

Appendix A: OCPP configuration keys

Standard OCPP configuration keys

Notes:

1. Not all keys defined by standard(s) are documented here. Here are only standard keys that are related to Ensto chargers. For full OCPP key list (1.5, 1.6 and 2.0), visit here: <https://www.openchargealliance.org/>
2. Default parameter values and in some cases their appearance (numeric versus string value) are related to Ensto chargers.

Key name	Description	Accessibility	Type	Range, Default or example
StopTxnSampledData	Types of meter values that should be sent as sample data elements in stop transaction messages	R/W	String	Energy.Active.Import.Register
StopTxnAlignedData	Types of meter values that should be sent as clock aligned data elements in stop transaction messages	R/W	String	Energy.Active.Import.Register
MeterValuesAlignedData	Comma-separated list of types of meter values that should be sent as clock aligned data elements in separate meter values messages. Supported are 'Energy.Active.Import.Register', 'Power.Active.Import' and 'Current.Import'.	R/W	String	Energy.Active.Import.Register
MeterValuesSampledData	Comma-separated list of types of meter values that should be sent as sampled data elements in separate meter value messages. Supported are 'Energy.Active.Import.Register', 'Power.Active.Import' and 'Current.Import'.	R/W	String	Energy.Active.Import.Register
SupportedFeatureProfiles	A list of supported Feature Profiles. Possible profile identifiers: Core, FirmwareManagement, LocalAuthListManagement, Reservation, SmartCharging and RemoteTrigger.	R	String	
ChargingScheduleAllowedChargingRateUnit	A list of supported quantities for use in a ChargingSchedule.	R	String	Current
HeartBeatInterval ⁽¹⁾	The interval in seconds with which OCPP heartbeat messages are sent to the backend system. Modifying this parameter may upset the backend system (OCPP 1.5).	R/W	Int	[10..3600] Def:240

HeartbeatInterval ¹	he interval in seconds with which OCPP heartbeat messages are sent to the backend system. Modifying this parameter may upset the backend system (OCPP 1.6).	R/W	Int	[10..3600] Def:240
ConnectionTimeOut	Interval (from successful authorization) until incipient charging session is automatically canceled due to failure of EV user to (correctly) insert the charging cable connector(s) into the appropriate connector(s).	R/W	Int	[10..300] Def:45
NumberOfConnectors	The number of physical charging connectors of this Charge Point.	R	Int	[0..254] Def:1
GetConfigurationMaxKeys	Maximum number of requested configuration keys in a GetConfiguration.req PDU.	R	Int	[0..2000] Def:1
LocalAuthListMaxLength	Maximum number of identifications that can be stored in the Local Authorization List	R	UInt	[0..1000000] Def:1000000
SendLocalListMaxLength	Maximum number of identifications that can be send in a single SendLocalList.req	R	UInt	[0..45000] Def:45000
ConnectorPhaseRotationMaxLength	Maximum number of items in a ConnectorPhaseRotation Configuration Key.	R	UInt	[1..255] Def:1
ChargeProfileMaxStackLevel	Max StackLevel of a ChargingProfile.	R	UInt	[1..255] Def:255
ChargingScheduleMaxPeriods	Maximum number of periods that may be defined per ChargingSchedule.	R	UInt	[1..255] Def:255
MaxChargingProfilesInstalled	Maximum number of Charging profiles installed at a time.	R	UInt	[1..255] Def:255
LocalAuthListEnabled	Whether the Local Authorization List is enabled	R	Enum	(0)Off (1)On Def:Off
AuthorizeRemoteTxRequests	This parameter determines whether after receiving an OCPP RemoteStart request the charger should still send an OCPP Authorize message to the backend system. Some backends require this as OCPP could be interpreted to require this. Some backends are upset if this is done	R/W	Enum	(0)Off (1)On Def:On

AllowOfflineTxForUnknownId	This parameter determines whether a client is allowed to charge in case its authorization cannot be processed because the backend is offline or not reachable. If set to ON, the client is allowed to charge even if it cannot get authenticated from the white list nor from local cache.	R/W	Enum	(0)Off (1)On (2)ImmediatelyWhenPlugged Def:Off
LocalAuthorizeOffline	Whether the Charge Point, when offline, will start a transaction for locally authorized identifiers	R/W	Enum	(0)Off (1)On Def:On
AuthorizationCacheEnabled	Parameter that enables the use of the internal cache of RFID UID. If disabled, RFIDs even if reported from the backend with an expiry date are not added to an internal cache.	R/W	Enum	(0)Off (1)On Def:On
LocalPreAuthorize	Whether the Charge Point, when online, will start a transaction for locally authorized identifiers without requesting an Authorize.conf from the Central System	R/W	Enum	(0)Off (1)On Def:On
StopTransactionOnEVSideDisconnect	When set to true, the Charge Point SHALL administratively stop the transaction when the cable is unplugged from the EV.	R	Enum	(0)Off (1)On Def:On
UnlockConnectorOnEVSideDisconnect	When set to true, the Charge Point SHALL unlock the cable on Charge Point side when the cable is unplugged at the EV.	R	Enum	(0)Off (1)On Def:On
ReserveConnectorZeroSupported	If this configuration key is present and set to true: Charge Point support reservations on connector 0.	R	Enum	(0)Off (1)On Def:On
ConnectorSwitch3to1PhaseSupported	If defined and true, this Charge Point support switching from 3 to 1 phase during a charging session.	R	Enum	(0)Off (1)On Def:Off

1. Although these two parameter names look alike, there is a slight difference in their appearance (one upper case 'L' versus one lower case 'l').

Ensto charger specific OCPP configuration keys

Note that only most commonly used keys are documented here.

Key name	Description	Accessibility	Type	Range, Default or example
RfidTagFreeCharging	Rfid Tag for Free Charging with OCPP Full, fixed rfid modes	R/W	String	
FreeChargingMode	This allows to set the OCPP behavior in free charging mode. Note that in case of master slave scenario the slave will be automatically configured to the same mode the master uses	R/W	Enum	(0)No OCPP (1)With OCPP status notif without auth (2)With OCPP status notif with auth (3)With OCPP Full fixed Rfid with auth (4)With OCPP Full fixed Rfid without auth (5)With OCPP Full any Rfid Def:No OCPP
FreeCharging	This mode allows charging without authorization via RFID or the backend. Charging is started immediately after a vehicle is connected.	R/W	Enum	(0)Off (1)On Def:Off

Dynamic Load Management available settings

For instruction how to use settings, please visit [Ensto EV Wiki](#).

Key Name	Master-Slave Scope	Description	Accessibility	Type	Range, Default or example
DlmState	Individual	DLM State	R	String	
DlmMasterIp	Individual	DLM Master IP which is used for DLM-Slaves configured with Master-Fixed-IP. Additionally the connection port can be specified (IP[:port]).	R/W	String	
DlmInput1CurrOffset Phase1	Master	Offset added to 'EVSE Sub-Distribution Limit' case external input 1 is high. Note: currently only negative values are supported	R/W	Int	[-1000..0] Def:0
DlmInput1CurrOffset Phase2	Master		R/W	Int	[-1000..0] Def:0
DlmInput1CurrOffset Phase3	Master		R/W	Int	[-1000..0] Def:0
DlmInput2CurrOffset Phase1	Master	Offset added to 'EVSE Sub-Distribution Limit' in case external input 2 is high. Note: currently only negative values are supported	R/W	Int	[-1000..0] Def:0
DlmInput2CurrOffset Phase2	Master		R/W	Int	[-1000..0] Def:0
DlmInput2CurrOffset Phase3	Master		R/W	Int	[-1000..0] Def:0
DlmPhase1Limit	Master		R/W	UInt	[0..1000] Def:16

DlmPhase2Limit	Master	Overall current limit for DLM available for distribution to EVs	R/W	Uint	[0..1000] Def:16
DlmPhase3Limit	Master		R/W	Uint	[0..1000] Def:16
DlmOperatorPhase1Limit	Master		R/W	Uint	[0..1000] Def:16
DlmOperatorPhase2Limit	Master	Operator current limit for DLM available for distribution to EVs. The 'Operator EVSE Sub-Distribution Limit' is equal or smaller than the 'EVSE Sub-Distribution Limit'. It can be changed without rebooting the chargepoint. Thus, a backend could use this parameter to alter the energy available for charging EVs dynamically. The backend will not be able to set a value higher than the 'EVSE Sub-Distribution Limit'	R/W	Uint	[0..1000] Def:16
DlmOperatorPhase3Limit	Master		R/W	Uint	[0..1000] Def:16
DlmExtMeterMainDistributionLimitPhase1	Master	Current limit for DLM available for distribution to EVs and additional energy loads. This value is typically higher than the 'EVSE Sub-Distribution Limit' above. An external meter is required to detect the energy consumption of the additional load	R/W	Uint	[0..10000] Def:100
DlmExtMeterMainDistributionLimitPhase2	Master		R/W	Uint	[0..10000] Def:100
DlmExtMeterMainDistributionLimitPhase3	Master		R/W	Uint	[0..10000] Def:100
DlmExtMeterDisconnectedFallbackPhase1	Master	In the error case, where the external meter is disconnected or fails, 'External Meter Disconnected Fallback' is assumed as external meter value. Set to a high value (like the 'Main Distribution Limit' or higher) will result in no current available for the EVSE sub-distribution in that particular situation. Thus, charging would stop	R/W	Uint	[0..10000] Def:9999
DlmExtMeterDisconnectedFallbackPhase2	Master		R/W	Uint	[0..10000] Def:9999
DlmExtMeterDisconnectedFallbackPhase3	Master		R/W	Uint	[0..10000] Def:9999
DlmDisconnectedLimit	Individual	Current limit when disconnected from DLM network	R/W	Uint	[0..1000] Def:6
DlmMinCurrentRating	Individual	Minimum current limit that charging should not go below	R/W	Uint	[0..1000] Def:6

DlmDiscoveryNetworkId	Individual	Several DLM groupings might coexist in one physical LAN. In case of DLM Master-Auto-Discovery, they are distinguished by Master-Auto-Discovery Network Id	R/W	Uint	[0..255] Def:0
DlmMode	Individual	Specifies the ChargePoint's role in a DLM network. There MUST be exactly one DLM Master in a DLM network managing multiple DLM-Slaves. Typically, a ChargePoint configured as DLM Master will also host an internal DLM-Slave. Note: A ChargePoint configured as standalone DLM Master will not host an internal DLM-Slave. If used for charging anyway, its power consumption will be not controlled by DLM!	R/W	Enum	(0)Disabled (1)DLM Master (With internal DLM-Slave) (2)DLM Master (Standalone) (3)DLM Slave (Master-Auto-Discovery) (4)DLM Slave (Master-Fixed-IP) Def:Disabled
DlmAlgo	Master	Dynamic Load Management Algorithm to be used on the DLM Master for load balancing;'Fair Trade (FIFO)' selects a fair distribution algorithm which works in a first-in-first-out manner. In case there is no energy remaining to distribute, the car has to wait for a free slot.	R/W	Enum	(0)Fair Trade (FIFO) Def:Fair Trade (FIFO)
DlmExtMeterEnabled	Master	If enabled, an external, secondary meter allows to also consider the power consumption of additional load. The power available for charging EVs will be adjusted accordingly. Please make sure, 'Meter configuration (Second)' is configured, preferably to a 3-phase, phase aware meter	R/W	Enum	(0)Off (1)On Def:Off

DlmExtMeterLocation	Master	Specifies, how the external meter is connected: in case the external meter measures the energy of chargepoints and additional consumer altogether, the value shall be set to 'Including EVSE Sub-Distribution', otherwise to 'Excluding EVSE Sub-Distribution'	R/W	Enum	(0)Including EVSE Sub-Distribution (1)Excluding EVSE Sub-Distribution Def:Including EVSE Sub-Distribution
DlmRecalcInterval	Master	The DLM algorithm will not calculate and re-assign current to it's DLM slaves any faster than at this configured rate. As an exception, EVs getting ready to charge will be considered and assigned current immediately. Between algorithm calculation times external meter values will be averaged.	R/W	Enum	(0)2 sec (1)5 sec (2)15 sec (3)30 sec (4)1 min (5)10 min (6)15 min Def:30 sec
DlmInput1CurrOffset Cfg	Master	Adds a configurable offset to 'EVSE Sub-Distribution Limit' based on GPI External Input 1	R/W	Enum	(0)DISABLE (1)ENABLE OPTO 1 (2)ENABLE OPTO 2 Def:DISABLE
DlmInput2CurrOffset Cfg	Master	Adds a configurable offset to 'EVSE Sub-Distribution Limit' based on GPI External Input 2	R/W	Enum	(0)DISABLE (1)ENABLE OPTO 1 (2)ENABLE OPTO 2 Def:DISABLE