

W3G710-FU21-84

Kelvion Safety

EC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	W3G710-FU21-84	
Motor	M3G150-IF	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1250
Power consumption	W	2830
Current draw	A	4.3
Max. back pressure	Pa	240
Max. back pressure	in. wg	0.96
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	39.3	36.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		42.8	40
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_{ed}	kW	2.86
09 Air flow q_v	m ³ /h	14380
09 Pressure increase p_{fs}	Pa	267
10 Speed (rpm) n	min ⁻¹	1260
11 Specific ratio*		1.00

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-120948



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Technical description

Weight	41.9 kg
Size	710 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert (painted black), sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with cement-gray plastic (RAL 7033)
Guard grille material	Steel, galvanized and coated with cement-gray plastic (RAL 7033)
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2+T
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 bottom
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none">- 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 (parameter setting)- External release input- Alarm relay- Integrated PID controller- Power limiter- Motor current limitation- PFC, passive- RS-485 MODBUS-RTU- Soft start- EEPROM write cycles: 100,000 maximum- 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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box



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Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730



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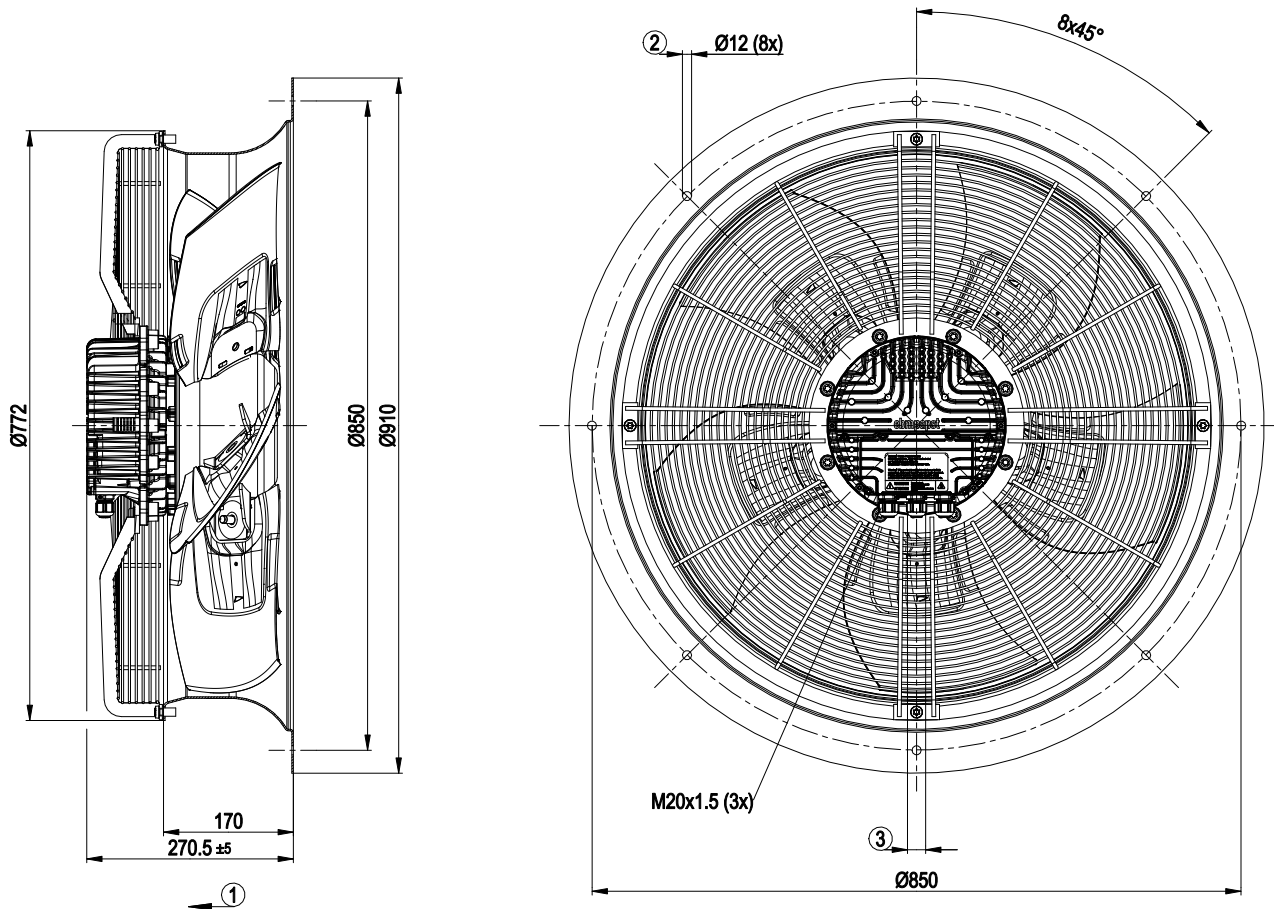
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 4 mm, max. 10 mm; tightening torque 4 ± 0.6 Nm
3	Tightening torque 3.5 ± 0.5 Nm

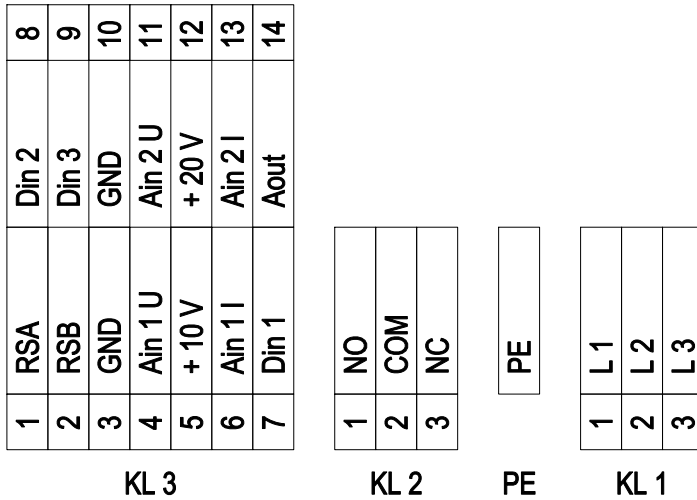


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Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
PE		PE	Ground connection, PE connection
KL 2	1	NO	Status relay, floating status contact; make for failure
KL2	2	COM	Status relay, floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break for failure
KL 3	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 3	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 3	3 / 10	GND	Reference ground for control interface; SELV
KL 3	4	Ain1 U	Analog input 1, set value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain1 I; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof power supply for external devices (e.g. pot); SELV
KL 3	6	Ain1 I	Analog input 1, set value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain1U; SELV
KL 3	7	Din1	Digital input 1: enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching parameter sets 1/2, according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	9	Din3	Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected as normal/inverse via bus or digital input normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC; SELV
KL 3	11	Ain2 U	Analog input 2, measured value: 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2I; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V ±5/-10%, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors); SELV

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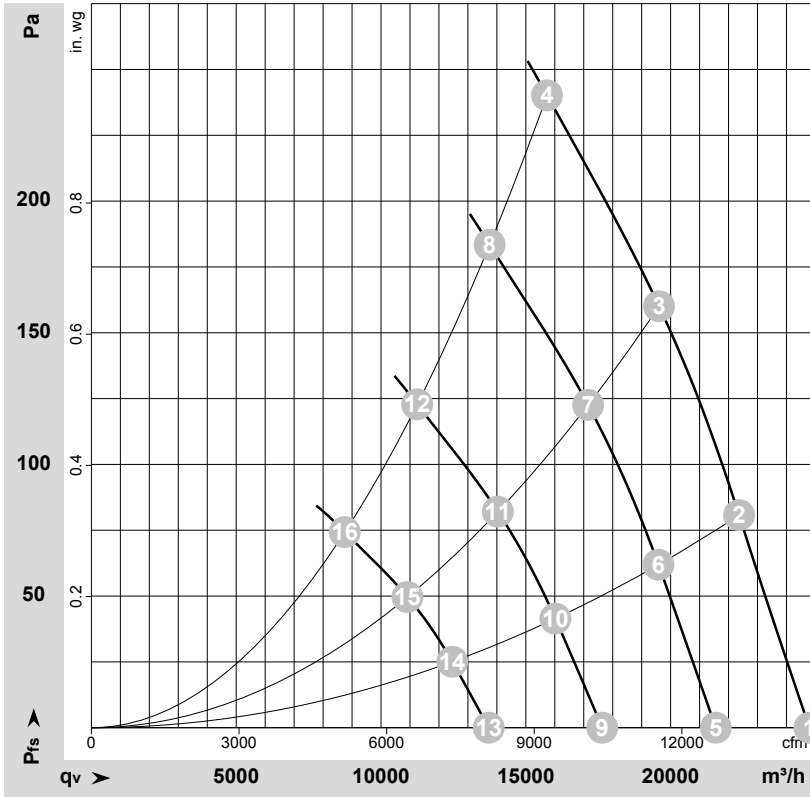
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No.	Conn.	Designation	Function/assignment
KL 3	13	Ain2 I	Analog input 2, measured value: 4-20 mA, $R_i = 100 \Omega$, adjustable curve, only usable as alternative to input Ain2U; SELV
KL 3	14	Aout	Analog output 0-10 VDC, max. 5 mA, output of current motor modulation level / motor speed adjustable curve; SELV



Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-120948-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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	3~	400	50	1250	2226	3.40	71	79	81	24795	0	14595	0.00
2	3~	400	50	1250	2435	3.72	71	79	80	22365	80	13165	0.32
3	3~	400	50	1250	2673	4.06	72	79	80	19600	160	11535	0.64
4	3~	400	50	1250	2830	4.30	76	84	83	15735	240	9260	0.96
5	3~	400	50	1100	1464	2.23	68	76	77	21560	0	12690	0.00
6	3~	400	50	1100	1634	2.50	68	75	76	19580	62	11525	0.25
7	3~	400	50	1100	1791	2.72	69	76	77	17150	123	10095	0.49
8	3~	400	50	1100	1893	2.88	73	80	79	13750	183	8095	0.73
9	3~	400	50	900	802	1.22	63	71	72	17640	0	10380	0.00
10	3~	400	50	900	895	1.37	63	70	71	16020	42	9430	0.17
11	3~	400	50	900	981	1.49	64	71	72	14035	82	8260	0.33
12	3~	400	50	900	1037	1.58	68	75	74	11250	123	6620	0.49
13	3~	400	50	700	377	0.58	57	64	66	13720	0	8075	0.00
14	3~	400	50	700	421	0.64	57	64	65	12460	25	7335	0.10
15	3~	400	50	700	462	0.70	58	65	65	10915	50	6425	0.20
16	3~	400	50	700	488	0.74	62	69	68	8750	74	5150	0.30

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

