

R3G355-PH49-01 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Limited partnership · Headquarters Muldingen
County court Stuttgart · HRA 590344

General partner Elektrobau Muldingen GmbH · Headquarters Muldingen
County court Stuttgart · HRB 590142

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
Type of data definition		ml
Speed (rpm)	min ⁻¹	2870
Power input	W	1900
Current draw	A	3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015			
01 Overall efficiency η_{es}	%	68.8	54.4	09 Power input 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 definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = $1 + p_s / 100\,000\text{ Pa}$

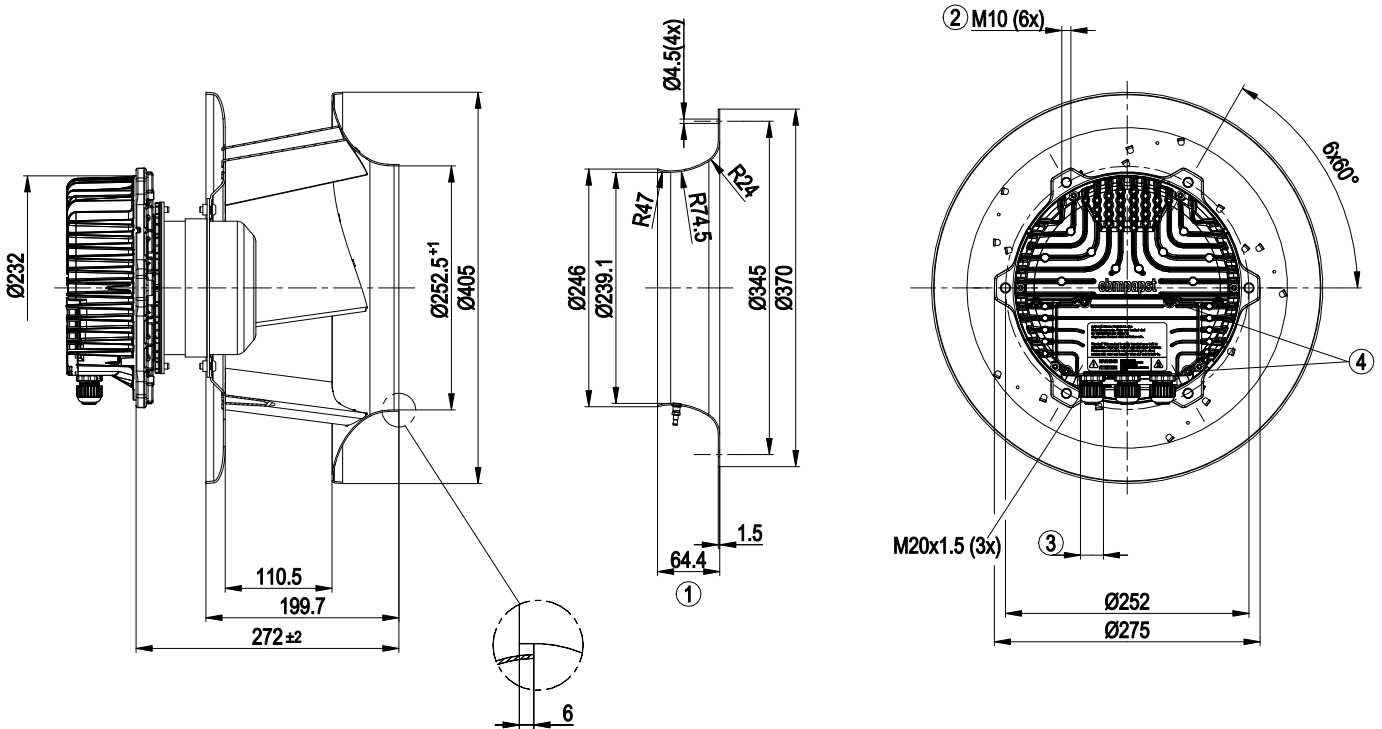
LU-174051



Technical features

Mass	15 kg
Size	355 mm
Motor size	112
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	5
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - 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 (programming) - External release input - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 no. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

Product drawing



1	Accessory part: Inlet nozzle 35675-2-4013 with pressure tap (k-factor: 148) not included in scope of delivery
2	Thread reach max. 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



Connection screen

	8		
	Din 2		
	Din 3		
	GND		
	Ain 2 U		
	+ 20 V		
	Ain 2 I		
	Aout		
1	RSA		
2	RSB		
3	GND		
4	Ain 1 U		
5	+ 10 V		
6	Ain 1 I		
7	Din 1		

KL 3

1	NO
2	COM
3	NC

KL 2

PE

PE

1	L1
2	L2
3	L3

KL 1

No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact; normally open; close with error
KL2	2	COM	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break with error
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV
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	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: 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: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin 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: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; 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



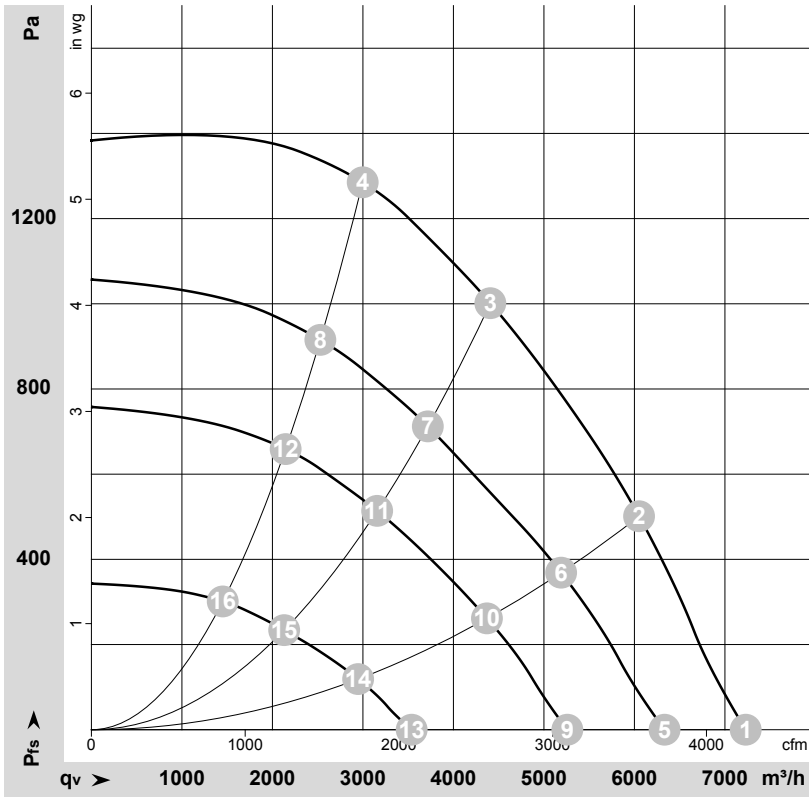
EC centrifugal fan - RadiPac

backward curved, single inlet

No.	Conn.	Designation	Function / assignment
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, $R_i = 100 \Omega$, parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV



Charts: Air flow 50 Hz



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

Measurement: LU-174051-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. Suction-side noise levels: L_{wA} measured as per ISO 13347 / L_{pA} measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P _{ed}	I	L _{pA_{in}}	L _{wA_{in}}	L _{wA_{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 = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · L_{pA_{in}} = Sound pressure level inlet side · L_{wA_{in}} = Sound power level inlet side · L_{wA_{out}} = Sound power level outlet side
 q_v = Air flow · P_{fs} = Pressure increase

