K3G560-PB31-B2

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

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Nominal data

Type	**K3G560-PB31-B2**
Motor	**M3G150-IF**

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}	1540
Power consumption	W	3300
Current draw	A	5.1
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	50

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}	%	71	56.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76.1	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	3.29
09 Air flow q_v	m^3/h	10515
09 Pressure increase p_{fs}	Pa	759
10 Speed (rpm) n	min^{-1}	1535
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	52.5 kg
Size	560 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	Sheet aluminum, painted black
Support plate material	Sheet steel, galvanized and painted black
Support bracket material	Steel, galvanized and painted black
Inlet nozzle material	Sheet steel, galvanized and painted black
Number of blades	5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2+S
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 bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - 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 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 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
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
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

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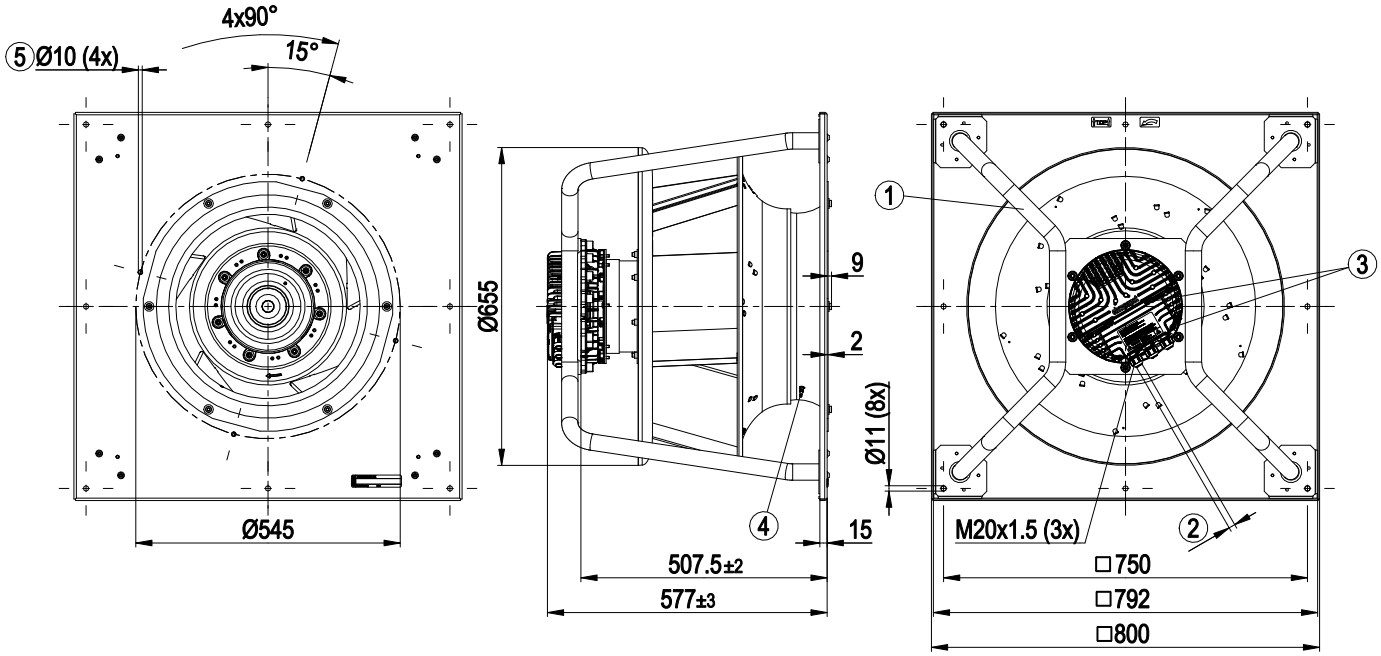
Product drawing



1	Installed position: shaft horizontal (install support struts only vertically as illustrated) 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	Tightening torque 3.5 ± 0.5 Nm
4	Inlet ring with pressure tap (k-factor: 348)
5	Mounting holes for FlowGrid

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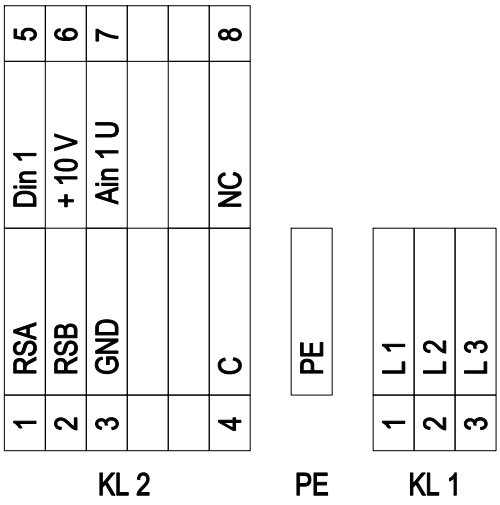
Connection diagram



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	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 2	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 2	3	GND	Reference ground for control interface; SELV
KL2	4	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL 2	5	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; SELV
KL 2	6	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV Or: +24 VDC input for parameter setting via MODBUS without line voltage
KL 2	7	Ain1 U	Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL2	8	NC	Status relay, floating status contact, break for failure

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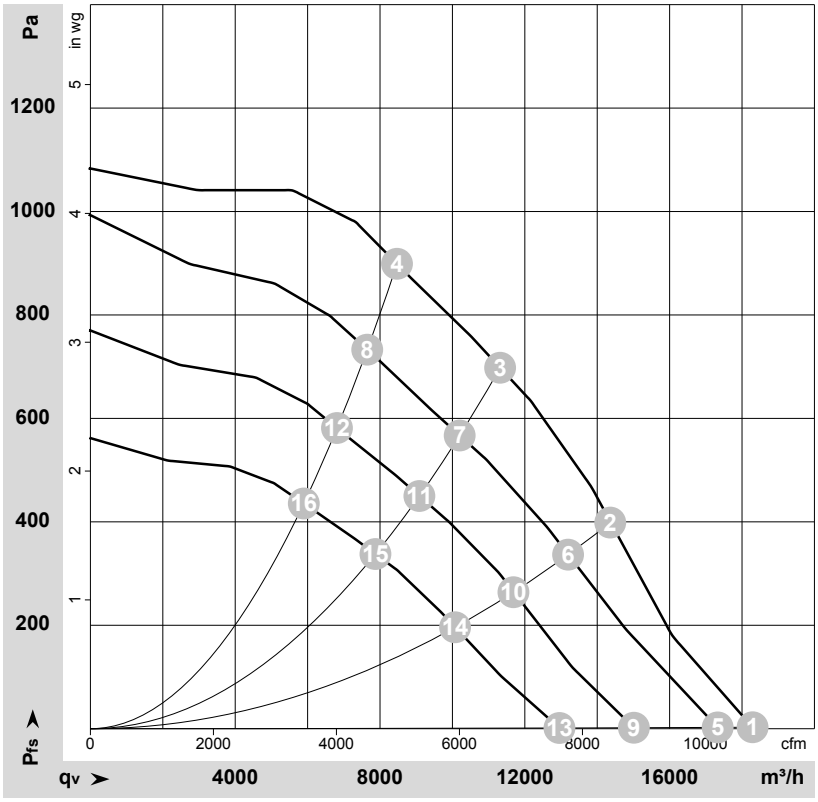
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-173841-1

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	1540	1834	2.88	91	97	97	18290	0	10765	0.00
2	400	50	1540	2810	4.32	81	88	90	14360	400	8450	1.61
3	400	50	1540	3300	5.10	76	82	86	11320	700	6665	2.81
4	400	50	1540	3230	4.95	76	82	86	8470	900	4985	3.61
5	400	50	1470	1591	2.52	89	96	95	17325	0	10200	0.00
6	400	50	1410	2168	3.37	80	86	88	13195	337	7765	1.35
7	400	50	1385	2389	3.70	71	79	82	10200	567	6005	2.28
8	400	50	1385	2372	3.68	71	78	82	7645	733	4500	2.94
9	400	50	1275	1059	1.77	86	93	93	15015	0	8835	0.00
10	400	50	1250	1524	2.43	75	83	85	11685	265	6880	1.06
11	400	50	1235	1699	2.69	69	75	80	9085	450	5350	1.81
12	400	50	1235	1684	2.66	69	75	80	6810	581	4010	2.33
13	400	50	1110	714	1.31	82	89	90	12955	0	7625	0.00
14	400	50	1080	1001	1.69	72	79	82	10075	196	5930	0.79
15	400	50	1070	1116	1.85	65	72	77	7875	338	4635	1.36
16	400	50	1070	1101	1.83	65	72	77	5895	436	3470	1.75

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

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