R3G280-RU26-87

EC centrifugal fan - RadiCal

backward curved, single inlet

for railway applications

R3G280-RU26-87 ebmpapst Datasheet
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Nominal data

Type	**R3G280-RU26-87**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Type of data definition		fa
Speed (rpm)	min^{-1}	2350
Power input	W	252
Current draw	A	10.5
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	3 kg
Size	280 mm
Motor size	84
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PA UL94 V0 plastic
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
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
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 top; rotor on bottom on request
Condensation drainage holes	None
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Life expectancies	40,000 h (typical)
Technical features	- Lowering input - Fault output (high-side switch max. 30 mA) - INVLIN (control input, inverse linear) - Output limit -Load dump (58 V) - Motor current limit - Soft start - Set value input Lin 0-10 VDC / PWM (1.4, V corresponds to V=min, 10 V corresponds to V=max) - Temperature derating - Overvoltage detection
EMC directives	According to EN 50121-3-2
Electrical connection	Connector with connection line; Standby current less than 500 µA
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Lateral
Protection class	III
Product conforming to standard	EN 15085-1, CPC3: 2007; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010; CE
Approval	EAC

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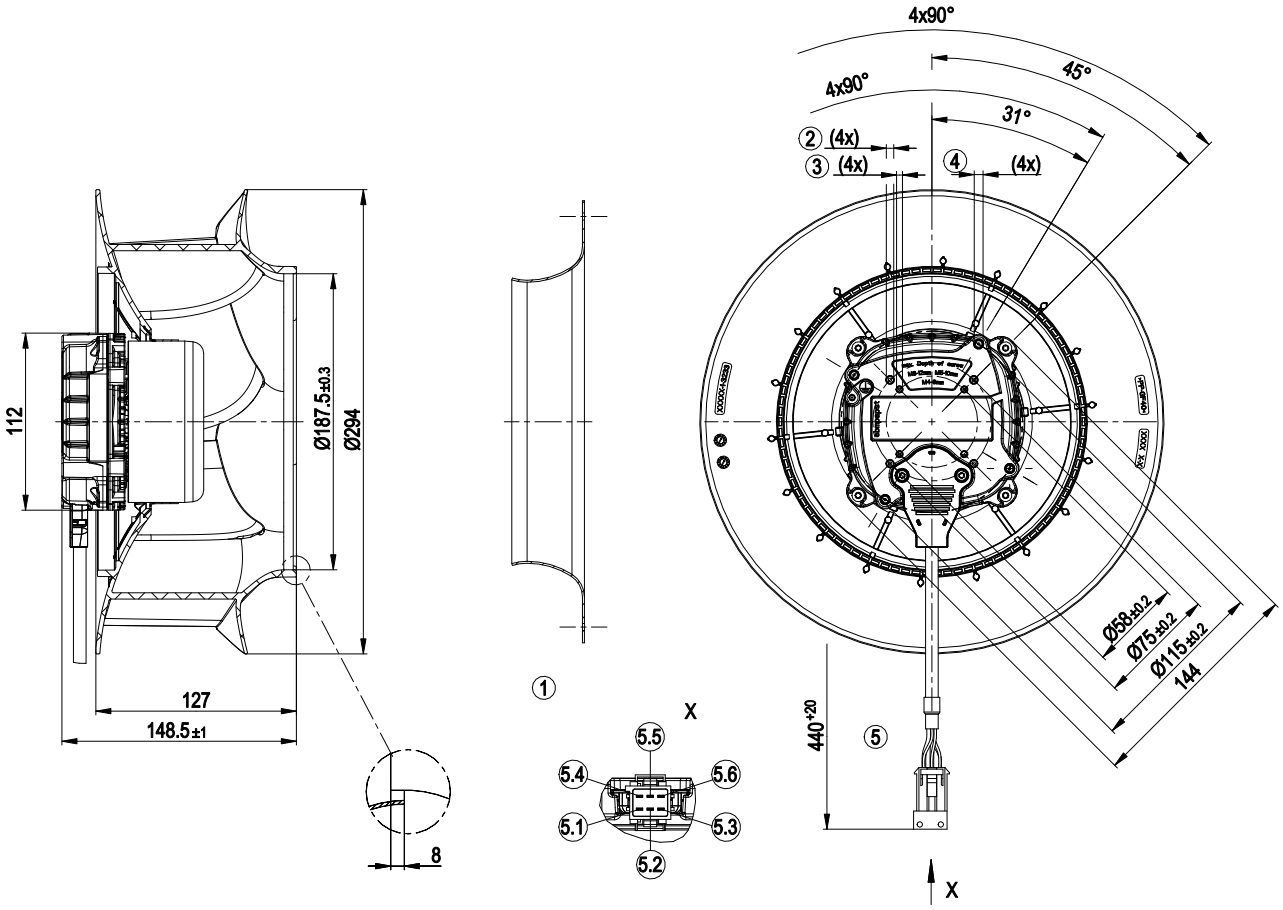
Product drawing



1	Accessory part: Inlet nozzle 28000-2-4013 not included in scope of delivery
2	Thread reach max. 10 mm, pilot hole prepared for self-tapping M5 screw
3	Thread reach max. 8 mm, pilot hole prepared for self-tapping M4 screw
4	Thread reach max. 12 mm, pilot hole prepared for self-tapping M6 screw
5	Connection line with connector housing 6-pole tyco 1-962349-1, 2x flat connector tyco 2-962916-1 and 4x flat connector tyco 1-962915-1 crimped
5.1	+ UB (black)
5.2	GND (brown)
5.3	PWM/LIN (yellow)
5.4	INVLIN (orange)
5.5	ABSENK (blue)
5.6	Diagnostic output (white)

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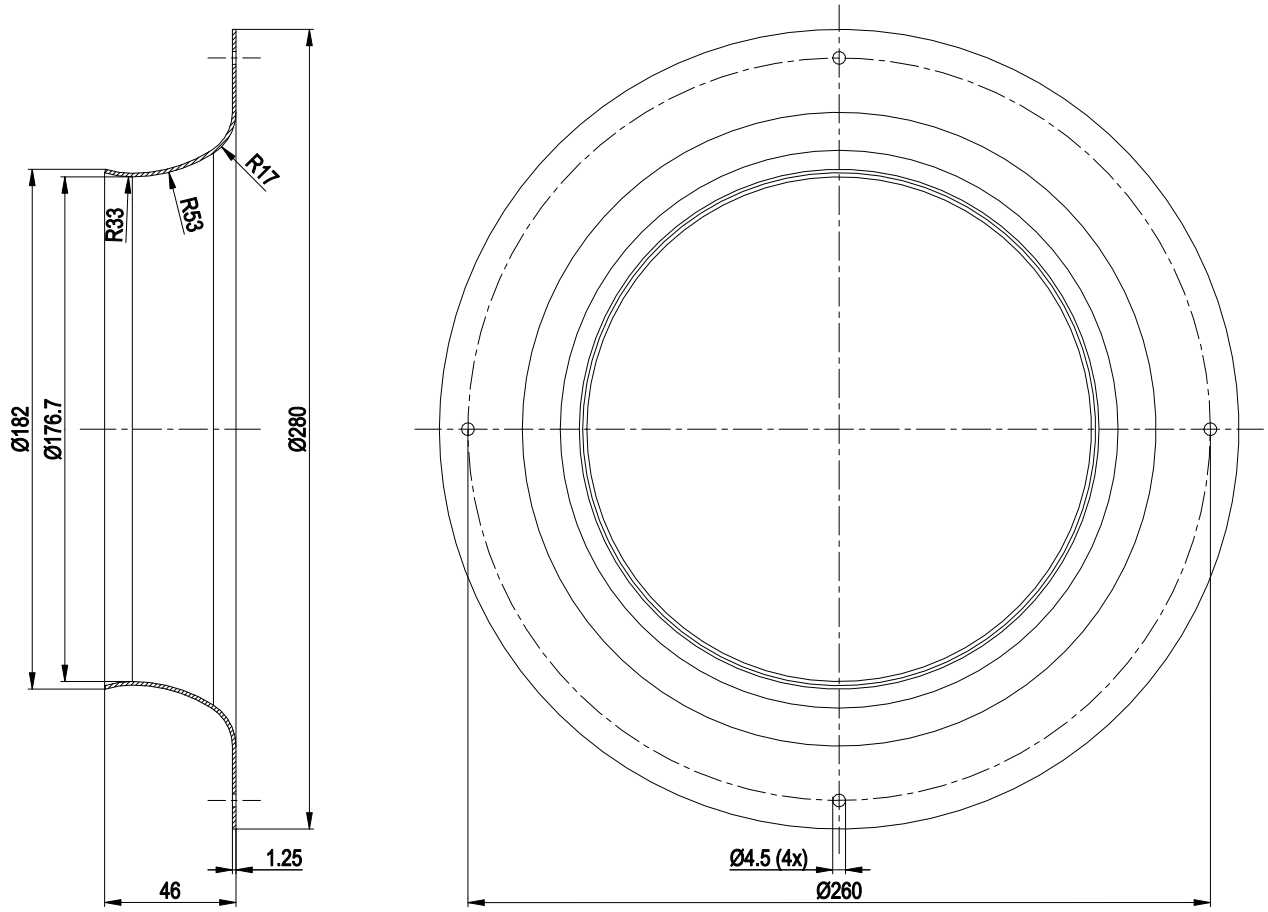
Accessory part



Accessory part: Inlet nozzle 28000-2-4013 not included in scope of delivery

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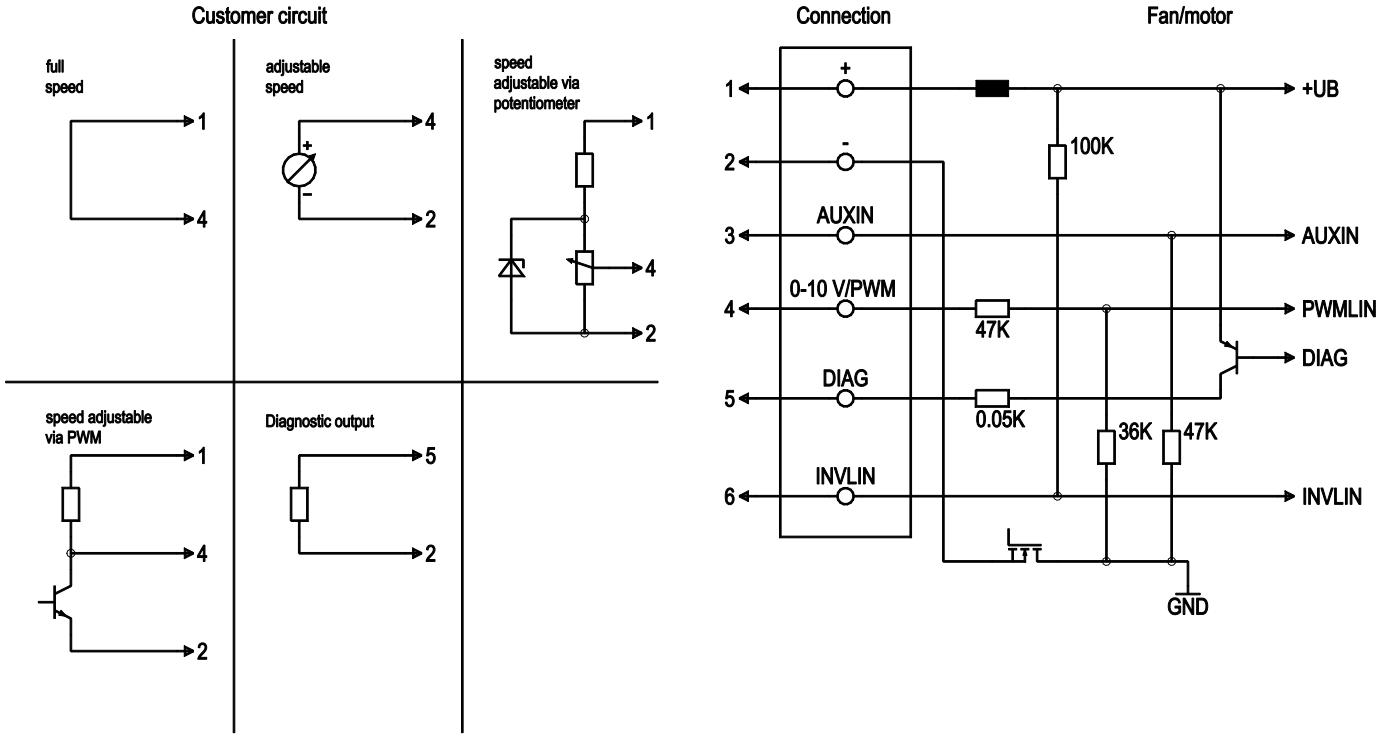
Connection screen



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	blue	Digital input: when active (> 4 V), value of PWM signal is halved
	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	DIAG	white	Diagnostic output: open collector, Isource max = 20 mA, Fan OK -> low; fan error -> high
	6	INVLIN	orange	Control input, inverse linear

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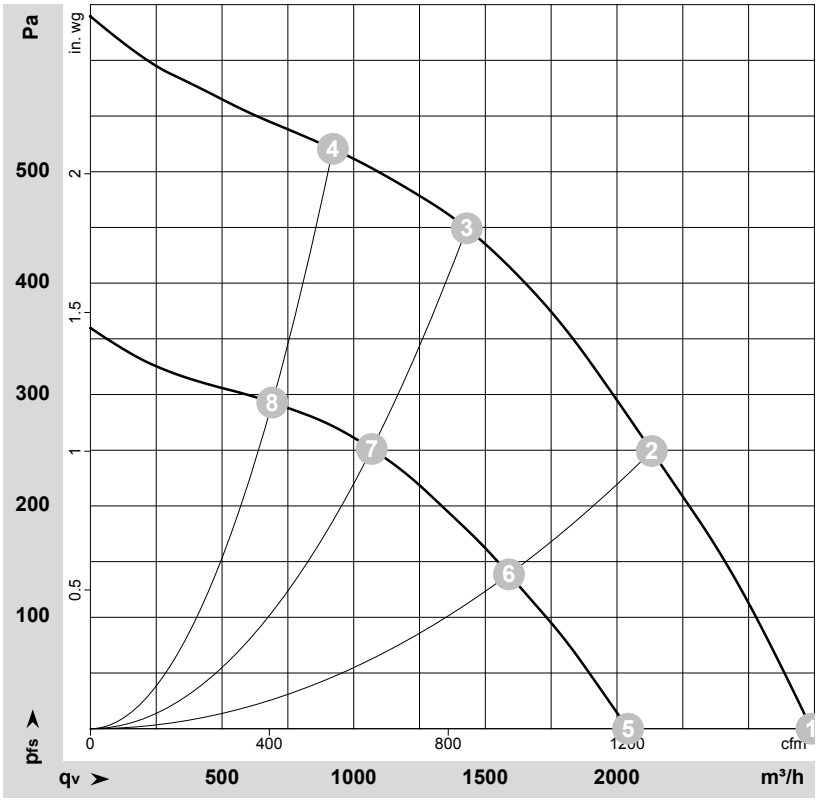
Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-160664-1
Measurement: LU-160865-1

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	24-32	2350	252	10.50*	72	80	2740	0	1610	0.00
2	24-32	2280	298	12.40*	69	75	2130	250	1255	1.00
3	24-32	2265	304	12.60*	67	73	1430	450	840	1.81
4	24-32	2305	280	11.70*	68	74	920	520	540	2.09
5	16	1745	107	6.70			2040	0	1200	0.00
6	16	1715	124	7.77			1590	139	935	0.56
7	16	1700	133	8.33			1070	251	630	1.01
8	16	1730	119	7.48			690	293	405	1.18

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