

Schneider Charge Pro

OCPP Protocol

Connectivity Guide

BRU5587800-02
11/2025



EVB4S22N40M

EVB4S22N40

EVB4S22N40MG

EVB4S22N40G



EVB4S22NC0M

EVB4S22NC0

EVB4S22NC0MG

EVB4S22NC0G

Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this document are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owner.

This document and its content are protected under applicable copyright laws and provided for informative use only. No part of this document may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the document or its content, except for a non-exclusive and personal license to consult it on an "as is" basis.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this document, as well as any non-intended use or misuse of the content thereof.

Schneider Electric reserves the right to make changes or updates with respect to or in the content of this document or the format thereof, at any time without notice.

Table of Contents

Safety Information	4
About the Book	5
Safety Precautions	6
Supported OCPP Operations	7
Smart Charging	9
Vendor Error Codes	10
Parameters	11
Cybersecurity and Data Privacy	15

Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER
DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE
NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

Purpose of this Document

The purpose of this document is to guide you with the connectivity of Schneider Charge Pro range with OCPP protocol 1.6 supervisions.

Document Version History

Document Reference–Revision	Release Date	Software Version	Evolution
BRU5587800-00	November 2024	1.13.1	
BRU5587800-01	May 2025	1.19.3	
BRU5587800-02	November 2025	3.0.0	Add ISO15118 function related Key and Error Codes

Terminology

Acronym	Designation
EVSE	Electrical Vehicle Supply Equipment (charging station compliant with OCPP standard).
EVCE	Electrical Vehicle Charging Expert.
OCPP	Open Charge Point Protocol (communication protocol used between the charging stations and a central system).

Related Documents

Document Title	Document Reference–Revision	Author	Release Date	Link
Schneider Charge Pro Installation Guide	BRU2882901	Schneider Electric	2024	https://www.se.com/w/en/download/document/RU2882901/
Open Charge Point Protocol 1.6	1.6	Open Charge Alliance	12/2019	https://www.openchargealliance.org/

Safety Precautions

NOTICE

HAZARD OF INCORRECT USE

- This document contains general descriptions and/or general technical specifications of the products mentioned. It cannot be used to determine the suitability or reliability of these products for specific user applications. It is the responsibility of each user or integrator to conduct the appropriate risk analysis in full, assessing and testing products as regards the application in which they will be used and the execution of this application. Neither Schneider Electric nor any of its affiliated companies or subsidiaries can be held responsible for incorrect use of the information contained in this document. If you have any suggestions for improvements or correction, or have found errors in this publication, please notify us.
- All relevant state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to ensure compliance with documented system data, only the manufacturer should perform repairs to components. When equipment is used for applications with technical safety requirements, follow the relevant instructions.

Failure to follow these instructions can result in equipment damage.

Supported OCPP Operations

Supported protocol is OCPP 1.6 JSON.

The following tables detail the supported OCPP messages.

GetDiagnostics & UpdateFirmware support protocols:
FTP, FTPS, HTTP and HTTPS.

Operations Initiated by Charge Point

Operation group	Message	Comment
Core	Authorize	Supported
Core	BootNotification	Supported
Core	DataTransfer	Parameter not used
Firmware & diagnostics file transfer	DiagnosticsStatusNotification	Supported
Firmware & diagnostics file transfer	FirmwareStatusNotification	Supported
Core	Heartbeat	Supported
Core	MeterValues	Supported
Core	StartTransaction	Supported
Core	StatusNotification	Supported
Core	StopTransaction	Supported

Operations Initiated by Central System

Operation group	Message	Comment
Reservation	CancelReservation	Supported
Core	ChangeAvailability	Supported
Core	ChangeConfiguration	Supported
Core	ClearCache	Supported
Smart charging	ClearChargingProfile	Supported Refer to section of Smart Charging
Core	DataTransfer	Supported
Smart charging	GetCompositeSchedule	Supported Refer to section of Smart Charging
Core	GetConfiguration	Supported
Firmware & diagnostics file transfer	GetDiagnostics	Supported
Local auth list management	GetLocalListVersion	Supported
Core	RemoteStartTransaction	Supported
Core	RemoteStopTransaction	Supported
Reservation	ReserveNow	Supported
Core	Reset	Supported
Local auth list management	SendLocalList	Supported

Operation group	Message	Comment
Smart charging	SetChargingProfile	Supported Refer to section of Smart Charging
Remote trigger	TriggerMessage	Supported
Core	UnlockConnector	Supported
Firmware & diagnostics file transfer	UpdateFirmware	Supported

Smart Charging

The table below provides the supported smart charging features.

Class	Attribute	Comment
ChargingProfile	chargingProfileId	Supported
	transactionId	Supported
	stackLevel	Supported
	chargingProfilePurpose	All profiles are supported (TxDefaultProfile, TxProfile).
	reccurencyKind	All types are supported (Daily, Weekly).
	validFrom	Supported
	validTo	Supported
ChargingSchedule	duration	Supported
	startSchedule	Supported
	chargingRateUnit	“A” is supported – “W” is supported.
	minChargingRate	Parameter used
ChargingSchedule-Period	startPeriod	Supported
	limit	Supported
	numberPhases	Parameter not used

NOTE: Messages which are containing not supported attributes are rejected by the charging station.

Vendor Error Codes

The table below details all error codes that can be raised by the charging station.

No.	OCPP code/Error code	Specific error name/information	Error code/ Vendor error code	Error description
1	GroundFailure	GroundFailure	0x100206	Ground Fault. This function is disabled by default.
2	HighTemperature	HighTemperature	0x100101	Overtemperature fault inside the terminal.
3	OverVoltage	OverVoltage	0x200206	Input overvoltage fault.
4	UnderVoltage	UnderVoltage	0x200208	Input undervoltage fault.
5	WeakSignal	WeakSignal	0x100008	Weak wireless signal. This function is disabled by default.
6	InternalError	Firmware downgrade	0x300000	The charging station detects that the software version is lower than expected.
7	InternalError	Firmware upgrade failed	0x300001	The charging station is unable to upgrade the firmware.
8	InternalError	Front cover opened	0x10020C	Front cover opened. This function is disabled by default.
9	InternalError	Internal Metering card issue	0x10020F	At least one metering fault has been detected.
10	InternalError	Internal Power Meter communication loss	0x300002	Loss of communication with Modbus power meter for metering (either internal or external), for 10 consecutive unsuccessful attempts with 0.3 seconds per time. It means no more than 3 second totally loss of communication.
11	InternalError	Wi-Fi communication issue	0x300004	Issue with Wi-Fi processor: communication lost or update impossible.
12	ReaderFailure	Badge reader issue	0x100004	Loss of communication with the RFID, NFC reader.
13	EVCommunicationError	EV issue : Control Pilot (CP)	0x100217	Communication fault with a Mode 3/T2 vehicle ("CP" error: Control Pilot).
14	EVCommunicationError	Plug Presence (PP) conformity	0x100218	Cable status wrong (the value of the coding resistor "PP" is wrong).
15	EVCommunicationError	EV issue : Short-circuit CPW	0x300005	Charging fault short-circuit on Control Pilot Wire.
16	ConnectorLockFailure	Lock / Unlock cable Failure	0x100205	Wrong handling during the plug/unplug of the socket, or motor blocked.
17	InternalError	Contactors discordance	0x300006	Contactors/Relay is not in the requested state: welded or blocked in open position.
18	OverCurrentFailure	EV Overcurrent	0x100213	Overcurrent or overload charging fault due to EV.
19	OtherError	Supervision (OCPP) issue	0x300009	Communication or configuration of Supervision (OCPP) issue.
20	OtherError	DEM communication loss : TIC	0x30000B	Communication lost with external device for energy management (TIC).
21	OtherError	DEM communication loss : Modbus meter	0x30000C	Communication lost with external device for energy management (Modbus meter).
22	OtherError	DEM communication loss : Peak controller	0x30000D	Communication lost with external device for energy management (Peak controller meter).
23	LocalListConflict	LocalListConflict	0x30000E	The authorization information received from the Central System is in conflict with the LocalAuthorizationList.
24	NoError	NoError	0x0	No error to report.
25	InternalError	RDC DD (6mA) measurement board error	0x300010	RDC DD internal device reports an internal error. (RDC self test, it will occur after Power Cycle or before Relay close each time.)
26	OtherError	6mA DC leakage detected	0x300011	DC leakage value higher than 6mA.
27	InternalError	Cellular Modem communication issue	0x300003	Issue with Cellular Modem processor: communication lost or update impossible.
28	InternalError	Issue with ISO15118 module	0x300007	Issue with HW of ISO15118 module: communication lost or update impossible.
29	EVCommunicationError	Issue with ISO15118 module	0x300008	Issue with SW of ISO15118 module: communication lost or update impossible.

Parameters

1. The table below details all EVSE parameters covered by the OCPP 1.6 Standard that can be read or modified from the supervision.

Standard Key			
Key	Default Value	Access right (*)	Description
AllowOfflineTxForUnknownId	True	RW	If this key exists, the Charge Point supports Unknown Offline Authorization. If this key reports a value of True, Unknown Offline Authorization is enabled.
AuthorizationCacheEnabled	False	RW	If this key exists, the Charge Point supports an Authorization Cache. If this key reports a value of True, the Authorization Cache is enabled.
AuthorizeRemoteTxRequests	True	RW	When set to True, a remote request to start a transaction in the form of a RemoteStartTransaction.req message will be authorized beforehand like a local action to start a transaction.
ClockAlignedDataInterval	0	RW	Size (in seconds) of the clock-aligned data interval, a value of "0" is to be interpreted to mean that no clock-aligned data should be transmitted.
ConnectionTimeOut	60	RW	Interval (from successful authorization) until the charging session is automatically canceled due to failure of EV user to (correctly) insert the charging cable connector(s) into the appropriate connector(s). "0" means no timeout.
GetConfigurationMaxKeys	100	RO	The maximum number of configuration keys that can be requested in a GetConfiguration.req PDU.
HeartbeatInterval	60	RW	The interval of inactivity in seconds (no OCPP exchanges) with central system after which the Charge Point should send a Heartbeat.req PDU.
LocalAuthorizeOffline	True	RW	Whether the Charge Point, when offline, will start a transaction for locally-authorized identifiers.
LocalPreAuthorize	False	RW	Whether the Charge Point, when online, will start a transaction for locally-authorized identifiers without waiting for or requesting an Authorize.conf from the Central System.
MeterValuesAlignedData	Energy.Active.Import.Register	RW	The clock-aligned measurand(s) to be included in a MeterValues.req PDU, every ClockAlignedDataInterval seconds - not currently supported.
MeterValuesAlignedDataMaxLength	10	RO	The maximum number of items in a MeterValuesAlignedData Configuration Key - not currently supported.
MeterValuesSampledData	Energy.Active.Import.Register Current.Offered Current.Import.L1 Current.Import.L2 Current.Import.L3	RW	The sampled measurands to be included in a MeterValues.req PDU, every MeterValueSampleInterval seconds.
MeterValuesSampledDataMaxLength	10	RO	The maximum number of items in a MeterValuesSampledData Configuration Key.
MeterValueSampleInterval	60	RW	The interval (seconds) between sampling of metering (or other) data, intended to be transmitted by "MeterValues" PDUs.
MinimumStatusDuration	10	RW	The minimum duration that a Charge Point or Connector status is stable before a StatusNotification.req PDU is sent to the Central System.
NumberOfConnectors	1	RO	The number of physical charging connectors of this Charge Point.
ResetRetries	2	RW	Number of times to retry an unsuccessful reset of the Charge Point.
ConnectorPhaseRotationMaxLength	2	RO	The maximum number of items in a ConnectorPhaseRotation Configuration Key.
ConnectorPhaseRotation	0.RST, 1.RST	RW	The phase rotation per connector in respect to the connector's energy meter.
StopTransactionOnEVSideDisconnect	True	RO	When set to True, the Charge Point will administratively stop the transaction when the cable is unplugged from the EV.

Standard Key			
Key	Default Value	Access right (*)	Description
StopTransactionOnInvalidId	True	RW	When set to true, the Charge Point will stop an ongoing transaction when it receives a non- Accepted authorization status in a StartTransaction.conf for this transaction.
StopTxnAlignedData MaxLength	0	RO	The maximum number of items in a StopTxnAlignedData Configuration Key.
StopTxnSampledData MaxLength	0	RO	The sampled measurands to be included in the TransactionData element of StopTransaction.req PDU, every MeterValueSampleInterval seconds from the start of the charging session.
SupportedFeatureProfiles	Core FirmwareManagement LocalAuthList Management Reservation SmartCharging RemoteTrigger	RO	A list of supported Feature Profiles.
SupportedFeatureProfiles MaxLength	6	RO	Maximum number of items in a SupportedFeatureProfiles Configuration Key.
TransactionMessageAttempts	2	RW	How many times in total the Charge Point should try to submit a transaction-related message when the Central System fails to process it.
TransactionMessage RetryInterval	10	RW	How long (in seconds) the Charge Point should wait before resubmitting a transaction related message that the Central System failed to process.
UnlockConnectorOn EVSideDisconnect	True	RO	When set to True, the Charge Point will unlock the cable on the Charge Point side when the cable is unplugged at the EV.
WebSocketPingInterval	20	RW	When set to 0 client side websocket Ping/Pong is disabled, positive values are interpreted as number of seconds between pings.
LocalAuthListEnabled	False	RW	Whether the Local Authorization List is enabled.
LocalAuthListMaxLength	4000	RO	Maximum number of identifications that can be stored in the Local Authorization List.
SendLocalListMaxLength	400	RO	Maximum number of identifications that can be send in a single SendLocalList.req.
ReserveConnector ZeroSupported	True	RO	If this configuration key is present and set to True: Charge Point support reservations on connector 0.
ChargeProfileMaxStackLevel	200	RO	Max StackLevel of a ChargingProfile. The number defined also indicates the max allowed number of installed charging schedules per Charging Profile Purposes.
ChargingScheduleMaxPeriods	100	RO	Maximum number of periods that may be defined per ChargingSchedule.
ConnectorSwitch3to1Phase Supported	False	RO	If defined and True, this Charge Point support switching from 3 to 1 phase during a Transaction.
MaxChargingProfilesInstalled	200	RO	Maximum number of Charging profiles installed at a time.
ChargingScheduleAllowed ChargingRateUnit	Current	RO	A list of supported quantities for use in a ChargingSchedule. Allowed values: 'Current' and 'Power'.
StopTxnAlignedData		RW	The clock-aligned periodic measurand(s) to be included in the TransactionData element of StopTransaction.req MeterValues.req PDU for every ClockAlignedDataInterval of the charging session.
StopTxnSampledData		RW	The sampled measurands to be included in the TransactionData element of StopTransaction.req PDU, every MeterValue SampleInterval seconds from the start of the charging session.
MaxEnergyOnInvalidId	0	RW	Maximum energy in Wh delivered when an identifier is invalidated by the Central System after start of a transaction.
(*) RO = Read Only, RW = Read and Write			

2. The table below details all EVSE parameters not covered by the OCPP 1.6 Standard that can be read or modified from the supervision.

Key	Type	Unit	Access right (*)	Default value	Description
AuthenticationOCPPMode	Boolean		RW	True	Allow authentication by CPO. False: no authentication, free charging.
DefaultIdTag	String[20] *		RW	18237379292	idTag sent through Authorize request when AuthenticationOCPPMode=False.
SupervisionUrl	String[255] *		RW		OCPP supervision Url.
BoxIdentifier	String[50] *		RW		OCPP charging station identifier, when CPO changes this, it will reflect to the charging station ID in webpage.
iMaxDeratingSwCapacity	Integer	A	RO		Charging station maximum current.
disconnectedMeterValue SampleInterval	Integer	seconds	RW	900	Allows to set the sampling interval of the meter values when the charge and the supervision are disconnected. The sampling interval ranges from 5 to 3600 seconds, and the samples are sent to the supervision.
SecurityEventsEnabled	Boolean		RW	True	True: Security events are notified to CSMS. False: Security events are not notified to CSM.
CompressDiagnostic	Boolean		RW	True	Charging station diagnostics compressed.
StationName	String		RW		Friendly name.
DhcpEnabled	Boolean		RW	True	Enable DHCP client.
IpAddress			RW	192.168.0.102	IP Address of the charge station. The write function will only use EVCE and EVCE Lite after disable DHCP in the future, which is currently not supported.
NetworkSubmask			RW	255.255.255.0	Network Submask of the charge station. The write function will only use EVCE and EVCE Lite after disable DHCP in the future, which is currently not supported.
NetworkGateway			RW	192.168.0.254	Network Gateway of the charge station. The write function will only use EVCE and EVCE Lite after disable DHCP in the future, which is currently not supported.
DnsAddress1			RW	8.8.8.8	DNS Address 1 of the charge station. The write function will only use EVCE and EVCE Lite after disable DHCP in the future, which is currently not supported.
DnsAddress2			RW	4.4.4.4	DNS Address 2 of the charge station. The write function will only use EVCE and EVCE Lite after disable DHCP in the future, which is currently not supported.
RestoreTimeout	Integer	seconds	RW	600	Save and restore timeout. Allows you to configure the minimum delay between a power cut and resuming the load. Maximum duration is 24 hours.
AuthorizationKey	String		WO		The basic authentication password is used for HTTP Basic Authentication, minimal length: 16 bytes.
SecurityProfile	Integer		RW		This configuration key is used to set the security profile used by the charging station.
WebsocketConnection Timeout	Integer	seconds	RW	5	Time max (in secs) where connection attempting can be considered as failed. Range: 3~2147483647.
WebsocketRequest Timeout	Integer	seconds	RW	10	Time max (in secs) after which the request can be considered as failed. Range: 5~2147483647.
OcppEnable	boolean		RW	False	Switch between Standalone mode and Supervision mode by OcppEnable.

Key	Type	Unit	Access right (*)	Default value	Description
PhasesConnection	Integer		RW	1	This OCPP specific key is able to manage single phase wiring and IT grid configuration for smart charging purposes. (1. Tri123, 2. Tri231, 3. Tri312, 4. Mono1, 5. Mono2, 6. Mono3, 7. IT12, 8. IT23, 9. IT31, 10. IT312, 11. IT213).
StationMeterType	Integer		RO		0: Non-embedded MID Meter. 1: Embedded MID Meter.
ISO15118ChargeEnabled	Boolean		RW	True	To configure the status of ISO15118 charging: True: Activated False: Deactivated
TriggerBackend ConfigurationDataReset	String		RW	False	If value is written from "false" to "true", then specified data will be reset. And the key value will revert to its default value of "false".
(*) WO = Write Only RO = Read Only RW = Read and Write					

3. The table below details the supported measurands.

Measurand	Description	Unit
Current.Import.L1 Current.Import.L2 Current.Import.L3	Instantaneous current flow to EV.	Amp
Current.Offered	Maximum current offered to EV.	Amp
Energy.Active.Import.Register	Value read from the active electrical energy register of the most authoritative electrical meter. The meter measures energy imported from the grid supply.	Wh

Cybersecurity and Data Privacy

Refer to Schneider Charge Pro - Cybersecurity Guide, reference BRU5883000.

Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France

+ 33 (0) 1 41 29 70 00

www.se.com

As standards, specifications, and design change from time to time,
please ask for confirmation of the information given in this publication.

© 2024-2025 Schneider Electric. All rights reserved.

BRU587800-02