

# InCore<sup>Tech</sup> Core



3

# Company Introduction

Incore Tech Co., Ltd. is dedicated to the R&D and manufacture of high efficiency motors, mainly applied in ventilation, air-conditioning and refrigeration industries.

Initiating R&D of brushless dc external rotor motors in 2008, Incore is now developed to be a National High Tech Enterprise. With expert consultant of over 20years' experience in bldc motor technology, a long term cooperative relationship with Harbin Institute of Technology (HIT) which is one of the most prestigious universities in the study of motor technology in China, and engineers postgraduated from Zhejiang University which is one of the top ten in China, we have a professional technical team with the expertise capable of bringing the optimum solutions of efficient motor to global customers.

Incore factory is located in the technologic development zone of Jinhua city, near Ningbo and Shanghai port. With certificate of ISO9001:2015, we keep improving the management system and implement strict quality control, sticking to the principle of "Quality is the lifeline."

Regarding contribution to the cause of carbon emission reduction as the company mission, Incore aims to output the optimum efficiency motor solutions internationally and will strive on the way to the goal of becoming one of the most valuable and best-known brands in the world.

浙江英科尔  
ZheJiang Incore

# Company Advantages



Professional by focusing on efficiency motors for ventilation and air-conditioning applications.



Market oriented, global insight into the target applications and flexible in meeting custom requirements.



Experienced in efficiency motors to offer optimum and reliable solutions.



Strict quality control to provide refined and standard products.



With integrity and always seeking for a long-term partnership with customers.



# R&D Capability



# R&D Process Flow



# R&D Process

## Prototype Design

### Mechanical design

Standard size, ECM series compliant with NEMA standard

### Hardware design

Electromagnetic compatibility design, selected components and materials from TOP500 brands and UL approved

### Electromagnetic design

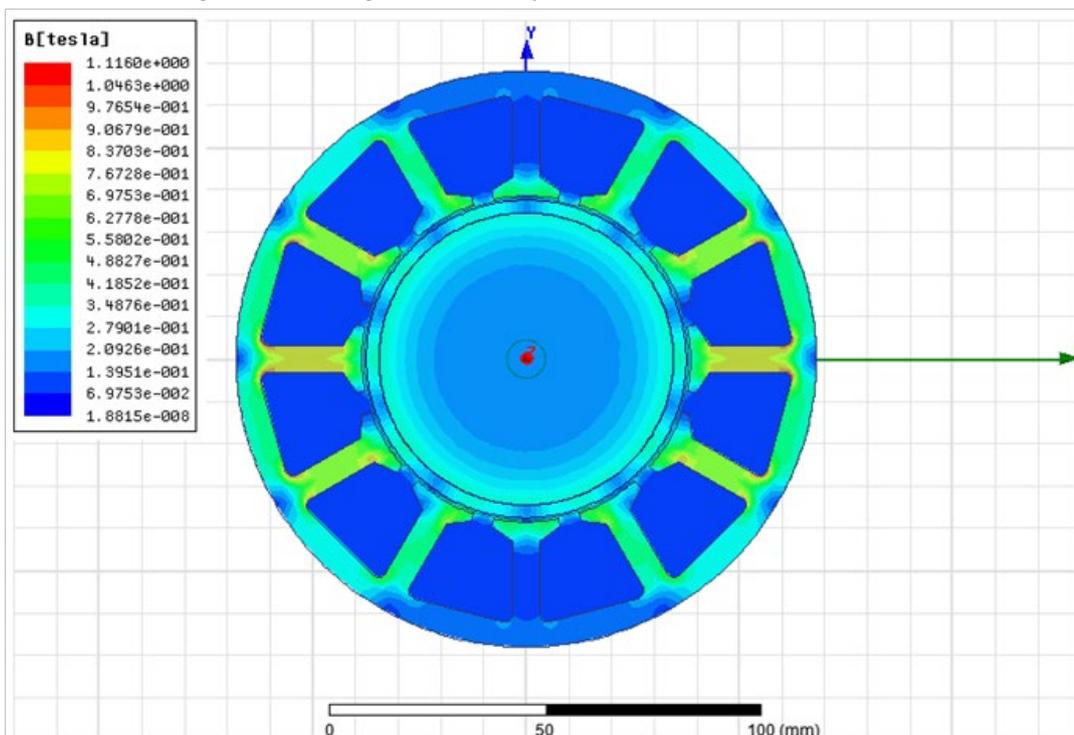
Basing on finite element analysis, optimize the design, combining consideration of costs, fitting and manufacture.

### Software design

Process oriented development method, development codes compliant with NISRA;

Initial FMEA analysis to cover different situation as wide as possible

Distribution of statistic magnetic force line and magnetic induction intensity



# R&D Process

---



## Product Design

- ✓ Noise analysis and improvement
- ✓ Value analysis/value engineering
- ✓ Design for assembly



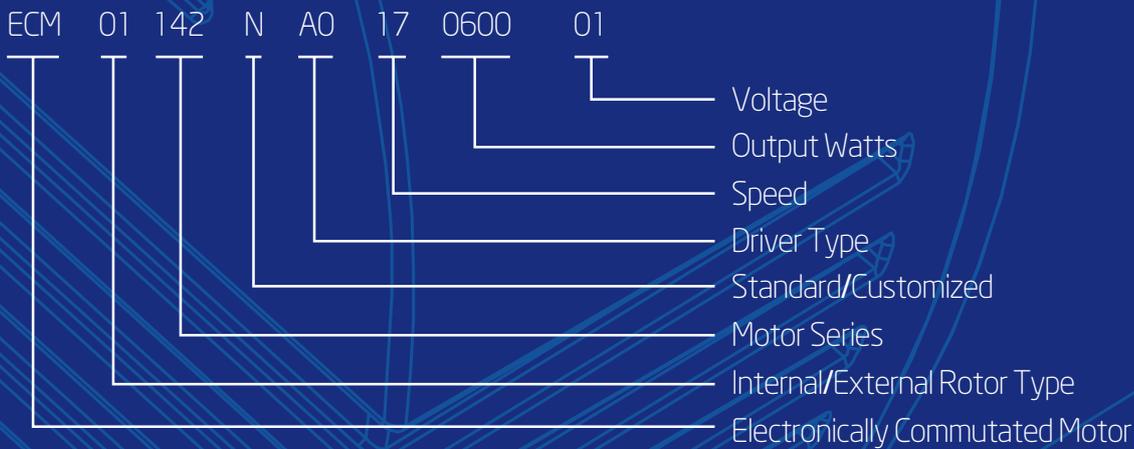
## Manufacturing Design

- ✓ Process design
- ✓ Inspection documents
- ✓ Continuous improvement mechanism

# Products



# Model Instruction



# ECM142 Series

## Features

- ECM advanced technology, high efficiency
- Premium speed control, 0-10vdc/PWM/5 speeds
- Permanent magnet, integrated controller
- Constant torque or constant speed options
- Soft start, 1.5 times over-load protection
- Over/under current/voltage protection, blocking protection
- Compact design and simple replacement
- High efficiency, low operation cost
- Wide applications: VAV, FCU, AHU, HRU/ERU, etc.
- PFC version of controller available
- CW/CCW reversible
- Feedback signal for 0-10vdc, PWM, RS485

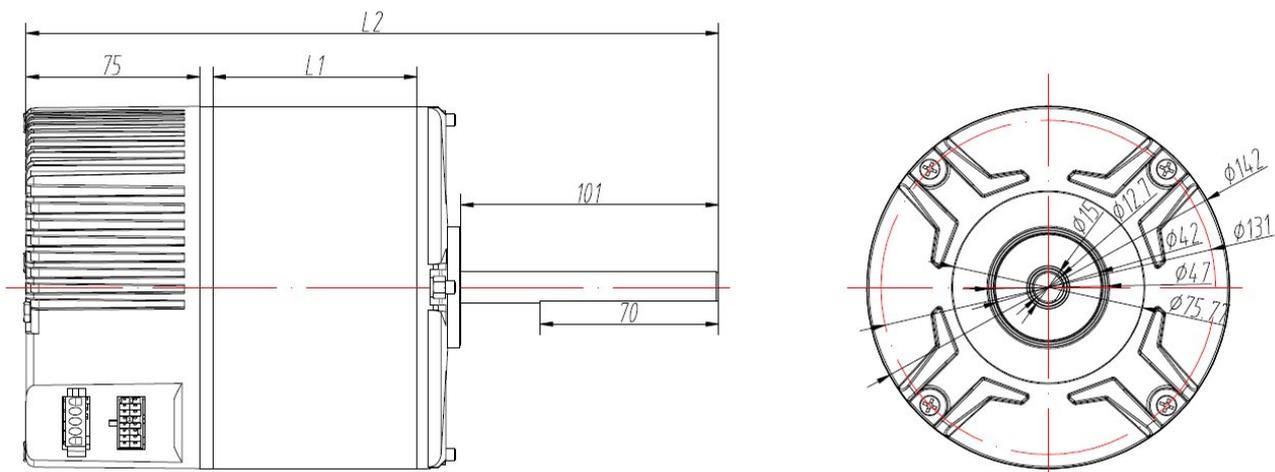


## Specifications

N	Model	Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency
1	ECM01142NA114020004	110/220 VAC+/-10%	200	1400	200-1800	1.4	80%
2	ECM01142NA114025004	110/220 VAC+/-10%	250	1400	200-1800	1.7	80%
3	ECM01142NA114037004	110/220 VAC+/-10%	370	1400	200-1800	2.5	80%
4	ECM01142NA114056004	220 VAC+/-10%	560	1400	200-1800	3.8	80%
5	ECM01142NA114073504	220 VAC+/-10%	735	1400	200-1800	5.0	80%

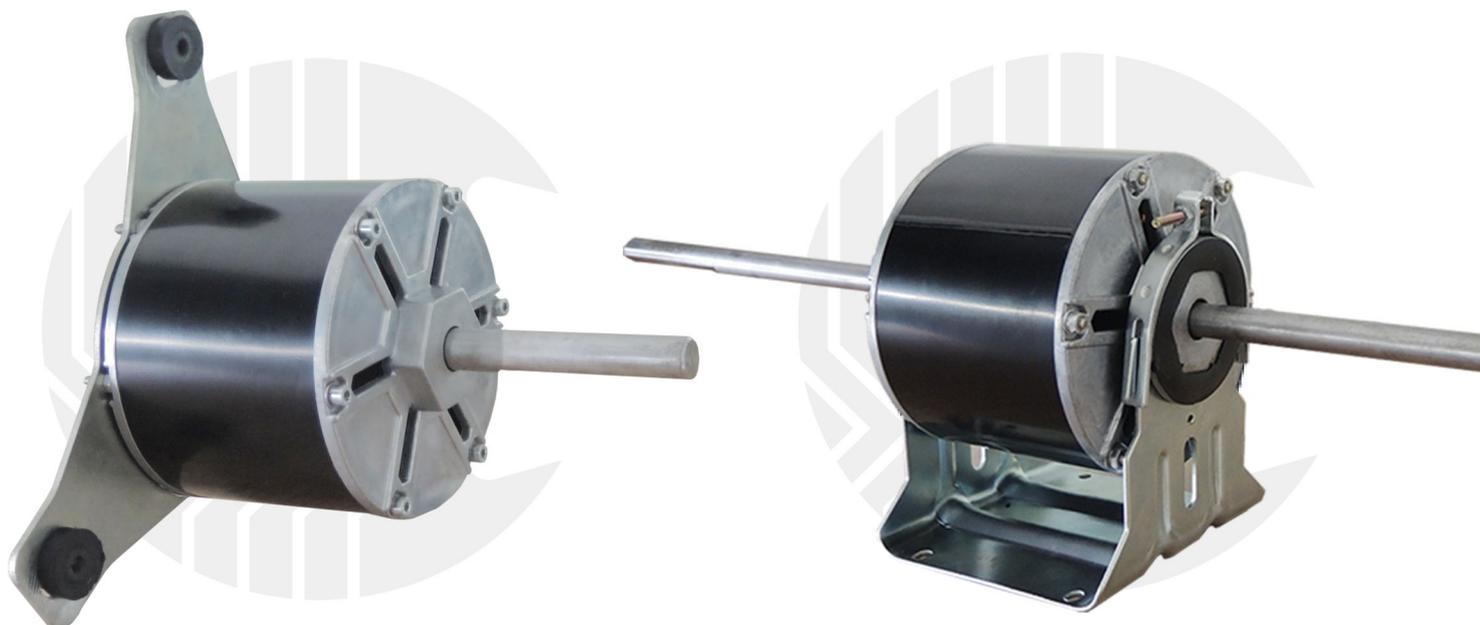
# ECM142 Series

## Dimensional Drawing



Model	L1 (mm)	L2 (mm)
ECM01142NA114020004	80	278
ECM01142NA114025004	80	278
ECM01142NA114037004	95	293
ECM01142NA114056004	95	293
ECM01142NA114073504	106	304

# ECM120 Series



## Features

- ECM technology, external controller
- Single or double shafts
- Premium speed control options of 0-10vdc/PWM variable or 5 speeds
- Constant torque or constant speed options
- Soft start, 1.5 times over-load protection
- Over/under current/voltage protection, blocking protection
- Compact design and simple replacement
- High efficiency, low operation cost
- Wide applications: VAV, FCU, HRU, AHU, etc.
- CW/CCW reversible
- Feedback signal for 0-10vdc, PWM, RS485

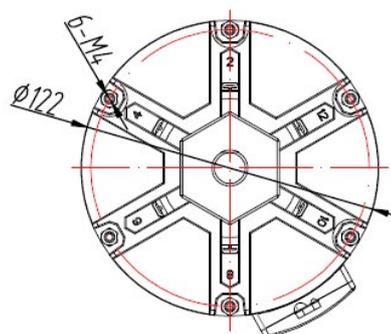
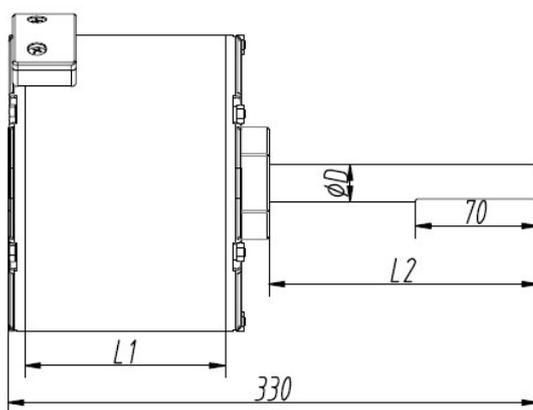
## Specifications

N	Model	Controller Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency	Shaft(s)
1	ECM01120NB112020003	220 VAC+/-10%	200	1200	0-1800	1.6	80%	single
2	ECM01120NB112025003	220 VAC+/-10%	250	1200	0-1800	2.0	80%	single
3	ECM01120NB112032003	220 VAC+/-10%	320	1200	0-1800	2.5	80%	single
4	ECM01120NB112020003/DS	220 VAC+/-10%	200	1200	0-1800	1.6	80%	double
5	ECM01120NB112025003/DS	220 VAC+/-10%	250	1200	0-1800	2.0	80%	double
6	ECM01120NB112032003/DS	220 VAC+/-10%	320	1200	0-1800	2.5	80%	double

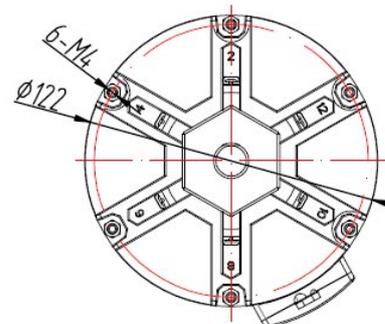
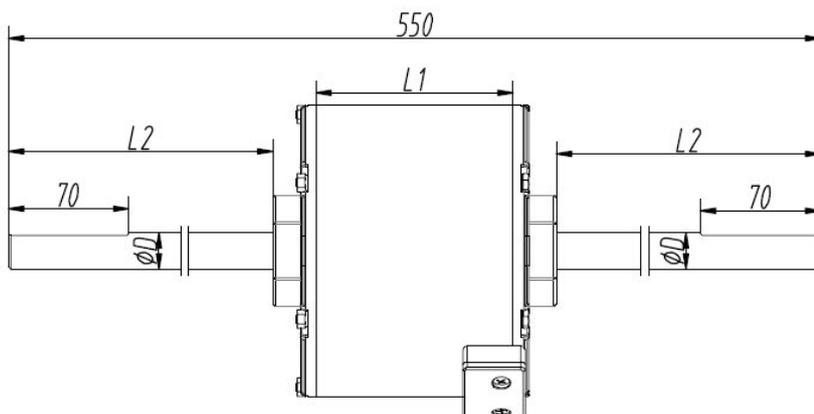
# ECM120 Series

## Dimensional Drawing

ECM120 single shaft

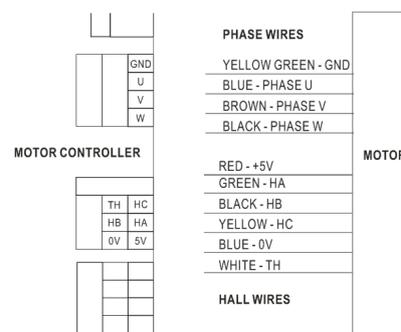


ECM120 double shafts

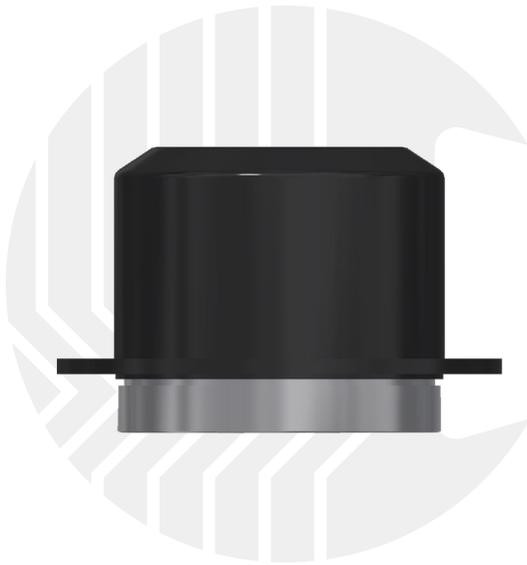


### WIRE CONNECTION

Model	L1 (mm)	L2 (mm)	D (mm)
ECM01120NB112020003	80	223	12.7/15
ECM01120NB112025003	90	215	12.7/15
ECM01120NB112032003	90	215	12.7/15
ECM01120NB112020003/DS	80	216	12.7/15
ECM01120NB112025003/DS	90	212	12.7/15
ECM01120NB112032003/DS	90	212	12.7/15



# ECT102 Series



## Features

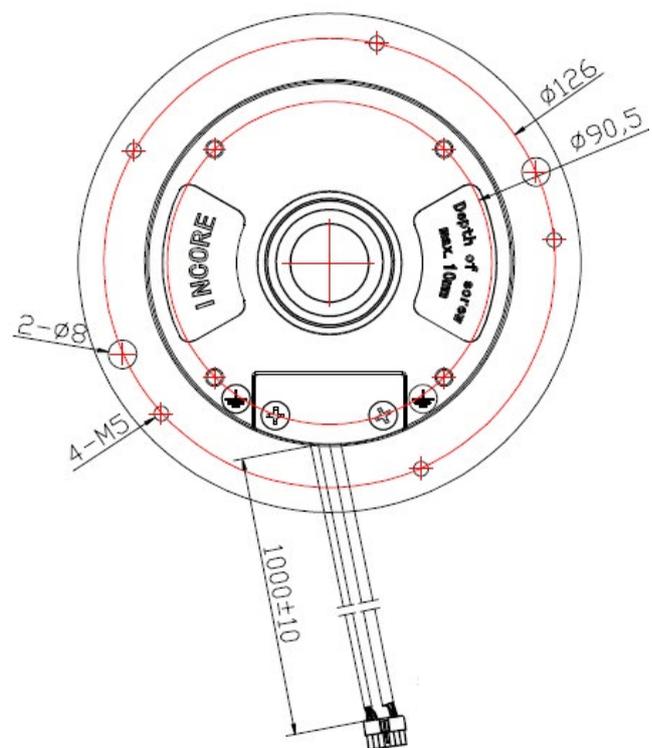
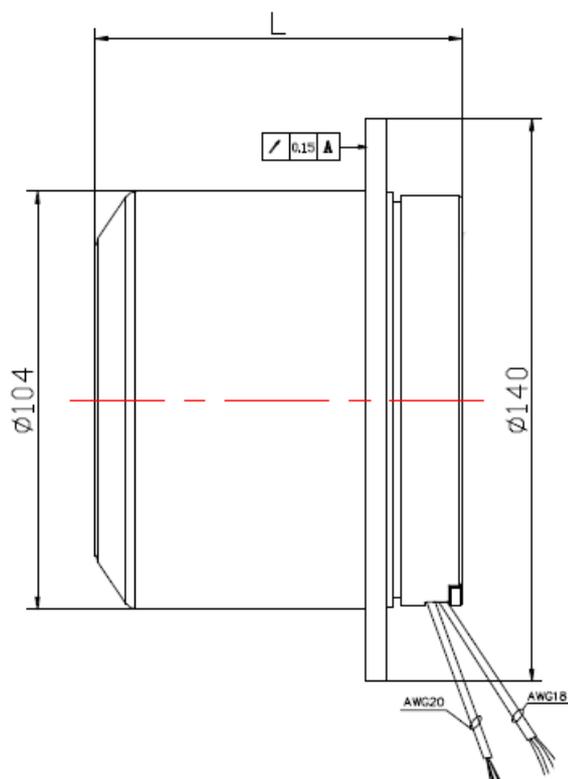
- Three phase bldc motor, external rotor
- Separate driver, or w/o driver
- Maintenance-free, long-lasting operation
- Quiet operation, low noise
- Electronic protection: over-current, over-load, blocking protection for safety operation
- High efficiency low operational cost
- Typical application: FFU applications

## Specifications

N	Model	Input Voltage (without controller)	Rated Output (W)	Rated Speed (RPM)	Rated Torque (Nm)	IP Class	Efficiency
1	ECM00102NB111030009	380VDC	300	1100	2.6	IP20	80%
2	ECM00102NB113040009	380VDC	400	1300	3.0	IP20	80%

# ECT102 Series

## Dimensional Drawing


**Model**
**L (mm)**

ECM00102NB111030009

70.5

ECM00102NB113040009

90.5

# ECM92 Series

## Features

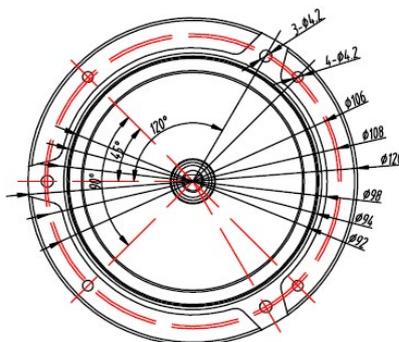
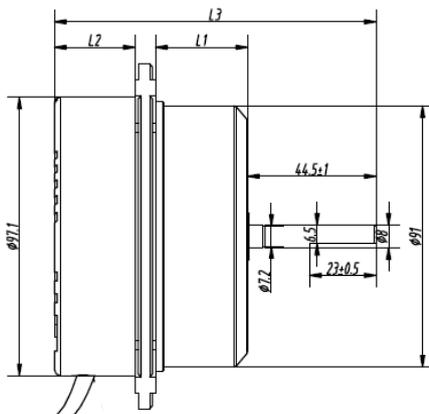
- External rotor type, three phase, EC motor
- High efficiency low operational cost
- Maintenance-free, long-lasting operation, low noise
- Soft start
- Electronic protection: over-current, over-load, blocking protection, wrong connection of power input
- 0-10vdc/PWM variable speed control
- Speed feedback, CW/CCW reversible
- Customized specifications available on request



## Specifications

N	Model	Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency
1	ECM00092NA013003002	230 VAC, 50/60Hz	30	1300	0-1900	0.2	70%
2	ECM00092CA024005002	230 VAC, 50/60Hz	50	2400	0-2800	0.2	75%
3	ECM00092CA015008002	230 VAC, 50/60Hz	80	1500	0-2100	0.5	78%

## Dimensional Drawing



Model	L1 (mm)	L2 (mm)	L3 (mm)
ECM00092NA013003002	32	28	111.5
ECM00092CA024005002	32	28	111.5
ECM00092CA015008002	46	33	130.5

# ECT66 Series

Typically used for cross flow fans with higher efficiency and variable speed features to replace ordinary AC motors.

## Features

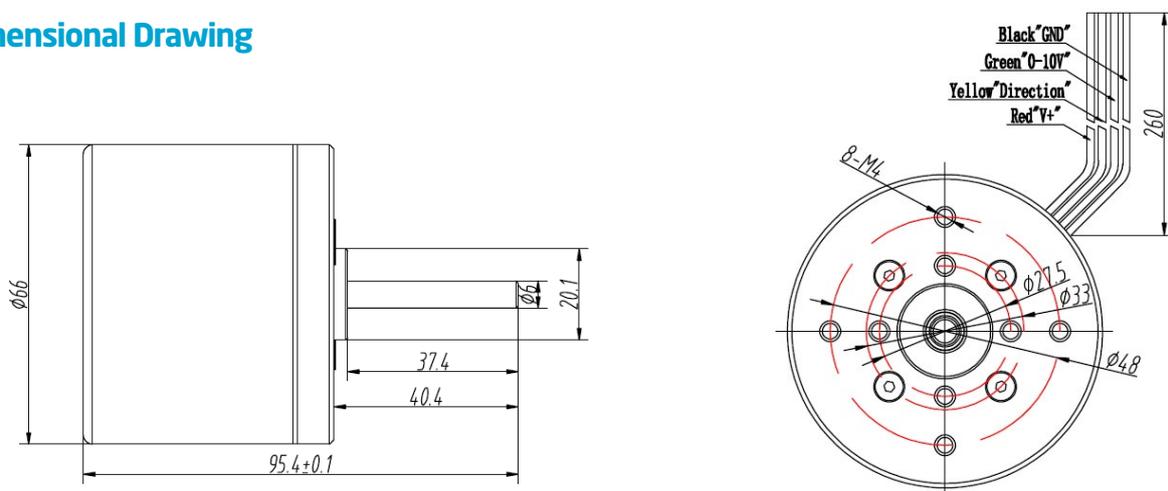
- Three phase bldc motor
- High efficiency low operational cost
- Quiet operation, low noise
- 0-10vdc variable speed
- Long-lasting operation, maintenance-free
- Electronic protection: over-current, over-load, blocking protection for safety operation
- Typical application: convectorors



## Specifications

N	Model	Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency
1	ECT01066NA013000806	24VDC	8	1300	0-2100	0.059	55%
2	ECT01066NA030001506	24VDC	15	3000	0-3600	0.47	55%

## Dimensional Drawing



# ECT54 Series

## Features

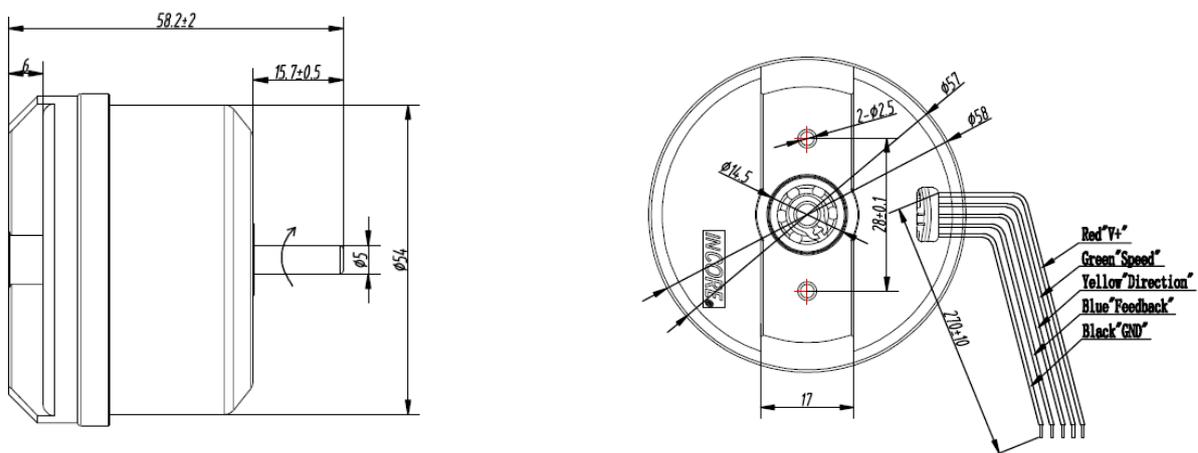
- Three phase bldc motor, external rotor
- High efficiency low operational cost
- Compact design, maintenance-free, long-lasting operation
- Quiet operation, low noise
- 0-10vdc/PWM variable speed
- Electronic protection: over-current, over-load, inverse power connection, etc.
- 230VAC power supply module optional



## Specifications

N	Model	Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency
1	ECT00054CA027000906	24VDC	9	2700	0-4200	0.035	55%
2	ECT00054NA023001506	24VDC	15	2300	0-4500	0.06	55%

## Dimensional Drawing



# ECT50&ECM50 Series

## Features

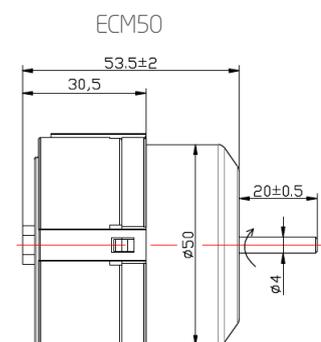
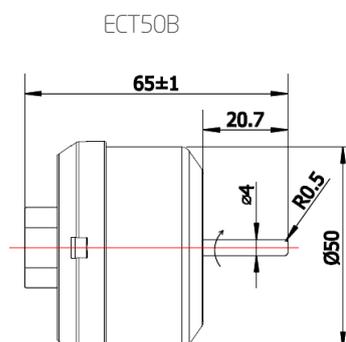
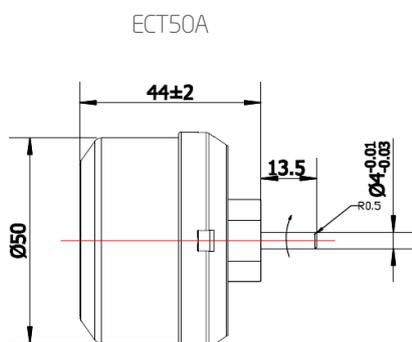
- Three phase bldc motor, external rotor
- High efficiency low noise
- Compact design, long-lasting operation
- 0-10vdc/PWM variable speed
- Electronic protection: over-current, over-load, inverse power connection, etc.
- 12VDC/24VDC/230VAC optional input



## Specifications

N	Model	Input Voltage	Rated Output (W)	Rated Speed (RPM)	Variable Speed (RPM)	Rated Torque (Nm)	Efficiency
1	ECT00050NA023000205	12VDC	2	2300	0-2500	0.008	55%
2	ECT00050NA023000206	24VDC	2	2300	0-2500	0.008	55%
3	ECT00050CA023000305	12VDC	3	2300	0-2700	0.012	55%
4	ECT00050CA023000306	24VDC	3	2300	0-2700	0.012	55%
5	ECT00050CA035001506	24VDC	15	3500	0-5000	0.042	55%
6	ECM00050NA025000303	110VAC/220VAC	3	2500	0-3000	0.010	50%

## Dimensional Drawing





Incore Tech Co., Ltd.

No.630 Longtan Road, Wucheng District, Jinhua 321016, Zhejiang Province, China

Tel: +86 579 8262 8000 ext. 8001 Fax: +86 579 8262 9993

E-mail: [sales@incoremotion.com](mailto:sales@incoremotion.com)

[www.incoremotion.com](http://www.incoremotion.com)

2.2 version