

W1G180-AB31-01

# EC diagonal compact fan



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## Nominal data

Type	W1G180-AB31-01	
Motor	M1G074-BF	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Type of data definition		fa
Speed	min <sup>-1</sup>	4550
Power input	W	93
Current draw	A	4.3
Max. back pressure	Pa	380
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

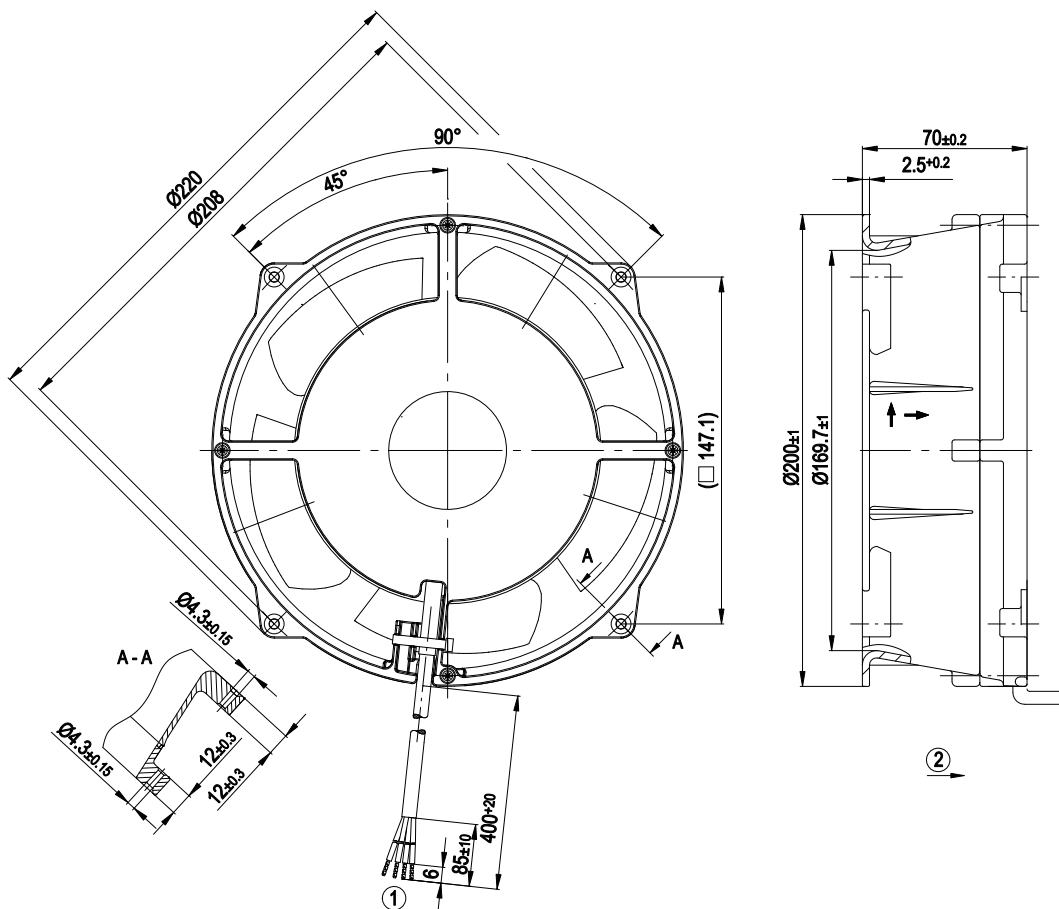
ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit  
Subject to alterations



### Technical features

<b>Mass</b>	1.8 kg
<b>Size</b>	180 mm
<b>Surface of rotor</b>	Galvanised
<b>Material of impeller</b>	Plastic PA66, fibreglass-reinforced
<b>Material of wall ring</b>	Die-cast aluminium, coated in black
<b>Number of blades</b>	5
<b>Direction of air flow</b>	"V"
<b>Direction of rotation</b>	Counter-clockwise, seen on rotor
<b>Type of protection</b>	IP 20
<b>Insulation class</b>	"B"
<b>Humidity class</b>	F0
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	+80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	-40 °C
<b>Mounting position</b>	Any
<b>Condensate discharge holes</b>	None
<b>Operation mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Control input 0-10 VDC / PWM</li> <li>- Tach output</li> <li>- Motor current limit</li> <li>- Soft start</li> </ul>
<b>EMC interference immunity</b>	Acc. to EN 61000-6-2 (industrial environment)
<b>EMC interference emission</b>	Acc. to EN 55022 (Class B)
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<b>Cable exit</b>	Lateral
<b>Product conforming to standard</b>	EN 60950-1
<b>Approval</b>	CSA C22.2 Nr.113; EAC; UL 507

Product drawing

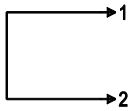


- |   |   |
|---|---|
| 1 | Connecting cable AWG 20, 4x brass lead tips crimped |
| 2 | Direction of air flow "V"                           |

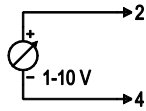
## Connection screen

### Customer circuit

Full speed

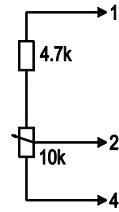


Adjustable speed

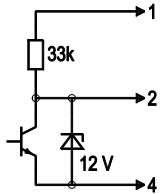


10 V → n = max  
1 V → n = min  
<1 V → n = 0  
Safe start at  
Unom -30%  
from 4 V Ucontr.

Speed adjustable via potentiometer

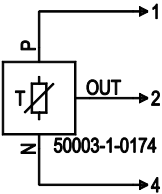


Speed adjustable via PWM 1-10 kHz



100% PWM → n = max  
10% PWM → n = min  
<10% PWM → n = 0  
Safe start at  
Unom -30%  
from 40% PWM

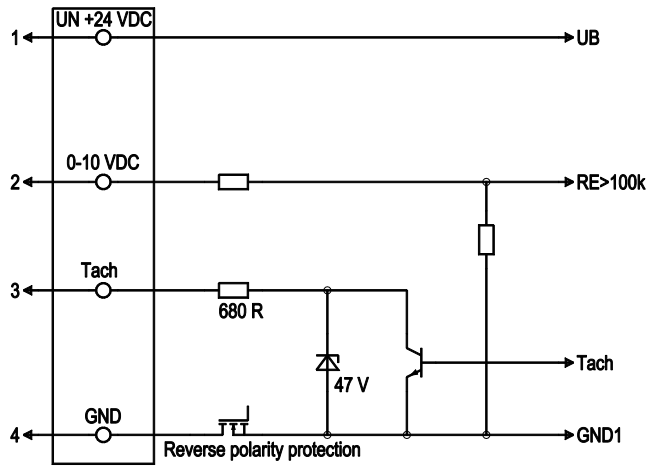
Preset target value via temperature controller



T < 10 °C → n = 0  
T > 45 °C → n = max

### Connection

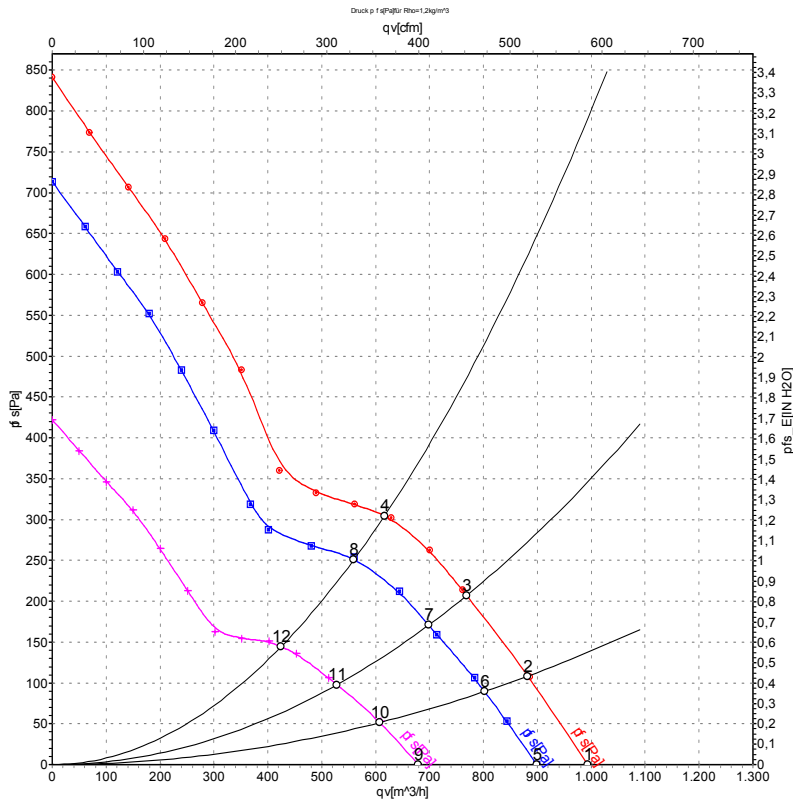
### Fan/Motor



No.	Conn.	Designation	Colour	Function / assignment
1	1	Un +24 VDC	red	Power supply 24 VDC, residual ripple 3.5 %
1	2	0-10 VDC	yellow	Control input Re > 100 K
1	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference mass



## Charts: Air flow



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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	n	P <sub>ed</sub>	I	qv	p <sub>fs</sub>
	V	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	28	5060	127	5.02	995	0
2	28	4900	133	5.31	880	111
3	28	4780	139	5.57	770	208
4	28	4750	140	5.64	615	305
5	24	4550	93	4.30	900	0
6	24	4460	102	4.73	800	90
7	24	4350	106	4.93	700	170
8	24	4325	108	5.00	560	250
9	16	3465	45	3.27	680	0
10	16	3370	48	3.41	610	54
11	16	3315	49	3.52	530	98
12	16	3300	50	3.55	425	144

U = Supply voltage · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase

