K3G630-RA21-75

EC centrifugal module - RadiCal

backward curved, single inlet

with support bracket

K3G630-RA21-75 ebmpapst Datasheet
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Nominal data

Type	**K3G630-RA21-75**
Motor	**M3G150-FF**

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}	1130
Power input	W	1790
Current draw	A	2.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	64.3	54
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.3	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.73
09 Air flow q_v	m^3/h	10375
09 Pressure increase p_{fs}	Pa	362
10 Speed (rpm) n	min^{-1}	1130
11 Specific ratio*		1.00

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

LU-144807

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Technical features

Mass	50 kg
Size	630 mm
Motor size	150
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
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	6
Direction of rotation	Clockwise, seen on rotor
Protection rating	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 - Operation and alarm display - 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 61000-6-3 (household environment), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Lateral
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

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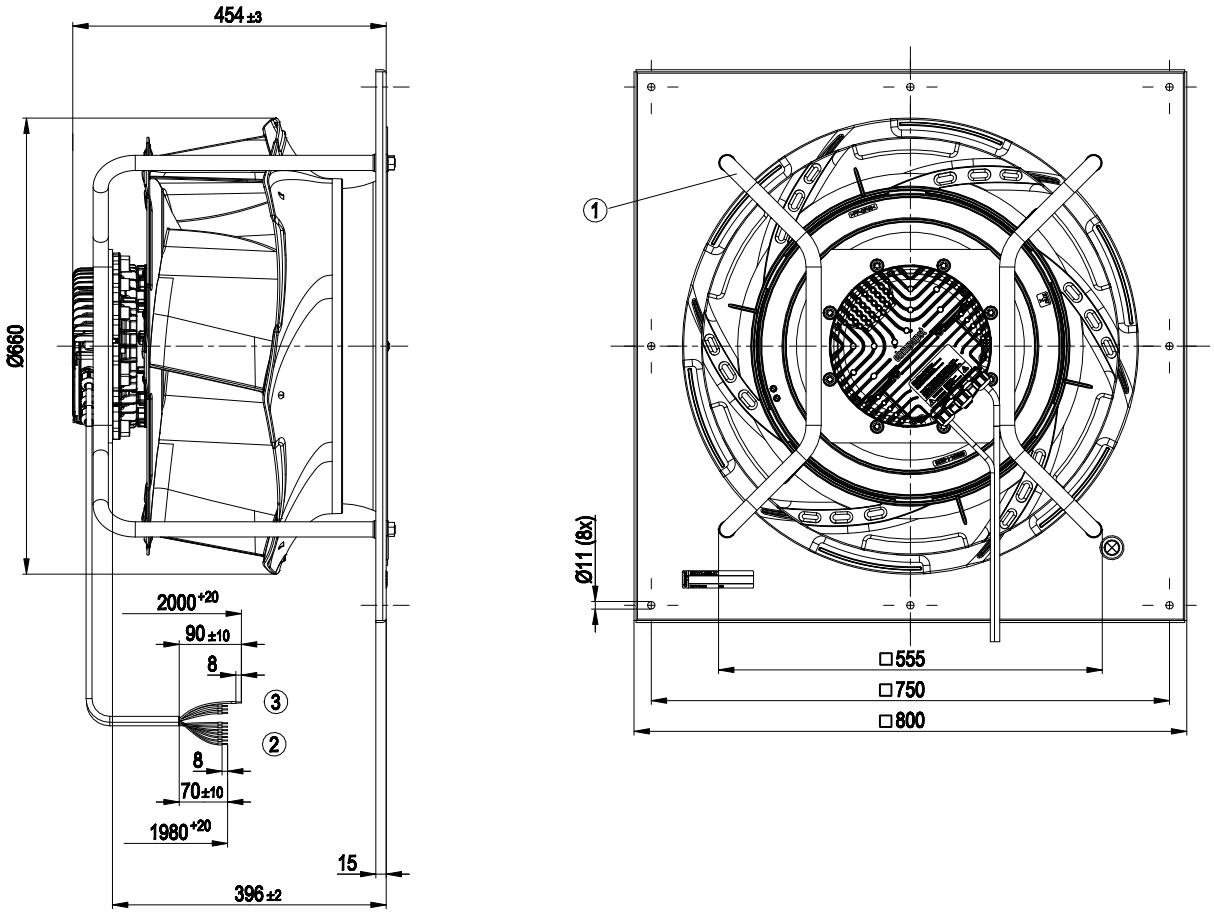
Product drawing



1	Installation position: shaft horizontal (install the support struts only vertically as shown in the illustration!) or rotor on bottom
2	Connection line PVC AWG20, 7x lead tips crimped
3	Connection line PVC AWG18, 4x lead tips crimped

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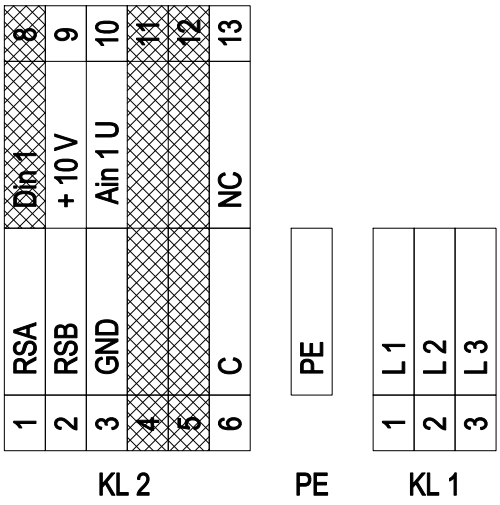
Connection screen



grey shaded => not brought out via leads

No.	Conn.	Designation	Colour	Function / assignment
KL 1	1	L1	black	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	2	L2	black	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	3	L3	black	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
PE		PE	green/yellow	Earth connection, PE connection
KL 2	1	RSA	white	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 2	2	RSB	brown	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 2	3	GND	blue	Signal ground for control interface; SELV
KL2	4	C	black	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 enabling of electronics, enabling: open pin 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 V; SELV
KL 2	6	+ 10 V	red	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer); SELV Alternatively: +24 V DC input for parametrisation via MODBUS without mains power
KL 2	7	Ain1 U	yellow	Analogue input 1 (set value) 0-10 V, Ri=100 kΩ, parametrisable curve; SELV
KL2	8	NC	grey	Status relay; floating status contact; contact rating 250 VAC / 2 A (AC1); break for failure

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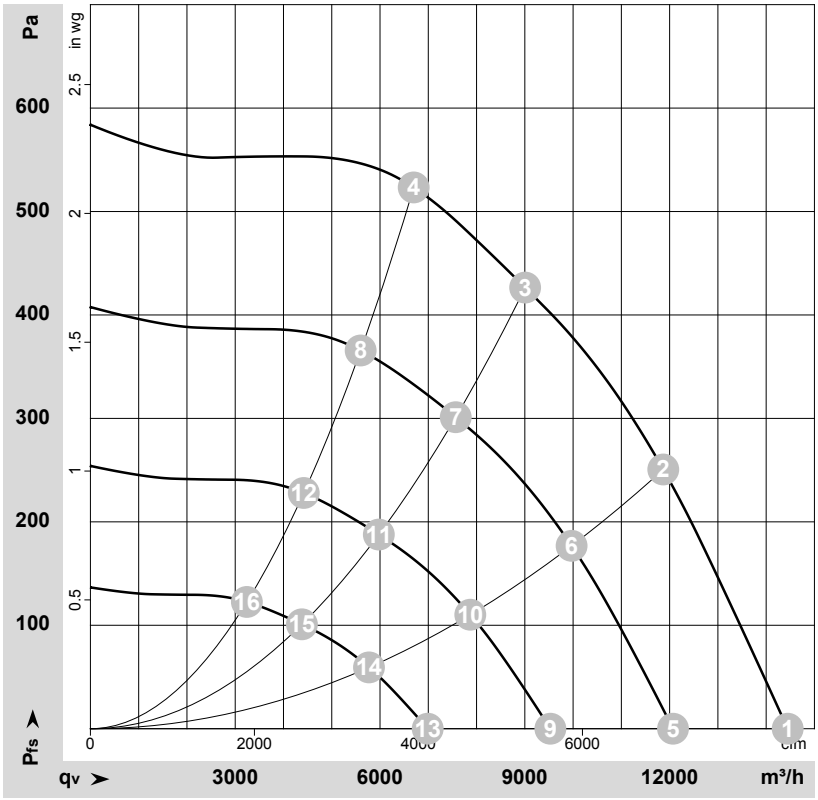
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-144807-1

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	1130	1177	1.94	77	84	88	14445	0	8505	0.00
2	400	50	1130	1655	2.63	70	76	81	11870	250	6985	1.00
3	400	50	1130	1790	2.80	67	74	78	9005	425	5300	1.71
4	400	50	1130	1765	2.79	69	76	80	6700	525	3940	2.11
5	400	50	950	686	1.13	73	80	84	12070	0	7105	0.00
6	400	50	950	981	1.56	65	72	77	9970	179	5870	0.72
7	400	50	950	1058	1.67	63	70	74	7570	302	4455	1.21
8	400	50	950	1030	1.63	65	72	76	5600	368	3295	1.48
9	400	50	750	338	0.56	67	74	78	9530	0	5610	0.00
10	400	50	750	483	0.77	59	66	71	7870	112	4630	0.45
11	400	50	750	521	0.82	57	64	68	5975	188	3515	0.75
12	400	50	750	507	0.80	59	66	70	4420	229	2600	0.92
13	400	50	550	133	0.22	59	66	70	6990	0	4115	0.00
14	400	50	550	190	0.30	51	58	63	5770	60	3395	0.24
15	400	50	550	205	0.32	49	56	60	4380	101	2580	0.41
16	400	50	550	200	0.32	51	58	62	3240	123	1910	0.49

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