K3G450-PB35-19

EC centrifugal module - RadiPac

backward curved, single inlet

with support bracket

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Nominal data

Type	**K3G450-PB35-19**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	2600
Power input	W	5450
Current draw	A	16.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	66	59.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.9	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	5.32
09 Air flow q_v	m^3/h	7755
09 Pressure increase p_{fs}	Pa	1579
10 Speed (rpm) n	min^{-1}	2610
11 Specific ratio*		1.02

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

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Technical features

Mass	47 kg
Size	450 mm
Motor size	150
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Material of mounting plate	Sheet steel, galvanised
Material of support bracket	Steel, coated in black
Material of inlet nozzle	Sheet steel, galvanised
Number of blades	5
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP55
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Refer to product drawing
Condensation drainage holes	Rotor-side
Operation 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 - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CSA C22.2 no. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1

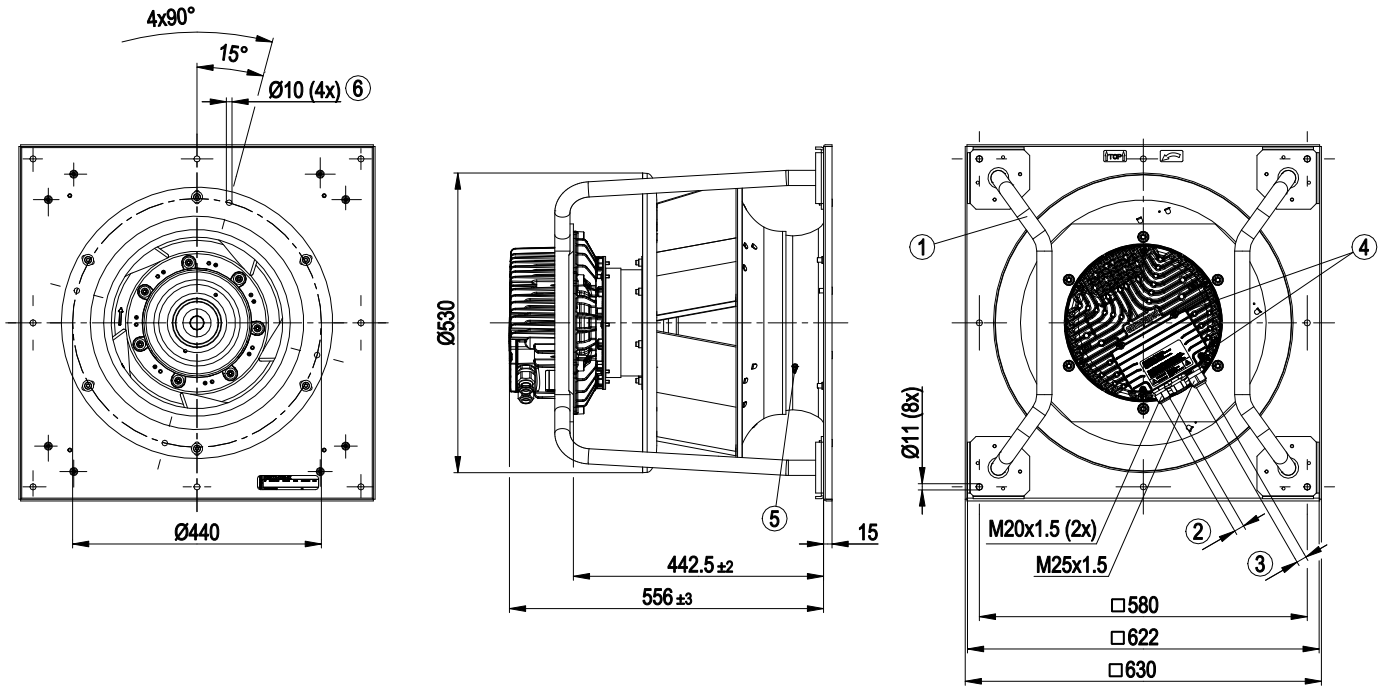
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Product drawing



1	Installation position: Shaft horizontal (install the support struts only vertically as shown in the illustration!) or rotor on bottom; rotor on top on request
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
3	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6±0.9 Nm
4	Tightening torque 3.5±0.5 Nm
5	Inlet nozzle with pressure tap (k-factor: 240)
6	Mounting holes for FlowGrid

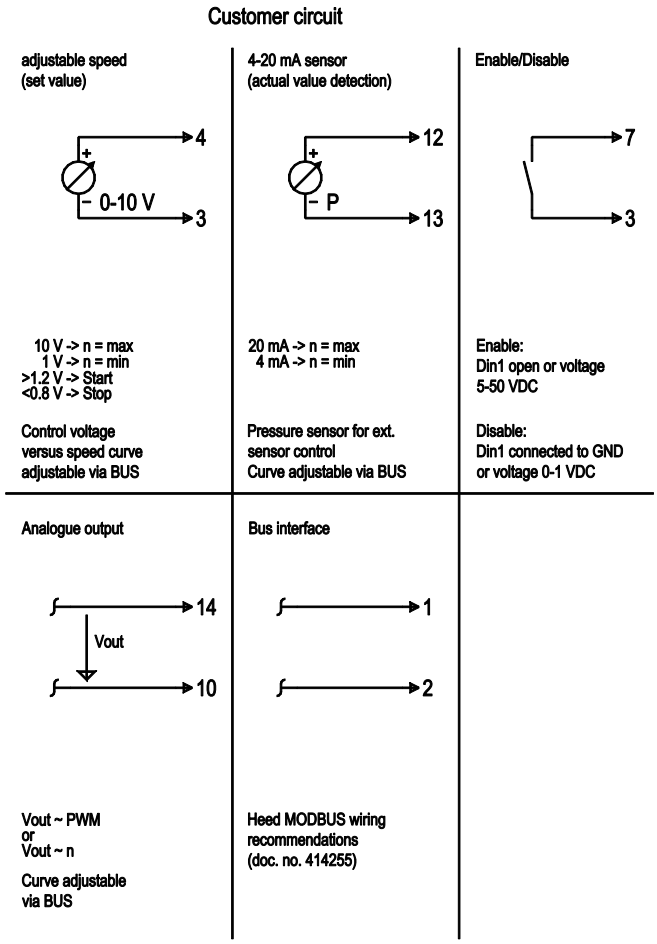
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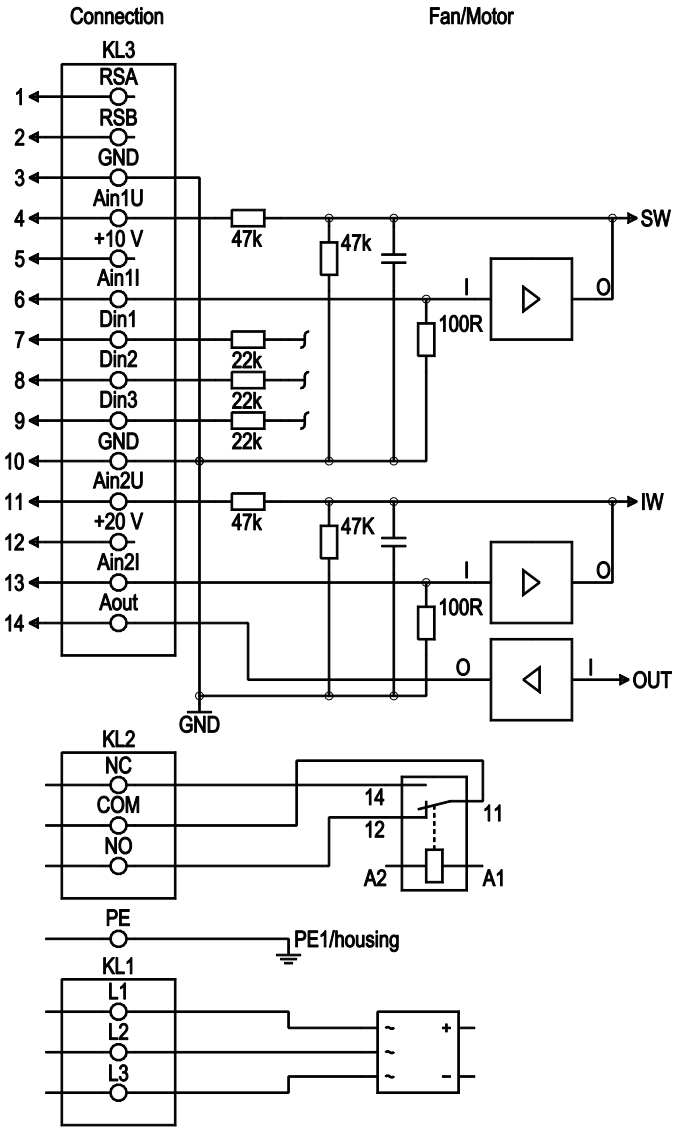
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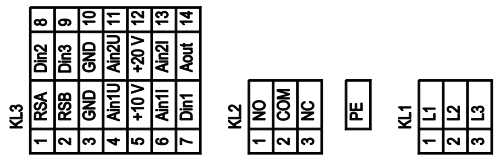
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Connection screen





Terminal box connection diagram



No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains connection, power supply, phase, see type plate for voltage range
KL 1	2	L2	Mains connection, power supply, phase, see type plate for voltage range
KL 1	3	L3	Mains connection, power supply, phase, see type plate for voltage range
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact, make for failure
KL 2	2	COM	Status relay, floating status contact, changeover contact, common connection, contact rating, max. 250 VAC/2 A (AC1)/min. 10 mA
KL 2	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	Signal ground for control interface, SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only for use as alternative to input Ain1; 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. potentiometer); SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: Enabling of electronics, Enabling: Pin open or applied voltage 5-50 VDC Disabling: 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: Parameter set 1/2 switching, depending on EEPROM setting, the valid/used parameter set can be selected via the bus or via the 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: Controller function of integrated controller; depending on EEPROM setting, normal / inverse can be selected for the controller function of the integrated controller via the bus or the digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; 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 parametrisation without mains power
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 V, max. 5 mA, output of current motor level control coefficient; parametrisable curve; SELV

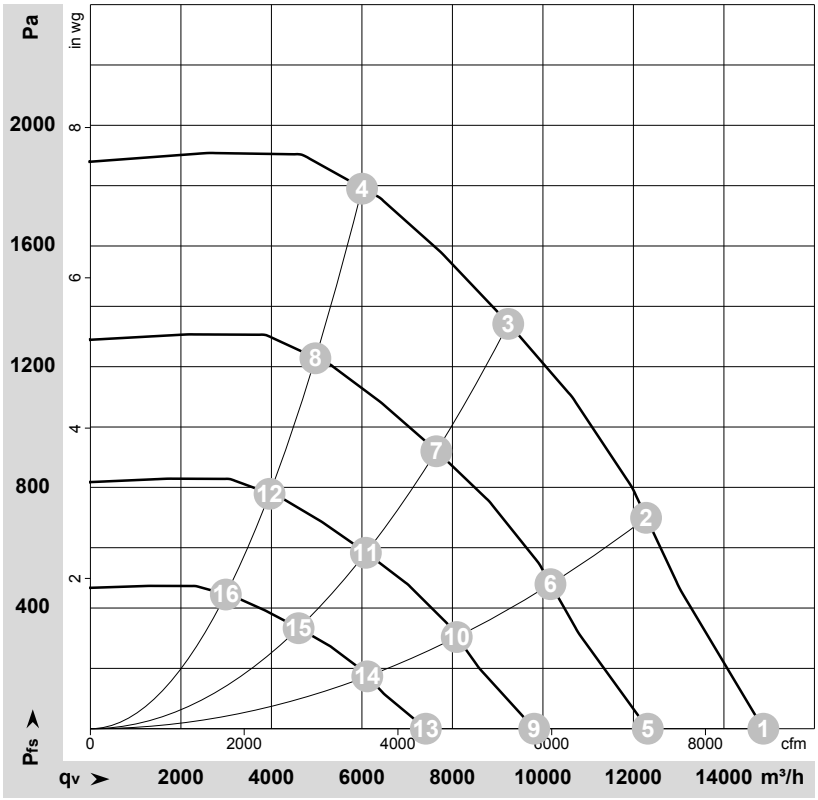
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176771-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	200	50	2600	3052	9.46	94	102	101	14870	0	8755	0.00
2	200	50	2600	4555	13.99	86	93	96	12280	702	7230	2.82
3	200	50	2600	5450	16.60	80	87	94	9200	1340	5415	5.38
4	200	50	2600	5187	15.83	84	91	97	6005	1793	3535	7.20
5	200	50	2160	1734	5.37	90	97	96	12315	0	7250	0.00
6	200	50	2160	2585	7.94	81	89	92	10165	481	5985	1.93
7	200	50	2160	3120	9.52	75	82	90	7645	922	4500	3.70
8	200	50	2160	2947	8.99	79	86	92	4970	1230	2925	4.94
9	200	50	1720	875	2.71	84	91	91	9810	0	5775	0.00
10	200	50	1720	1305	4.01	76	83	86	8095	305	4765	1.22
11	200	50	1720	1575	4.80	69	76	84	6085	584	3585	2.34
12	200	50	1720	1488	4.54	74	80	86	3960	780	2330	3.13
13	200	50	1300	378	1.17	77	84	84	7415	0	4365	0.00
14	200	50	1300	563	1.73	69	76	79	6120	174	3600	0.70
15	200	50	1300	680	2.07	62	69	77	4600	334	2710	1.34
16	200	50	1300	642	1.96	66	73	79	2990	445	1760	1.79

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
q_V = Air flow · p_{fs} = Pressure increase

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