



VEGA INNOVATIONS

# CHARGE CONTROLLER

VEGA INNOVATIONS EV Charge Controller

## INTRODUCTION

The VEGA EV Charge Controller is a stand-alone charge controller that enables AC and DC charging in commercial vehicles, heavy-duty trucks, and electric buses. It provides native support for J1772, CHAdeMO, and GB/T protocols, ensuring safe and reliable functional operation with ASIL-B capable architecture.

## KEY FEATURES

- ▶ Multi-protocol support: J1772, CHAdeMO, GB/T
- ▶ ASIL-B compliant (ISO 26262)
- ▶ Dual-core lockstep MCU (STM SPC58 series)
- ▶ Automotive qualified (AEC-Q100)
- ▶ Dual CAN FD channels (up to 5 Mbps)
- ▶ 12 opto-isolated inputs (5000Vrms)
- ▶ Intelligent high-side drivers (PROFET™ +2)
- ▶ Contactor feedback verification
- ▶ Temperature monitoring (dual channel)
- ▶ CCS2 connector lock control

## INTERFACES

Main Connector	Molex 500762-0481 (48-pin)
CAN Channels	2× CAN FD (up to 5 Mbps)
Isolated Inputs	12× opto-isolated (12-24V)
Analog Inputs	4× buffered ADC (12-bit)
High-Side Outputs	4× intelligent drivers (3A each)
Connector Lock	Dual H-bridge (2A, PWM capable)
Temperature Sensors	2× PT1000/PTC inputs

## CHARGING PROTOCOLS

J1772 / IEC 61851	AC Level 2 with CP/PP detection
CHAdeMO	DC fast charging, full isolation
GB/T	24-48V boost, dual contactor drive

## APPLICATION

- ▶ Electric vehicles charge control
- ▶ Electric buses
- ▶ Electric trucks
- ▶ Electric construction machinery
- ▶ Electric boats

## SUPPORTED STANDARDS

J1772

IEC 61851

CHAdeMO

GB/T

ISO 26262

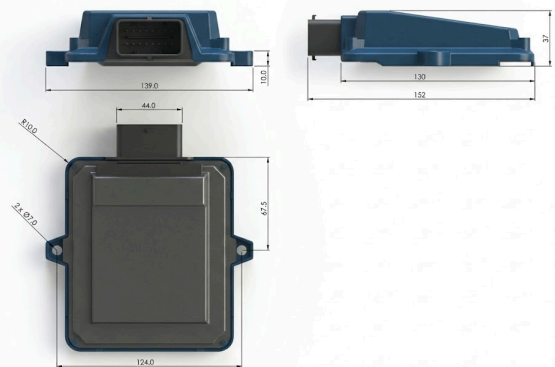
IEC 61000-4-2

## Operational Parameters

Input Voltage	9-32V (12V nominal)
Max Current	~5A
Temperature Range	-40°C to +85°C (industrial)
Weight	~170g
Dimensions	150.6 × 114.4 × 36.4 mm
IP Rating	IP67
RoHS	Compliant



## MECHANICAL DIMENSIONS



Mounting hole spacing: 124.0 mm | Housing width: 139 mm

## SAFETY FEATURES

- ▶ Full galvanic isolation (5000Vrms)
- ▶ ESD protection: ±15kV on inputs
- ▶ Overcurrent & thermal shutdown
- ▶ Window comparator voltage monitoring
- ▶ Contactor welding detection
- ▶ Redundant sensing architecture