EC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle

W3G710-GN48-21 ebmpapst Datasheet
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Nominal data

Type	**W3G710-GN48-21**
Motor	**M3G112-GA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	710
Power input	W	460
Current draw	A	2.0
Max. back pressure	Pa	75
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

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}	%	40.5	27.3	31.3
Efficiency grade N		49.2	36	40
Power input P_{ed}	kW	0.42		
Air flow q_v	m^3/h	8770		
Pressure increase p_{fs}	Pa	64		
Speed n	min^{-1}	705		

Data definition with optimum efficiency. LU-120172
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	25.6 kg
Size	710 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Blade angle	0°
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	Max. +80 °C
Min. permissible ambient motor temp. (transp./storage)	Min. -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 - Alarm relay - Motor current limit - PFC, active - Soft start - Control input 0-10 V - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

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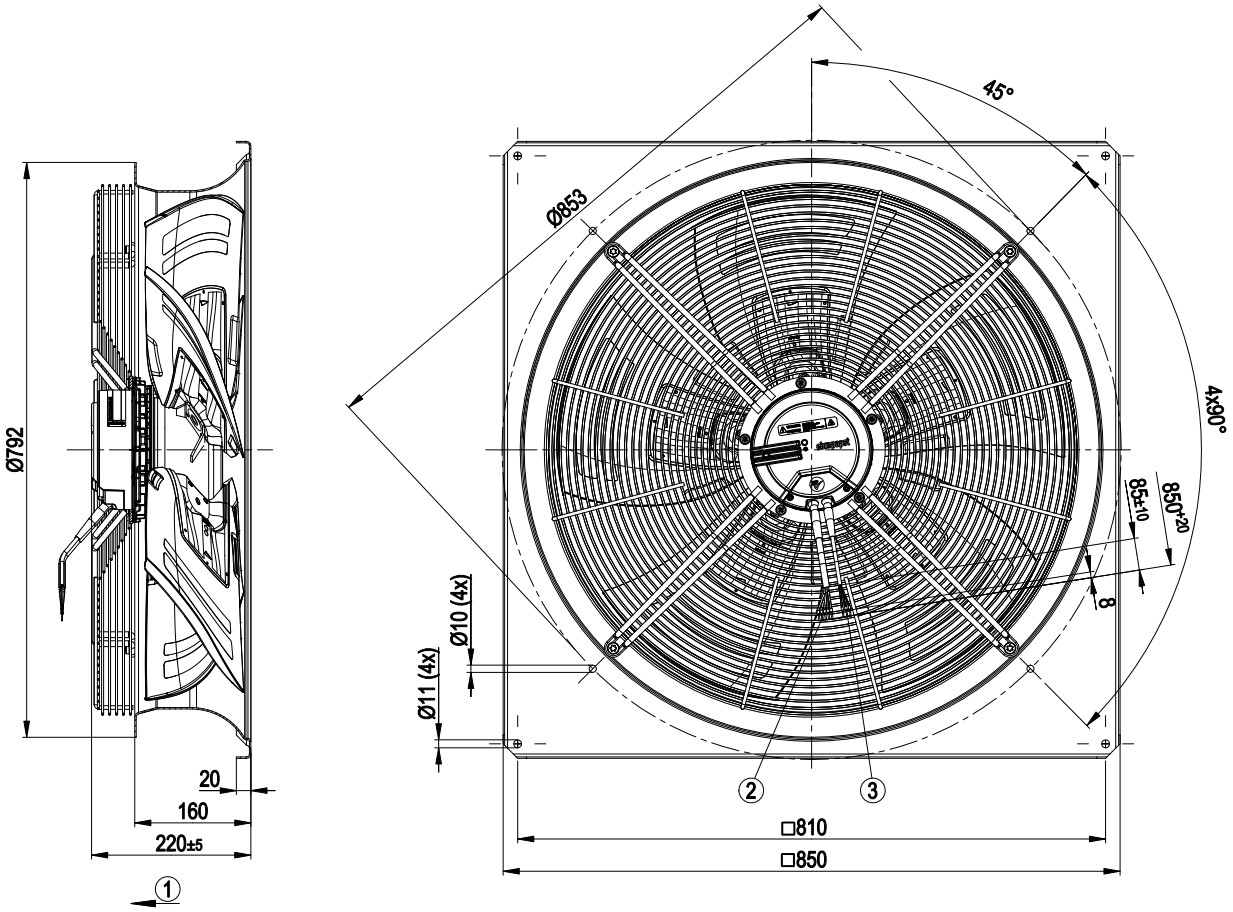
Product drawing



1	Direction of air flow "V"
2	Connection line PVC AWG 18, 5x crimped core-end sleeves
3	Connection line PVC AWG 22, 3x crimped core-end sleeves

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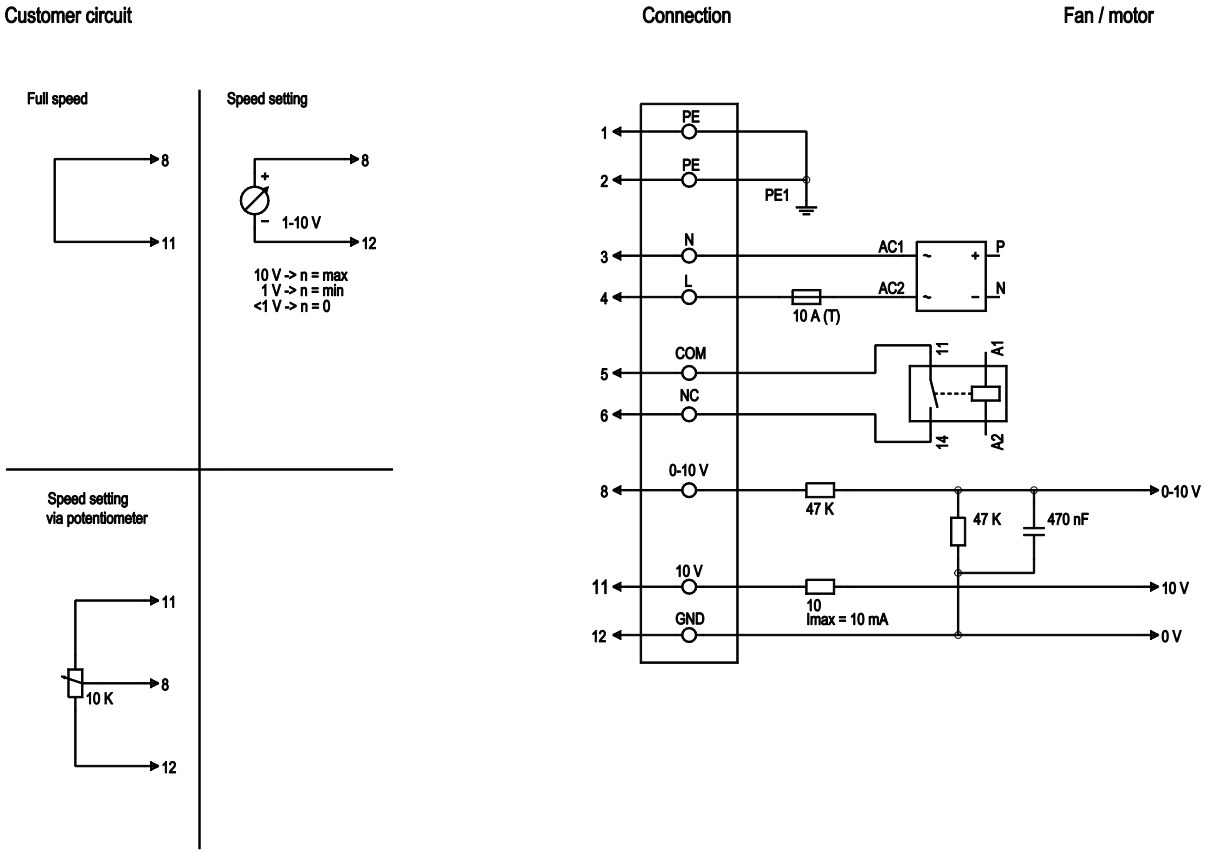
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1,2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	4	L	black	Supply voltage, phase, 50/60 Hz
1	5	COM	white 1	Floating status message contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	6	NC	white 2	Floating status message contact, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

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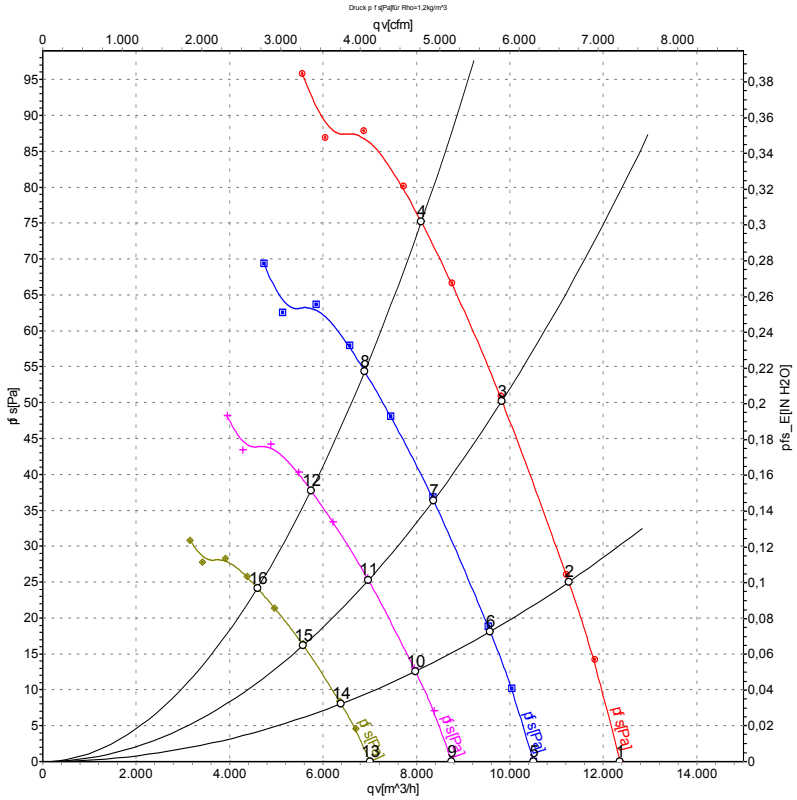
Charts: Air flow 50 Hz



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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	230	50	710	280	1.24	58	65	64	12360	0
2	230	50	710	340	1.50	57	64	63	11260	25
3	230	50	710	395	1.73	58	64	64	9830	50
4	230	50	710	460	2.00	64	71	71	8105	75
5	230	50	600	172	0.76	54	61	61	10510	0
6	230	50	600	210	0.92	54	60	60	9575	18
7	230	50	600	244	1.07	54	61	61	8365	37
8	230	50	600	276	1.21	61	67	67	6890	54
9	230	50	500	99	0.44	50	57	57	8755	0
10	230	50	500	121	0.53	50	56	56	7980	13
11	230	50	500	141	0.62	50	57	57	6970	26
12	230	50	500	160	0.70	57	63	63	5745	38
13	230	50	400	51	0.23	46	52	52	7005	0
14	230	50	400	62	0.27	45	51	51	6385	8
15	230	50	400	72	0.32	45	52	52	5575	16
16	230	50	400	82	0.36	52	58	58	4595	24

U = Supply voltage · f = Frequency · n = Speed · 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
qv = Air flow · p_{fs} = Pressure increase