

## MARK VIE CONTROL SYSTEM

# IS420UCSBH4A

## UCSB controller module

1066 MHz Intel EP80579 controller for Mark Vle architectures

## BRAND

**GE Vernova**

## PRODUCT FAMILY

**Mark Vle**

## PROCESSOR

**Intel EP80579, 1066 MHz**

## CONTROLLER ROLE

### Central execution for Mark Vle

The controller executes the application logic used by Mark Vle turbine and plant-control systems. It works with distributed I/O processing networks to evaluate operating signals and coordinate commanded responses, alarms and protective actions.

## Product overview

GE Vernova IS420UCSBH4A is a Mark Vle controller identified in the certified UCSx processor group. Its documented 1066 MHz EP80579 platform supports the coordinated processing required in gas, steam, hydro and compressor-control configurations.

**28 VDC**

power input

**1.1 A**

maximum input

**-30 to +65 C**

certified ambient

**Ex ec**

IIC T4 Gc

**3 modes**

simplex / dual / TMR

## VERIFICATION SCOPE

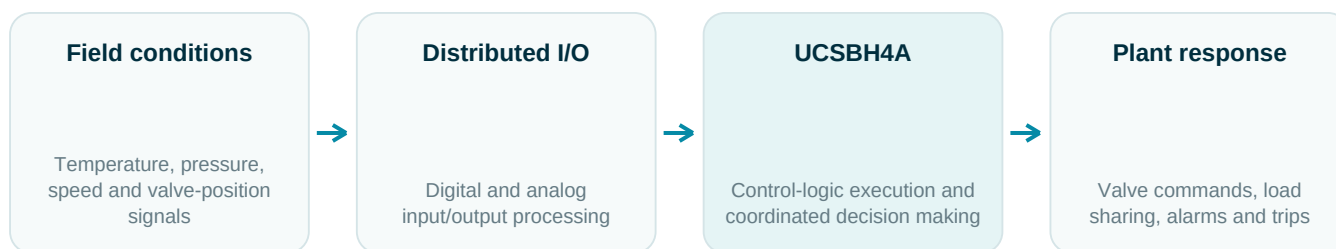
This data book is limited to facts that official GE Vernova certification records identify for IS420UCSBH4A. Dimensions, weight, storage capacity, port count and other unverified values are intentionally omitted.

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# Function and operating principle

Mark VIe control path

Within a Mark VIe installation, the controller is the computation layer between distributed I/O processing and the configured control strategy. It receives processed system information, executes the application logic and coordinates commands and protective responses across the control network.



## What the controller coordinates

- Application logic evaluates plant measurements and operating states received through the Mark VIe I/O processing network.
- Commanded outputs can participate in fuel-valve or steam-valve control, load sharing and other configured turbine-control functions.
- Alarm and fault-monitoring logic produces operator notification and initiates the necessary trip response when unsafe operation is detected.
- The same certified Mark VIe platform can be configured for gas turbine, steam turbine, hydroelectric and gas-compressor duties.
- The controller hardware remains part of a cabinet-based system whose behavior also depends on the installed application software and I/O arrangement.

## Processing platform

The DNV type-approval record identifies IS420UCSBH4A with a 1066 MHz Intel EP80579 processor. That processor identification is specific to the H4A controller entry and is not borrowed from newer UCSE or other UCSx models.

### OPERATING PRINCIPLE

Processed I/O data enters the configured control logic; calculated commands and protective actions return through the Mark VIe network to the plant interface.

## Verified technical specifications

Current official records

Only values directly tied to IS420UCSBH4A or to the certified Mark VIe controller family are included. The hazardous-location data follows IECEx UL 21.0073X, Issue 7, dated 16 February 2026.

| Specification            | Verified value                                  |
|--------------------------|-------------------------------------------------|
| Brand                    | GE Vernova                                      |
| Model                    | IS420UCSBH4A                                    |
| Product family           | Mark VIe                                        |
| Product type             | UCSB controller module                          |
| Processor                | Intel EP80579                                   |
| Processor frequency      | 1066 MHz                                        |
| Power input              | 28 VDC                                          |
| Maximum input current    | 1.1 A                                           |
| Certified ambient range  | -30 to +65 degrees C                            |
| IECEx protection marking | Ex ec IIC T4 Gc                                 |
| IECEx certificate        | IECEx UL 21.0073X, Issue 7                      |
| DNV type approval        | TAA000001E, Revision 1                          |
| Control configurations   | Simplex, dual or triple modular redundant (TMR) |
| System application       | Steam, gas and hydro turbine control            |
| North American standard  | ANSI/CAN/UL/ULC 6200:2019, Edition 1            |

### DATA LIMIT

Official records reviewed for this data book do not state a model-specific weight, enclosure dimensions, storage capacity or physical port count. Those fields are therefore left unspecified.

# Applications and integration

Architecture and replacement

Mark VIe systems using IS420UCSBH4A can be engineered around different turbine duties and redundancy levels. The controller selection must be evaluated together with the software, I/O-processing network, cabinet power and hazardous-area requirements of the installed system.

## Certified application configurations

### Gas turbine / generator

Coordinates combustion-turbine control and generator-related operating sequences.

### Steam turbine / generator

Executes configured steam-valve, speed and load-control logic.

### Hydroelectric turbine / generator

Processes hydro-unit measurements and operating commands in the Mark VIe platform.

### Gas turbine / compressor

Supports mechanical-drive control where the turbine drives compression equipment.

## Redundancy and replacement checks

- Simplex architecture uses one CPU with one I/O processing network; dual architecture uses two CPUs with primary and backup I/O networks.
- TMR architecture uses three CPUs and three I/O processing networks, so controller handling must preserve the configured redundancy set.
- Verify the complete IS420UCSBH4A identification, installed hardware revision and cabinet assignment before removing the original controller.
- Confirm the 28 VDC supply, grounding, certified ambient range and hazardous-location marking for the actual panel location.
- Back up the active application and record network, controller and redundancy settings before replacement or firmware-related work.
- Return the cabinet to service only after I/O communication, alarms, trips and commanded outputs have been validated under the site procedure.

### TECHNICAL NOTE

Do not substitute another UCSx controller from processor speed alone; redundancy membership, software compatibility, cabinet power and certification must be matched.

# Official source basis and support

GE Vernova certification records

The technical content in this data book is consolidated from GE Vernova-hosted certification and conformity records that explicitly list IS420UCSBH4A. Document identifiers are provided below for traceable verification.

## Official reference documents

**SOURCE 01 | DNV TAA000001E, Rev. 1****Mark VIe / VIeS type approval**

Identifies IS420UCSBH4A, the 1066 MHz Intel EP80579 processor, supported applications and simplex, dual and TMR configurations.

**SOURCE 02 | IECEx UL 21.0073X, Issue 7****Mark VIe Programmable Controller System**

Lists the exact controller, 28 VDC at 1.1 A maximum, -30 to +65 degrees C ambient and Ex ec IIC T4 Gc protection marking.

**SOURCE 03 | 116T4889, Revision K****EU declaration for Mark VIe and VIeS components**

Includes IS420UCSBH4A within the declared Mark VIe controller component group.

**SOURCE 04 | ATM 105541925DAL-001****Low-voltage I/O constructional data report**

Lists IS420UCSBH4A among GE Vernova power-generation low-voltage control and communication equipment assessed to ANSI/CAN/UL/ULC 6200.

**REQUEST PRODUCT INFORMATION**

## Apter Power

For price, stock, delivery, technical documentation and identification support  
for GE Vernova IS420UCSBH4A.

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**USE NOTE**

This document supports identification and preliminary engineering review. Installation, application loading, redundancy setup, commissioning and maintenance must follow the procedures for the installed Mark VIe system.