EC centrifugal fan

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	**R3G250-AL54-11**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2530
Power consumption	W	165
Current draw	A	1.25
Min. ambient temperature	°C	-25
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	49.8	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m³/h	720
09 Pressure increase p_{fs}	Pa	359
10 Speed (rpm) n	min^{-1}	2555
11 Specific ratio*		1.00

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-77198

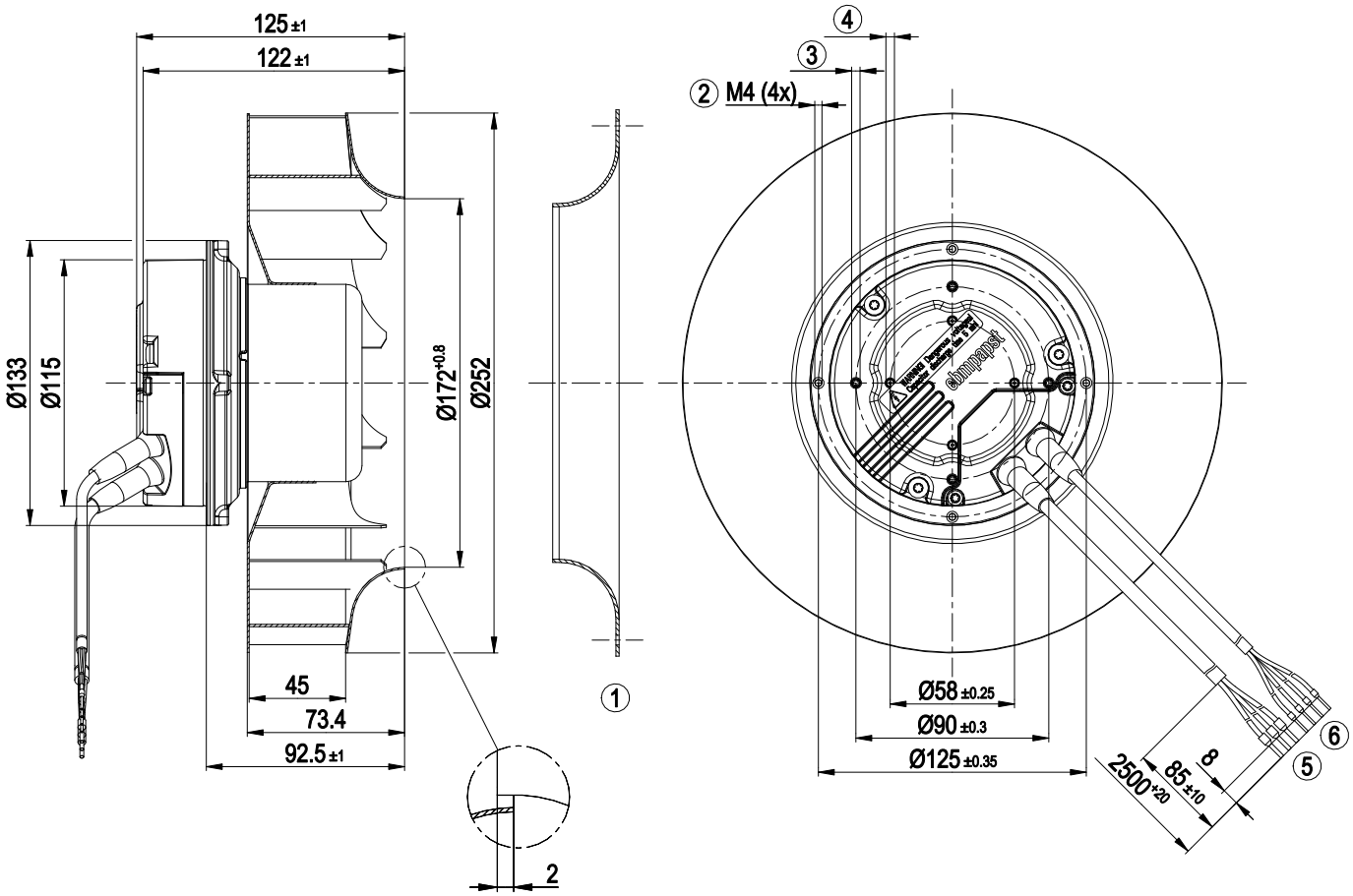
EC centrifugal fan

Technical description

Weight	3 kg
Size	250 mm
Motor size	74
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
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
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for motor
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 61800-5-1; EN 60950-1
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-3 + 60730-1

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

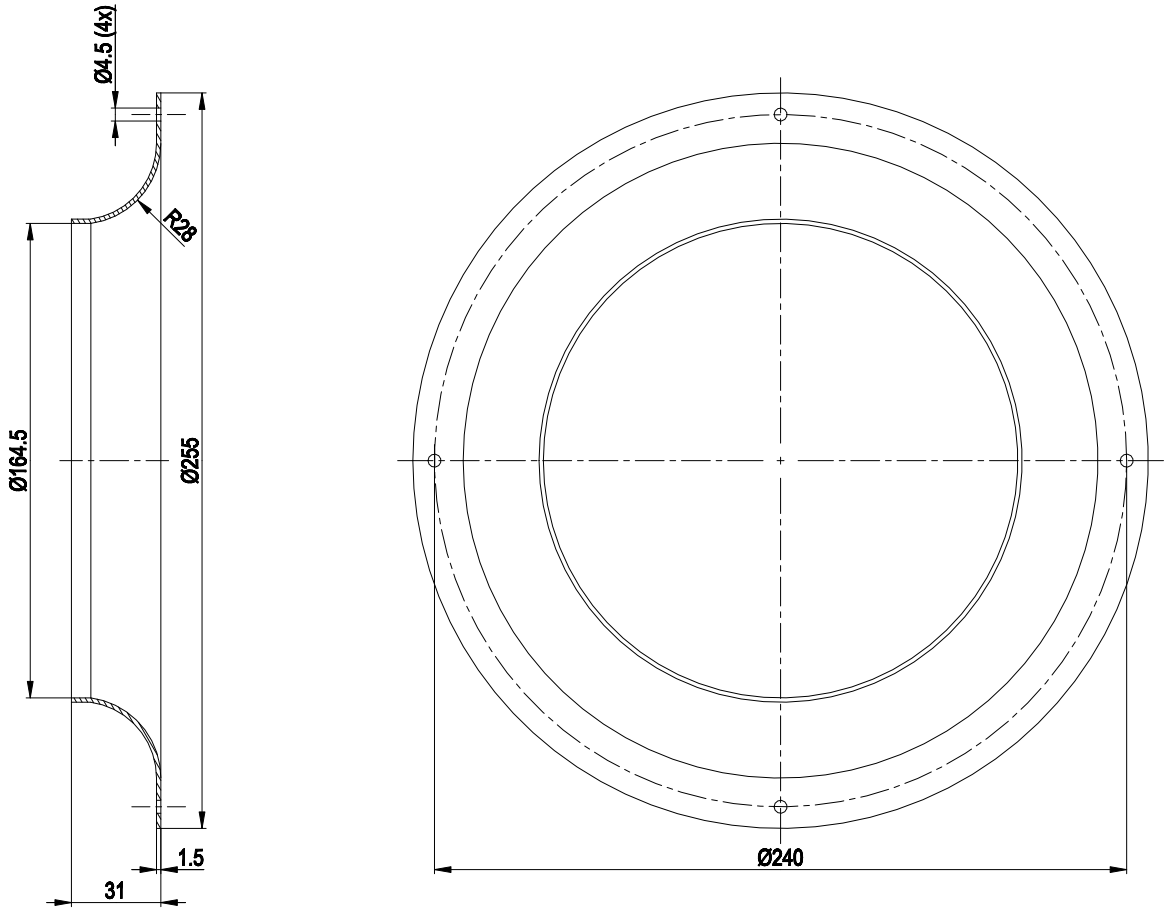
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Clearance for screw 8-10 mm
3	Tapping hole prepared for self-tapping M4 screw, max. clearance for screw 6 mm
4	Tapping hole prepared for self-tapping M4 screw, max. clearance for screw 8 mm
5	Cable PVC AWG18
	3x wire-end ferrule
6	Cable PVC AWG22
	4x wire-end ferrule

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

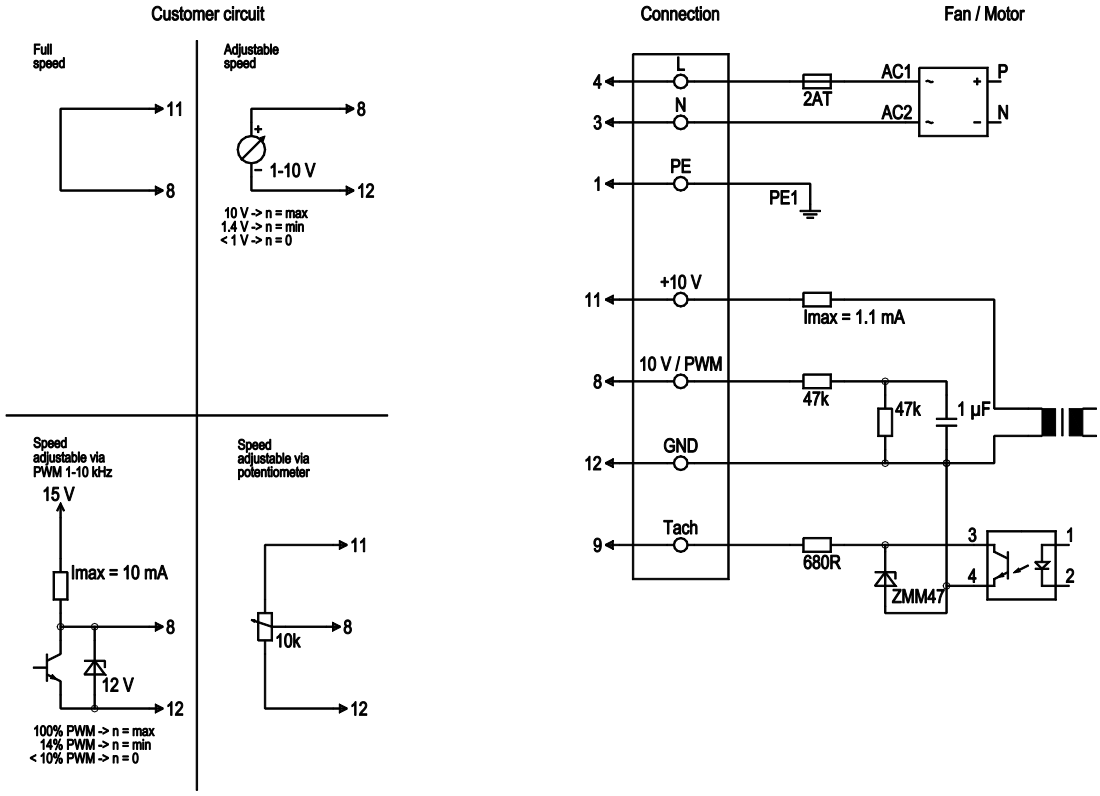
Accessory part



Accessory part: inlet ring 96359-2-4013 not included in scope of delivery

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

Connection diagram

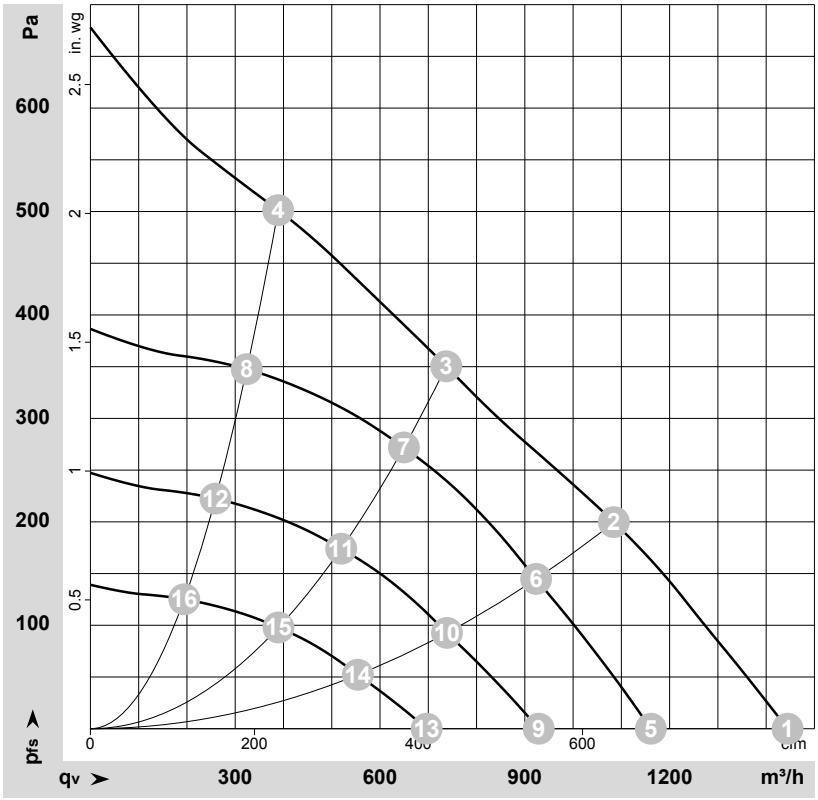


No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V/max. 1.1 mA, electrically isolated
	12	GND	blue	GND connection for control interface

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

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-77198-1

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

	Wired	U	f	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	230	50	2800	142	1.09	1445	0	850	0.00
2	1~	230	50	2645	165	1.25	1085	200	640	0.80
3	1~	230	50	2530	165	1.25	735	350	435	1.41
4	1~	230	50	2700	157	1.19	390	500	230	2.01
5	1~	230	50	2250	74	0.56	1160	0	685	0.00
6	1~	230	50	2250	101	0.76	925	145	545	0.58
7	1~	230	50	2250	113	0.85	650	272	380	1.09
8	1~	230	50	2250	91	0.69	325	348	190	1.40
9	1~	230	50	1800	38	0.29	930	0	545	0.00
10	1~	230	50	1800	52	0.39	740	93	435	0.37
11	1~	230	50	1800	58	0.43	520	174	305	0.70
12	1~	230	50	1800	46	0.35	260	222	150	0.89
13	1~	230	50	1350	16	0.12	695	0	410	0.00
14	1~	230	50	1350	22	0.16	555	52	325	0.21
15	1~	230	50	1350	24	0.18	390	98	230	0.39
16	1~	230	50	1350	20	0.15	195	125	115	0.50

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = 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