R3G280-RU65-82

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

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-RU65-82**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Status		prelim.
Speed	min^{-1}	2830
Power consumption	W	460
Current draw	A	18.0
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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	60.3	49.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.8	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.65
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	643
10 Speed n	min^{-1}	2810
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-175089

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

Technical description

Weight	3 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic, sheet-metal plate painted black
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP24 KM; (motor); electronics IP 66 / 69 K
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 top; rotor on bottom on request
Condensation drainage holes	None
Cooling hole/opening	On rotor side
Mode	S1
Motor storage	Ball bearing; (sealed)
Technical features	-Start at 85 °C (2 min) permitted - Fault output (high-side switch max. 30 mA) - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Standstill on cable break - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection
Electrical hookup	Standby current less than 500 µA
Motor protection	Reverse polarity and locked-rotor protection
With cable	Lateral
Protection class	III
Conformity with standards	EN 50155: 2008; EN 15085-1, CPC3: 2007; EN 45545-2, R22/R23, HL3: 2013; EN 61373, Cat. 1B: 2010
Comment	E1 approval in preparation; EMC regulation: EN 50121-3-2 in preparation

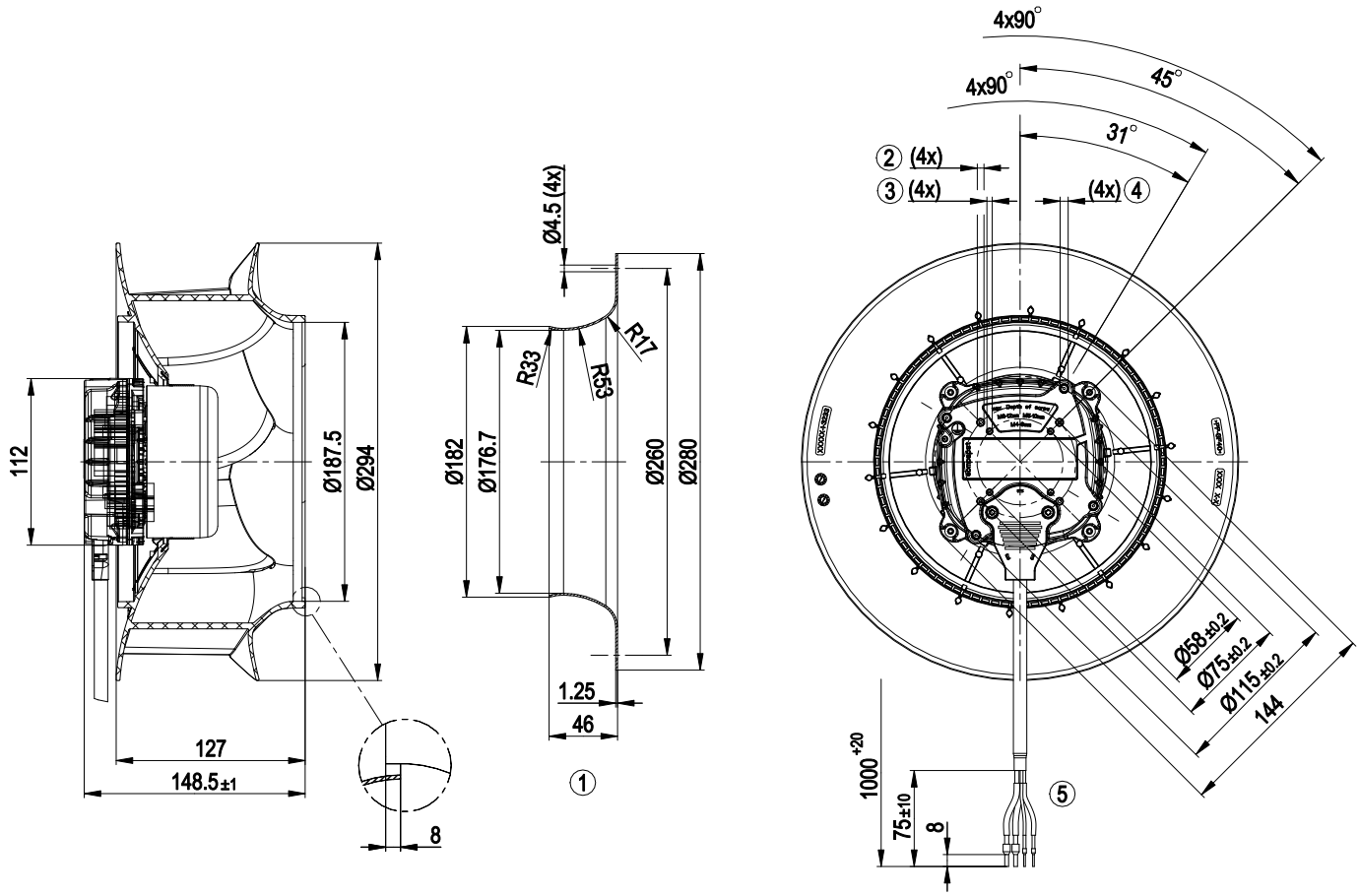
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

Product drawing



1	Accessory part: Inlet ring 28000-2-4013 not included in scope of delivery.
2	Max. clearance for screw 10 mm, tapping hole ready for self-tapping M5 screw
3	Max. clearance for screw 8 mm, tapping hole ready for self-tapping M4 screw
4	Max. clearance for screw 12 mm, tapping hole ready for self-tapping M6 screw
5	Cable halogen-free, BETAtrans® GKW R 2.5 mm², 2x crimped ferrules (brown, black), BETAtrans® GKW R 1.0 mm², 2x crimped ferrules (yellow, white)

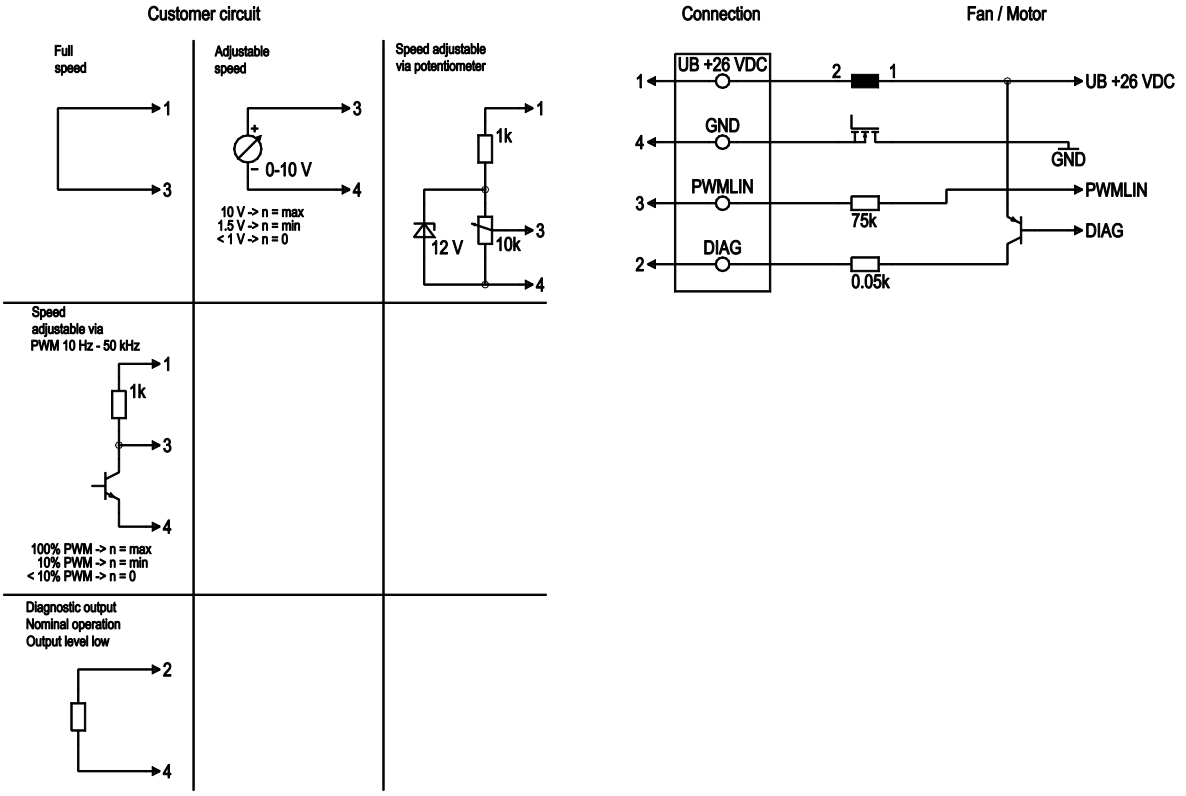
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	UB +26 VDC	black	Power supply 26 VDC
1	2	DIAG	white	Diagnostic output
1	3	PWMLIN	yellow	Analog voltage control input 0-10 V or PWM
1	4	GND	brown	Power supply GND, reference ground

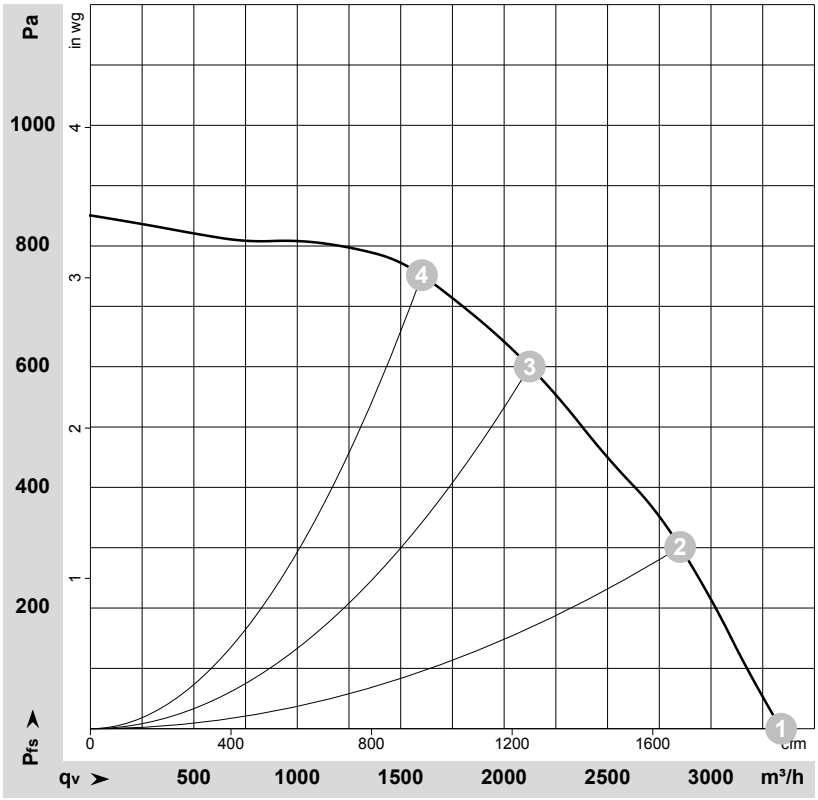
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

Curves: Air performance



ρ = 1,15 kg/m³ ± 2%

Measurement: LU-175089

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	qv	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa
1	26	2830	460	18.00	3340	0
2	26	2810	584	22.41	2850	300
3	26	2810	645	24.77	2125	600
4	26	2835	623	23.89	1605	750

U = Power supply · n = Speed · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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