

TM4[®] BCI20

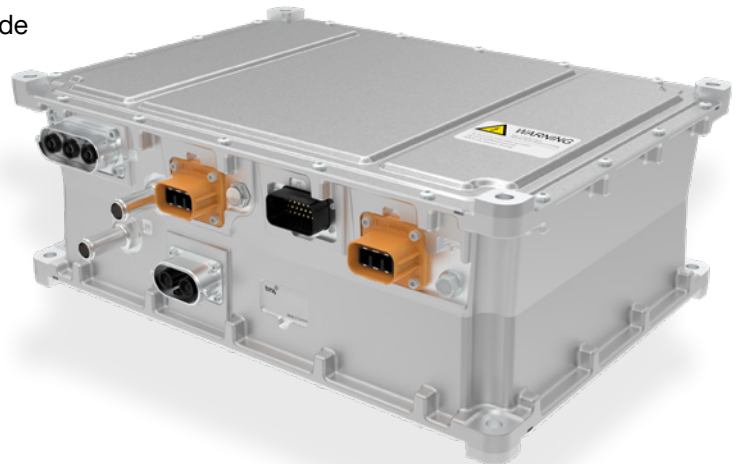
Bi-directional Charger Inverter

Product Benefits

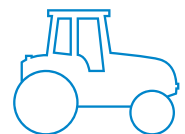
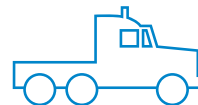
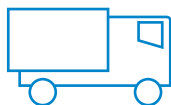
- Compact and lightweight
- 2 high-side + 1 low-side drive general purpose outputs
- 2 x CAN 2.0b ports up to 1 Mbps (J1939 control/diagnostic)
- IP67 rating for harsh environments

Product Features

- 2 operating modes: charging mode and inverter mode
- Up to 18 kW power using SAE J1772 standard
- 1-phase or 3-phase* AC input (120/208/240 V_{AC})
- >92% efficiency
- 2 independent 9kVA three phase outputs



Ideal for a Variety of Electric & Hybrid Vehicles.



TM4® BCI20

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.

Charger Mode

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

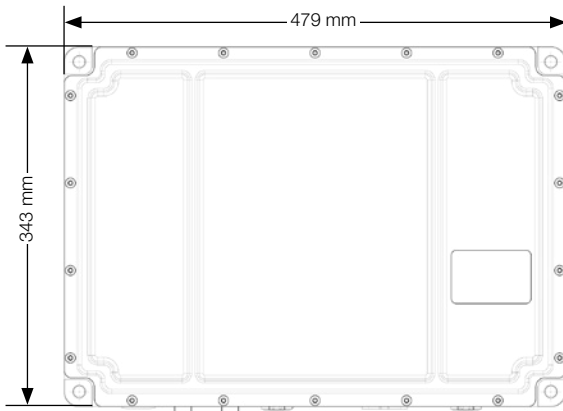
15 kW @ 208 V_{AC}
18 kW @ 240 V_{AC}

Operational voltage range

200-450 V_{DC} 400-850 V_{DC}

Protection

Over & Undervoltage shutdown
Overcurrent protection
Thermal derating



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)

*Preliminary - Available 2020

TM4

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Inverter Mode

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%

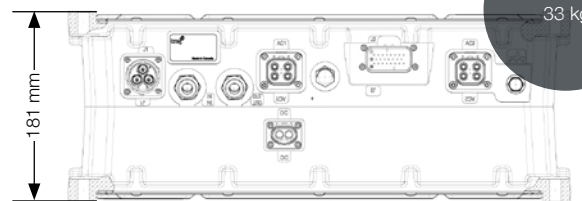
DC input

Operational voltage range

200-450 V_{DC} 400-850 V_{DC}

Protection

Over & Undervoltage shutdown
Overcurrent protection
Thermal derating



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

Specifications are subject to change

tm4

