DV6424/2TDA-806 DC Diagonal Fan



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

Features

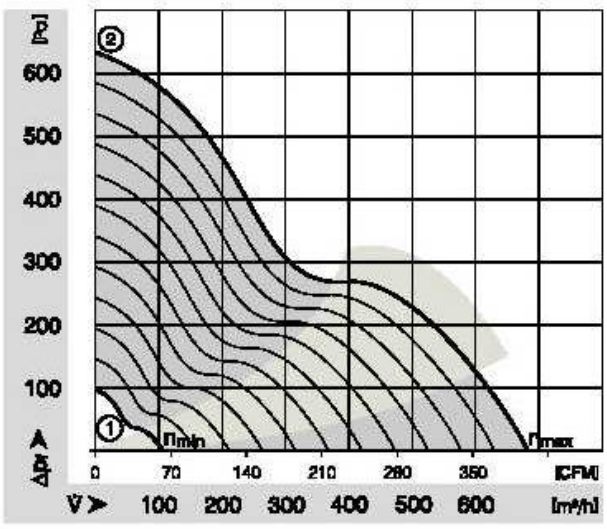
- Very low speed-fluctuations over the entire voltage range.
- Speed control by analog input signal (0 - 10 VDC), maximum speed at signal ≤1VDC, minimum speed at signal ≥9VDC.
- The fan is protected against reversed polarity.
- Electronic motor current limiting during start-up or blocking. Continuous blocking protection.
- Electrical connection via 4 leads, 365mm.

General Data

Nominal voltage	V DC	24
Voltage range	V DC	16...28
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	3800
Power consumption	W	91.2
Perm. ambient temperature	°C	-20 ... +60
Service life (40 °C)	h	65.000
Safety approvals		UL, CSA, VDE
Fan housing / impeller		Aluminum alloy / PA6.6
Bearing system		Ball bearings
Mass	kg	0,82

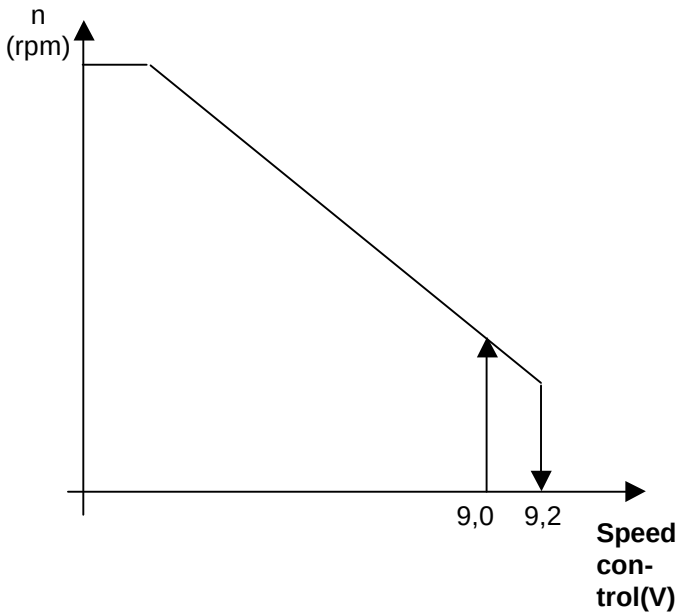
All data are average figures at nominal voltage

Subject to technical change.

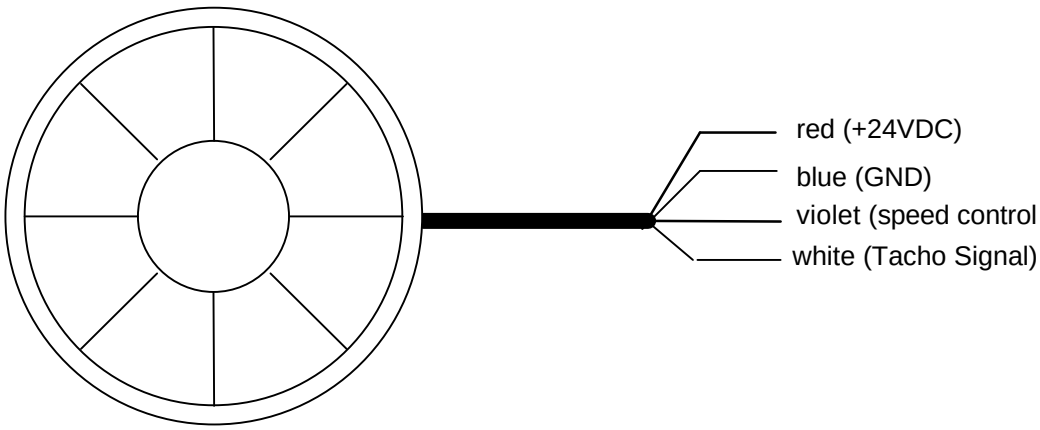


Speed - Analog Speed Control

Analog voltage input signal (V)	Speed (rpm)
0	5500
1	5500
1,5	5340
2	5000
3	4370
4	3720
5	3060
6	2450
7	1810
8	1190
9	560
10	0
9,0	start up (550)
9,2	fan off (450)

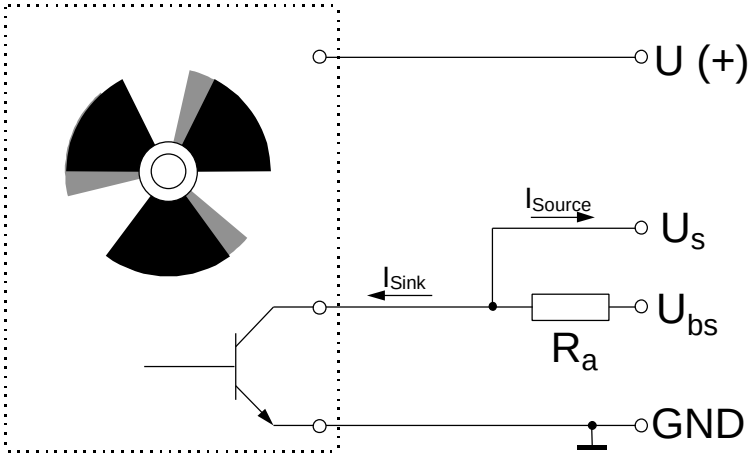


Connection diagram :



Lead (leadlength 365mm)	Description
Red	+24 V DC
Blue	GND 0 V
Violet	Speed control
White	Tacho Signal
External pull up resistor is required to read Tacho Signal	

Tacho Output Signal:



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

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

Exit	6 pulses per revolution
U_{bs}	4 .... 30 DC
$U_{s\ high}$	30 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

ebm-papst St. Georgen GmbH & Co KG, Postfach 1435, D-78106 St. Georgen

