Certificate Holder:	**MODERNTEC Co., Ltd**
Certificate Number:	**OCA.0016.1076.CS**
Product Type:	**Charging Station**
Product Designation:	**MC-IN40-1D**
Firmware Version:	**1.0.0.0**
Certification Date:	**June 25, 2025**

This certificate attests that the above mentioned product successfully completed certification testing in conformance with the reference specification OCPP 1.6 (Edition 2 FINAL, 2017-09-28 including Errata 2025-04). The optional OCPP protocol features that are covered by this certificate can be found in the Abstract of the Test Report that is part of this certificate.

Test cases have been performed as described in the test report referred to below. The results and remarks can be found in this complete test report.

Applied	Performed by / On	Document Evidence
Conformance testing according to the test specification referenced by the test report	Korea Smart Grid Association June 25, 2025	Moderntec_PICS 1.6 CS_MC-IN40-1D_v2.0.3

The abstract of test report is an integral part of this certificate. This certificate is valid from the Certification Date specified above. This certificate is only applicable to the product designation described above and permits the use of the OCPP logo as laid down in the OCA certification logo license agreement on this product only.

This certificate shall neither be tendered nor accepted by any party as a guarantee covering quality of a product which includes OCPP. The Open Charge Alliance, and/or its agents, including, inter-alia, test laboratories, disclaim liability for any damages or losses incurred by the certified company or by any other party resulting from reliance on the results of OCPP certification testing.

For the Open Charge Alliance:

ONOPH CARON
Chairman

Authenticity of this certificate can be verified at www.openchargealliance.org

Abstract of the Test Report

Test Report OCPP 1.6 Certification

Test laboratory:	Korea Smart Grid Association
Location:	Seoul, Korea
Test Report Reference:	KSGA-OCPP1.6TEST-039-2025
Test Location	MODERNTEC Co., Ltd

Product Designation:	MC-IN40-1D
Vendor name:	MODERNTEC Co., Ltd
Device Under Test:	Charging Station
Firmware Version:	1.0.0.0
Config ID:	3CECCA9C-80B26618

Test Result Summary for the Certified Functionalities

Certification Profile	Test Result	Description
Core	Pass	Basic Charging Station, functionality for booting, authorization, configuration, transactions, remote control.
Firmware Management	Pass	Support for firmware update management and diagnostic log file download.
Local Authorization List Management	Pass	Features to manage a local list in the charging station containing authorization data for whitelisting users.
Smart Charging	Pass	Support for Smart Charging, to control charging.
Remote Trigger	Pass	Support for remotely triggering messages that originate from a Charging Station. This can be used for resending messages or for getting the latest information from the Charging Station.
Reservation	Pass	Support for reservation of a connector of a Charging Station.

Certification Extension	Test Result	Description
Security extension	Pass	Implementation of the whitepaper: Improved security for OCPP 1.6-J

Hardware Feature Set

The Hardware Feature set is the actual set of relevant hardware properties of the product tested, that influence the OCPP messaging behavior. In the table below you can see for each hardware feature relevant for OCPP whether this is applicable for this product.

ID	Feature	Supported / Present
HFS-1	Has a detachable cable	No
HFS-2	Has a fixed cable	Yes
HFS-3	Has AC support	No
HFS-4	Has DC support	Yes
HFS-5	Has 1 phase support	No
HFS-6	Has 2 phase support	No
HFS-7	Has 3 phase support	No
HFS-8	No. Connectors	1
HFS-9	Communication technology	Ethernet
HFS-10	RFID readers	Single
HFS-11	DC power level	40

Connector	Current	Phases	Type	Cable Type
1	DC		cCCS2	Fixed Cable

Optional Features

Core		
ID	**Core Features**	**Supported / Present**
C-01	Support for offline authorization of transactions	Yes
C-02	Support for allowing Offline Authorization for Unknown Ids	Yes
C-03	Support for maximizing energy for invalid ids	Yes
C-04	Authorization Cache	Yes
C-05	Support to limit StatusNotifications	Yes
C-06	Authorization status after cable disconnected on EV side	
C-06.1	Support for maintaining authorization when cable disconnected on EV side	Yes
C-06.2	Support for not maintaining authorization when cable disconnected on EV side	Yes
C-07	Support for local start	Yes
C-08	Support for local stop	Yes
C-10	Unlocking of connector when cable disconnected on EV side	
C-10.1	Support for unlocking connector when cable disconnected on EV side	No
C-10.2	Support for not unlocking when cable disconnected on EV side	Yes

ID	Metervalues	Tested During Certification	Supported According to Vendor
C-09	Supported MeterValue Measurands		
C-09.1	MeterValuesSampled Data	Energy.Active.Import.Register	Energy.Active.Import.Register
C-09.2	MeterValuesAligned Data	Energy.Active.Import.Register	Energy.Active.Import.Register

Smart Charging

ID	Certification Profile: Smart Charging	Supported / Present
SC-1	Supported charging rate units	
SC-1.1	A	Yes
SC-1.2	W	No

Reservation

ID	Certification Profile: Reservation	Supported / Present
R-1	Support reservations of entire Charging Station	No

Firmware Management

ID	Certification Profile: Firmware Management	Supported / Present
F-1	Support for Secure Firmware Updates	Yes

Security

ID	Security Extension	Supported / Present
SEC-1	Security Profile 1: Unsecured Transport with Basic Authentication	No
SEC-2	Security Profile 2: TLS with Basic Authentication	Yes
SEC-3	Security Profile 3: TLS with Client Side Certificates	No

Security Cipher Suites		
ID	**Security Extension : Cipher Suites**	**Supported / Present**
SEC-4	Supported Cipher Suites	TLS_RSA_WITH_AES_128_GCM_SHA256,TLS_RSA_WITH_AES_256_GCM_SHA384

Additional Questions

The table below lists a number of questions that are needed for determining the complete list of conformance test for this product.

ID	Additional Questions for Lab Testing	Answer
AQ-1	Can the last CentralSystemRootCertificate can be removed?	No
AQ-2	Does the Charging Station have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization?	No
AQ-3	Can the last ChargePointCertificate be removed?	No
AQ-4	Is your Charging Station able to download firmware while there is an ongoing transaction?	No
AQ-5	Does your Charging Station enforce a selection of EVSE prior to authorization?	No
AQ-6	Does your Charging Station support charging an EV using IEC 61851-1?	No
AQ-7	Reporting of StopTransaction after power loss	
AQ-7.1	Charge Point configured to report StopTransaction before going down.	No
AQ-7.2	Charge Point configured to report StopTransaction after going down and being back online again.	Yes

Other Relevant Settings

The table below lists a number of settings that are needed for configuring the test setup for the conformance test for this product.

ID	Limit / Setting	Value
ORS-1	GetConfigurationMaxKeys	20
ORS-2	MeterValuesAlignedDataMaxLength	4
ORS-3	MeterValuesSampledDataMaxLength	4
ORS-4	Minimum MeterValueSampleInterval supported	5

ID	Limit / Setting	Value
ORS-5	Maximum MeterValueSampleInterval supported	120
ORS-6	Minimum HeartbeatInterval supported	20
ORS-7	Maximum HeartbeatInterval supported	360
ORS-8	StopTransactionMaxMeterValues	20
ORS-9	StopTxnAlignedDataMaxLength	2
ORS-10	StopTxnSampledDataMaxLength	2
ORS-11	WebSocketPingInterval	10

ID	Certification Profile: Local Authorization List Management	Value
ORS-12	LocalAuthListMaxLength	60
ORS-13	SendLocalListMaxLength	60

ID	Certification Profile: Smart Charging	Value
ORS-14	ChargingProfileMaxStackLevel	60
ORS-15	ChargingScheduleMaxPeriods	60
ORS-19	MaxChargingProfilesInstalled	60

ID	Firmware Management Settings	Value
ORS-16	Supported file transfer protocols	HTTP HTTPS FTP FTPS

ID	Security Extension	Value
ORS-17	CertificateSignedMaxChainSize	10
ORS-18	CertificateStoreMaxLength	10

Performance Measurement Result

The tables below shows the list of key performance indicators that are measured during the conformance test. The first table indicates the values that the vendor indicates that are valid maximum values for this product. The second table lists the actual performance measurements during the tests performed in a controlled environment.

Name	Max Value	Unit	Description
OCPP response timeout	10	seconds	The timeout used for exchanging OCPP response messages. Messages to the DUT can be handled within this timeout.
OCPP triggered function timeout	60	seconds	The timeout used for when waiting for an OCPP function with its corresponding request message. Messages to the DUT can be handled within this timeout. This value excludes firmware, diagnostics and rebooting
Transaction authorization time by RemoteStartTransaction	10	seconds	The time between the RemoteStartTransaction.req message and the corresponding StartTransaction.req. Only cases where the RemoteStartTransaction immediately results in an authorization followed by a StartTransaction.req are included.
Transaction authorization end time by RemoteStopTransaction	30	seconds	The time between the RemoteStopTransaction.req message and the corresponding StopTransaction.req. Only cases where the RemoteStopTransaction immediately results in an end of the authorization followed by a StopTransaction.req are included.

Name	Min Value	Max Value	Average Value	Unit
OCPP response timeout	0.30	5.99	0.45	seconds
OCPP triggered function timeout	0.32	1.09	0.63	seconds
Transaction authorization time by RemoteStartTransaction	2.80	2.80	2.80	seconds
Transaction authorization end time by RemoteStopTransaction	1.41	7.42	4.42	seconds

Communication technology used during performance measurement	Ethernet

Statement of Approval

Vendor		
Name	Seongdoo Kim	Date: 2025-06-25
Company	MODERNTEC Co., Ltd	Signature:
Department	Representative Director	
Position	Chief Executive Officer	
Location	Seoul, Korea	

Test Laboratory		
Name	Philip YANG	Date: 2025-06-25
Name reviewer	Joe Lee	Signature:
Company	Korea Smart Grid Association	
Department	Quality Certification Center	
Position	Chief Researcher	
Location	Seoul, Korea	

OCTT Version	Release_2025-04
OCTT Instance ID	7a4beba641b8341e27a88c78d48bf4aa
Firmware image hash	d1ceb947e7ad2a93a872b62b72b1e4d7bca3172aaa68ef1c9c398408bcd2fa6ea