



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX UL 21.0073X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-10-27

Applicant: **GE Drives & Controls Inc.**  
1501 Roanoke Blvd.  
Salem, VA 24153  
**United States of America**

Equipment: **Mark VIe Programmable Controller System,**

Optional accessory:

Type of Protection: **Increased Safety "ec", Intrinsic Safety "ic"**

Marking: Ex ec [ic] IIC T4 Gc or  
Ex ic ec IIC T4 Gc or  
Ex ic ec [ic] IIC T4 Gc or  
Ex ec IIC T4 Gc

-30 °C to +65 °C, All models, except IS420UCSBH3A, IS220UCSAH1A.

-40°C to +70°C, for Models IS42, followed by 0 or 1, followed by ESW followed by A or B, followed by H, followed by 1, 2, 3, 4 or 5, followed by A, IS210JPDHG1A, IS400JPDHG1A, IS410JPDHG1A, IS411JPDHG1A.

0 °C to +65 °C, for Models IS420UCSBH3A, IS220UCSAH1A.

Approved for issue on behalf of the IECEx  
Certification Body:

**Susanne Klimars**

Position:

**Senior Project Engineer**

Signature:  
(for printed version)

Date:

2021-10-27

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**UL LLC**  
**333 Pfingsten Road**  
**Northbrook IL 60062-2096**  
**United States of America**





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1501 Roanoke Blvd.  
Salem, VA 24153  
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Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[US/UL/ExTR21.0075/00](#)

Quality Assessment Report:

[US/UL/QAR21.0014/00](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX UL 21.0073X**

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Date of issue: 2021-10-27

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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Mark VIe control system is an open type microprocessor based system designed for complete integrated control, protection and monitoring of generator and mechanical drive applications for gas and steam turbines and other industrial control applications. The devices are field mounted in a suitable electrical enclosure. The simple apparatus used are not identified by this certificate.

**Please see Annex for additional information.**

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

- Provision shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 140% of the rated voltage.
- This equipment shall be mounted in a certified enclosure with a minimum ingress protection rating of at least IP54 (as defined in IEC 60529) and used in an environment of not more than Pollution Degree 2 (as defined in IEC 60664-1)
- This equipment shall be powered by a switched-mode power supply (SMPS) that is certified for the applicable location, and has its output current limited to 20 A maximum, and has the features listed for Vendor Manufactured Control Power supplies in GEH-6721\_Vol\_II, Mark VIe Control, Volume II System Hardware Guide.
- This equipment shall be powered through a power distribution board that is certified for the applicable classified location.
- Mark VIe Cat Nos. IS220YTCCS1A, must contain the following installation conditions:
  1. The maximum cable length connecting each thermocouple to the device shall not exceed 1000 feet.
  2. Only resistive simple apparatus, such as thermocouples shall be connected.
  3. Each cable used to connect the simple apparatus must have suitable insulation as required by the applicable local electrical codes.

## **Annex:**

[Annex to IECEx UL 21.0073X Issue 0.pdf](#)



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## TYPE DESIGNATION

Nomenclature:

IS 2 2 0 PTCC H 1 A  
I II III IV V VI VII

I - 2 – Designates non-RoHS  
4 -- Designates RoHS

II - 0 – Designates PWA  
1 – Designates PWAs mounted on a base  
2 – Designates a module containing PWAs

III - 0 -- Standard operating environment  
1 -- Conformal coating

IV – Board name – Four letter shorthand catalog number. For modules, a “Y” first letter designates a SIL certified module:

YTCC  
ESWB  
ESWA  
YVIB  
JPDL  
UCSB  
YHRA  
PSCH  
JPDH  
UCSA  
YTUR  
YPRO  
SPRO  
BAPA  
TBTC (Accessory)  
STTC (Accessory)  
SHRA (Accessory)  
TREA (Accessory)  
SSCA (Accessory)  
TRPA (Accessory)  
SPRO (Accessory)  
TPRO (Accessory)  
SAMB (Accessory)

V - H – Contains SMT components  
G – Contains no SMT components  
S – Indicates a SIL certified PWA

VI - Assembly variant - number identifies bill of material used

VII - Major revision - defines board functional interchangeability



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## PARAMETERS RELATING TO THE SAFETY

Cat No. IS220YTCCS1A with Cat. Nos. ISx0ySTTCS1A, ISx0ySTTCS2A, IS200TBTCS1B, ISx0yTBTCS1C.  
Cat No. IS220YTCCS1A with RoHS-compliant internal board IS400BPTCS1A is intended to be used with  
accessory terminal board Cat. Nos. ISx0ySTTCS1A, ISx0ySTTCS2A, IS200TBTCS1B, ISx0yTBTCS1C:  
Input: 28 Vdc, 0.16 A max

Cat. Nos. IS42, followed by 0 or 1, followed by ESW, followed by A or B, followed by H, followed by 1, 2, 3, 4,  
or 5, followed by A:  
Input: 24 - 28 Vdc, 1.0 A max

Cat No. IS220YDOAS1A with Cat. Nos. ISx0yTRLYS1F, ISx0yTRLYS2F; Model with RoHS compliant boards  
Cat. No.: IS220YDOAS1A with RoHS compliant internal acquisition board Cat. IS400BPDOS1A, and RoHS  
compliant terminal boards Cat. Nos. ISx0yTRLYS1F, ISx0yTRLYS2F:  
Input: 28 Vdc, 0.71 A max

Cat. No. IS200JPDG1A:  
Input: 28 Vdc, 7.5 A max  
Cat. Nos. IS420UCSBH1A, IS420UCSBH3A, IS420UCSBH4A, IS421UCSBH1A, IS421UCSBH4A and  
IS420PPNGH1A:  
Input: 28 Vdc, 1.1 A max

Cat. No. IS420UCSBS1A, IS421UCSBS1A:  
Input: 28 Vdc, 1.1 A max

Cat. No. IS220YHRAS1A with Cat. Nos. ISx0ySHRAS1A, ISx0ySHRAS2A  
Input: 28 Vdc, 0.50 A max

Cat. No. IS220PSCHH1A with Cat. Nos. IS200SSCAH1A, IS200SSCAH2A:  
Input: 28 Vdc, 0.36 A max

Cat. Nos. IS210JPDHG1A, IS400JPDHG1A, IS410JPDHG1A, IS411JPDHG1A:  
Input: 24 - 28 Vdc, 13 A max

Cat. No. IS220UCSAH1A:  
Input: 28 Vdc, 0.62 A max

Cat. No. IS220YTURS1A with Cat. No. IS200TRPAS1A; Cat No. IS220YTURS1A with RoHS-compliant internal  
boards IS400BTURS1A and IS400KTURS1A with accessory terminal board Cat. Nos. IS200TRPAS1A:  
Power Supply: 28 V dc, 0.41 A dc  
Speed In: -15 to +15 V dc  
Voltage In: 16 to 140 V dc  
E-stop In: 18 to 140 V dc  
E-stop Power Out: 28V dc O.C., 17 mA dc S.C.  
Contact Out: 28 V dc, 7 A dc

Cat. No. IS220YPROS1A with Cat. Nos. ISx0ySPROS1A, IS200TPROS1C, IS200TPROS2C,  
IS200TREAS1A.  
Power Supply: 28 V dc, 0.37 A dc





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PT In (SPRO/TPRO): 0 to 138 V ac, 5 to 66 Hz  
Speed In (SPRO/TPRO/TREA): -15 to +15 V dc  
Speed Sensor Power Out (TPRO): 24 V dc, 25 mA dc  
Voltage In (TREA): 16 to 140 V dc  
E-stop In (TREA): 18 to 140 V dc  
Contact Out (TREA): 28 V dc, 7 A dc

Cat. No. IS210BAPAH1A with Cat. No. IS210SAMBH1A  
Power Supply: 28 V dc, 0.5 A dc  
Pressure In: 12 to 18.5 V dc  
Sensor Power Out: 12 to 18.5 Vdc, 2.9 to 4.3 mAdc  
Buffered Out: -10 to +10 V dc, 5 mA dc

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### **IS220YTURS1A label:**

**ISx2yTCCS1A**

**Use with accessories: ISx0ySTTCS1A, ISx0ySTTCS2A,**

**ISx0yTBTCS1B, ISx0yTBTCS1C**

**See GEH-6725 for instructions /**

**Voir GEH-6725 pour obtenir des instructions**

Class I, Div. 2, Groups A,B,C,D T4

Class I, Zone 2, AEx ec [ic] IIC T4, Ex ec [ic] IIC T4 Gc X

Ex ec [ic] IIC T4 Gc

-30°C < Ta < 65°C

Power Supply: 28 V dc, 0.16 A dc

Thermocouple: -8 to +45 mV dc



**LISTED**

IND. CONT. EQ. FOR HAZ. LOC.

13EN

E207685



DEMKO 12 ATEX 1114875X

IECEx UL 21.0073X

GE Drives and Controls, Inc., 1501 Roanoke Blvd., Salem, Virginia, 24153 USA

Marking may contain additional information non critical to the IECEx certification.