D3G160-IB09-02

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

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Nominal data

Type	**D3G160-IB09-02**
Motor	**M3G084-FA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		fa
Speed (rpm)	min^{-1}	2250
Power input	W	725
Current draw	A	3.2
Min. back pressure	Pa	0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	43.2	35.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.8	44
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.44
09 Air flow q_v	m^3/h	1200
09 Pressure increase p_{fs}	Pa	524
10 Speed (rpm) n	min^{-1}	2670
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_{fs} / 100 000 Pa

LU-175405

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Technical features

Mass	8.9 kg
Size	160 mm
Surface of rotor	Coated in black
Material of impeller	Sheet steel, galvanised
Housing material	Sheet steel, galvanised
Motor suspension	Motor anti-vibration mounted on one side via brackets
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+85 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Tach output - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - 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 leads	With plug
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Degree of soiling	2
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	CE
Remark	Norm conformity as per EN 61800-5-1 and EN 60335-1 in preparation

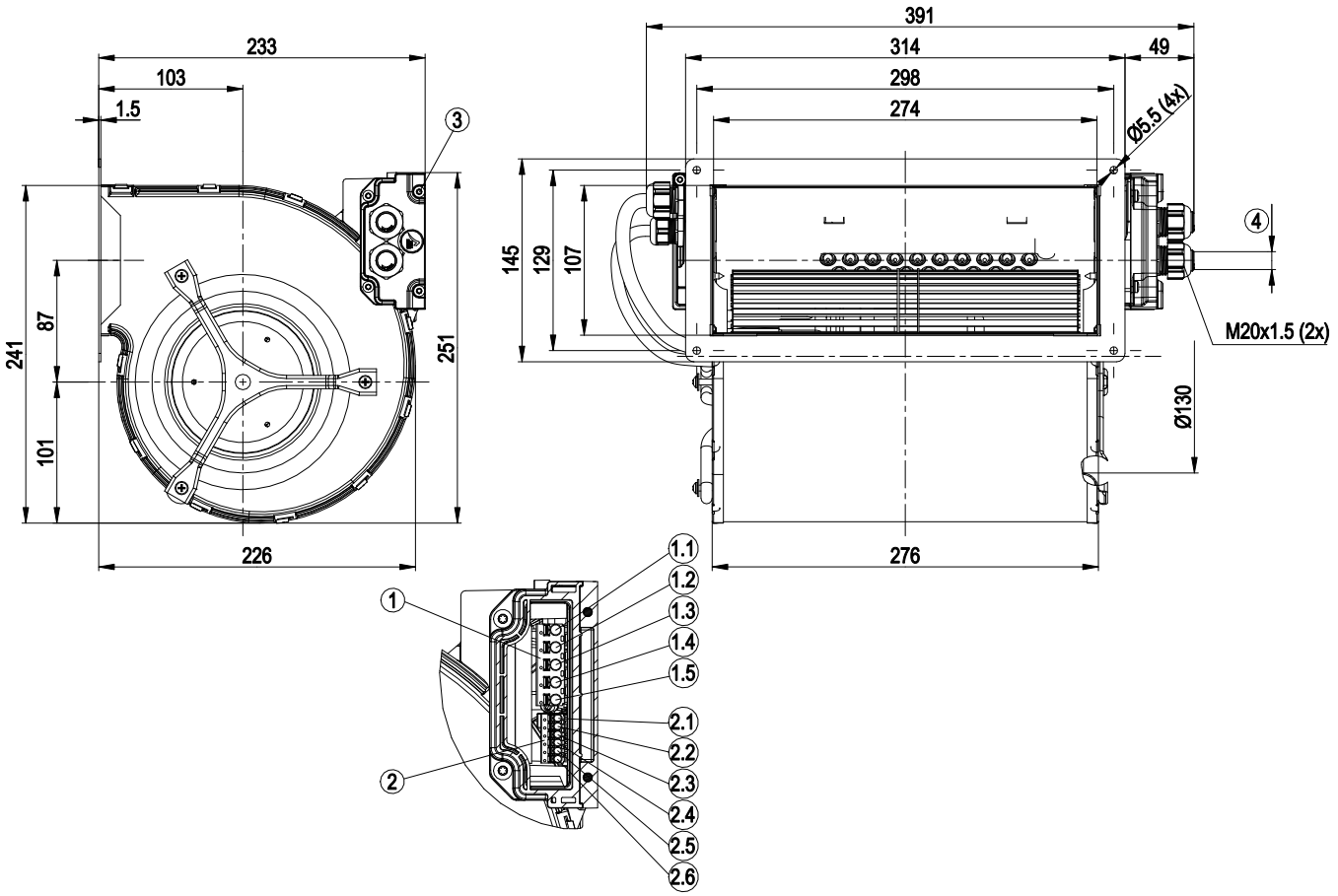
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Product drawing



1	Terminal 1
1.1	PE
1.2	L
1.3	N
1.4	NC
1.5	COM
2	Terminal 2
2.1	0-10 V
2.2	+10 V
2.3	GND
2.4	RSA
2.5	RSB
2.6	Tach
3	Tightening torque 3±0.5 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0.4 Nm Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm (use must be made of sealing ring provided)

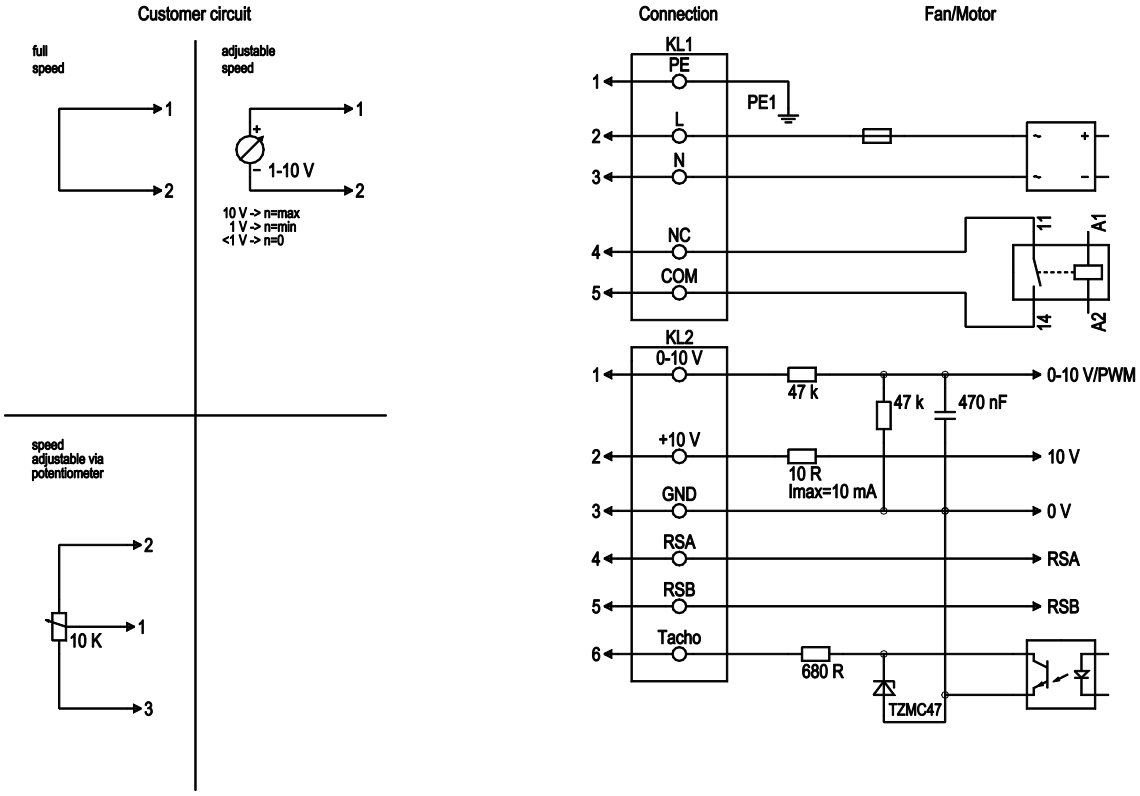
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Connection screen



No.	Conn.	Designation	Function / assignment
KL1	1	PE	Protective earth
KL1	2	L	Power supply, phase, 50/60 Hz
KL1	3	N	Power supply, neutral conductor, 50/60 Hz
KL1	4	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC/2 A (AC1) min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
KL1	5	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, basic insulation on mains side and reinforced insulation on control interface side
KL2	1	0-10 V	Analogue input (set value), 0-10 V, Ri=100 kΩ, parametrisable curve, SELV
KL2	2	+10 V	Fixed voltage output 10 VDC, SELV
KL2	3	GND	Signal ground for control interface, SELV
KL2	4	RSA	RS-485 interface for MODBUS, RSA; SELV
KL2	5	RSB	RS-485 interface for MODBUS, RSB; SELV
KL2	6	Tacho	Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV

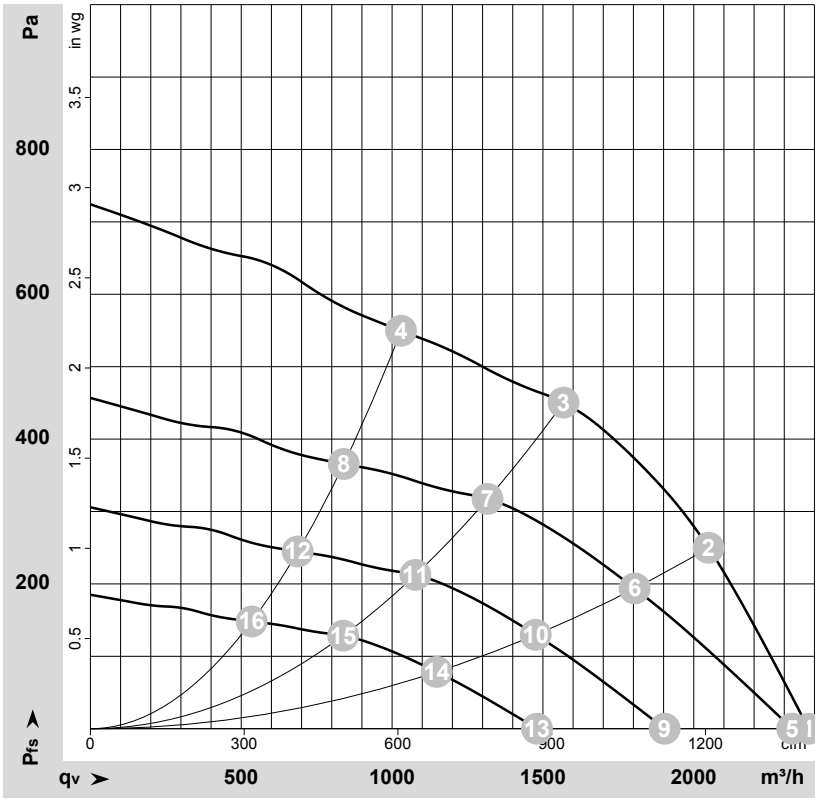
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-175405-1

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

	Conn.	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	Y	230	50	2250	725	3.20	72	85	2380	0	1400	0.00
2	Y	230	50	2500	709	3.10	71	83	2050	250	1205	1.00
3	Y	230	50	2620	557	2.45	69	81	1570	450	925	1.81
4	Y	230	50	2695	413	1.85	68	80	1030	550	605	2.21
5	Y	230	50	2200	677	2.97	71	84	2325	0	1370	0.00
6	Y	230	50	2200	485	2.12	67	80	1805	194	1060	0.78
7	Y	230	50	2200	329	1.45	64	76	1315	319	775	1.28
8	Y	230	50	2200	224	1.00	63	74	840	365	495	1.47
9	Y	230	50	1800	371	1.62	66	79	1905	0	1120	0.00
10	Y	230	50	1800	265	1.16	62	75	1475	130	870	0.52
11	Y	230	50	1800	180	0.80	59	71	1075	213	635	0.86
12	Y	230	50	1800	123	0.55	58	69	685	245	405	0.98
13	Y	230	50	1400	175	0.76	60	73	1480	0	870	0.00
14	Y	230	50	1400	125	0.55	56	69	1150	79	675	0.32
15	Y	230	50	1400	85	0.37	53	65	840	129	495	0.52
16	Y	230	50	1400	58	0.26	51	63	535	148	315	0.59

Conn. = Connection · 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
q_V = Air flow · p_{fs} = Pressure increase

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