R3G280-RU26-81

EC centrifugal fan - RadiCal®

backward curved, single inlet

for railway applications



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-RU26-81**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Type of data definition		fa
Speed	min^{-1}	2350
Power input	W	252
Current draw	A	10.5
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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	62.3	42.3	46.3
Efficiency grade N		78	58	62
Power input P_e	kW	0.32		
Air flow q_v	m^3/h	1495		
Pressure increase p_{fs}	Pa	437		
Speed n	min^{-1}	2275		

Data definition with optimum efficiency. LU-143852
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	3 kg
Size	280 mm
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
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 24 KM; (motor); electronics IP 66 / 69 K
Insulation class	"B"
Humidity class	F5
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
Condensate discharge holes	None
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Lowering input - Fault output (high-side switch max. 30 mA) - INVLIN (control input, inverse linear) -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 - Over-temperature protected electronics - Line undervoltage detection
EMC directives	ECE R10 Rev. 4
Electrical leads	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 61373, Cat. 1B: 2010
Approval	E1; EAC
Remark	According to EN 45545; EN 50155

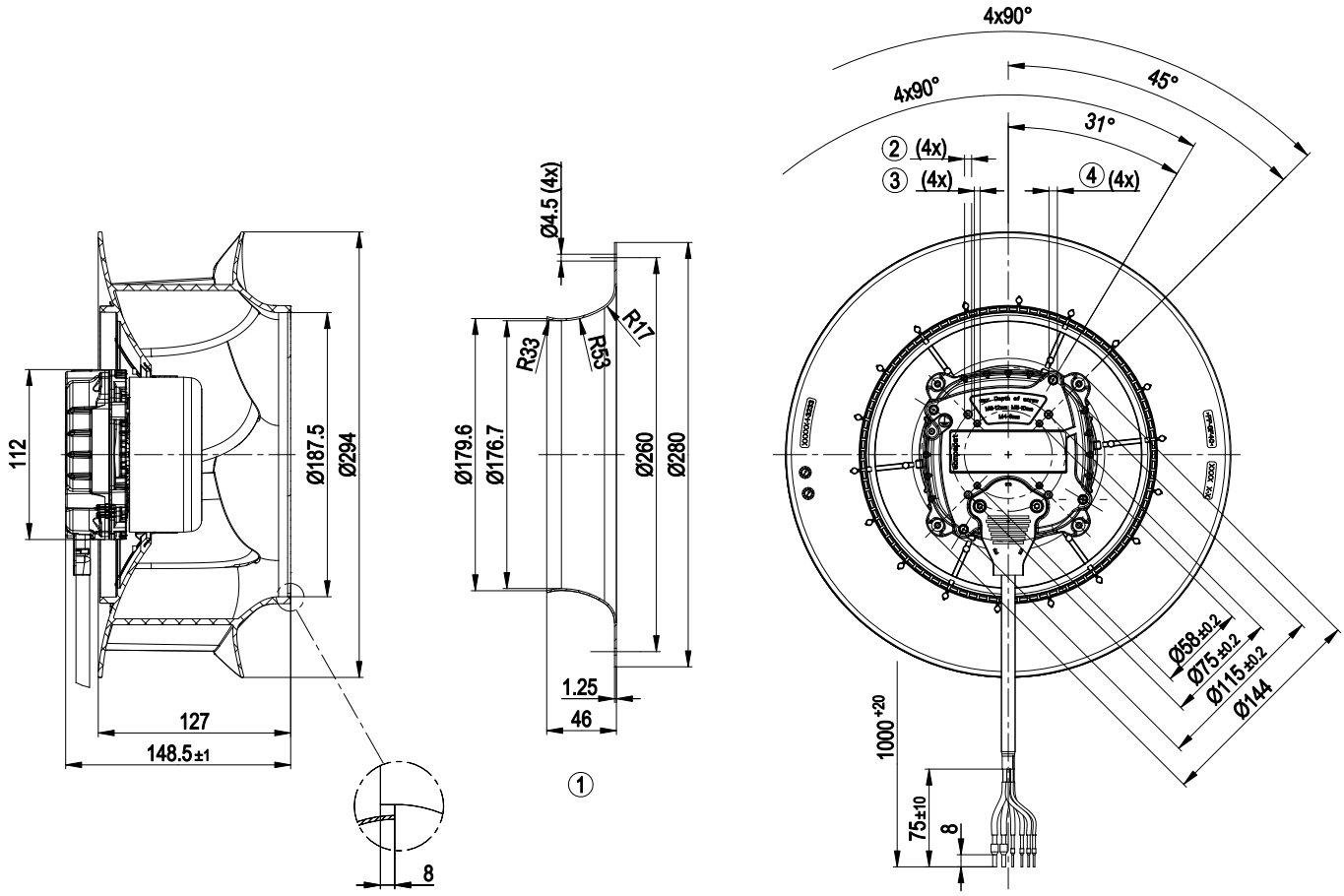
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Product drawing



1	Accessory part: inlet nozzle 28000-2-4013 (not included in standard scope of delivery)
2	Depth of screw max. 10 mm, pilot hole prepared for self-tapping M5 screw
3	Depth of screw max. 8 mm, pilot hole prepared for self-tapping M4 screw
4	Depth of screw max. 12 mm, pilot hole prepared for self-tapping M6 screw
5	Connection line (railway) 2x 2.5 mm², 4x 1.0 mm², 6x crimped core-end sleeves

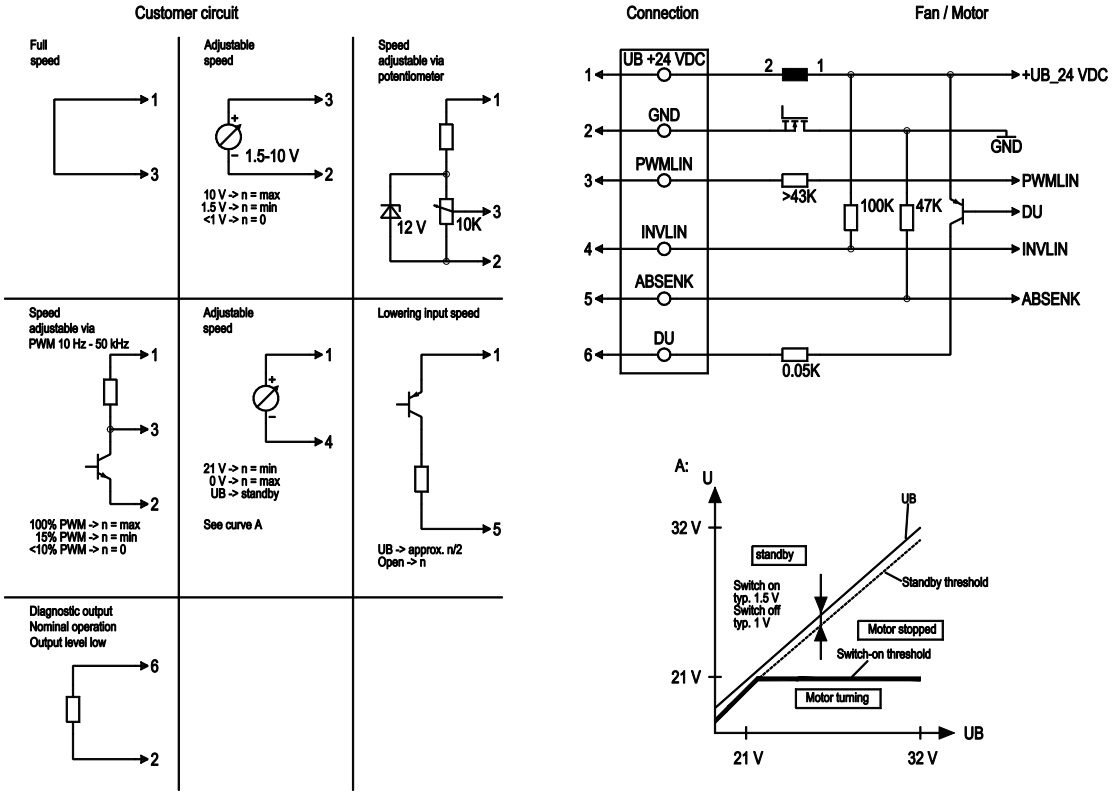
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1	UB +24 VDC	black	Power supply 24 VDC
1	2	GND	brown	Power supply GND, reference ground
1	3	PWM/LIN	yellow	Analogue voltage control input 0-10 V or PWM
1	4	INVLIN	orange	Control input, inverse linear
1	5	ABSENK	blue	Lowering input
1	6	DIAG	white	Diagnostic output

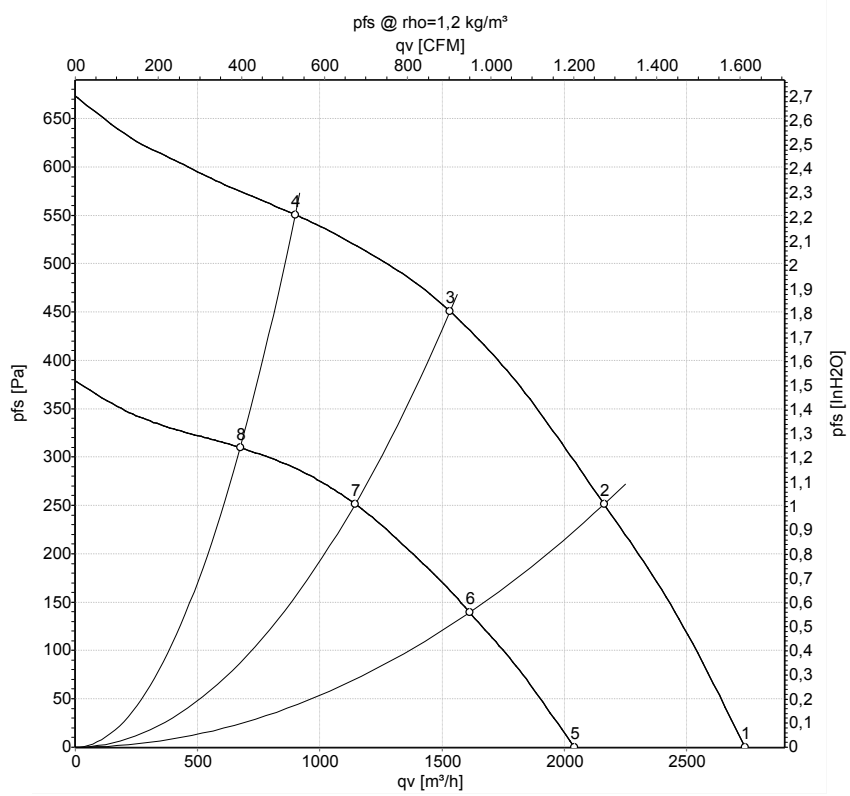
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Charts: Air flow



Measurement: LU-160664
Measurement: LU-160865

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}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	24-32	2350	252	10.5*	72	80	2740	0
2	24-32	2280	298	12.4*	69	75	2165	250
3	24-32	2265	309	12.9*	67	73	1530	450
4	24-32	2305	278	11.6*	68	74	900	550
5	16	1745	107	6.70			2040	0
6	16	1715	123	7.70			1610	140
7	16	1700	133	8.32			1145	252
8	16	1730	118	7.42			675	310

U = Supply voltage · n = Speed · 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
qv = Air flow · p_{fs} = Pressure increase

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