R3G250-RU27-81

EC centrifugal fan - RadiCal

backward curved, single inlet

for railway applications



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Nominal data

Type	**R3G250-RU27-81**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Type of data definition		fa
Speed (rpm)	min^{-1}	3860
Power input	W	410
Current draw	A	15.8
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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	2.7 kg
Size	250 mm
Motor size	84
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	Plastic PA, round sheet-metal plate coated in black
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	Motor IP24 KM, electronics IP6K9K (mating connector fitted)
Insulation class	"B"
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
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Error output (high-side switch) -Load dump (58 V) - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Overvoltage detection - Over-temperature protected electronics - Line undervoltage detection
EMC directives	According to EN 50121-3-2
Electrical connection	Standby current less than 500 µA
Cable exit	Lateral
Safety classification	III; Requires supply with safety extra-low voltage SELV. This component to be built-in can have several local protection class ratings. The specification refers to the basic design of this component. The final protection class is based on the intended installation and connection of the component.
Product conforming to standard	EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B
Approval	EAC

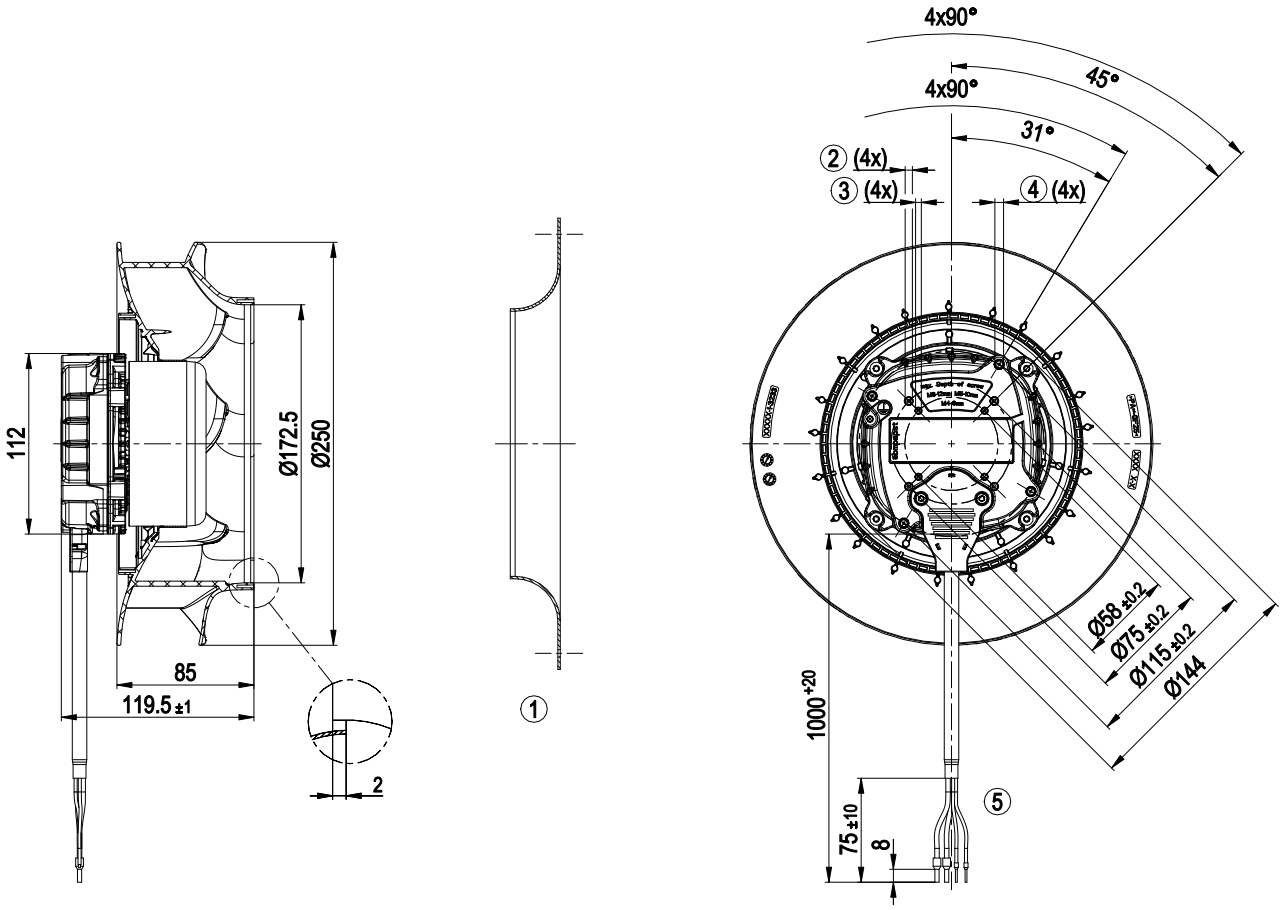
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Product drawing



1	Accessory part: Inlet nozzle 96420-2-4013 (not included in scope of delivery)
2	Pilot hole prepared for M5 self-tapping screw, thread reach max. 10 mm
3	Pilot hole prepared for M4 self-tapping screw, thread reach max. 8 mm
4	Pilot hole prepared for M6 self-tapping screw, thread reach max. 12 mm
5	Connection line, halogen-free, railway application EN 45545, 2x 2.5 mm², 2x 1.0 mm²
	4x core-end sleeve

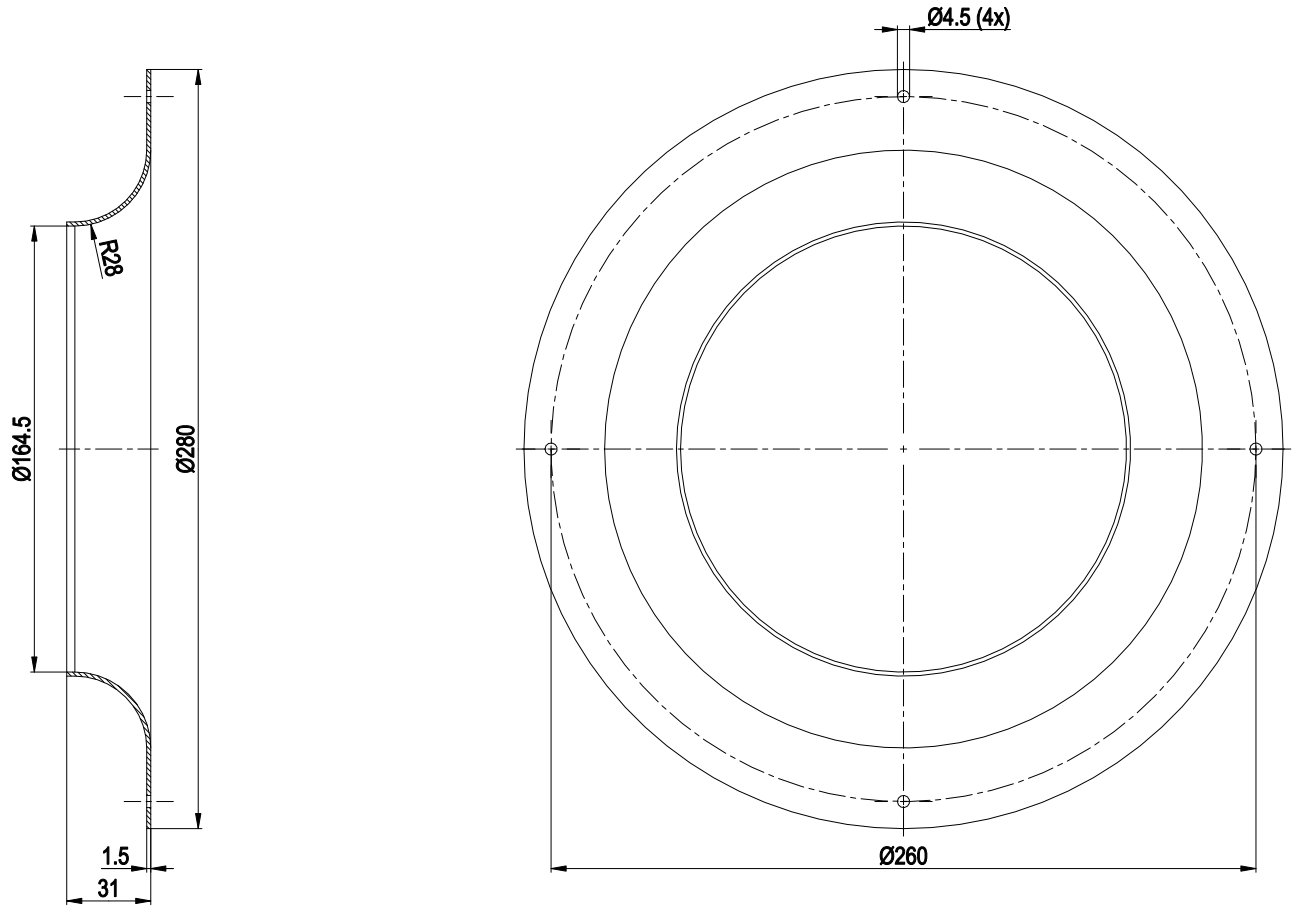
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Accessory part



	Inlet nozzle 96420-2-4013

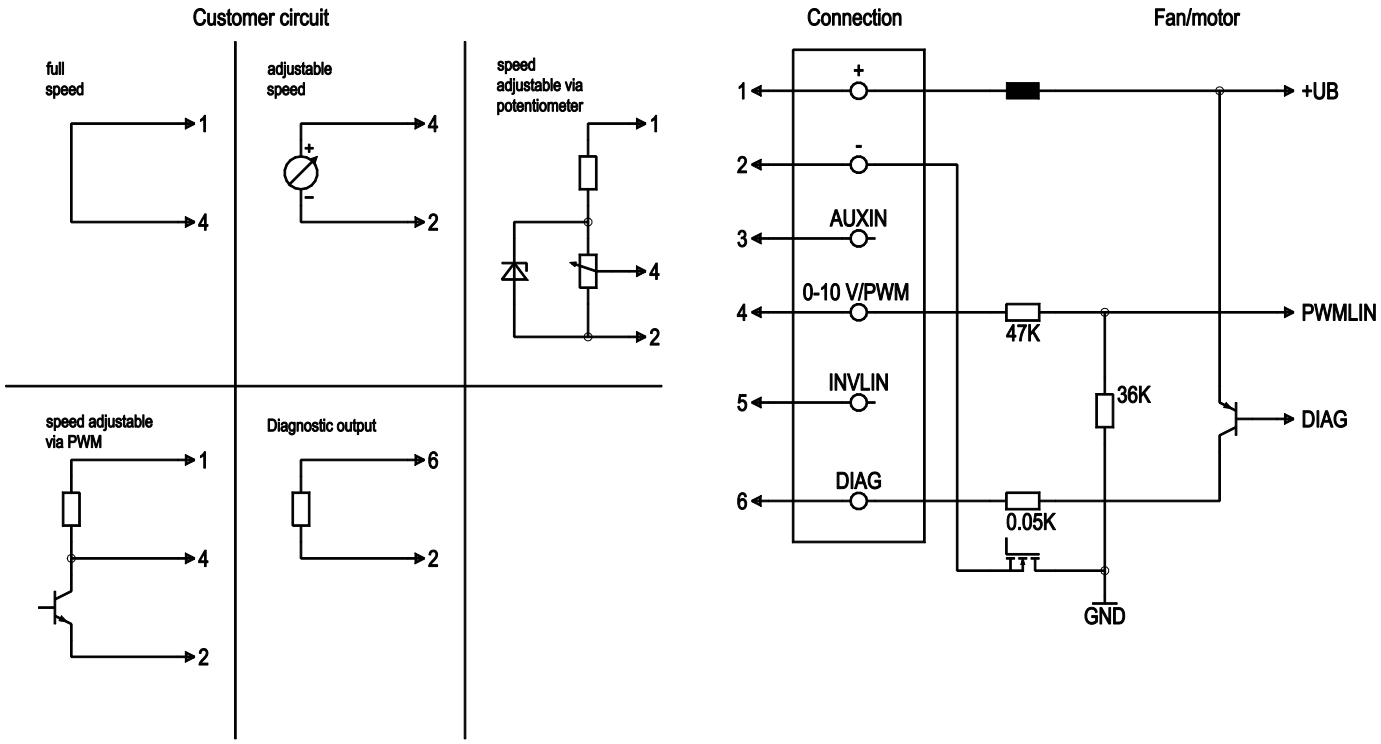
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	1	+	black	Power supply, see type plate for voltage range
	2	-	brown	Power supply, see type plate for voltage range
	3	AUXIN		not used
	4	0-10 V / PWM	yellow	Control input: Ri > 47 kΩ 0-10 V (typ. < 1 V -> n=0; 1.5 V -> n=min; >10 V -> n=max) PWM (amplitude 10 V; 1-50 kHz; typ. < 5 % -> n=0; 15% -> n=min; > 100% -> n=max)
	5	INVLIN		not used
	6	DIAG	white	Diagnostic output: open collector, Isource max = 20 mA, Fan OK -> low; fan error -> high

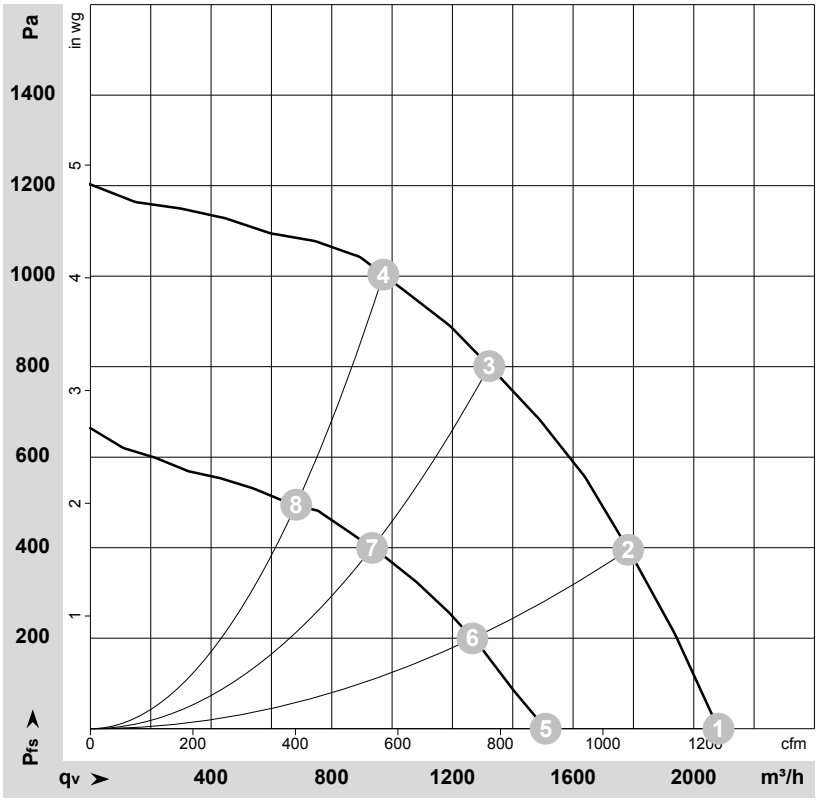
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Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-162027-1
Measurement: LU-162195-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	26-32	3860	410	15.80*	80	87	2080	0	1225	0.00
2	26-32	3860	513	19.80*	78	85	1785	400	1050	1.61
3	26-32	3860	568	21.90*	74	81	1320	800	780	3.21
4	26-32	3860	560	21.60*	76	82	970	1000	570	4.01
5	16	2800	166	10.43			1510	0	890	0.00
6	16	2755	187	11.72			1265	200	745	0.80
7	16	2730	204	12.78			935	400	550	1.61
8	16	2730	197	12.39			680	495	400	1.99

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · * = Current measured at rated voltage · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
q_V = Air flow · p_{fs} = Pressure increase

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