EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

K3G355-PJ75-09 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Nominal data

Type	**K3G355-PJ75-09**
Motor	**M3G112-EA**

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}	2400
Power consumption	W	1100
Current draw	A	1.7
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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	69.2	51.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		79.3	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.09
09 Air flow q_v	m^3/h	3655
09 Pressure increase p_{fs}	Pa	692
10 Speed (rpm) n	min^{-1}	2405
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-174053

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Technical description

Weight	18.8 kg
Size	355 mm
Motor size	112
Rotor surface	Painted black
Terminal box material	PP plastic
Impeller material	Sheet aluminum
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized
Guard grille material	Steel, coated with pebble gray plastic (RAL 7032)
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our 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 product drawing
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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

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With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

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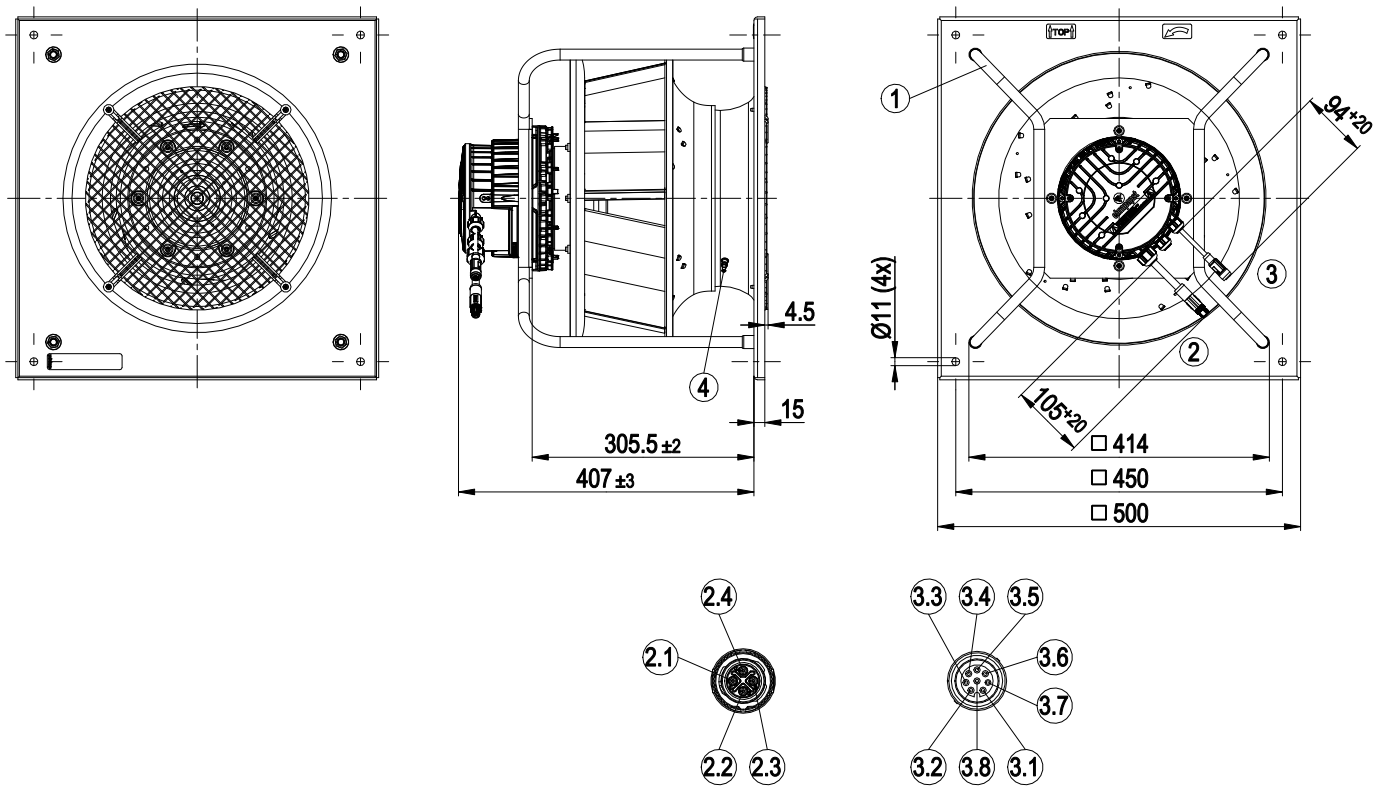
Product drawing



1	Installed position: shaft horizontal (install support struts only vertically as illustrated) or rotor on bottom; rotor on top on request
2	Cable and plug Phoenix Contact SAC-4P-MSS/0.2-PUR PE SCO
2.1	L1
2.2	L2
2.3	L3
2.4	PE
3	Cable and plug Phoenix Contact SAC-8P-M12FS SH/PUR/0.2
3.1	0-10 V
3.2	RSA
3.3	not used
3.4	+10 V
3.5	RSB
3.6	COM
3.7	GND
3.8	NC
4	Inlet ring with pressure tap (k-factor: 148)

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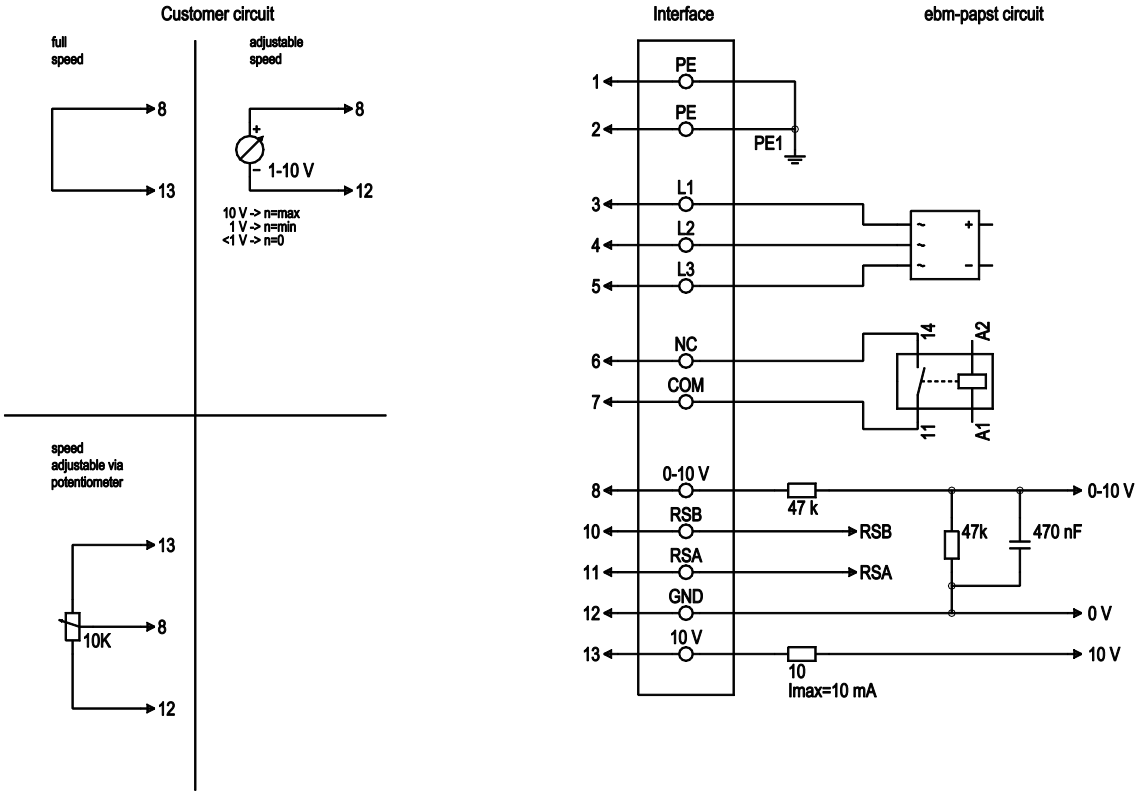
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 30 VAC/2A (AC1) min. 10 mA, reinforced insulation on supply side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; break for failure, contact rating 30 VAC/2A (AC1) min. 10 mA, reinforced insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, Ri = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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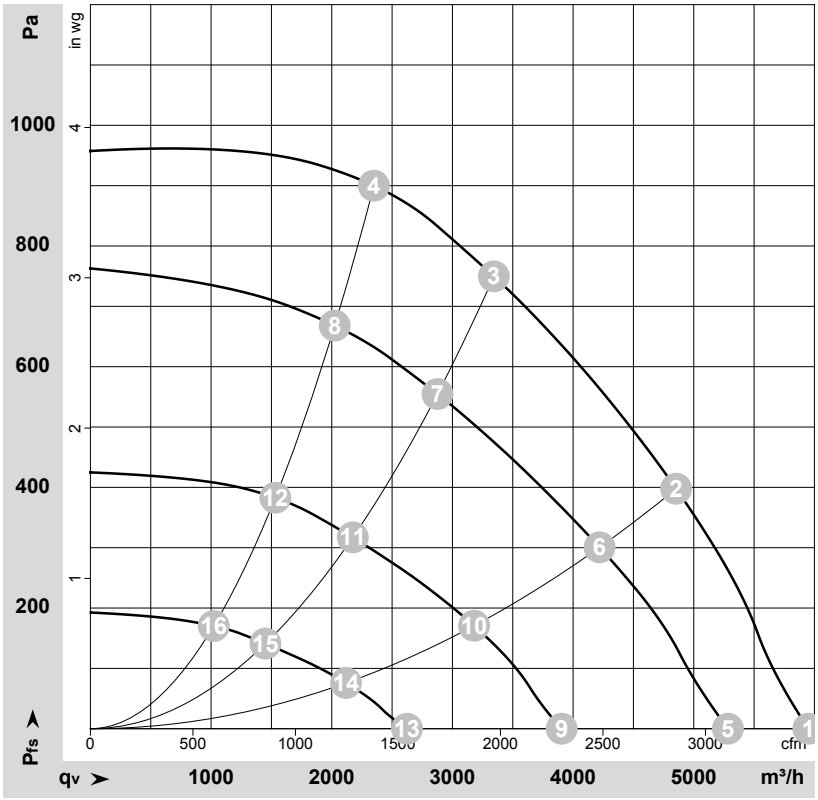
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-174053-1

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

	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	2400	617	0.98	79	87	89	5950	0	3500	0.00
2	400	50	2400	967	1.49	70	78	83	4855	400	2855	1.61
3	400	50	2400	1100	1.70	68	76	81	3345	750	1970	3.01
4	400	50	2400	1073	1.65	73	80	85	2350	900	1385	3.61
5	400	50	2145	447	0.74	76	84	87	5285	0	3110	0.00
6	400	50	2085	652	1.03	67	75	80	4220	303	2485	1.22
7	400	50	2065	716	1.12	65	72	77	2875	555	1695	2.23
8	400	50	2070	698	1.10	70	77	81	2025	672	1190	2.70
9	400	50	1600	212	0.43	67	76	78	3905	0	2300	0.00
10	400	50	1575	300	0.54	60	69	73	3180	173	1870	0.69
11	400	50	1565	332	0.58	58	66	71	2175	317	1280	1.27
12	400	50	1565	327	0.58	61	69	74	1530	386	900	1.55
13	400	50	1080	87	0.25	59	67	69	2625	0	1545	0.00
14	400	50	1055	113	0.30	51	59	65	2120	76	1245	0.31
15	400	50	1050	122	0.31	49	57	62	1450	141	855	0.57
16	400	50	1050	121	0.31	50	58	64	1020	171	600	0.69

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