

D1G160-DA33-15

# EC centrifugal fan

forward curved, dual inlet  
with housing (without flange)



D1G160-DA33-15 ebmpapst Datasheet  
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## Nominal data

Type	D1G160-DA33-15	
Motor	M1G074-CF	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Frequency	Hz	-
Type of data definition		fa
Speed	min <sup>-1</sup>	1250
Power input	W	112
Current draw	A	2.9
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



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## Technical features

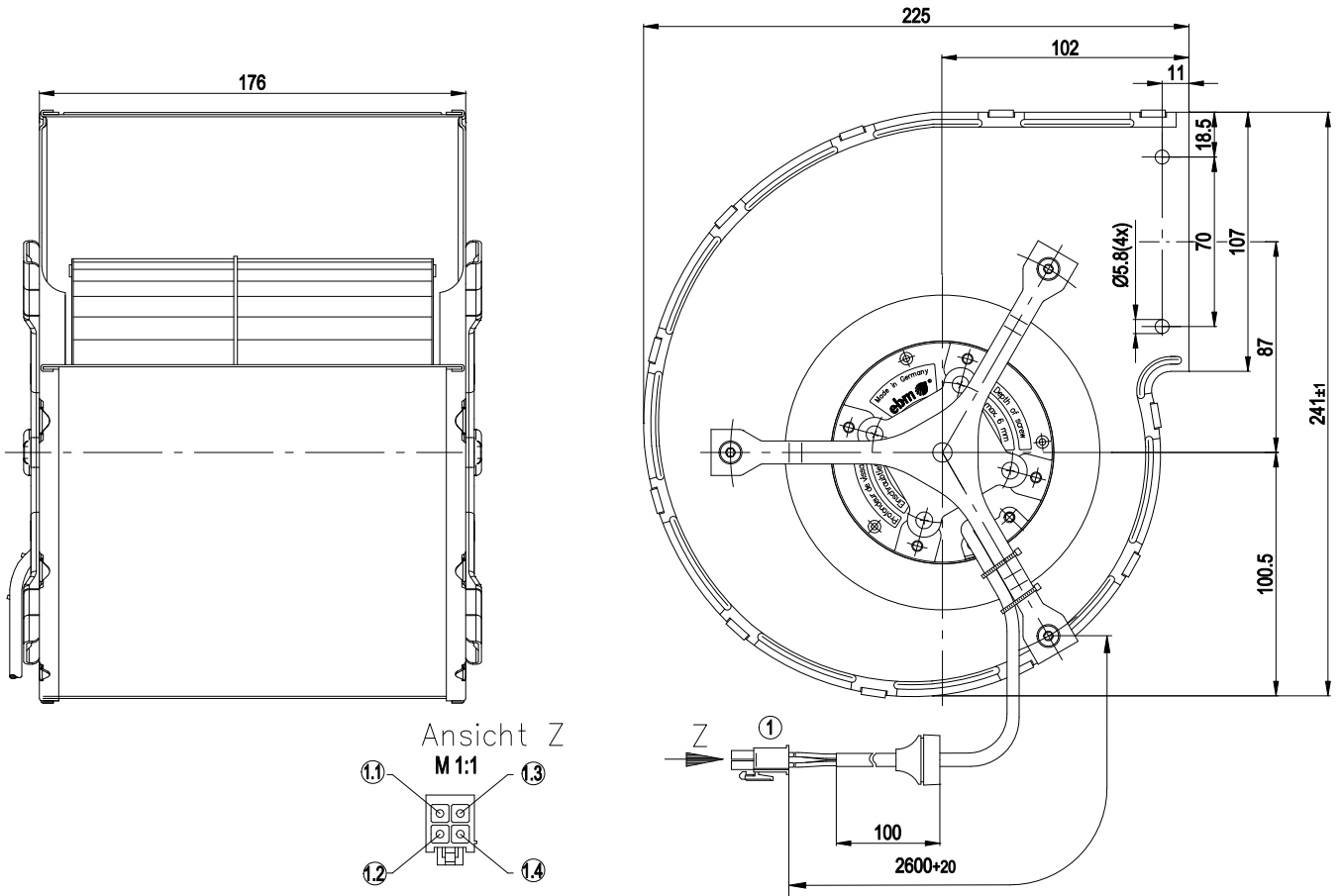
<b>Mass</b>	3.9 kg
<b>Size</b>	160 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of impeller</b>	Sheet steel, hot-galvanised
<b>Housing material</b>	Sheet steel, hot-galvanised
<b>Direction of rotation</b>	Counter-clockwise, seen on rotor
<b>Type of protection</b>	IP 42
<b>Insulation class</b>	"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>	- Control input 0-10 VDC / PWM - Tach output Motor current limit - Soft start
<b>EMC interference immunity</b>	Acc. to EN 61000-6-2
<b>EMC interference emission</b>	Acc. to EN 55022 (Class B)
<b>Electrical leads</b>	With plug
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<b>Cable exit</b>	Variable
<b>Approval</b>	CCC; CSA C22.2 Nr.77; UL 1004-1



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## Product drawing



1	Connector housing Mate-N-Lok 172167-1, socket contact 170362-1, pluggable with 172159-1
1.1	red (+)
1.2	yellow (control input)
1.3	white (s)
1.4	blue (-)



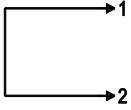
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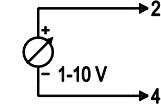
## Connection screen

### Customer circuit

#### Full speed

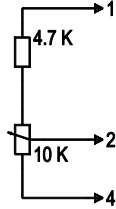


#### Speed setting

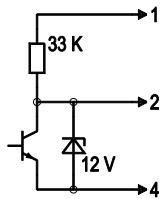


10 V → n = max  
1 V → n = min  
<1 V → n = 0  
Safe start  
at Unom -30 %  
from 4 V Ucontr.

#### Speed setting via potentiometer

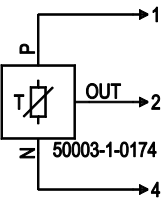


#### Speed setting via PWM 1-10 kHz



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

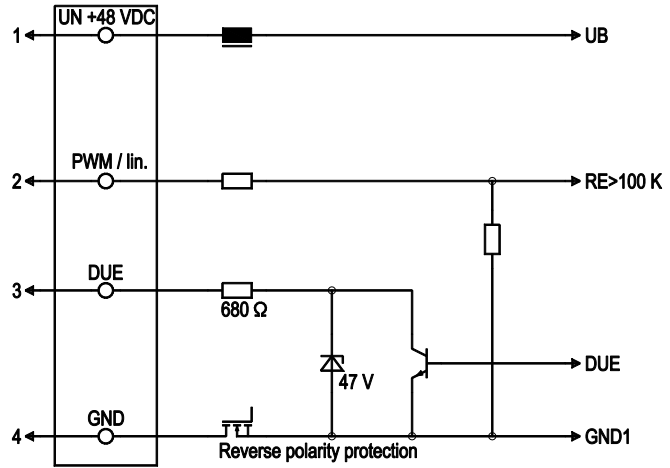
#### Set value via temperature controller



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

### Connection

### Fan / motor



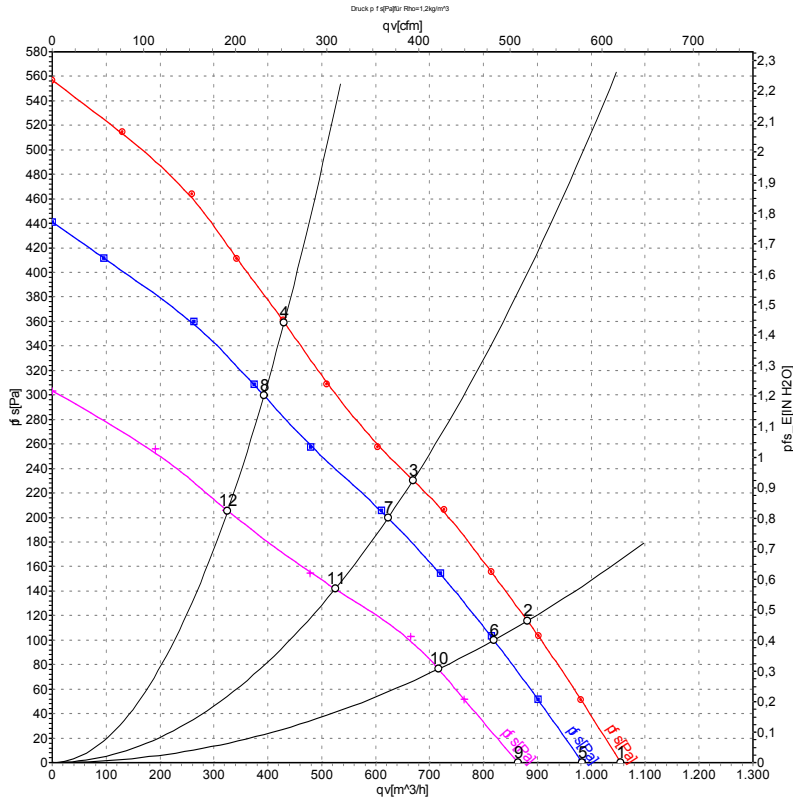
No.	Conn.	Designation	Colour	Function / assignment
1	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
1	2	PWM / lin	yellow	PWM / lin. control input, 0-10 V
1	3	Tach	white	Speed monitoring output, 3 pulses per rotation, Isink max = 10 mA
1	4	GND	blue	Reference mass



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## Charts: Air flow



Measurement: LU-51358  
Measurement: LU-51357  
Measurement: LU-51359

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	57	1330	142	3.29	1055	0
2	57	1520	129	2.84	880	116
3	57	1775	116	2.45	670	230
4	57	2080	107	2.20	430	360
5	48	1250	112	2.90	985	0
6	48	1415	102	2.54	820	100
7	48	1645	93	2.25	625	200
8	48	1890	82	1.98	395	300
9	36	1105	75	2.40	865	0
10	36	1245	69	2.17	715	76
11	36	1410	59	1.85	525	142
12	36	1580	48	1.54	325	204

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

