50	1630	3374	5.17	74	81	86	87	7160	980	4215	3.93
5	3~	400	50	1320	1235	2.03	77	85	88	90	16120	0	9490	0.00
6	3~	400	50	1320	1743	2.76	72	80	83	85	14055	274	8275	1.10
7	3~	400	50	1320	2003	3.14	64	72	77	79	9580	532	5635	2.14
8	3~	400	50	1320	1806	2.86	68	75	80	81	5775	639	3400	2.57
9	3~	400	50	990	561	1.13	69	77	81	83	12080	0	7110	0.00
10	3~	400	50	990	789	1.42	64	72	76	78	10515	153	6190	0.61
11	3~	400	50	990	873	1.53	56	64	69	70	7140	294	4200	1.18
12	3~	400	50	990	787	1.41	58	66	70	71	4315	356	2540	1.43
13	3~	400	50	660	201	0.57	59	68	71	73	7995	0	4705	0.00
14	3~	400	50	660	252	0.66	53	62	66	68	6865	64	4040	0.26
15	3~	400	50	660	286	0.72	46	54	59	60	4740	130	2790	0.52
16	3~	400	50	660	262	0.67	46	54	58	60	2870	158	1690	0.63

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
LwA_{out} = Sound power level outlet side · q_v = Air flow · P_{fs} = Pressure increase

