FORTIOR

Automotive-to-

Automotive Grade Chips
and Control Solutions for
Vehicle Electronics

Stock code: 688279

FORTIOR FORTIOR TECHNOLOGY CO., LTD.

www.fortiortech.com/global/

Contents

Fortior Technology Leading Motor Drive Control Chip and Control System Supplier

About Fortior

1
One dedicated field

3
Three R&D teams for service

6
Six application fields

8
Eight product lines

70%
70% staff are R&D staff

200
Over 200 intellectual properties

Fortior Technology Co., Ltd. (stock code: 688279) is a high-tech enterprise specializing in the design of high-performance motor drive control chips and motor control chip design, motor design, drive architecture, sensor technologies, motor vector control algorithms, etc. The application solutions are in such fields as consumer electronics, motion controllers, power tools, IT and telecommunication equipment, automotive electronics, industrial equipment, and robots.

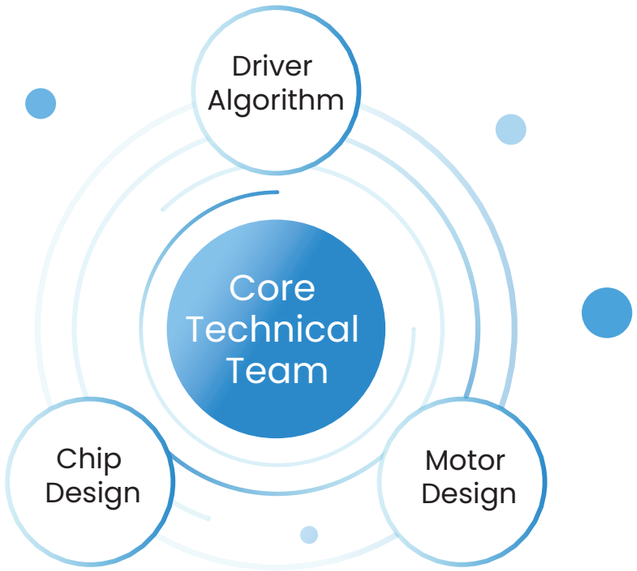
Founded in 2010, the Company has set up two major R&D centers in China and Singapore and is operating in the markets of Asia, North America, Europe, and other countries and regions to provide customers with highly stable, highly integrated, and energy-efficient chip products as well as system-level services.

The company attaches great importance to technical research and development, and insists on independent intellectual property rights innovation. As a globally leading supplier of motor drive control chips and control systems, Fortior Technology offers drive control chips, motor drive algorithms, and motor upgrade services. We boast a large technical staff team to provide timely, efficient, and professional key technical support.

One of our company's main markets is automative electronics. For new energy vehicles, our chips can be applied in various motors including thermal management system, seat ventilation, power window, electric seat, car refrigerator, and vehicle air conditioner. Fortior Technology has obtained TÜV Rheinland ISO 26262 certification and AEC-Q100 certification and with wholistic technology support to drive mass production and market application in the automotive electronics field.

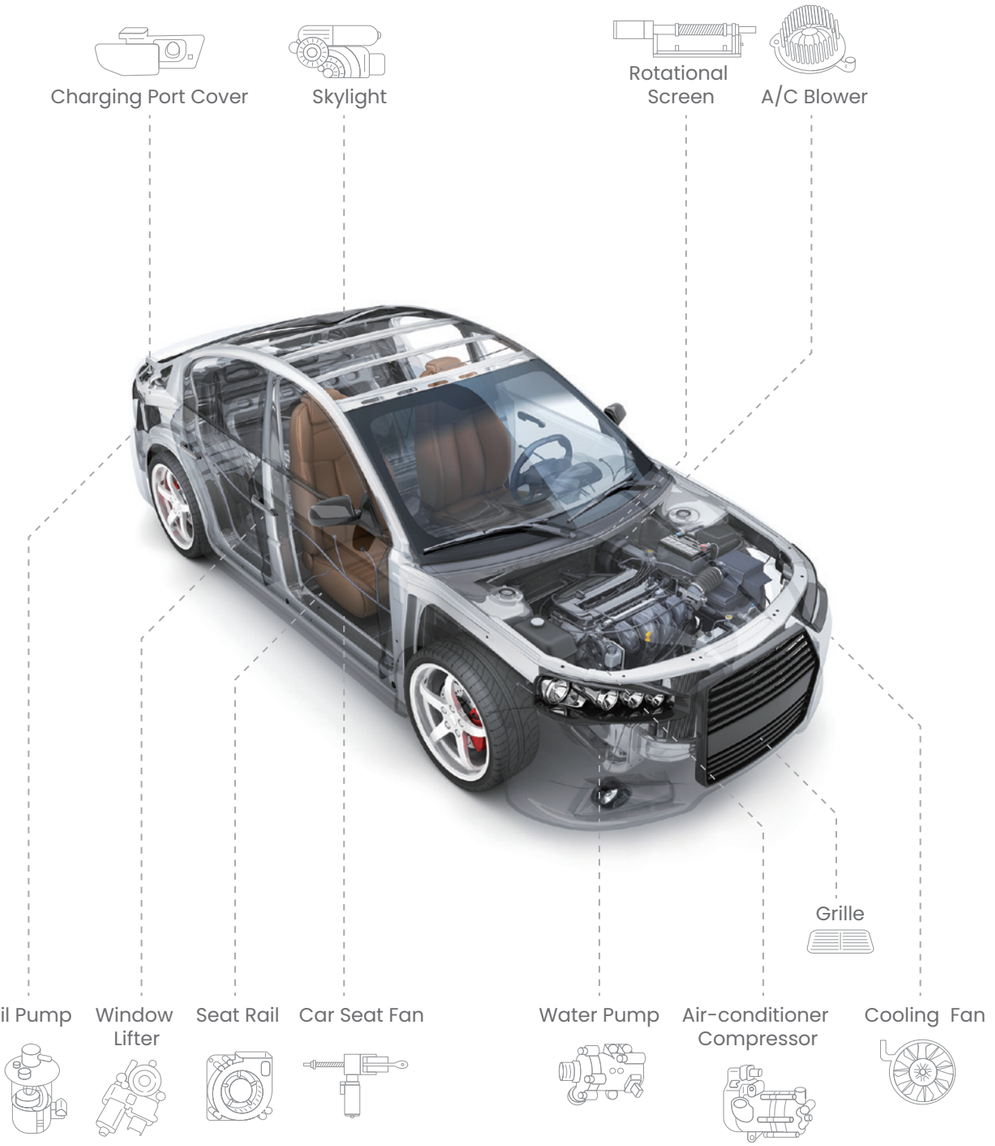
Core Competencies

Chip Design + Driver Algorithm + Motor Design	Independent Intellectual Property Motor-dedicated IP Core	World–class Leading Technology + TOP3 Wafer Partner + High-quality Systematic Service
		



Future Is
In Control

Application Classification



Application / MCU

EU6816Q1/EU6815Q1

Advantages

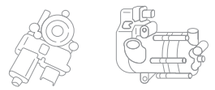
The motor control algorithm has the advantages of hardware integration, simple development and high scheme stability

Package

EU6816Q1： QFN48 (6x6 mm)
EU6815Q1： QFN48 (6x6 mm)

Application

Bang-bang control
brush power window
High pressure
compressor



EU6866Q1/EU6865Q1

Advantages

High integration, built-in LIN transceiver, Can decoding, support various brushless motor control algorithms: Weak magnetic, high frequency injection, resonance suppression, etc.

Package

EU6866Q1： QFN56 (7x7 mm)
EU6865Q1： QFN56 (7x7 mm)

Application

High power water pump
Oil pump
Electrical fan
Blower
Seat motor
Rotational screen

EU6881Q1

Advantages

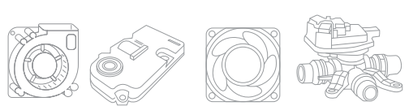
Fully integrated chip, up to support 12V-1A, built-in LIN transceiver, integrated two-phase stepper/three-phase stepper/brushless motor/brush motor control algorithm

Package

EU6881Q1： QFN40 (5x5 mm)

Application

Car seat fan
Cooling fan
Heat management valve
AGS
Air-conditioner fan
Charging port



Application / ASIC

ET8215Q1

Advantages

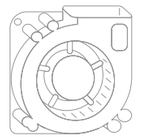
Fully integrated ASIC chip with built-in MOSFET, high integration, less peripheral circuits; FOC algorithm control, low noise, high efficiency; GUI debugging, complete functions, easy to use.

Package

ET8215Q1： QFN24 (4x4 mm)

Application

Seat fan
Cooling fan



ET8161N

Advantages

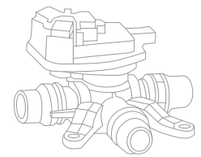
Free dedicated BootLoader, and simplified structure and development of the domain controller. Only one MCU is needed to control the ASIC chip to drive the motor

Package

ET8161N： QFN32 (4x4 mm)

Application

Thermal management domain controller
Water pump driver



Certification & Successful Case

AEC-Q100

EU6816Q1 / EU6866Q1 / EU6815Q1 / EU6865Q1 / EU6832N1 / ET8215Q1

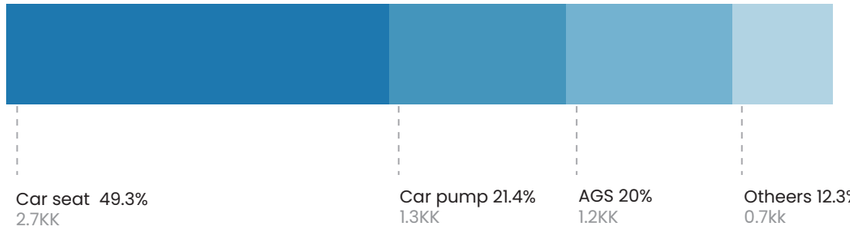
ISO 26262 Functional Safety Management

Mass Production

Automobile Electronics

5.9KK 2023 Cumulative Shipments（Unit: pcs）

End date：2023/12



Terminal customer-Partner

CHERY · SAIC 上汽集团 SAIC MOTOR · GAC 广汽集团 GAC GROUP · BYD · 吉利汽车 GEELY AUTO · AITO

Model Selections

MCU

Model(MCU)	FLASH(KB)	RAM(KB)	SVPWM	FOC	6N Pre-driver	3P3N Pre-driver	6 PWM	DMA	Timer	ADC channels	AMP	CMP	Packaging
EU6832N1	16	1	-	-	-	✓	-	150	180	11	3	4	QFN32 (4X4 mm)
EU6865Q1	32	4	-	-	✓	-	-	500	500	14	4	4	QFN56 (7X7 mm)
EU6866Q1	32	4	1	1	✓	-	-	900	1100	16	4	3	QFN56 (7X7 mm)
EU6815Q1	32	4	-	-	-	-	✓	50	100	14	4	4	QFN48 (6X6 mm)
EU6816Q1	32	4	1	1	-	-	✓	50	100	16	4	3	QFN48 (6X6 mm)
EU6881Q1	32	4	-	1	Integrated MOSFET, 1A								QFN40 (5X5mm)

ASIC

ASIC	Voltage(V)	Current(A)	Control model	Forward and Reverse Rotation	Tailwind and Headwind Protection	Motor Lock Protection	Current Limiting Protection	Phase Loss Protection	Under Voltage	IOCP	TTSD	Packaging
ET8215Q1	5~20	1A	FOC	✓	✓	✓		✓	✓	3.5V	2A	165℃	QFN24(4X4mm)

Application Solutions

Future Is
In Control

Grille

MCU：EU6816Q1/EU6881Q1

Voltage：7V – 18V
Power：5W
Speed：1200rpm –2300rpm
Control method：H bridge control
Closed-loop method：Closed position loop
Speed control port：LIN speed control
Advantages：High accuracy, large torque startup, and motor lock detection

Air-conditioner Blower

MCU：EU6866Q1

Voltage：7V – 18V
Power：350W
Speed：500rpm – 6000rpm
Control Method：Sensorless FOC with dual-shunt current sampling
Closed Loop：Closed speed loop
Speed Control Method：LIN/PWM speed control
Advantages：Reliable startup, low noise, low vibration, and simple debugging

Window Lifter Control

MCU： EU6816Q1

Voltage：7V – 18V
Power：40W（Block 120W）
Speed：500rpm–2000rpm
Control Method：H-bridge control
Closed Loop Method：Closed Position Loop
Speed Control Method：LIN Speed Control
Advantages：Low startup noise, motor lock detection

Seat Ventilation

ASIC： ET8215Q1

Voltage：5V – 18V
Power：0-20W
Speed：300rpm–8000rpm
Control Method：Sensorless FOC
Closed Loop：Closed speed loop
Speed Control Port：PWM speed control
Advantages：Fully integration, reliable startup,
low noise, low vibration, and simple debugging

Oil Pump

MCU： EU6866Q1

Voltage：8V – 18V
Power：100-600W
Speed：50rpm-6000rpm
Control Method：Sensorless FOC with dual-shunt current sampling
Closed Loop Method：Closed speed method（current limiting）
Speed Control Port：LIN/PWM/CAN speed control
Advantages：Low speed, large torque, and simple debugging

Water Pump

MCU： EU6866Q1

Voltage：8V – 18V
Power：100-600W
Speed：1500RPM—5500RPM
Control Method：Sensorless FOC with dual-shunt current sampling
Closed Loop Method：Closed speed loop
Speed Control Port：LIN/PWM speed control
Advantages：Low noise, low vibration, and simple debugging

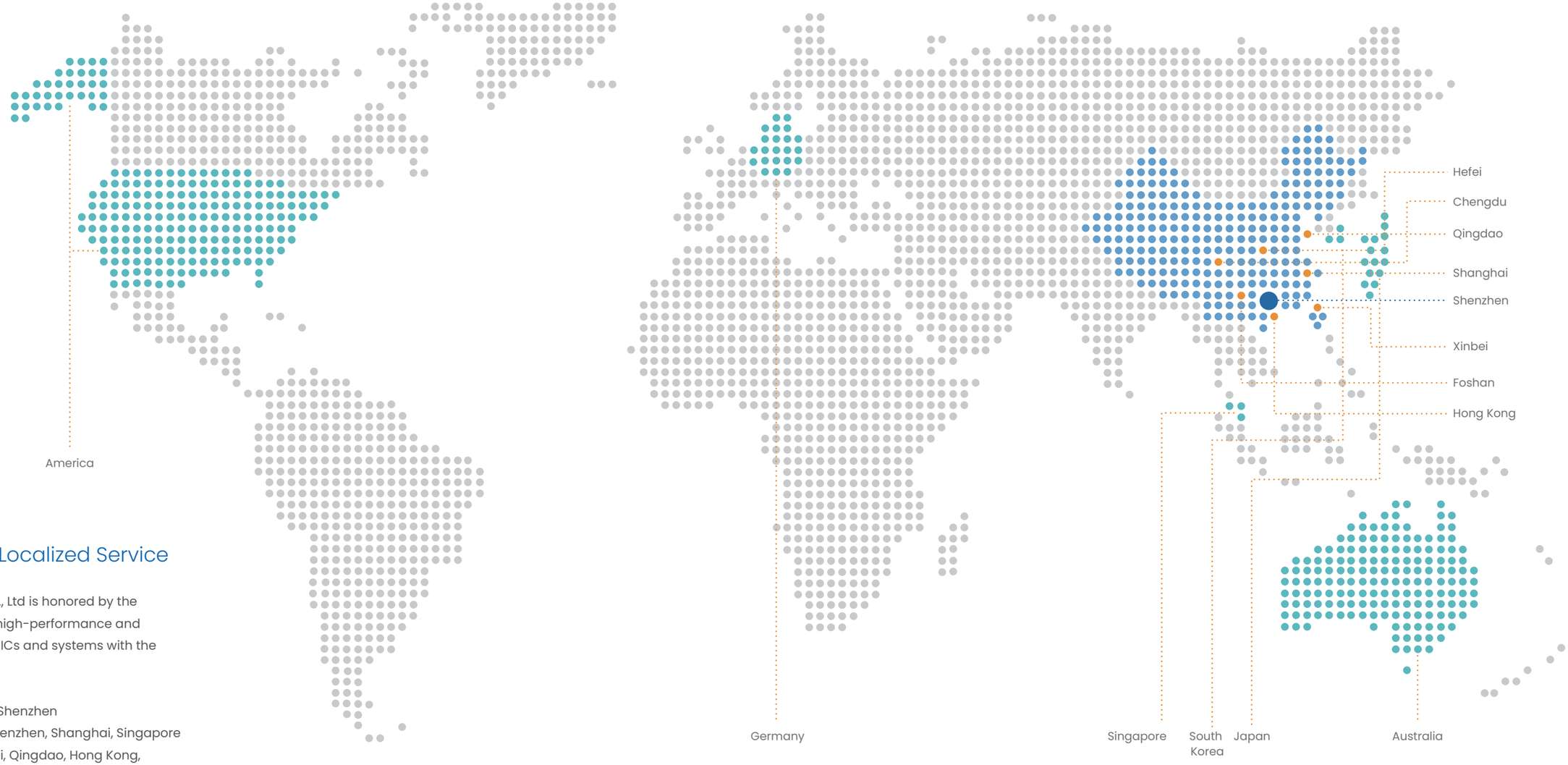
Electric Fan

MCU： EU6866Q1

Voltage：7V–18V
Power：850W
Speed：500RPM– 5000RPM
Control Method：Sensorless FOC with single-shunt current sampling
Closed Loop Method：Closed speed loop
Speed Control Port：LIN/PWM speed control
Advantages：Reliable startup, low noise, low vibration,
and simple debugging

Global Market

Fortior Technology is spreading all over the world

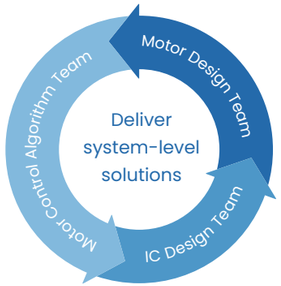


Global Vision Localized Service

Fortior Technology Co., Ltd is honored by the market for delivering high-performance and reliable motor control ICs and systems with the least customer effort.

Group Headquarter： Shenzhen
Developing Center: Shenzhen, Shanghai, Singapore
Subsidiaries: Shanghai, Qingdao, Hong Kong, Singapore
Offices: Chengdu, Hangzhou, Foshan, Hefei, Xinbei, Japan, South Korea, Australia, Germany, America

Marketing Support



The three technical teams, IC design team, motor
control algorithm team, motor design team, forge solid
strength of the company, which enables us to offer
system-level solutions of motor control to convert
customer concept into reality.

Shenzhen

Tel: +86 0755-8618-1158
Room 203, Block 11, Software Park (Area 2), Keji Central Road 2, Nanshan District, Shenzhen, 518057, Guangdong Province, P.R. China

Shanghai

Tel: +86 021-5916-2205
Room 2, Block 20, No.1818 Cheng Bei Road, Jiading District, Shanghai, 201807, P.R. China

Qingdao

Tel: 0532-68069291
#2301, Qianshan builing D2,No.1 keyuanwei road, Laoshan District,Qingdao city, Shandong province, China

Australia

Tel: +61 432297124
Email: david.liu@fortiortech.com

New Taipei

Tel: 886 285210091
Email: grace.ch@fortiortech.com
Floor 13, No, 32, Fude 1st Street, Xinzhuang District, New Taipei City, 242045

Germany

Tel: +49-89-74040558
E-mail: terry.lee@fortiortech.com

Japan

Email: taylor.mao@fortiortech.com
602 Room, Kase Building 101, Higashida-Cho 9-6, Kawasaki-Ku, Kawasaki City, Kanagawa-Ken, Japan

U.S.A

Tel: +1 858641181
Email: vivian.wang@fortiortech.com

Singapore

1003 Bukit Merah Central, #04-22, INNO Center, (S)159836

Korea

Tel: +82 10 3148 0989 +86 18669738327
Email: Allen.gui@fortiortech.com
24, songdomunhua-ro 84beon-gil ,yeonsu-gu,Incheon, Korea

Disclaimer