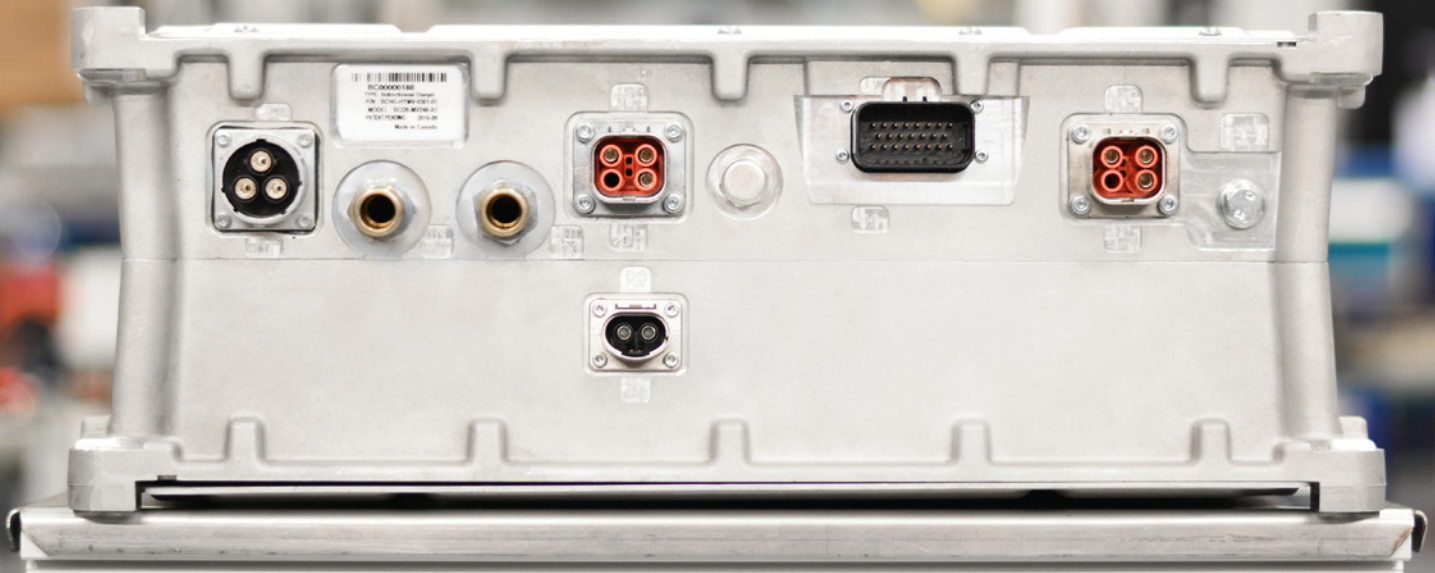


TM4 BCI20

Bi-directional Charger Inverter

tm4



Redefining charging solutions

The TM4 BCI20 is an innovative Bi-directional Charger Inverter that functions as battery charger and inverter for use in a variety of electric and hybrid vehicle applications. It is designed to use the full current range from the AC mains as defined in SAE J1772 for a maximum charge power of 18kW on 240 V_{AC}. When the vehicle is in use, the charger becomes a dual inverter that can provide two independent three phase outputs of 9kVA each to power various auxiliary loads.

Characteristics

- 2 operating modes: charging mode and inverter mode
- Up to 18 kW power using SAE J1772 standard
- Single-phase or three-phase* AC input (120/208/240 V_{AC})
- >92% efficiency
- 2 independent 9kVA three phase outputs

Features

- Compact and lightweight
- 2 high-side + 1 low-side drive general purpose outputs
- 2 x CAN 2.0b ports up to 1 Mbps (J1939 control / diagnostic)
- IP67 rating for harsh environments

*available Q3 2018

SPECIFICATIONS

Charger mode

Characteristics	450 VDC	800 VDC*
Charging control modes	Power DC Voltage DC Current AC Current	
AC input		
Operational voltage range	96-264 V _{AC}	
Max current	80 A _{RMS}	
Efficiency	>92%	
Power Factor	>98%	
DC output		
Output power	15 kW @ 208 V _{AC} 18 kW @ 240 V _{AC}	
Operational voltage range	200-450 V _{DC}	400-850 V _{DC}
Protection	Over & Undervoltage shutdown Overcurrent protection Thermal derating	

Inverter mode

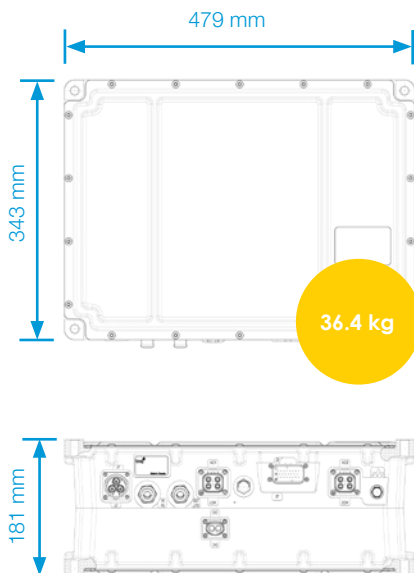
Characteristics	450 VDC	800 VDC*
Output control mode	V/f	
AC output		
Line-line voltage (3 phases)	10 to 240 V _{RMS}	
Number of outputs	2 (independent)	
Power	9 kVA per output	
Frequency	1 to 500 Hz	
Maximum current	27 A _{RMS}	
Efficiency	>90%	
DC input		
Operational voltage range	200-450 V _{DC}	400-850 V _{DC}
Protection	Over & Undervoltage shutdown Overcurrent protection Thermal derating	

Standards	
Standards	FCC part 15, CISPR25, ISO11452-4, ISO7637-2/-3, ISO16750-2, IEC 61000-6-1, ISO 10605, IEC 61851-21, IEC61851-1, SAE 61851-1
EVSE compatibility	SAE J1772
Insulation	AC to chassis: 1500 V _{ac} DC to chassis: 2600 V _{ac} AC to DC: 1900 V _{ac} (MV) or 2600 V _{ac} (HV)

Environmental & cooling features	
Coolant temperature Ambient temperature Storage temperature	-40°C to 85°C
Cooling system	40% water / 60% glycol
Ingress protection	IP67
Shock & vibration standards	GMW3172

*preliminary (available Q3 2018)
Specifications are subject to change

DIMENSIONS



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