

**Specification**

Flat Fan C4010H12BPLB2a-7



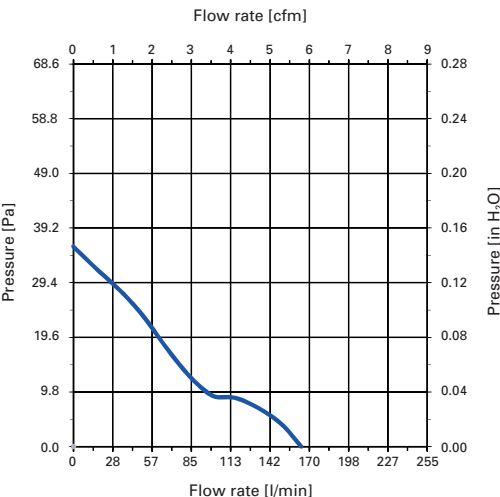
**General Information**

| Item         |  |
|--------------|--|
| Product type | Flat fan with integrated electronic motor driver |
| Part no.     | C4010H12BPLB2a-7                                 |
| Customer     | N/A  |
| Project no.  | N/A  |
| Modification | Standard product                                 |

**Features**

- Static pressure 36 Pa, freeflow 160 l/min
- 12 V<sub>DC</sub> brushless DC-motor
- Frequency Generator
- Auto-Restart

**Performance**



## Technical Data

| Material  | Value   |
|-----------|---|
| Frame     | Thermoplastic PBT (GF 30%), class UL94-V0                 |
| Impeller  | Thermoplastic PBT (GF 15%), class UL94-V0                 |
| Lead wire | UL1007, AWG 26, 280±10mm, red (+), black (-), yellow (FG) |

| Item                  | Value                                | Test Condition  |
|-----------------------|--------------------------------------|---|
| Rated voltage         | 12 V <sub>DC</sub>                   | Measured by multi-meter with +/- 1 % error  |
| Operating voltage     | 7-14 V <sub>DC</sub>                 | Measured by multi-meter with +/- 1 % error  |
| Rated speed           | 6600 rpm                             | Average reading, 5 minutes after power up (+/- 10 %)  |
| Input current         | 0.062 A                              | At rated voltage and free flow  |
| Input power           | 0.74 W                               | At rated voltage and free flow  |
| Free flow             | 160 l/min (5.8 CFM)                  | At rated voltage and zero static pressure (+/- 10 %)  |
| Static pressure       | 36 Pa (0.14 in-H <sub>2</sub> O)     | At rated voltage and zero air flow  |
| Operating temperature | -10 to 70 °C                         | At 45-65 % humidity   |
| Storage temperature   | -40 to 90 °C                         | After 100 h storage keep for 24 h at 23-25 °C<br>The product must maintain original specifications  |
| Insulation resistance | > 10 MΩ                              | At 500 V <sub>DC</sub> between frame and (+/-) terminals  |
| Dielectric strength   | 600 V <sub>AC</sub>                  |   |
| Acoustical noise      | 28 dB(A)<br>Weighted (B&K equipment) | At rated voltage, in free air; Background noise 17 dB(A)<br>Measured at 1 meter from the fan and perpendicular to the direction of the airflow. |
| Bearing system        | 2 ball bearings                      |   |
| Weight                | 16.8 g                               |   |

### Particular Tests

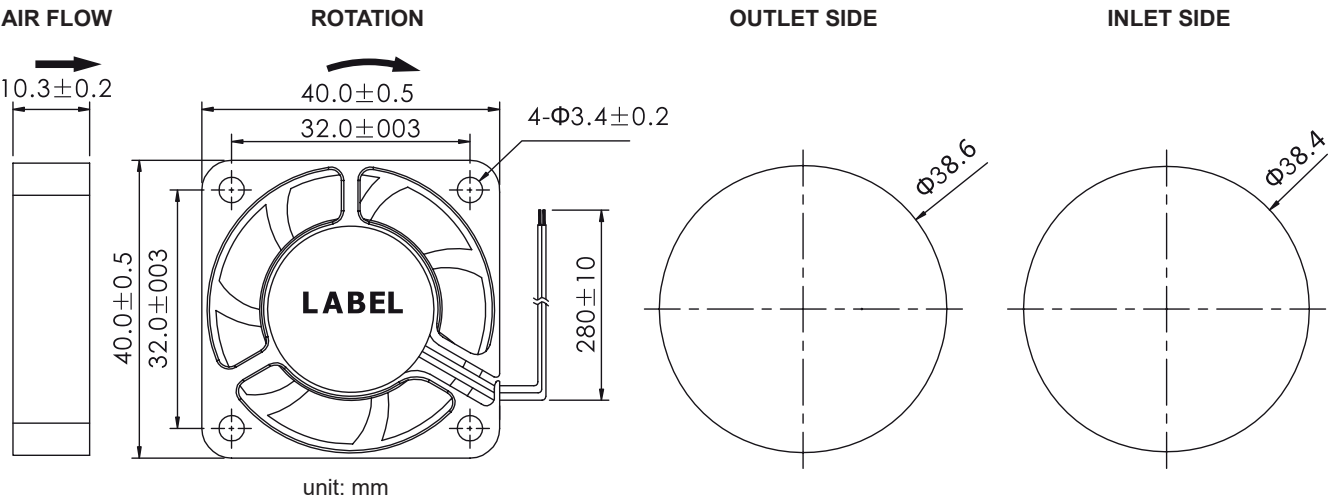
|                 |  |
|-----------------|--|
| Vibration test  | In minimum packaging condition, fan motor withstands 0.2 mm movement of 55 Hz vibration for 30 minutes each towards: Up-down, right-left and back-forth.               |
| Drop test       | In minimum packaging condition, motor withstands each one-drop of three faces from 30 cm distance high onto wooden board of 10 mm thickness.                           |
| Life expectancy | Minimum 60 000 h at 30 °C @ 9 000 rpm<br>The life is defined as the time duration until the fan motor speed is decreased more than 30 % compared to its initial speed. |

## Protection

### Product Features

|                         |   |
|-------------------------|---|
| Locked rotor protection | Fan will automatically re-start in about 5 seconds after motor is released from locked condition. |
| Polarity protection     | No damage if positive and negative leads are reversed under maximum operating voltage conditions. |
| Weather proofing        | Stator, PCB and coils are varnished.  |

**Drawings**

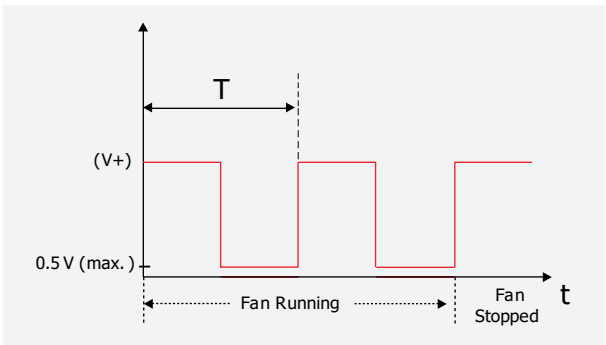


**Rotation**

**Orientations**

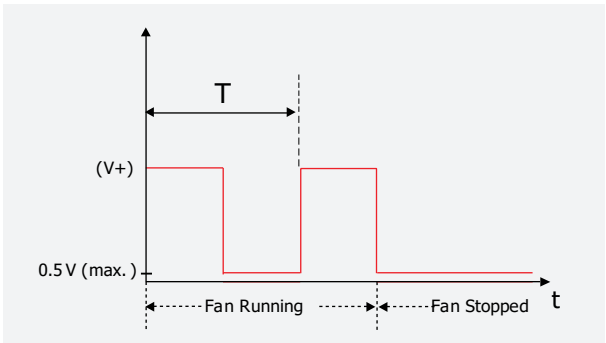
|                       |   |
|-----------------------|---|
| Direction of rotation |  Clockwise (view on inlet) |
| Mounting position     | Any direction   |

**Electronic Functions**



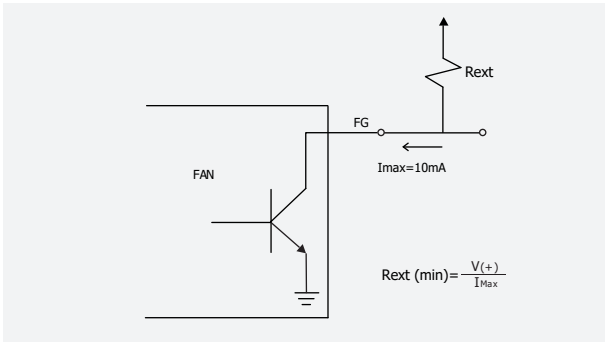
Open Collector Tachometer „FG“ output voltage waveforms

|                      |                                  |
|----------------------|----------------------------------|
| <b>Function „FG“</b> | Tachometer Output<br>YELLOW wire |
|----------------------|----------------------------------|



|                        |   |
|------------------------|---|
| <b>Tacho Frequency</b> | $RPM = 60 / 2T = 30 f$<br>(f = frequency) |
|------------------------|---|

Electronic Functions



Open Collector

|            |      |      |      |     |
|------------|------|------|------|-----|
| Fan Rated  | 48 V | 24 V | 12 V | 5 V |
| V (+) max. | 57 V | 27 V | 14 V | 6 V |

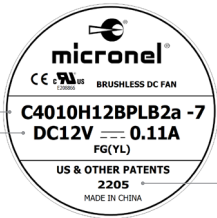
Identification

Label

Design

- Identification number (Micronel)
- Fan type (C)
  - Construction size (4 digits)

Nominal voltage



Serial number



Handle in power-off conditions only!  
Read operating manual!



Please see separate accessories list or contact  
Micronel Sales for a full list of options and  
accessories.