K3G250-AK20-68

EC centrifugal module

backward curved, single inlet

with support plate

K3G250-AK20-68 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G250-AK20-68**
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	min^{-1}	3280
Power input	W	415
Current draw	A	1.8
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	47.4	43.4	47.4
Efficiency grade N		62	58	62
Power input P_{ed}	kW	0.41		
Air flow q_v	m^3/h	1050		
Pressure increase p_{fs}	Pa	586		
Speed n	min^{-1}	3225		

Data definition with optimum efficiency. LU-156308
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	6 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Material of mounting plate	Aluminium sheet
Material of distancing profiles	Aluminium
Material of inlet nozzle	Aluminium sheet
Material of guard grille	Steel, coated in white aluminium plastic (RAL 9006)
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 20
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 top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limit - PFC, active - 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
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

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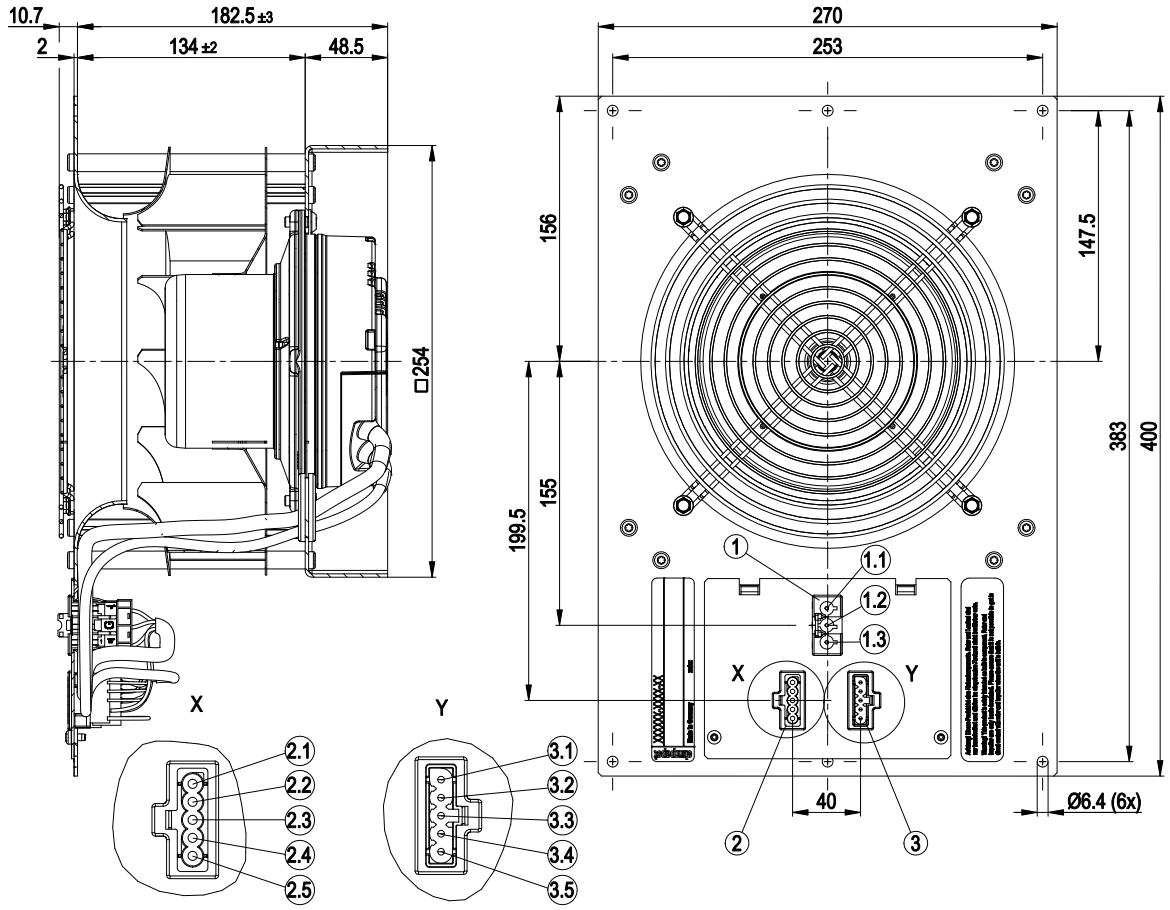
Product drawing



1	Connector housing 3-pole GST18/3 Wieland 92.032.9058.1
1.1	N
1.2	PE
1.3	L
2	Connector housing socket part 5-pole GST15i5 Wieland 91.951.9353.0
2.1	+10 V
2.2	0-10 V
2.3	GND
2.4	NC (S1)
2.5	COM` (S2)
3	Connector housing plug part 5-pole GST15i5 Wieland 91.952.9353.0
3.1	+10 V
3.2	0-10 V
3.3	GND
3.4	NC` (S1)
3.5	COM` (S2)

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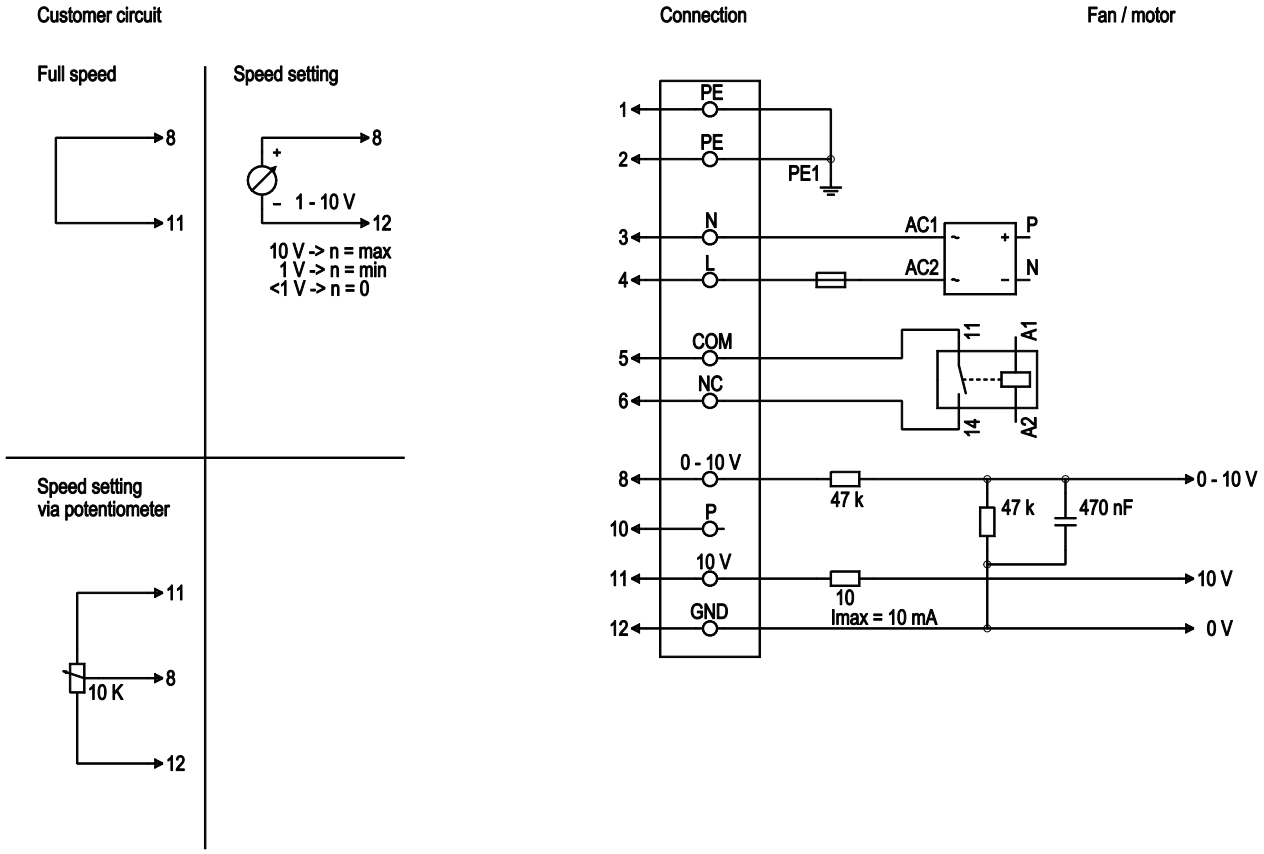
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, voltage range see rating plate, 50 / 60 Hz
1	4	L	black	Supply voltage, phase, voltage range see rating plate, 50 / 60 Hz
1	5	COM	white 1	Floating status message contact, normally closed connection (2 A, max. 250 VAC, min. 10 mA)
1	6	NC	white 2	Floating status message contact, normally closed connection
2	8	0 -10 V	yellow	Control input, set value 0 - 10 VDC, impedance 100 kOhm, SELV
2	10	P	orange	Not assigned
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for ext. devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

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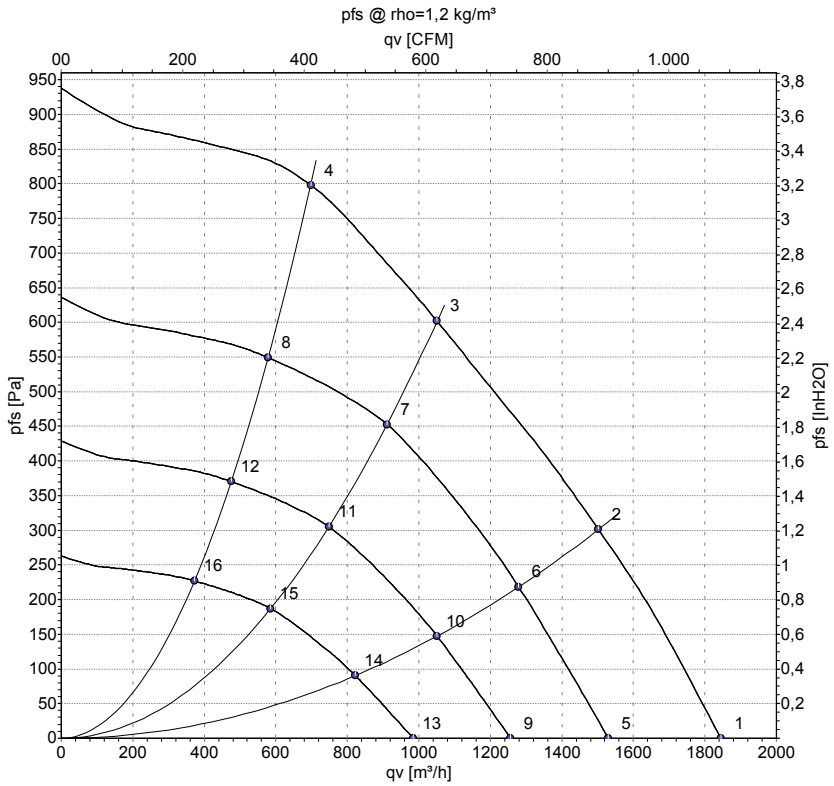
Charts: Air flow 50 Hz



Measurement: LU-156308

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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	3370	375	1.64	82	89	1845	0
2	230	50	3290	415	1.80	77	85	1500	300
3	230	50	3280	415	1.80	73	81	1050	600
4	230	50	3370	399	1.75	76	84	700	800
5	230	50	2800	214	0.94	77	85	1530	0
6	230	50	2800	258	1.13	73	81	1280	219
7	230	50	2800	274	1.20	70	77	910	456
8	230	50	2800	227	1.00	72	79	580	549
9	230	50	2300	119	0.52	72	80	1255	0
10	230	50	2300	143	0.63	68	76	1050	148
11	230	50	2300	152	0.66	65	72	750	308
12	230	50	2300	126	0.55	67	74	475	370
13	230	50	1800	57	0.25	66	73	985	0
14	230	50	1800	69	0.30	62	69	820	91
15	230	50	1800	73	0.32	59	66	585	188
16	230	50	1800	60	0.27	61	68	370	227

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · qv = Air flow
p_{fs} = Pressure increase