NOSTOP®
PROFESSIONAL MOTOR DESIGNER & MANUFACTURER

# Invention Patented External-rotor ECM (Brushless Motor)

# NECE52S Series (Output: 4~20W)

## ☞ Brief Introduction :

1. This is a **shaftless motor (Invention Patented)** ---- the motor has no rotor shaft so the power cord can pass through the center of the motor from the rear end to the front end. Then we can add the control PCB to the front panel of the fan.
2. **Invention Patent No.: 2019108692357. Utility Model Patent No.: 2019215506565**.
3. This ECM (Electronically Commutated Motor) is a high efficiency programmable brushless DC motor utilizing a permanent magnet rotor and a built-in inverter.
4. DC motor is significantly more energy efficient than AC motor and much easier to control. The energy saving is upto 65% in average compared to shaded pole motor, or 35% compared to PSC motor.
5. It's of long lifetime upto 50000 hours, wide range of applications & speed regulations.
6. It's generally available for products of low speed (generally less than 6000 RPM).
7. It's with large rotation inertia, simple structure & not accurate starting position.

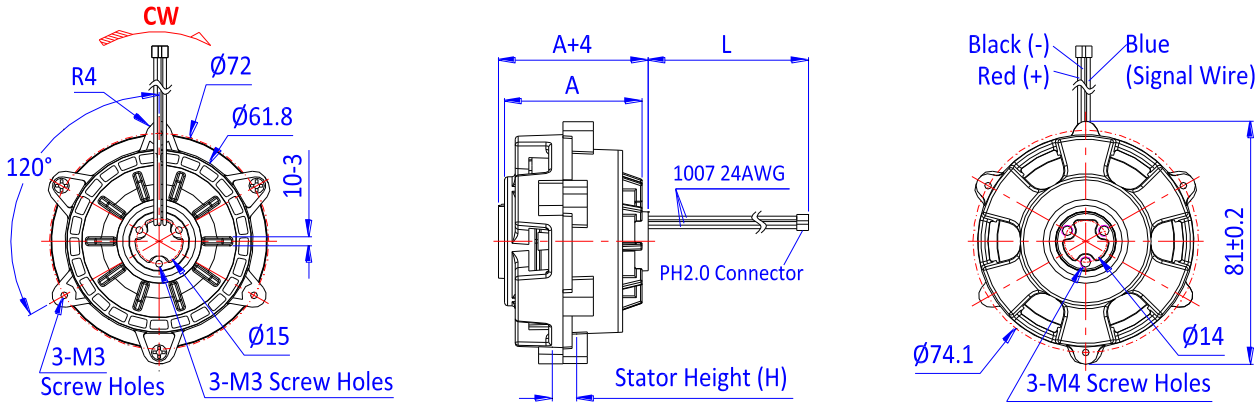
## ☞ Main Characteristics :

- Motor Type: **3 Phase** external rotor brushless motor.
- Control Driver Circuit: ***Built-in circuit***, sine wave drive (with lower noise and vibration, but the motor efficiency is also lower).
- Hall Sensor: Yes.
- Motor Rotation: Can be either in CW or CCW direction as needed.
- Fixing of the Motor: Fix the motor through the 3-M4 screw holes on the middle tube of the motor (see from the below drawing).

## ☞ Typical Applications :

This motor is mostly used for **fans (solar powered fan, table fan, desk fan, box fan, etc.), ventilators, etc**. It can also be used for other applications with low power.

## Outline Dimensions (All dimensions in millimeter) :



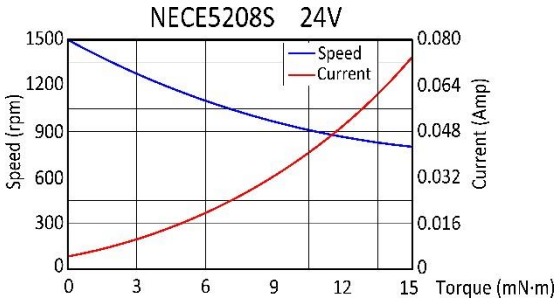

Indication of Letters: A: Motor body length H: Height of stator lamination L: Power cord length

**Remarks**: 1) Only the dimensions marked in letters are changeable as needed. Other dimensions are fixed.
2) The height and the shape of the above motor body are not changeable unless we open new moulds.

## Technical Performances (tested under room temperature) :

| Specs / Models | Height of Stator Lamination | Rated Voltage | Speed Levels | On Load | | |
|---|---|---|---|---|---|---|
| | | | | Current | Speed | Input Power |
| | (mm) | (VDC) | / | (Amp) | (RPM) | (Watts) |
| NECE52S08 | 8 | 24 | F12 | 1.31 | 1100 | 31.50 |
| | | | F8 | 0.72 | 900 | 17.20 |
| | | | F4 | 0.26 | 500 | 6.20 |
| | | | F1 | 0.04 | 200 | 0.98 |
| **Note:** In theory, the motor can be adjusted to any required speed. One existing customer needs just 12 levels, we list the specs of just 4 levels here for reference. | | | | | | |

## Performance Curve :




**Remarks:** This catalog listed just some typical models. The performances as above are just for reference only. We can adjust our motor specifications according to what the customer needs. OEM & ODM are both welcome.