Custom In-Vehicle Smart Charging Modules with smart technology ensure device protection and fast battery recharging in a compact, convenient package

**Features and Benefits**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart technology communicates with plugged in mobile devices</td>
<td>Ensures effective battery charging for a range of device profiles</td>
</tr>
<tr>
<td>Voltage compensation</td>
<td>Provides reliable voltage-drop support for USB cables</td>
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<tr>
<td>Approximately 30 to 40% smaller than competing charging modules</td>
<td>Enables flexibility with positioning modules in space-constrained vehicle locations</td>
</tr>
<tr>
<td>Current-limit switch with integrated intelligent chip</td>
<td>Regulates electrical current according to manufacturers’ specifications</td>
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<tr>
<td>Transient suppression capabilities</td>
<td>Shields devices from vehicle electrical subsystem voltage and current spikes</td>
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<tr>
<td>Reverse polarity protection</td>
<td>Prevents damage from shorts</td>
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<tr>
<td>Panel-mount or cable-to-bezel packaging options</td>
<td>Accommodates multiple charging ports for a variety of applications throughout the vehicle</td>
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<tr>
<td>Automotive-grade components</td>
<td>Meet all automotive reliability standards for electronic components</td>
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<td>Internal filters available</td>
<td>Provide electromagnetic interference (EMI) protection at input and output ports</td>
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<tr>
<td>Electrostatic discharge (ESD) protection</td>
<td>Prevents damage from ESD when devices are hot plugged and/or removed</td>
</tr>
<tr>
<td>Customization options: LED back lighting, power connectors</td>
<td>Offers design flexibility to meet application’s specific needs</td>
</tr>
</tbody>
</table>

**Applications**

**Automotive**
- Cars
- Light Trucks

**Commercial Vehicle**
- Trucks
- Construction Equipment
- Heavy Vehicles
- Generators
- Farm Vehicles
- Recreational Vehicles
- Motorcycles
- Boats

**Aerospace and Defense**
- Airplanes

**Smart Charging Modules**
A. Panel-Mount ; B. Embedded
Custom In-Vehicle Smart Charging Modules For BC 1.2 and Apple MFi Profiles

Specifications

REFERENCE INFORMATION
Packaging: Individual
Mates With: USB Type A and C Connectors
Use With: Apple MFi, USB Charging Profiles
Typical Power Input: Mini50™ and Micro-Fit 3.0™
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

ELECTRICAL
Voltage (max.): 9 to 16V
Current (max.): 2.9A

MECHANICAL
Durability (min.): 10,000 Cycles for USB-A Interface

PHYSICAL
Housing Polycarbonate/Acrylonitrile Butadiene Styrene (PC+ABS) Resin
Contact: Phosphor Bonze (Typical)
Plating:
  - Contact Area — Gold (Au)
  - Underplating — Nickel (Ni)
Operating Temperature: -40 to +70°C

Ordering Information

<table>
<thead>
<tr>
<th>Custom Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Molex</td>
<td>In-Vehicle Smart Charging Modules</td>
</tr>
</tbody>
</table>

www.molex.com/link/invehiclesmartcharging.html