

E-Motor Emulator

M2000-MS Series

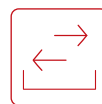


The M2000-MS Series E-Motor Emulator (EME) is a new power electronic product integrating static motor + load simulation. Based on the third-generation wide bandgap SiC power semiconductor devices, the series is highly modularized and standardized. It enjoys widespread application in the development and testing of drive motor controllers and general-purpose inverters.



900V L-L

Ultra-high Voltage



1μs

Rapid Model Iteration



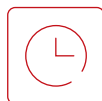
180000 rpm/pole pair

High Speed



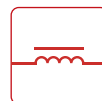
High Current Frequency

3kHz @fundamental wave



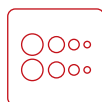
Fast Response

Short-circuit, 2000A/ms(0%-100%)



50uH-3000uH

Motor Inductance



176kW/m³

Ultra-high Power Density



$\eta_{\max} \geq 94\%$

High Efficiency

Your contact:



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Product Features



Motor
Simulation



Non-linear
Simulation (LUT)



Temperature
Simulation



Position
Signal Simulation



Fault
Injection



Vehicle
Model

		M2000-MS Series
Power Supply Parameters	Voltage Range	0-900V(L-L) @ Back EMF
	Power / Current	100kW/167A
		200kW/334A
		300kW/500A
		400kW/667A
		500kW/835A
		600kW/1000A
	Grid Phases	3φ3W + PE
	Grid Voltage	400V±10%
	Voltage Frequency	50Hz±5Hz
	Power Factor	≥0.99
	iTHD	≤3%
EME parameters	Motor Type	Permanent magnet synchronous motor / AC asynchronous motor
	Number of Phases Simulated	3 phases (optional: dual three-phase)
	Max. Current Response Rate	1500A/ms (optional: 2000A/ms)
	Current Frequency	0Hz-2kHz (optional: 0Hz-2.5kHz / 0Hz-3kHz)
	Rated Speed	120000rpm/pole pair (optional: 150000 / 180000 rpm/pole pair)
	Polar Pairs	1~20
	Resolver Excitation	3kHz~20kHz
	Motor Leakage Inductance	50uH~2650uH (optional: 50uH~3000uH)
	Model Iteration	1us
	Position Sensor	Resolver / Encoder / Hall (Eddy current / displacement transducer as optionals)
	Stator Resistance	0Ω~5Ω
	Rotor Dynamic Speed	dω/dt>10×106 rpm/ms
	Temperature Sensors	4 sensors/channel, NTC or PTC
	Comm. Interface	CAN/LAN/RS485
Safety and Environment	Cooling Mode	Forced air cooling
	Ambient Temperature	-10 ~ 40℃
	Relative Humidity	0-90%RH (25℃ non-condensing)
	Altitude	≤2000m
General parameters	Dimensions	See product portfolio for details

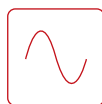


Battery & Motor Simulator All-in-One

M2000-DM Series



M2000-DM series all-in-one is an intelligent battery and motor simulation device featuring high efficiency, high accuracy and high dynamics. Its highlights include ultra-high power density and significantly reduced product volume and weight. It adopts common bus design for battery simulation and motor emulation. The system does not involve conventional bench structure, and the test process achieves internal circulation of energy, thus overcoming disadvantages like poor flexibility, system complexity, high safety risk, strong mechanical vibration, and large noise. The series meets the rapid EOL testing of drive motor controllers with different specifications.



450V/800V(L-L)

AC Voltage



1000V/1200V

DC Voltage



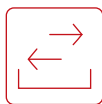
120000 rpm/pole pair

High Speed



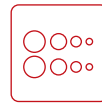
High Current Frequency

2kHz @ fundamental wave



2μs

Rapid Model Iteration



Highly Integrated

Battery Simulation / Motor
Emulation in One



Product Features

						
Motor Simulation	Battery Simulation	Non-linear Simulation (LUT)	Temperature Simulation	Position Signal Simulation	Fault Injection	Vehicle Model

M2000-DM Series				
Input Parameters				
Grid Phases / Grid Voltage	3φ3W+PE / 400Vac±10%			
iTHD	≤5%			
Power Factor	≥0.99			
Portfolio of the All-in-One				
Power Range	Voltage of Battery Simulation	Current of Battery Simulation	Voltage of Motor Emulation	Current of Motor Emulation
100kW	24-1000V	0-300A	0-450Vrms/0-800Vrms	0-280A
200kW	24-1000V	0-600A	0-450Vrms/0-800Vrms	0-560A
300kW	24-1200V	0-900A	0-800Vrms	0-700A
400kW	24-1200V	0-1200A	0-800Vrms	0-800A
500kW	24-1200V	0-1200A	0-800Vrms	0-1000A
Battery Simulation Parameters				
Voltage / Current Accuracy	≤±0.1%F.S.			
Voltage Ripple	≤0.2%F.S.			
Battery Simulation	7 common fixed battery types such as lithium ternary, lithium iron phosphate, lithium manganese oxide, and Ni-MH battery. Battery model output can be customized.			
Motor Emulation Parameters				
Motor Type	Permanent magnet synchronous motor / AC asynchronous motor			
Number of Phases Simulated	3 phases			
Current Frequency	0Hz-1kHz (optional: 0Hz-1.5kHz / 0Hz-2kHz)			
Rated Speed	60000rpm/pole pair (optional: 90000 / 120000 rpm/pole pair)			
Pole Pairs	1~20			
Resolver Excitation	3kHz~20kHz			
Motor Leakage Inductance	50uH~2650uH			
Model Iteration	2us			
Position Sensor	Resolver / Encoder / Hall (Eddy current / displacement transducer as optionals)			
Communication Mode	LAN			
Stator Resistance	0Ω~5Ω			
Temperature Sensor	4 sensors/channel, NTC or PTC			
Cooling Mode	Air cooling (standard) / Liquid cooling (optional)			
Ambient Temp. / Relative Humidity	-10 ~ 40℃ / 0-90%RH (25℃ non-condensing)			
Altitude	≤2000m			
Dimensions	See product portfolio for details			

Note: The power, voltage, current and other parameters above can be customized based on actual needs

