W3G385-CT65-81

EC axial fan

with brushless DC motor

for rail applications



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Nominal data

Type	**W3G385-CT65-81**
Motor	**M3G084-CF**

Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3140
Power consumption	W	450
Current draw	A	17.7
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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

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Technical description

Weight	3.1 kg
Size	385 mm
Motor size	84
Blade material	PA plastic UL94 V0
Fan housing material	PA plastic UL94 V0
Number of blades	7
Airflow direction	V
Balancing grade according to DIN ISO 21940-11	G 10
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
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	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Fault output (high-side switch max. 30 mA) - Power limiter - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Undervoltage detection - Reverse polarity protection
EMC regulations	According to EN 50121-3-2
Electrical hookup	Standby current less than 500 µA
With cable	Lateral
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B
Approval	EAC

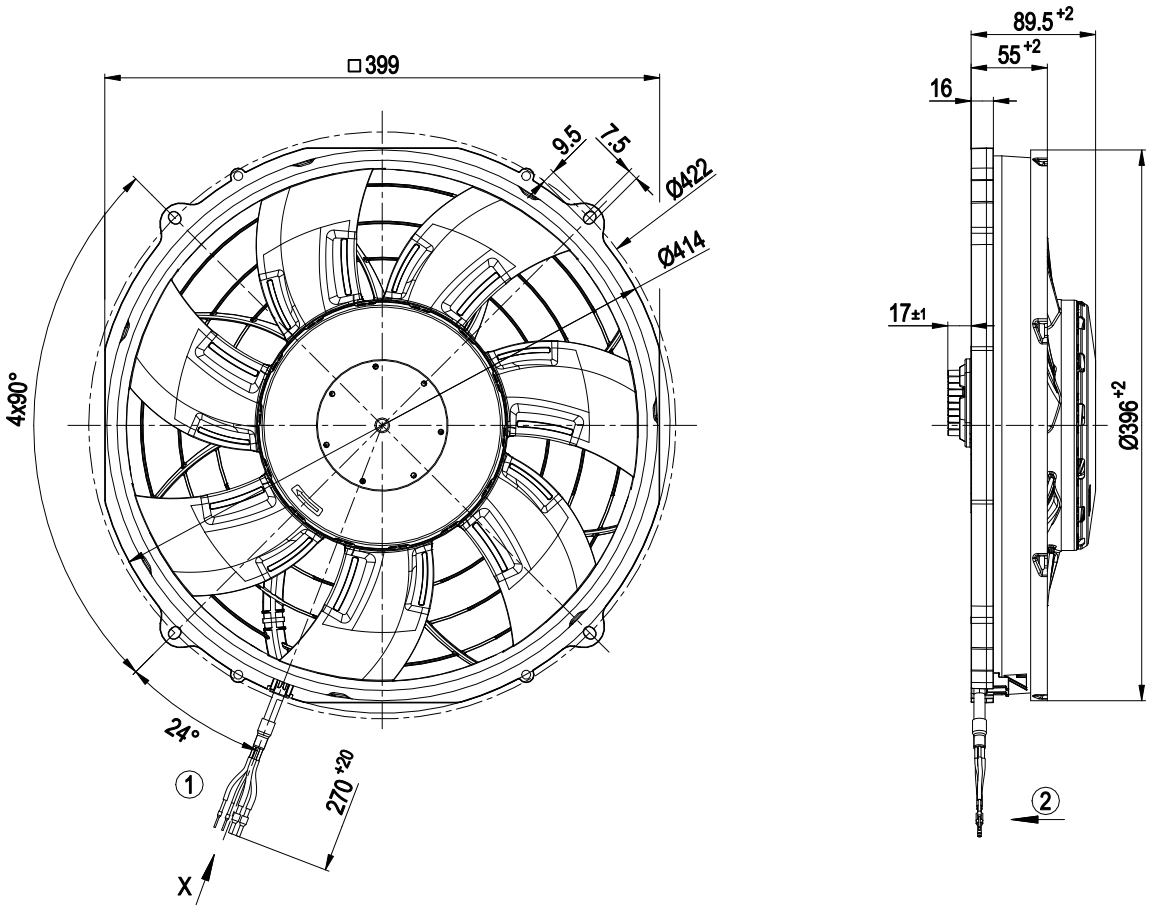
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Product drawing



1	Cable, halogen-free, railway application EN 45545, 2x 6.0 mm², 2x 1.0 mm²
	4x wire-end ferrule
2	Airflow direction "V"

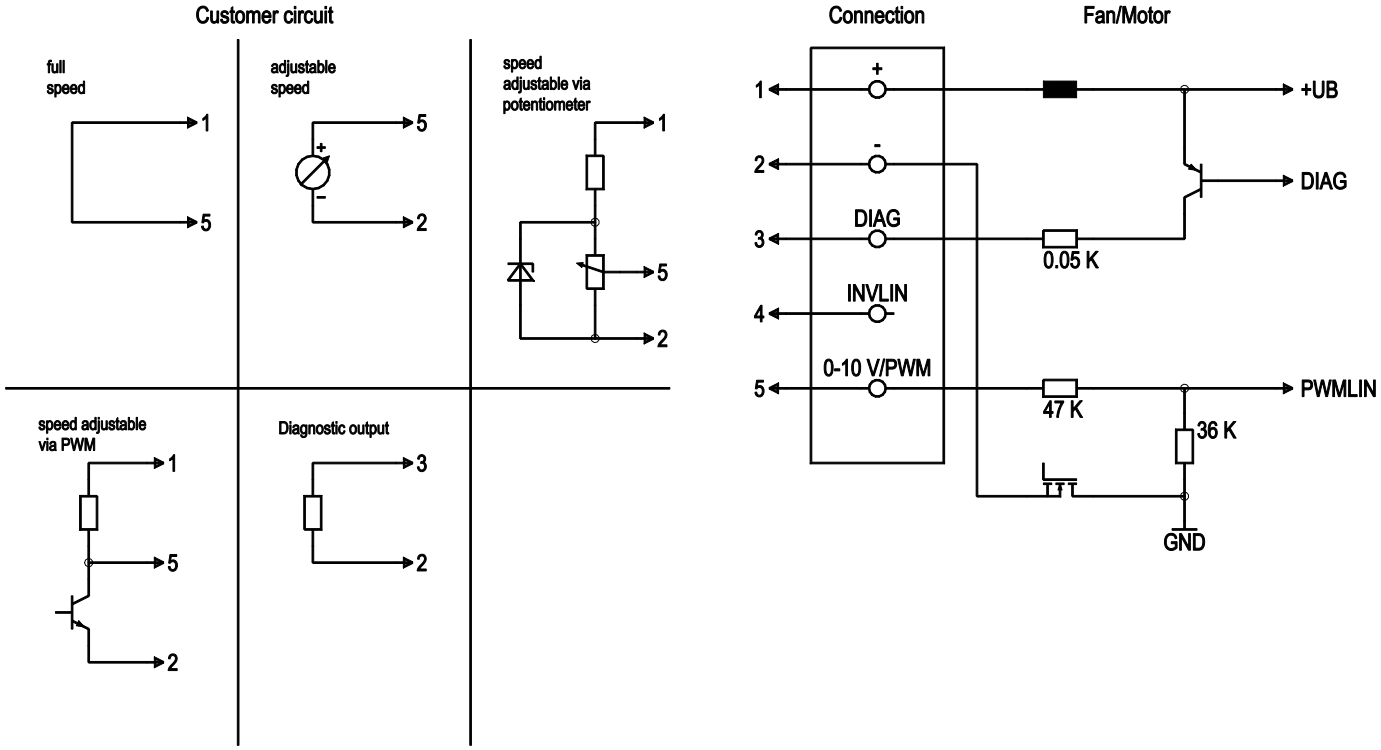
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	+	black	Power supply, see nameplate for voltage range
1	2	-	brown	Power supply, see nameplate for voltage range
1	3	DIAG	white	Diagnostic output: Open collector, Isource max = 20 mA, Fan OK -> low; fan error -> high
1	4	INVLIN		not used
1	5	0-10 V / PWM	yellow	Control input: Ri > 47 kΩ 0-10 V (typ. < 1 V -> n=0; 1.5 V -> n=min; > 10 V -> n=max) PWM (amplitude 10 V; 1-50 kHz; typ. < 5 % -> n=0; 15% -> n=min; > 100% -> n=max)

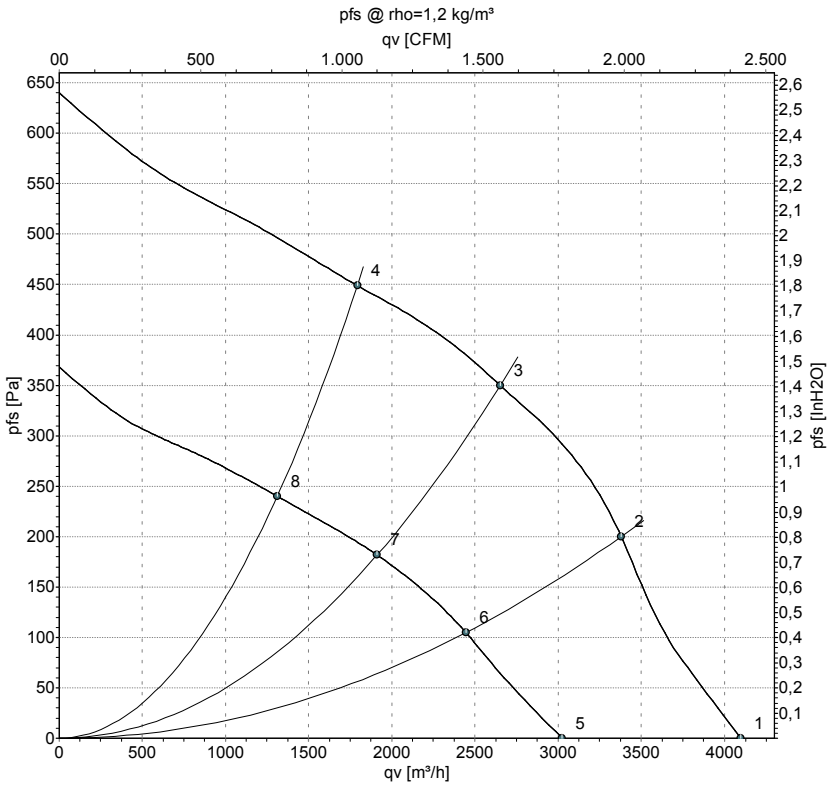
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Curves: Air performance



Measurement: LU-157492-1
Measurement: LU-157558-1

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	26-32	3140	450	17.70*	81	88	4095	0	2410	0.00
2	26-32	3125	562	22.60*	81	88	3380	200	1990	0.80
3	26-32	3060	622	25.20*	80	88	2650	350	1560	1.41
4	26-32	2960	649	26.30*	82	89	1790	450	1055	1.81
5	16	2335	189	11.34	73	81	3025	0	1780	0.00
6	16	2270	214	12.96	72	80	2445	106	1440	0.43
7	16	2220	231	14.12	72	80	1910	182	1125	0.73
8	16	2165	247	15.19	74	81	1310	240	770	0.96

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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