K3G250-RR04-N1

EC centrifugal module - RadiCal

backward-curved, single-intake

with support structure, for rail applications

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Nominal data

Type	**K3G250-RR04-N1**
Motor	**M3G084-DF**

Phase		3~
Nominal voltage	VAC	480
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	4000
Power consumption	W	615
Current draw	A	0.85
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

Weight	11.7 kg
Size	250 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic, sheet-metal plate painted black
Inlet nozzle material	Sheet steel, galvanized
Support structure material	Aluminum
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H3
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor mounting	Ball bearing
Motor bearing	(sealed)
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Integrated PID controller - Run monitoring - Power limiter - Motor current limitation - Emergency operation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 15085-1, CPC3: 2013; EN 45545-2, HL3: 2013 + A1:2015; EN 50155: 2007; EN 61373, Cat. 1B: 2010
Approval	EAC

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Comment	A prerequisite for operation is a Class 1 vehicle electrical system architecture according to EN 50533; if supply potential (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation and they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

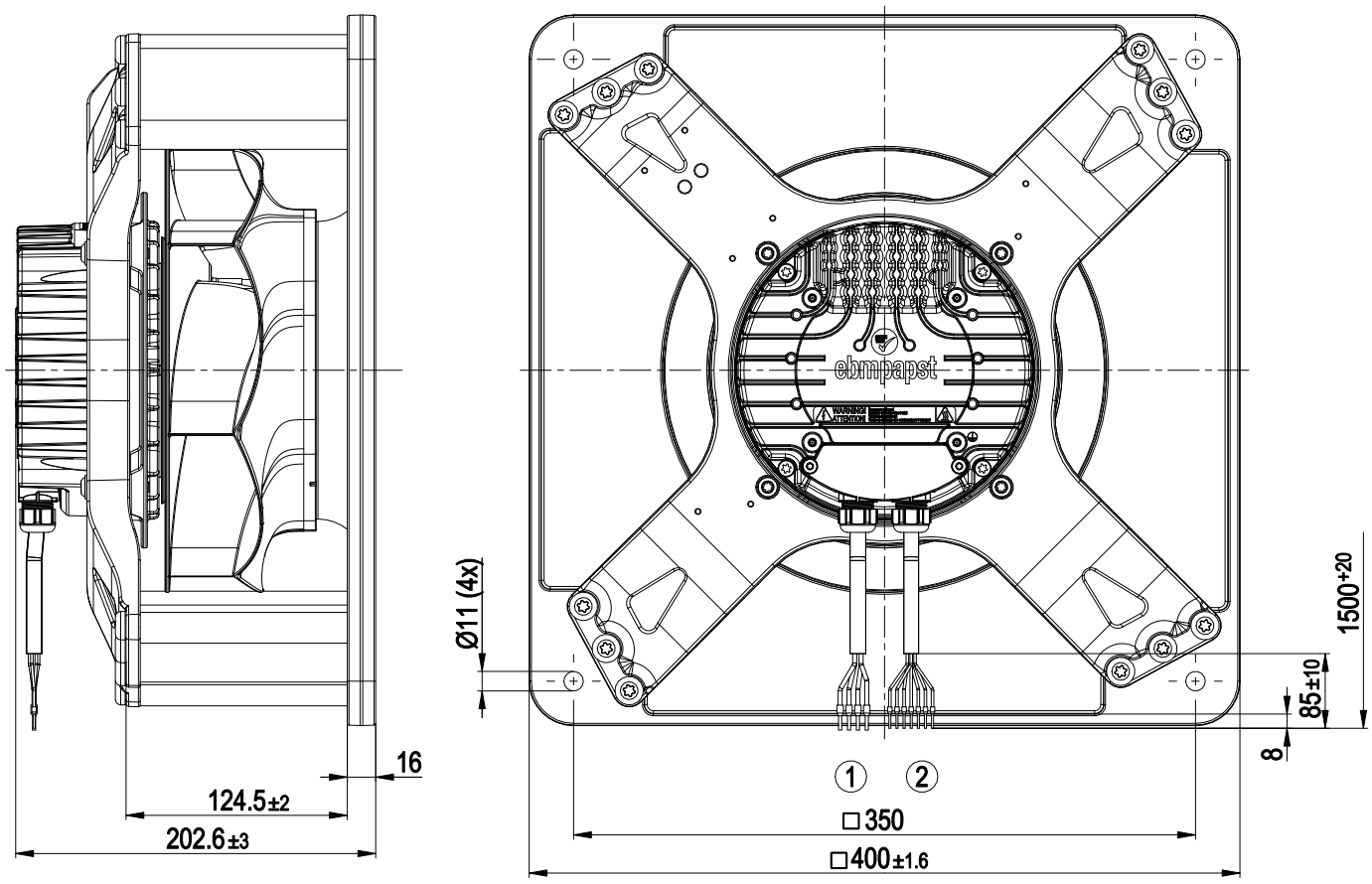
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Product drawing



1	Cable halogen-free, BETAtrans® 3 GKW flex, 4G 1.5 mm²
	4x wire-end ferrule
2	Cable halogen-free, BETAtrans® 3 GKW flex, 7x 0.5 mm²
	7x wire-end ferrule

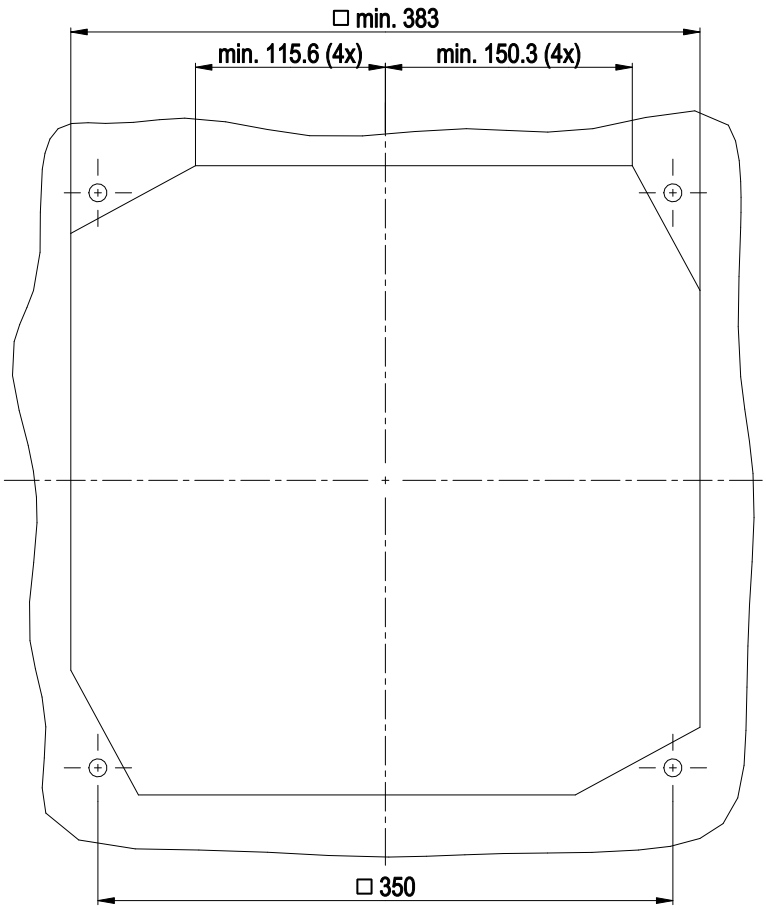
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Mounting dimensions



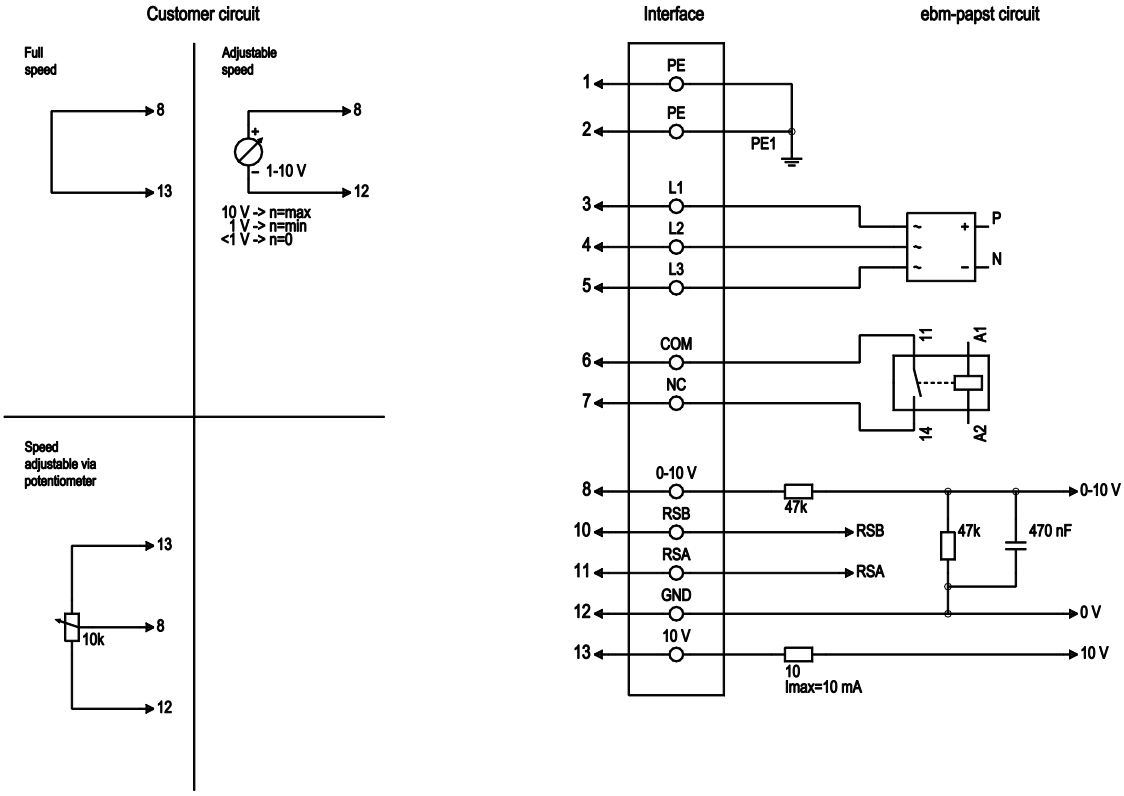
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply, phase, 50/60 Hz
1	4	L2	blue	Power supply, phase, 50/60 Hz
1	5	L3	brown	Power supply, phase, 50/60 Hz
2	6	COM	gray	Status relay, floating status contact, common connection, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
2	7	NC	orange	Status relay, floating status contact, break for failure, contact rating 250 VAC / 30 VDC 5 A minimum contact separation 1 mA / 5 VDC, reinforced insulation on supply side, basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ± 3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV

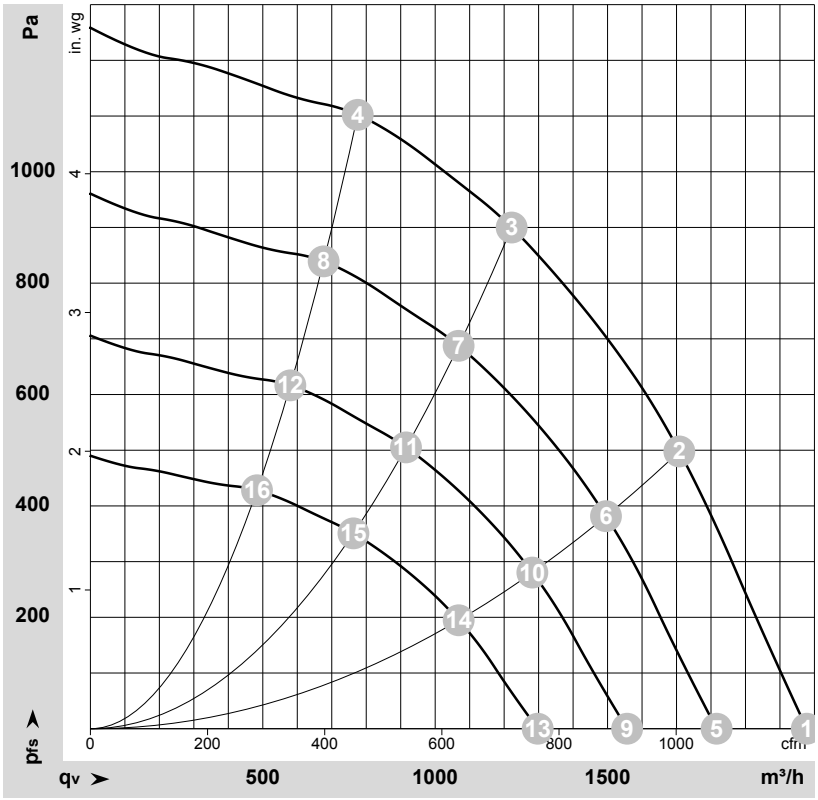
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-158298-1

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

	Wired	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	3~	480	60	4000	484	0.70	79	87	2080	0	1225	0.00
2	3~	480	60	4000	566	0.80	76	84	1710	500	1005	2.01
3	3~	480	60	4000	615	0.85	74	82	1220	900	720	3.61
4	3~	480	60	4000	547	0.77	78	86	775	1100	455	4.42
5	3~	480	60	3500	323	0.47	76	84	1815	0	1070	0.00
6	3~	480	60	3500	380	0.53	73	80	1495	382	880	1.53
7	3~	480	60	3500	404	0.56	71	79	1070	689	630	2.77
8	3~	480	60	3500	363	0.51	75	82	675	841	400	3.38
9	3~	480	60	3000	203	0.30	72	80	1555	0	915	0.00
10	3~	480	60	3000	239	0.34	69	76	1280	280	755	1.12
11	3~	480	60	3000	255	0.36	67	75	915	506	540	2.03
12	3~	480	60	3000	229	0.32	71	78	580	618	340	2.48
13	3~	480	60	2500	118	0.17	68	75	1295	0	765	0.00
14	3~	480	60	2500	139	0.19	64	72	1070	195	630	0.78
15	3~	480	60	2500	147	0.21	62	70	765	351	450	1.41
16	3~	480	60	2500	132	0.19	66	74	485	429	285	1.72

Wired = Wiring · U = Power supply · 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
q_V = Air flow · p_{fs} = Pressure increase

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