R3G280-RU65-90

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

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Nominal data

Type	**R3G280-RU65-90**
Motor	**M3G084-CF**

Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2830
Power consumption	W	460
Current draw	A	18.0
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	3
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic UL94 V0
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H4
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Fault output (open collector) - Run monitoring - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection - Reverse polarity protection
Electrical hookup	Standby current less than 500 µA
With cable	Lateral
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the components' intended installation and connection.
Conformity with standards	EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B
Approval	EAC

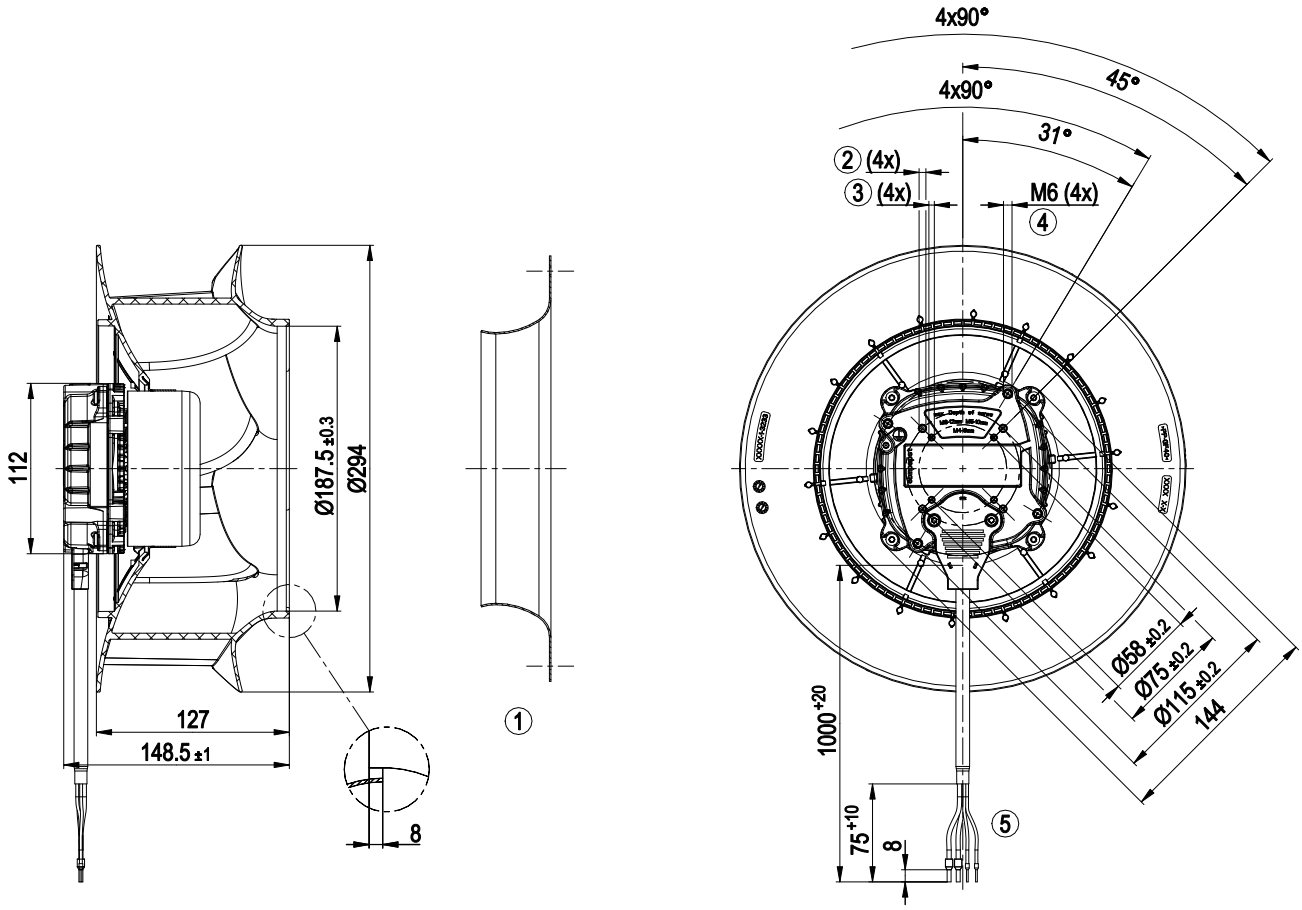
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Product drawing



1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Tapping hole prepared for self-tapping M5 screw, max. screw-in depth 10 mm
3	Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 8 mm
4	Max. clearance for screw 12 mm
5	Cable, halogen-free, railway application EN 45545, 2x 4.0 mm², 2x 0.75 mm²
	4x wire-end ferrule

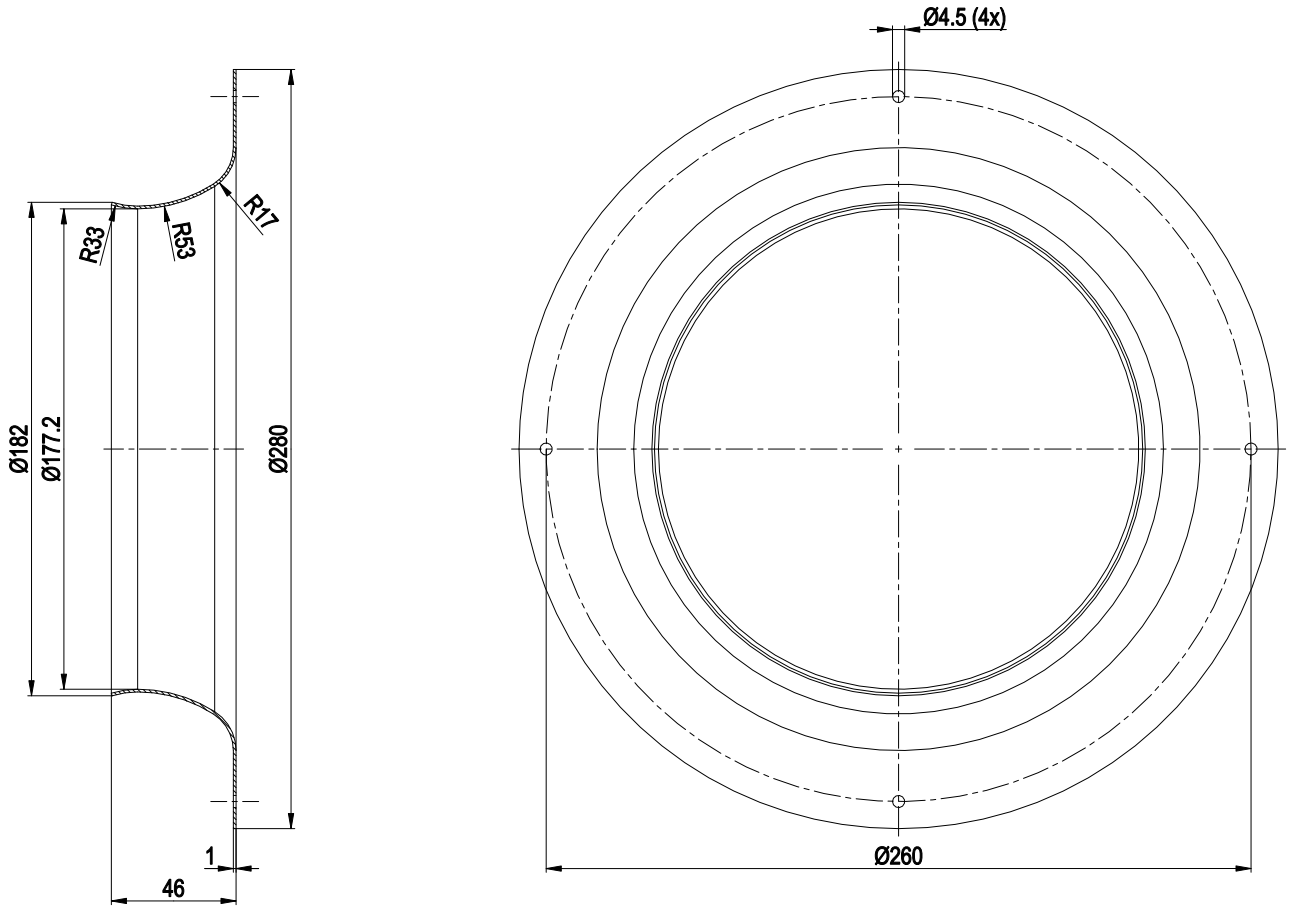
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Accessory part



Inlet ring 28000-2-4013

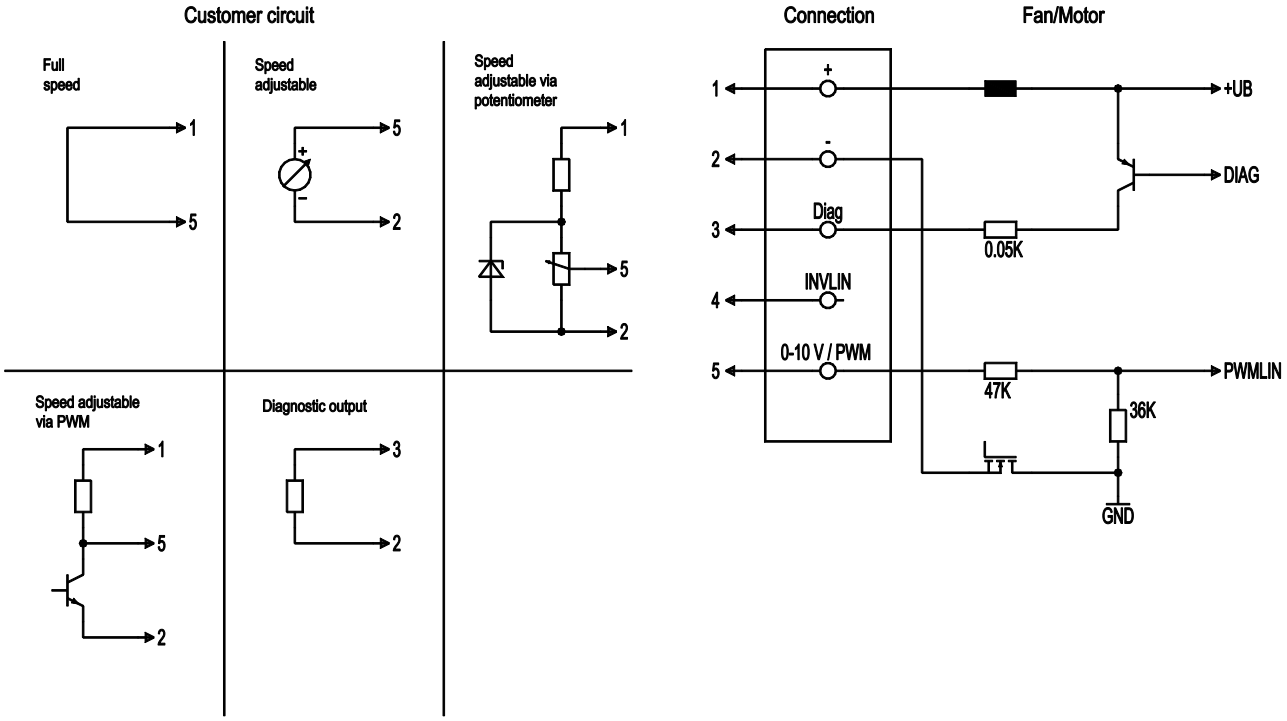
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	+	black	Power supply, see nameplate for voltage range
	2	-	brown	Power supply, see nameplate for voltage range
	3	DIAG	white	Diagnostic output: Open collector, Isink max = 10 mA, Ri > 50 Ω Fan OK -> High; Fan Error -> Low
	4	INVLIN		not used
	5	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)

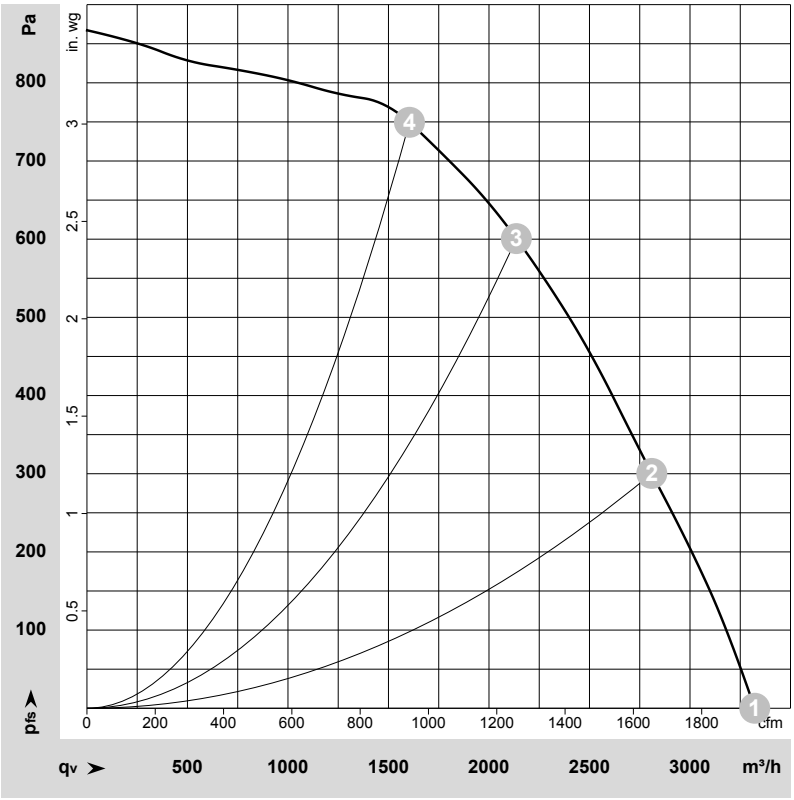
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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-181114-1
Date: 2016-08-12
Nozzle: 28000-2-4013

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

	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	2830	460	18.00	78	85	3320	0	1955	0.00
2	26	2815	562	21.59	73	81	2810	300	1655	1.20
3	26	2800	648	24.90	69	77	2135	600	1255	2.41
4	26	2835	633	24.32	70	77	1605	750	945	3.01

U = Voltage · 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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