

K3G710-AS06-01

EC centrifugal module - RadiPac

backward-curved, single-intake

with cube design

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Nominal data

Type	K3G710-AS06-01	
Motor	M3G200-QA	
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	1550
Power consumption	W	12000
Current draw	A	18.6
Min. ambient temperature	°C	-25
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	65.7	62.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		64.8	62
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_{ed}	kW	12.12
09 Air flow q_v	m ³ /h	20390
09 Pressure increase p_{fs}	Pa	1343
10 Speed (rpm) n	min ⁻¹	1560
11 Specific ratio*		1.01

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

LU-168377



Technical description

Weight	182 kg
Fan size	710 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	Sheet aluminum
Inlet nozzle material	Sheet steel, galvanized and coated with light gray plastic (RAL 7035)
Support structure material	Sheet steel, galvanized and coated with light gray plastic (RAL 7035)
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
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	Shaft horizontal (base mounting only) 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 - 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 supply - 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 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)

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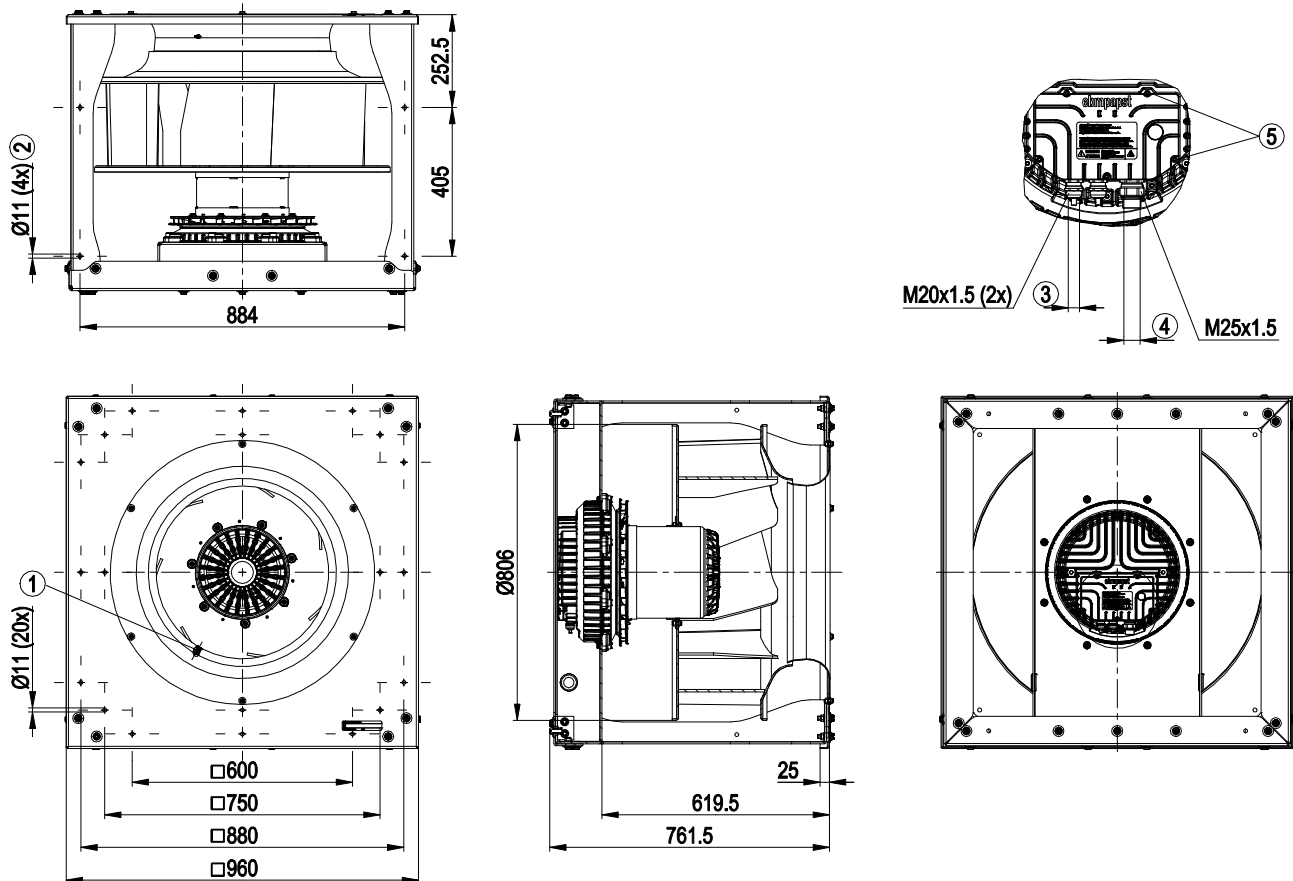
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1



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Product drawing



- | | |
|---|---|
| 1 | Inlet ring with pressure tap (k-factor: 545) |
| 2 | Mounting position for vibration-absorbing elements |
| 3 | Cable diameter min. 5 mm, max. 13 mm; tightening torque 6 ± 0.9 Nm |
| 4 | Cable diameter min. 16 mm, max. 20.5 mm, tightening torque 6 ± 0.9 Nm |
| 5 | Tightening torque 3.5 ± 0.5 Nm |

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Connection diagram

8	Din 2
9	Din 3
10	GND
11	Ain 2 U
12	+ 20 V
13	Ain 2 I
14	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

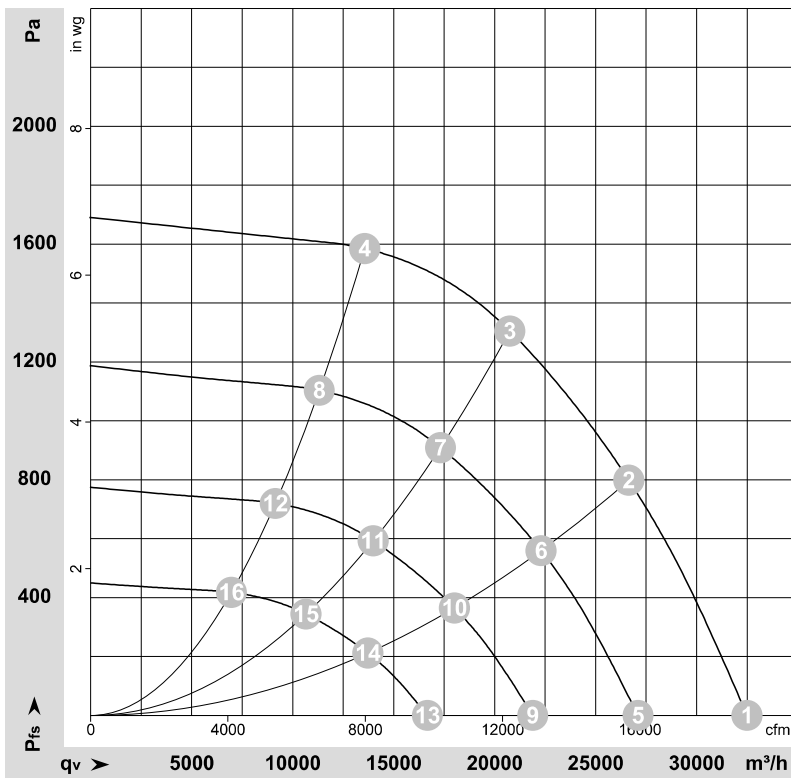
1	L 1
2	L 2
3	L 3
	PE

KL 1 PE

No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
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 250 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
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS RTU
KL 3	3 / 10	GND	Reference ground for control interface
KL 3	4	Ain1 U	Analog input 1 (set value), 0-10 V, Ri = 100 kΩ, adjustable curves, only usable as alternative to input Ain1I
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. pot)
KL 3	6	Ain1 I	Analog input 1 (set value), 4-20 mA, Ri = 100 Ω, adjustable curves, only usable as alternative to input Ain1U
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 V
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
KL 3	9	Din3	Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected as normal/inverse via bus or digital input; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC
KL 3	11	Ain2 U	Analog input 2, measured value 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2I
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)
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2U
KL 3	14	Aout	Analog output 0-10 V, max. 5 mA, output of current motor modulation level / of the current motor speed. Adjustable curve.



Curves: Air performance 50 Hz



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

Measurement: LU-168377-1

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}	qv	P _{fs}	qv	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	CFM	inH ₂ O
1	400	50	1550	7644	12.05	87	96	32490	0	19125	0.00
2	400	50	1550	10833	16.80	83	91	26640	800	15680	3.21
3	400	50	1550	12000	18.60	82	89	20750	1300	12210	5.22
4	400	50	1550	10810	16.74	84	91	13565	1600	7985	6.42
5	400	50	1300	4432	6.99	83	91	27095	0	15945	0.00
6	400	50	1300	6353	9.85	78	86	22295	560	13125	2.25
7	400	50	1300	7018	10.85	77	85	17315	915	10190	3.67
8	400	50	1300	6280	9.73	79	86	11315	1109	6660	4.45
9	400	50	1050	2335	3.68	77	86	21885	0	12880	0.00
10	400	50	1050	3348	5.19	73	81	18010	365	10600	1.47
11	400	50	1050	3698	5.72	72	79	13985	597	8230	2.40
12	400	50	1050	3309	5.13	74	81	9140	723	5380	2.90
13	400	50	800	1033	1.63	70	79	16675	0	9815	0.00
14	400	50	800	1481	2.30	66	74	13720	212	8075	0.85
15	400	50	800	1635	2.53	65	72	10655	346	6270	1.39
16	400	50	800	1464	2.27	67	74	6965	420	4100	1.69

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
 qv = Air flow · p_{fs} = Pressure increase

