R3G355-RJ91-02

Emerson Network Power (Jiangmen)

EC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R3G355-RJ91-02**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	2660
Power consumption	W	1500
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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}	%	64.1	53.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.49
09 Air flow q_v	m^3/h	4190
09 Pressure increase p_{fs}	Pa	768
10 Speed (rpm) n	min^{-1}	2655
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-183934

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Technical description

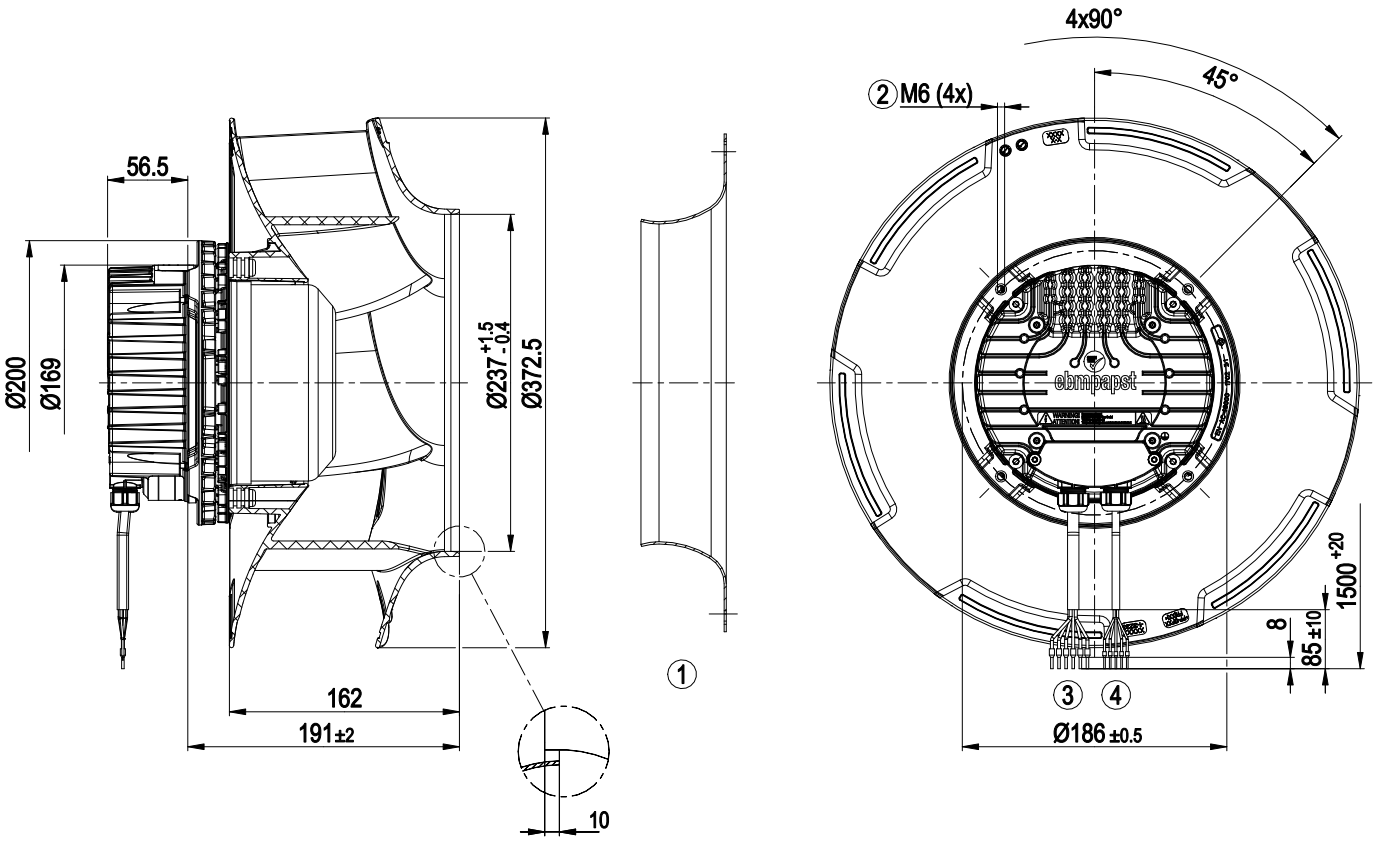
Weight	8.4 kg
Size	355 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
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 bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - 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 - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
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 61800-5-1; CE
Approval	EAC

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Product drawing



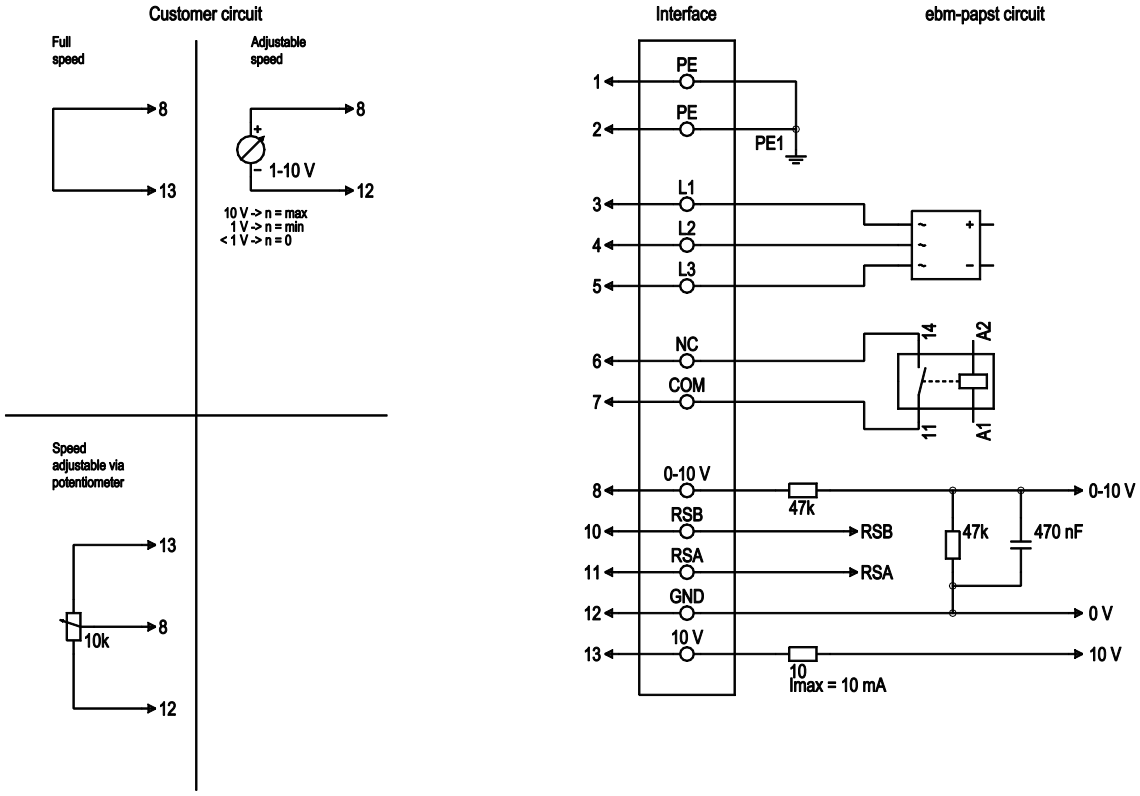
1	Accessory part: Inlet ring 35500-2-4013 not included in scope of delivery.
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	6x wire-end ferrule
4	Cable PVC AWG22
	5x wire-end ferrule

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Connection diagram



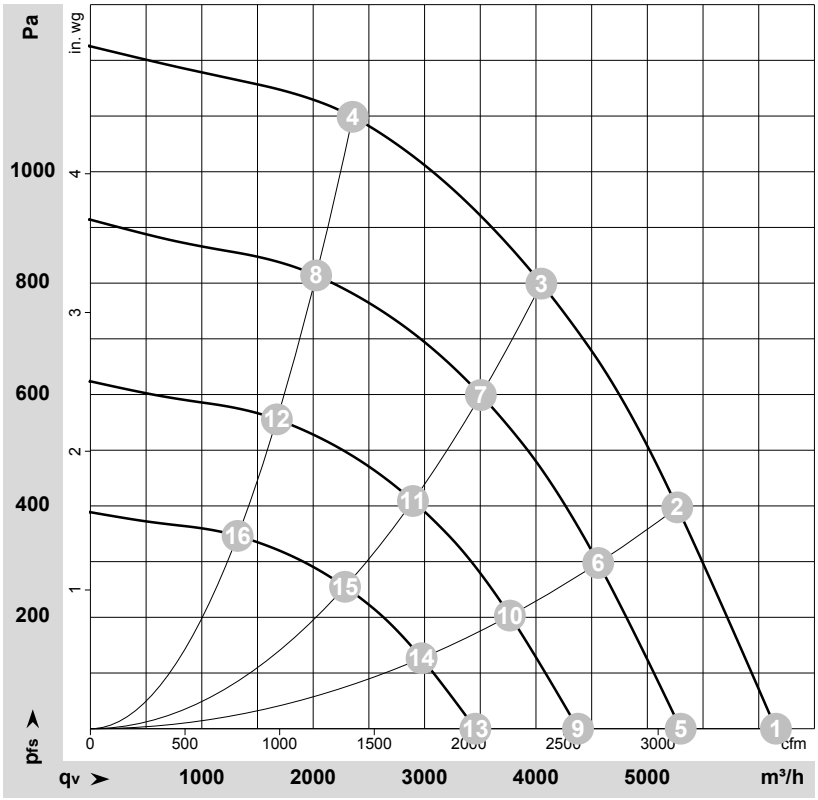
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, Ri = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-183934-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	3~	400	50	2660	1052	1.62	89	95	97	6155	0	3620	0.00
2	3~	400	50	2660	1350	2.06	85	91	94	5270	400	3100	1.61
3	3~	400	50	2660	1500	2.30	74	80	86	4050	800	2385	3.21
4	3~	400	50	2660	1402	2.14	74	82	87	2355	1100	1385	4.42
5	3~	400	50	2300	672	1.03	85	91	93	5300	0	3120	0.00
6	3~	400	50	2300	875	1.33	81	87	90	4560	299	2685	1.20
7	3~	400	50	2300	973	1.48	70	77	83	3505	600	2065	2.41
8	3~	400	50	2300	894	1.36	70	78	83	2025	816	1190	3.28
9	3~	400	50	1900	379	0.58	80	87	88	4380	0	2575	0.00
10	3~	400	50	1900	493	0.75	76	82	85	3765	204	2215	0.82
11	3~	400	50	1900	548	0.83	65	72	78	2895	409	1705	1.64
12	3~	400	50	1900	504	0.77	66	73	78	1675	557	985	2.24
13	3~	400	50	1500	186	0.29	74	81	82	3455	0	2035	0.00
14	3~	400	50	1500	243	0.37	70	76	80	2975	127	1750	0.51
15	3~	400	50	1500	270	0.41	59	66	72	2285	255	1345	1.02
16	3~	400	50	1500	248	0.38	60	67	72	1320	347	780	1.39

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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