W3G350-CT81-P1

EC axial fan - HyBlade

sickle-shaped blades (S series)

with round short nozzle, for rail applications

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Nominal data

Type	**W3G350-CT81-P1**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Frequency	Hz	DC
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	1400
Power consumption	W	150
Current draw	A	1.4
Max. back pressure	Pa	90
Max. back pressure	in. wg	0.36
Min. ambient temperature	°C	-40
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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	34.9	28.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.4	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.15
09 Air flow q_v	m^3/h	2100
09 Pressure increase p_{fs}	Pa	81
10 Speed (rpm) n	min^{-1}	1395
11 Specific ratio*		1.00

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-199171

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Technical description

Size	350 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Support ring material	Stainless steel
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	A
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Customer-specific
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H3
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 top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Power limiter - Motor current limitation - 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 - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection - Reverse polarity protection
EMC regulations	According to EN 50121-3-2
Motor protection	Electronic motor protection
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 45545-2, HL3: 2013 + A1:2015 for outdoor use only; EN 50155: 2008; EN 61373, Cat. 1B: 2010; CE
Approval	EAC
Comment	If voltage (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation, meaning they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

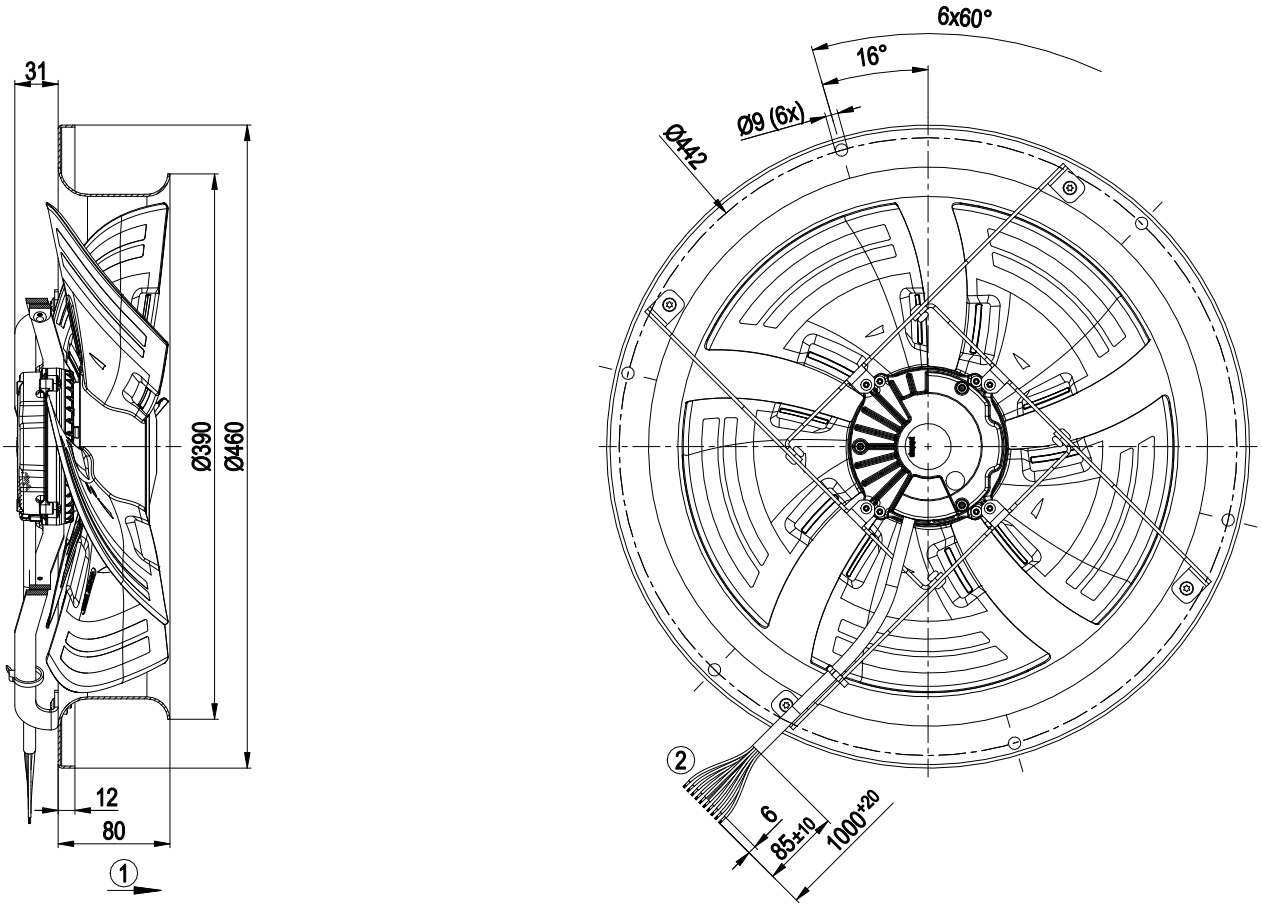
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Product drawing



1	Direction of air flow "A"
2	Cable, halogen-free, railway application EN 45545, 10G 1.0 mm²
	10x lead tip

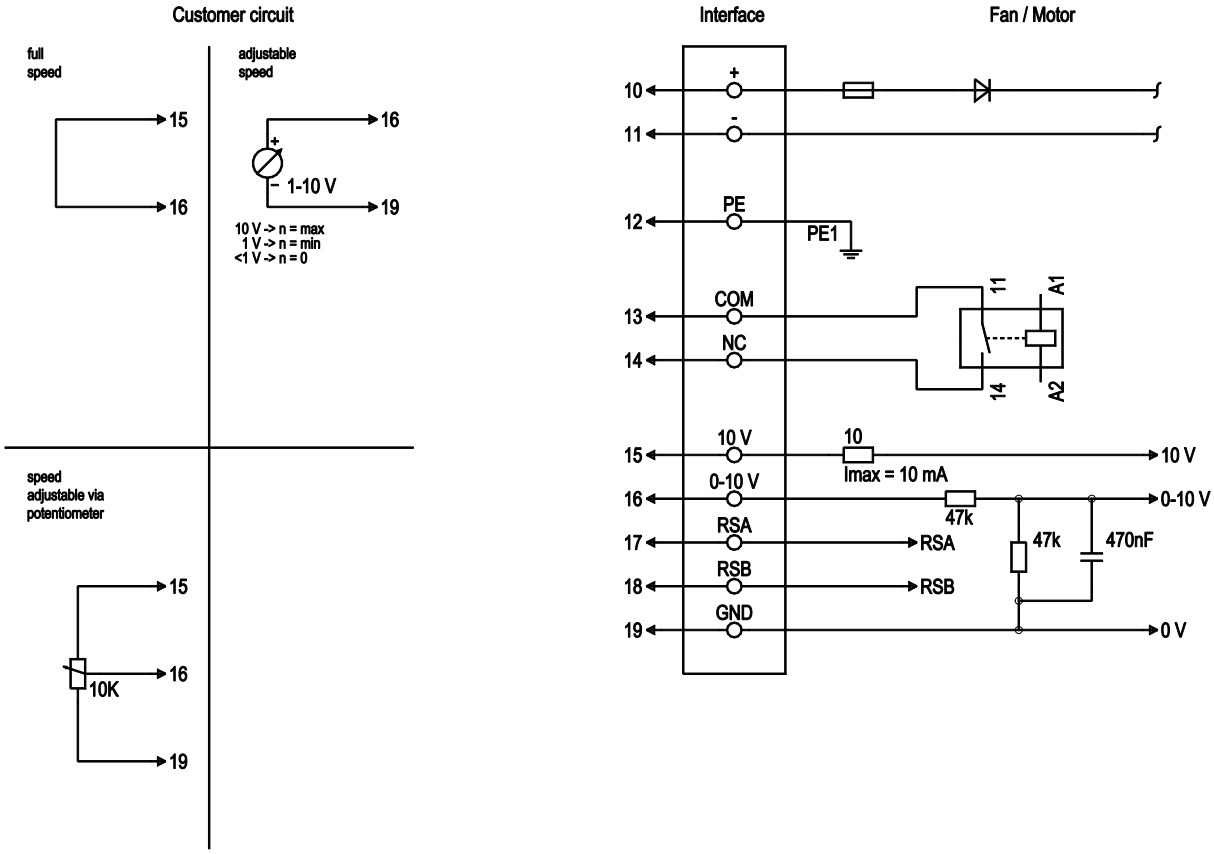
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	10	+	brown	Power supply, see nameplate for voltage range
	11	-	black	Power supply, see nameplate for voltage range
	12	PE	green/yellow	Protective earth
	13	COM	gray	Status relay, floating status contact, common connection, contact rating 250 VAC/2 A (AC1)/min. 10 mA/5 V; Reinforced insulation in accordance with EN 50124-1 for switching voltages up to 110 VDC
	14	NC	purple	Status relay, floating status contact, break for failure, contact rating 250 VAC/2 A (AC1)/min. 10 mA/5 V; Reinforced insulation in accordance with EN 50124-1 for switching voltages up to 110 VDC
	15	+10 V	red	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometers)
	16	0-10 V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
	17	RSA	white	RS-485 interface for MODBUS, RSA; SELV
	18	RSB	orange	RS-485 interface for MODBUS, RSB; SELV
	19	GND	blue	Reference ground for control interface, SELV

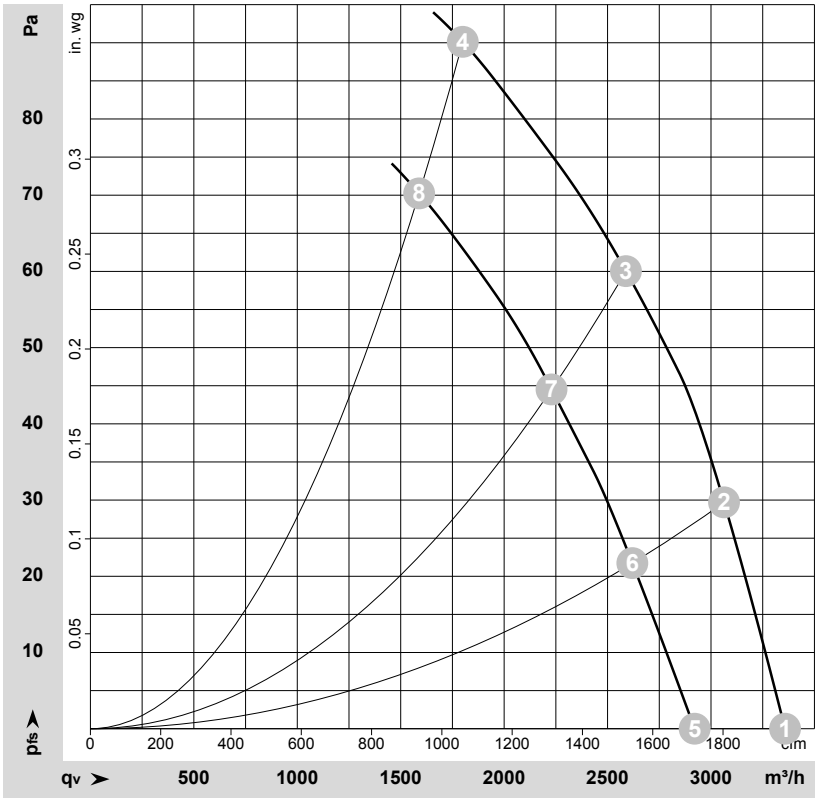
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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-199171-1
Measurement: LU-201873-1

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

	U	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	110-138	1500	131	1.20*	65	72	3360	0	1975	0.00
2	110-138	1485	150	1.40*	64	71	3065	30	1805	0.12
3	110-138	1435	150	1.40*	60	68	2590	60	1525	0.24
4	110-138	1400	150	1.40*	58	66	1800	90	1060	0.36
5	77	1300	86	1.12			2920	0	1720	0.00
6	77	1270	93	1.20			2620	22	1540	0.09
7	77	1240	98	1.28			2230	45	1310	0.18
8	77	1215	103	1.34			1590	70	935	0.28

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase

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