K3G500-PB24-09

EC centrifugal module - RadiPac

backward curved, single inlet

with support bracket

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Nominal data

Type	**K3G500-PB24-09**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2250
Power input	W	5700
Current draw	A	9
Min. ambient temperature	°C	-40
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

Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (such as refrigeration applications), a fan design with special low-temperature bearings must be used.

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	68.6	59.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.1	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	5.8
09 Air flow q_v	m^3/h	11060
09 Pressure increase p_{fs}	Pa	1252
10 Speed (rpm) n	min^{-1}	2255
11 Specific ratio*		1.01

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	50.5 kg
Size	500 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
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
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 for slave 0-10 V - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
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

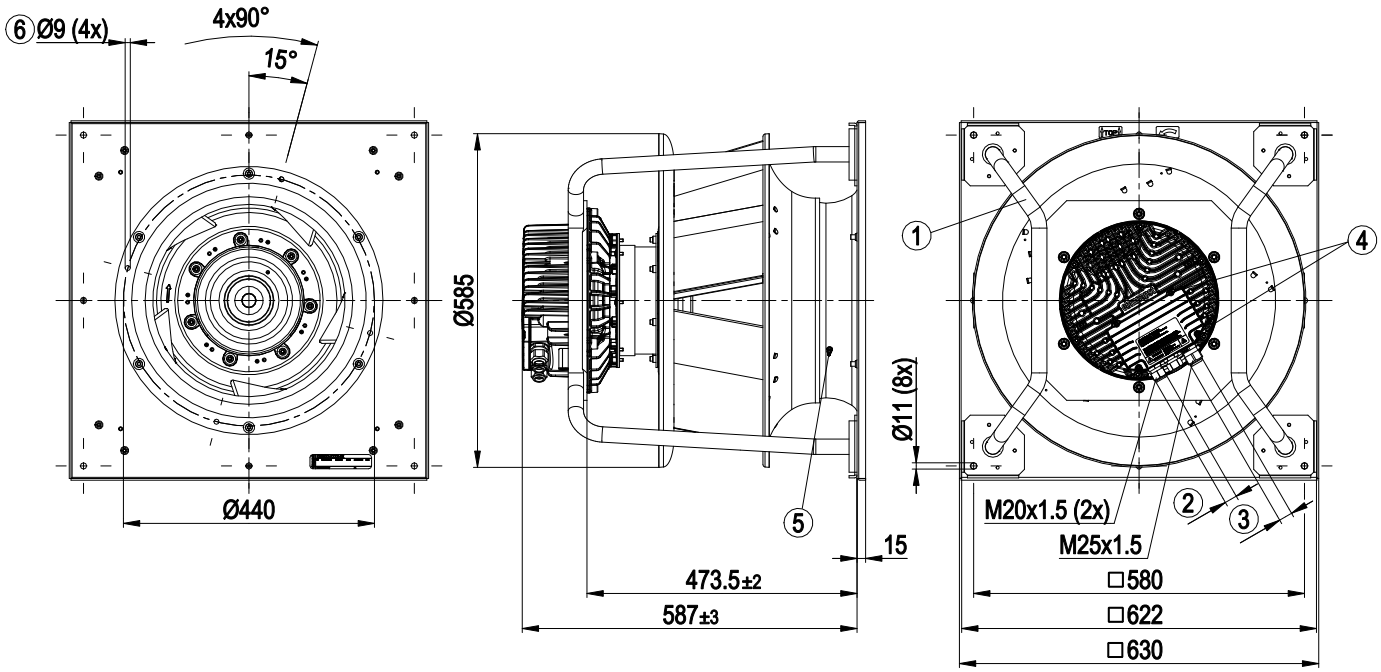
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Product drawing



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: 281)
6	Mounting holes for FlowGrid

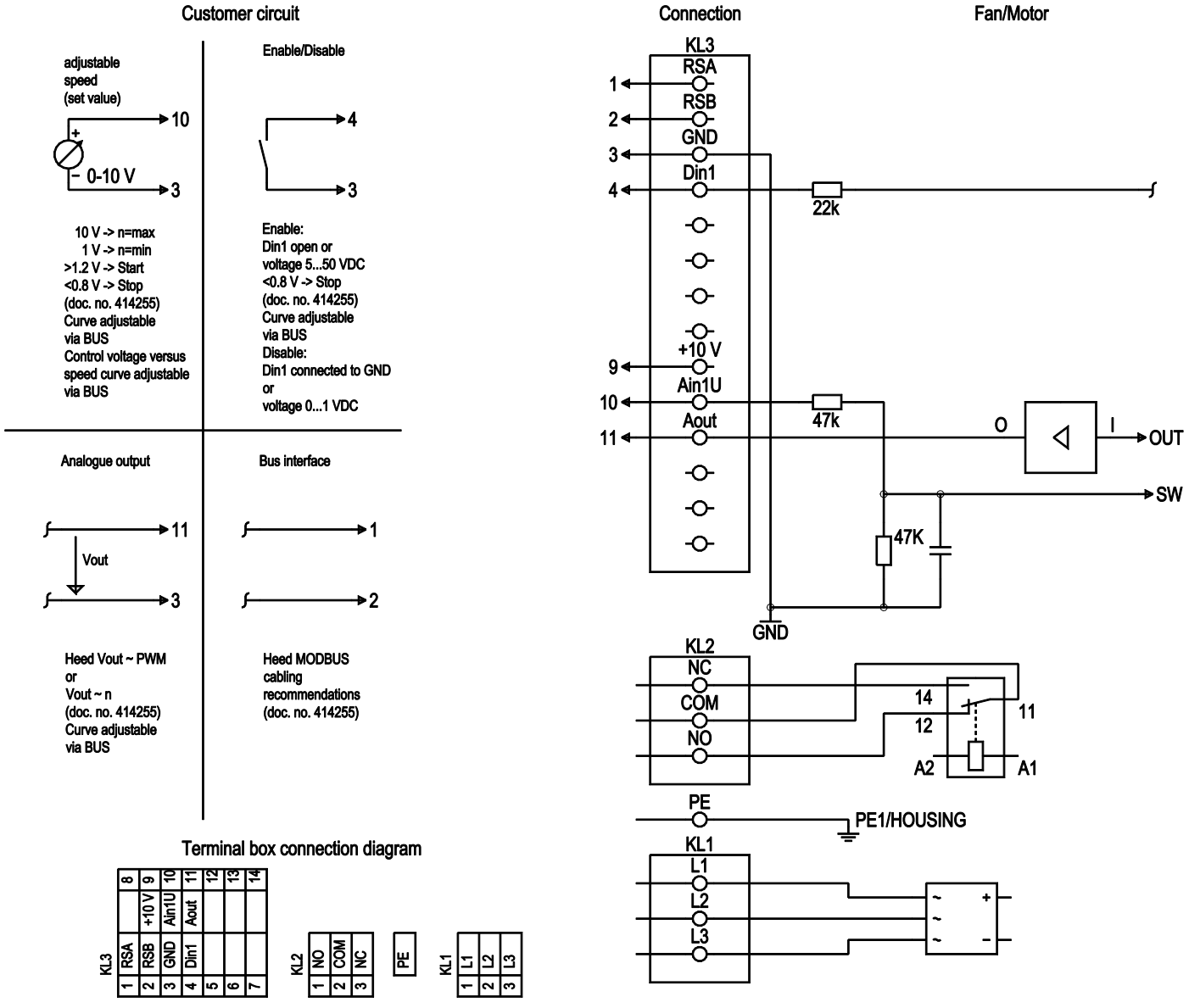
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Connection screen



No.	Conn.	Designation	Function / assignment
KL 1	1, 2, 3	L1, L2, L3	Power supply, phase, see type plate for voltage range
PE	PE	PE	Protective earth
KL2	1	NO	Status relay, floating status contact, option 1: Make for failure, option 2: Make for error message from running monitor
KL2	2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
KL2	3	NC	Status relay, floating status contact, option 1: Break for failure, option 2: Break for error message from running monitor
KL 3	1	RSA	RS-485 interface for MODBUS, RSA; SELV
KL 3	2	RSB	RS-485 interface for MODBUS, RSB; SELV

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No.	Conn.	Designation	Function / assignment
KL 3	3	GND	Reference earth for control interface; SELV
KL 3	4	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	-	-	-
KL 3	-	-	-
KL3	-	-	-
KL3	-	-	-
KL 3	9	10 V / max. 10 mA	Voltage output, power supply for external devices (e.g. potentiometers), SELV
KL 3	10	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrizable curve; SELV
KL 3	11	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV
KL 3	-	-	-
KL 3	-	-	-
KL 3	-	-	-

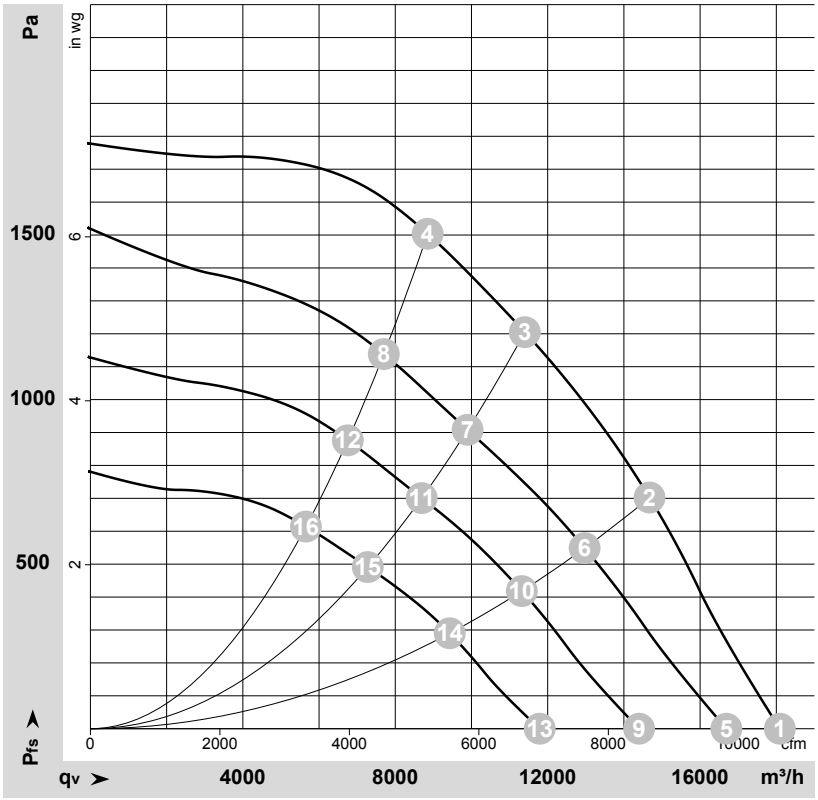
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176838-1

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	400	50	2250	3195	4.95	100	106	105	18095	0	10650	0.00
2	400	50	2250	4887	7.47	90	97	98	14675	700	8635	2.81
3	400	50	2250	5700	9.00	82	89	94	11400	1200	6710	4.82
4	400	50	2250	5668	8.65	81	88	94	8850	1500	5210	6.02
5	400	50	2075	2480	3.94	98	104	104	16690	0	9820	0.00
6	400	50	2000	3407	5.31	87	94	96	12970	549	7635	2.20
7	400	50	1965	3768	5.85	79	86	91	9900	908	5825	3.65
8	400	50	1965	3722	5.78	78	84	91	7700	1144	4530	4.59
9	400	50	1795	1631	2.72	93	101	101	14400	0	8475	0.00
10	400	50	1750	2288	3.66	84	91	94	11320	418	6665	1.68
11	400	50	1725	2568	4.06	76	82	89	8695	701	5115	2.81
12	400	50	1730	2533	4.01	74	81	89	6755	880	3975	3.53
13	400	50	1490	993	1.84	89	95	96	11790	0	6940	0.00
14	400	50	1460	1385	2.39	78	86	88	9430	290	5550	1.16
15	400	50	1445	1569	2.64	70	78	83	7280	491	4285	1.97
16	400	50	1445	1542	2.60	70	76	82	5655	617	3330	2.48

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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