# ELECTRIC VEHICLE CHARGER

## VE 741 S00 / VE 741 M05 / VE 741 M10

## VE 741 SP0 / VE 741 MP5 / VE 741 MP1

## VE 742 S00 / VE 742 M05 / VE 742 M10

## VE 221 S00 / VE 221 M05 / VE 221 M10

## VE 222 S00 / VE 222 M05 / VE 222 M10

# ETS USER MANUAL

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# INTRODUCTION

## Description

The Electric Vehicle Charger incorporates a KNX interface that allows communication with other KNX Bus devices through communication objects configurable via ETS® software, enabling its integration into a KNX installation.

- Its main functions are:
  - Charging process control:
    - Automatic start of charging after vehicle connection
    - Automatic disconnection at the end of the sesion
    - Maximum session time limitation
    - Charger status monitoring
    - Current and power limitations
  - Energy management and power control:
    - Dynamic load balancing
    - Simultaneous balancing of multiple chargers
    - Scheduling charging sessions at time intervals
  - Monitoring and supervision:
    - Charger status
    - Instantaneous charging power
    - Instantaneous charging curren
    - Operational and diagnostic information
    - Energy and session time
  - Reliable hardware:
    - Steel enclosure
    - IP54 protection rating
    - IK10 impact resistance
    - Screwless clamp-type terminals
    - Resettable protections
  - Compatibility with a wide range of systems:
    - Communication with OCPP systems
    - RFID access capability
    - KNX compatibility
    - Configurable via Ethernet
    - Bluetooth connection via DINUY – eMobility app
    - Configurable via Wi-Fi through the Cloud platform

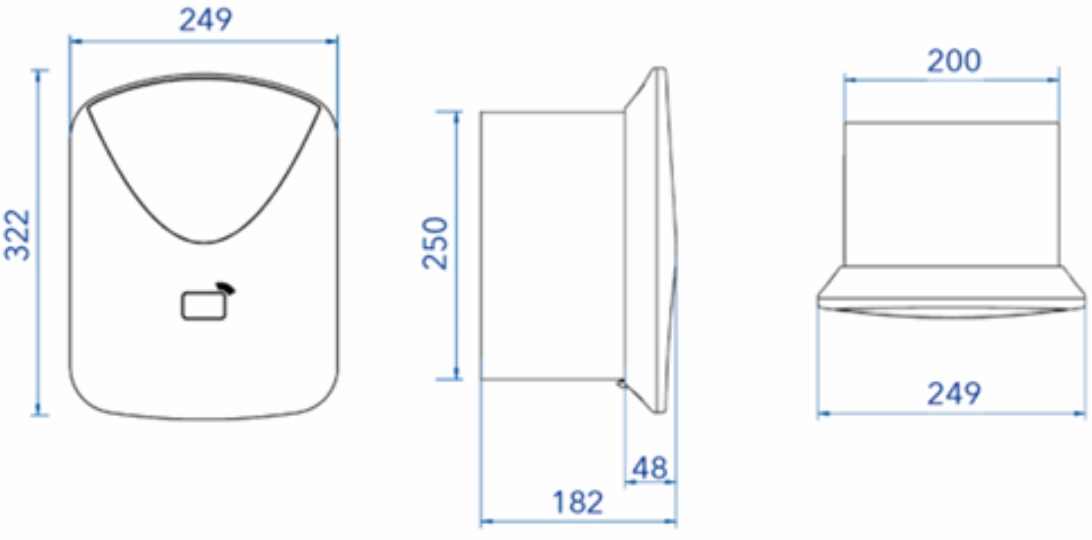
- The Charger allows integrating its functions within a KNX system. This makes it possible to control vehicle charging from other KNX devices and monitor its status.
- In addition to other functions, this device sends control commands (start/stop charging, power limitation, dynamic load balancing, etc.) via KNX communication objects configurable in ETS®. Conversely, it sends information about charger status, consumption, and power via KNX telegrams.
- It has 1 or 2 connectors, depending on the model, allowing the management of charging for one or two vehicles simultaneously.
- Depending on the model, it features resettable self-protection in case of overload or session interruption: if a persistent fault is detected, the charger interrupts power to the vehicle for a set period and then safely retries charging.
- Dynamic load balancing between multiple connectors or chargers connected to the same installation.

- Commissioning and maintenance (manual charge control, session supervision, visualization of energy consumed or errors) via ETS® software.
- Requires electrical supply according to its model: 230 VAC 50/60 Hz for single-phase, or 400 VAC 3-phase 50/60 Hz for three-phase.
- ETS® software is required for KNX configuration and commissioning.
- Wall-mounted installation in the garage or parking area.
- Other features:
    - 2.8” TFT color display with latest LED technology
    - Each charger is supplied with 4 RFID cards
    - Up to 5-year warranty

## Technical data

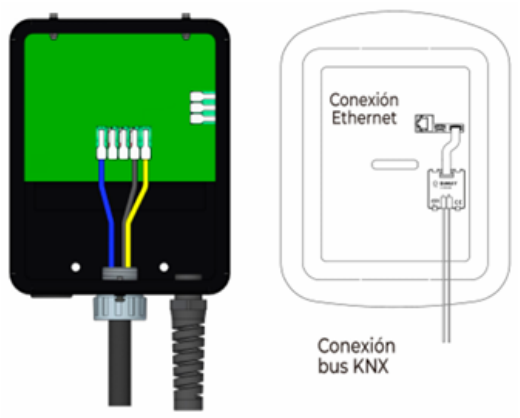
| | | |
|---|---|---|
| Supply voltage | | Single-phase models: 230 Vac ±10 % 50/60 Hz<br>Three-phase models: 400 Vac ±10 % 50/60 Hz |
| Socket | | Socket, 1 or 2 type 2 conectors 5 or 10 m long depending on the model |
| KNX | KNX Supply voltage | 21..32Vdc |
| | KNX Consuption | < 5mA |
| | Programation via | ETS5 and later versions |
| | KNX Medium | PT1 |
| | Commissioning | System Mode |
| Charge mode | | 3 |
| Configurable charging current | | 6 to 32 A |
| Cable section | | 10 $mm^2$ |
| Connection | | screwless spring-clamp terminals |
| Comunication protocols | | Bluetooth, Wi-Fi, Ethernet, KNX, RFID and OCPP |
| Installation | | Surface-mounted, wall-mounted for indoor or outdoor use |
| Material | | Steel |
| Impact resistance | | IK10 |
| Protection degree | | IP54 |
| Dimensions | | 322 x 249 x 180 |
| Weight | | 5,2 kg to 13 kg depending on the model |
| Working temperature | | -25° C to 50° C |
| Storage temperature | | -25° C to 75° C |
| Operating humidity | | 5% to 95% |

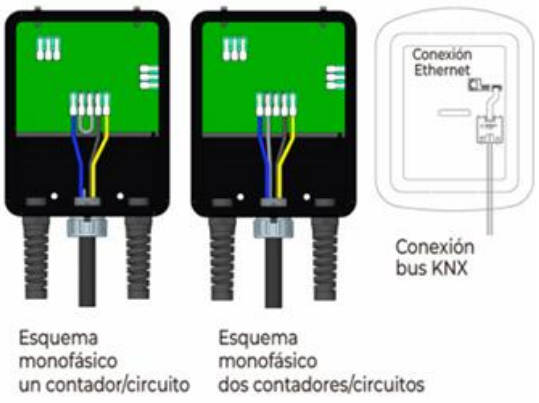
## Dimensions



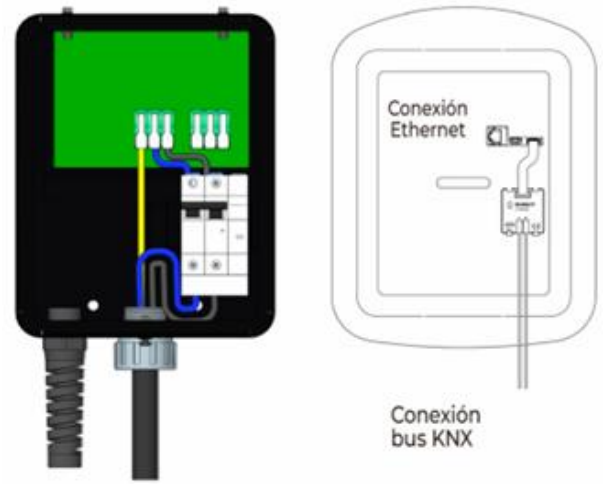
## Connection diagram

- Single-phase 7,4 kW charger with 1 or 2 connectors:

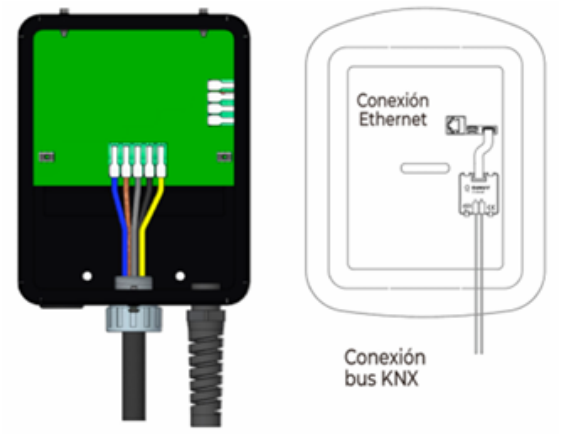


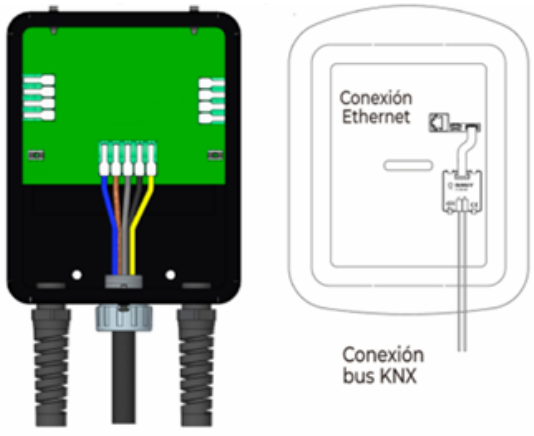




- Single-phase 7,4 kW charger with 1 connector and protections:




- Three-phase 22 kW charger with 1 or 2 connectors:



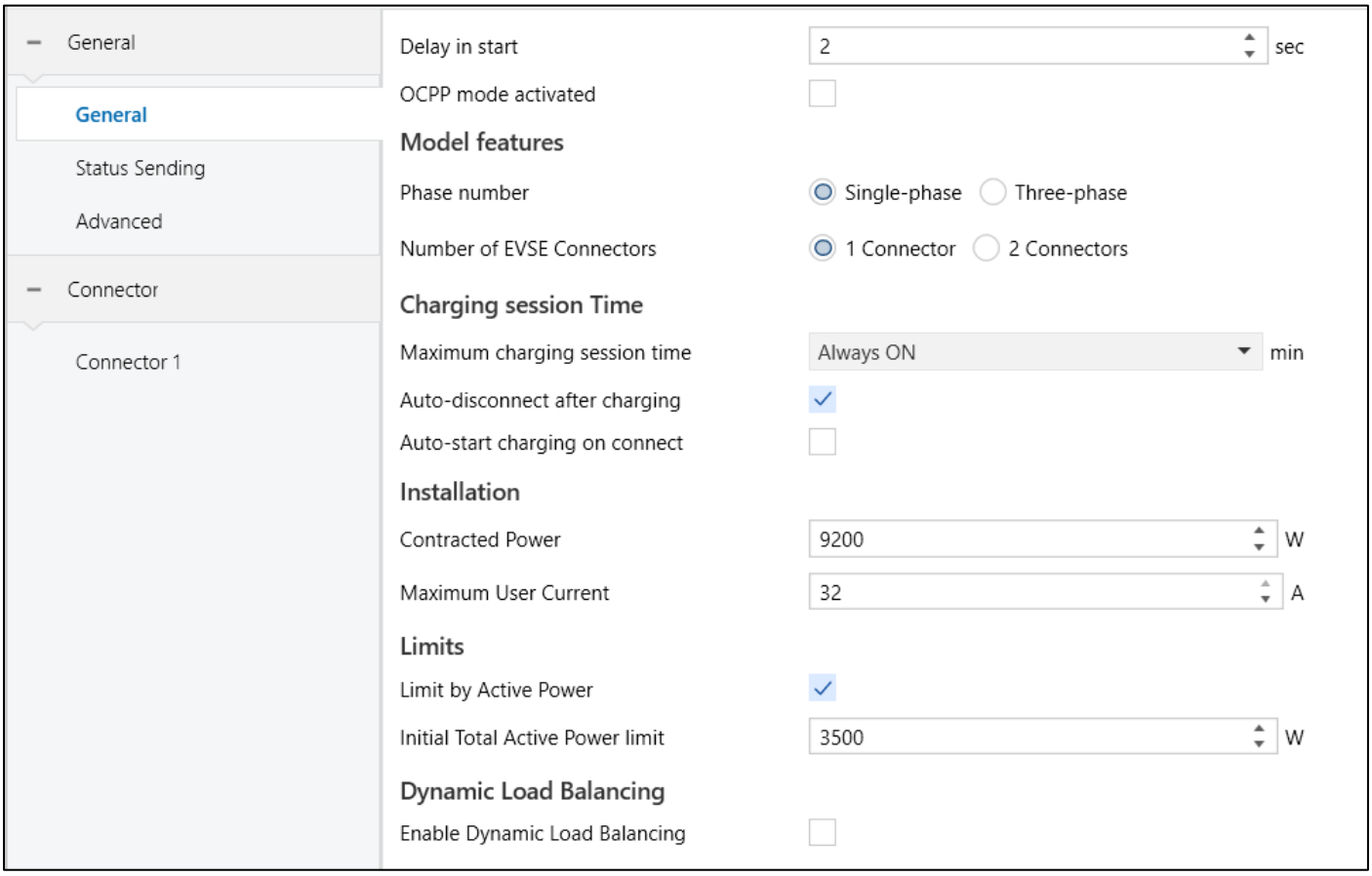



# ETS CONFIGURATION

## Configuration parameters

### General

On this initial screen, it is possible to set a series of general settings

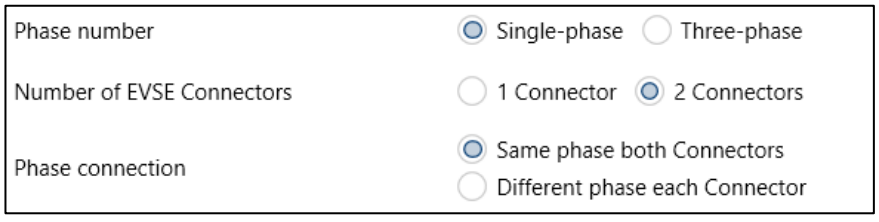



The options available on this screen are as follows:

- **Delay in start:** selects the time that must elapse before sending telegrams to the KNX bus begins.
- **OCPP mode activated:** OCPP (Open Charge Point Protocol) is a system that makes the charger compatible with any payment operator. Enables control via OCPP systems. The charger status can then be monitored through the KNX bus. After selecting this option, the options under "Charging Session Time," "Installation," "Limits," and "Dynamic Load Balancing" will no longer be visible.

Model Features:

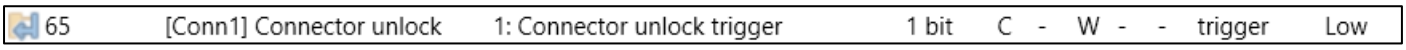
- **Phase number:** allows selecting the number of phases of the model to be configured. If Three-phase is selected, the "Installation" and "Limits" sections will be configurable for each phase. However, the Dynamic Load Balancing option will only be available if Single-phase is selected.
- **Number of EVSE Connectors:** the option corresponding to the purchased Charger model must be selected. In the case of selecting "Single-phase" and "2 Connectors":




- **Phase connection:** it must be selected whether both connectors will be powered from the same phase or from different phases.

Charging session time:

- **Maximum charging session time:** allows setting whether EV charging will always be on, or to limit the session time.
- **Auto-disconnect after charging:** when this option is enabled, it allows the connector system to disconnect automatically after the charging session. If disabled, manual disconnection is possible via the "[Conn1] Connector unlock" object.




- **Auto-start charging on connect:** allows the vehicle to start charging automatically immediately after being connected to the connector.

Installation:

- **Contracted Power:** the total contracted power of the household sharing the supply line must be set so that the charger can account for the maximum power it can provide.
- **Maximum User Current:** if for any reason (vehicle incompatibilities, installations not rated for 32 A, etc.) it is necessary to reduce the maximum current, a more appropriate value can be selected for the specific installation. The minimum allowed is 6 A.

Limits:

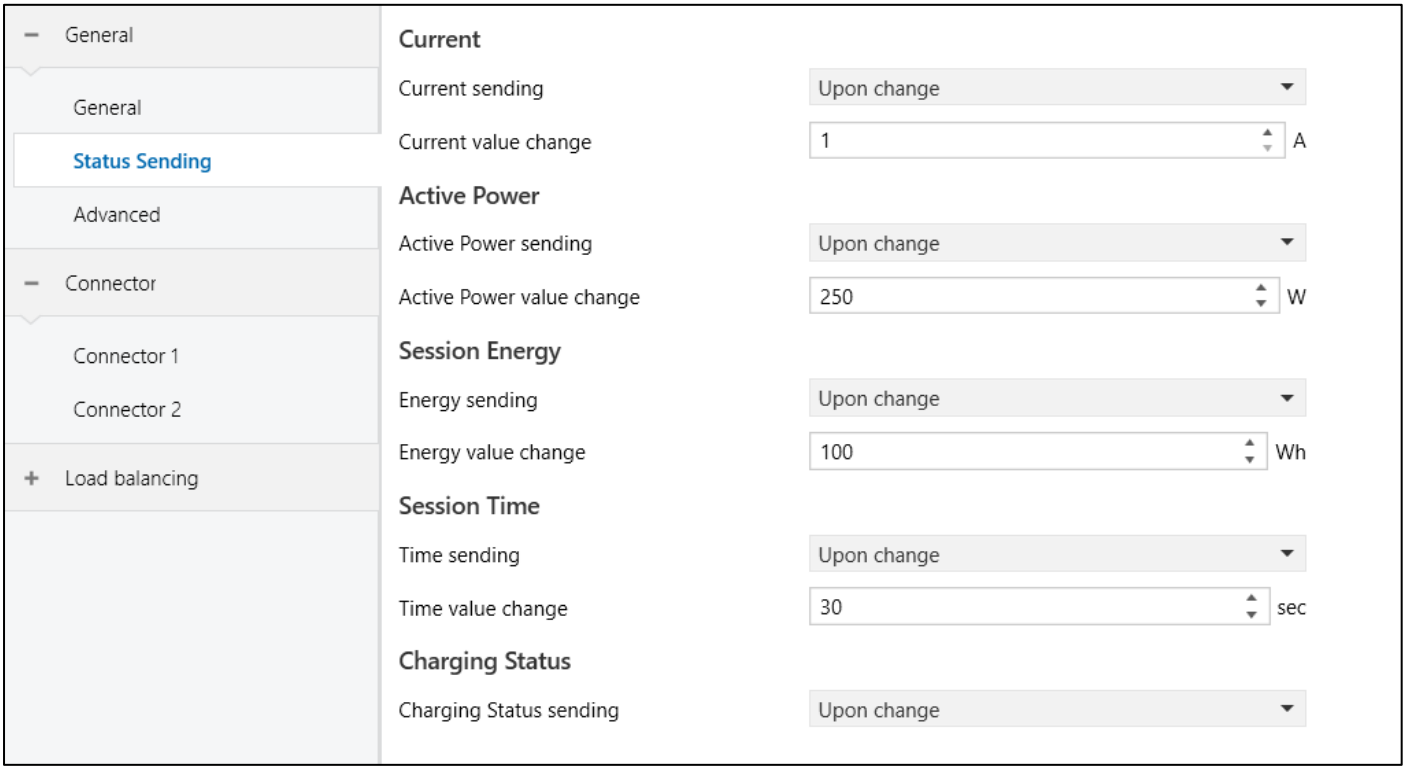
- **Limit by Active Power:** sets whether the limit will be determined by current or by active power (default).
- **Initial Total Active Power limit / Initial Total Current limit:** if in the previous parameter the "Limit by Active Power" option is selected, a value (W) can be set to limit the active power to the desired level. Conversely, if the option is disabled, a value (A) can be set to limit the current.

Dynamic Load Balancing:

- **Enable Dynamic Load Balancing:** after selecting this option, the "Load balancing" tab will appear. See the "Load balancing" section.

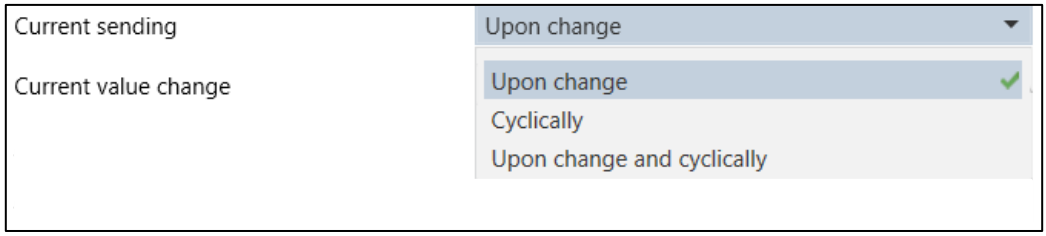
## Status Sending

In this menu, it is possible to configure the transmission of different status objects:




Current:

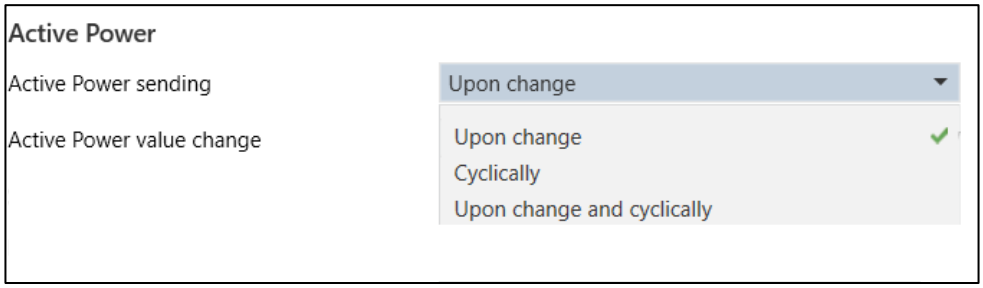
- **Current sending:**




  - **Upon change:** the current will be sent after a change in its value exceeding the threshold set in "Current value change."
  - **Cyclically:** the current will be sent at each interval set in "Current transmission period."
  - **Upon change and cyclically:** the current will be sent after a change in its value exceeding the threshold set in "Current value change" and at each interval set in "Current transmission period."
- **Current value change:** the value that must be exceeded to trigger transmission.
- **Current transmission period:** the interval at which the current value is sent.

Active Power:

- **Active Power sending:**

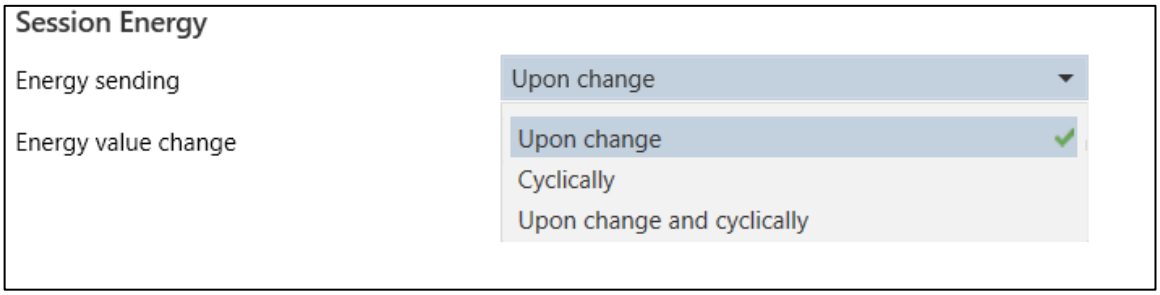


- **Upon change:** the power will be sent after a change in its value exceeding the threshold set in "Active Power value change."
- **Cyclically:** the power will be sent at each interval set in "Active Power transmission period."
- **Upon change and cyclically:** the power will be sent after a change in its value exceeding the threshold set in "Active Power value change" and at each interval set in "Active Power transmission period."

- **Active Power value change:** the value that must be exceeded to trigger transmission.
- **Active Power transmission period:** the interval at which the active power value is sent.

Session Energy:

- **Energy Sending:**

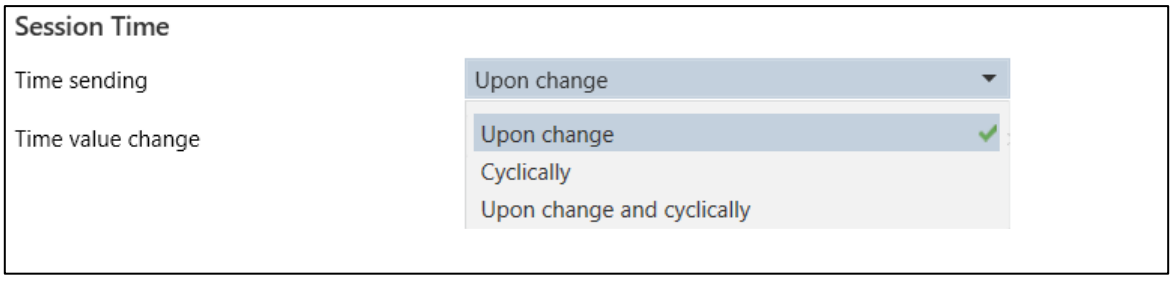



- **Upon change:** the energy will be sent after a change in its value exceeding the threshold set in "Energy value change."
- **Cyclically:** the energy will be sent at each interval set in "Energy transmission period."
- **Upon change and cyclically:** the energy will be sent after a change in its value exceeding the threshold set in "Energy value change" and at each interval set in "Energy transmission period."

- **Energy value change:** the value that must be exceeded to trigger transmisión.
- **Energy transmission period:** the interval at which the session energy value is sent.

Session Time:

- **Time Sending:**

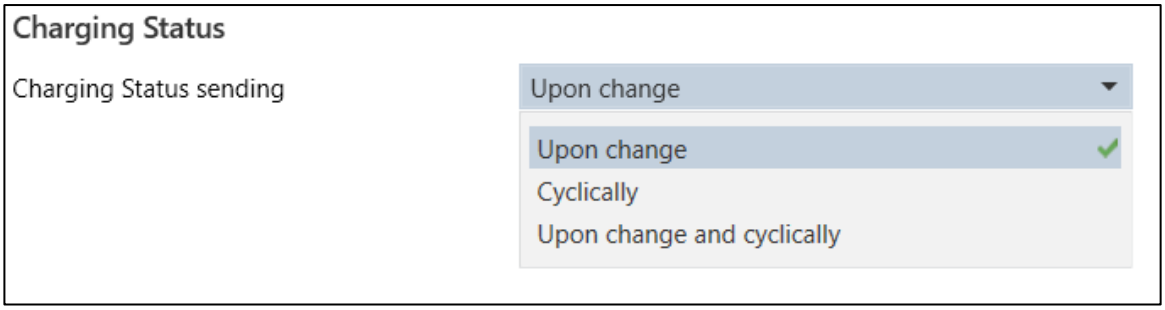



- **Upon change:** the session time will be sent after a change in its value exceeding the threshold set in "Time value change."
- **Cyclically:** the session time will be sent at each interval set in "Time transmission period."
- **Upon change and cyclically:** the session time will be sent after a change in its value exceeding the threshold set in "Time value change" and at each interval set in "Time transmission period."

- **Time value change:** the value that must be exceeded to trigger transmission.
- **Time transmission period:** the interval at which the session time value is sent.

Charging Status:

- **Charging Status sending:**

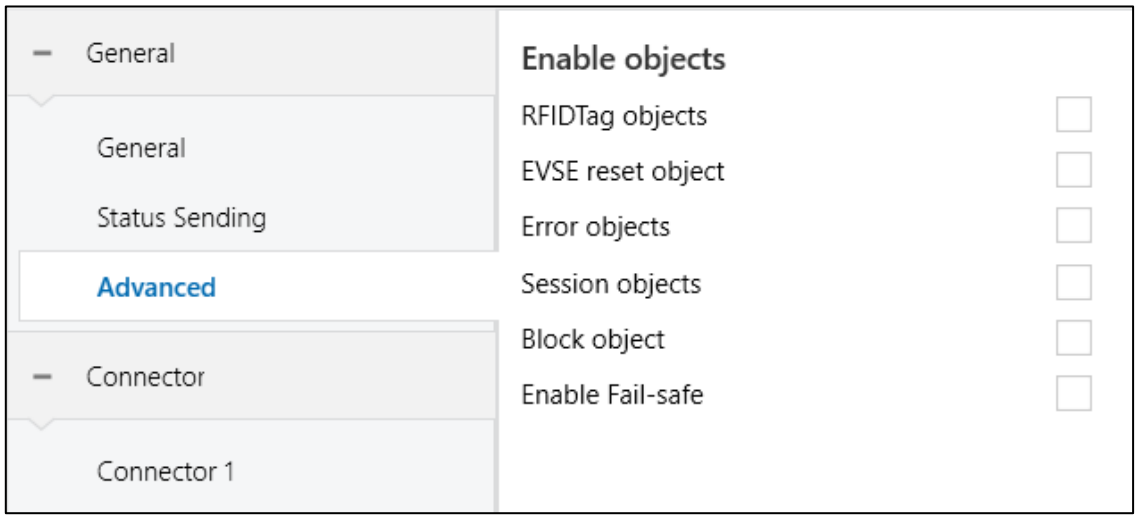



- **Upon change:** the charging status will be sent after any change in its value.
- **Cyclically:** the charging status will be sent at each interval set in "Charging Status transmission period."
- **Upon change and cyclically:** the charging status will be sent after any change in its value and at each interval set in "Charging Status transmission period."

- **Charging status transmission period:** the interval at which the charging status value is sent.

### Advanced

In this menu, it is possible to enable another set of communication objects:




- **RFIDTag objects:** enables the following objects for RFID identification:
  - **Add RFIDTag authorization:** this object allows storing new RFID addresses to enable access with different cards.
  - **Erase all authorized RFIDTags:** allows deleting all cards stored in the system.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | [EVSE] Add RFIDTag authotization | RFIDTag ID | 14 bytes | C | - | W | - | - | Character... | Low |
| 9 | [EVSE] Erase all authorized RFIDTags | 1: erase all, 0: nothing | 1 bit | C | - | W | - | - | trigger | Low |

- **Reset:** enables the following object to reset the Charger. Resetting the charger restores it to its initial configuration.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | [EVSE] Reset | Charger Reset | 1 bit | C | - | W | - | - | reset | Low |

- **Error objects:** enables the following charger error objects:
  - **Error code:** each time the charger registers an error, it displays a code that allows identification of the error.
  - **Communication error with EVSE:** this object takes the value 1 when an error is detected and 0 if there is no error.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | [EVSE] Error code | Error code | 1 byte | C | R | - | T | - | EVSEErrorCode | Low |
| 20 | [EVSE] Communication error with EVSE | 1: error, 0: no error | 1 bit | C | R | - | T | - | alarm | Low |

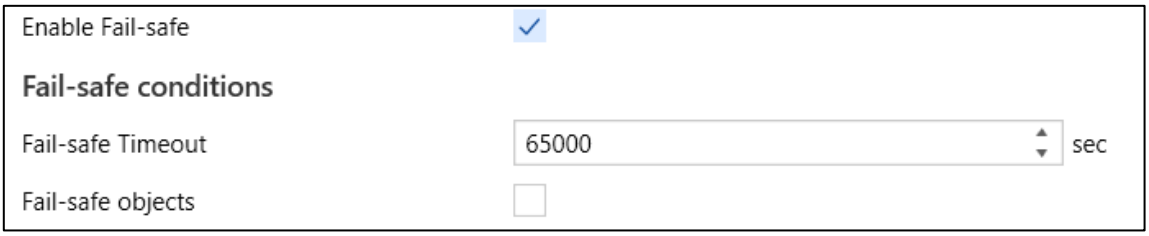
- **Session objects:** enables the following objects related to the charging session:
  - **Maximum Charging session:** allows setting the maximum session time in seconds.
  - **Auto disconnect after Charging session:** at the end of the session, the charger will disconnect automatically if this option is selected.
  - **Auto charging init after connect:** if this object is enabled, charging will start automatically when the vehicle is connected.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | [EVSE] Maximum Charging session | seconds | 2 bytes | C | - | W | - | - | time (s) | Low |
| 7 | [EVSE] Auto disconnect after chargin... | 1: auto, 0: no auto | 1 bit | C | - | W | - | - | enable | Low |
| 13 | [EVSE] Instantaneous Active Power | Watts | 4 bytes | C | R | - | T | - | power (W) | Low |
| 14 | [EVSE] Instantaneous Single-phase C... | Amps | 4 bytes | C | R | - | T | - | electric current (... | Low |
| 26 | [EVSE] Auto charging init after connect | 1: auto, 0: no auto | 1 bit | C | - | W | - | - | enable | Low |

- **Block object:** enables the charger lock object.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | [EVSE] Block | 1: block, 0: unblock | 1 bit | C | - | W | - | - | switch | Low |

- **Enable Fail-safe: allows activating preprogrammed actions to prevent damage or hazardous situations in case of a failure, such as signal loss or power cut on the KNX bus. After enabling it:**

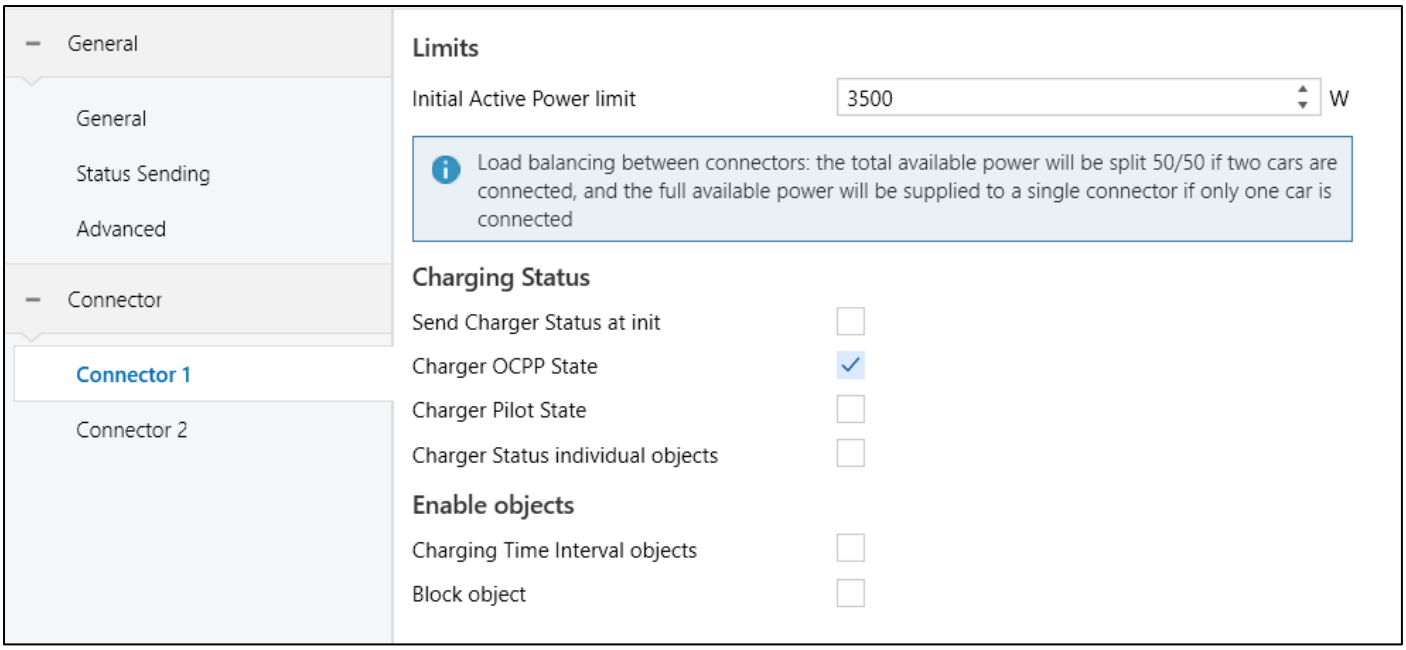



  - **Fail-safe wait time:** the time (in seconds) after which the programmed Fail-safe objects or actions will be activated.
  - **Fail-safe objects:** enables the charger's Fail-safe status object.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | [EVSE] Fail-safe Status | 1: active, 0: no active | 1 bit | C | R | - | T | - | boolean | Low |

## Connector

It is possible to configure one or two connectors, depending on the model. Within the “Connector 1” or “Connector 2” configurations, the following options can be selected:




Limits:

- **Initial Active Power limit:** this option allows setting the active power limit for the chargers. The power will be divided 50% if two connectors are connected at the same time. If only one connector is operating, that connector will receive 100% of the available power. If the available power is limited by this limit, the charger will receive the limited amount.

Charging status:

- **Send Charger States at init:** normally, charging status objects are sent when the object state is updated according to the established limits or cyclically as configured. When the “Send Charger States on initialization” option is selected, the status objects will be sent every time the charger is initialized.
- **Charger Pilot State:** allows viewing the charger status via DPT 20.1220 OCPP State.
- **Pilot Charger Status:** shows whether the vehicle is connected, connected but not charging, connected and charging, etc. Same as the previous object, but using DPT 20.1219.
- **Charger Status individual objects:** allows enabling individual objects related to the status of the charger connector.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | [Conn1] Vehicle connected | 1: connected | 1 bit | C | R | - | T | - | boolean | Low |
| 37 | [Conn1] Charging | 1: charging | 1 bit | C | R | - | T | - | state | Low |
| 38 | [Conn1] Charger available | 1: Charger available | 1 bit | C | R | - | T | - | boolean | Low |
| 39 | [Conn1] Charging suspended by EV | 1: Charging suspended b... | 1 bit | C | R | - | T | - | boolean | Low |
| 40 | [Conn1] Charging suspended by EVSE | 1: Charging suspended b... | 1 bit | C | R | - | T | - | boolean | Low |
| 41 | [Conn1] Charging finished | 1: finished | 1 bit | C | R | - | T | - | boolean | Low |
| 42 | [Conn1] Charger reserved | 1: reserved | 1 bit | C | R | - | T | - | boolean | Low |
| 43 | [Conn1] Charger unavailable | 1: unavailable | 1 bit | C | R | - | T | - | boolean | Low |
| 44 | [Conn1] Charger fault | 1: fault | 1 bit | C | R | - | T | - | boolean | Low |

Enable objects:

- **Charging Time Interval objects:** activates communication objects that allow enabling or disabling charging time intervals. Charging times can only be configured through the Dinuy – eMobility app or via the web platform Cloud over Wi-Fi or Ethernet. Using ETS® software, it is only possible to enable or disable these charging times.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 54 | [Conn1] Enable/Disable charging tim... | 1: enable, 0: disable | 1 bit | C | - | W | - | - | enable | Low |
| 57 | [Conn1] Enable/Disable charging tim... | 1: enable, 0: disable | 1 bit | C | - | W | - | - | enable | Low |
| 60 | [Conn1] Enable/Disable charging tim... | 1: enable, 0: disable | 1 bit | C | - | W | - | - | enable | Low |

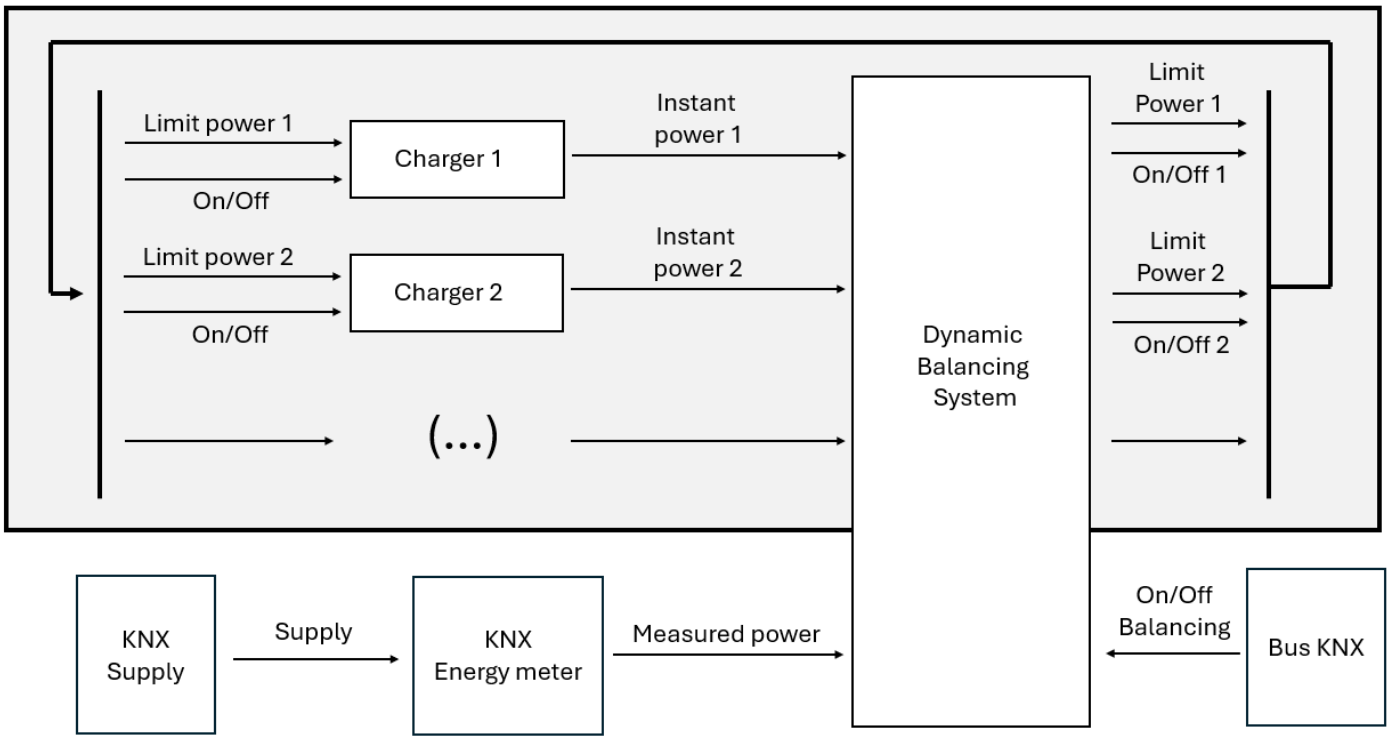
- **Block object:** activates a communication object that allows blocking communication with the charger via KNX..

## Dynamic Load Balancing

Dynamic load balancing is a feature integrated into this range of chargers, designed to automatically regulate charging power based on the consumption of the other chargers connected to the system. In KNX configurations, using information from an external energy meter, the device determines the total power available for charging and, through the balancing system, distributes this power among the electric vehicle chargers (EVSE) that are in operation.

Models equipped with the protections VE 741 SP0, VE 741 MP5, and VE 741 MP1 and the single-phase VE 741 M05, VE 741 M10 and VE 741 S00 models include a current clamp that allows for real-time measurement of the total current consumed by the installation. In these models, the measurement obtained by the clamp is sent directly to a single charger, which adjusts its charging power according to the available current. This operating mode allows for dynamic balancing that takes into account the building's consumption, but only for a single charger. This system is independent of KNX balancing and does not distribute power among multiple chargers.

For example, in an installation with a contracted power of 4.4 kW, if during the charging process an appliance with a consumption of up to 2 kW is connected (for example, a washing machine during the heating phase), the charger will detect that only approximately 2.4 kW are available and will automatically reduce the charging power to avoid exceeding the contracted limit, ensuring safe operation and preventing the installation's protection devices from tripping.




This system operates in a master-slave configuration, with the balancing system of Charger 1 assigned as the master. The remaining chargers, up to a maximum of 5 additional units (6 in total), are connected as slaves. This prioritizes the charging system in an order of precedence. If at any time the available power is insufficient to maintain charging for all EVSEs simultaneously, the balancing system will sequentially disconnect chargers starting with EVSE6 (least priority), then EVSE5, EVSE4, etc., until the available power divided among all stations is sufficient to ensure the charging of connected vehicles.

For all of the above, it is possible to limit the charging capacity in both power and current to facilitate system configuration. This ensures that charging never exceeds critical values for the system.

**Dynamic balancing in models with two connectors**

Balancing between the two connectors of the charger is performed automatically with simple logic:

- If only one vehicle is connected to connector A or connector B, the charger will supply the maximum configured power, which can be up to 22 kW in the three-phase version or up to 7.4 kW in the single-phase version.
- When a second vehicle is connected to the other connector, the available power is split between the two, assigning 50% of the maximum configured power to each connector.
- If one of the vehicles does not fully use its assigned power, the surplus is not transferred to the other vehicle, keeping the 50% limit for each connector.

Special case in single-phase installations with dual-phase: in the single-phase model, there is a special case where the charger can be used in installations with two different phases (biphasic), where connector A is powered from one phase and connector B from another.

In this mode, it is possible via configuration to disable balancing between connectors, allowing the charger to supply up to 7.4 kW to each connector simultaneously. For this reason, the dual-connector single-phase charger includes a 5-pole terminal block:

- 14.8 kW configuration (two phases): connect phase 1, phase 2, neutral, and ground, leaving the fifth pole free, internally connected to the first.
- 7.4 kW configuration (single phase): the fifth pole is bridged using a jumper with phase 2, so that both connectors (A and B) are powered from the same available phase.

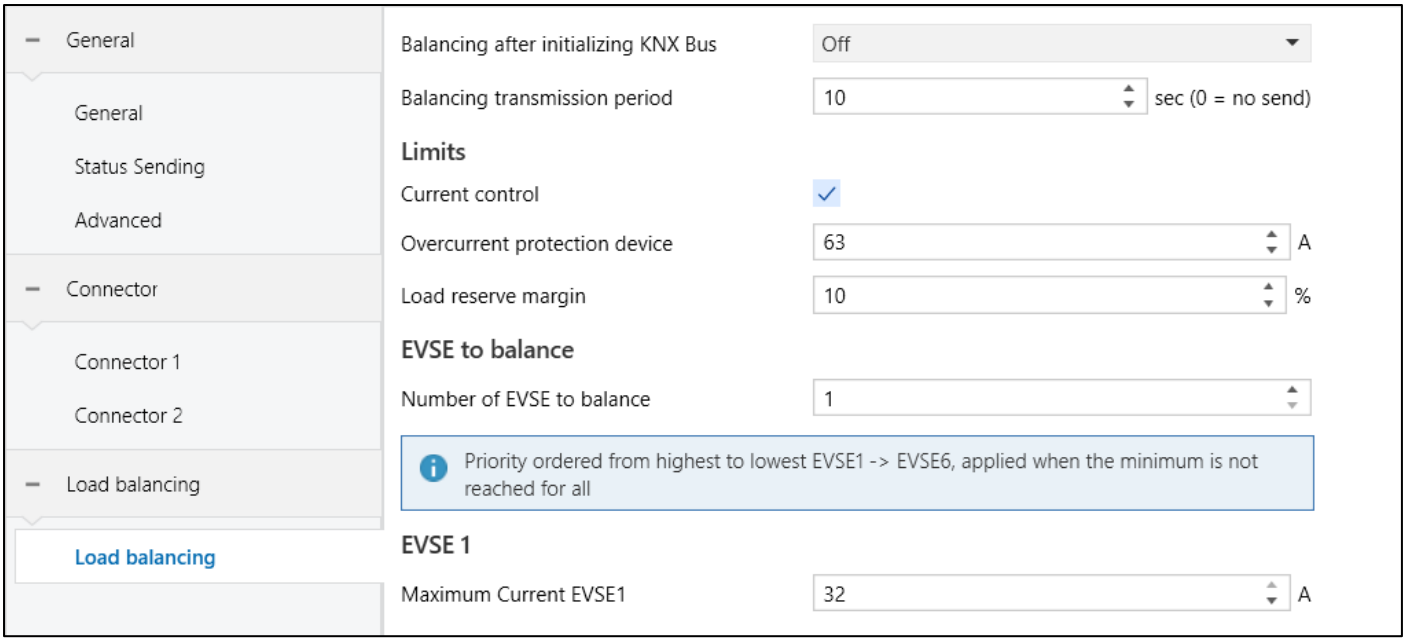
**Dynamic balancing between multiple units**

To perform balancing between multiple units, the KNX communication system must be used, just as it can be used to limit the power of a single charger when the electrical consumption of a building or smart home requires it. For this reason, this configuration can be done via ETS5 or later. To do this, the “Enable Dynamic Load Balancing” option must be selected from the “General” tab in the configuration menu.

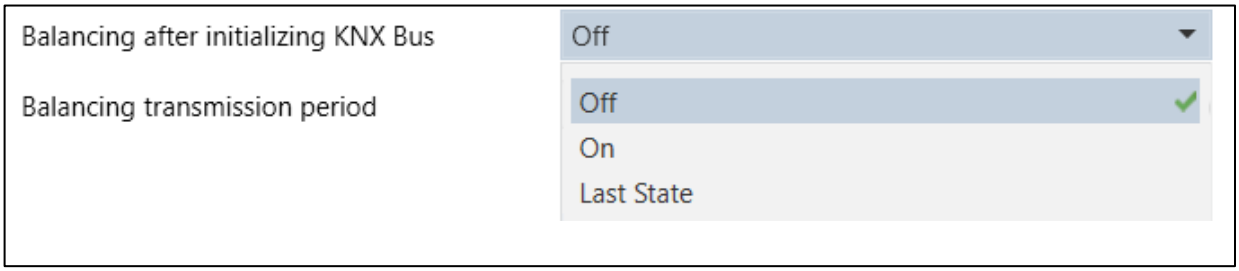
After enabling the option, the “Load Balancing” tab will appear in the menu. The maximum number of units that can be balanced is 6 EVSEs. The system operates in a master-slave configuration in which one charger manages the power of the others. Since up to 6 chargers can be balanced simultaneously, the priority order is from EVSE1 to EVSE6. This means that if the available power for all units is insufficient to meet the minimum required for charging, the units will be disconnected sequentially (EVSE6, EVSE5, EVSE4, etc.) until the available power is sufficient to start charging.

It is also possible to set a different maximum current (A) for each charger if the charging of a specific unit is to be prioritized. This current limit can also be replaced by a power limit (W) if desired. This option is accessible if the “Current Control” option in the “Load Balancing” tab is disabled.


If the “Enable Dynamic Load Balancing” option is selected in the “General” tab, the following new options will be available in the menu:




- **Balance after initializing KNX Bus:** sets the state of this function after the KNX bus power is restored.




- **Balancing transmission period:** time in seconds for the periodic transmission of the balancing value. If set to 0, the value will be sent only when it changes.

Limits:

- **Current control:** allows setting a limit to restrict the maximum current. If this option is disabled, the limit will be set by power, allowing selection of the contracted power and maximum active power.
- **Overcurrent protection device/Contracted power:** depending on the "Current Control" selection, choose either a power or current limit.
- **Load reserve margin:** allows setting a safety margin to prevent reaching the maximum limit.
- **Number of EVSE to balance:** allows selecting the number of chargers to balance. When this option is greater than 1, the system configures a master/slave scheme, assigning different priorities to the remaining charging stations (EVSEs). This means that the highest-priority charger will be EVSE1, followed by EVSE2, and so on, up to the maximum number of available chargers.
- **Maximum current EVSE1_6 / Maximum active power EVSE1_6:** allows limiting the maximum current or power for each charger. There will be as many options as chargers to balance, and for each one, a maximum current or power can be set. If, for any reason, the available power is insufficient to ensure simultaneous charging of all chargers, the lower-priority chargers (EVSE6, EVSE5, etc.) will be disconnected sequentially until the available power is sufficient to maintain charging.

**Example of load balancing configuration in KNX:**

The load balancing system is based on the continuous exchange of information through KNX group adresses.

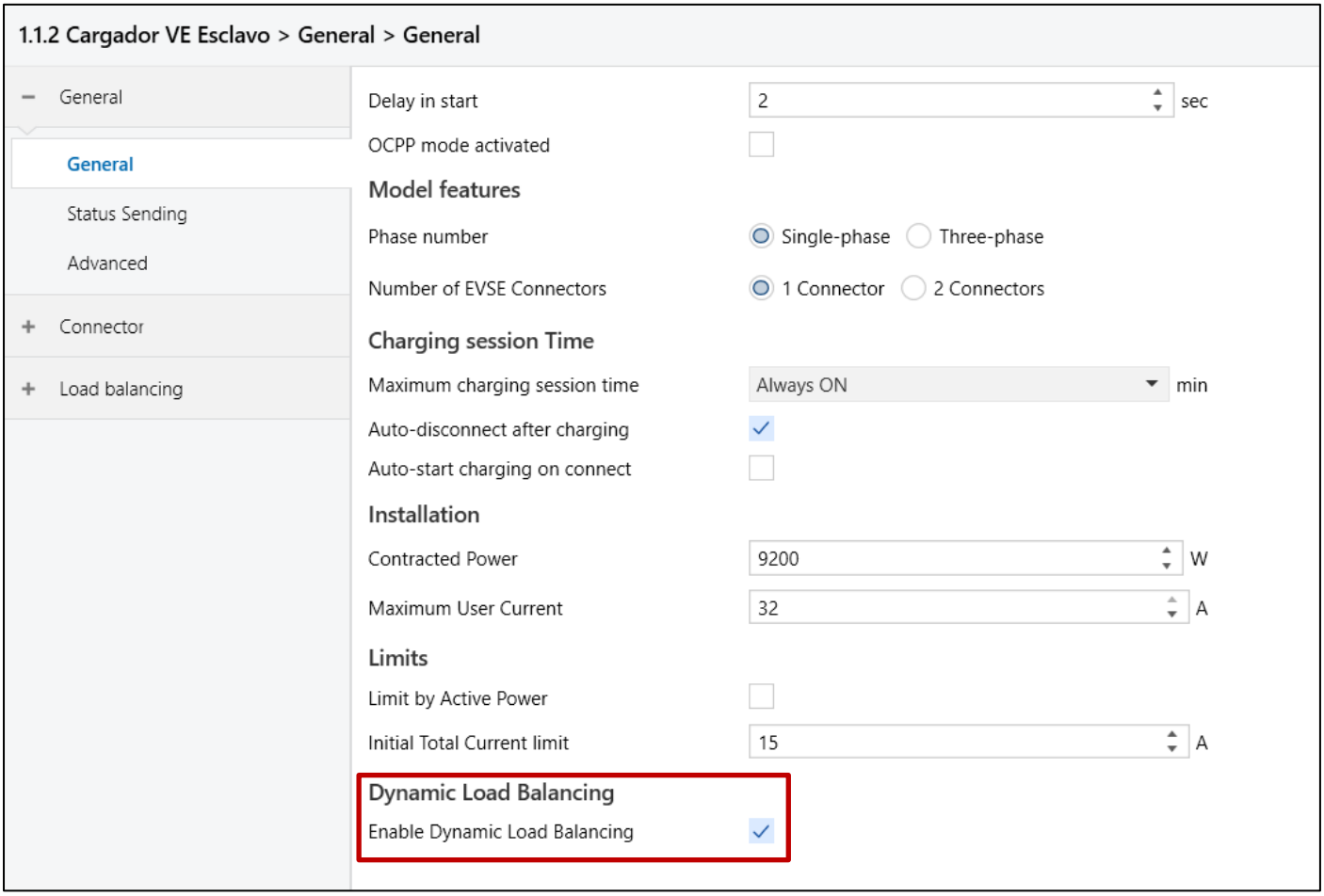
The following describes the procedure for configuring a dynamic load balancing system using KNX. In this type of configuration, one of the chargers (EVSE) acts as the Master, responsible for centralizing the calculation and distribution of available current among the other chargers, which operate as Slaves.

The EVSE Master receives:

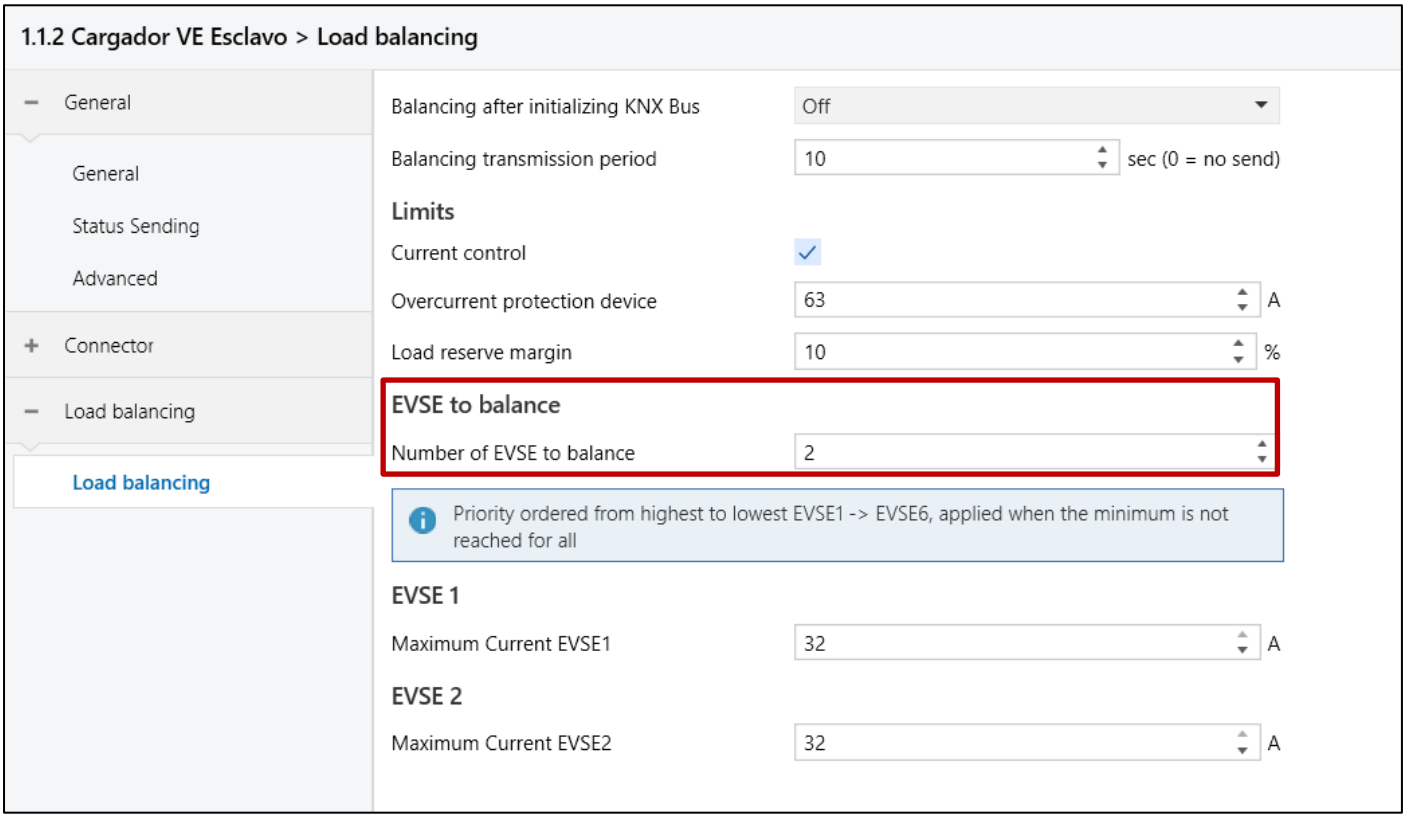
- The total measured current of the system
- The instantaneous current of each charger

Based on this data, it calculates the available current and dynamically redistributes the charging limits among the EVSEs, ensuring that the maximum system capacity is not exceeded.

To configure it, first select the charger that will act as the Master and activate the “Enable Dynamic Load Balancing” option for it.



Subsequently, in the “Load Balancing” tab, you must define the total number of EVSEs that Will participate in the balancing system (up to 6).




With this configuration (2), you Will have one EVSE Master and one EVSE Slave.

This will enable the following objects on the EVSE Master:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 130 | [Balancing] Current measured | A | Lectura medidor corriente | 0/0/1 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | Lectura intensidad EVSE1 | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 135 | [Balancing-EVSE1] Current limit | Amps | Límite asignado a EVSE1 | 0/0/4 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 137 | [Balancing-EVSE1] Pause/Restart charging | Start / Stop | Pausar/reanudar EVSE1 | 0/0/6 | 1 bit | C | R | - | T | - | start/stop | Low |
| 148 | [Balancing-EVSE2] Instantaneous Single-phase Curr... | Amps | Lectura intensidad EVSE2 | 0/0/3 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 150 | [Balancing-EVSE2] Current limit | Amps | Límite asignado a EVSE2 | 0/0/5 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 152 | [Balancing-EVSE2] Pause/Restart charging | Start / Stop | Pausar/reanudar EVSE2 | 0/0/7 | 1 bit | C | R | - | T | - | start/stop | Low |

The following is a proposed Group Address structure for an installation with 2 chargers (Master + Slave):

| Address | Name | Description | Central | Data Type | Length | No. of | Last Value |
|---|---|---|---|---|---|---|---|
| 0/0/1 | Current meter reading | | No | electric current (A) | 4 bytes | 1 | |
| 0/0/2 | EVSE1 intensity reading | | No | electric current (A) | 4 bytes | 2 | |
| 0/0/3 | EVSE2 intensity reading | | No | electric current (A) | 4 bytes | 2 | |
| 0/0/4 | EVSE1 assigned limit | | No | electric current (A) | 4 bytes | 2 | |
| 0/0/5 | EVSE2 assigned limit | | No | electric current (A) | 4 bytes | 2 | |
| 0/0/6 | Pause/Resume EVSE1 | | No | start/stop | 1 bit | 2 | |
| 0/0/7 | Pause/Resume EVSE2 | | No | start/stop | 1 bit | 2 | |

- **0/0/1 Current meter reading:** In additrion to the EVSE Master’s “[Balancing] Measured Intensity” object, this GD requires associating the total current measured by the system (for example, using a KNX Energy Meter). This value is used by the EVSE Master as a reference for calculating the available current.

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 130 | [Balancing] Current measured | A | Current meter reading | 0/0/1 | 4 bytes | C | - | W | - | - | electric cu... | Low |

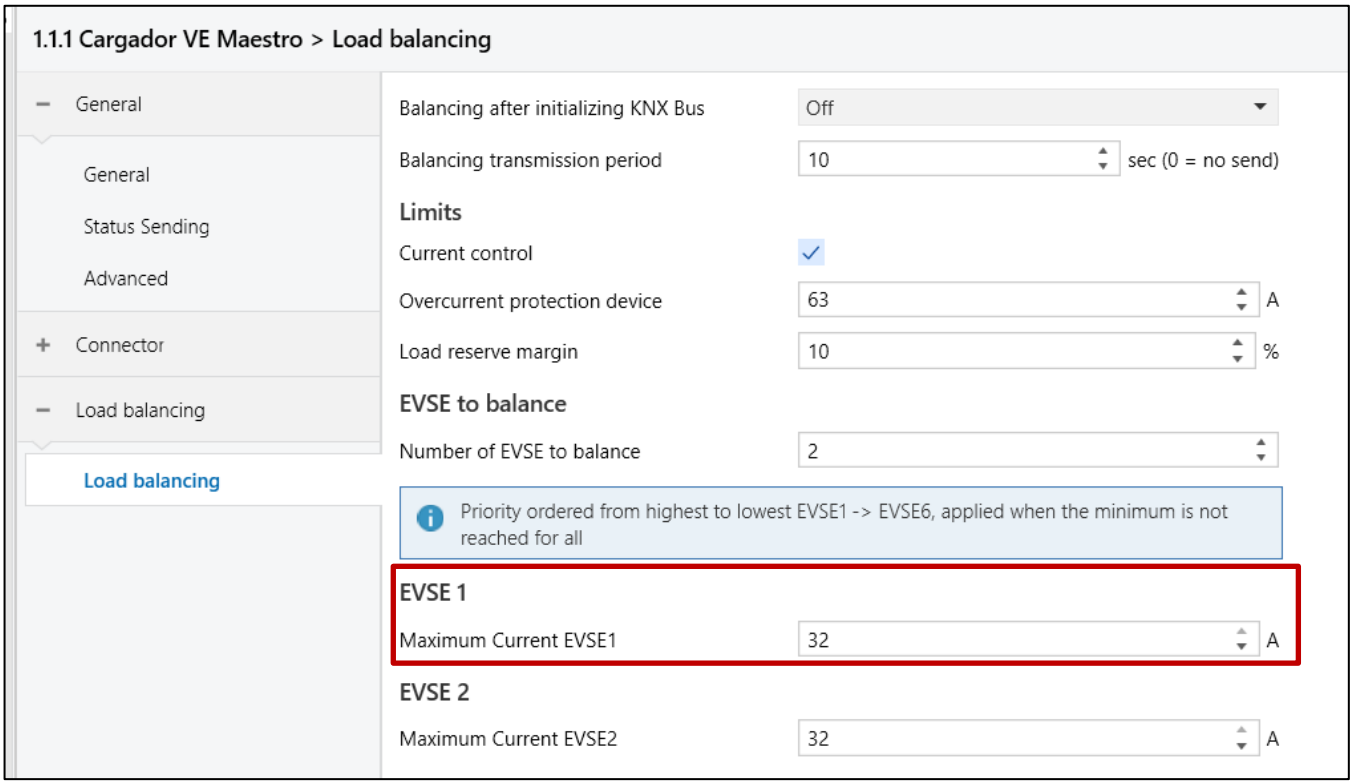
- **0/0/2 EVSE1 intensity reading:** in this DG, the instantaneous single-phase current of the EVSE Master is linked to that of the balancing system. The EVSE1 acts as the system Master, thus centralizing the balancing control logic.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | [EVSE] Instantaneous Single-phase Current | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 33 | [Conn1] Start - Stop charging | Start / Stop | | | 1 bit | C | - | W | - | - | start/stop | Low |
| 35 | [Conn1] Charger Status - OCPP State | OCPP Status | | | 1 byte | C | - | - | T | - | OCPP State | Low |
| 45 | [Conn1] Current session time | seconds | | | 2 bytes | C | - | - | T | - | time (s) | Low |
| 46 | [Conn1] Current session Energy | Wh | | | 4 bytes | C | - | - | T | - | active ene... | Low |
| 65 | [Conn1] Connector unlock | 1: Connector unlock... | | | 1 bit | C | - | W | - | - | trigger | Low |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | | | 14 bytes | C | - | - | T | - | Character... | Low |
| 130 | [Balancing] Current measured | A | | | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |

- **0/0/3 EVSE2 intensity reading:** in this DG, the intensity measured in the EVSE Slave is linked to the corresponding balancing object of the EVSE Master.

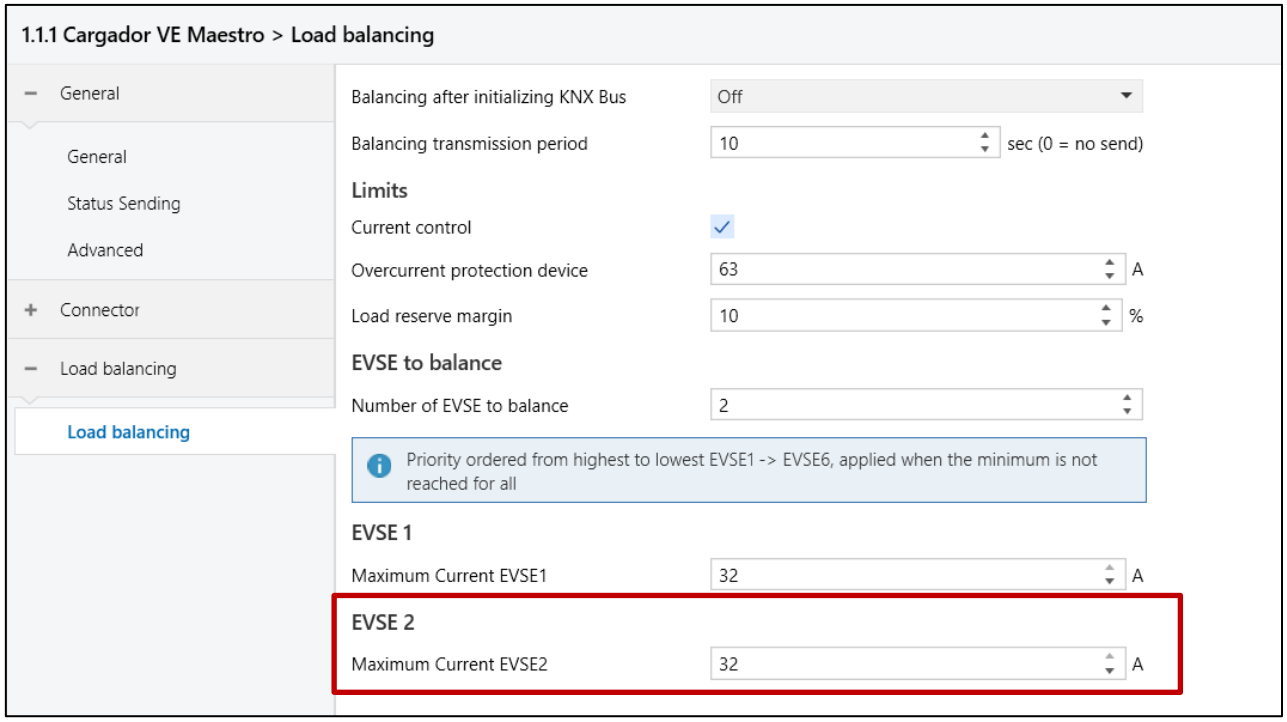
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | [EVSE] Instantaneous Single-phase Current | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 33 | [Conn1] Start - Stop charging | Start / Stop | | | 1 bit | C | - | W | - | - | start/stop | Low |
| 35 | [Conn1] Charger Status - OCPP State | OCPP Status | | | 1 byte | C | - | - | T | - | OCPP State | Low |
| 45 | [Conn1] Current session time | seconds | | | 2 bytes | C | - | - | T | - | time (s) | Low |
| 46 | [Conn1] Current session Energy | Wh | | | 4 bytes | C | - | - | T | - | active ene... | Low |
| 65 | [Conn1] Connector unlock | 1: Connector unlock... | | | 1 bit | C | - | W | - | - | trigger | Low |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | | | 14 bytes | C | - | - | T | - | Character... | Low |
| 130 | [Balancing] Current measured | A | | | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 135 | [Balancing-EVSE1] Current limit | Amps | EVSE1 assigned limit | 0/0/4 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 137 | [Balancing-EVSE1] Pause/Restart charging | Start / Stop | Pause/Resume EVSE1 | 0/0/6 | 1 bit | C | R | - | T | - | start/stop | Low |
| 148 | [Balancing-EVSE2] Instantaneous Single-phase Curr... | Amps | EVSE2 intensity reading | 0/0/3 | 4 bytes | C | - | W | - | - | electric cu... | Low |

- **0/0/4 EVSE1 assigned limit:** in this DG, the current limits applicable to the EVSE Maestro are established according to the balancing parameterization performed.



| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | [EVSE] Current limit | Total Amps | EVSE1 assigned limit | 0/0/4 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 3 | [EVSE] Current limit Status | Total Amps | | | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 13 | [EVSE] Instantaneous Active Power | Watts | | | 4 bytes | C | R | - | T | - | power (W) | Low |
| 14 | [EVSE] Instantaneous Single-phase Current | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 33 | [Conn1] Start - Stop charging | Start / Stop | | | 1 bit | C | - | W | - | - | start/stop | Low |
| 35 | [Conn1] Charger Status - OCPP State | OCPP Status | | | 1 byte | C | - | - | T | - | OCPP State | Low |
| 45 | [Conn1] Current session time | seconds | | | 2 bytes | C | - | - | T | - | time (s) | Low |
| 46 | [Conn1] Current session Energy | Wh | | | 4 bytes | C | - | - | T | - | active ene... | Low |
| 65 | [Conn1] Connector unlock | 1: Connector unlock... | | | 1 bit | C | - | W | - | - | trigger | Low |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | | | 14 bytes | C | - | - | T | - | Character... | Low |
| 130 | [Balancing] Current measured | A | | | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 135 | [Balancing-EVSE1] Current limit | Amps | EVSE1 assigned limit | 0/0/4 | 4 bytes | C | R | - | T | - | electric cu... | Low |

- **0/0/5 EVSE2 assigned limit:** in this DG, the current limits applicable to the EVSE Slave are established according to the balancing parameterization performed:

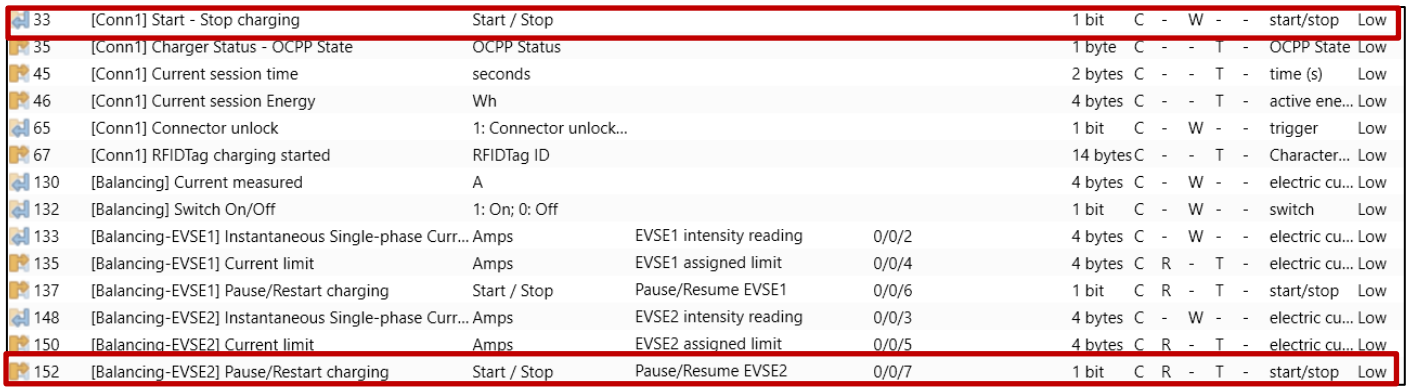



| Objeto | Dispositivo | Envío activo | Tipo de Datos | C | R | W | T | U | Longitud | Prioridad |
|---|---|---|---|---|---|---|---|---|---|---|
| 1: [EVSE] Intensidad límite - Amperios Totales | 1.5.2 Cargador VE Esclavo | S | electric current (A) | C | - | W | - | - | 4 bytes | Bajo |
| 150: [Balanceo-EVSE2] Intensidad límite - Amperios | 1.5.1 Cargador VE Maestro | S | electric current (A) | C | R | - | T | - | 4 bytes | Bajo |

- **0/0/6 Pause/Resume EVSE1:** it allows you to start or pause the EVSE Maestro load based on the balancing calculation.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | [Conn1] Start - Stop charging | Start / Stop | | | 1 bit | C | - | W | - | - | start/stop | Low |
| 35 | [Conn1] Charger Status - OCPP State | OCPP Status | | | 1 byte | C | - | - | T | - | OCPP State | Low |
| 45 | [Conn1] Current session time | seconds | | | 2 bytes | C | - | - | T | - | time (s) | Low |
| 46 | [Conn1] Current session Energy | Wh | | | 4 bytes | C | - | - | T | - | active ene... | Low |
| 65 | [Conn1] Connector unlock | 1: Connector unlock... | | | 1 bit | C | - | W | - | - | trigger | Low |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | | | 14 bytes | C | - | - | T | - | Character... | Low |
| 130 | [Balancing] Current measured | A | | | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 135 | [Balancing-EVSE1] Current limit | Amps | EVSE1 assigned limit | 0/0/4 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 137 | [Balancing-EVSE1] Pause/Restart charging | Start / Stop | Pause/Resume EVSE1 | 0/0/6 | 1 bit | C | R | - | T | - | start/stop | Low |

- **0/0/6 Pause/Resume EVSE2:** it allows you to start or pause the EVSE Maestro load based on the balancing calculation.



| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | [Conn1] Start - Stop charging | Start / Stop | | | 1 bit | C | - | W | - | - | start/stop | Low |
| 35 | [Conn1] Charger Status - OCPP State | OCPP Status | | | 1 byte | C | - | - | T | - | OCPP State | Low |
| 45 | [Conn1] Current session time | seconds | | | 2 bytes | C | - | - | T | - | time (s) | Low |
| 46 | [Conn1] Current session Energy | Wh | | | 4 bytes | C | - | - | T | - | active ene... | Low |
| 65 | [Conn1] Connector unlock | 1: Connector unlock... | | | 1 bit | C | - | W | - | - | trigger | Low |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | | | 14 bytes | C | - | - | T | - | Character... | Low |
| 130 | [Balancing] Current measured | A | | | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | | | 1 bit | C | - | W | - | - | switch | Low |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Curr... | Amps | EVSE1 intensity reading | 0/0/2 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 135 | [Balancing-EVSE1] Current limit | Amps | EVSE1 assigned limit | 0/0/4 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 137 | [Balancing-EVSE1] Pause/Restart charging | Start / Stop | Pause/Resume EVSE1 | 0/0/6 | 1 bit | C | R | - | T | - | start/stop | Low |
| 148 | [Balancing-EVSE2] Instantaneous Single-phase Curr... | Amps | EVSE2 intensity reading | 0/0/3 | 4 bytes | C | - | W | - | - | electric cu... | Low |
| 150 | [Balancing-EVSE2] Current limit | Amps | EVSE2 assigned limit | 0/0/5 | 4 bytes | C | R | - | T | - | electric cu... | Low |
| 152 | [Balancing-EVSE2] Pause/Restart charging | Start / Stop | Pause/Resume EVSE2 | 0/0/7 | 1 bit | C | R | - | T | - | start/stop | Low |

To add more chargers to the system, simply replicate the group address structure used for the EVSE Slaves (current reading, current limit, and load control).

## Comunication Objects

The communication objects of the chargers are summarized below:

| No. | Nombre | Función | Descripción | Long. | Flags | DPT |
|---|---|---|---|---|---|---|
| 1 | [EVSE] Current limit | Total Amps | Sets the current limit | 4 bytes | C-W-- | [14.019] electric current (A) |
| 2 | [EVSE] Active Power limit | Total Watts | Sets the active power limit | 4 bytes | C-W-- | [14.056] power (W) |
| 3 | [EVSE] Current limit Status | Total Amps | Shows the current limit status | 4 bytes | CR-T-- | [14.019] electric curren (A) |
| 4 | [EVSE] Active Power limit Status | Total Watts | Shows the active power limit status | 4 bytes | CR-T- | [14.056] power (W) |
| 5 | [EVSE] Reset | Charger reset | Resets the charger | 1 bit | C-W-- | [1.015] reset |
| 6 | [EVSE] Maximum Charging session | Seconds | Sets the máximum charging sesion time in seconds | 2 bytes | C-W-- | [7.005] time (s) |
| 7 | [EVSE] Auto disconnect after charging session | 1: auto, 0: no auto | If active (1), it will disconnect after the charging session | 1 bit | C-W-- | [1.003] enable |
| 8 | [EVSE] Add RFIDTag authotization | RFIDTag ID | Allows to log new RFID authorizations | 14 bytes | C-W-- | [16.001] Character String (ISO 8859-1) |
| 9 | [EVSE] Erase all authorized RFIDTags | 1: delete all, 0: nothing | Erases every RFID paths saved | 1 bit | C-W-- | [1.017] trigger |
| 10 | [EVSE] Fail-safe Status | 1: active, 0: inactive | Indicates the Fail-safe status | 1 bit | CR-T- | [1.002] boolean |
| 11 | [EVSE] Fail-safe Current | Amps | Indicates the Fail-safe current | 4 bytes | CR-T- | [14.019] electric current (A) |
| 12 | [EVSE] Fail-safe Active Power Status | Watts | Indicates the Fail-safe power | 4 bytes | CR-T- | [14.056] power (W) |
| 13 | [EVSE] Instantaneous Active Power | Watts | Shows the instantaneous active power | 4 bytes | CR-T- | [14.056] power (W) |
| 14 | [EVSE] Instantaneous Single-phase Current | Amps | Shows the active instantaneous single-phase current | 4 bytes | CR-T- | [14.019] electric current (A) |
| 15 | [EVSE] Instantaneous L1 Current | Amps | Shows the instantaneous current in phase L1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 16 | [EVSE] Instantaneous L2 Current | Amps | Shows the instantaneous current in phase L2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 17 | [EVSE] Instantaneous L3 Current | Amps | Shows the instantaneous current in phase L3 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 18 | [EVSE] Pause / Restart any charging | Start / stop | Allows to pause/restart any charging | 1 bit | C-W-- | [1.010] start/stop |
| 19 | [EVSE] Error code | Error code | Shows error code | 1 byte | CR-T- | [20.1221] EVSEErrorCode |
| 20 | [EVSE] Communication error with EVSE | 1: error, 0: no error | Shows 1 if failure and 0 if no error detected | 1 bit | CR-T- | [1.005] alarm |
| 25 | [EVSE] Block | 1: block, 0: unblock | Allows to lock (1) or unlock (0) the charger | 1 bit | C-W-- | [1.001] switch |
| 26 | [EVSE] Auto charging init after connect | 1: block, 0: unblock | Allows to lock (1) or unlock (0) the charger | 1 bit | C-W-- | [1.003] enable |
| 31 | [Conn1] Current limit | Amps | Allows to set the current limit for the connector 1 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 32 | [Conn1] Active Power limit | Watts | Sets the active power limit for connector 1 | 4 bytes | C-W-- | [14.056] power (W) |
| 33 | [Conn1] Start - Stop charging | Start / Stop | Allows to start/stop the charge for the connector 1 | 1 bit | C-W-- | [1.010] start/stop |
| 34 | [Conn1] Charger Status - Pilot State | Pilot state | Shows the charger status of the connector 1 | 1 byte | CR-T- | [20.1219] Control Pilot State |
| 35 | [Conn1] Charger Status - OCPP State | OCPP State | Shows the OCPP status of the connector 1 | 1 byte | CR-T- | [20.1220] OCPP State |
| 36 | [Conn1] Vehicle connected | 1: connected | Shows 1 if the vehicle is connected to the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 37 | [Conn1] Charging | 1: charging | Shows 1 if the connector 1 is charging | 1 bit | CR-T- | [1.011] state |
| 38 | [Conn1] Charger available | 1: available charger | Shows 1 if the connector 1 is available | 1 bit | CR-T- | [1.002] boolean |
| 39 | [Conn1] Charging suspended by EV | 1: Charge suspended by EV | Shows 1 if the charge has been suspended by the EV for the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 40 | [Conn1] Charging suspended by EVSE | 1: Chage suspended by EVSE | Shows 1 if the charge has been suspended by the EVSE for the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 41 | [Conn1] Charging finished | 1: Finished | Shows 1 if the charging has finished for the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 42 | [Conn1] Charger reserved | 1: Reserved | Shows 1 if the charger is reserved for the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 43 | [Conn1] Charger unavailable | 1: not available | Shows 1 if the charger is unavailable for connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 44 | [Conn1] Charger fault | 1: error | Shows 1 if the charger detects an error for the connector 1 | 1 bit | CR-T- | [1.002] boolean |
| 45 | [Conn1] Current session time | Seconds | Shows the charging time for the connector 1 | 2 bytes | CR-T- | [7.005] time (s) |
| 46 | [Conn1] Current session Energy | Wh | Shows the current sesión energy for the connector 1 | 4 bytes | CR-T- | [13.010] active energy (Wh) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 47 | [Conn1] Instantaneous Active Power | Watts | Shows the instantaneus active power for the connector 1 | 4 bytes | CR-T- | [14.056] power (W) |
| 48 | [Conn1] Instantaneous Single-phase Current | Amps | Shows the instantaneous single-phase current for the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 49 | [Conn1] Instantaneous L1 Current | Amps | Shows the instantaneous current for the pase L1 in the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 50 | [Conn1] Instantaneous L2 Current | Amps | Shows the instantaneous current for the pase L2 in the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 51 | [Conn1] Instantaneous L3 Current | Amps | Shows the instantaneous current for the pase L3 in the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 54 | [Conn1] Enable/Disable charging time 1 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 1 of the connector 1 | 1 bit | C-W-- | [1.003] enable |
| 57 | [Conn1] Enable/Disable charging time 2 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 2 of the connector 1 | 1 bit | C-W-- | [1.003] enable |
| 60 | [Conn1] Enable/Disable charging time 3 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 3 of the connector 1 | 1 bit | C-W-- | [1.003] enable |
| 61 | [Conn1] Current limit Status | Amps | Shows the current limit status for the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 62 | [Conn1] Fail-safe Current Status | Amps | Shows the Fail-safe current status for the connector 1 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 63 | [Conn1] Active Power limit Status | Watts | Shows the active power limit status for the connector 1 | 4 bytes | CR-T- | [14.056] power (W) |
| 64 | [Conn1] Fail-safe Active Power Status | Watts | Shows the Fail-safe active power status for the connector 1 | 4 bytes | CR-T- | [14.056] power (W) |
| 65 | [Conn1] Connector unlock | 1: Shoot connector unlock | Allows to unlock the connector 1 | 1 bit | C-W-- | [1.017] trigger |
| 67 | [Conn1] RFIDTag charging started | RFIDTag ID | Shows if the RFIDTag charging started with the connector 1 | 14 bytes | CR-T- | [16.001] Character String (ISO 8859-1) |
| 73 | [Conn1] Block | 1: block, 0: unblock | Allows to block (1) or unblock (0) the connector 1 | 1 bit | C-W-- | [1.001] switch |
| 80 | [Conn2] Current limit | Amps | Allows to set the current limit for the connector 2 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 81 | [Conn2] Active Power limit | Watts | Sets the active power limit for connector 2 | 4 bytes | C-W-- | [14.056] power (W) |
| 82 | [Conn2] Start - Stop charging | Start / Stop | Allows to start/stop the charge for the connector 2 | 1 bit | C-W-- | [1.010] start/stop |
| 83 | [Conn2] Charger Status - Pilot State | Pilot State | Shows the charger status of the connector 2 | 1 byte | CR-T- | [20.1219] Control Pilot State |
| 84 | [Conn2] Charger Status - OCPP State | OCPP State | Shows the OCPP status of the connector 2 | 1 byte | CR-T- | [20.1220] OCPP State |
| 85 | [Conn2] Vehicle connected | 1: connected | Shows 1 if the vehicle is connected to the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 86 | [Conn2] Charging | 1: charging | Shows 1 if the connector 2 is charging | 1 bit | CR-T- | [1.011] state |
| 87 | [Conn2] Charger available | 1: Available charger | Shows 1 if the connector 2 is available | 1 bit | CR-T- | [1.002] boolean |
| 88 | [Conn2] Charging suspended by EV | 1: Charge suspended by EV | Shows 1 if the charge has been suspended by the EV for the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 89 | [Conn2] Charging suspended by EVSE | 1: Charge suspended byEVSE | Shows 1 if the charge has been suspended by the EVSE for the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 90 | [Conn2] Charging finished | 1: Finished | Shows 1 if the charging has finished for the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 91 | [Conn2] Charger reserved | 1: Reserves | Shows 1 if the charger is reserved for the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 92 | [Conn2] Charger unavailable | 1: unavailable | Shows 1 if the charger is unavailable for connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 93 | [Conn2] Charger fault | 1: error | Shows 1 if the charger detects an error for the connector 2 | 1 bit | CR-T- | [1.002] boolean |
| 94 | [Conn2] Current session time | Seconds | Shows the charging time for the connector 2 | 2 bytes | CR-T- | [7.005] time (s) |
| 95 | [Conn2] Current session Energy | Wh | Shows the current sesión energy for the connector 2 | 4 bytes | CR-T- | [13.010] active energy (Wh) |
| 96 | [Conn2] Instantaneous Active Power | Watts | Shows the instantaneus active power for the connector 2 | 4 bytes | CR-T- | [14.056] power (W) |
| 97 | [Conn2] Instantaneous Single-phase Current | Amps | Shows the instantaneous single-phase current for the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 98 | [Conn2] Instantaneous L1 Current | Amps | Shows the instantaneous current for the pase L1 in the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 99 | [Conn2] Instantaneous L2 Current | Amps | Shows the instantaneous current for the pase L2 in the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 100 | [Conn2] Instantaneous L3 Current | Amps | Shows the instantaneous current for the pase L3 in the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 103 | [Conn2] Enable/Disable charging time 1 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 1 of the connector 2 | 1 bit | C-W-- | [1.003] enable |
| 106 | [Conn2] Enable/Disable charging time 2 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 2 of the connector 2 | 1 bit | C-W-- | [1.003] enable |
| 109 | [Conn2] Enable/Disable charging time 3 | 1: enable, 0: disable | Enables (1) or disables (0) the chrarging time 3 of the connector 2 | 1 bit | C-W-- | [1.003] enable |
| 110 | [Conn2] Current limit Status | Amps | Shows the current limit status for the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 111 | [Conn2] Fail-safe Current Status | Amps | Shows the Fail-safe current status for the connector 2 | 4 bytes | CR-T- | [14.019] electric current (A) |
| 112 | [Conn2] Active Power limit Status | Watts | Shows the active power limit status for the connector 2 | 4 bytes | CR-T- | [14.056] power (W) |

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|---|---|---|---|---|---|---|
| 113 | [Conn2] Fail-safe Active Power Status | Watts | Shows the Fail-safe active power status for the connector 2 | 4 bytes | CR-T- | [14.056] power (W) |
| 114 | [Conn2] Connector unlock | 1: Shoot connector unlock | Allows to unlock the connector 2 | 1 bit | C-W-- | [1.017] trigger |
| 116 | [Conn2] RFIDTag charging started | RFIDTag | Shows if the RFIDTag charging started with the connector 2 | 14 bytes | CR-T- | [16.001] Character String (ISO 8859-1) |
| 122 | [Conn2] Block | 1: block, 0: unblock | Allows to block (1) or unblock (0) the connector 2 | 1 bit | C-W-- | [1.001] switch |
| 130 | [Balancing] Current measured | A | Sets the measured current | 4 bytes | C-W-- | [14.019] electric current (A) |
| 131 | [Balancing] Active Power measured | W | Sets the measured active power | 4 bytes | C-W-- | [14.056] power (W) |
| 132 | [Balancing] Switch On/Off | 1: On; 0: Off | Allows to switch on (1) or off (0) the balancing system | 1 bit | C-W-- | [1.001] switch |
| 133 | [Balancing-EVSE1] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 1 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 134 | [Balancing-EVSE1] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 1 | 4 bytes | C-W-- | [14.056] power (W) |
| 135 | [Balancing-EVSE1] Current limit | Amps | Sets the current limit for the EVSE 1 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 136 | [Balancing-EVSE1] Active Power limit | Watts | Sets the active power limit for the EVSE 1 | 4 bytes | C-W-- | [14.056] power (W) |
| 137 | [Balancing-EVSE1] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 1 | 1 bit | CR-T- | [1.010] start/stop |
| 148 | [Balancing-EVSE2] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 2 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 149 | [Balancing-EVSE2] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 2 | 4 bytes | C-W-- | [14.056] power (W) |
| 150 | [Balancing-EVSE2] Current limit | Amps | Sets the current limit for the EVSE 2 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 151 | [Balancing-EVSE2] Active Power limit | Watts | Sets the active power limit for the EVSE 2 | 4 bytes | C-W-- | [14.056] power (W) |
| 152 | [Balancing-EVSE2] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 2 | 1 bit | CR-T- | [1.010] start/stop |
| 163 | [Balancing-EVSE3] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 3 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 164 | [Balancing-EVSE3] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 3 | 4 bytes | C-W-- | [14.056] power (W) |
| 165 | [Balancing-EVSE3] Current limit | Amps | Sets the current limit for the EVSE 3 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 166 | [Balancing-EVSE3] Active Power limit | Watts | Sets the active power limit for the EVSE 3 | 4 bytes | C-W-- | [14.056] power (W) |
| 167 | [Balancing-EVSE3] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 3 | 1 bit | CR-T- | [1.010] start/stop |
| 178 | [Balancing-EVSE4] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 4 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 179 | [Balancing-EVSE4] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 4 | 4 bytes | C-W-- | [14.056] power (W) |
| 180 | [Balancing-EVSE4] Current limit | Amps | Sets the current limit for the EVSE 4 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 181 | [Balancing-EVSE4] Active Power limit | Watts | Sets the active power limit for the EVSE 4 | 4 bytes | C-W-- | [14.056] power (W) |
| 182 | [Balancing-EVSE4] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 4 | 1 bit | CR-T- | [1.010] start/stop |
| 193 | [Balancing-EVSE5] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 5 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 194 | [Balancing-EVSE5] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 5 | 4 bytes | C-W-- | [14.056] power (W) |
| 195 | [Balancing-EVSE5] Current limit | Amps | Sets the current limit for the EVSE 5 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 196 | [Balancing-EVSE5] Active Power limit | Watts | Sets the active power limit for the EVSE 5 | 4 bytes | C-W-- | [14.056] power (W) |
| 197 | [Balancing-EVSE5] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 5 | 1 bit | CR-T- | [1.010] start/stop |
| 208 | [Balancing-EVSE6] Instantaneous Single-phase Current | Amps | Sets the instantaneous single-phase current for the EVSE 6 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 209 | [Balancing-EVSE6] Instantaneous Active Power | Watts | Sets the instantaneous active power of the EVSE 6 | 4 bytes | C-W-- | [14.056] power (W) |
| 210 | [Balancing-EVSE6] Current limit | Amps | Sets the current limit for the EVSE 6 | 4 bytes | C-W-- | [14.019] electric current (A) |
| 211 | [Balancing-EVSE6] Active Power limit | Watts | Sets the active power limit for the EVSE 6 | 4 bytes | C-W-- | [14.056] power (W) |
| 212 | [Balancing-EVSE6] Pause/Restart charging | Start / Stop | Allows to pause / start the charge with the EVSE 6 | 1 bit | CR-T- | [1.010] start/stop |