K3G310-RO38-21

EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

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	**K3G310-RO38-21**
Motor	**M3G084-DF**

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}	2100
Power consumption	W	400
Current draw	A	2.0 (200V)
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	62.9	47.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.4
09 Air flow q_v	m^3/h	1750
09 Pressure increase p_{fs}	Pa	466
10 Speed (rpm) n	min^{-1}	2110
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-161250

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

Technical description

Weight	8.66 kg
Size	310 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic UL
Support plate material	Sheet aluminum
Spacer material	Aluminum
Inlet nozzle material	Sheet steel, galvanized and painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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	- Operation and alarm display with LED - Integrated PID controller - Motor current limitation - PFC, active - RS485 MODBUS-RTU with DCI function - Soft start - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer 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.
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 113; EAC; UL 507

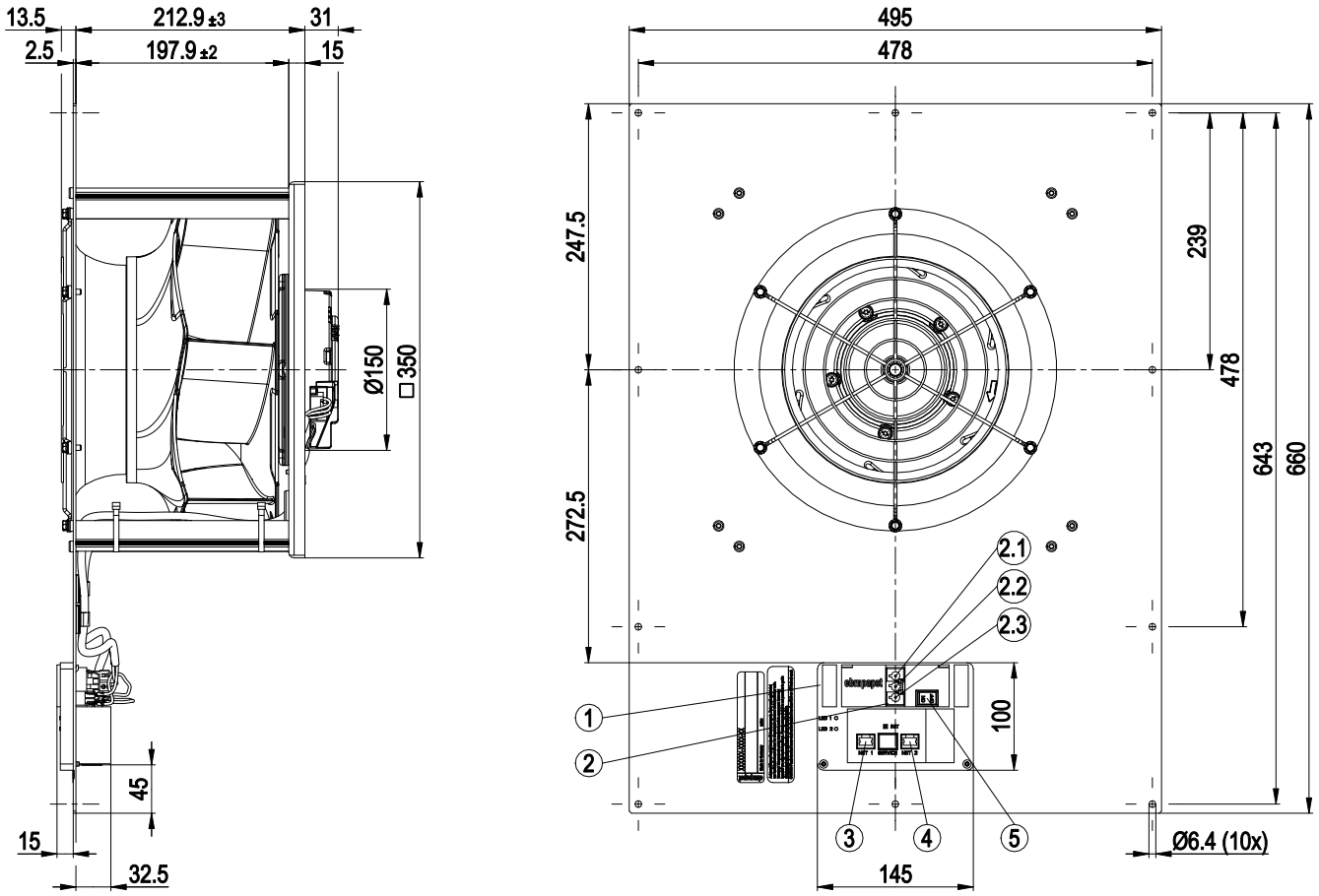
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

Product drawing



1	Plastic terminal box
2	Connector housing 3-pole GST18/3 Wieland 92.032.9058.1
2.1	L
2.2	PE
2.3	N
3	8-pole connector housing TE 100616-2
4	8-pole connector housing TE 100616-2
5	Switch, ARCOLECTRIC SWITCHES P L C (no. H8550VBACF) As-delivered condition end customer switch set to "OFF"

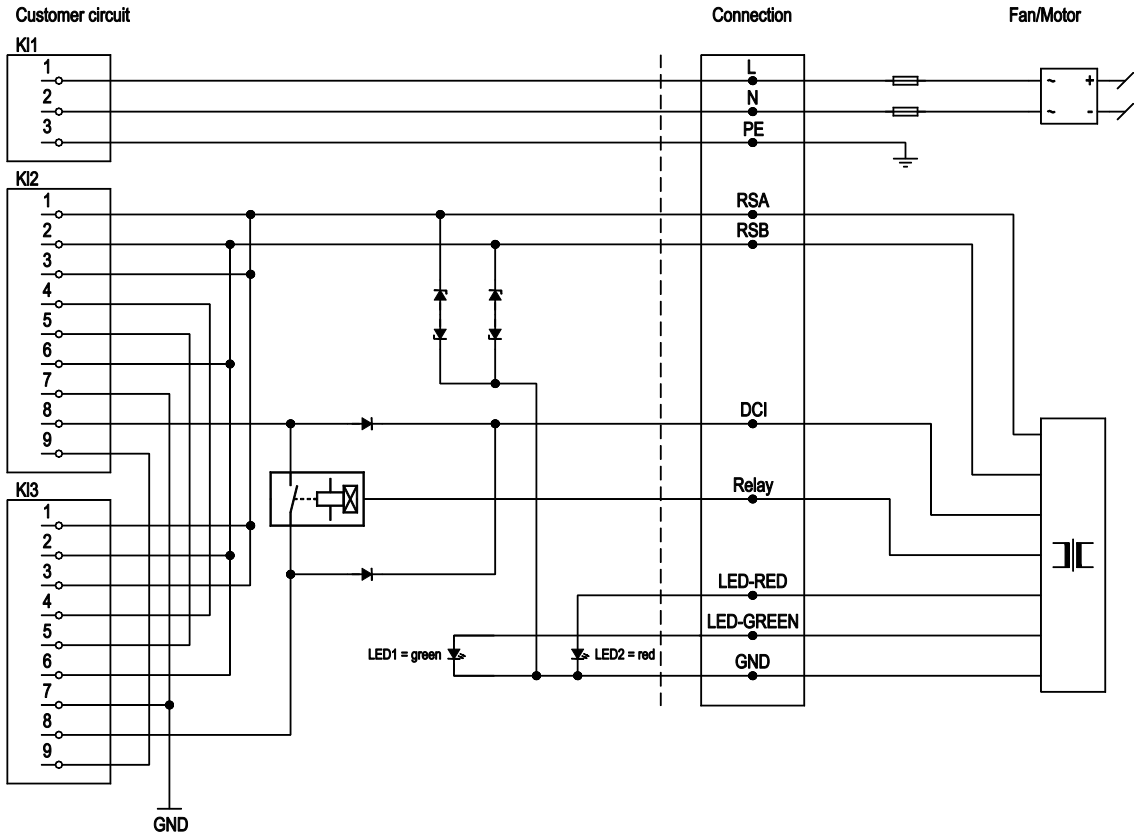
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

Connection diagram



LED1 / LED2

Status	Priority	Address S/N	Speed	Green LED	Red LED
Malfunction	1	S/N any	Any	Off	Flashes 1 Hz
Winking	2	S/N = 1/1	Any	Flashes 10 Hz	On
Winking	2	S/N <> 1	Any	Flashes 10 Hz	Off
After set value change	3	S/N = 1/1	Any	Flashes 3 times at 2.5 Hz	On
After set value change	3	S/N <> 1	Any	Flashes 3 times at 2.5 Hz	Off
Fan speed 0	4	S/N = 1/1	n = 0	Flashes 1 Hz	On
Fan speed 0	4	S/N <> 1	n = 0	Flashes 1 Hz	Off
Fan speed >0	4	S/N = 1/1	n > 0	Off	On
Fan speed >0	4	S/N <> 1	n > 0	On	Off

No.	Conn.	Designation	Function/assignment
KL1	1	L	Power supply, phase, 50/60 Hz
KL1	2	N	Power supply, neutral conductor, 50/60 Hz
KL1	3	PE	Protective earth
KL2/KL3	1	RSA	RS-485 interface for MODBUS, RSA
KL2/KL3	2	RSB	RS-485 interface for MODBUS, RSB
KL2/KL3	3	RSA	RS-485 interface for MODBUS, RSA
KL2/KL3	4	-	Bridge KL2-KL3
KL2/KL3	5	-	Bridge KL2-KL3
KL2/KL3	6	RSB	RS-485 interface for MODBUS, RSB
KL2/KL3	7	GND	Reference ground
KL2/KL3	8	DCI	Daisy chain signal
KL2/KL3	9	Schirm	Shield for RJ45 CAT5 wire (not used)

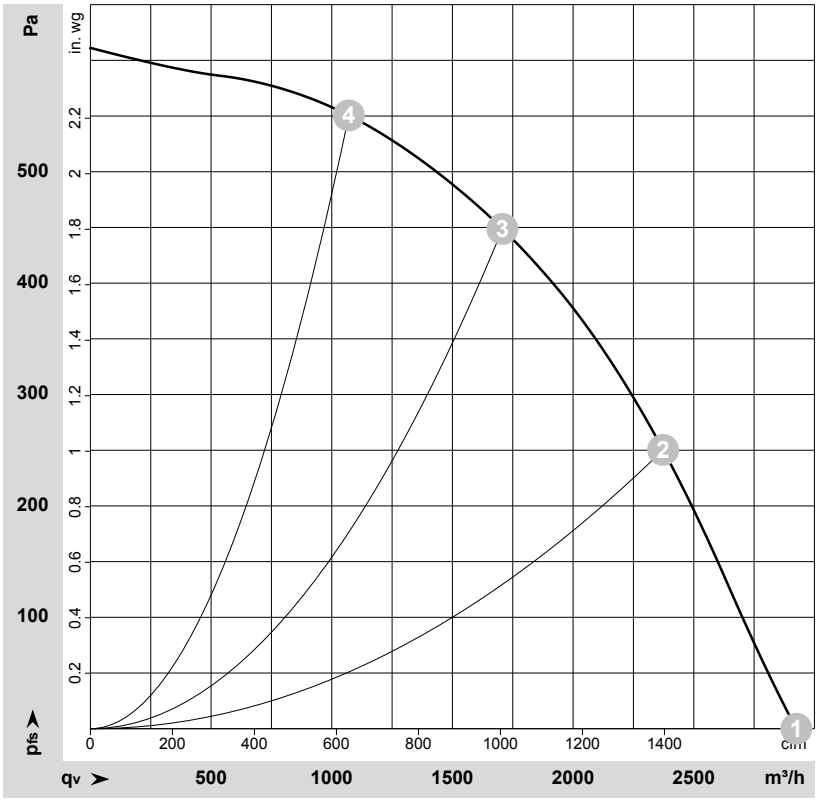
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC centrifugal module - RadiCal

backward-curved, single-intake

with support plate

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-201197-1

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	1~	230	50	2100	289	1.27	69	76	69	2925	0	1720	0.00
2	1~	230	50	2100	366	1.60	64	71	64	2375	250	1395	1.00
3	1~	230	50	2100	400	1.75	61	68	61	1705	450	1005	1.81
4	1~	230	50	2100	342	1.50	62	69	62	1070	550	630	2.21

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

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