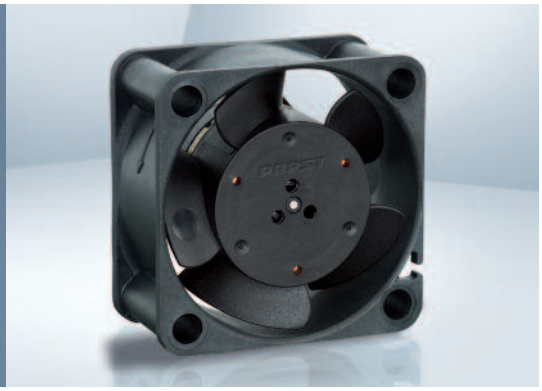
Max. 13.5 m³/h

DC axial fans

☐ 40 x 20 mm



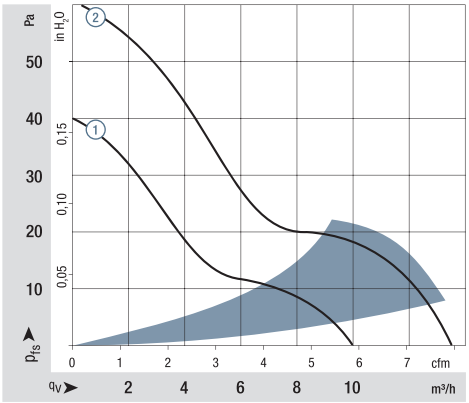
- **Material:** Housing: GRP[1] (PBT)
  Impeller: GRP[1] (PA)
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via single wires AWG 28, TR 64
- **Highlights:** Some models are suitable for use at high ambient temperatures
- **Weight:** 27 g

- **Possible special versions:**
  (See chapter DC fans - specials)
  - Speed signal
  - Go / NoGo alarm
  - PWM control input
  - Moisture protection

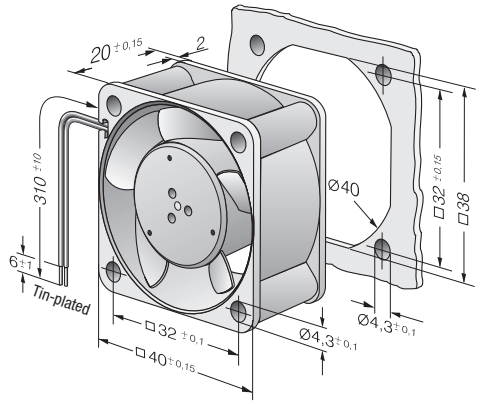
1) Fiberglass-reinforced plastic

Series 400 **Nominal data**	Air flow	Air flow	**Nominal voltage**	Voltage range	Sound pressure level	Sound power level	Sintec sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L_{10} (20 °C) ebm-papst standard Service life L_{10} (60 °C) ebm-papst standard	Life expectancy L_{10IPC} (40 °C) see page 17	Curve
Type	**m³/h**	**cfm**	**VDC**	**VDC**	**dB(A)**	**Bel(A)**	□ / ■	**Watts**	**rpm⁻¹**	**°C**	**Hours**	**Hours**	
405	10.0	5.9	**5**	4.5...5.5	18	3.8	■	0.9	6 000	-20...+70	50 000 / 20 000	52 500	①
412	10.0	5.9	**12**	10...14	18	3.8	■	0.8	6 000	-20...+70	50 000 / 20 000	52 500	①
412 H	13.5	7.9	**12**	10...14	29	4.7	■	1.6	8 100	-20...+60	45 000 / 17 500	47 500	②
414	10.0	5.9	**24**	20...28	18	3.8	■	1.0	6 000	-20...+70	50 000 / 20 000	52 500	①
414 H	13.5	7.9	**24**	20...26.5	29	4.7	■	1.7	8 100	-20...+60	45 000 / 17 500	47 500	②
Model with temperature range up to +85 °C.													
412-099	10.0	5.9	**12**	10...14	18	3.8	■	0.8	6 000	-20...+85	50 000 / 20 000	52 500	①

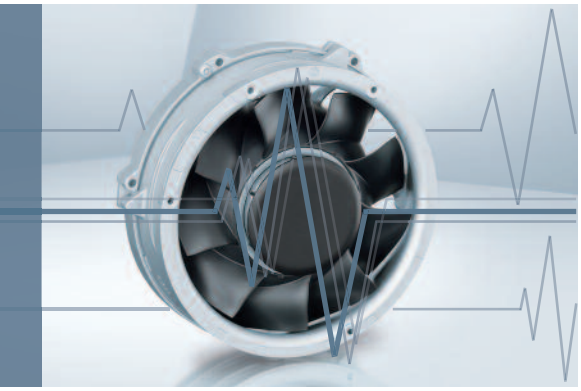
Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 103002 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see
http://www.ebmpapst.com/general conditions

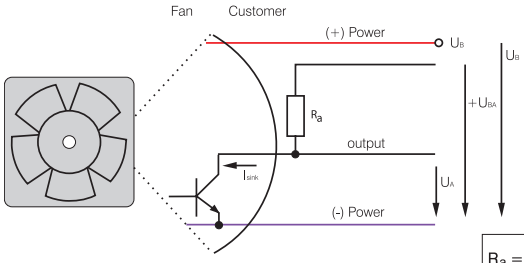


Speed signal /2



- Speed-proportional, square-wave signal for external monitoring of the fan motor speed
- 2, 3, or 6 pulses per revolution
- Open-collector signal output
- Extremely wide operating voltage range
- Easy adaptation to user interface
- Connection via separate cable
- The sensor signal also serves as a major comparison variable for setting and maintaining the setpoint speed for interactive or controlled cooling with one or more interconnected fans.

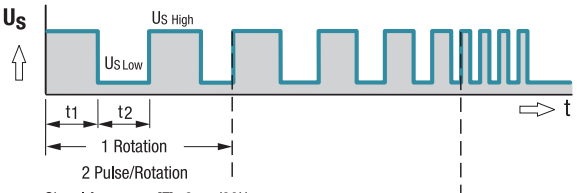
Electrical hookup



$$R_a = \frac{U_{BS} - U_{SLow}}{I_{SINK}}$$

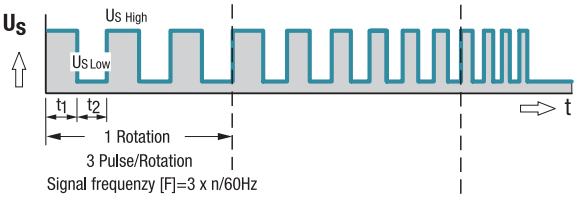
All voltages measured to ground.
External load resistor R_a / U_S / U_{BS} required.

Signal output voltage
Standard signal for all models (exceptions see below)



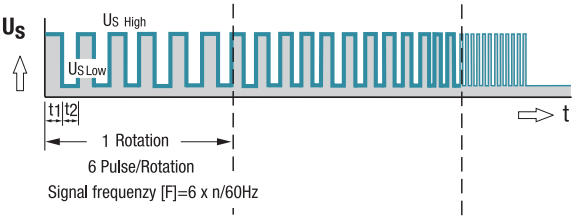
1 Rotation
2 Pulse/Rotation
Signal frequenzy [F]=3 x n/60Hz

For multi options control input and 4100 NH7 and NH8



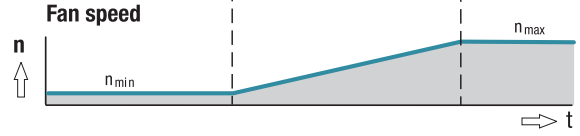
1 Rotation
3 Pulse/Rotation
Signal frequenzy [F]=3 x n/60Hz

All TD Fans e.g. 6300 TD



1 Rotation
6 Pulse/Rotation
Signal frequenzy [F]=6 x n/60Hz

Fan speed



Signal data	Speed signal $U_{S\,Low}$	Condition: I_{sink}	Speed signal $U_{S\,High}$	Condition: I_{source}	Tach operating voltage $U_{BS\,max.}$	Admissible sink current $I_{sink\,max.}$	Pulses per revolution	Fan description Basic type
Type	**VDC**	**mA**	**VDC**	**mA**	**VDC**	**mA**		**Page**
250	≤ 0.4	2	≤ 30	0	30	2	2	31
400 F	≤ 0.4	1	≤ 30	0	30	2	2	32
400	≤ 0.4	1	≤ 30	0	30	2	2	33
420 J	≤ 0.4	2	≤ 15	0	15	4	2	34
500 F	≤ 0.4	1	≤ 30	0	30	2	2	35
600 F	≤ 0.4	1	≤ 30	0	30	2	2	36
620	≤ 0.4	2	≤ 30	0	30	4	2	37
630 U	≤ 0.4	2	≤ 30	0	30	4	2	38
600 N	≤ 0.4	2	≤ 28	0	28	4	2	39
600 J	≤ 0.4	2	≤ 30	0	30	4	2	41
700 F	≤ 0.4	2	≤ 30	0	30	4	2	42
8450	≤ 0.4	2	≤ 28	0	28	4	2	43
8400 N	≤ 0.4	2	≤ 28	0	28	4	2	44
8400 N VARIOFAN	≤ 0.4	2	≤ 30	0	30	4	2	45
8300	≤ 0.4	2	≤ 30	0	30	4	2	46
8200 J	≤ 0.4	2	≤ 30	0	30	4	2	47
3400 N	≤ 0.4	2	≤ 28	0	28	4	2	48
3400 N VARIOFAN	≤ 0.4	2	≤ 30	0	30	4	2	49
3300 N	≤ 0.4	2	≤ 30	0	30	4	2	50
3212 J / 3214 J	≤ 0.4	2	≤ 30	0	30	4	2	51
3218 J	≤ 0.4	2	≤ 60	0	60	4	2	51
3250 J	≤ 0.4	2	≤ 60	0	60	4	3	52
4412 F / 4414 F	≤ 0.4	2	≤ 30	0	30	4	2	53
4418 F	≤ 0.4	2	≤ 60	0	60	4	2	53
4400 FN	≤ 0.4	2	≤ 30	0	30	4	2	55
4312 / 4314	≤ 0.4	2	≤ 30	0	30	4	2	56
4318	≤ 0.4	2	≤ 60	0	60	4	2	56
4312 / 4314 VARIOFAN	≤ 0.4	2	≤ 30	0	30	4	2	57
4318 VARIOFAN	≤ 0.4	2	≤ 60	0	60	4	2	57
4400	≤ 0.4	2	≤ 30	0	30	4	2	58/59
4100 N	≤ 0.4	2	≤ 30	0	30	4	2	60
4100 NHH...NH6	≤ 0.4	2	≤ 60	0	60	10	2	61
4100 NH7...NH8	≤ 0.4	2	≤ 60	0	60	20	3	62
DV 4100	≤ 0.4	2	≤ 30	0	30	4	2	63
5200 N	≤ 0.4	2	≤ 30	0	30	4	2	64
DV 5200	≤ 0.4	2	≤ 30	0	30	4	2	65

Subject to change

ebmpapst

Available on request:
– Electrically isolated speed signal circuit
– Varying voltage potentials for power and logic circuit

Signal data	Speed signal $U_{S\ Low}$	Condition: I_{sink}	Speed signal $U_{S\ High}$	Condition: I_{source}	Tach operating voltage $U_{BS\ max.}$	Admissible sink current $I_{sink\ max.}$	Pulses per revolution	Fan description Basic type
Type	**VDC**	**mA**	**VDC**	**mA**	**VDC**	**mA**		**Page**
5112 N	≤ 0.4	2	≤ 15	0	5	20	2	66
5114 N / 5118 N	≤ 0.4	2	≤ 60	0	60	20	2	66
5300	≤ 0.4	2	≤ 60	0	60	4	2	67
5300 TD	≤ 0.4	2	≤ 60	0	60	20	6	68
7112 N / 7118 N	≤ 0.4	2	≤ 60	0	60	20	2	69
7114 N	≤ 0.4	2	≤ 30	0	30	20	2	69
7200 N	≤ 0.4	2	≤ 15	0	15	20	2	70
6400	≤ 0.4	2	≤ 60	0	60	20	2	71
6300 TD	≤ 0.4	2	≤ 60	0	60	20	6	75
6300 N	≤ 0.4	2	≤ 60	0	60	20	6	76
6300 NTD	≤ 0.4	2	≤ 60	0	60	20	6	77
6300	≤ 0.4	2	≤ 60	0	60	20	2	78
DV 6300 TD	≤ 0.4	2	≤ 60	0	60	20	6	80
2200 FTD	≤ 0.4	2	≤ 60	0	60	20	6	81
RL 48	≤ 0.4	2	≤ 30	0	30	4	2	97
RL 65	≤ 0.4	2	≤ 30	0	30	4	2	98
RL 90 N	≤ 0.4	2	≤ 30	0	30	4	2	99
RLF 100	≤ 0.4	2	≤ 30	0	30	4	2	100
RG 90 N	≤ 0.4	2	≤ 30	0	30	4	2	101
RG 125 N	≤ 0.4	2	≤ 30	0	30	4	2	102
RG 140 N	≤ 0.4	3	≤ 60	0	60	4	2	103
RG 160 N	≤ 0.4	2	≤ 30	0	30	20	2	104
RG 160 NTD	≤ 0.4	2	≤ 60	0	60	20	6	105
RG 190 TD	≤ 0.4	2	≤ 60	0	60	20	6	106
RG 220 TD	≤ 0.4	2	≤ 60	0	60	20	6	107
RG 225 TD	≤ 0.4	2	≤ 60	0	60	20	6	108
RET 97 TD	≤ 0.4	2	≤ 60	0	60	20	6	109
REF 100	≤ 0.4	2	≤ 30	0	30	4	2	110
RER 120 TD	≤ 0.4	2	≤ 60	0	60	20	6	112
RER 133 TD	≤ 0.4	2	≤ 60	0	60	20	6	117
RER 160 NTD	≤ 0.4	2	≤ 60	0	60	20	6	119
REF 175 TD	≤ 0.4	2	≤ 60	0	60	20	6	120
RER 175 TD	≤ 0.4	2	≤ 60	0	60	20	6	121
RER 190 TD	≤ 0.4	2	≤ 60	0	60	20	6	122
RER 220 TD	≤ 0.4	2	≤ 60	0	60	20	6	128
RER 225 TD	≤ 0.4	2	≤ 60	0	60	20	6	129

Subject to change

Note:
Fans that come with these fan specials could have variations with respect to the temperature range, voltage range, and power consumption compared to standard fans without specials.