Max. $13.5 \text{ m}^3/\text{h}$

DC axial fans

□ 40 x 20 mm

Material:

Housing: GRP1) (PBT) Impeller: GRP1) (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

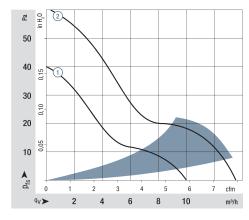
1) Fiberglass-reinforced plastic

-	Possible	special	versions:
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(See chapter DC fans - specials)

- Speed signal
- Go / NoGo alarm
- PWM control input
- Moisture protection

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
Туре	m³/h	cfm	VDC	VDC	dB(A)	Bel(A)	■/■	Watts	rpm ⁻¹	°C	Hours	Hours	
405	10.0	5.9	5	4.55.5	18	3.8		0.9	6 000	-20+70	50 000 / 20 000	52 500	1
412	10.0	5.9	12	1014	18	3.8		0.8	6 000	-20+70	50 000 / 20 000	52 500	1
412 H	13.5	7.9	12	1014	29	4.7		1.6	8 100	-20+60	45 000 / 17 500	47 500	2
414	10.0	5.9	24	2028	18	3.8		1.0	6 000	-20+70	50 000 / 20 000	52 500	1)
414 H	13.5	7.9	24	2026.5	29	4.7		1.7	8 100	-20+60	45 000 / 17 500	47 500	2
Model with temperatu	Model with temperature range up to +85 °C.												
412-099	10.0	5.9	12	1014	18	3.8		8.0	6 000	-20+85	50 000 / 20 000	52 500	1



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 LpA measured at 1 m distance

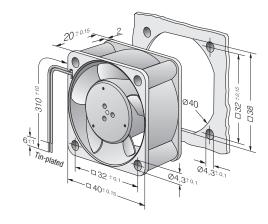
from fan axis.

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



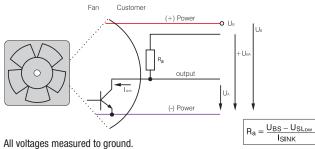
Subject to change

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

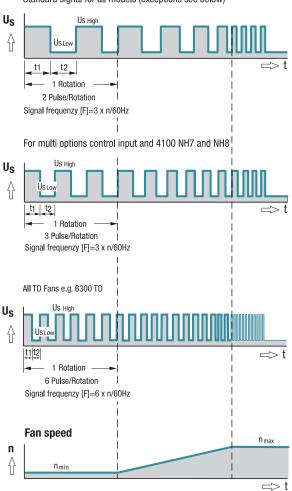
Electrical hookup



External load resistor R_a / U_S / U_{BS} required.

Signal output voltage

Standard signal for all models (exceptions see below)



Signal data	Speed signal Us Low	Condition: Isink	Speed signal Us High	Condition: Isource	Tach operating voltage U _{BS max.}	Admissible sink current Isink max.	Pulses per revolution	Fan description Basic type
Туре	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 NHHNH6	≤ 0.4	2	≤ 60	0	60	10	2	61
4100 NH7NH8	≤ 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								

2016-01

Available on request:

- Electrically isolated speed signal circuit
- Varying voltage potentials for power and logic circuit

Signal data	Speed signal Us _{Low}	Condition: I _{sink}	Speed signal Us High	Condition: I _{source}	Tach operating voltage U _{BS max.}	Admissible sink current Isink max.	Pulses per revolution	Fan description Basic type
Туре	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 ≤ 0.4	2		0	60	20	6	
			≤ 60					122
RER 220 TD RER 225 TD	≤ 0.4	2	≤ 60	0	60	20	6	128
Subject to change	≤ 0.4	2	≤ 60	0	60	20	6	129

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.

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