

R3G355-BC92-01 ebmpapst Datasheet

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Nominal data

Type	R3G355-BC92-01	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min ⁻¹	2800
Power input	W	2250
Current draw	A	3.5
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015			
01 Overall efficiency η_{es}	%	64.1	55.2	09 Power input P_{ed}	kW	2.24
02 Measurement category		A		09 Air flow q_v	m ³ /h	4680
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	1038
04 Efficiency grade N		70.9	62	10 Speed (rpm) n	min ⁻¹	2825
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = $1 + p_s / 100\,000\text{ Pa}$

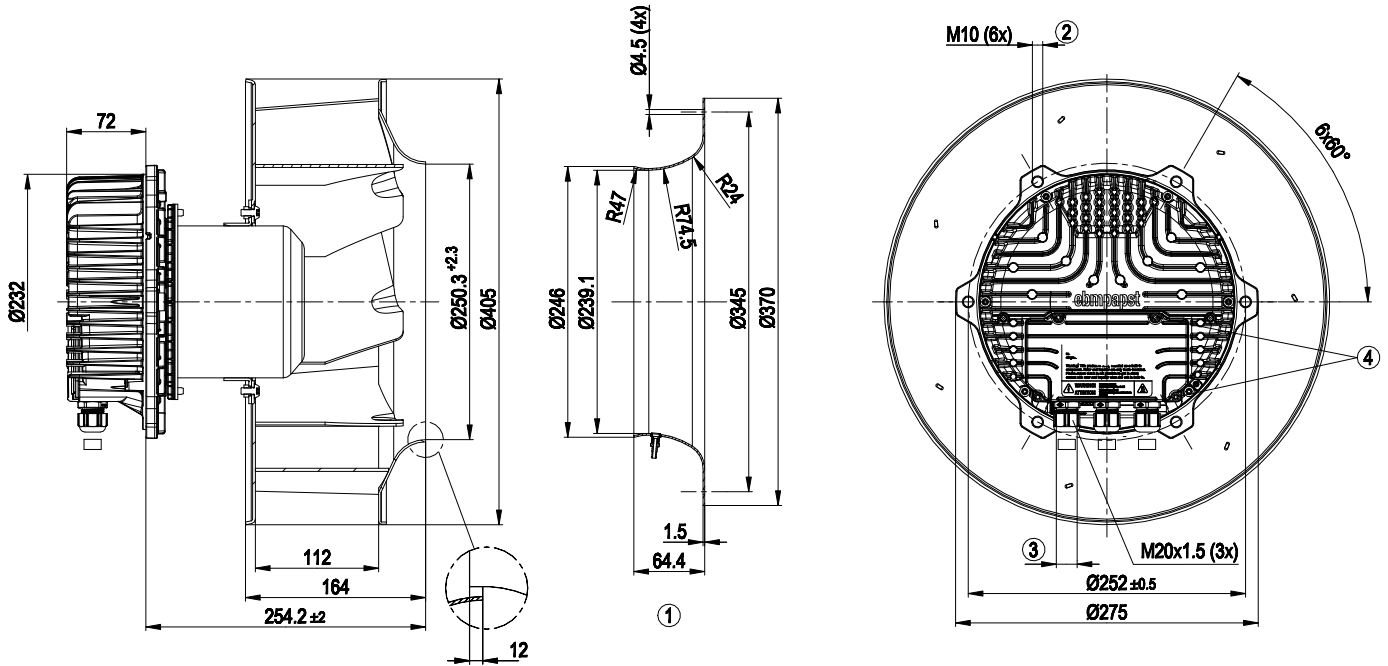
LU-149893



Technical features

Mass	15.2 kg
Size	355 mm
Motor size	112
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Operation and alarm display - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730-1; EAC

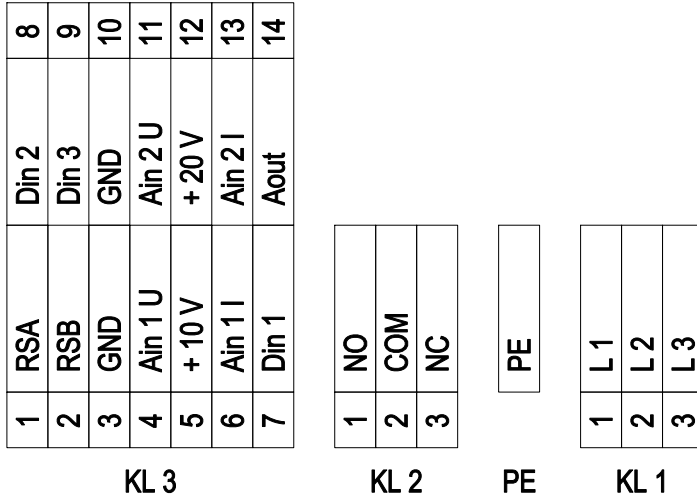
Product drawing



1	Accessory part: Inlet nozzle with bleeder connection for pressure relief 35675-2-4013 (k-factor: 148), not included in the standard scope of delivery
2	Depth of screw max. 20 mm
3	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 4 ± 0.6 Nm
4	Tightening torque 3.5 ± 0.5 Nm



Connection screen



No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact; normally open; close with error
KL2	2	COM	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break with error
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer), SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: bridge to GND or applied voltage <1 VDC reset function: triggers software reset after a level change to <1 VDC; SELV
KL 3	8	Din2	Digital input 2: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage <1 VDC; SELV
KL 3	9	Din3	Digital input 3: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V ±25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV



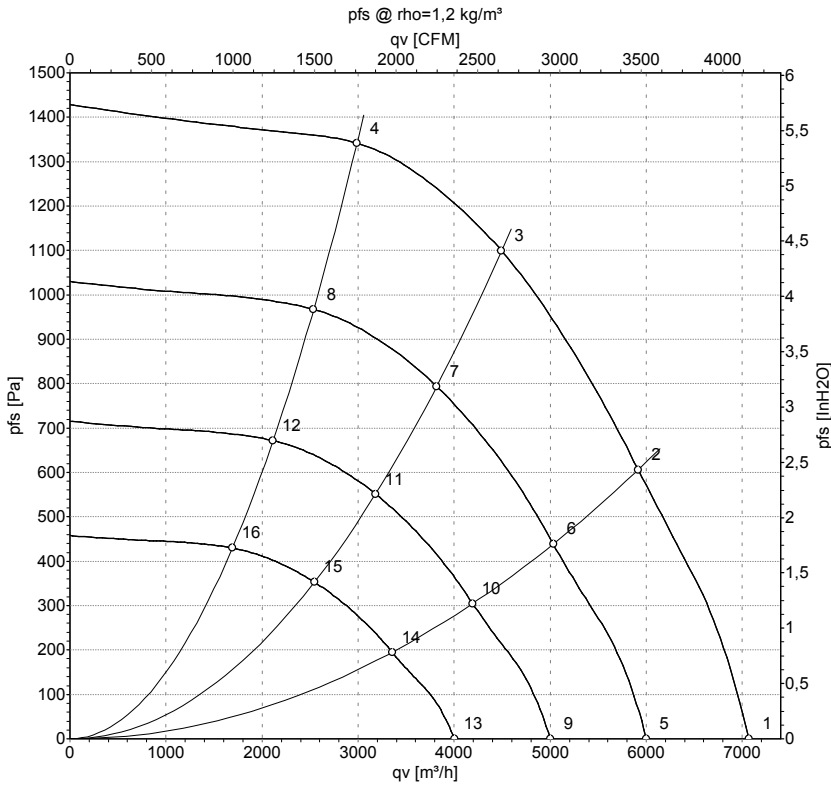
EC centrifugal fan - RadiPac

backward curved, single inlet

No.	Conn.	Designation	Function / assignment
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, Ri = 100 Ω , parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV



Charts: Air flow 50 Hz



Measurement: LU-149893-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	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	400	50	2800	1463	2.33	82	90	96	7070	0	4160	0.00
2	400	50	2800	1916	2.99	79	86	92	5915	600	3480	2.41
3	400	50	2800	2250	3.50	78	85	90	4495	1100	2645	4.42
4	400	50	2800	2134	3.29	79	88	93	2985	1350	1760	5.42
5	400	50	2400	896	1.43	78	86	92	6000	0	3535	0.00
6	400	50	2400	1179	1.84	75	82	88	5030	438	2960	1.76
7	400	50	2400	1379	2.12	73	81	86	3820	796	2250	3.20
8	400	50	2400	1305	2.01	75	84	89	2535	972	1495	3.90
9	400	50	2000	518	0.82	73	81	87	5000	0	2945	0.00
10	400	50	2000	682	1.07	70	77	84	4195	304	2470	1.22
11	400	50	2000	798	1.23	69	76	82	3185	553	1875	2.22
12	400	50	2000	755	1.16	71	79	84	2115	675	1245	2.71
13	400	50	1600	265	0.42	68	76	81	4000	0	2355	0.00
14	400	50	1600	349	0.55	64	72	78	3355	195	1975	0.78
15	400	50	1600	409	0.63	63	70	76	2545	354	1500	1.42
16	400	50	1600	387	0.60	65	74	78	1690	432	995	1.73

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
 q_v = Air flow · p_{fs} = Pressure increase

