

SCANIA E-MACHINE

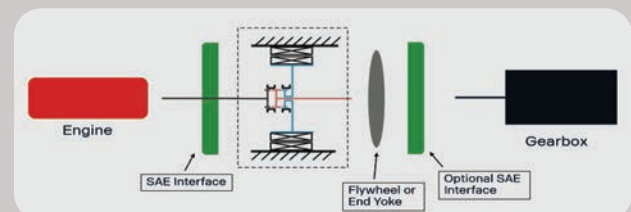
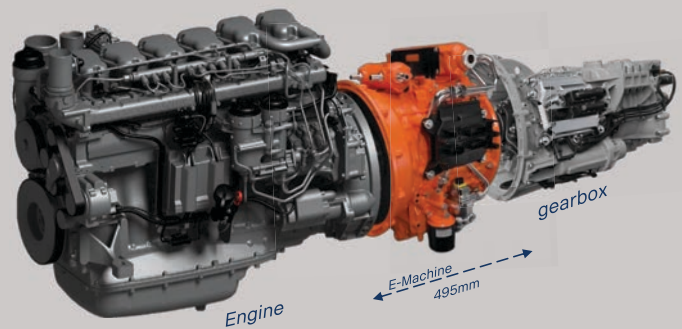
SIMPLEST WAY TO ELECTRIFICATION

HYBRID CONFIGURATION

In hybrid configuration, the electric power system unit can combine an e-machine and a combustion engine – run either together or as stand-alone power source

Key Benefits

- Compact electric module: minimum installation impact
- Can be used for vehicle traction and energy recuperation
- Seamless disengaging/ engaging between the engine and electric propulsion unit
- Oil cooled e-machine for optimum performance

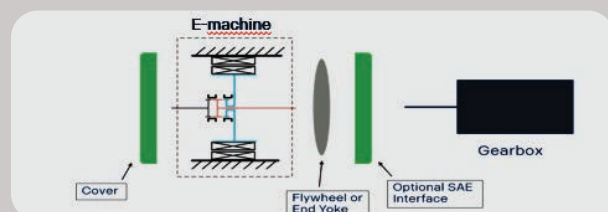
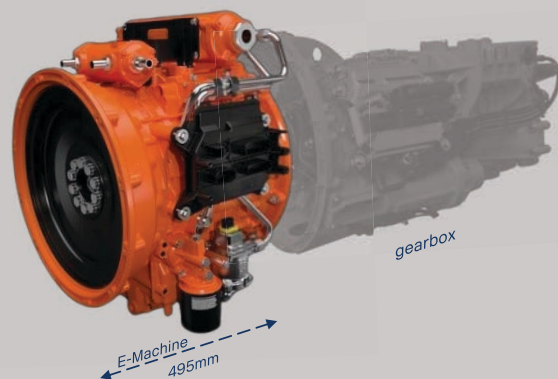


FULLY ELECTRIFIED CONFIGURATION

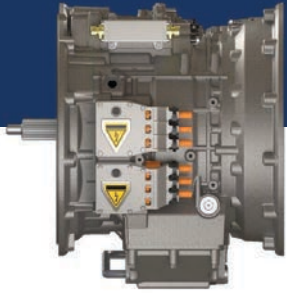
In fully electric configuration, the electric power systems unit will replace the internal combustion engine to deliver the power needs of the application

Key Benefits

- Same electric module can be used in fully electric mode therefore allowing high modularity
- Easy installation between the systems
- SAE standardized mounting interfaces for easy installation
- Inhouse PCU allows easy management of the whole system

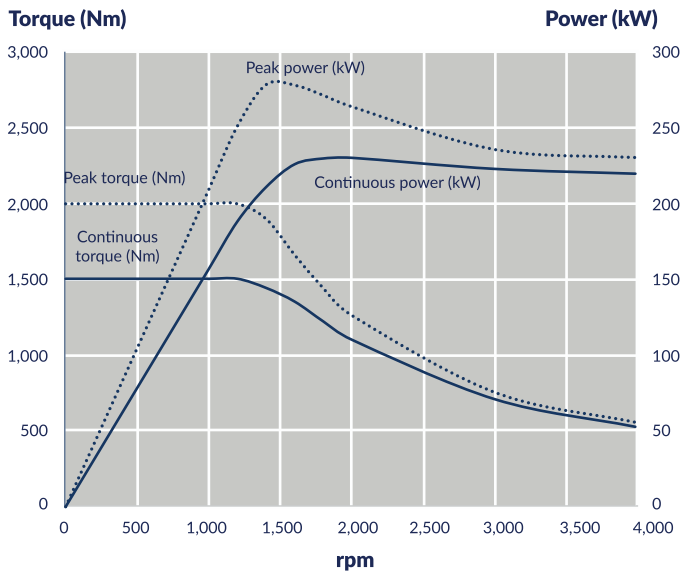


SCANIA'S SOLUTIONS



SCANIA E-MACHINE

ENERGY STORAGE SYSTEM MP (MEGA PACK) BATTERIES



	MP20	½ MP20	MP10
Energy capacity	208 kWh	104 kWh	104 kWh
Configuration	20x18 modules (2x180 cells)	10x18 modules (180 cells)	12x15 modules (180 cells)
Weight	~1150kg	~620kg	~620kg
Size mm (LxWxH)	1598x775x639	1320x775x339	832x775x636
Energy Density	181Wh/kg	167Wh/kg	167Wh/kg

Technical Specifications

Technical Specifications

Max Powers	230 kW continuous 280 kW peak @ 1,500rpm
Max Torques	1,500 Nm continuous 2,000 Nm peak @ 0 – 1,300rpm
Speed range	0 – 4,000 rpm
System voltage	650 V (DC)
Cooling	Oil cooled
Interface to combustion engine and driveline	SAE 1 flange
Clutch	Integrated dog clutch to combustion engine
Weight incl inverter	250 kg
Dimensions (L x W x H)	490 x 610 x 590 mm

Energy	208kWh
Technology	Li-Ion NMC
Voltage (max.)	756 V
Voltage (min.)	576 V
Max. discharging power*	300 kW Pulse 375kW
Continuous charging power*	250kW Pulse 300kW
Energy density	303Wh /l, 181 Wh /kg
Thermal system	Scania in-house liquid cooling and heating for optimum cell temperature

Customer benefit from Scania's solutions

Central drive e Motor with SAE standardized mounting interfaces for easy installation
Compact and modular e-machine system
Power Control is all handled by Scania

Customer benefit from Scania's solutions

Several sizes of battery pack to facilitate wide range of packaging and energy requirements
Tested product on Scania truck application
Cycle life: 1000 MWh energy throughput to 80% SOH



KORINDO ENERGY (SINGAPORE) PTE. LTD.
T +65 6339 7661 • F +65 6339 7663
1 Maritime Square, #12-05A,
HarbourFront Centre
Singapore 099253
sales@korindo-energy.com

P.T. KORINDO ENERGY INDONESIA
Jl. Asia Afrika Lot. 19
Panin Tower 15th Floor, Senayan City,
Jakarta Pusat
Indonesia 10270
sales-id@korindo-energy.com