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# AMO

A M O T E C H

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## AMOGROUP

Leading Automotive, IT, Energy and Environment Fields  
Global Materials and Components Company

**AMO**  
A M O T E C H

**AMOTECH**  
KOSDAQ

**Establishment**  
October 1994

**Business**  
Auto · IT

**Products**  
BLDC Motor · MLCC  
EMC & RF Components  
RF Antenna

**AMO**  
AMOGREENTECH

**AMOGREENTECH**  
KOSDAQ

**Establishment**  
January 2004

**Business**  
EV · ESS · IT

**Products**  
Thermal Solution  
ESS · Nano Membrane  
High-efficiency Magnetic Components

**AMO**  
AMOSENSE

**AMOSENSE**  
KOSDAQ

**Establishment**  
November 2008

**Business**  
Auto · IoT · Wireless Charging

**Products**  
Digital Key Module  
IoT Device  
Wireless Charging Solution

**AMO**  
AMOLIFESCIENCE

**AMO LIFE SCIENCE**

**Establishment**  
September 2016

**Business**  
Bio · Healthcare

**Products**  
Cell Culture System  
Disease Diagnostics  
Bio Membrane · Health & Beauty

**AMO**  
A M O - S N e t

**AMO-SNet**

**Establishment**  
January 2019

**Business**  
IoT Service

**Products**  
IoT Network  
(Facility-based Telecommunications  
Business)

**AMO**  
AMOECSYSTEMS

**AMO ECO SYSTEMS**

**Establishment**  
January 2021

**Business**  
Energy · Environment

**Products**  
Water Treatment  
Air Ventilation Filter  
LED Lighting





# AMOTECH

- **Headquarter**  
380 Namdongseo-ro, Namdong-gu,  
Incheon, Republic of Korea
- **CEO**  
Pyung-Kyu Kim
- **Founded**  
October 19th, 1994
- **Listed**  
August 1st, 2003
- **Industry**  
Automotive, IT, Telecom
- **Major Products**  
BLDC Motor, MLCC, EMC&RF Components, Antenna
- **Website**  
[www.amotech.co.kr](http://www.amotech.co.kr)

**AMOTECH** is a company specializing in key materials and parts in the automotive and IT fields based on advanced materials. The main business areas of AMOTECH are BLDC Motor, MLCC, EMC & RF Components and RF Antenna.

## BLDC Motor

BLDC Motor with eco-friendly design and high-efficiency power

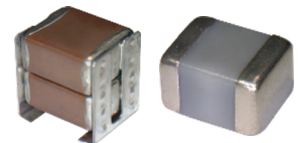
In-car Sensor · Actuator  
EWP(Electric Water Pump)  
Cooling Fan(for automotive)  
Blower · Mobility Traction Motor



## MLCC

A key component that controls constant current flow inside automotive electronics

High Capacity MLCC(for auto, telecom)  
High Voltage MLCC(for EV, power)  
Broadband Capacitor(for optical communication)  
High Q MLCC(for medical equipment, telecom)



## EMC & RF Components

ESD/EMI control components essential for automotive electronics and IT devices

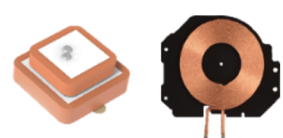
Disk & Chip Varistors  
Ferrite EMI Filters  
RF Components



## RF Antenna

RF Antenna for wireless communication in automobiles and IT devices

NFC & Wireless Charging  
GPS/GNSS Antenna  
Sub-Antenna(Bluetooth, WiFi, LTE, etc.)



# PRODUCT INFORMATION

## In-car Sensor



The In-car Sensor is used to detect the temperature inside the vehicle and transmit the data to FATC (Full Automatic Temperature Control), an automatic thermostat. The advantage of detecting temperature through forced inhalation is less chance of errors and faster response time. AMOTECH has the largest market share domestically and internationally.

### Features

- Low noise, low vibration, high efficiency and long life by adopting BLDC motors
- Provides accurate and rapid temperature data
- Satisfies automotive environmental and electromagnetic wave tests

### Specifications for Representative Models



Item	Connector Type	Lead Wire Type
Size (mm)	35.8 x 42.9 x 61.9	37.8 x 35.8 x 37.0
Nominal Voltage (V)	12	12
Operating Voltage (V)	9 ~ 16	8 ~ 16
Power Current (A)	0.06	0.07
Power Consumption (W)	0.72	0.84
Air Flow (CFM)	0.83	0.65
Pressure (Pa)	6	6
Speed (RPM)	3,100	3,200

### Customers





# LED Headlamp Cooling Fan



The LED Headlamp Cooling Fan is used to dissipate internal heat and extends the lifespan of the LED headlamp by lowering the internal temperature of the headlamp. AMOTECH exclusively supplies LED headlamp cooling fans for domestic vehicles and also supplies them to global headlamp companies.

## Features

- Low noise, low vibration, high efficiency and long life by adopting BLDC motors
- Satisfies automotive environmental and electromagnetic wave tests
- Secures high reliability at high temperatures

## Specifications for Representative Models



Item	Axial Type	Radial Type
Size (mm)	50 x 50 x 15	65 x 65 x 30
Nominal Voltage (V)	13.5	13.5
Operating Voltage (V)	9 ~ 16	9 ~ 16
Power Current (mA)	150	500
Power Consumption (W)	2.0	6.8
Air Flow (CFM)	15	15
Pressure (Pa)	40	100
Speed (RPM)	5,000	4,500
		@ 86% Duty

## Customers



# PRODUCT INFORMATION

## Small Fans



Small fans are fan motors that circulate the air inside the vehicle controller to achieve internal thermal balance in the temperature-increasing areas, thereby maintaining the lifespan and performance of the heat-generating elements.

### Features

- Low noise, low vibration, high efficiency and long life by adopting BLDC motors
- Lightweighting
- RoHS compliant
- Satisfies automotive environmental and electromagnetic wave tests

### Specifications for Representative Models

#### Application

AVN, Cluster



ADAS Controller



Item	AVN Cooling Fan	ADAS Controller Cooling Fan
Size (mm)	49.8 x 47.0 x 12.2	60 x 60 x 31
Nominal Voltage (V)	7.1	12
Operating Voltage (V)	4.5 ~ 16	7 ~ 16
Power Current (mA)	150	Max. 150
Power Consumption (W)	1.05	1.8
Air Flow (CFM)	4.8	Min. 15
Pressure (Pa)	17	Min. 34
Speed (RPM)	5,000	3,620 ±10%

### Customers



# Blower



The Blower is responsible for preventing heat generation that can cause situations such as vehicle battery explosions and degradation of output performance, and is attracting attention as a key component of the battery system of HEVs/PHEVs.

## Features

- BLDC motors with integrated controller
- Easy RPM control using PWM
- CAN and LIN communications applicable
- High efficiency, low noise and low vibration
- Outstanding durability compared to DC motors
- Satisfies automotive environmental and electromagnetic wave tests

## Specifications for Representative Models



Item	Battery Cooling Fan	Rear Blower
Rated Voltage (V)	12	12
Motor Type	BLDC	BLDC
Motor Size	Ø105 x 65.6h	Ø129 x 106.5h
Rated Load Speed (RPM)	Max. 5,750	Max. 3,100
Air Flow (CMH)	140 at 720 Pa 100 at 430 Pa	215 at 320 Pa 105 at 120 Pa
Noise (dB)	65 at 3,000 RPM	Below 60

## Customers





# PRODUCT INFORMATION

## Actuator



Actuators are used to change the opening/closing function of the valve and the direction of the valve by receiving electrical signals and changing the rotation of the motor into linear motion, and have a built-in controller.

### Features

- BLDC motors with integrated controller
- Low noise, high efficiency and long life based on BLDC motors
- Can control valves and transmit position and status through the design of LIN and CAN communications
- Performs open-loop control
- Implementation of fail-safe function against external factors such as ice, dust and stones
- Protects from overvoltage, undervoltage, high temperature, overcurrent, reverse voltage, disconnection and short circuit

### Specifications for Representative Models

#### Application

#### Active Air Flap



#### Automotive Valve



Item	AAF Actuator	Valve Actuator
Rated Voltage (V)	12.6	13.5
Motor Type	BLDC	BLDC
Slot / Pole	9 / 10	9 / 10
Motor Size	120 x 55 x 45h	42.9 x 42.8 x 26.8h
Rated Load Speed (RPM)	7	4,800
Torque	Min. 2Nm	Min. 6kgf

### Customers



# Seat Movement Motor



It adjusts the seat position forward/backward or up/down and the angle of the seatback by operating a switch to improve passenger comfort.

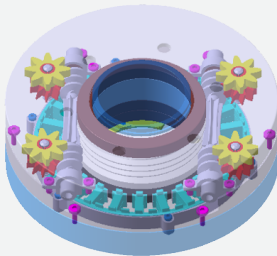
## Features

- BLDC motors with integrated controller
- CAN and LIN communications applicable
- Outstanding durability compared to DC motors
- High efficiency, low noise and low vibration
- Satisfies automotive environmental and electromagnetic wave tests

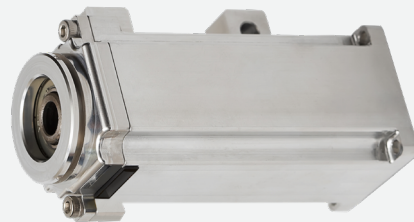
## Specifications for Representative Models

### Usage

For rotating seats



For moving back and forth between seats



Item	Swivel Module	Long Slide Motor
Rated Voltage (V)	13.5	13.5
Motor Type	BLDC	BLDC
Slot / Pole	24 / 32	6 / 8
Motor Size	Ø180 x 60h	35 x 35 x 99h
Rated Load Speed (RPM)	2	1,000
Torque (Nm)	Min. 60	Min. 0.3

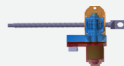
## Models



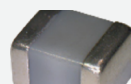
Swivel Module



Long Slide Motor



Leg Rest Slide Motor



Extension Motor



Relaxation Motor



Recliner Motor



Neck Warmer Motor

# PRODUCT INFORMATION

## Electric Water Pump



AMOTECH's uniquely structured Electric Water Pump is based on a BLDC motor driven by its own power, improving engine efficiency and facilitating cooling of electric vehicle batteries.

### Features

- A high-output and high-efficiency BLDC motor based on proprietary patent structure
- Low noise at high speed rotation
- Implementation of future automotive technology by adopting CAN/LIN communication
- Perfect waterproof structure
- Fully operational over a wide high current range
- Excellent price competitiveness through use of non-rare earth (ferrite) magnets

### Specifications for Representative Models

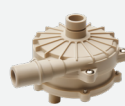


Item	50W	130W
Rated Voltage (V)	12	13.5
Motor Type	BLDC	BLDC
Slot / Pole	9 / 6	9 / 12
Motor Size	Ø66 x 68.5h	Ø100 x 83.2h
Rated Load Speed (RPM)	4,200	3,600
Rated Current (A)	3.2	-
Maximum Torque (Nm)	-	0.24
Pump Pressure / Flow Rate	0.5 Bar / 20 LPM	1.0 Bar / 25 LPM

### Models



Radial Type (50W)



Axial Type (100W)



Axial Type (130W)



## High Power Motor



Medium/large-sized motors for automobiles and aircrafts are continuously required to be miniaturized, have higher output, and be more efficient, and medium/large-sized motors and generators have high output specifications and generate a lot of heat even with small losses. Accordingly, AMOTECH used materials with good heat dissipation effects in the stator to produce high output.

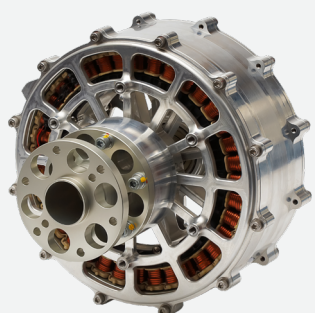
### Features

- A heat dissipation motor based on proprietary patent structure
- Increased output by more than 20% at the same size by applying our heat dissipation structure
- High efficiency, low noise and low vibration based on BLDC motors
- Optimized for UAM with high output and lightweighting

## Specifications for Representative Models

### Type

#### General Motor



#### Heat Dissipation Motor



Item	65kW		80kW
Rated Voltage (V)	580		580
Motor Type	PMSM		PMSM
Slot / Pole	36 / 32		36 / 32
Motor Size	Ø303 x 104h		Ø303 x 104h
Rated Load Speed (RPM)	3,000	6,000	6,000
Rated Output (kW)	65		80
Weight (kg)	15.8		17
Power Density (kW/kg)	4.1		4.7
Efficiency (%)	96		96
Cooling	Water / Glycol		Water / Glycol

### Application



EV Driving Motor



General Aviation



UAM



Generator

**DOMESTIC AND OVERSEAS PRODUCTION FACILITIES**



<b>COUNTRY</b>	<b>CITY</b>
<b>Korea</b>	Gimpo Tongjin · Gimpo Haseong · Incheon · Pyeongtaek Cheonan Factory 1 / Factory 2 · Cheorwon · Geomdan
<b>China</b>	Zibo Factory 1 / Factory 2
<b>Vietnam</b>	Hanoi Factory 1 / Factory 2 / Factory 3
<b>TOTAL</b>	<b>13</b>

**AMOTECH**