K3G400-RJ75-02

EC centrifugal module - RadiCal

backward-curved, single-intake

with support bracket

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G400-RJ75-02**
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}	2060
Power consumption	W	1320
Current draw	A	2.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	62.7	52.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.9	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.32
09 Air flow q_v	m^3/h	4090
09 Pressure increase p_{fs}	Pa	676
10 Speed (rpm) n	min^{-1}	2065
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

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Technical description

Weight	16.5 kg
Fan size	400 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic
Support plate material	Sheet steel, galvanized and painted black
Support bracket material	Steel, galvanized and painted black
Inlet nozzle material	Sheet steel, galvanized and painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-2
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 - Power limit - 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 supply - Temperature derating - 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
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable

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Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; EN 60335-1; CE
Approval	EAC; UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1

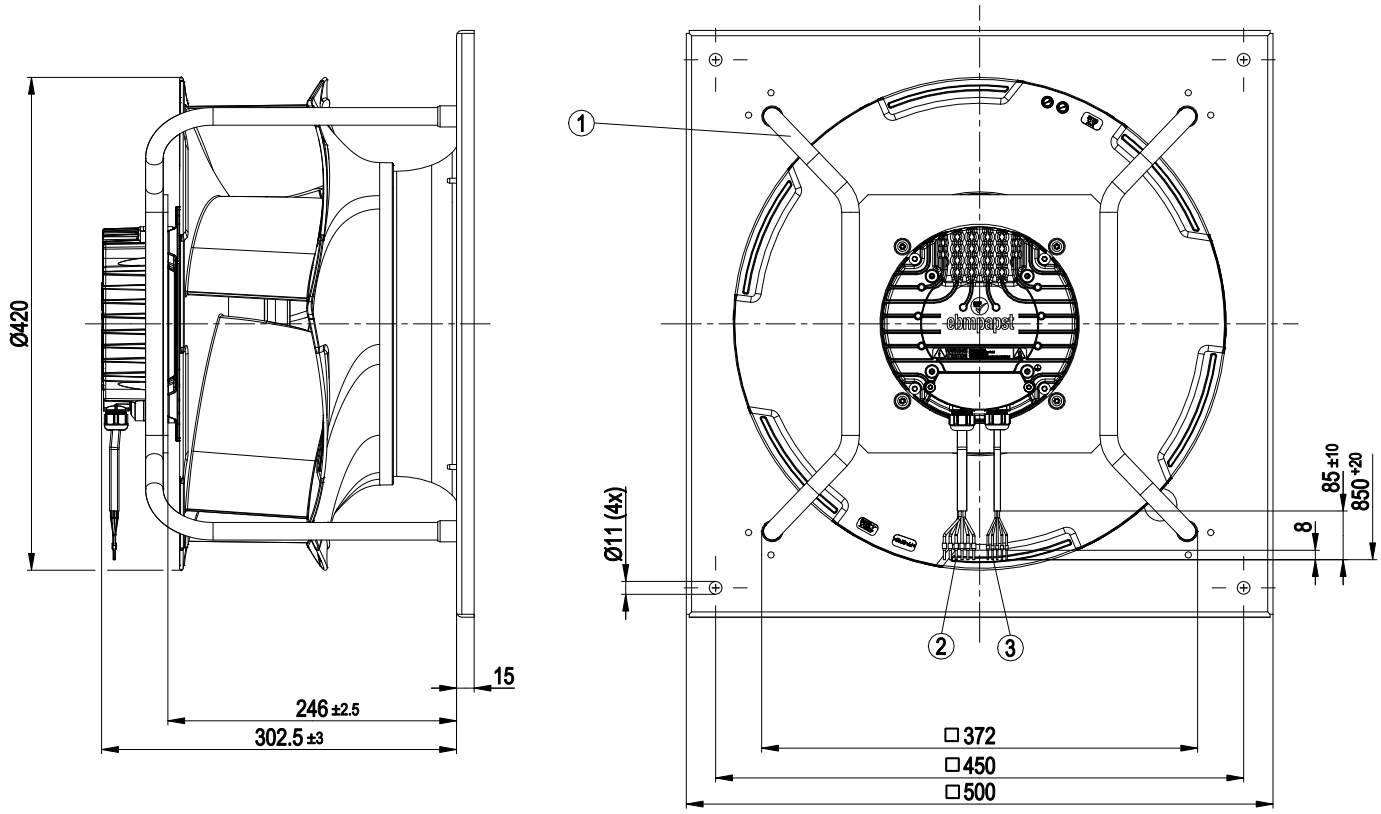
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Product drawing



1	Installed position: shaft horizontal (install support struts only vertically as illustrated) or rotor on bottom; rotor on top on request
2	Cable PVC AWG18, 6x crimped ferrules
3	Cable PVC AWG22, 5x crimped ferrules

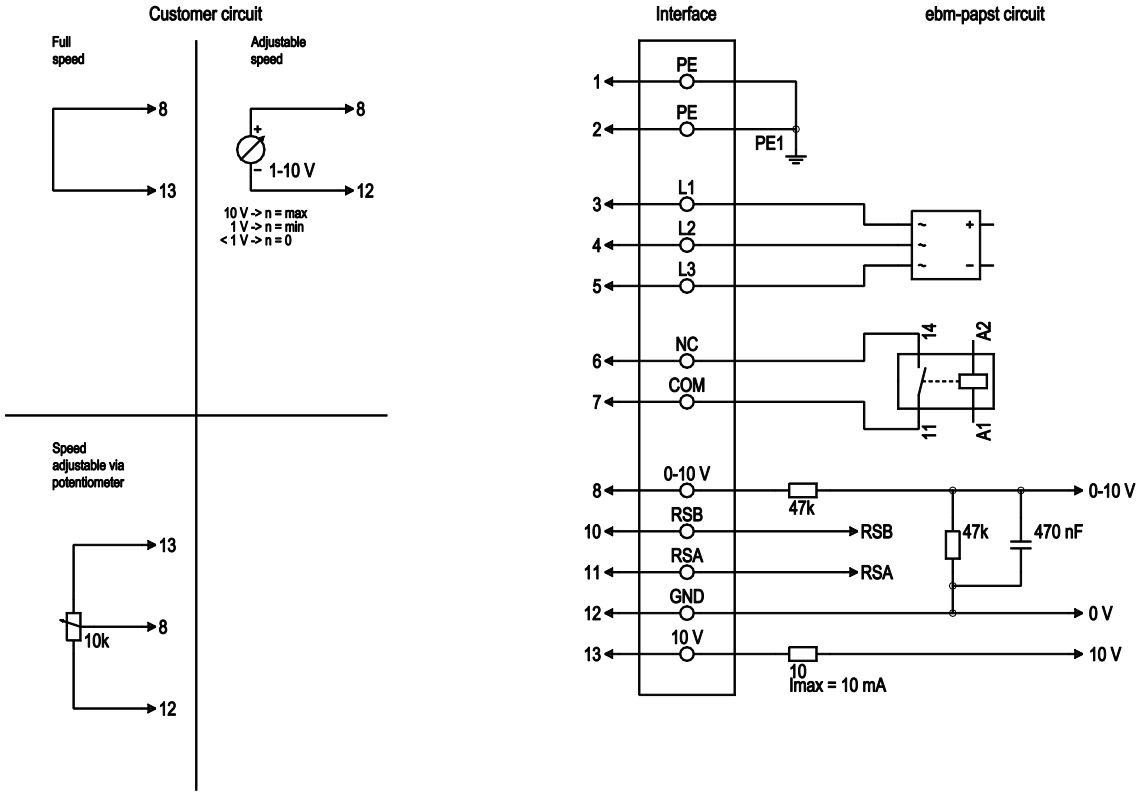
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Connection diagram



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 250 VAC / 2 A (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 250 VAC / 2 A (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. pot), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

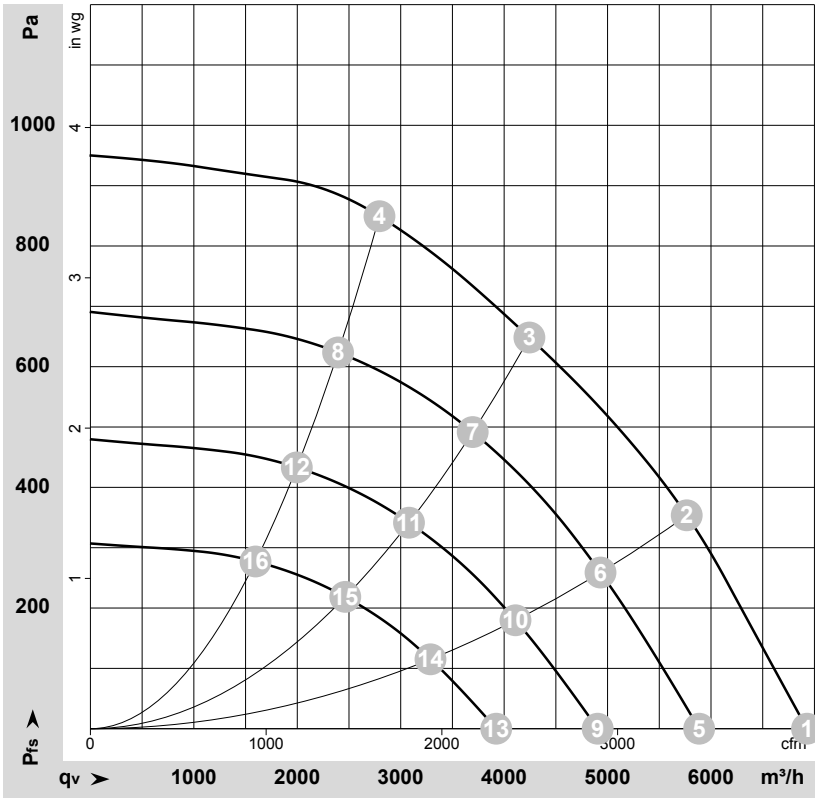
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-152014-1

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}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	400	50	2120	965	1.56	84	89	92	6930	0	4080	0.00
2	400	50	2110	1245	2.00	75	82	88	5765	360	3395	1.45
3	400	50	2060	1320	2.10	68	75	81	4245	650	2500	2.61
4	400	50	2100	1285	2.06	71	78	83	2795	850	1645	3.41
5	400	50	1800	592	0.96	80	85	88	5885	0	3465	0.00
6	400	50	1800	775	1.24	71	78	84	4930	261	2905	1.05
7	400	50	1800	875	1.41	64	71	78	3695	494	2175	1.98
8	400	50	1800	809	1.30	67	74	79	2395	624	1410	2.51
9	400	50	1500	342	0.55	75	80	83	4905	0	2885	0.00
10	400	50	1500	448	0.72	67	73	79	4110	182	2420	0.73
11	400	50	1500	506	0.81	60	67	73	3080	343	1815	1.38
12	400	50	1500	468	0.75	63	70	74	1995	433	1175	1.74
13	400	50	1200	175	0.28	70	75	77	3925	0	2310	0.00
14	400	50	1200	230	0.37	61	67	73	3290	116	1935	0.47
15	400	50	1200	259	0.42	54	61	68	2465	219	1450	0.88
16	400	50	1200	240	0.38	57	64	69	1595	277	940	1.11

U = Power supply · 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 · qv = Air flow · p_{fs} = Pressure increase

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