D3G250-EE70-05

EC centrifugal fan

forward curved, dual inlet

with housing (flange)

D3G250-EE70-05 ebmpapst Datasheet
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Nominal data

Type	**D3G250-EE70-05**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min^{-1}	1200
Power input	W	600
Current draw	A	1.1
Min. back pressure	Pa	0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+70

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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	47.8	27.5	34.5
Efficiency grade N		57.3	37	44
Power input P_{ed}	kW	0.31		
Air flow q_v	m^3/h	1500		
Pressure increase p_{fs}	Pa	323		
Speed n	min^{-1}	1345		

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	14 kg
Size	250 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
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	Clockwise, seen on rotor
Type of protection	IP 20
Insulation class	"B"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - Cable break detection with control line - 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
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Axial
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; CCC

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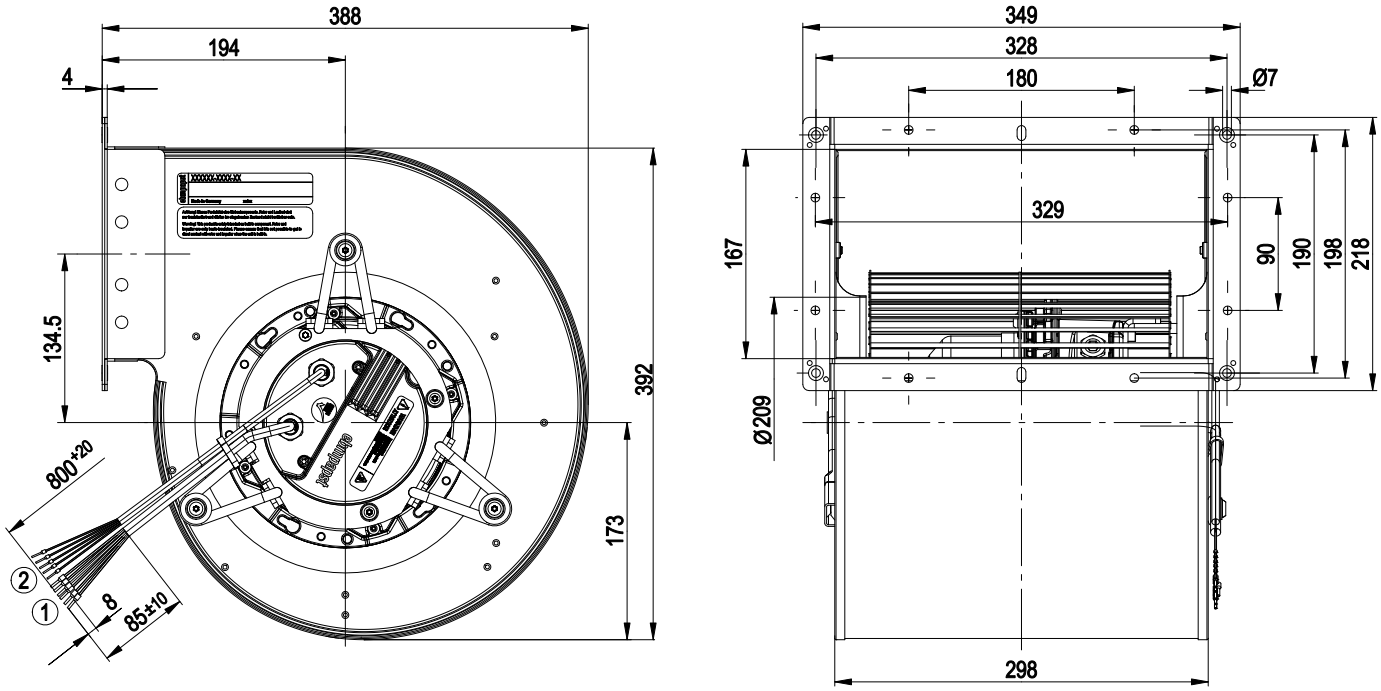
Product drawing



1	Connection line PVC AWG18, 6x crimped core-end sleeves
2	Connection line PVC AWG22, 3x crimped core-end sleeves

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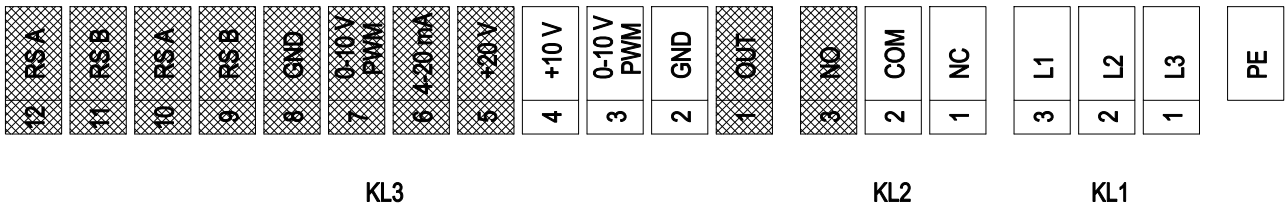
Connection screen



Grey shaded => not brought out via leads or RSA and RSB strands sealed using heat-shrinkable sleeve

Line	No.	Signal	Colour	Function / assignment
1	-	PE	green/yellow	Protective earth connection
1	KL1	L1, L2, L3	black	Supply voltage, voltage range see type plate, 50/60 Hz
1	KL2	NC	white 2	Floating status contact, break for failure
1	KL2	COM	white 1	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
	KL2	NO		Floating status contact, make for failure
	KL3	OUT		Analogue output, 0-10 VDC, max. 3 mA, SELV Output of the current motor level control coefficient (output voltage of electronics): 1V corresponds to 10% modulation level. 10 V corresponds to 100% level control coefficient.
2	KL3	GND	black	Signal ground for control interface, SELV
2	KL3	0-10V	yellow	Set value / actual value input 0-10 VDC, impedance 100 kOhm only as alternative to 4-20 mA input, SELV
2	KL3	+10V	red	Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for ext. devices (e.g. potentiometer), SELV
	KL3	+20V		Voltage output 20 VDC (+25%/-10%), max. 50 mA, power supply for ext. devices (e.g. sensors), SELV
	KL3	4-20mA		Set value / actual value input 4-20 mA, impedance 100 Ohm, only as alternative to 0-10 V input, SELV
	KL3	RSB		RS485 interface for MODBUS, RSB, SELV
	KL3	RSA		RS485 interface for MODBUS, RSA, SELV

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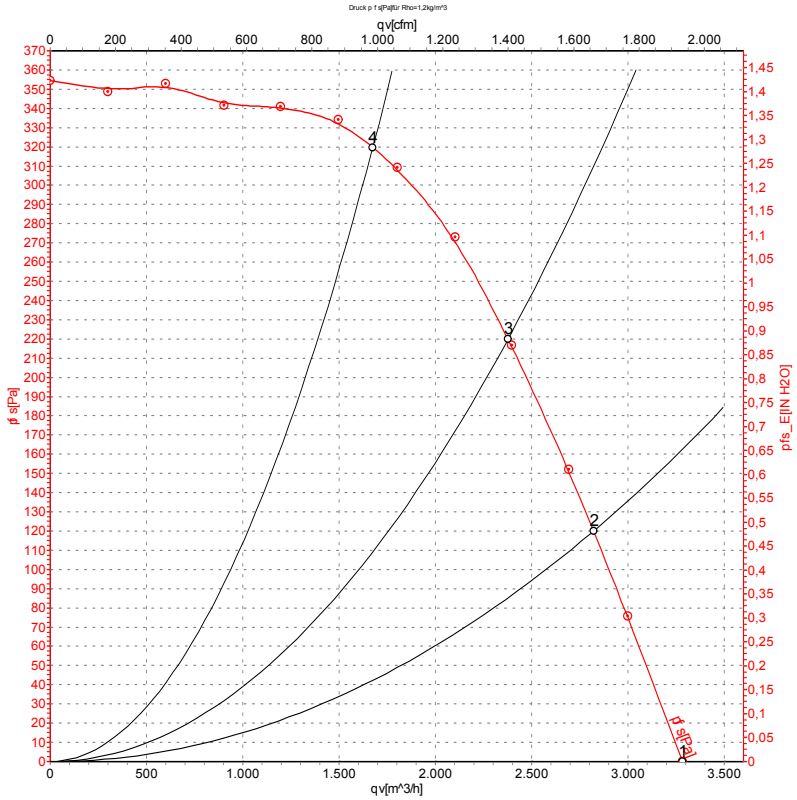
Charts: Air flow 50 Hz



Measurement: LU-133963

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	50	1200	600	1.10	3280	0
2	400	50	1225	514	0.96	2820	120
3	400	50	1265	449	0.85	2375	220
4	400	50	1330	342	0.67	1675	320

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase