



# 2024.1 Software Release Highlights

- EVCC upgrades**
  - ISO 15118-20 EVCC component
  - CHAdeMO EVCC component
- DC Constant Power Load**
- User-defined simulation steps**
- Communication Interface updates**
  - Flexible Ethernet port selection
  - EtherNET/IP protocol full support
- HIL Connect Interface improvements**



# ISO 15118-20 EVCC component

*Expand your ISO 15118-2 test coverage with new V2G functions*

- Bidirectional Power Transfer: support for V2X (V2H, V2G, V2V)
- Dynamic control mode support
  - Both vehicle-driven and infrastructure-driven charging control supported
- Stronger data security
  - TLS encryption according to TLS 1.3 always required
- Multi-contract handling
- DC and DC-BPT energy service support



The screenshot shows the 'ISO 15118-20 EVCC1' configuration window. It is divided into two main sections: 'Connection options' and 'Charge parameters'.

**Connection options:**

- Medium type: PLC
- Connection type: Secured connection
- Payment option: Contract
- Import folder with certificates: Choose folder
- Imported folder path: Absolute
- Supported energy service: DC
- Connector type: Core
- Control mode: Dynamic
- Receive Meter Info: False
- Perform Welding detection:
- Pre-charge voltage accuracy: 5 %
- Execution rate: 100e-6
- Logging level: Off

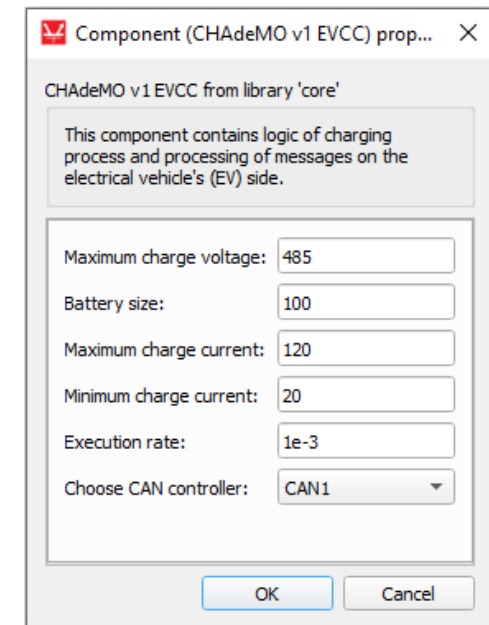
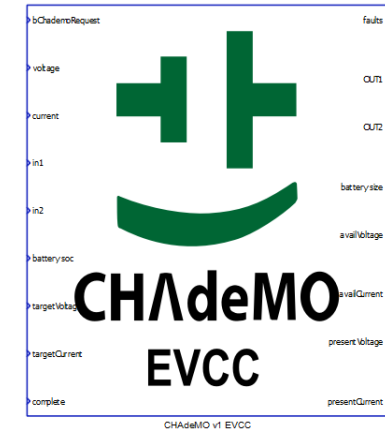
**Charge parameters:**

| Item name                     | Value               | Exponent | Include                  |
|-------------------------------|---------------------|----------|--------------------------|
| 1 Maximum Charge Power        | 0                   | 0        | <input type="checkbox"/> |
| 2 Minimum Charge Power        | 0                   | 0        | <input type="checkbox"/> |
| 3 Maximum Charge Current      | 0                   | 0        | <input type="checkbox"/> |
| 4 Minimum Charge Current      | 0                   | 0        | <input type="checkbox"/> |
| 5 Maximum Voltage             | 0                   | 0        | <input type="checkbox"/> |
| 6 Minimum Voltage             | 0                   | 0        | <input type="checkbox"/> |
| 7 Maximum Energy Request      | 0                   | 0        | <input type="checkbox"/> |
| 8 Minimum Energy Request      | 0                   | 0        | <input type="checkbox"/> |
| 9 Maximum V2X Energy Request  | 0                   | 0        | <input type="checkbox"/> |
| 10 Minimum V2X Energy Request | 0                   | 0        | <input type="checkbox"/> |
| 11 Departure Time             | 0                   |          | <input type="checkbox"/> |
| 12 Minimum SOC                | 0                   |          | <input type="checkbox"/> |
| 13 Maximum Supporting Points  | 1024                |          | <input type="checkbox"/> |
| 14 Target SOC                 | from input terminal |          | <input type="checkbox"/> |
| 15 Target Energy Request      | from input terminal | 0        | <input type="checkbox"/> |
| 16 Present Voltage            | from input terminal | 0        | <input type="checkbox"/> |
| 17 Target Voltage             | from input terminal | 0        | <input type="checkbox"/> |

# CHAdemo EVCC component

*Expand the reach of your charging applications*

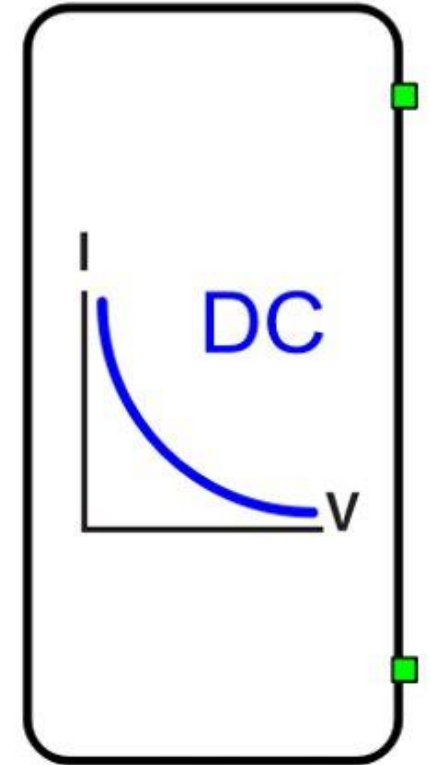
- Digital communication protocol for fast DC charging of electric vehicles
- CAN Bus-based
- Full Electric Vehicle Charging Communication (EVCC) model
  - Electric Vehicle Supply Equipment (EVSE) testing according to the CHAdemo protocol
- Adjustable EVCC charge parameters from component properties



# DC Constant Power Load

*Speed up DC system development*

- DC Constant Power Load component with current limiting capabilities
- Capable of operating as both a power source or a power load
- Power reference controlled from either SCADA or Signal processing logic

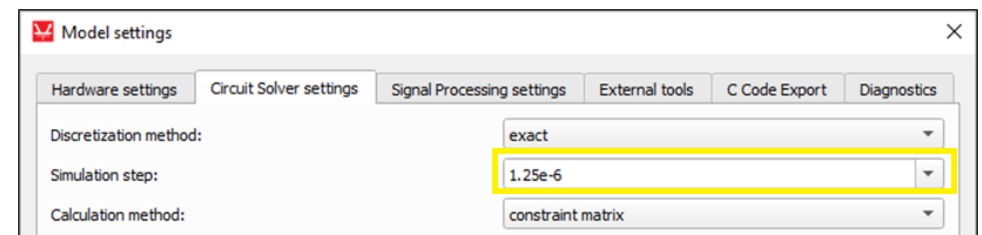
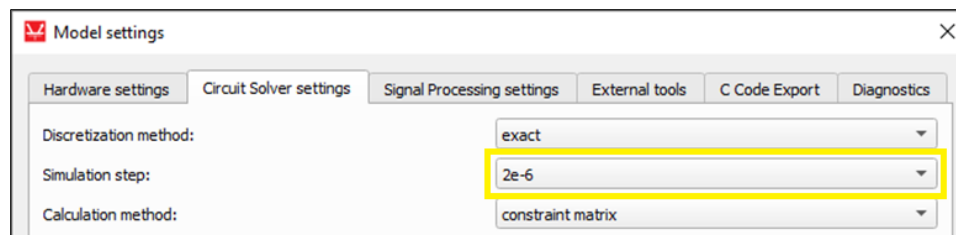


DC Constant Power Load

# User-defined simulation steps

*Configure Circuit Solver with more flexibility*

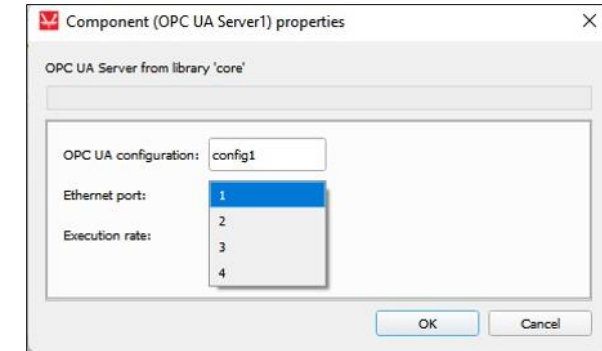
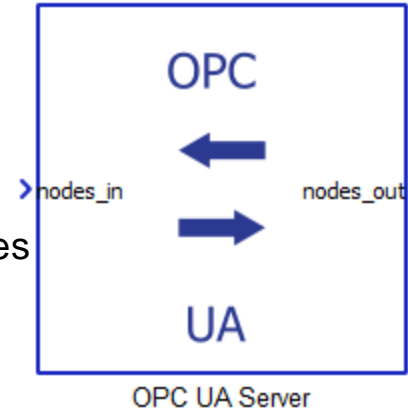
- ❑ Enable selection of custom simulation steps beyond standard ones (e.g. 1.25  $\mu$ s)
- ❑ Enhance simulation fidelity by reducing the achievable simulation step
- ❑ Simulation steps between 200 ns and 20  $\mu$ s supported
- ❑ Chosen time step must be an integer multiple of 50 ns



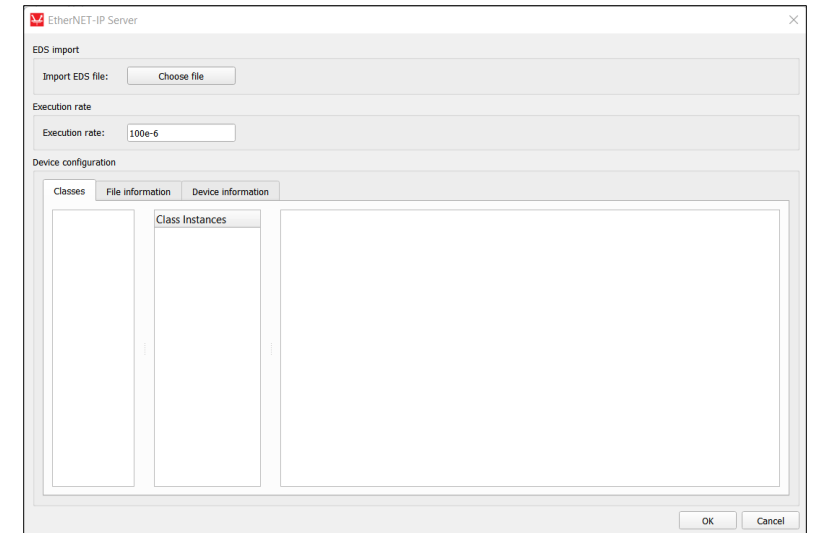
# Communication interface updates

*More options for your communication tests*

- Flexible Ethernet port selection
  - OPC UA Server component can now utilize any available Ethernet port for 4th generation HIL devices
  - This allows for creating separate networks on a single HIL device



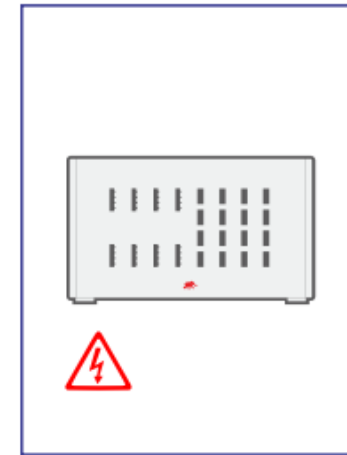
- EtherNET/IP protocol full support
  - EtherNET/IP Server component now available
  - EDS file import used for component parametrization
  - Added support for explicit message transfer



# HIL Connect Interface improvements

*Configure your HIL BMS Interface in minutes*

- ❑ HIL BMS Interface now available as a configuration preset
  
- ❑ Native support added for the following hardware modules:
  - Cell Emulator Card
  - CAN Resistor Emulator Cards
  - BMS Digital Card
  - BMS Analog Output Card



HIL Connect Interface

