

R3G280-RU65-82

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications



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Nominal data

Type	R3G280-RU65-82	
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	3.14 kg
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	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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Start-up at 85°C (2 min) permissible - Fault output (high-side switch max. 30 mA) - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC/PWM - Standstill in the case of open circuit - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Undervoltage detection - Reverse polarity protection
EMC regulations	According to EN 50121-3-2
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 component's intended installation and connection.
Conformity with standards	EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B
Approval	EAC
Comment	E1 approval in preparation

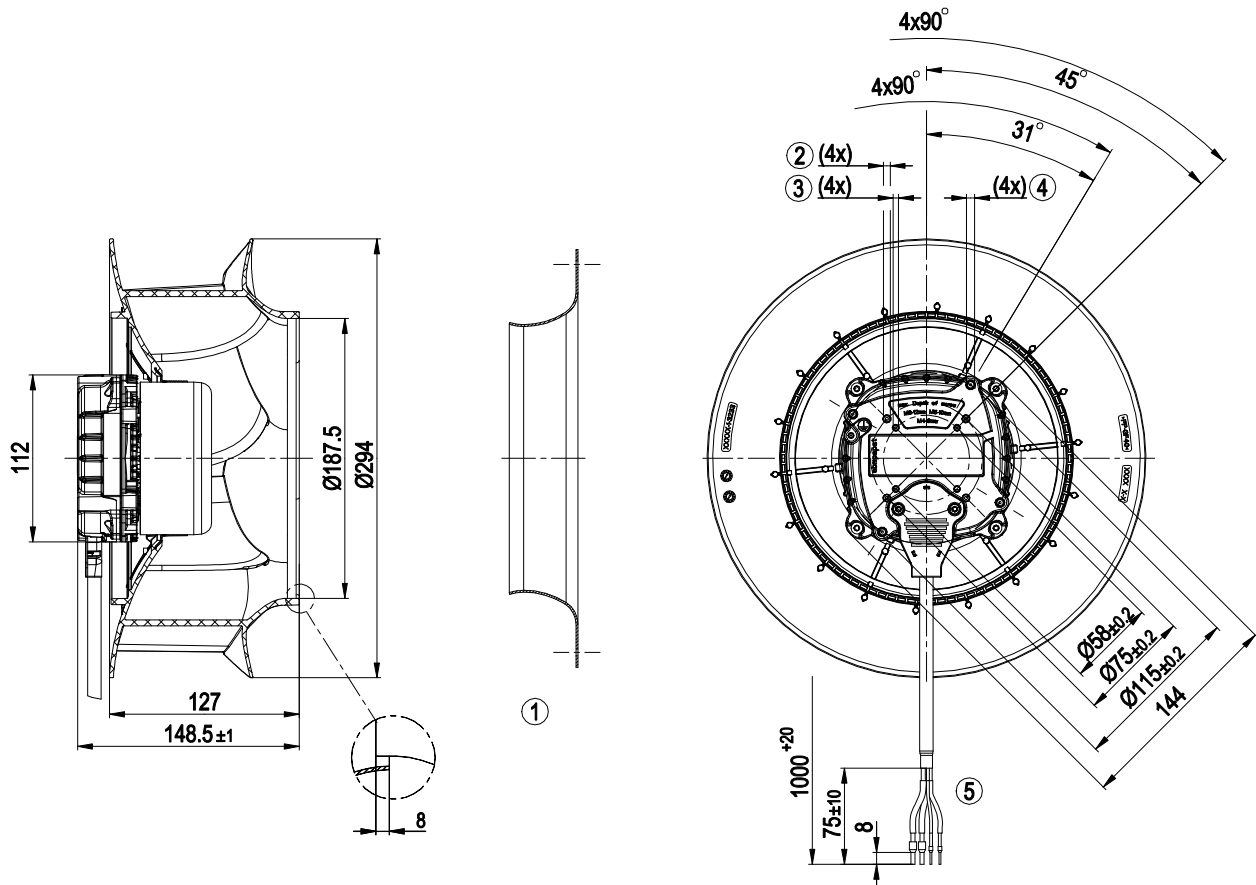


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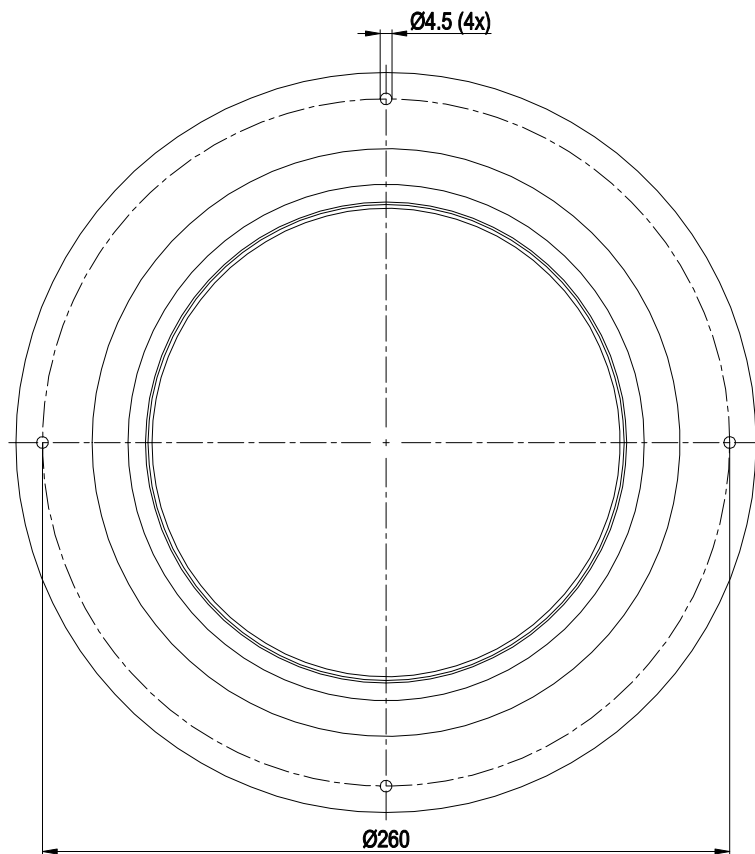
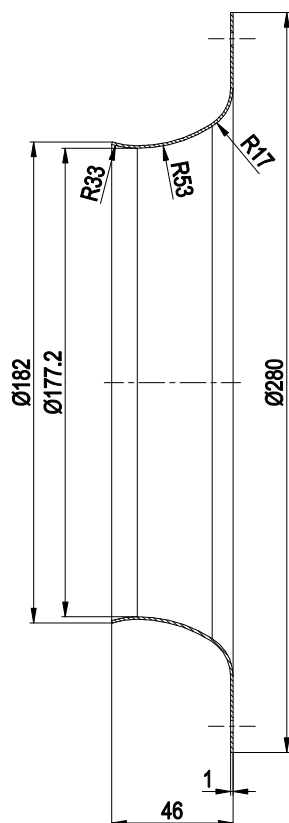
Product drawing



- | | |
|---|--|
| 1 | Accessory part: Inlet ring 28000-2-4013 not included in scope of delivery. |
| 2 | Max. screw-in depth 10 mm, tapping hole prepared for self-tapping M5 screw |
| 3 | Max. screw-in depth 8 mm, tapping hole prepared for self-tapping M4 screw |
| 4 | Max. screw-in depth 12 mm, tapping hole prepared for self-tapping M6 screw |
| 5 | Cable, halogen-free, railway application EN 45545, 2x 6.0 mm ² , 2x 1.0 mm ² |
| | 4x wire-end ferrule |



Accessory part



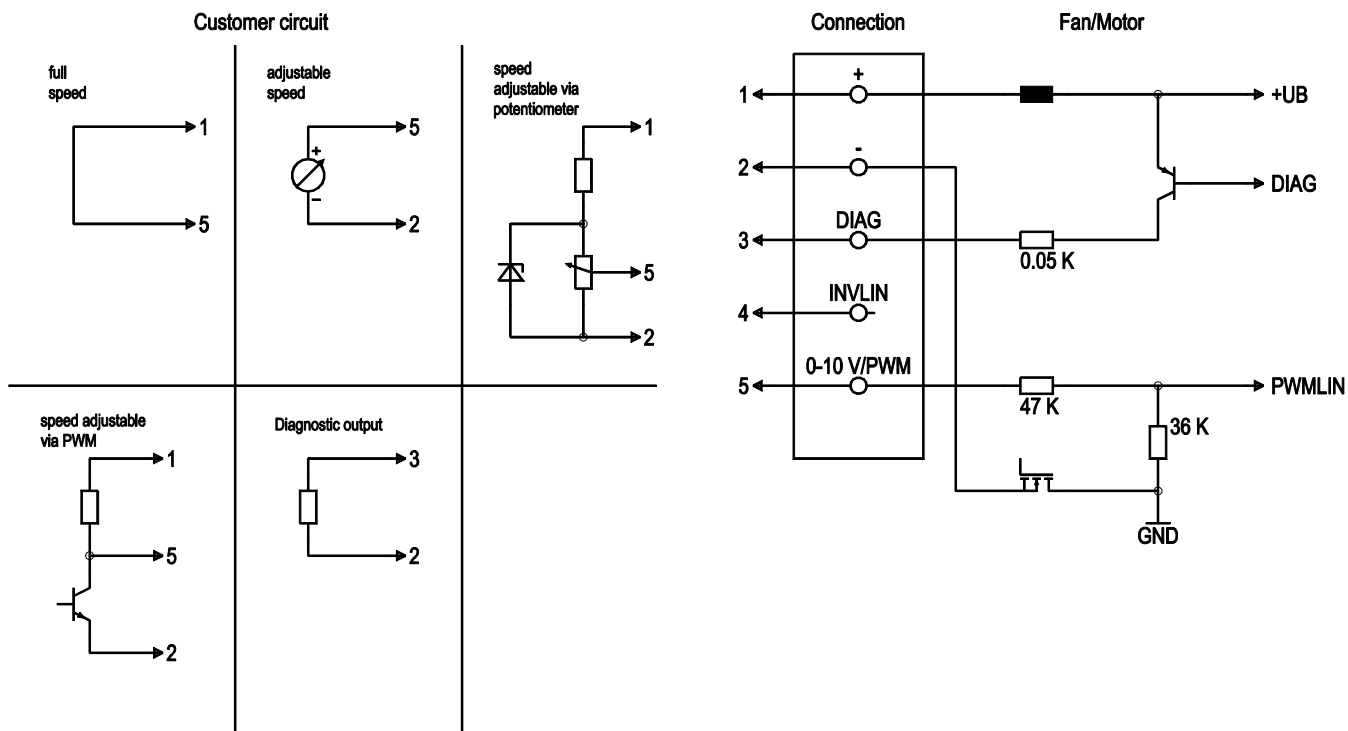
Inlet ring 28000-2-4013

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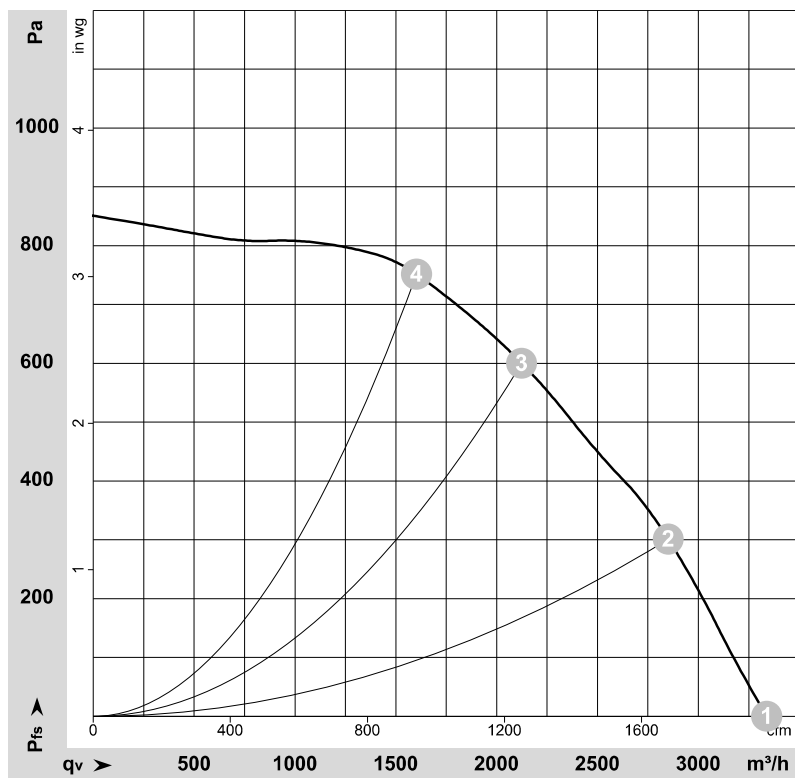
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	+	black	Power supply, see nameplate for voltage range
1	2	-	brown	Power supply, see nameplate for voltage range
1	3	DIAG	white	Diagnostic output: Open collector, I _{source} max = 20 mA, Fan OK -> low; fan error -> high
1	4	INVLIN		not used
1	5	0-10 V / PWM	yellow	Control input: R _i > 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)



Curves: Air performance



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-175089-1

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

	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	3340	0	1965	0.00
2	26	2810	584	22.41	74	81	2850	300	1680	1.20
3	26	2810	645	24.77	70	77	2125	600	1250	2.41
4	26	2835	623	23.89	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

