R3G280-RU65-25

ThermoKing

3E79221G01

EC centrifugal fan - RadiCal

backward-curved, single-intake

Automotive



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Nominal data

Type	**R3G280-RU65-25**
Motor	**M3G084-DF**

Nominal voltage	VDC	27.5
Nominal voltage range	VDC	18 .. 32
Method of obtaining data		fa
Status		prelim.
Speed (rpm)	min^{-1}	2800
Power consumption	W	450
Current draw	A	16.2
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	65
-with power derating to	°C	75

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

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Technical description

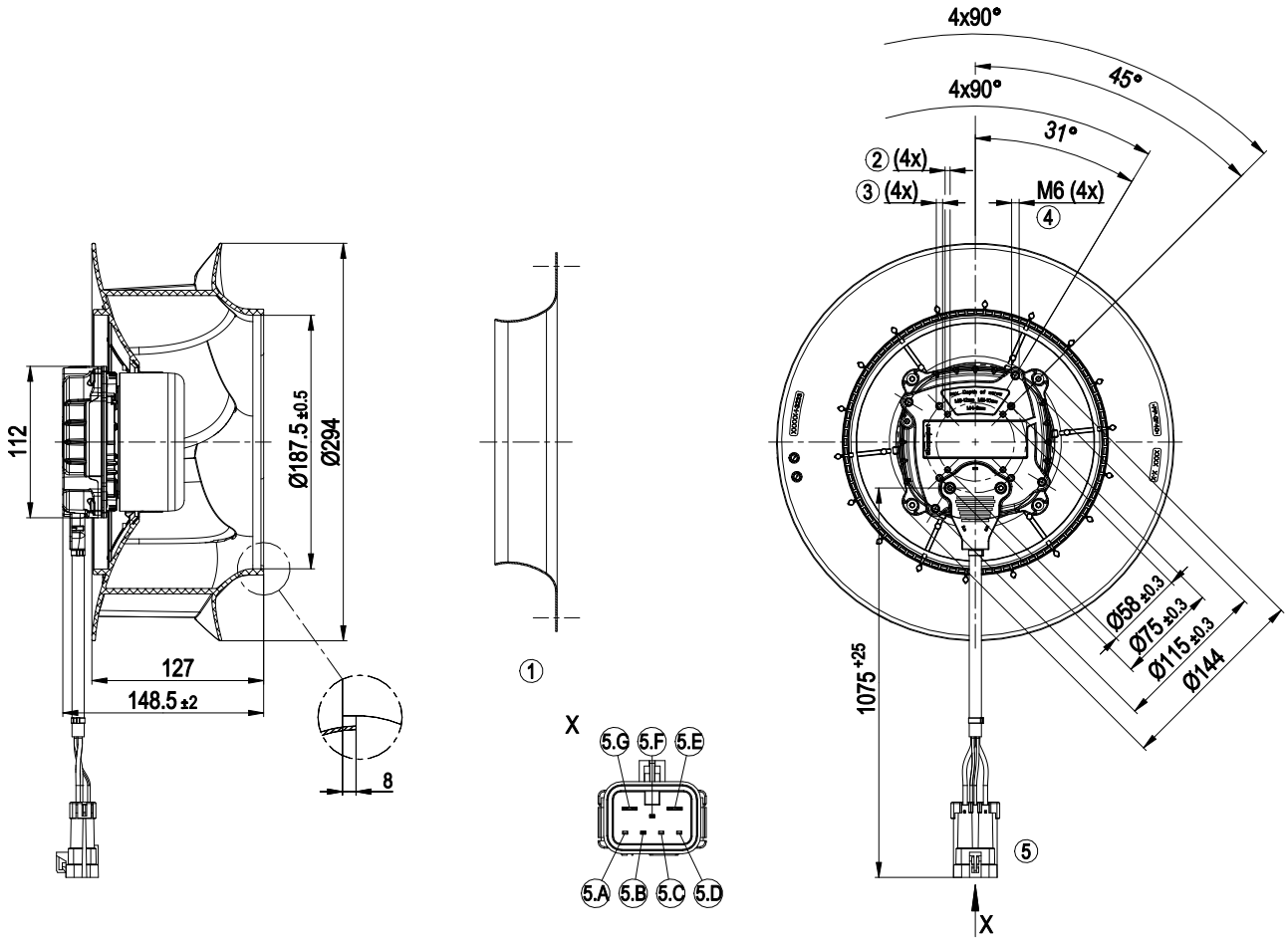
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic, sheet-metal plate painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H4
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Locked-rotor detection - Tach output - Power limiter - Load dump protection - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Thermal overload protection for electronics - Reverse polarity protection
Electrical hookup	Connector with cable; Standby current less than 500 µA
Motor protection	Electronic motor protection
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. If there is a PE connection point on the housing, it must not be visible after installation.

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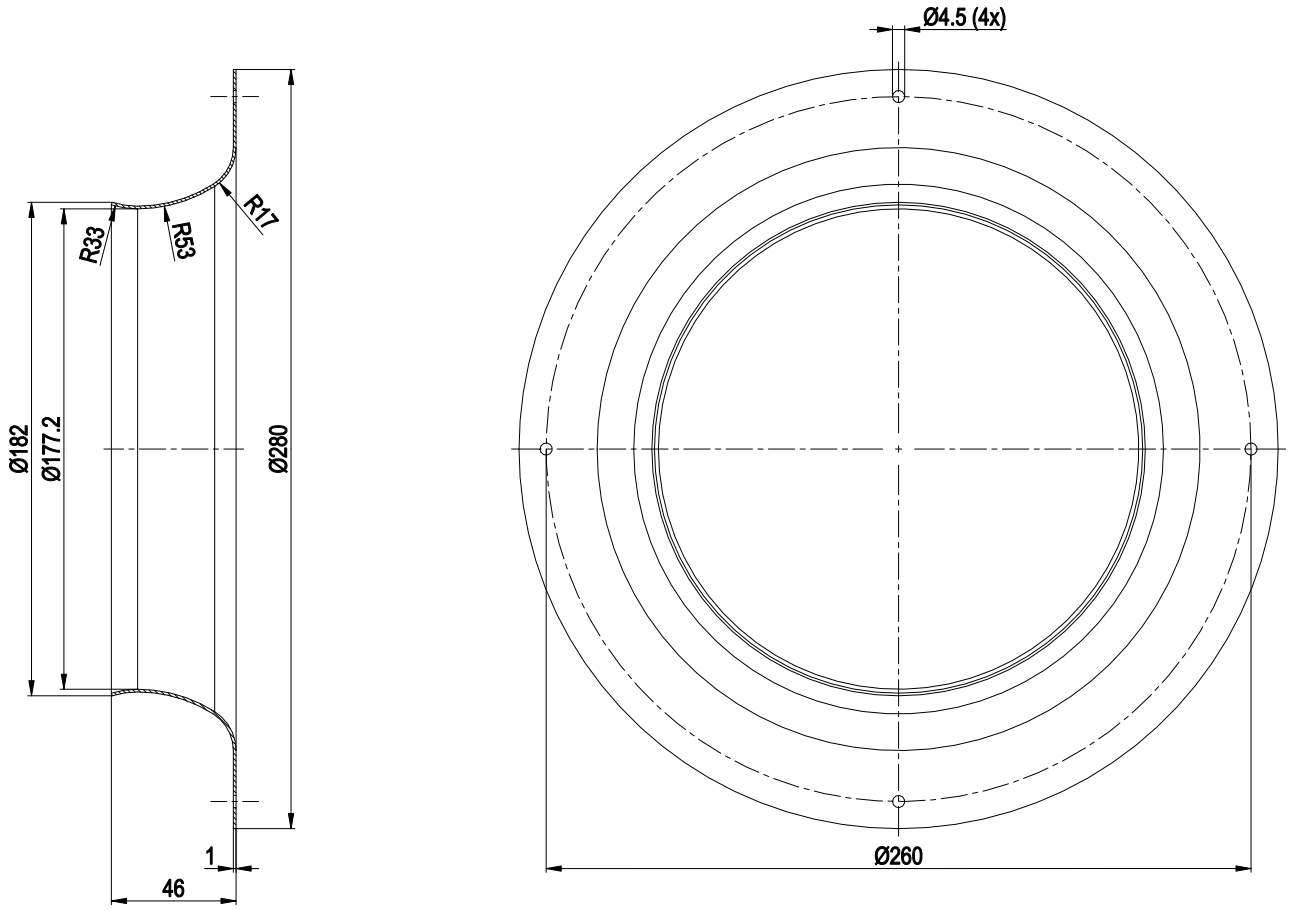
Product drawing



1	Accessory part: Inlet ring 28000-2-4013 not included in scope of delivery.
2	Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 8 mm
3	Tapping hole prepared for self-tapping M5 screw, max. screw-in depth 10 mm
4	Max. clearance for screw 12 mm
5	Cable, halogen-free, railway application EN 45545, 2x 4.0 mm², 2x 1.0 mm²
	7-pole connector housing Delphi 12052200, 2x flat plug Delphi 12052172, 2x flat plug Delphi 12177150, 2x seal Delphi 15324976, 2x seal Delphi 15324990, 3x dummy plug Delphi 12059168, 1x locking cover Delphi 12052199
5.A	not used
5.B	Diagnostic output
5.C	not used
5.D	not used
5.E	GND
5.F	PWM/LIN
5.G	+ UB

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Accessory part



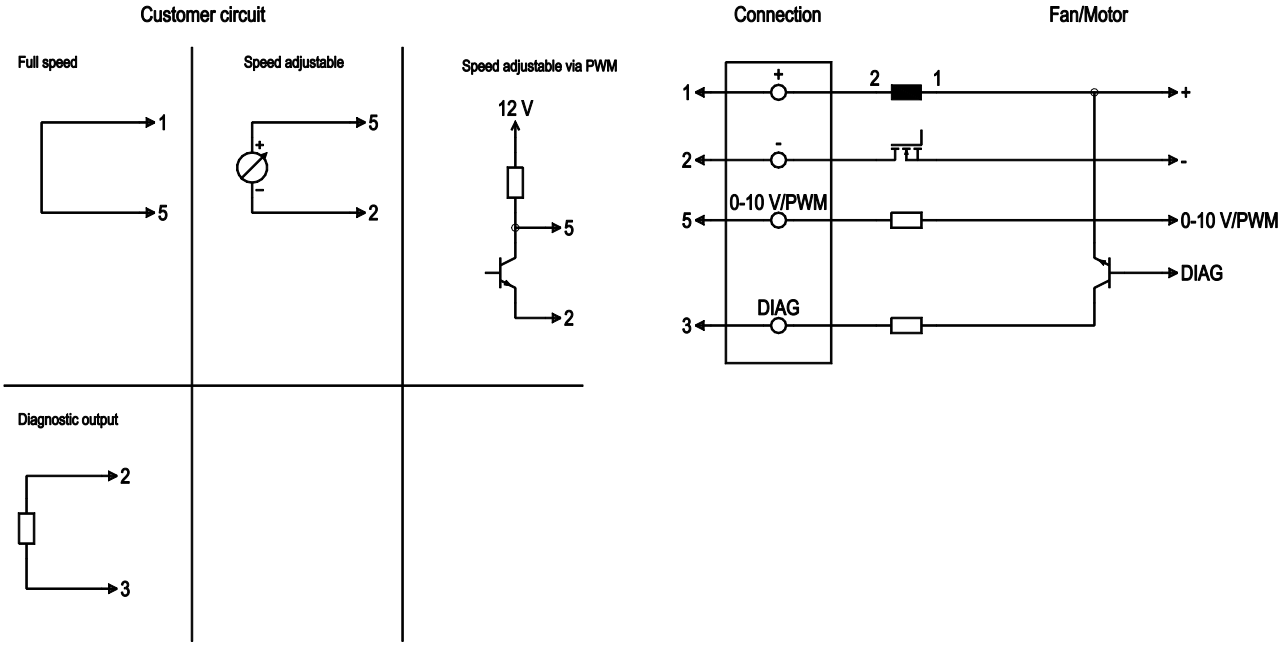
Inlet ring 28000-2-4013

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Connection diagram



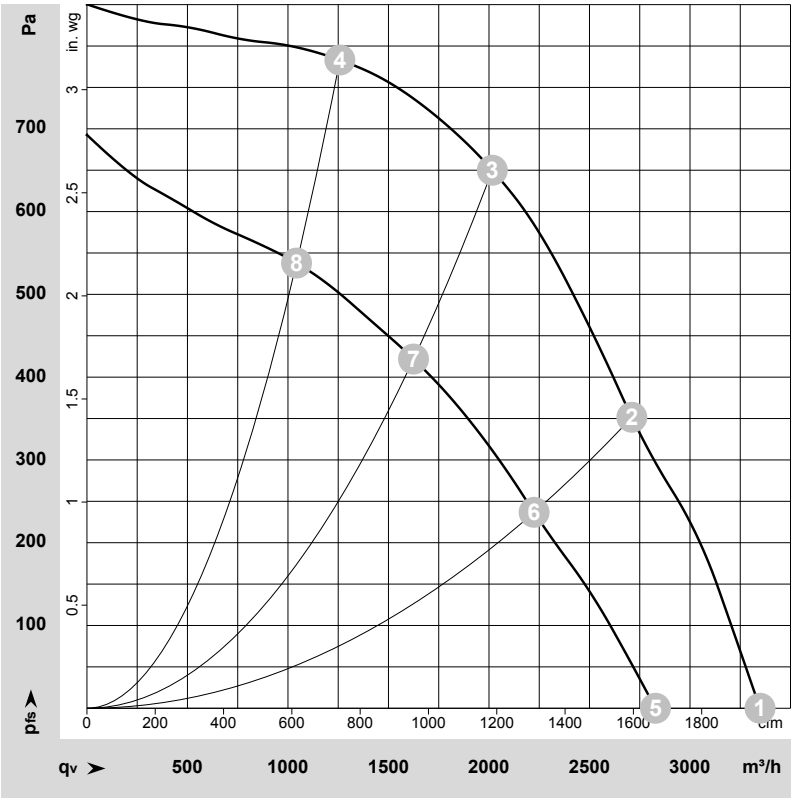
No.	Conn.	Designation	Function/assignment
5.G	1	+	Power supply +
5.E	2	-	Power supply -
5.B	3	DIAG	Tach output: open collector, 1 pulse per revolution, Isink max = 5 mA, Ri = 2.1 kΩ
5.F	5	0-10 V / PWM	Control input: Ri > 36 kΩ 0-10 V (typ. <1 V ->n = 0; 1.5 V ->n = min.; >10 V ->n = max.) or PWM (12 V; 1 kHz - 2 kHz; typ. < 6% -> n = 0; 10% ->n = min.; >100% ->n = max.)

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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-212724-1
Measurement: LU-212899-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	27.5-32	2800	450	16.20*	3350	0	1970	0.00
2	27.5-32	2800	562	20.40*	2710	350	1595	1.41
3	27.5-32	2800	645	23.50*	2015	650	1185	2.61
4	27.5-32	2800	555	20.20*	1260	780	740	3.13
5	18	2390	272	15.07	2830	0	1665	0.00
6	18	2315	312	17.32	2225	236	1310	0.95
7	18	2285	337	18.65	1625	423	955	1.70
8	18	2335	314	17.30	1045	539	615	2.16

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · q_V = Air flow · p_{fs} = Pressure increase

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