



# Accelerating Development... Driving Solutions

for Electrical Power Chain Safety, Efficiency, Reliability and Control



# **Cooper Bussmann Transportation**

**COOPER** Bussmann

Your Trusted Partner For Electrical Power Chain Safety, Efficiency, Reliability and Control

In a worldwide transportation marketplace Cooper Bussmann is your leading source for safe and reliable electrical power and machine control solutions.

We're experts in the effects of cold and heat, vibration, high moisture, harsh chemicals and transient power fluctuations. We know vehicle power and control systems from the smallest to largest platforms, and will partner with you to develop reliable products and systems.

With combined industry history and experience reaching back more than 90 years, the engineering strength and proven track record of the Cooper Bussmann®, Sure Power and OMNEX Control Systems brands provide you the ability to accelerate product development in "smart" systems and create innovative, industry-leading solutions. These solutions range from straightforward products from our catalog all the way to next generation systems that will create efficiencies not yet realized.

The Cooper Bussmann mission is to respond completely and uniquely to OEM requirements for vehicle electronic products and control solutions that require cost reduction and customization.

We are committed to continuous new product development and offer you a competitive advantage through partnership R&D expertise and a technology portfolio that minimizes excessive tooling and time required to produce OEM-specific solutions.

Cooper Bussmann, a division of Cooper Industries, has a global manufacturing footprint. Our facilities are ISO 9000-2001 and TS1649 certified to meet the highest quality and environmental standards.









**Custom Controls** 

# You Benefit From:

Safe & rugged solutions

Trusted products & people

Extensive industry experience

Transit/Coach

Marine

**Electric Vehicle** 

**Work Truck** 

**Material Handling** 

Small Machine

ONE Team ONE Purpose

**ONE Vision** 

# **Conversion, Conditioning, Management & Control**

**COOPER** Bussmann

Off-the-shelf and custom-designed solidstate products for power conditioning, conversion and management, and control of on-vehicle electrical systems

# Smart Remote Battery Charging/Isolation • More efficient and reliable than mechanical or solenoid systems Low Voltage Disconnection • Intelligent power management and battery rundown protection Vehicle Lighting Control & Flashers 24v Start & Charge Intelligent Power Distribution • Efficient and optimized allocation of power to electronic devices

Battery Equalization & DC-DC Voltage Conversion

 Maintain a balanced battery system by prioritizing multi-voltage charging

#### **Maximize Battery Life and Performance**

- Eliminate multi-battery drain
- Disconnect and reconnect non-critical loads
- Automatically manage battery charging
- Charge remotely mounted batteries at proper voltage

#### Stabilize Vehicle Power Supply

- Equalize batteries and maintain balance with solid state technology
- Prevent system overloads and protect against voltage spikes

#### **Increase Component Voltage Flexibility**

- Condition output voltages with reliable DC/DC power conversion and power conditioning
- Protect devices with clean power in multi-voltage applications
- Allows use of components or acessories with different voltage requirements to operate on the vehicle





#### **Broad Range of Isolator Current Capacities**

• 25A through 350A

#### Wide Converter Input Voltage Range

9Vdc to 96Vdc negative ground

#### **Low Voltage Disconnection**

Ranging from 9Vdc to 25Vdc

#### **Versatile Battery Separators**

 Work with any type of 12Vdc or 24Vdc negative ground charging system, 300A or less

#### **Other Accessories**

- Solid state flashers (12Vdc and 24Vdc)
- Daytime running lights (CMVSS-108, CAN/CSA=D603-88, Type 2; FMVSS-108)

#### **EMI/EMC Profiling**

• SAE, ISO, E mark, CE and Military Standards

#### **Solid State Power Switching**

• Up to 300A

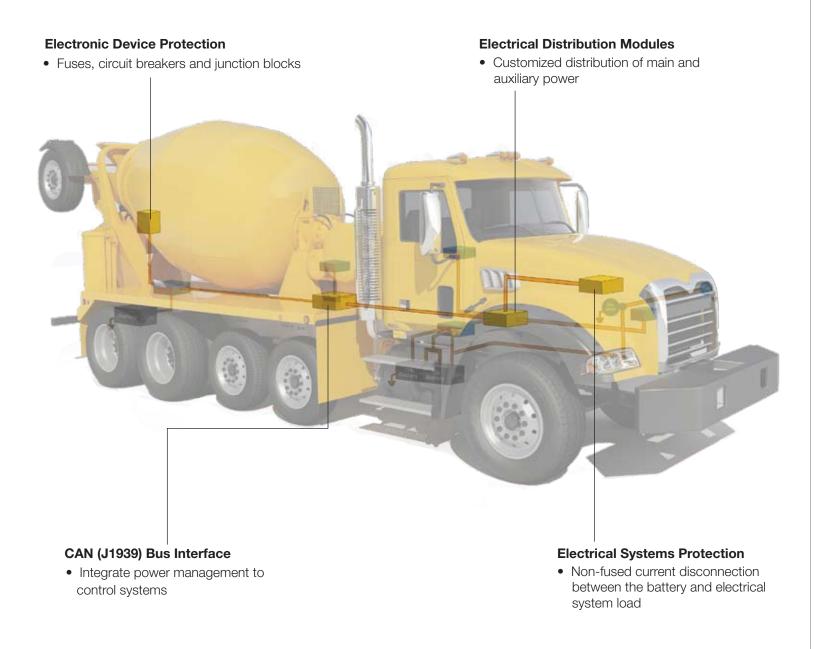
**Efficient Electrical Power Distribution** 

**Specifications & Demand Drive Integrated Solutions** 

## **Power Distribution & Circuit Protection**



### Off-the-shelf and custom-designed products that provide and protect vehicle power distribution



#### **Customize Electrical Control**

- Reduce wiring harness complexity and overall wiring space requirements
- Scale power distribution to meet power requirements of any application
- Rapid development of customized modules with advanced 3D matrix technology

#### **Maximize Fault Protection In Minimum Space**

- Compact packaging
- Take advantage of a suite of auto, manual and modified fuses, fuse holders, circuit breakers and junction blocks

#### **Network CANbus Enabled Power Distribution Modules With Vehicle System**

• Improve system control, performance and diagnostics











#### **High Power Ratings**

- Circuit Protection up to 500A
- Interrupt rating up to 10kA
- Power Distribution modules up to 400A
  Voltage ratings to 48Vdc and beyond

#### **Multiplexing Capability**

J1939 Interface

#### **Flexible Configurations**

- Delphi™ / AMP™ terminal connections
- 1-32 position fuse blocks

#### **Rugged Construction and Serviceable Design**

- High ingress protectionHigh temperature/humidity/vibration resistance

#### **Ignition Protected Options**

Per SAE J1171

#### **Agency Compliant**

• SAE / ISO / ABYC / UL / CE / CSA

**Safe Electrical Power** 

Supporting Your Needs with World Class Products, Brands and Infrastructure

## **Distributed I/O & Wireless Controls**

**COOPER** Bussmann

Off-the-shelf and custom-designed products for the distribution of I/O, on-chassis communication and remote vehicle control

communications capabilities

# **Radio Remote Control** Reliable man-to-machine control Distributed I/O Wired and wireless distributed machine control **Dashboard HMI Remote Diagnostics and Asset Management** • Wireless vehicle management and

• Critical machine health information displays, controls and interfaces

#### **Enhance Machine Safety and Productivity** with Customized Radio Remote Control

• Operate reliably in the harshest industrial environments with OMNEX TRUSTED WIRELESS™

#### Integrate Discrete and Proportional Distributed I/O

- Deploy modular CAN (J1939) enabled I/O
- Reduce wiring, space requirements, installation labor and maintenance with distributed wireless I/O

#### **Increase Machine Efficiency and Revenue** Generation

- Eliminate cumbersome and costly control pendants, gauges and wiring
- · Monitor and control machine functions with two-way wireless communication
- Improve vehicle asset management with useful human-machine interfaces (wired and wireless HMI)





#### **Proprietary and Standards-based Radio Technologies**

• TRUSTED WIRELESS™ FHSS, 802.11a/b/g

#### **Global Radio Certifications**

• 900 MHz . 2.4 GHz. 5 GHz

#### **Wide Operating Temperature Range**

• -40 °C to +70 °C (-40 °F to +158 °F)

#### **Exceptional Battery Performance**

• 160 to 600 hours continuous transmitter use depending on application with recharge capability

#### **High Impact Product Construction**

• Low temperature plastic, weatherproof, UL-94, 746A.C.D.ASTM D 469

#### **Modular HW Designs and Customized SW Control Algorithms**

 In-house applications engineering dedicated to new OEM product development

#### **EMC/EMI Full Compliance Testing**

• FCC / ISC / CE / C-Tick / EN300 440

**Reliable Machine Control** 

**Supporting Your Service & Market Requirements for Product Platforms, Infrastructure & Flexibility** 



# Leading Products & Sales Support

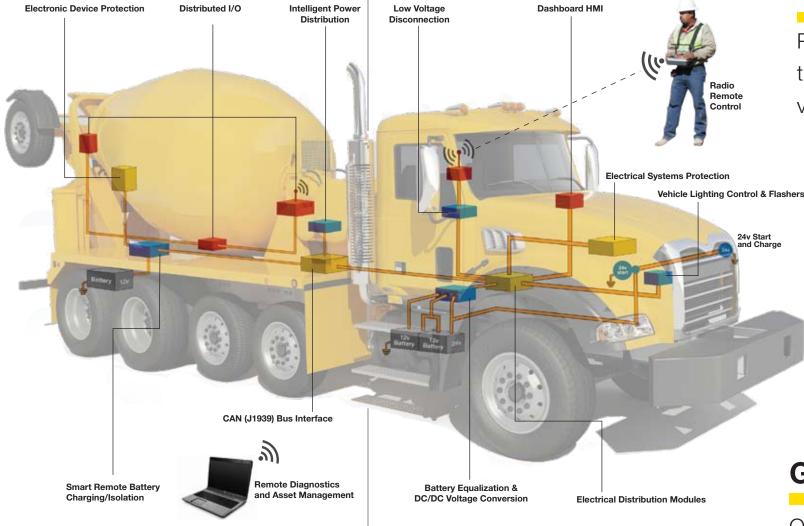
Large, global, healthy and diverse end markets; we're focused on your success.

# **Globally Trusted Brands**









# **Innovation & Technology**

Product and technology platforms that create end user demand and value for your products.

# **Global Infrastructure**

Our world-wide R&D, manufacturing and customer support is available anywhere you do business.







#### **Power Management**

Cooper Bussmann Sure Power 10189 SW Avery St Tualatin, OR 97062 Tel: 800-845-6269 Fax: 503-692-9091

#### **Power Distribution**

Cooper Bussmann
Transportation Products
1830 Howard Street, Suite C
Elk Grove Village, IL 60007-2195

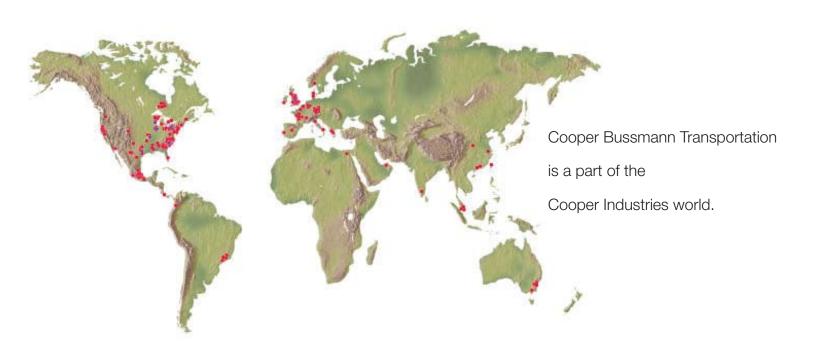
Tel: 888-867-8194 Fax: 800-832-9873

#### **Radio Remote Control**

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