

KARTA KATALOGOWA

R3G355-PH49-01

Wentylator promieniowy EC RadiPac, łopatki zakrzywione do tyłu, jednostronnie ssący

Producent: ebm-papst



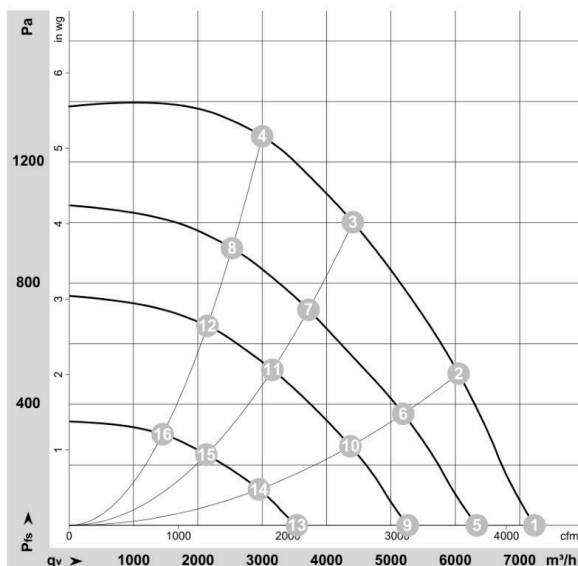
Zdjęcie poglądowe

Dane znamionowe		Budowa	
Napięcie znamionowe	3~ 400 V (380...480 V)	Średnica wirnika	355 mm
Częstotliwość	50/60 Hz	Materiał wirnika	blacha aluminiowa
Prędkość obrotowa	2870 obr/min	Liczba łopatek	5
Pobór mocy	1900 W	Stopień ochrony	IP54
Pobór prądu	3 A	Klasa izolacji	B
Maks. wydajność	7200 m³/h	Zabezpieczenie silnika	termik (TOP)
Maks. ciśnienie statyczne	1390 Pa	Masa	15 kg
Temperatura otoczenia	-25...+55 °C		

Dane ErP (UE 327/2011)	
Sprawność całkowita	68,8 %
Przepływ w pkt. optymalnym	4470 m³/h
Przyrost ciśnienia	991 Pa
Regulacja obrotów	tak (0-10 V / PWM / MODBUS)

Charakterystyka przepływowa (50 Hz)

Curves: Air performance 50 Hz



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

Measurement: LU-174051-1

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 13341 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 installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Dane na podstawie karty producenta ebm-papst (oryginał na kolejnych stronach).

Wartości znamionowe dla punktu maksymalnego obciążenia; producent zastrzega możliwość zmian.

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EC centrifugal fan - RadiPac

backward-curved, single-intake

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Nominal data

Type	R3G355-PH49-01	
Motor	M3G112-GA	

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	2870
Power consumption	W	1900
Current draw	A	3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	68.8	54.4	09 Power consumption P_{ed}	kW	1.89
02 Measurement category		A		09 Air flow q_v	m ³ /h	4470
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	991
04 Efficiency grade N		76.4	62	10 Speed (rpm) n	min ⁻¹	2895
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-174051

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

Weight	15 kg
Size	355 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	5
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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Operation and alarm display - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
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	Thermal overload protector (TOP) internally connected



R3G355-PH49-01

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

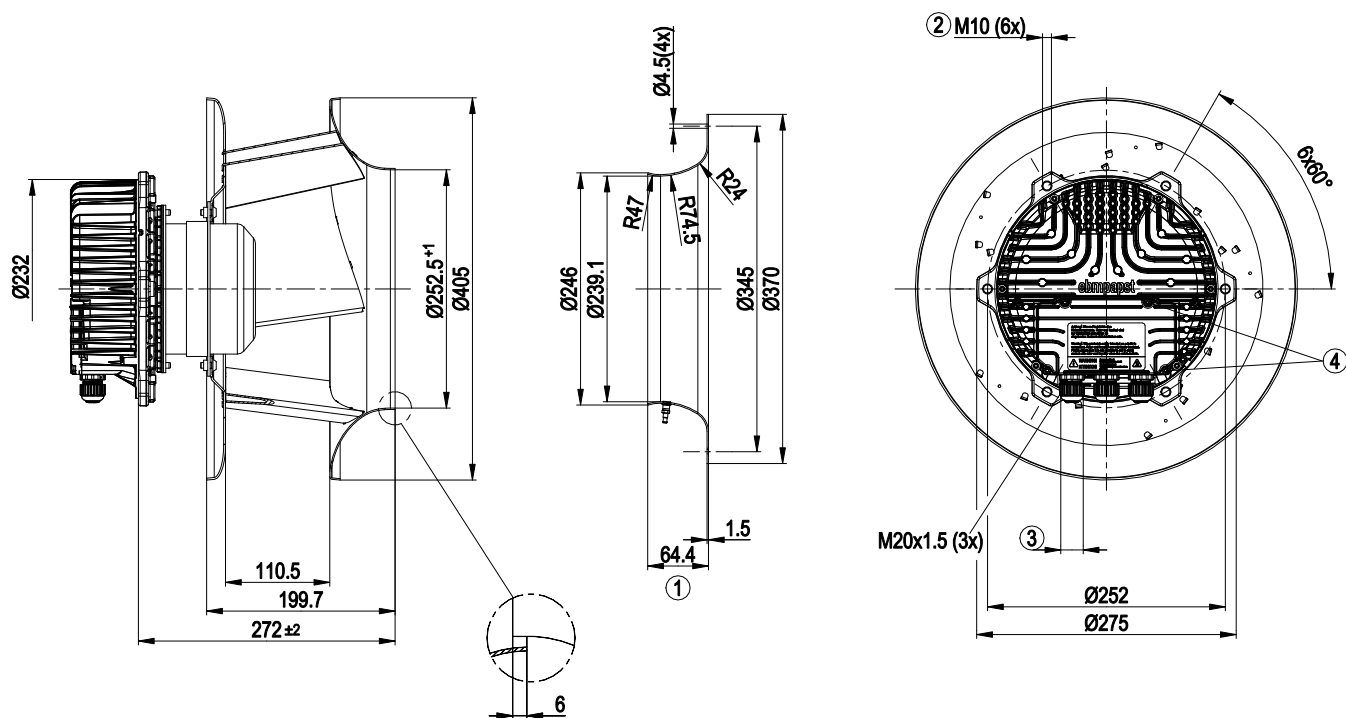


R3G355-PH49-01

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Product drawing



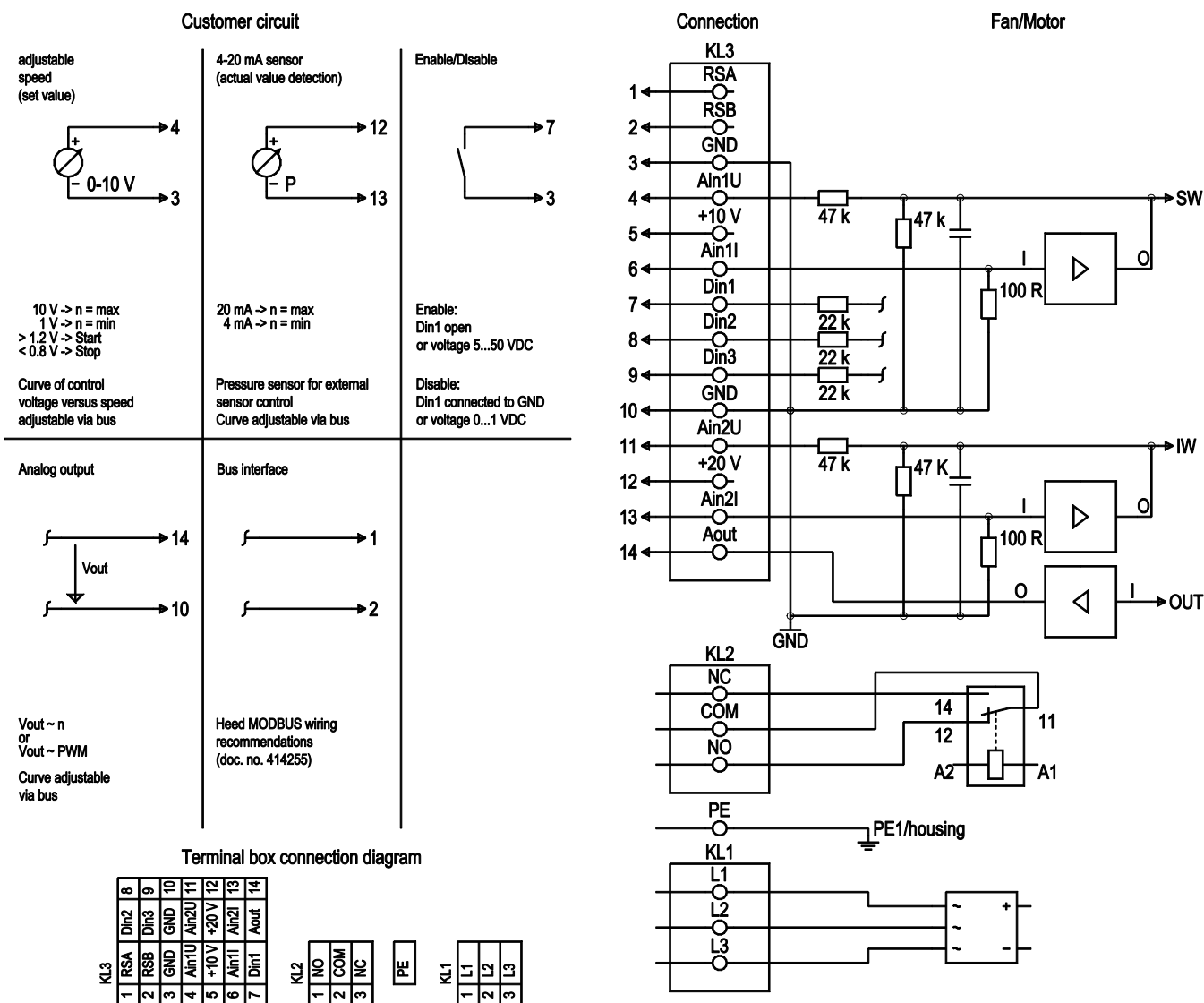
1	Accessory part: inlet ring 35675-2-4013 with pressure tap (k-factor: 148) not included in scope of delivery
2	Max. clearance for screw 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply; for nominal voltage range see technical data
KL 1	2	L2	Supply connection, power supply; for nominal voltage range see technical data
KL 1	3	L3	Supply connection, power supply; for nominal voltage range see technical data
PE		PE	Ground connection, PE connection
KL 2	1	NO	Status relay, floating status contact, make for failure
KL2	2	COM	Status relay, floating status contact, changeover contact, common connection; contact rating 30 VAC/max. 2 A (AC1)/min. 10 mA
KL2	3	NC	Status relay, floating status contact, break for failure
KL 3	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV

R3G355-PH49-01

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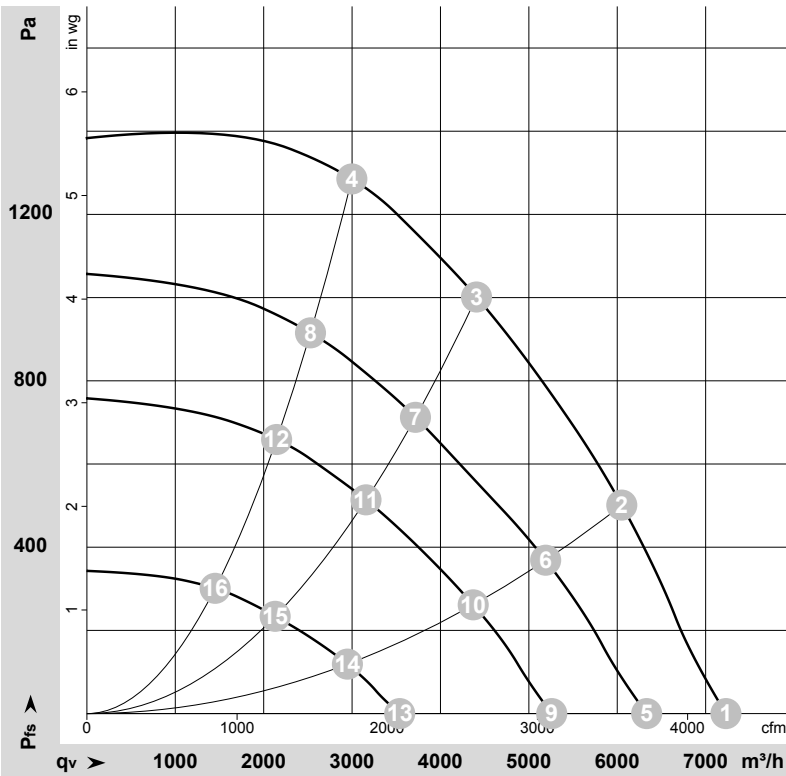
No.	Conn.	Designation	Function/assignment
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	9	Din3	Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected via bus or digital input Din3; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2 I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC; +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parameterization without line voltage
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV

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Measured values

	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _v	P _{fs}	q _v	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	400	50	2870	1046	1.69	85	92	94	7230	0	4255	0.00
2	400	50	2870	1580	2.46	77	85	89	6050	500	3560	2.01
3	400	50	2870	1900	3.00	73	81	86	4410	1000	2595	4.01
4	400	50	2870	1887	2.92	79	86	89	3000	1300	1765	5.22
5	400	50	2540	735	1.25	81	88	91	6335	0	3725	0.00
6	400	50	2480	1024	1.65	73	81	85	5190	370	3055	1.49
7	400	50	2440	1156	1.84	70	77	82	3715	714	2190	2.87
8	400	50	2440	1142	1.82	75	81	85	2530	923	1490	3.71
9	400	50	2130	468	0.88	77	85	87	5260	0	3095	0.00
10	400	50	2090	649	1.14	70	78	82	4370	262	2570	1.05
11	400	50	2070	738	1.25	66	73	79	3155	515	1860	2.07
12	400	50	2070	737	1.25	71	77	81	2145	665	1265	2.67
13	400	50	1440	179	0.41	65	75	76	3540	0	2085	0.00
14	400	50	1415	232	0.50	60	68	73	2945	119	1735	0.48
15	400	50	1400	260	0.54	57	65	70	2130	234	1255	0.94
16	400	50	1400	262	0.54	60	67	72	1450	304	855	1.22

U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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