

8300100238
VMA0800CTTLS

EC axial panel fan - AxiEco

with guard grille

ebm-papst Mulfingen GmbH & Co. KGaA & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
info1@de.fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300100238	
Motor	E15031-55	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1270
Power consumption	W	2500
Current draw	A	3.9
Max. back pressure	Pa	480
Max. back pressure	in. wg	1.93
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · oe = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	55.3	36	09 Power consumption P_{ed}	kW	2.38
02 Measurement category		A		09 Air flow q_v	m³/h	11930
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	375
04 Efficiency grade N		59.3	40	10 Speed (rpm) n	min ⁻¹	1270
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

* Specific ratio = $1 + p_g / 100\,000\text{ Pa}$ LU-219888

Technical description

Size	800 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic, ABS ring plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.3 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Power Factor Correction (PFC)	Passive (through low-capacitance DC link)
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
Motor protection	Electronic motor protection
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.

8300100238
VMA0800CTTLS

EC axial panel fan - AxiEco

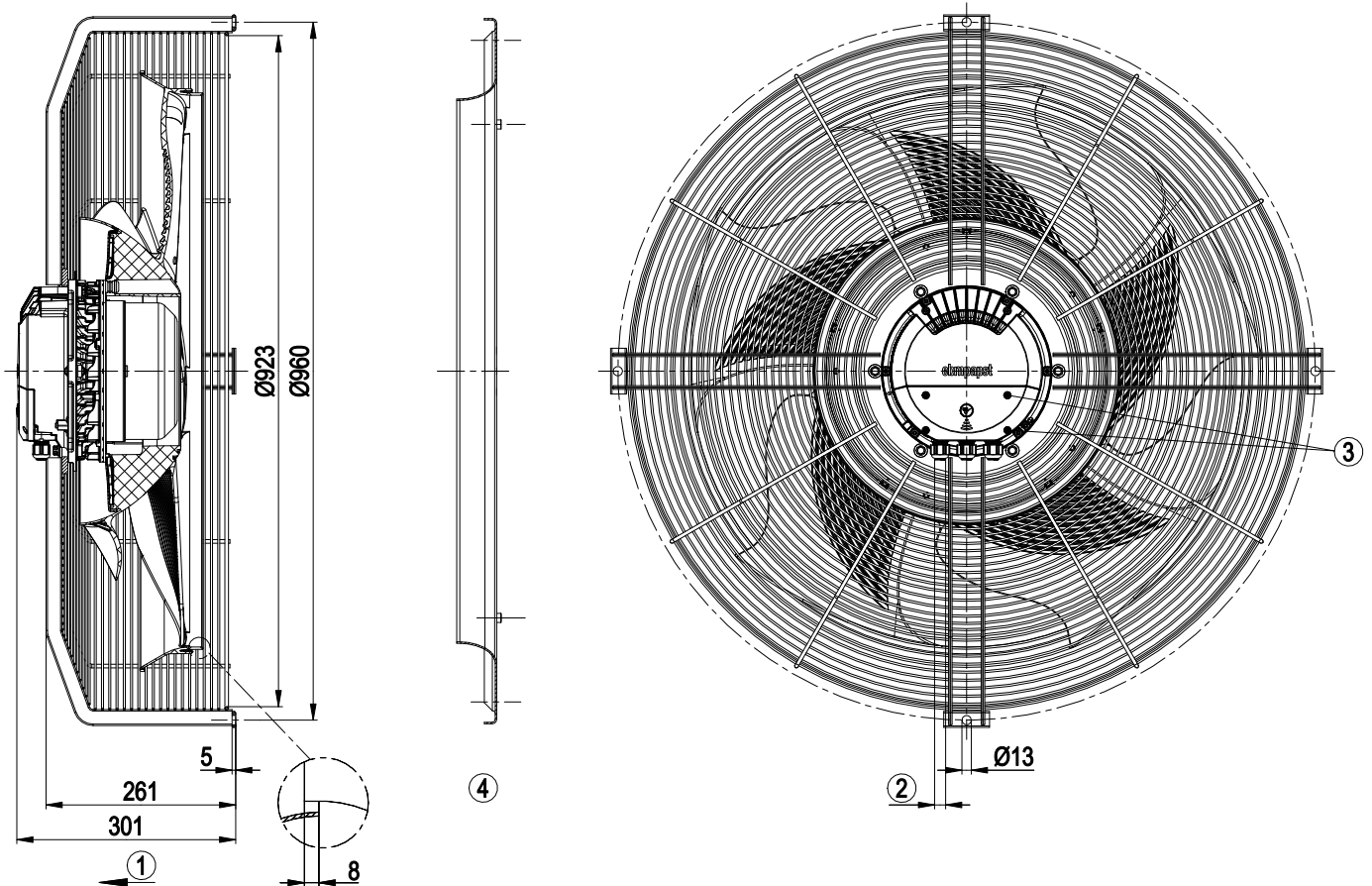
with guard grille

Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	EAC; UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1

EC axial panel fan - AxiEco

with guard grille

Product drawing



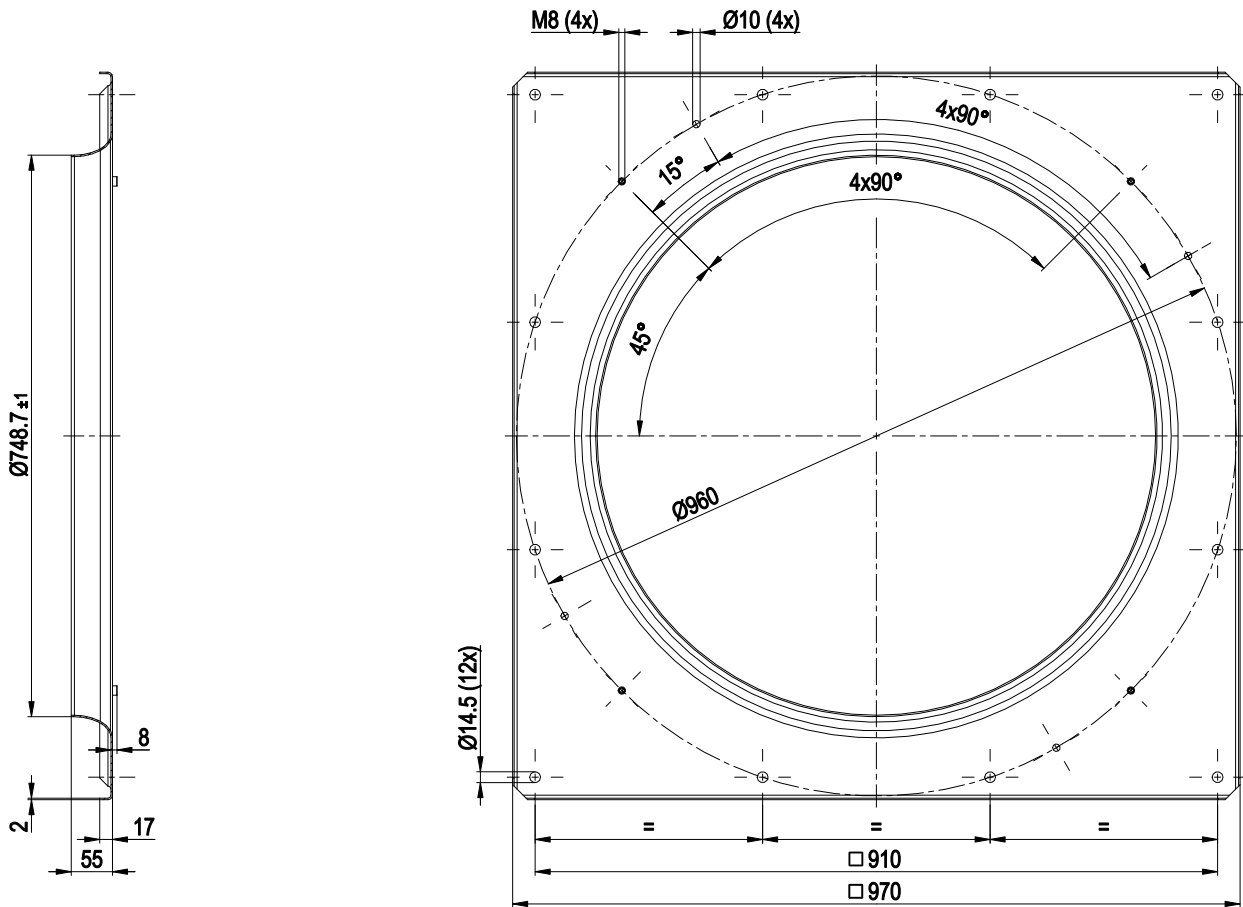
1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 1.5 ± 0.2 Nm
4	Accessory part: Inlet ring 60800-2-4013 not included in scope of delivery

8300100238
VMA0800CTTLS

EC axial panel fan - AxiEco

with guard grille

Accessory part

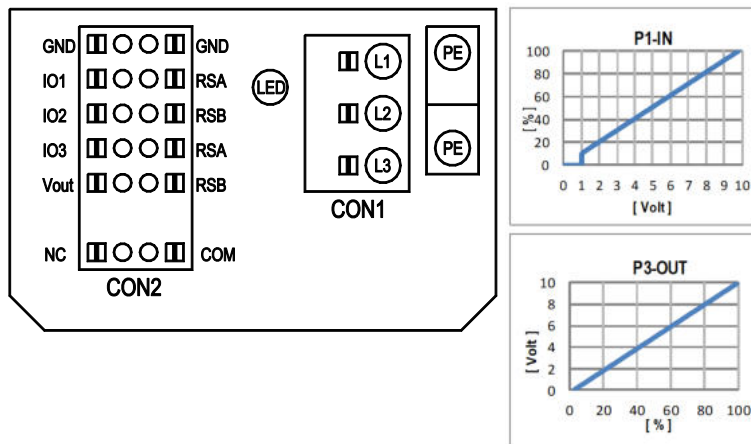


Inlet ring 60800-2-4013

EC axial panel fan - AxiEco

with guard grille

Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V/PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Actual speed Characteristic curve parametrizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

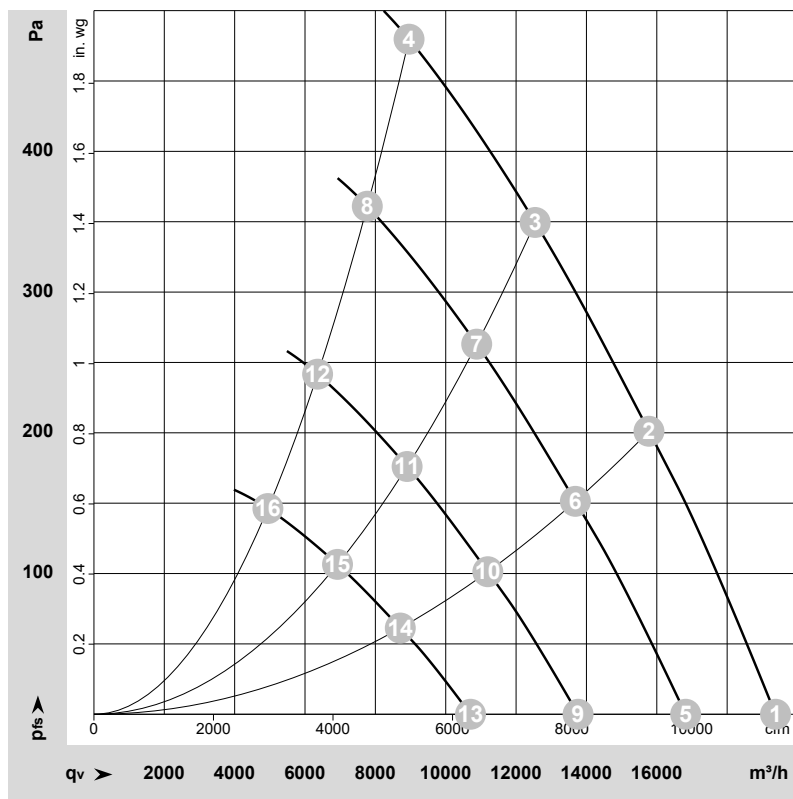
EC axial panel fan - AxiEco

with guard grille

Terminal/plug assignment

configurable option		For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.3		configurable IO functions: normal / inverse	MODBUS Register for IO mode configuration	electrical specification	CON2	configurable IO mode	Din1 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D158 [0]	Din101	source: set value	D101 [...]	source: sensor value	D147 [...]	D104 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D130 [0]	signal: actual speed	D130 [2]	signal: system modulation level %	D130 [5]	signal: remote control output 0-10V	D130 [1]	D00C [1]	pulse output for auto-addressing	D130 [4]	pulse input for auto-addressing
IO1	Din1 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D158 [0]	Din101	source: set value	D101 [...]	source: sensor value	D147 [...]	D104 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D148 [...]	D16C [...]	D16A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D130 [0]	signal: actual speed	D130 [2]	signal: system modulation level %	D130 [5]	signal: remote control output 0-10V	D130 [1]	D00C [1]	pulse output for auto-addressing	D130 [4]	pulse input for auto-addressing								
IO2	Din2 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D159 [0]	Din201	source: set value	D201 [...]	source: sensor value	D247 [...]	D204 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D248 [...]	D26C [...]	D26A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D230 [0]	signal: actual speed	D230 [2]	signal: system modulation level %	D230 [5]	signal: remote control output 0-10V	D230 [1]	D200C [1]	pulse output for auto-addressing	D230 [4]	pulse input for auto-addressing								
IO3	Din3 (active high): digital input	active: applied voltage 3.5-50VDC, SELV not active: pin open or applied voltage < 1.5VDC	D15A [0]	Din301	source: set value	D301 [...]	source: sensor value	D347 [...]	D304 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D348 [...]	D36C [...]	D36A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D330 [0]	signal: actual speed	D330 [2]	signal: system modulation level %	D330 [5]	signal: remote control output 0-10V	D330 [1]	D300C [1]	pulse output for auto-addressing	D330 [4]	pulse input for auto-addressing								
IO3	PWMIn3: digital input, idle level high	P _{WM} = 40Hz - 10kHz, characteristics parameterizable active: pin open or applied voltage 3.5-50VDC not active: applied voltage < 1.5VDC, SELV	D15A [7]	Din301	source: set value	D401 [...]	source: sensor value	D447 [...]	D404 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D448 [...]	D46C [...]	D46A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D430 [0]	signal: actual speed	D430 [2]	signal: system modulation level %	D430 [5]	signal: remote control output 0-10V	D430 [1]	D400C [1]	pulse output for auto-addressing	D430 [4]	pulse input for auto-addressing								
IO3	P _{WM} Min3: digital input, idle level low	40Hz - 10kHz, characteristics parameterizable active: applied voltage 3.5-50VDC not active: pin open or applied voltage < 1.5VDC, SELV	D15A [8]	Din301	source: set value	D501 [...]	source: sensor value	D547 [...]	D504 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D548 [...]	D56C [...]	D56A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D530 [0]	signal: actual speed	D530 [2]	signal: system modulation level %	D530 [5]	signal: remote control output 0-10V	D530 [1]	D500C [1]	pulse output for auto-addressing	D530 [4]	pulse input for auto-addressing								
IO3	Aout3 0-10V: analog output	function parameterizable, max. 5mA max output frequency 300Hz, SELV	D15A [4]	Din301	source: set value	D601 [...]	source: sensor value	D647 [...]	D604 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D648 [...]	D66C [...]	D66A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D630 [0]	signal: actual speed	D630 [2]	signal: system modulation level %	D630 [5]	signal: remote control output 0-10V	D630 [1]	D600C [1]	pulse output for auto-addressing	D630 [4]	pulse input for auto-addressing								
IO3	Tacho out (pulses), analog output	0-10V/max. 5mA max output frequency 300Hz, SELV	D15A [5]	Din301	source: set value	D701 [...]	source: sensor value	D747 [...]	D704 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D748 [...]	D76C [...]	D76A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D730 [0]	signal: actual speed	D730 [2]	signal: system modulation level %	D730 [5]	signal: remote control output 0-10V	D730 [1]	D700C [1]	pulse output for auto-addressing	D730 [4]	pulse input for auto-addressing								
IO3	Diagnostics out (pulses)	0-10V/max. 5mA max output frequency 300Hz, SELV	D15A [6]	Din301	source: set value	D801 [...]	source: sensor value	D847 [...]	D804 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D848 [...]	D86C [...]	D86A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D830 [0]	signal: actual speed	D830 [2]	signal: system modulation level %	D830 [5]	signal: remote control output 0-10V	D830 [1]	D800C [1]	pulse output for auto-addressing	D830 [4]	pulse input for auto-addressing								
IO3	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV	D16E [6]	Din301	source: set value	D901 [...]	source: sensor value	D947 [...]	D904 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D948 [...]	D96C [...]	D96A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D930 [0]	signal: actual speed	D930 [2]	signal: system modulation level %	D930 [5]	signal: remote control output 0-10V	D930 [1]	D900C [1]	pulse output for auto-addressing	D930 [4]	pulse input for auto-addressing								
IO3	Vout	voltage output alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without fine voltage	D16E [6]	Din301	source: set value	D1001 [...]	source: sensor value	D1047 [...]	D1004 [...]	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	D1048 [...]	D106C [...]	D106A [...]	(selected directly via IO mode)	signal: tach out	signal: diagnostics out	signal: fan modulation level %	D1030 [0]	signal: actual speed	D1030 [2]	signal: system modulation level %	D1030 [5]	signal: remote control output 0-10V	D1030 [1]	D1000C [1]	pulse output for auto-addressing	D1030 [4]	pulse input for auto-addressing								

Curves: Air performance 50 Hz



$\rho = 1.173 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-219888-1
Date: 2022-03-21

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 _e	I	LpA _{in}	LwA _{in}	LwA _{out}	LwA	q _v	P _{fs}	q _v	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	dB	m³/h	Pa	cfm	in. wg
1	3~	400	50	1270	1470	2.37	81	88	90	92	19375	0	11405	0.00
2	3~	400	50	1270	2085	3.26	76	84	84	87	15775	200	9285	0.80
3	3~	400	50	1270	2352	3.65	74	81	83	86	12545	350	7385	1.41
4	3~	400	50	1270	2500	3.90	75	83	87	88	8960	480	5270	1.93
5	3~	400	50	1100	962	1.55	78	85	86	89	16820	0	9900	0.00
6	3~	400	50	1100	1361	2.13	73	80	81	83	13685	152	8055	0.61
7	3~	400	50	1100	1535	2.39	71	78	80	82	10880	263	6405	1.06
8	3~	400	50	1100	1632	2.53	72	79	83	85	7770	361	4575	1.45
9	3~	400	50	900	527	0.85	73	80	81	84	13765	0	8100	0.00
10	3~	400	50	900	746	1.17	68	75	76	78	11195	101	6590	0.41
11	3~	400	50	900	841	1.31	65	73	75	77	8900	176	5240	0.71
12	3~	400	50	900	894	1.38	67	74	78	80	6360	242	3740	0.97
13	3~	400	50	700	248	0.40	66	73	75	77	10705	0	6300	0.00
14	3~	400	50	700	351	0.55	61	69	69	72	8710	61	5125	0.24
15	3~	400	50	700	396	0.61	59	66	68	71	6925	107	4075	0.43
16	3~	400	50	700	421	0.65	60	68	72	73	4945	146	2910	0.59

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = 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