

K3G710-AR03-01

EC centrifugal module - RadiPac

backward-curved, single-intake

with cube design

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Nominal data

Type	K3G710-AR03-01	
Motor	M3G200-LA	
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	1300
Power consumption	W	7700
Current draw	A	11.8
Min. ambient temperature	°C	-40
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 Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	65.6	60.8	09 Power consumption P_{ed}	kW	7.71
02 Measurement category		A		09 Air flow q_v	m ³ /h	18520
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	943
04 Efficiency grade N		66.8	62	10 Speed (rpm) n	min ⁻¹	1300
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-161317

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).



Technical description

Weight	163 kg
Size	710 mm
Motor size	200
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
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	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	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	Terminal box
Motor protection	Reverse polarity and locked-rotor protection

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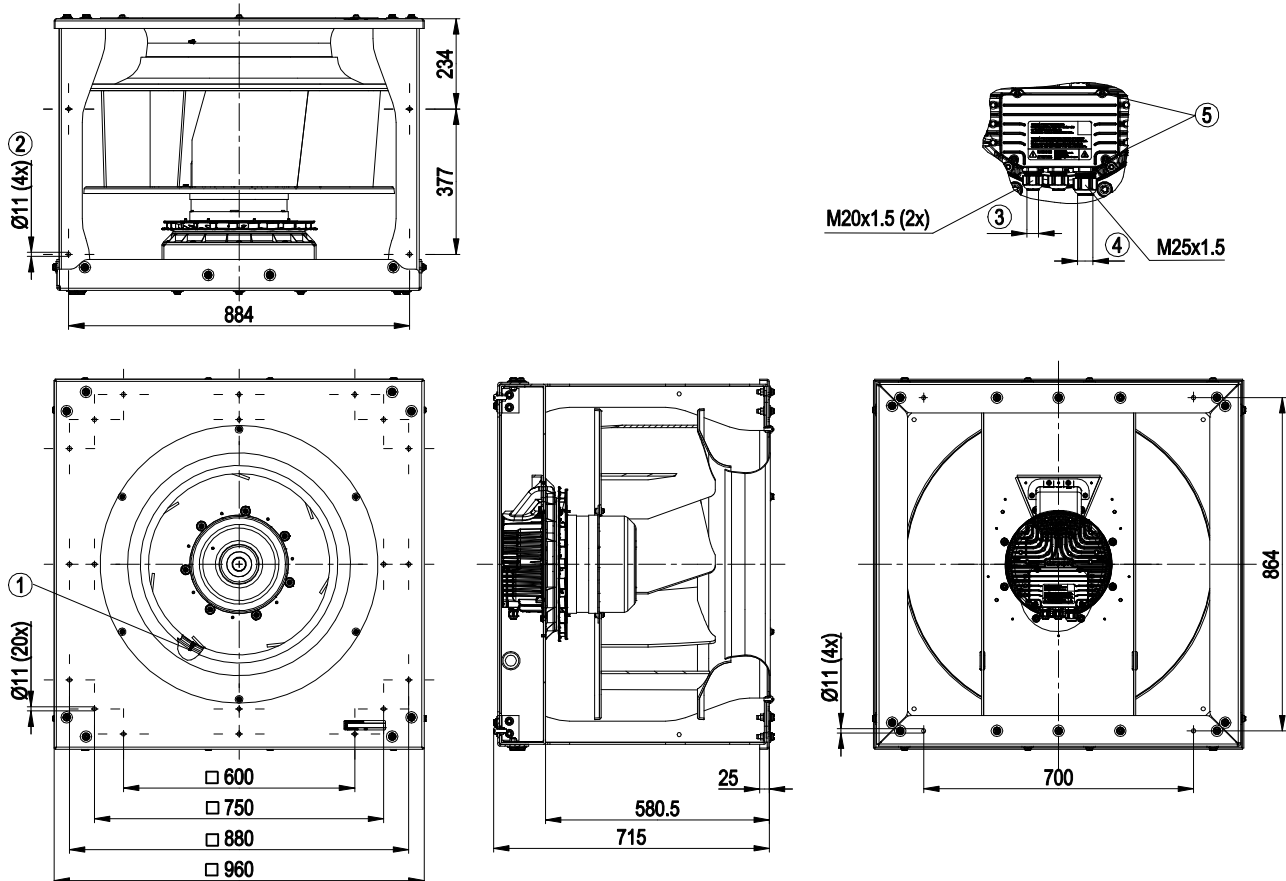
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1



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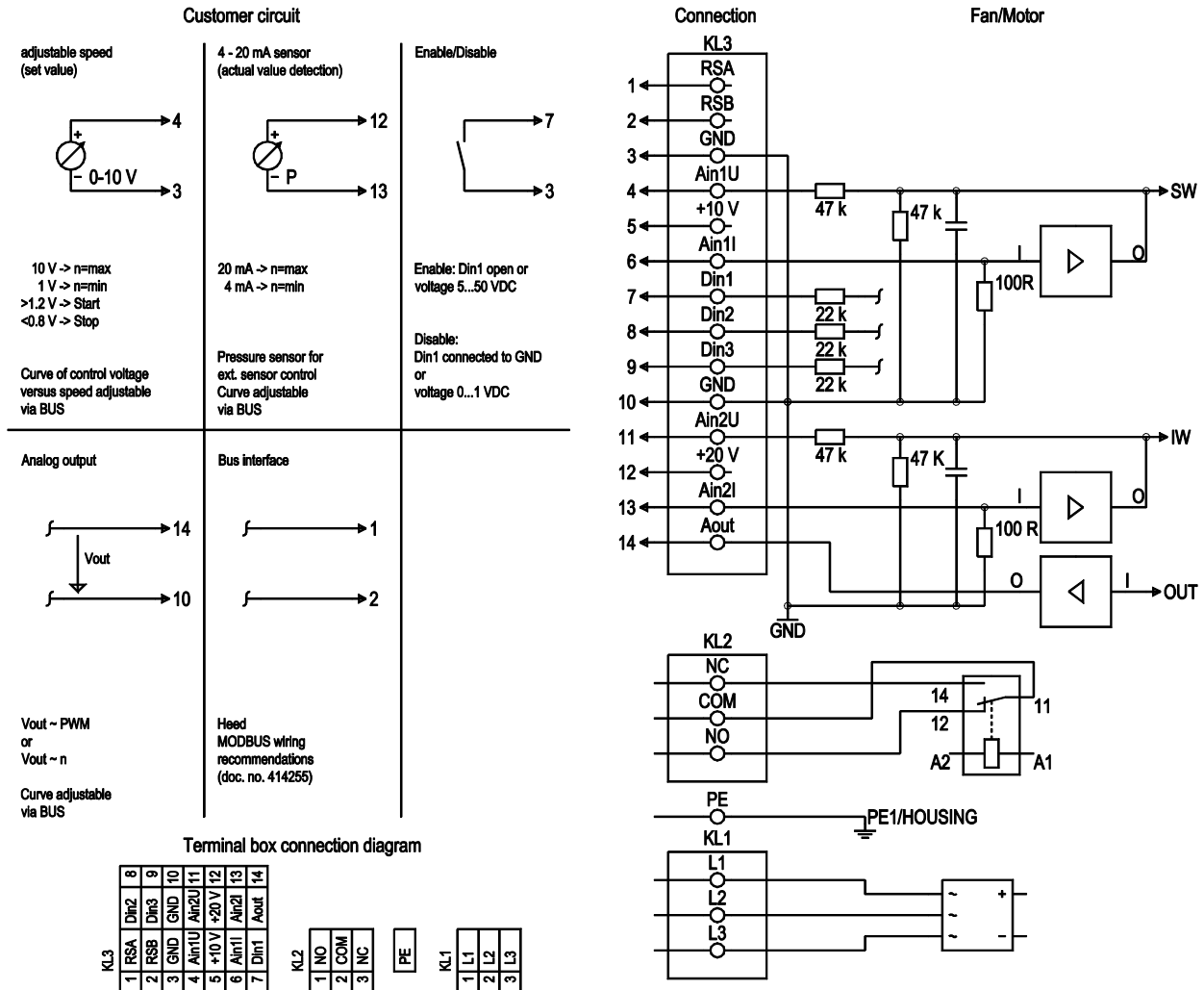
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Product drawing



- | | |
|---|--|
| 1 | Inlet ring with pressure tap (k-factor: 545) |
| 2 | Mounting position for vibration-absorbing elements |
| 3 | Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm |
| 4 | Cable diameter min. 9 mm, max. 16 mm, tightening torque 6 ± 0.9 Nm |
| 5 | Tightening torque 3.5 ± 0.5 Nm |

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 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; 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
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, + 10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometers); 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

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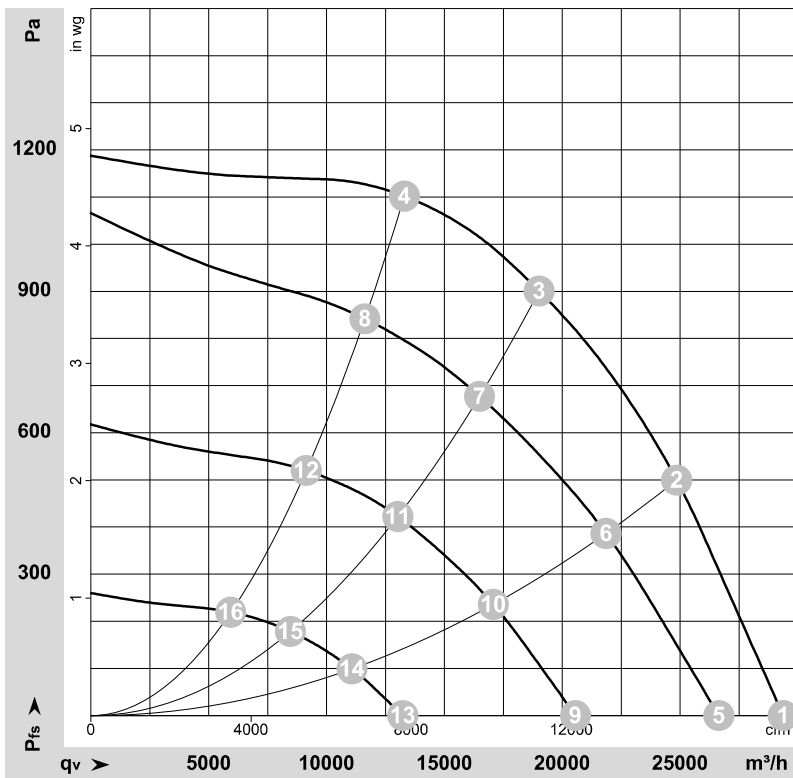
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No.	Conn.	Designation	Function/assignment
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 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 ext. 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



Curves: Air performance 50 Hz



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

Measurement: LU-159057-1

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	1300	5081	7.78	85	95	99	29375	0	17290	0.00
2	400	50	1300	6874	10.52	81	90	94	24855	500	14630	2.01
3	400	50	1300	7700	11.80	79	88	92	19020	900	11195	3.61
4	400	50	1300	7235	11.07	79	87	91	13300	1100	7830	4.42
5	400	50	1190	3832	5.94	83	92	96	26645	0	15680	0.00
6	400	50	1150	4727	7.29	78	87	92	21855	394	12865	1.58
7	400	50	1135	5124	7.87	76	85	90	16490	679	9705	2.73
8	400	50	1145	4913	7.56	76	84	89	11625	842	6840	3.38
9	400	50	915	1789	3.01	76	85	90	20560	0	12100	0.00
10	400	50	895	2273	3.70	72	81	86	17075	240	10050	0.96
11	400	50	890	2507	4.02	71	79	83	13025	425	7665	1.71
12	400	50	895	2348	3.79	69	77	82	9135	521	5375	2.09
13	400	50	595	571	1.29	65	73	80	13230	0	7785	0.00
14	400	50	585	714	1.52	60	68	74	11075	100	6520	0.40
15	400	50	580	785	1.63	59	67	72	8465	180	4980	0.72
16	400	50	585	741	1.56	57	65	70	5935	219	3490	0.88

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

