D3G160-HA04-02

EC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**D3G160-HA04-02**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		fa
Speed	min^{-1}	2500
Power consumption	W	750
Current draw	A	3.3
Min. back pressure	Pa	0
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	45.6	36.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.2	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.62
09 Air flow q_v	m^3/h	1210
09 Pressure increase p_{fs}	Pa	773
10 Speed n	min^{-1}	3280
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-176339

ebmpapst

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Technical description

Weight	7.8 kg
Fan size	160 mm
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor mounted on brackets for one-sided vibration damping
Direction of rotation	Counterclockwise, viewed toward rotor
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+85 °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 - Tach output - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - 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
Electrical hookup	With plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Pollution degree	2
Protection class	I (with customer connection of protective earth)
Conformity with standards	CE
Comment	Conformity with EN 61800-5-1 and EN 60335-1 in preparation

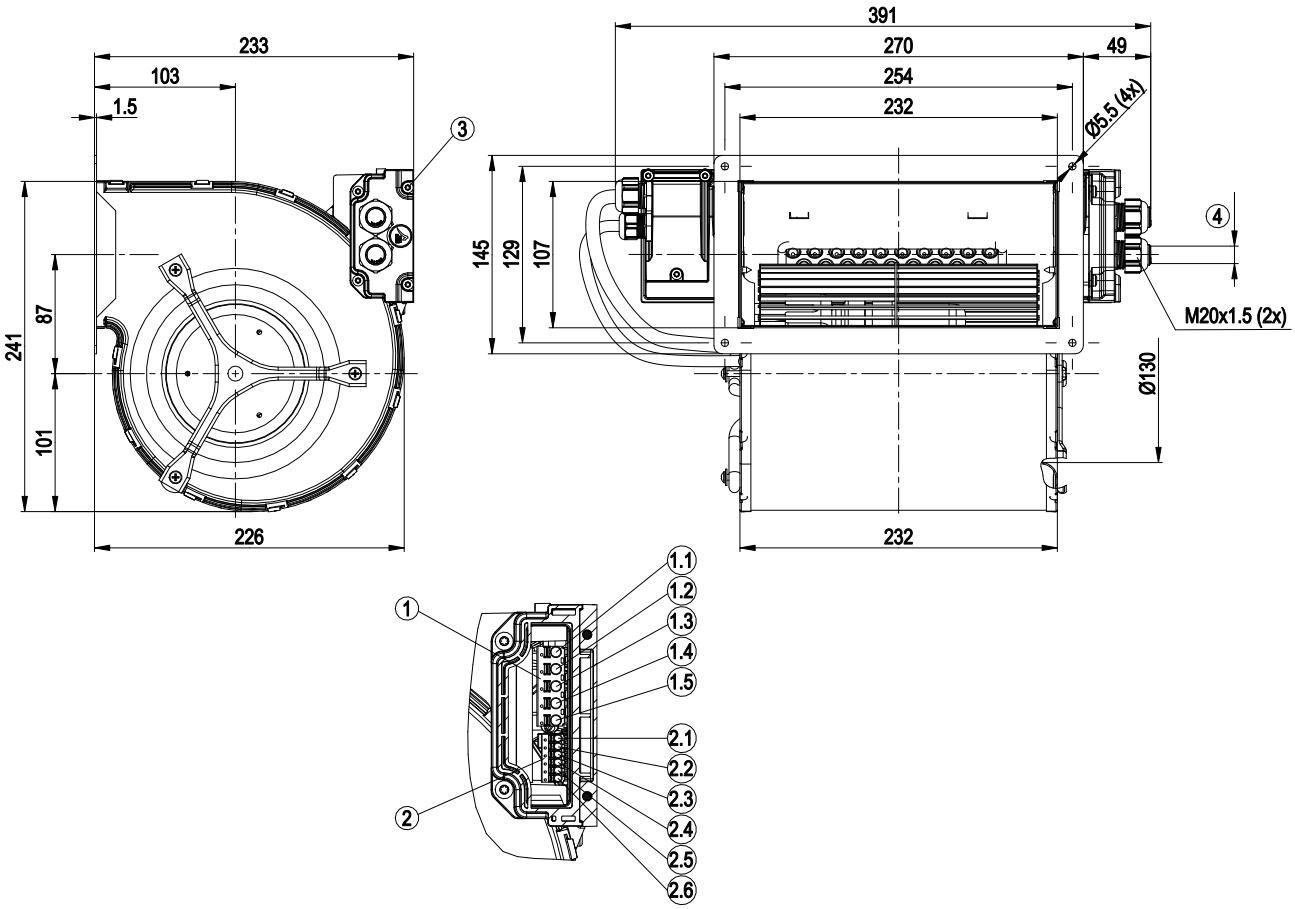
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Product drawing



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. 8 mm, max. 12 mm, tightening torque 2.5 ± 0.4 Nm

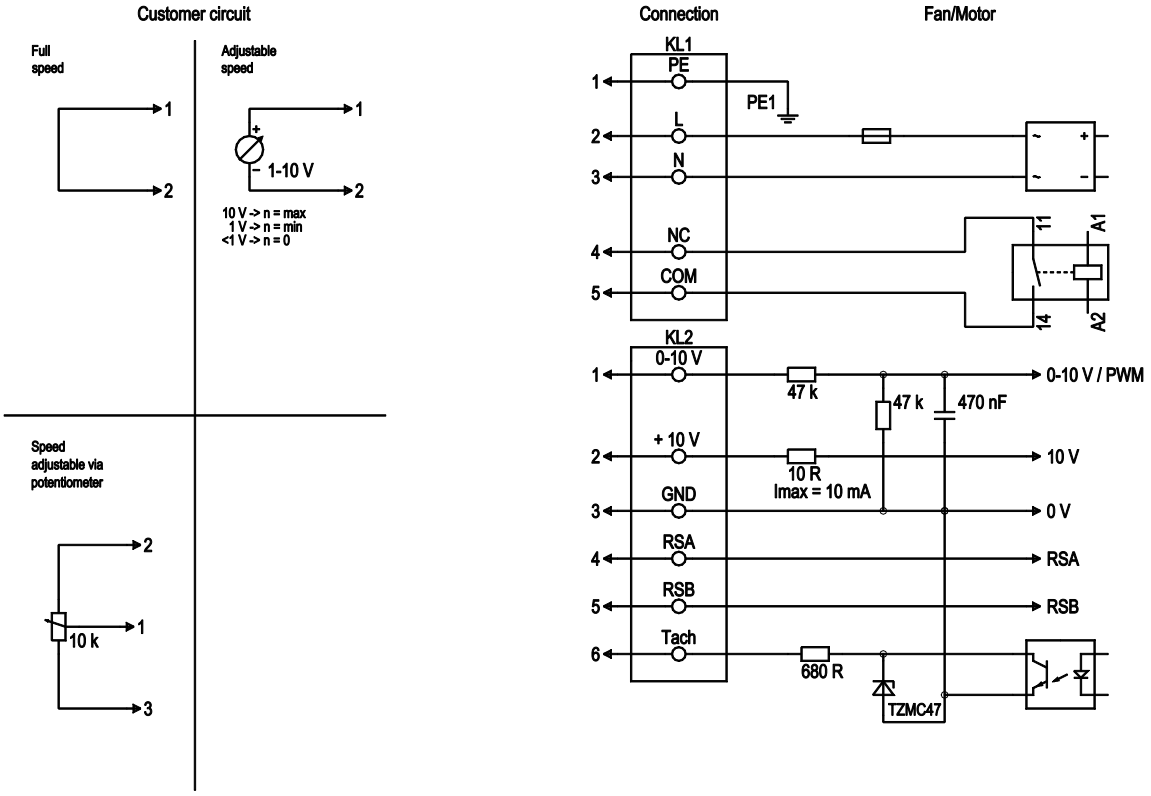
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Connection diagram



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 supply 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 supply side and reinforced insulation on control interface side
KL2	1	0-10 V	Analog input (set value), 0-10 V, Ri = 100 kΩ, adjustable curve, SELV
KL2	2	+10 V	Fixed voltage output 10 VDC, SELV
KL2	3	GND	Reference ground for control interface, SELV
KL2	4	RSA	RS485 interface for MODBUS, RSA; SELV
KL2	5	RSB	RS485 interface for MODBUS, RSB; SELV
KL2	6	Tacho	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV

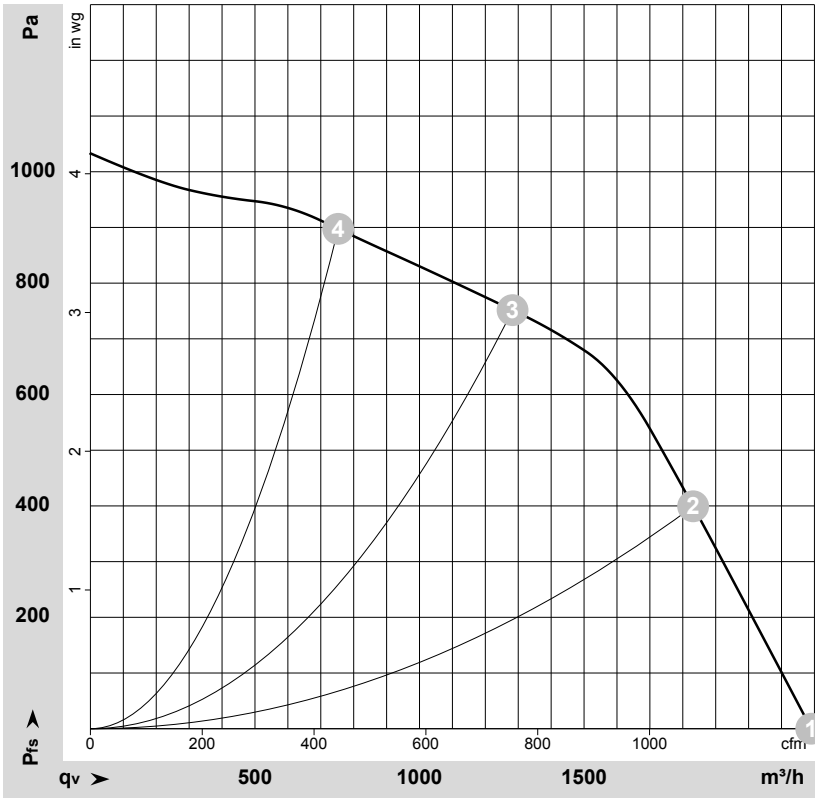
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Curves: Air performance 50 Hz



ρ = 1.162 kg/m³ ± 2 %

Measurement: LU-176339-1

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}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	Y	230	50	2500	750	3.30	74	87	2190	0
2	Y	230	50	2875	750	3.30	73	85	1830	400
3	Y	230	50	3260	650	2.85	72	84	1285	750
4	Y	230	50	3395	481	2.13	74	85	755	900

Wired = Wiring · U = Power supply · f = Frequency · n = Speed · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
qv = Air flow · p_{fs} = Pressure increase

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