G3G250-KY13-C7

EC centrifugal fan

backward curved, single inlet

with housing (without flange)

G3G250-KY13-C7 ebmpapst Datasheet
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County court Stuttgart · HRA 590344

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County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**G3G250-KY13-C7**
Motor	**M3G084-GF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	4000
Power input	W	950
Current draw	A	1.6
Min. back pressure	Pa	760
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 according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.02

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		49.8	46.2	49.2
Efficiency grade N		61.6	58	61
Power input P_{ed}	kW	0.76		
Air flow q_v	m^3/h	905		
Pressure increase p_{fs}	Pa	1392		
Speed n	min^{-1}	4030		

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

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Technical features

Mass	11 kg
Size	250 mm
Surface of rotor	Coated in black
Material of impeller	Aluminium sheet
Housing material	Sheet steel, galvanised
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F3-1
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 bottom; rotor on top on request
Condensate discharge 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) - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
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; CE
Approval	UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1

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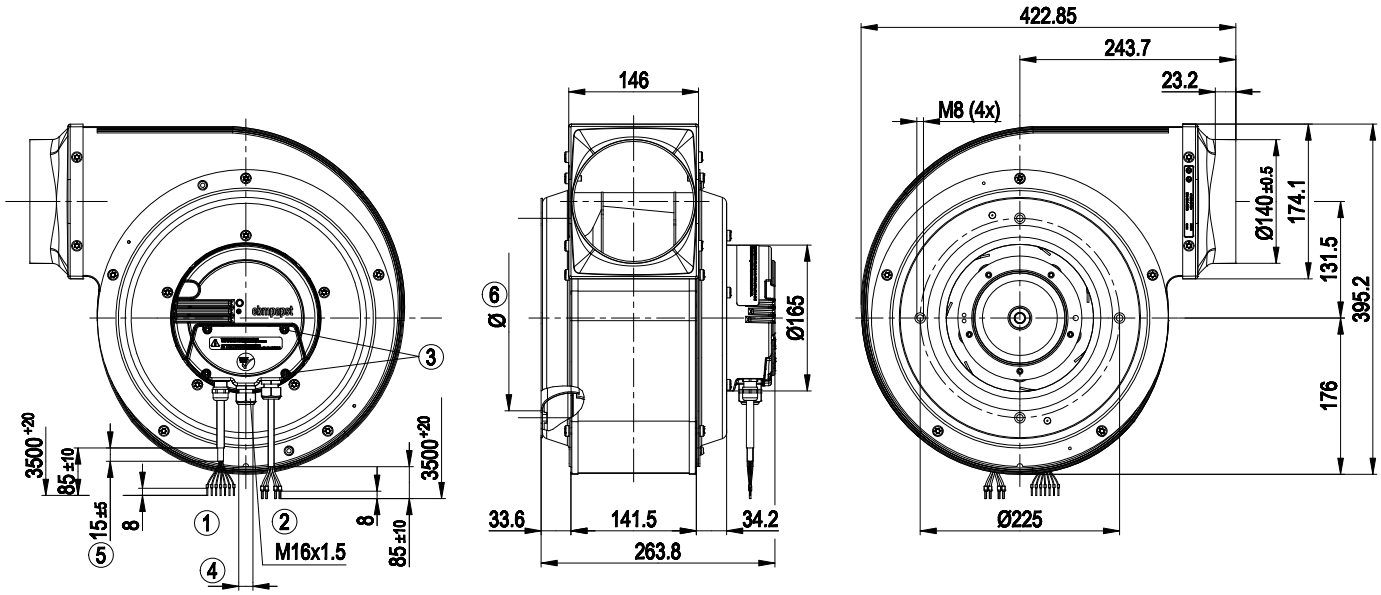
Product drawing



1	Shielded connection line 7x AWG20, 7x crimped core-end sleeves
2	Connection line PVC AWG18, 4x crimped core-end sleeves
3	Tightening torque 3.5±0.5 Nm
4	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 2.5±0.4 Nm
5	Exposed shield (15 mm)
6	Intake diameter on customer unit 209 - 211 mm

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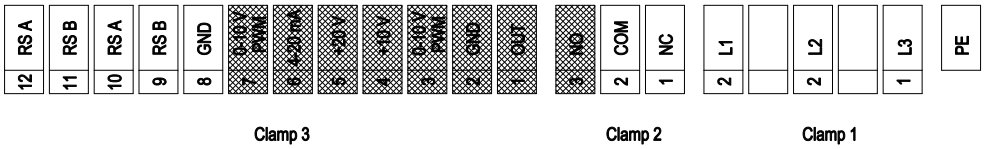
Connection screen



grey shaded => not brought out via leads

Line	No.	Signal	Colour	Function / assignment
1	-	PE	green/yellow	Protective earth connection
1	KL1	L1	black1	Supply voltage, for voltage range refer to rating plate, 50/60 Hz
1	KL1	L2	black2	Supply voltage, for voltage range refer to rating plate, 50/60 Hz
1	KL1	L3	black3	Supply voltage, for voltage range refer to rating plate, 50/60 Hz
2	KL2	NC	black	Floating status contact, break for failure
2	KL2	COM	red	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
-	KL2	NO	yellow	Floating status contact, make for failure
-	KL3	OUT		Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the actual motor control factor (output voltage of electronics): 1 V corresponds to 10% level control factor, 10 V correspond to 100% level control factor.
-	KL3	GND	blue	Signal ground for control interface, SELV
-	KL3	0-10 V PWM		Use control / actual sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
-	KL3	+10 V		Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for ext. devices (e.g. potentiometer), SELV
-	KL3	+20 V		Voltage output 20 VDC (+25%/-10%), max. 50 mA power supply for ext. devices (e.g. sensors), SELV
-	KL3	4-20 mA		Use control / actual sensor value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
-	KL3	0-10 V PWM	red	Use control / actual sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
2	KL3	GND	blue	Signal ground for control interface, SELV
2	KL3	RSB	grey	RS485 interface for MODBUS, RSB
2	KL3	RSA	yellow	RS485 interface for MODBUS, RSA
2	KL3	RSB	brown	RS485 interface for MODBUS, RSB

Line	No.	Signal	Colour	Function / assignment
2	KL3	RSA	white	RS485 interface for MODBUS, RSA

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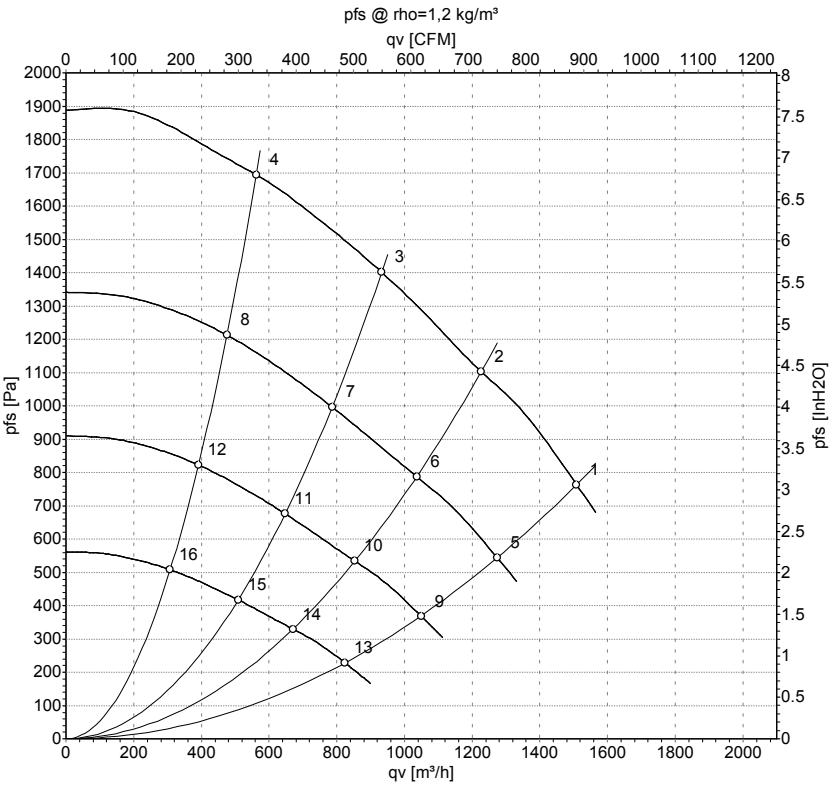
Charts: Air flow 50 Hz



Measurement: LU-140700

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	50	4000	940	1.80	1510	760
2	400	50	4000	873	1.72	1225	1100
3	400	50	4000	778	1.55	935	1400
4	400	50	4000	635	1.30	560	1700
5	400	50	3400	570	1.11	1275	545
6	400	50	3400	527	1.04	1035	787
7	400	50	3400	466	0.93	785	997
8	400	50	3400	385	0.79	475	1213
9	400	50	2800	319	0.62	1050	370
10	400	50	2800	294	0.58	855	534
11	400	50	2800	260	0.52	650	676
12	400	50	2800	215	0.44	390	823
13	400	50	2200	154	0.30	825	228
14	400	50	2200	143	0.28	670	329
15	400	50	2200	126	0.25	510	417
16	400	50	2200	104	0.21	310	508

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