



## PC Cooling fans

### High performance case fans

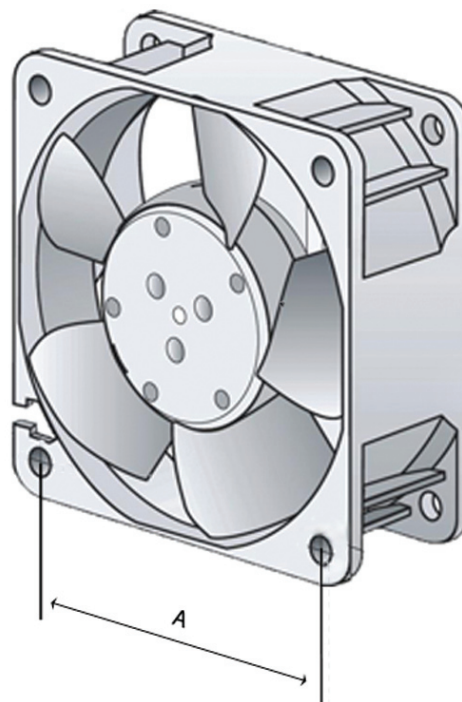
- DC fans
- Fibreglass-reinforced plastic casing. Impeller PA, housing PBT
- Protected against reverse polarity and locking
- Sensor signal for speed monitoring
- Fitted with 3 pin connector
- Connection via lead 313mm (+/- 10mm)
- Blowing over struts
- Protection IP20

|                | Airflow | Airflow | Voltage | Voltage Range | Noise | Sound Power | Bearings | Power | Speed | Temp range | Length | Width | Depth | Connector        |
|----------------|---------|---------|---------|---------------|-------|-------------|----------|-------|-------|------------|--------|-------|-------|------------------|
| Part Number    | m³/h    | CFM     | VDC     | VDC           | dB(A) | Bel         |          | W     | RPM   | °C         | mm     | mm    | mm    |                  |
| 412J/2HH-RS0   | 24      | 14.1    | 12      | 8...13.5      | 46    | 6.1         | Ball     | 3.30  | 13000 | -20...+60  | 40     | 40    | 25    | Molex 22-01-2035 |
| 622/2N-RS0     | 40      | 23.5    | 12      | 8...15        | 35    | 4.7         | Ball     | 1.90  | 6100  | -20...+70  | 60     | 60    | 25    | Molex 22-01-2035 |
| 612J/2H-RS0    | 70      | 41.1    | 12      | 7...13.6      | 53    | 6.4         | Ball     | 7.70  | 11700 | -20...+70  | 60     | 60    | 32    | Molex 22-01-2035 |
| 8212J/2N-RS0   | 132     | 77.7    | 12      | 7...13.6      | 55    | 6.6         | Ball     | 10.00 | 8400  | -20...+70  | 80     | 80    | 38    | Molex 22-01-2035 |
| 8212J/2H3-RS0  | 190     | 111.8   | 12      | 6...13.8      | 66    | 7.3         | Ball     | 25.00 | 12000 | -20...+70  | 80     | 80    | 38    | Molex 22-01-2035 |
| 3412N/2-RS0    | 84      | 49.4    | 12      | 8...15        | 32    | 4.7         | Ball     | 2.20  | 2700  | -20...+70  | 92     | 92    | 25    | Molex 22-01-2035 |
| 3412N/2HH-RS0  | 102     | 60      | 12      | 8...13.2      | 39    | 5.1         | Ball     | 2.90  | 3250  | -20...+60  | 92     | 92    | 25    | Molex 22-01-2035 |
| 3212J/2H-RS0   | 146     | 86      | 12      | 7...15        | 55    | 6.4         | Ball     | 9.00  | 6800  | -20...+70  | 92     | 92    | 38    | Molex 22-01-2035 |
| 4412F/2-RS0    | 170     | 100.1   | 12      | 8...12.6      | 43    | 5.3         | Ball     | 5.30  | 2900  | -20...+60  | 119    | 119   | 25    | Molex 22-01-2035 |
| 4412FN/2H-RS0  | 225     | 132.4   | 12      | 7...13.2      | 55    | 6.7         | Ball     | 12.00 | 5400  | -20...+70  | 119    | 119   | 25    | Molex 22-01-2035 |
| 4112N/2H4-RS0* | 355     | 208.9   | 12      | 9...14        | 67    | 7.4         | Ball     | 32.00 | 6800  | -20...+65  | 119    | 119   | 38    | Molex 22-01-2035 |

\* Air intake over struts and aluminium housing.

#### Fixing Centres

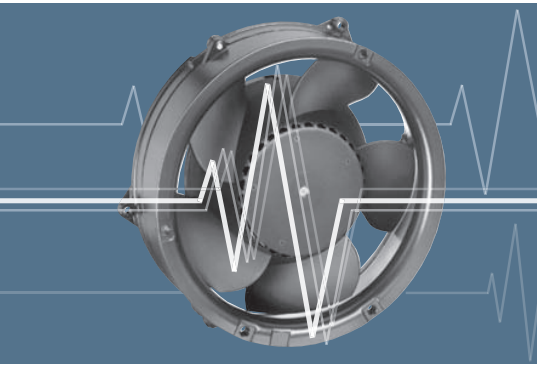
| Frame Size | Dimension A (mm) |
|------------|------------------|
| 40         | 32               |
| 60         | 50               |
| 80         | 71.5             |
| 92         | 82.5             |
| 119        | 104.8            |



#### Terminal Assignment

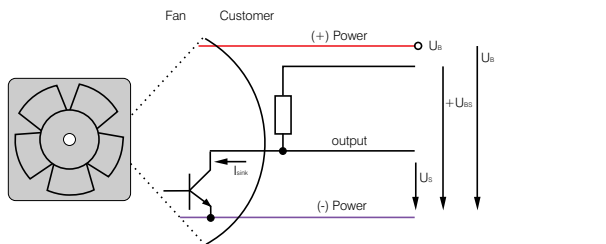
- 1 = Blue (-)
- 2 = Red (+)
- 3 = White (Tacho)

# Speed signal /2



- Speed-proportional rectangular pulse for external speed monitoring of fan motor.
- 2, 3 or 6 pulses per revolution.
- Open collector signal output.
- Extremely wide operating voltage range.
- Easy adaptation to user interface.
- Connection via separate lead.
- 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 several interconnected fans.

## Electrical connection

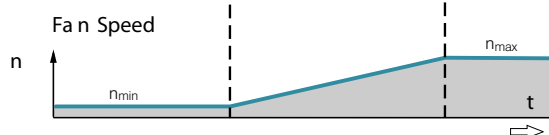
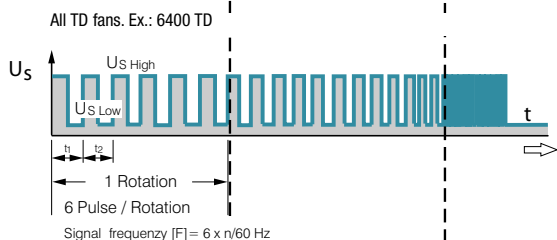
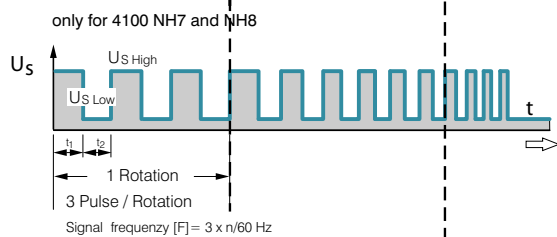
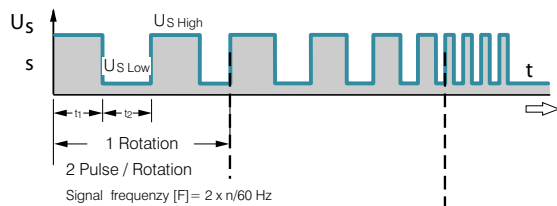


All voltages measured to ground.  
External load resistor  $R_a$  /  $U_S$  /  $U_{BS}$  required.

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

## Signal output voltage

Standard signal for all models (exceptions see below)



## Signal data

| Type                 | VDC   | mA  | VDC  | mA | VDC  | mA   | Page |
|----------------------|-------|-----|------|----|------|------|------|
| 250                  | ≤ 0,4 | ≤ 2 | 30   | 0  | ≤ 30 | 2    | 23   |
| 400 F                | ≤ 0,4 | 1   | 30   | 0  | ≤ 30 | ≤ 2  | 24   |
| 400                  | ≤ 0,4 | 1   | 30   | 0  | ≤ 30 | ≤ 2  | 25   |
| 400 J                | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 26   |
| 500 F                | ≤ 0,4 | 1   | 30   | 0  | ≤ 30 | ≤ 2  | 27   |
| 600 F                | ≤ 0,4 | 1   | 30   | 0  | ≤ 30 | ≤ 2  | 28   |
| 620                  | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 29   |
| 630 U                | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 30   |
| 600 N                | ≤ 0,4 | 2   | 28   | 0  | ≤ 28 | ≤ 4  | 31   |
| 600 J                | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 33   |
| 700 F                | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 34   |
| 8450                 | ≤ 0,4 | 2   | 28   | 0  | ≤ 28 | ≤ 4  | 35   |
| 8400 N               | ≤ 0,4 | 2   | 28   | 0  | ≤ 28 | ≤ 4  | 36   |
| 8400 N VARIOFAN      | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 37   |
| 8300                 | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 38   |
| 8200 J               | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 39   |
| 3400 N               | ≤ 0,4 | 2   | 28   | 0  | ≤ 28 | ≤ 4  | 40   |
| 3400 N VARIOFAN      | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 41   |
| 3300                 | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 42   |
| 3212 J / 3214 J      | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 43   |
| 3218 J               | ≤ 0,4 | 2   | 60   | 0  | ≤ 60 | ≤ 4  | 43   |
| 4412 F / 4414 F      | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 44   |
| 4418 F               | ≤ 0,4 | 2   | 60   | 0  | ≤ 60 | ≤ 4  | 44   |
| 4400 FN              | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 45   |
| 4312 / 4314          | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 46   |
| 4318                 | ≤ 0,4 | 2   | 60   | 0  | ≤ 60 | ≤ 4  | 46   |
| 4312 / 4314 VARIOFAN | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 47   |
| 4318 VARIOFAN        | ≤ 0,4 | 2   | 60   | 0  | ≤ 60 | ≤ 4  | 47   |
| 4400                 | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 48   |
| 4100 N               | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 49   |
| 4100 NHH...NH6       | ≤ 0,4 | 2   | ≤ 60 | 0  | ≤ 60 | ≤ 10 | 50   |
| 4100 NH7...NH8       | ≤ 0,4 | 2   | ≤ 60 | 0  | ≤ 60 | ≤ 20 | 51   |
| DV 4100              | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 52   |
| 5200 N               | ≤ 0,4 | 2   | 30   | 0  | ≤ 30 | ≤ 4  | 53   |



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**Available on request:**

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

| Signal data     | Speed signal<br>$U_S$ Low | Condition: $I_{sink}$ | Speed signal<br>$U_S$ High | Condition: $I_{source}$ | Sensor operating<br>voltage $U_{BS}$ | Perm. sink current<br>$I_{sink max.}$ | Pulses per revolution | Fan description |
|-----------------|---------------------------|-----------------------|----------------------------|-------------------------|--------------------------------------|---------------------------------------|-----------------------|-----------------|
| Type            | VDC                       | mA                    | VDC                        | mA                      | VDC                                  | mA                                    |                       | Page            |
| DV 5200         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 54              |
| 5112 N          | ≤ 0,4                     | 2                     | 15                         | 0                       | ≤ 5                                  | ≤ 20                                  | 2                     | 55              |
| 5114 N / 5118 N | ≤ 0,4                     | 2                     | 60                         | 0                       | ≤ 60                                 | ≤ 20                                  | 2                     | 55              |
| 5300            | ≤ 0,4                     | 2                     | ≤ 72                       | 0                       | ≤ 72                                 | ≤ 4                                   | 2                     | 56              |
| 5300 TD         | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 57              |
| 7112 N / 7118 N | ≤ 0,4                     | 2                     | 60                         | 0                       | ≤ 60                                 | ≤ 20                                  | 2                     | 58              |
| 7114 N          | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 20                                  | 2                     | 58              |
| 7200 N          | ≤ 0,4                     | 2                     | 15                         | 0                       | ≤ 15                                 | ≤ 20                                  | 2                     | 59              |
| 6300            | ≤ 0,4                     | 2                     | ≤ 72                       | 0                       | ≤ 72                                 | ≤ 20                                  | 2                     | 61              |
| 6300 TD         | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 62              |
| DV 6200         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 60                                 | ≤ 20                                  | 2                     | 64              |
| 6400            | ≤ 0,4                     | 2                     | 60                         | 0                       | ≤ 60                                 | ≤ 20                                  | 2                     | 66              |
| 2200 FTD        | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 70              |
| RL 48           | ≤ 0,4                     | 2                     | 3                          | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 81              |
| RL 65           | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 82              |
| RL 90 N         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 83              |
| RLF 100         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 84              |
| RG 90 N         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 85              |
| RG 125 N        | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 86              |
| RG 160 N        | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 20                                  | 2                     | 87              |
| RG 160 TD       | ≤ 0,4                     | 2                     | 60                         | 0                       | ≤ 60                                 | ≤ 20                                  | 6                     | 88              |
| RG 190 TD       | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 89              |
| RG 220 TD       | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 90              |
| RG 225 TD       | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 91              |
| RET 97 TD       | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 92              |
| REF 100         | ≤ 0,4                     | 2                     | 30                         | 0                       | ≤ 30                                 | ≤ 4                                   | 2                     | 93              |
| RER 120 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 95              |
| RER 133 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 97              |
| RER 160 TD      | ≤ 0,4                     | 2                     | 60                         | 0                       | ≤ 60                                 | ≤ 20                                  | 6                     | 99              |
| REF 175 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 100             |
| RER 175 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 101             |
| RER 190 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 102             |
| RER 220 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 103             |
| RER 225 TD      | ≤ 0,4                     | 2                     | 72                         | 0                       | ≤ 72                                 | ≤ 20                                  | 6                     | 104             |

**Attention:**

With these fan options, deviations in regard to temperature range, voltage range and power consumption are possible compared with standard fan data.


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