



JQA-QMA16427  
DESIGN / DEVELOPMENT AND  
MANUFACTURING OF  
POWER ELECTRONICS EQUIPMENT



with Universal  
Inverter Driver

# THIS and THAT can be measured!

Highly accurate measurement  
various motors' characteristics!

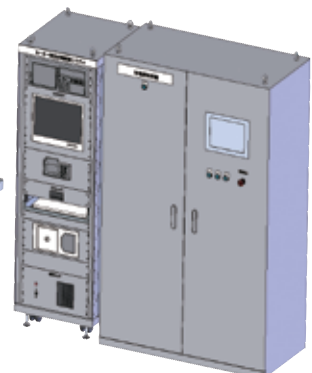
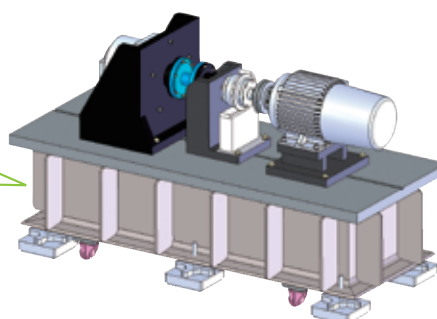
# SMACH

SMART TECHNOLOGY

## Motor Testing System



Universal Inverter Driver



**SMACH CO., Ltd.**

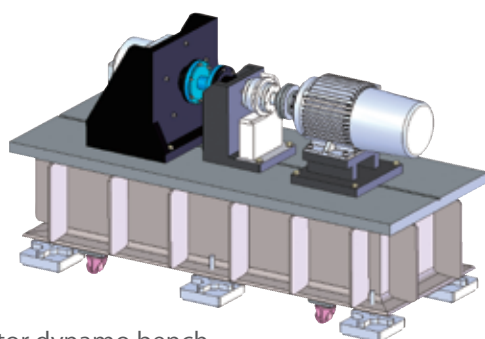


Universal Inverter Driver

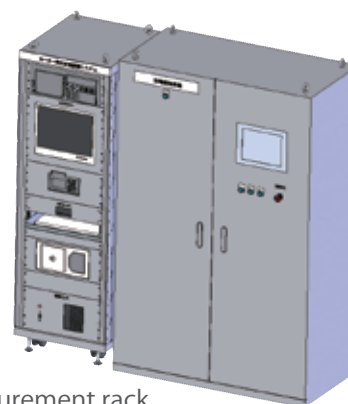
## with Universal Inverter Driver, Characteristics testing "can" be easy. 6

Wide variety of motor characteristics "can" be tested with Universal Inverter Driver (brushless DC motor, reluctance motor, induction motor, etc.)

- Arbitrarily control the test motor and load motor to support various measurements.
- Graphic display of various characteristics of torque, rotation speed, power, etc. measured with high accuracy.
- Support drive control of sensorless motors.
- Compatible with energy saving measurement systems with the energy circulation system
- Compatible with test equipment systems with constant temperature baths and magnetic bearings.
- Capable of handling high-speed and high-power bench tests.  
(Maximum torque: 500 Nm, Maximum rotation speed: 30,000 rpm)



Motor dynamo bench

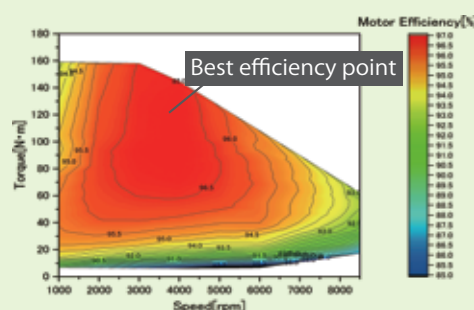


Measurement rack

Motor characteristics "can" be displayed graphically. 6

With the multifunctional graphing tool, motor characteristics can be easily displayed graphically.

Motor efficiency map



## Evaluation Center

Shiga Prefectural Techno Factory Building No.8 and No.9  
7-3-46 Nojihigashi, Kusatsu, Shiga 525-0058, Japan  
TEL : +81-775695884



### Development Equipment

- Power regeneration type DC power supply (DC650V 250kVA class)
- Cooling Tower
- Cooling chiller (Water, Oil)
- Oil temperature control system



Motor Testing System  
(500Nm class)

# Easy operation with measurement software **MCAT**



Easy operation



## 1 Easy to set up for measurements

### 1 System settings

Easy GUI operation.

### 2 Measurement preparation

Motor tuning, offset of sensor position, mechanical loss can be done easily.



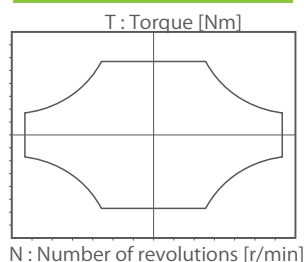
## 2 Easy to measure

All operations can be controlled through the measurement software "MCAT".

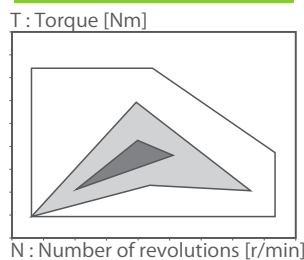


## Various tests "can" be done with high accuracy

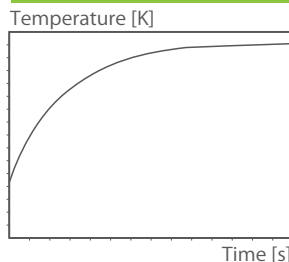
### NT Characteristics



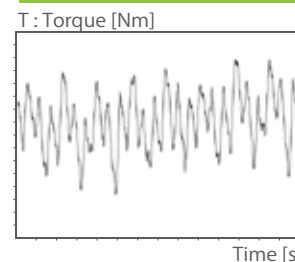
### Efficiency distribution map



### Thermal Characteristics



### Cogging torque

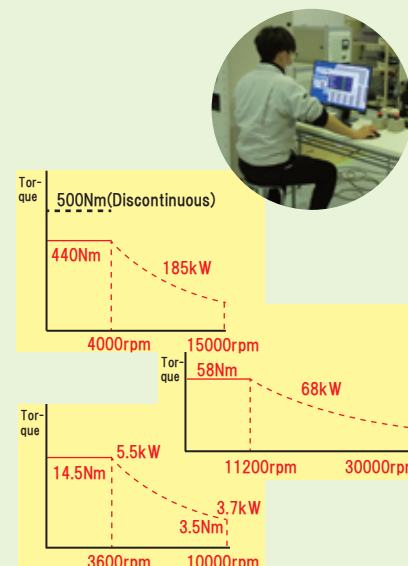


## SMACH "can" Motor Testing Services.

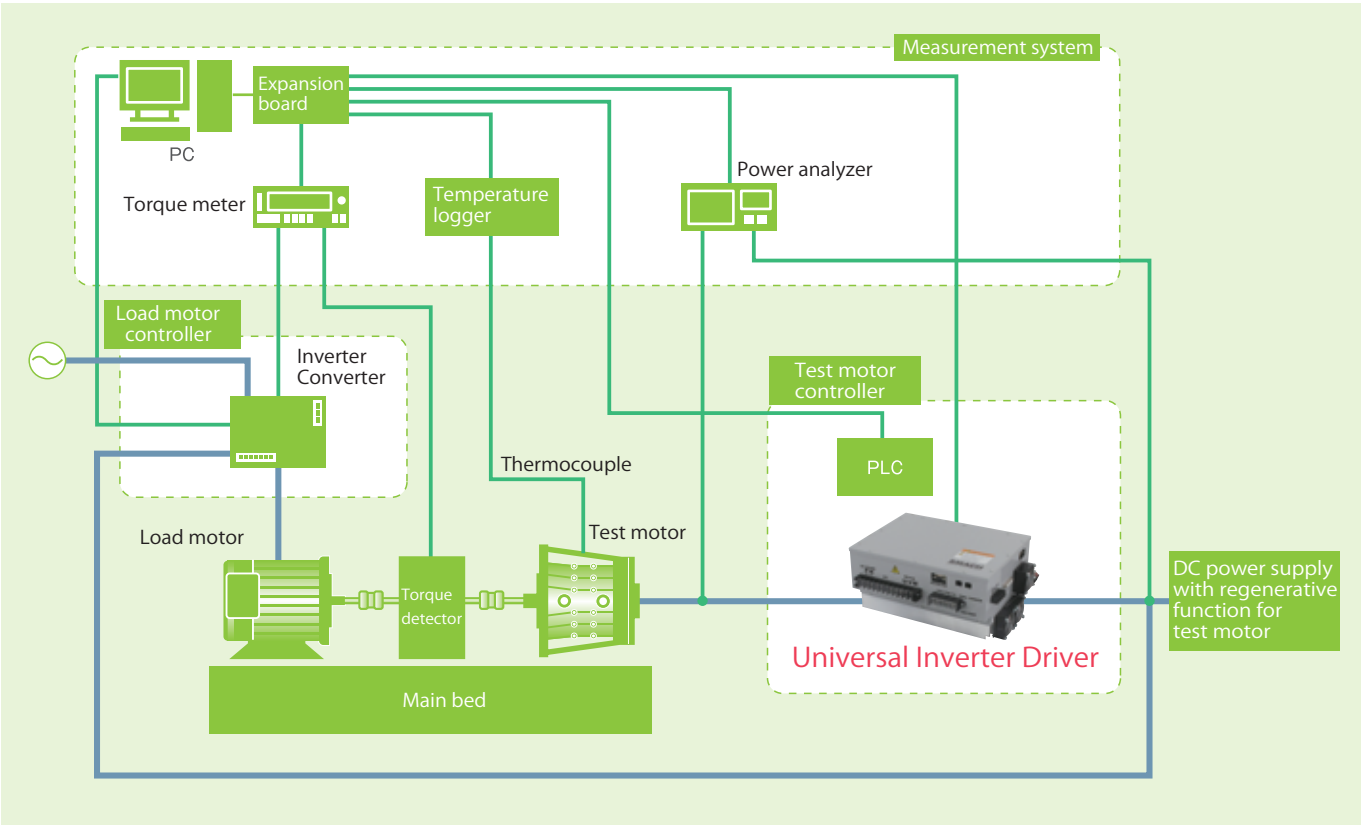


Maximum torque  
**500Nm**  
Maximum rotation speed  
**30,000rpm**

Our Motor Testing System can measure up to the above ranges. Please feel free to contact us.



System Configuration



Basic Specification

Load	Motor	Maximum rotation speed : 30,000 rpm ; Maximum torque : 500 Nm
	Inverter	Universal Inverter Driver made by SMACH , etc
Setting Functions		- Electric constants auto-tuning - Automatic offset correction of sensor's zero position - Preliminary measurement of mechanical loss
Test Items		NT characteristics, Efficiency map, Thermal characteristics, Cogging torque , etc
Test Motor Driver	Universal Inverter Driver made by SMACH	Various types are available based on capacity Input voltage : DC 12 ~ 650V, AC 200V, AC 400V Motor current : ~ 400 A ※SMACH can deal with requested special specifications. Customer's inverter is also available.
Primary Power Supply		3Φ 200/400V 50/60Hz
Others		You can also install a constant temperature bath.

※Specifications, etc. are subject to change without notice.

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