DV6248/2TDP-835 DC Diagonal Fan

DC-Fan with PWM-dependent speed control. The DC drive employs an electronically commutated 3-phase external rotor motor with high efficiency. A highly integrated, specially programmed microcontroller implements motor commutation and speed control of the fan.
All functions are completely integrated into the hub.



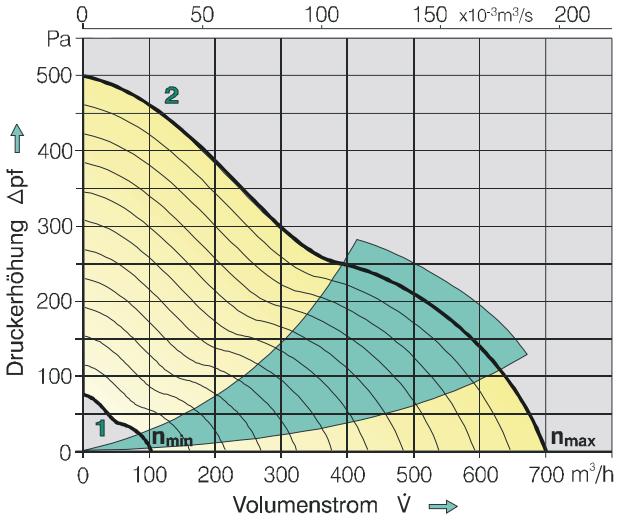
Features

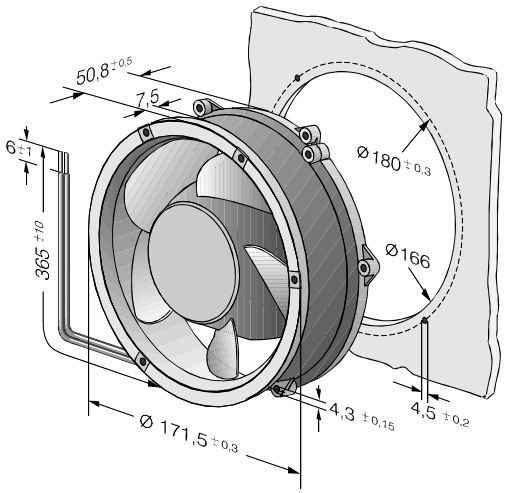
- Extremely wide voltage range. Max. speed may be chosen by variation of operating voltage range 40 to 55 VDC.
- Very low speed-fluctuations in the entire voltage range.
- Speed control by PWM input signal (f= 2 kHz +/- 20%, amplitude 5V)
- Tacho output Signal, 6 pulses per revolution.
- The fan is protected against reversed polarity.
- Electronic motor current limiting during start-up or blocking. Continuous blocking protection.
- Customer specific harness

General Data

Nominal voltage	V DC	48
Voltage range	V DC	40 ... 57
Nominal speed	min^{-1}	5500
Max. flow rate	m^3/h	700
Max. flow rate	CFM	412
Noise free air	dB(A)	69
Noise in operating range	bels	7,8
Current consumption	mA	1800
Power consumption	W	86,4
Perm. ambient temperature	°C	-20 ... +60
Service life (40 °C)	h	65.000
Safety approvals		UL, CSA, VDE
Fan housing / impeller		Aluminium alloy / PA6.6
Bearing system		Ball bearings
Mass	kg	0,820

All data are average figures at nominal voltage — Subject to technical change.



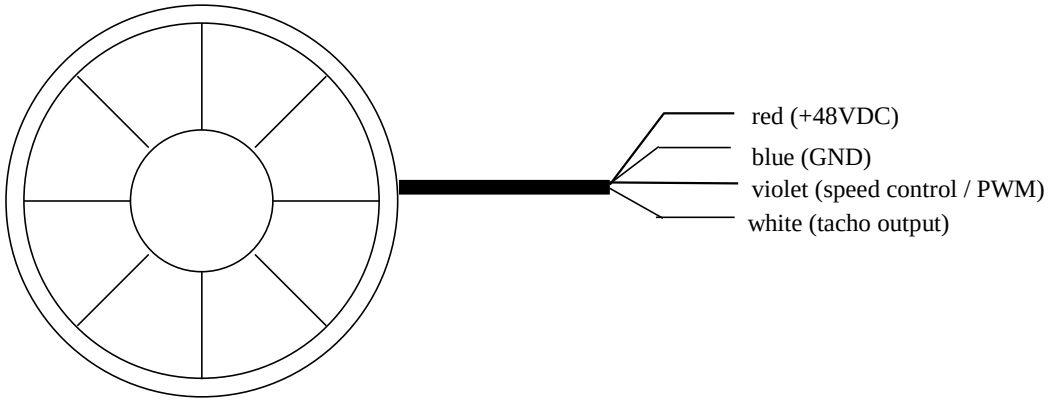


PWM - Speed Control

PWM [%] (f=2kHz)	Speed [rpm]	Power consumption [W]
0	0	1
50	2900	14.7
100	5500	86.4

Fan will have minimum speed when PWM lead is disconnected.
Fan will have maximum speed when PWM lead is connected to ground.

Connection diagram :

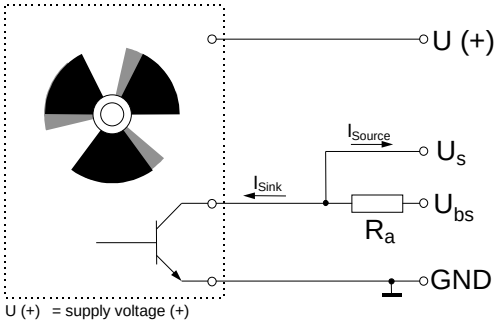


Lead (customer spec. harness)	Description
Red	+48 V DC
Blue	GND 0 V
Violet	Speed control / PWM
White	Tacho

Tacho Output:

Open collector, 6 pulses per revolution

Output	6 pulses per revolution
U_{bs}	40 DC
$U_{s\ high}$	40 V DC @ I_{source} = 0 mA
$U_{s\ low}$	≤ 0,4 V DC @ I_{sink} ≤ 2mA
$I_{sink\ max}$	≤ 20 mA
t_1 / t_2	0,8 - 1,2



U (+) = supply voltage (+)
U_s = tacho signal
U_{bs} = supply voltage tacho signal
GND = ground (-)
Ra = external pull up resistor

$$R_a = \frac{U_{bs} - U_{slow}}{I_{sink}}$$