R3G250-RR15-P2

EC centrifugal fan - RadiCal

backward curved, single inlet

for railway applications



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Nominal data

Type	**R3G250-RR15-P2**
Motor	**M3G084-DF**

Nominal voltage	VDC	80
Nominal voltage range	VDC	50 .. 100
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	3600
Power input	W	475
Current draw	A	5.9
Min. ambient temperature	°C	-40
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

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Technical features

Mass	4.1 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PA UL94 V0 plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H3
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Run monitoring - Motor current limit - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected motor - Line undervoltage detection
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Lateral
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 15085-1, CPC3: 2007; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Approval	EAC
Remark	If voltage (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation, meaning they only have basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay; EMC regulation: EN 50121-3-2 in preparation

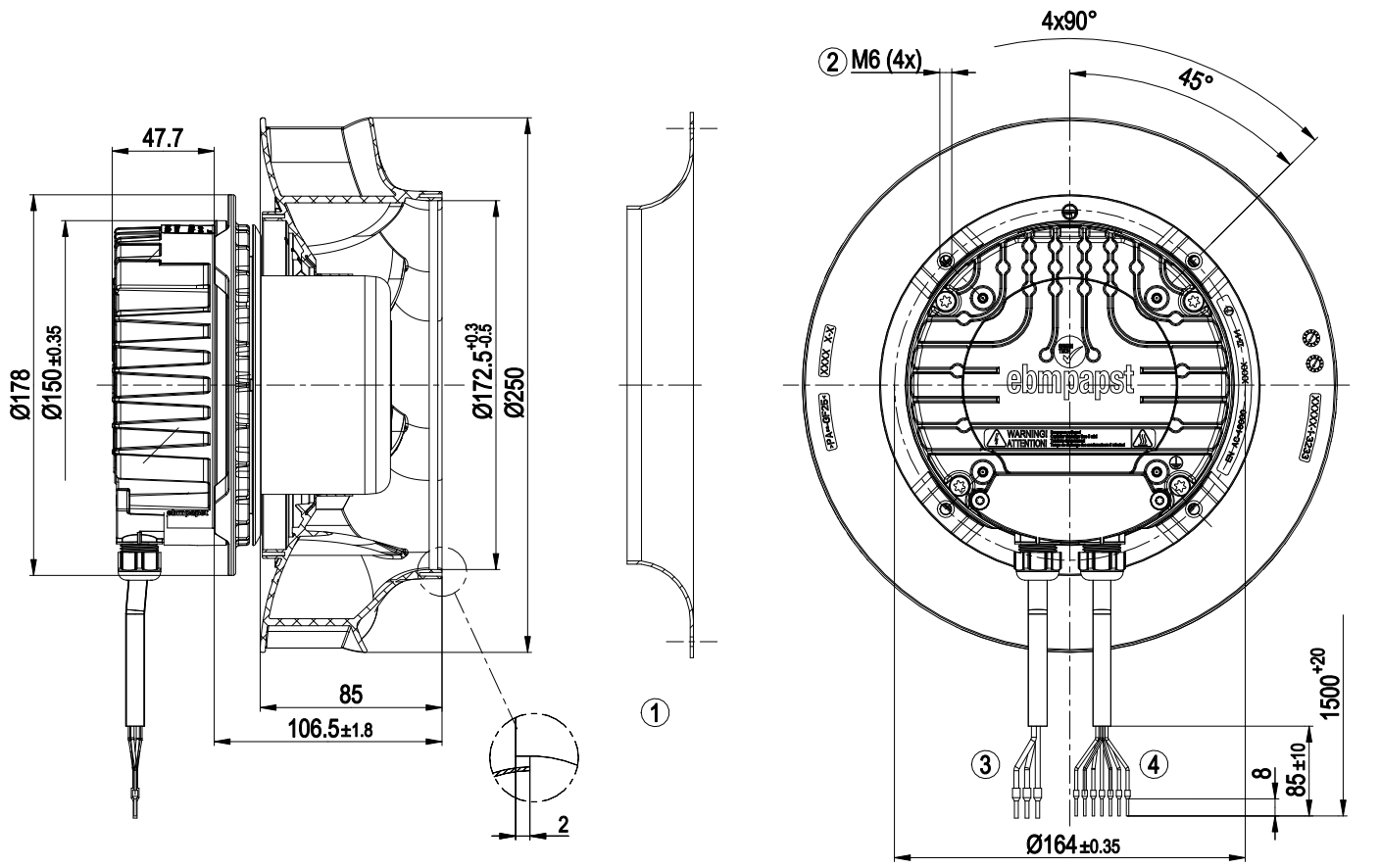
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Product drawing



1	Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery
2	Thread reach max. 16 mm
3	Connection line halogen-free, BETAtrans® 3 GKW flex, 4G 1.5 mm², 3x crimped core-end sleeves, 1 wire not brought out
4	Connection line halogen-free, BETAtrans® 3 GKW flex, 7x0.5 mm², 7x crimped core-end sleeves

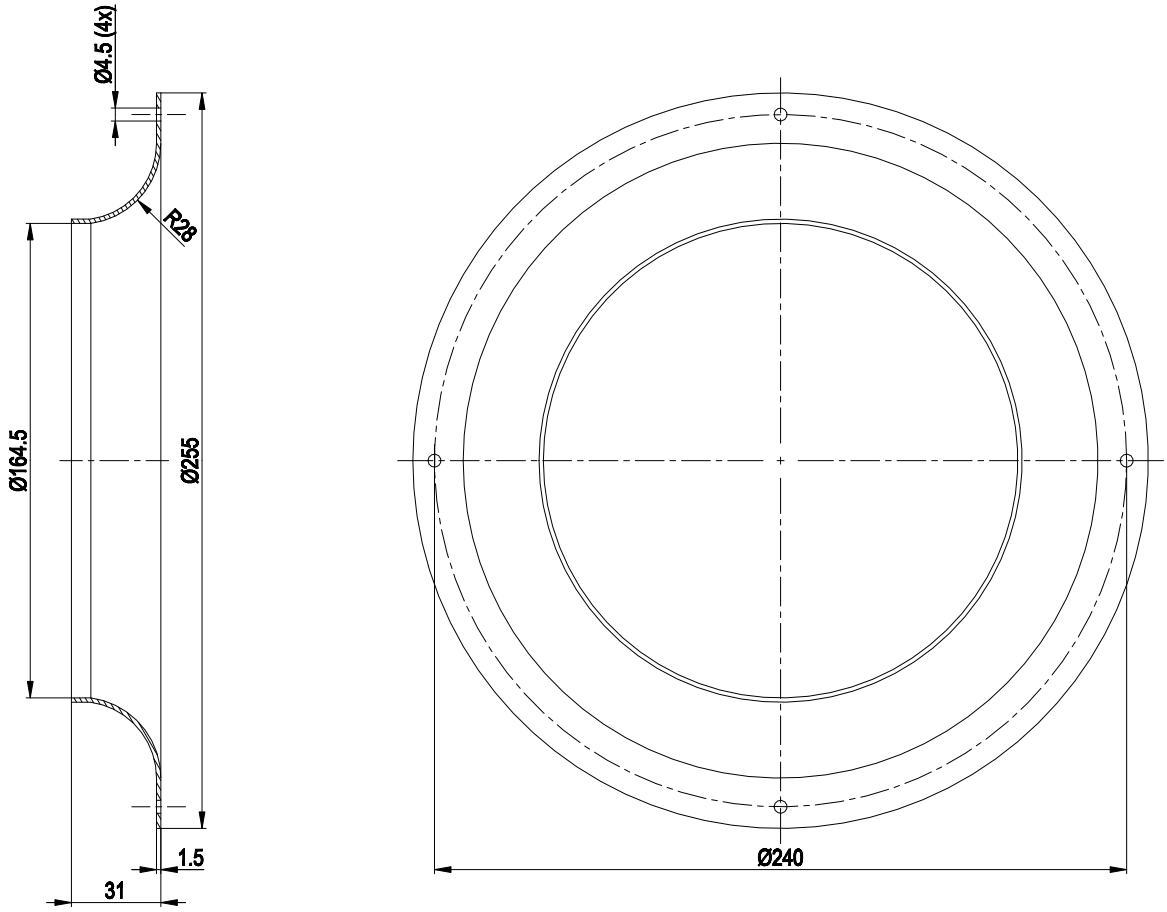
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Accessory part



Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery

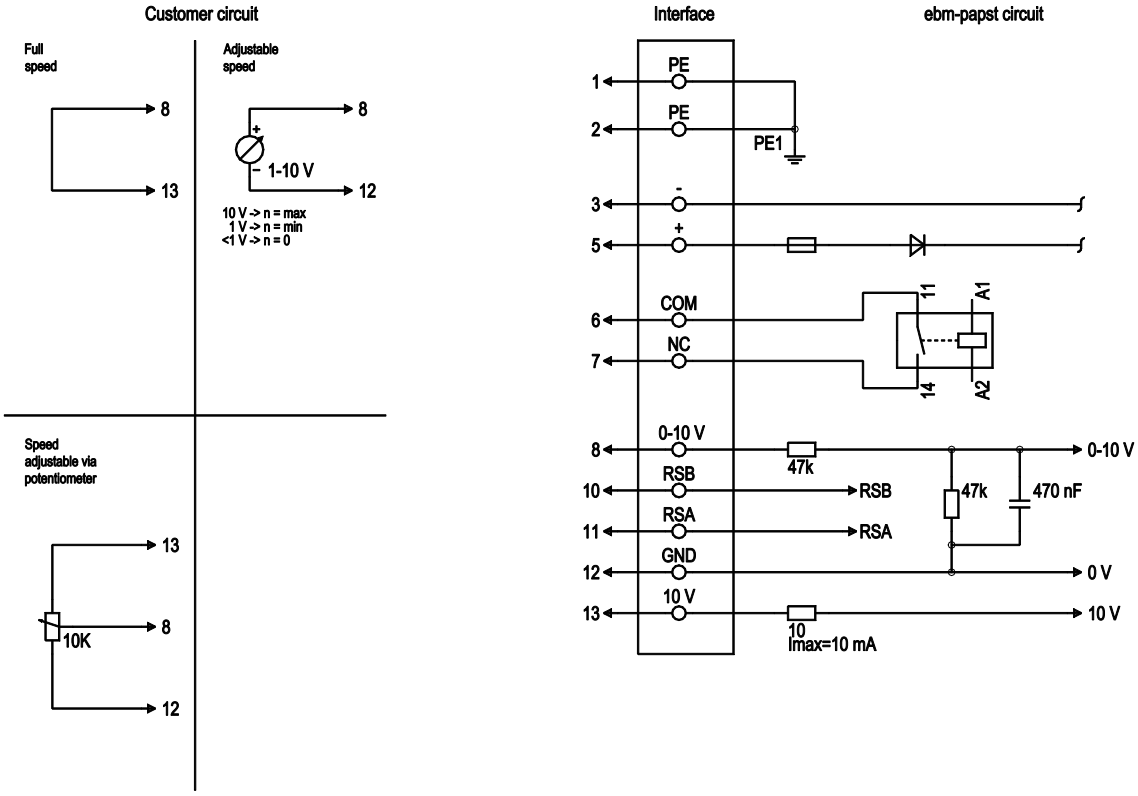
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	-	black	Power supply, GND, see type plate for voltage range
1	5	+	brown	Power supply, see type plate for voltage range
2	6	COM	grey	Status relay, floating status contact, break for failure, Contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on mains side and on control interface
2	7	NC	orange	Status relay, floating status contact, common connection, Contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on mains side and on control interface
2	8	0-10 V	yellow	Analogue input 1, set value: 0-10 V, Ri= 100 kΩ, parametrisable curve; SELV
2	10	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference earth for control interface; SELV
2	13	+10 V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers); SELV

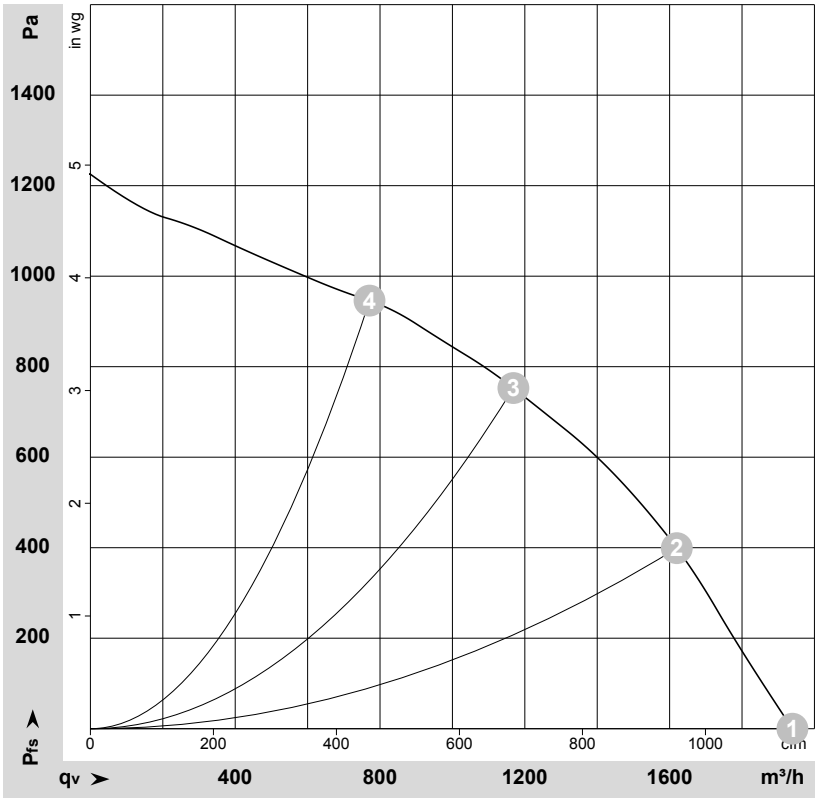
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Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-161994-1

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

	Conn.	U	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
		V	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	80	3665	393	4.91	1940	0	1140	0.00
2	Y	80	3625	451	5.64	1620	400	955	1.61
3	Y	80	3600	475	5.90	1170	750	685	3.01
4	Y	80	3645	450	5.61	770	950	455	3.81

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

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