R3G280-RR10-P2

Carrier-LG Korea

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications



ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G280-RR10-P2**
Motor	**M3G084-DF**

Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	2600
Power consumption	W	475
Current draw	A	4.3
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

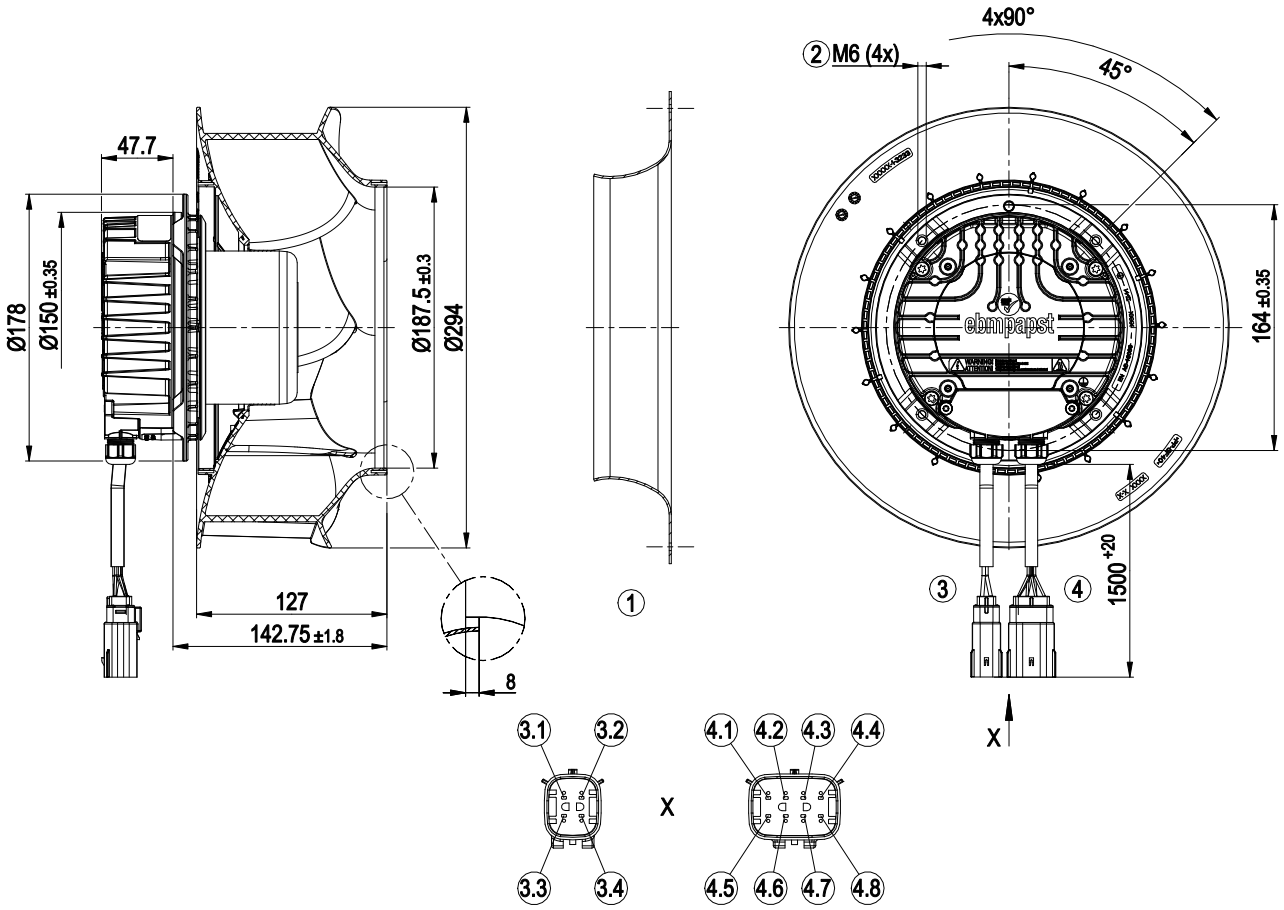
Weight	4.2 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA66 plastic, sheet-metal plate painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (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
Condensation drainage holes	On rotor side
Mode	S1
Motor mounting	Ball bearing
Motor bearing	(sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Motor current limitation - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC regulations	According to EN 50121-3-2
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 15085-1, CPC3: 2007; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Comment	If voltage (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation, meaning they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

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Product drawing



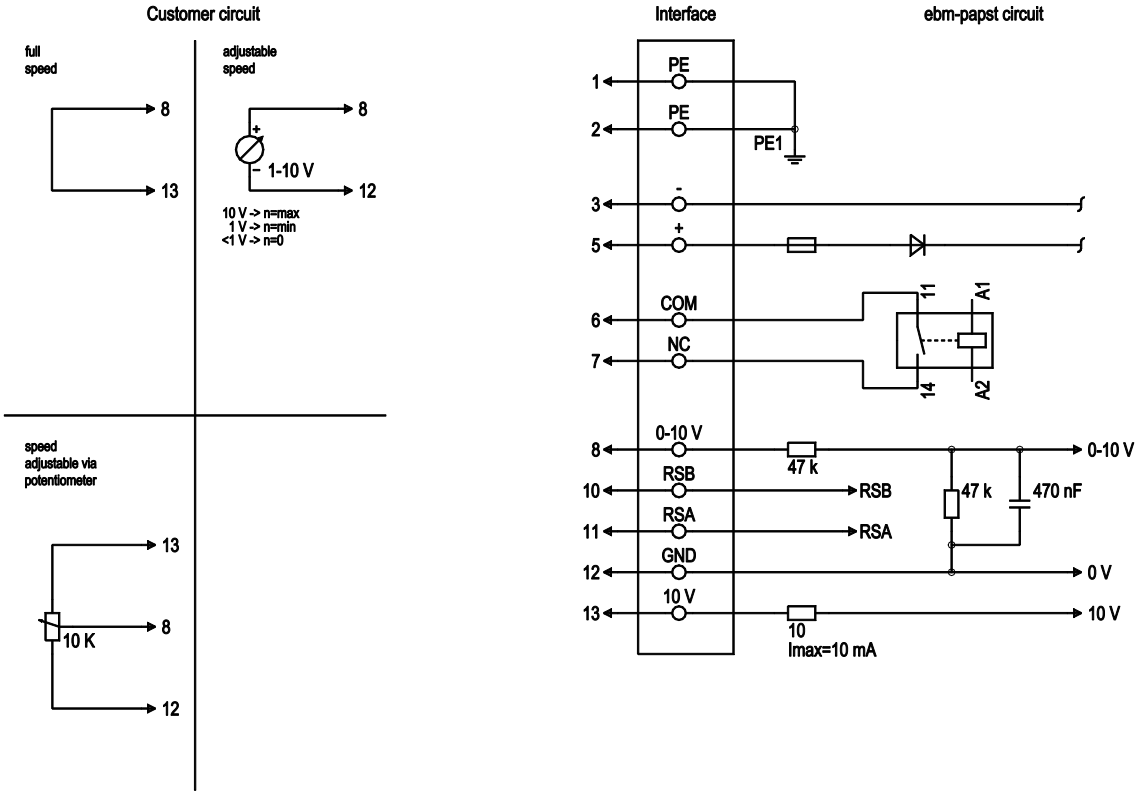
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable halogen-free, BETAtrans® 3 GKW flex, 4G 1.5 mm²
	1x 4-pole connector housing Molex MX150L 19419-0004
	3x flat plug Molex MX150L 0194170047
3.1	PE
3.2	0 V
3.3	+10 V
3.4	Not used / no function
4	Cable halogen-free, BETAtrans® 3 GKW flex, 7x 0.5 mm²
	1x 8-pole connector housing Molex MX150L 19419-0002
	7x flat plug Molex MX150L 0194170048
4.1	COM
4.2	NC
4.3	PWM
4.4	RSB
4.5	RSA
4.6	0 V
4.7	+110 V
4.8	Not used / no function

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Connection diagram



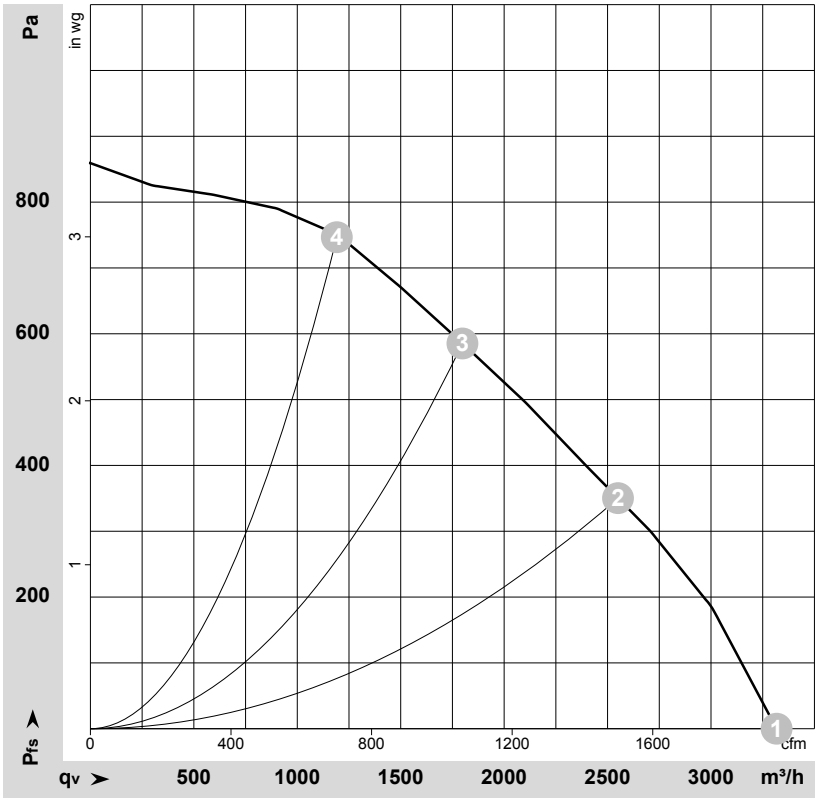
No.	Conn.	Designation	Function/assignment
	1, 2	PE	Protective earth
	3	-	Power supply, GND, voltage range see nameplate
	5	+	Power supply, voltage range see nameplate
	6	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on supply side and on control interface side
	7	NC	Status relay, floating status contact, common connection, contact rating 250 VAC / max. 2 A (AC1) / min. 1 mA / 5 V, basic insulation on supply side and on control interface side
	8	0-10 V	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
	10	RSB	RS485 interface for MODBUS, RSB; SELV
	11	RSA	RS485 interface for MODBUS, RSA; SELV
	12	GND	Reference ground for control interface; SELV
	13	+10 V	Fixed voltage output 10 VDC, + 10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometers); SELV

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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-177987-1

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	110	2810	436	3.96	77	84	3315	0	1950	0.00
2	110	2715	496	4.50	70	77	2550	350	1500	1.41
3	110	2635	495	4.50	66	73	1800	586	1060	2.35
4	110	2760	491	4.46	69	75	1190	751	700	3.01

U = Power supply · 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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