BACnet CONFORMANCE CERTIFICATE

No. BTL-31450

WSPCert attests the conformance of the following BACnet implementation to the BACnet standard ISO 16484-5 protocol revision 1.19. The attested conformance refers to the BACnet Interoperability Building Blocks (BIBBs) listed on the BTL Listing bearing the above-mentioned BTL-number.

The BACnet implementation has fulfilled the requirements according to the test standard ISO 16484-6, the BTL Test Plan 26.0 and the BTL Testing Policies, see Test Report number TC51480 of Protocol Test Lab.

Product name (B-ASC,B-GW)
EMS10XXXXXX
Model(s) EMS10MV5O1X, EMS10MV5S1X, EMS10AV5O1X, EMS10AV5S1X, EMS10AV2O1X, EMS10AV2S1X
Firmware version
Rev 1.6.0
Vendor
Carlo Gavazzi Controls S.p.A.
Via Safforze, 8   **32100 Belluno, BL, Italy**

This certificate is valid until **31-Mar-2031**.

08-Dec-2025
_____
Date of Initial Certification

_____
Dipl.-Ing. G. Weinmann
Head of Certification Body

Issued on behalf of BACnet International
2900 Delk Road, Suite 700, PMB 321
Marietta, GA 30067, USA

Certification by WSPCert Dr.-Ing. Frank Bitter
Kapuzinerweg 7, 70374 Stuttgart, Germany

DAkkS
Deutsche
Akkreditierungsstelle
D-ZE-11156-01-00

BACnet Testing Laboratories
Product Listing

BACnet functionality in each Listed product has been successfully tested at a Recognized BACnet Testing Organization utilizing the industry standard BTL test suite and test policies that were current at the time it was tested. For Listings with multiple products, some products may have less functionality than is indicated by the Listing document. The PICS document provides information on the specific functionality of each product. Note that PICS documents on the BTL Listings site are provided by the manufacturer and are not independently verified by BTL.

Listing Information (BTL-31450)

Vendor		Listing Status
Carlo Gavazzi Controls S.p.A. Via Safforze, 8 32100 Belluno, BL Italy		Listed Product
Test Requirements	BACnet Protocol Revision	Date Tested
Requirements as of December 2024	Revision 19 (135-2016)	October 2025

Product Name	Model Numbers	Firmware version
EMS10XXXXXX	EMS10MV5O1X, EMS10MV5S1X, EMS10AV5O1X, EMS10AV5S1X, EMS10AV2O1X, EMS10AV2S1X	Rev 1.6.0

Device Profiles

Profile	Model Numbers
BACnet Application Specific Controller (B-ASC) BACnet Gateway (B-GW)	All models

BIBBs Supported

Data Sharing	ReadProperty-B	DS-RP-B
	ReadPropertyMultiple-B	DS-RPM-B
	WriteProperty-B	DS-WP-B
	WritePropertyMultiple-B	DS-WPM-B
	Change Of Value-B	DS-COV-B

Device Management	Dynamic Device Binding-B	DM-DDB-B
	Dynamic Object Binding-B	DM-DOB-B
	DeviceCommunicationControl-B	DM-DCC-B
	TimeSynchronization-B	DM-TS-B
	UTCTimeSynchronization-B	DM-UTC-B
	ReinitializeDevice-B	DM-RD-B
	BBMD Configuration-B	NM-BBMDC-B
	Embedded Objects-B	GW-EO-B

Object Type Support

Analog Input	Analog Value	Binary Input
Binary Output	Device	Network Port

Data Link Layer Options

Media	Options
BACnet/IP (Annex J)	BBMD Register as Foreign Device BACnet/IP, 'DIX' Ethernet

Character Set Support

ISO 10646 (UTF-8)

Wi-Fi CERTIFIED® Certificate

This certificate lists the features that have successfully completed Wi-Fi Alliance interoperability testing. Learn more: www.wi-fi.org

Certification ID: WFA138356

Product Info

Date of Certification	December 4, 2025
Company	CARLO GAVAZZI CONTROLS S.P.A.
Product Name	EMS10 AV2 Energy meter
Product Model Variant	EMS10 AV2 Energy meter
Model Number	EMS10 AV2 XX X
Category	Other
Sub-category	Utility Meter

Summary of Certifications

CLASSIFICATION	CERTIFICATION
Network management	WMM®
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2021-01 WPA3™-Enterprise 2022-12 WPA3™-Personal 2023-12
Wi-Fi (MAC/PHY)	2.4 GHz Spectrum Capabilities Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n

Wi-Fi CERTIFIED® Certificate

Certification ID: WFA138356

Wi-Fi Components

Wi-Fi Component Operating System

Free RTOS

Wi-Fi Component Firmware

E

RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	1	1

Certifications

2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz

40 MHz Channel Width in 2.4 GHz

Protected Management Frames

WMM®

WPA2™-Enterprise 2018-04

EAP methods

    EAP TLS

    EAP TTLS

    PEAPv0

WPA2™-Personal 2021-01

WPA3™-Enterprise 2022-12

EAP methods

    EAP TLS

    EAP TTLS

    PEAPv0

Server Certificate Validation

WPA3™-Personal 2023-12

Wi-Fi CERTIFIED™ b

Wi-Fi CERTIFIED™ g

Wi-Fi CERTIFIED™ n

A-MPDU Tx

Short Guard Interval

STBC

Wi-Fi CERTIFIED® Certificate

This certificate lists the features that have successfully completed Wi-Fi Alliance interoperability testing. Learn more: www.wi-fi.org

Certification ID: WFA138357

Product Info

Date of Certification	December 4, 2025
Company	CARLO GAVAZZI CONTROLS S.P.A.
Product Name	EMS10 AV5/MV5 Energy meter
Product Model Variant	EMS10 AV5/MV5 Energy meter
Model Number	EMS10 AV5/MV5 XX X
Category	Other
Sub-category	Utility Meter

Summary of Certifications

CLASSIFICATION	CERTIFICATION
Network management	WMM®
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2021-01 WPA3™-Enterprise 2022-12 WPA3™-Personal 2023-12
Wi-Fi (MAC/PHY)	2.4 GHz Spectrum Capabilities Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n

Wi-Fi CERTIFIED® Certificate

Certification ID: WFA138357

Wi-Fi Components

Wi-Fi Component Operating System

Free RTOS

Wi-Fi Component Firmware

E

RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	1	1

Certifications

2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz

40 MHz Channel Width in 2.4 GHz

Protected Management Frames

WMM®

WPA2™-Enterprise 2018-04

EAP methods

    EAP TLS

    EAP TTLS

    PEAPv0

WPA2™-Personal 2021-01

WPA3™-Enterprise 2022-12

EAP methods

    EAP TLS

    EAP TTLS

    PEAPv0

Server Certificate Validation

WPA3™-Personal 2023-12

Wi-Fi CERTIFIED™ b

Wi-Fi CERTIFIED™ g

Wi-Fi CERTIFIED™ n

A-MPDU Tx

Short Guard Interval

STBC

THE SUNSPEC ALLIANCE HEREBY CERTIFIES THAT

PRODUCT NAME

CATEGORY

PRODUCT MODELS

Has been issued this
SunSpec Certified Product Award for
Successful Testing and Certification of the

SUNSPEC INFORMATION MODELS

AWARDED ON

CERTIFICATE NUMBER

Tom Tansy, Chairman

NOTICE OF AUTHORIZATION TO APPLY THE UL VERIFIED MARK

September 16, 2025

Company Name: Carlo Gavazzi Controls, S.p.a.
Company Address: Via Safforze 8 32100 Belluno Italy Tel: +39 0437 355811
Client Email Address: Alessio.Costantini@gavazziacbu.it

Our Reference: 4791799160
Project Scope: IoT Security Rating – UL Verified Mark

Dear Alessio Costantini,

Congratulations! UL Solutions has completed the evaluation of the marketing claim covered in the scope of this project, with acceptable results. This letter, along with the enclosed Certificate, authorizes use of the UL Verified Mark and associated Marketing Claim as described below.

To authorize use of the UL Verified Mark, you must send a copy of this notice to each manufacturing location listed below and include any special instructions as indicated in this letter.

Terms governing the use of the UL Verified Mark can be found on our website: www.ul.com/customer-resources/contracts/terms/. Should you need assistance with Mark artwork, usage guidelines and/or placement or the Mark on product or in promotions, please visit verify.ul.com/marketing or ask your project manager to connect you with a UL Solutions marketing representative.

You are now able to apply the UL Verified Mark to your products and use it in promotional materials. We appreciate your business and thank you for choosing UL Solutions for your testing, inspection, certification and risk management solutions needs. Feel free to contact us at any time with questions.

Any information and documentation provided to you involving UL Verified Mark services are provided on behalf of UL LLC (UL Solutions) or any authorized licensee of UL Solutions.

Very Truly Yours,   Reviewed By:

Kushal Rahatkar   Utkarsha Govilkar
Project Handler   Reviewer

UL VERIFIED MARK CERTIFICATE

This certificate confirms that a representative sample set, process or system was evaluated to determine the validity of the specific marketing, advertising or promotional claim regarding the product, process or system specified below and such product, process or system is eligible to bear the UL Verified Mark as described below.

Certificate Number:	V575143
Issued To:	Carlo Gavazzi Controls, S.p.a.
Issue Date:	09/16/2025
Expiration Date:	09/15/2026
Claim Verified:	Security Capabilities Verified SILVER
Product / System / Process Name:	IoT Security Rating
Applicable to:	EMS10MV5O1, EMS10MV5S1, EMS10AV5O1, EMS10AV5S1, EMS10AV2O1, EMS10AV2S1
Details:	N/A

Visit http://verify.ul.com for information on all products/processes/systems that are authorized to bear the UL Verified Mark.