K3G710-PV05-01

EC centrifugal module - RadiPac

forward-curved, single-intake

with cube design

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Nominal data

Type	**K3G710-PV05-01**
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}	1430
Power consumption	W	7050
Current draw	A	10.7
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	69.7	60.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.3	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	7.01
09 Air flow q_v	m^3/h	18280
09 Pressure increase p_{fs}	Pa	930
10 Speed (rpm) n	min^{-1}	1430
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	128.7 kg
Size	710 mm
Motor size	200
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Support plate material	Sheet steel, galvanized
Spacer material	Aluminum
Inlet nozzle material	Sheet steel, galvanized
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
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 mounting	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 PI 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 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box

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

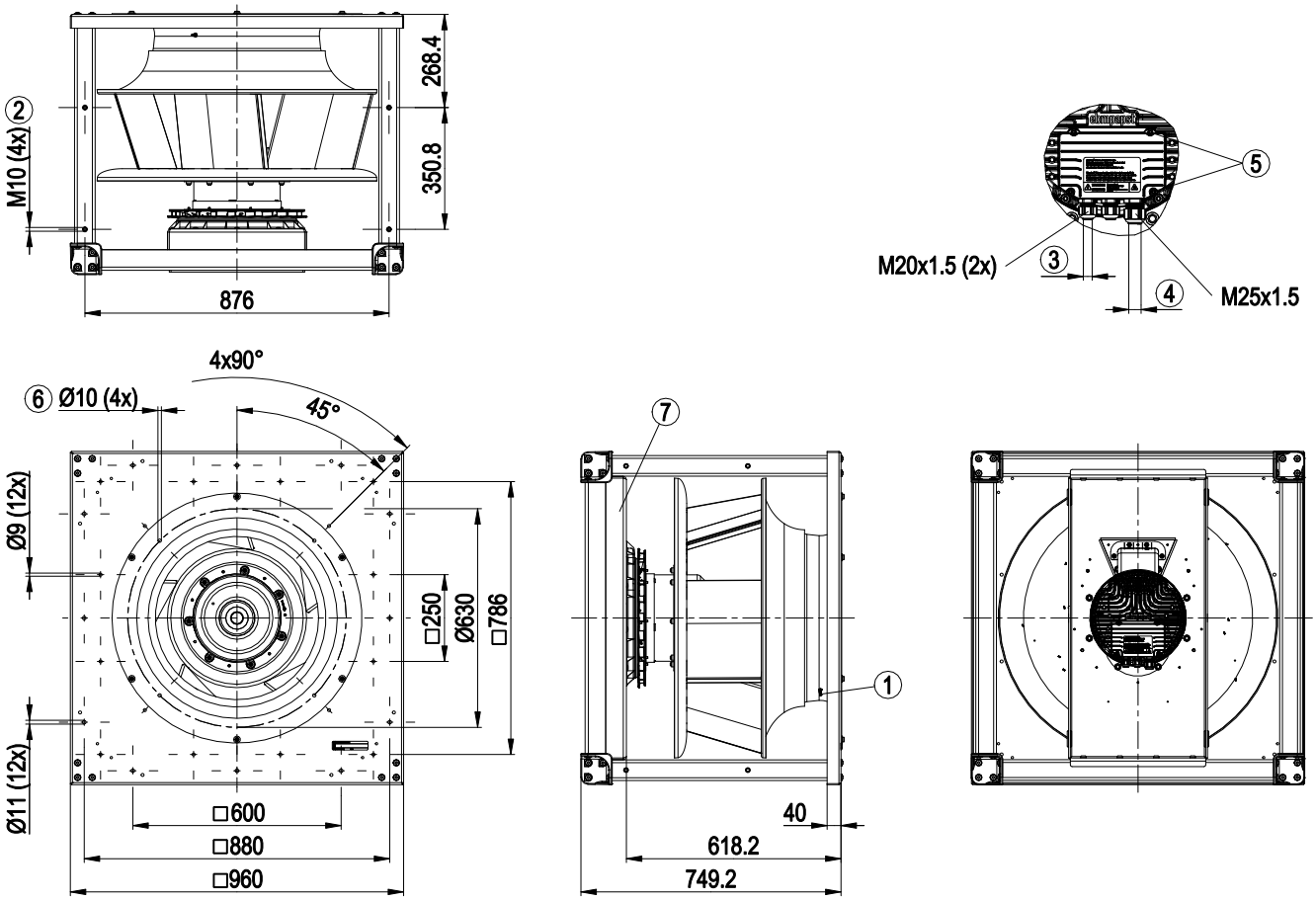
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Product drawing



1	Inlet ring with pressure tap (k-factor: 545)
2	Mounting position for vibration-absorbing elements, tightening torque max. 40 Nm
3	Cable diameter min. 5 mm, max. 13 mm, tightening torque 4 ± 0.6 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
6	Mounting holes for FlowGrid
7	Installation position: shaft horizontal (motor support plate must stand upright) or rotor on bottom; rotor on top on request

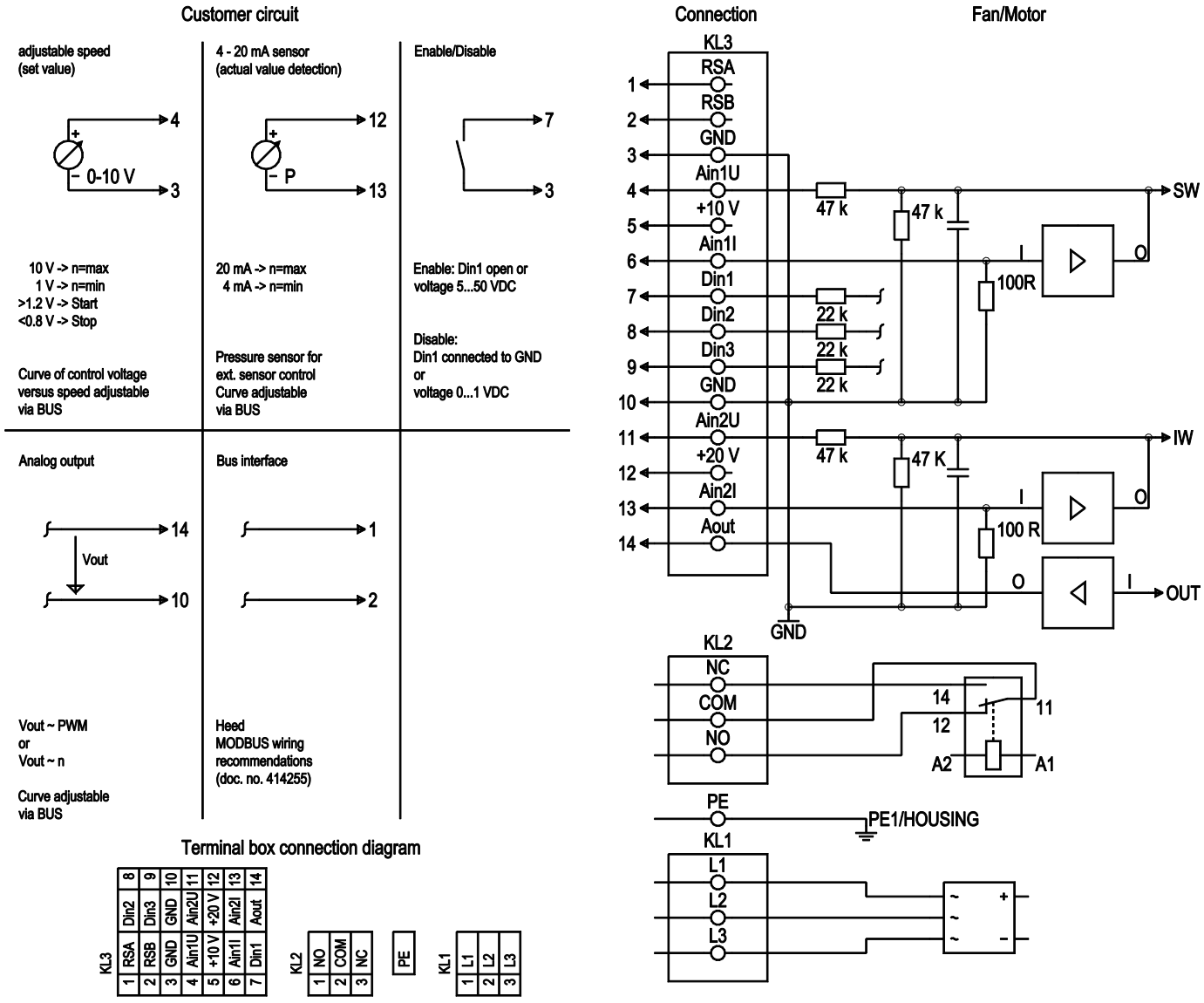
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Connection diagram



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

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No.	Conn.	Designation	Function/assignment
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
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

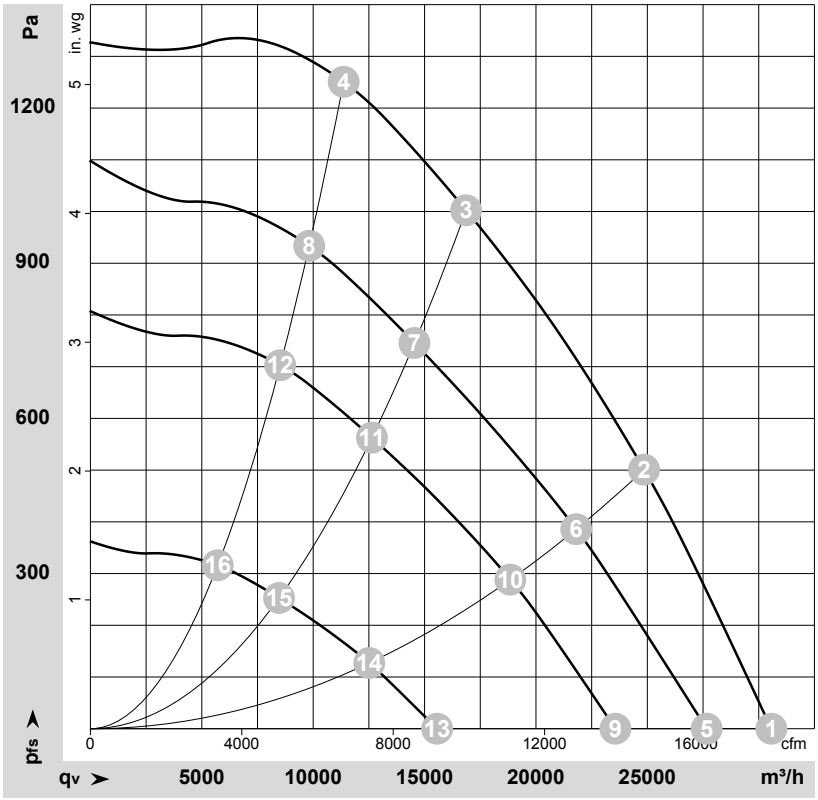
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-186827-1
Measurement: LU-185017-1

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

	Wired	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	3~	400	50	1430	3730	5.88	81	89	91	30565	0	17990	0.00
2	3~	400	50	1430	5785	8.90	78	86	88	24850	500	14625	2.01
3	3~	400	50	1430	7050	10.70	76	84	87	16865	1000	9925	4.01
4	3~	400	50	1430	6767	10.35	79	86	89	11365	1250	6690	5.02
5	3~	400	50	1290	2875	4.65	78	85	88	27660	0	16280	0.00
6	3~	400	50	1245	3969	6.24	74	81	83	21805	389	12835	1.56
7	3~	400	50	1220	4502	7.02	73	79	83	14545	746	8560	2.99
8	3~	400	50	1230	4331	6.77	75	82	85	9820	941	5780	3.78
9	3~	400	50	1110	1872	3.25	74	82	84	23565	0	13870	0.00
10	3~	400	50	1080	2611	4.28	70	78	80	18850	290	11095	1.16
11	3~	400	50	1065	2993	4.83	70	76	79	12635	563	7435	2.26
12	3~	400	50	1065	2870	4.65	71	78	82	8520	709	5015	2.85
13	3~	400	50	740	647	1.53	65	73	75	15560	0	9160	0.00
14	3~	400	50	720	877	1.90	61	69	71	12515	128	7365	0.51
15	3~	400	50	715	1002	2.09	61	68	70	8470	253	4985	1.02
16	3~	400	50	715	963	2.03	62	69	72	5715	319	3365	1.28

Wired = Wiring · 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 · q_V = Air flow · p_{fs} = Pressure increase

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