EC centrifugal module - RadiCal

backward curved, single inlet

with support plate

K3G400-RP45-46 ebmpapst Datasheet
sales@fansco.com
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Nominal data

Type	**K3G400-RP45-46**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	1248
Power input	W	320
Current draw	A	1.7 (200V)
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 according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	62.3	46.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		78.1	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.31
09 Air flow q_v	m^3/h	2400
09 Pressure increase p_{fs}	Pa	259
10 Speed (rpm) n	min^{-1}	1260
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-151921

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Technical features

Mass	10.2 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Material of mounting plate	Aluminium sheet
Material of distancing profiles	Aluminium
Material of inlet nozzle	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 20
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F0
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Operation and alarm display via LED - Integrated PID controller - Motor current limit - PFC, active -RS-485 ebmBUS with DCI function - Soft start - 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 leads	With plug
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1
Approval	CSA C22.2 No.77; UL 1004-3

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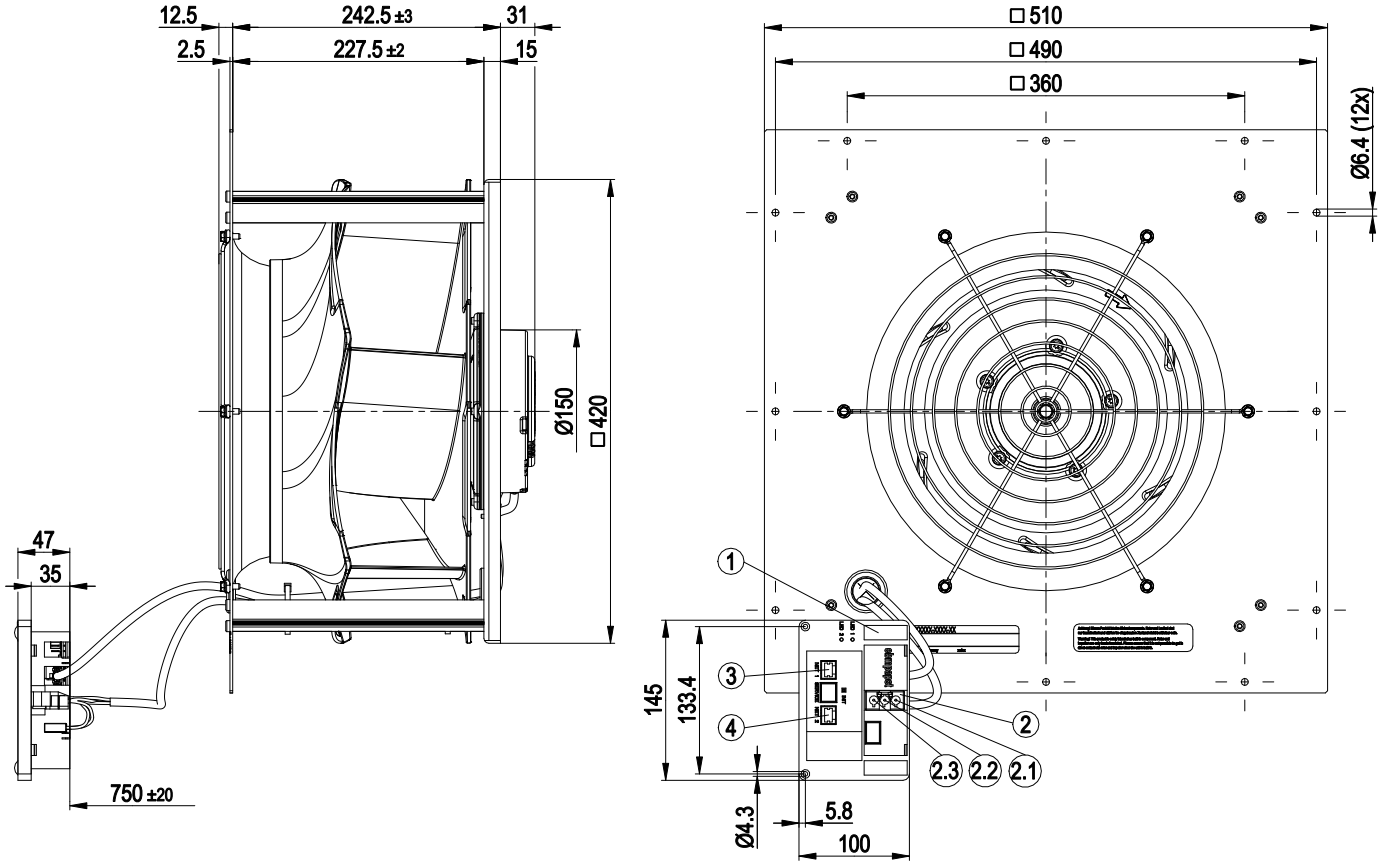
Product drawing



1	Terminal box
2	Connector housing 3-pole GST18/3 Wieland 92.032.9058.0
2.1	N
2.2	PE
2.3	L
3	Connector housing 8-pole Tyco 100616-2
4	Connector housing 8-pole Tyco 100616-2

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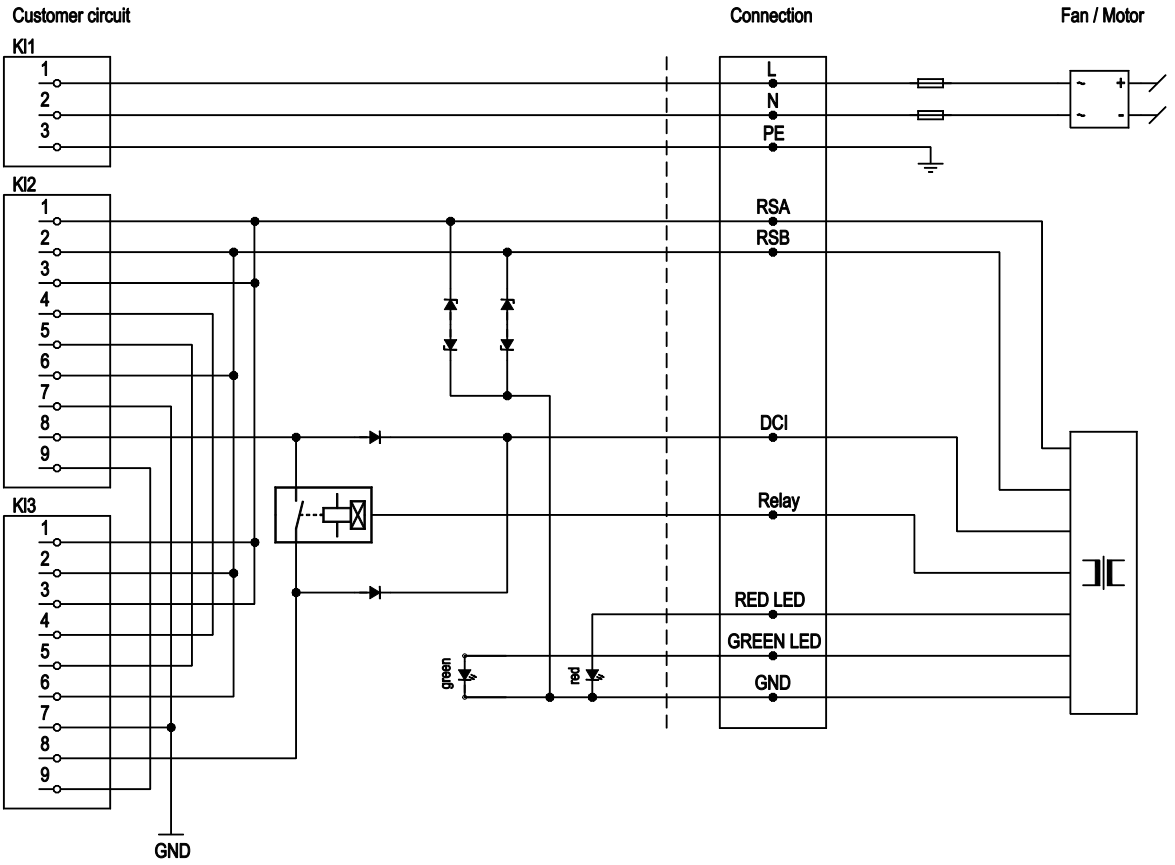
Connection screen



LED1 / LED2

Status	Priority	Address S/N	Speed	Green LED	Red LED
Malfunction	1	S/N any	any	off	Flashing 1 Hz
Flashing	2	S/N = 1/1	any	Flashing 10 Hz	on
Flashing	2	S/N <> 1	any	Flashing 10 Hz	off
After set value change	3	S/N = 1/1	any	Flashing 3x at 2.5 Hz	on
After set value change	3	S/N <> 1	any	Flashing 3x at 2.5 Hz	off
Fan speed 0	4	S/N = 1/1	n = 0	Flashing 1 Hz	on
Fan speed 0	4	S/N <> 1	n = 0	Flashing 1 Hz	off
Fan speed >0	4	S/N = 1/1	n > 0	off	on
Fan speed >0	4	S/N <> 1	n > 0	on	off

No.	Conn.	Designation	Function / assignment
KL1	1	L	Power supply, phase, 50/60 Hz
KL1	2	N	Power supply, neutral conductor, 50/60 Hz
KL1	3	PE	Protective earth
KL2/KL3	1	RSA	RS485 interface for ebmBUS, RSA
KL2/KL3	2	RSB	RS485 interface for ebmBUS, RSB
KL2/KL3	3	RSA	RS485 interface for ebmBUS, RSA
KL2/KL3	4	-	Bridge KL2-KL3
KL2/KL3	5	-	Bridge KL2-KL3
KL2/KL3	6	RSB	RS485 interface for ebmBUS, RSB
KL2/KL3	7	GND	Reference ground
KL2/KL3	8	DCI	Daisy chain signal
KL2/KL3	9	Schirm	Shield for RJ45-CAT5 wire (not used)

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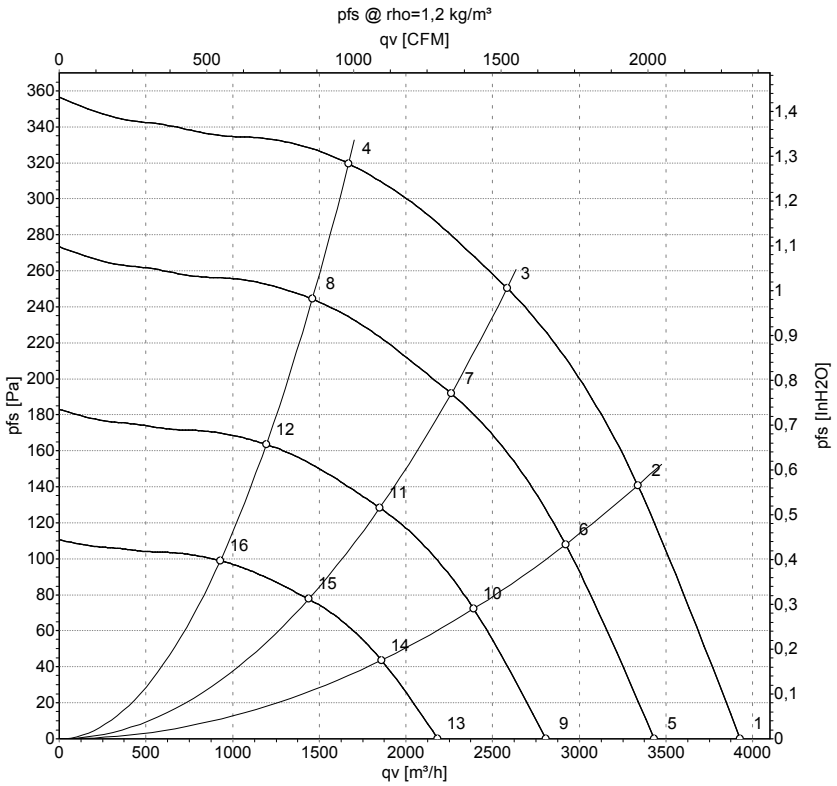
Charts: Air flow 50 Hz



Measurement: LU-151921-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	230	50	1250	234	1.03	3930	0	2310	0.00
2	230	50	1250	295	1.29	3340	140	1965	0.56
3	230	50	1250	320	1.40	2585	250	1520	1.00
4	230	50	1250	283	1.24	1670	320	985	1.28
5	230	50	1100	156	0.69	3430	0	2020	0.00
6	230	50	1100	198	0.87	2920	109	1720	0.44
7	230	50	1100	212	0.93	2260	192	1330	0.77
8	230	50	1100	189	0.83	1460	244	860	0.98
9	230	50	900	86	0.38	2810	0	1655	0.00
10	230	50	900	108	0.48	2390	73	1405	0.29
11	230	50	900	116	0.51	1850	128	1090	0.51
12	230	50	900	104	0.46	1195	164	705	0.66
13	230	50	700	40	0.18	2185	0	1285	0.00
14	230	50	700	51	0.22	1860	44	1095	0.18
15	230	50	700	55	0.24	1440	78	845	0.31
16	230	50	700	49	0.21	930	99	545	0.40

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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