TOYOTA

Toyota Super Drive

NEOS
New Energy Origin System

FC Module

TOYOTA INDUSTRIES CORPORATION

We create POWER continuing into the future

Carbon Neutral Component

Toyota Industries Corporation contributes to carbon neutrality, by selling high energy-efficient and low loss electric component and fuel cells.

Our Carbon Neutral Components contribute to realize sustainable society with powerful, comfortable and friendly POWER to people and the environment.

FC Module for Generator

FC Module

Clean hydrogen Fuel Cell Module emitting no greenhouse gases.

Electric power powertrain for Low-Speed EV

TOYOTA Super Drive

Highly energy-efficient Motor, saving energy, extending driving range and reducing battery capacity.

NEOS Controller

Motor Controller maximizing motor efficiency and enabling regeneration.

FC Module

Our FC module is equipped with fuel cell of Toyota MIRAI and achieves the highest energy efficiency and operating hours in the industry of Forklift.

External Cooling System
TFCM2-08B

Internal Cooling System
TFCM2-08R

High Quality, High Reliability and High Durability proved by Toyota Forklift truck.

The FC Module uses a hydrogen fuel cell stack used in Toyota FC forklift, and you can use it safely for a long term like forklift.

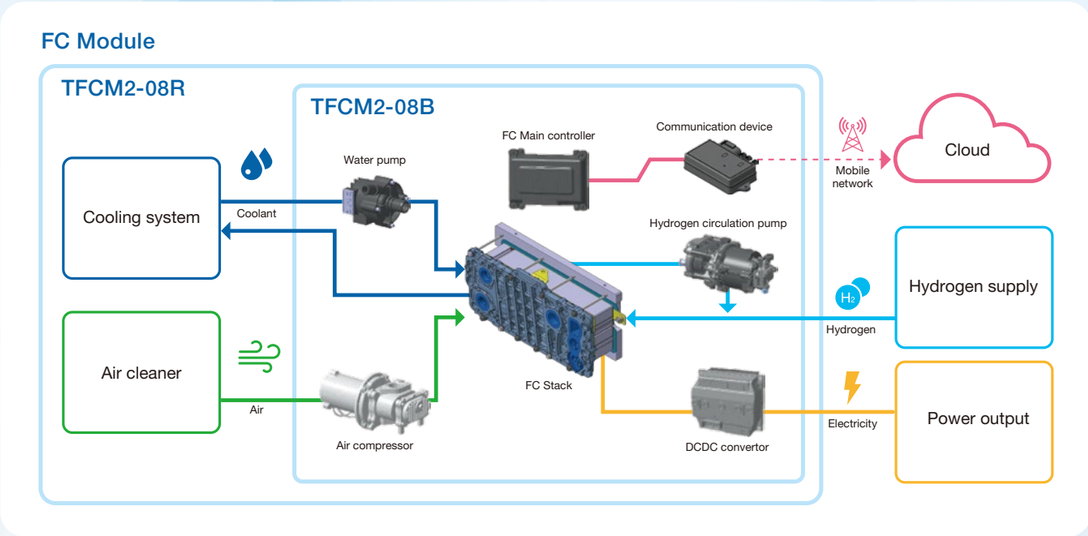
02 Achieving industry-leading efficiency

It has achieved the highest level of efficiency in the industry as a forklift PEFC and contributes reduction of running cost. * According our company research (as of January 2023)

03 Freely designed cooling performance

Cooling system selectable from 2 types
TFCM2-08B: By designing a cooling device, it enables to adopt a generator to various uses such as enhanced cooling performance and waste heat utilization.
TFCM2-08R: Installed radiator inside the FC module enables to shorten design period of generators.

FC Module block diagram



Main specification

Item		Spec	
Model		TFCM2-08B	TFCM2-08R
Performance	Rated Output（kW）	8.0	
	Voltage（V）	48	
	Current（A）	166	
Size	W×D×H（mm）	440×650×558	440×742×720
Temperature	Operating（℃）	-20~40※/0~40	
	Storage（℃）	-30～80	

Cold start spec Low Temperature option

Application

Application | Portable Generator
Adopted product
FC Module

Denyo Co.,Ltd.

Achieving downsizing and weight reduction of hydrogen fuel cell mobile generator

We completed 1st demonstration based on Toyota Industries Corporation's fuel cells for forklifts. Through demonstration tests, we confirmed the performance and quality suitable for outdoor use. Using the feedback obtained from the tests, we are developing a production model with downsizing and lightweight design.

Research and Development Division II Manager
Mr. Kentaro Kawabata

Application | Stationary Generator
Adopted product
FC Module

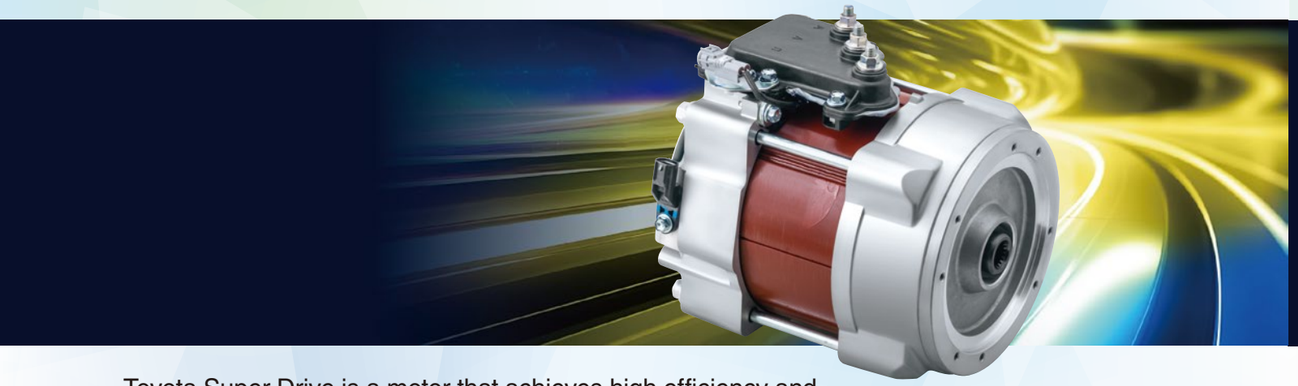
Brother Industries, Ltd.

Newly developed stationary generator adopting cold start in sub-zero environments

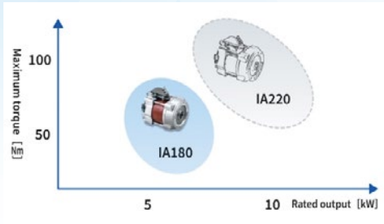
We have developed a 7kW stationary generator concept model utilizing Toyota Industries' FC module which supports cold start at -20℃. We will meet the various needs of our customers.

New Business Dev. Dept.
Technology Dev. Group 2
Group Manager
Mr. Mitsuru Nakamura

TOYOTA Super Drive

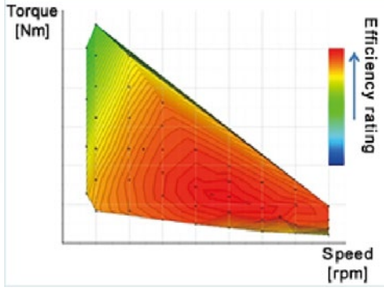


Toyota Super Drive is a motor that achieves high efficiency and low energy loss at a wide range of motor operating points. This motor is ideal for applications that require relatively large chages in speed and torque,such as vehicle running applications.



High Quality, High Reliability and High Durability proved by Toyota Forklift truck.

Toyota Super Drive's quality has been proven by global top share Toyota Forklift in field. The motor have satisfied our customers who have already adopted with the quality.



02 High efficiency of over 90% maximum efficiency

Toyota Super Drive realizes high energy efficiency and low energy loss in a wide output range through high-precision manufacturing technology based on our in-house production line and original electromagnetic design.

03 Delivering in a small lot and for a long term

Toyota Super Drive supports your challenges into the electric vehicle market and can be ordered in a small lot.
Also the motor can be safely supplied for a long term like forklifts and used continuously.

NEOS Controller

NEOS New Energy Origin System

The NEOS Controller is a compact, high-output and high-quality motor controller.
The NEOS controller has a vehicle control function and enables to tune the vehicle by using the vehicle adaptation tool.

		Maximum output current
		330~450A
Input voltage	80V	80L
	48V	48M

High Quality, High Reliability and High Durability proved by Toyota Forklift truck.

NEOS controller's quality has been proven by global top share Toyota Forklift in field. The controller have surtified our customers who have already adopted with the quality.

Easy Vehicle tuning with dedicated software 'NEOS Service Tool'

NEOS Service tool enable to tune the vehicle simply by connecting accelerator sensors, shift switches and etc. The tool can easily set the vehicle's power performance such as maximum speed, acceleration and etc.

03 Delivering in a small lot and for a long term

NEOS controller supports your challenges into the electric vehicle market and can be ordered in a small lot. Also the controller can be safely supplied for a long term like forklifts and used continuously.

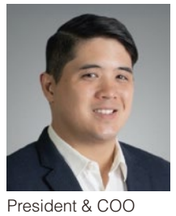
Application

Application: Electric three-wheeled vehicle (E-Trike)
Adopted product: AC Motor IA180 / NEOS Controller M type

ELAIA Green Vehicles

E-Trike contributes to reducing environmental impact in the suburbs of Manila

After evaluating Toyota Industries Corporation's motor and controller, we found that they enable the E-Trike to carry multiple passengers even in hilly areas. It was proved to be powerful enough to drive comfortably, surpassing conventional tricycles. Additionally, the reliability and quality of Toyota Industries' products contribute to building customer confidence, helping them feel secure for purchasing the E-Trike.



President & COO
Mr. Mike Puno

Application: Golf car
Adopted product: NEOS Controller M type

Yamaha Motor Power Products co., Ltd.

Aiming for the ultimate riding comfort, technology supported by exceptional reliability.

In pursuit of making the "ultimate riding comfort" the strength of Yamaha's golf carts, we carefully evaluated motor controllers from around the world and chose Toyota Industries' NEOS controller. In the evaluation, The performance met our expectations perfectly, and there were no malfunctions. We can truly sense the proven technology of Toyota's forklifts being leveraged here.

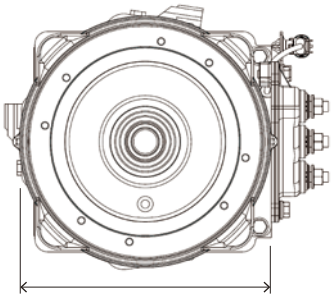
Engineering Div.
Golf Car Business
Dev. Section
Mr.Yuichiro Amano

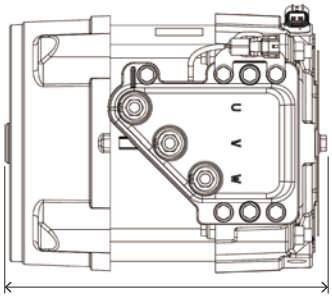
Product Specification

Toyota Super Drive IA180 Series Lineup

Part No	Dimension (Approximate)	Type	Max Torque [Nm]	Rated Power [kW] S2 60min	Controller Input Voltage [V]	Controller output current [Arms]
IA180-100	ø182×L240	High Torque	63	5.3	48	450
		High Power	48	6.3		
IA180-125	ø182×L265	High Torque	74	5.0		
		High Power	T.B.D.			
IA180-140	ø182×L280	High Torque				
		High Power				
IA180-160	ø182×L300	High Torque				
		High Power				

Toyota Super Drive IA180 Series Dimension





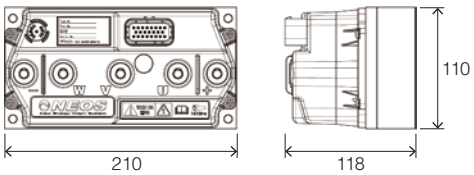
[mm]

NEOS Controller Lineup

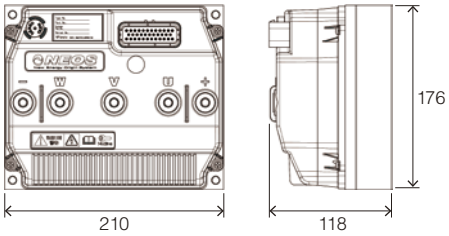
Model	Power supply voltage [V]	Out put current [Arms] S2 min	Heat dissipation
48M 350B	48	350	without Fin
48M 350F			with Fin
48M 450F		450	
80L330B	80	330	without Fin
80L440B		440	

NEOS Controller Dimension

M type



L type



[mm]

トヨタL&Fカンパニー
H2 プロジェクト コンポーネント営業室
〒444-1393 愛知県高浜市豊田町 2 - 1 - 1
URL:https://cn-component.toyota-shokki.jp/

※記載の内容は事前の予告なく変更になる場合があります。最新の情報は当社営業までお問い合わせ下さい。
2025© TOYOTA INDUSTRIES CORPORATION

Toyota Industries Corporation
Toyota Material Handling Corporation
H2 project Industrial Component Sales Office
2-1-1 Toyoda-cho, Takahama-shi, Aichi, Japan
URL:https://cn-component.toyota-industries.com/

The specification may change without pre-notice.