



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

Certificate No.: **IECEX UL 21.0064X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-07-29

Applicant: **GE Drives & Controls Inc.**
1501 Roanoke Blvd.
Salem, VA, 24153-6422
United States of America

Equipment: **Universal Analog I/O, Model IS42yPUAAH1A use with Terminal Board Accessory Model IS41ySUAH1A, and Model IS42yYUAAS1A use with Terminal Board Accessory Models IS40ySUAAS1A and IS41ySUAAS1A**

Optional accessory:

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

Marking: Ex ic ec [ic] IIC T4 Gc
-40°C ≤ Ta ≤ +70°C

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:

2021-07-29

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

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





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Manufacturer: **GE Drives & Controls Inc.**
1501 Roanoke Blvd.
Salem, VA, 24153-6422
United States of America

Additional manufacturing locations: **Jabil Circuit (Guangzhou) Ltd**
128 Jun Cheng Road
Guangzhou Economic & Technologist Development
District Guangzhou, 510530
China

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 Reports:

[US/UL/ExTR16.0124/00](#)
[US/UL/ExTR16.0124/03](#)

[US/UL/ExTR16.0124/01](#)

[US/UL/ExTR16.0124/02](#)

Quality Assessment Reports:

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

[US/UL/QAR21.0016/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Mark VIe Analog Universal IO model is part of the Mark VIe control system which 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 adjacent to the turbine.

Universal Analog I/O Model IS42yPUAAH1A is intended for use with Terminal Board Accessory Model IS41ySUAH1A. Universal Analog I/O Model IS42yPUAAH1A is constructed with following boards: 4 (four) IS405MIOBH1A or IS405MIOBS1A circuit boards, IS40yBCARH1A carrier board, IS40yBPPCH2A CPU board and IS40yKPSAH1A or IS40yKPSAS1A Voltage Regulator Board. Terminal Board Accessory Model IS41ySUAH1A is constructed with the following board: IS40ySUAH1A.

Universal Analog I/O Model IS42yYUAAS1A is intended for use with Terminal Board Accessory Model IS40ySUAAS1A and IS41ySUAAS1A. Universal Analog I/O Model IS42yYUAAS1A is constructed with following boards: 4 (four) IS405MIOBS1A circuit boards, IS40yBCARS1A carrier board, IS40yBPPCS2A, CPU board and IS40yKPSAS1A Voltage Regulator Board. Terminal Board Accessory Model IS41ySUAAS1A is constructed with the following board: IS40ySUAAS1A.

The IS42yPUAAH1A or IS42yYUAAS1A supports 16 programmable analog I/O channels. The initial power-on state for each channel is "unused" and all I/O field wiring terminals are high impedance nodes. Each channel can be configured individually to operate in any of the following modes: thermocouple input, RTD input (3-wire), voltage input, 4–20 mA input (with externally or internally supplied transmitter power), or 0–20 mA output. Under normal operating conditions, the I/O field wiring circuits are intrinsically safe. Isolation from mains power and voltage limiting is provided by an external certified switch mode power supply, as described in instruction manuals GEH-6721 Volume II, and GEH-6725.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.
- The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with IEC 60079-0.
- Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.

Annex:

[Annex to IECEx UL 21.0064X Issue 0.pdf](#)



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TYPE DESIGNATION

Nomenclature:

IS 4 2 0 P U A A H 1 A A
I II III IV V VI VII VIII

I - 2 – not RoHS compliant
4 – RoHS compliant

II – 0 – single circuit board assembly
1 – single circuit board assembly + mechanical assembly
2 – one or more circuit board assemblies + housing

III – 0 – not conformal coated
1 – conformal coated (not required for safety)

Note - coated or non-coated versions of the circuit board assemblies have identical constructions and schematic drawings

IV – Function mnemonic - Any four A-Z characters

V - H – Surface mount components
G – No surface mount components
S – SIL-certified (IEC 61508)

VI – BOM variant – Any number 1-9

VII – Major revision – Single letter

VIII – Minor revision – One or two letters

PARAMETERS RELATING TO THE SAFETY

Thermocouple In(1-16):

RTD In (1-16): 0 to 4 V dc, 1 mA dc

Analog In (1-16): -5 to +5 V dc, -10 to +10 V dc, 0 to 20 mA dc

Analog Out (1-16): 0 to 22 V dc, 0 to 24 mA dc



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Intrinsically safe specifications:

Thermocouple Input:

Uo:	24.5 V
Io	34.5 μ A
Po	395 μ W
Co	0.42 μ F
Lo	100 mH

RTD Input:

Uo	24.5 V
Io	3.03 mA
Po	74.2 mW
Co	0.42 μ F
Lo	100 mH

Voltage Input:

Ui	+19V and -10V
Ii	0.2 A
Pi	1 W
Ci	5.6 nF
Li	0

Uo	24.5 V
Io	29.4 μ A
Po	180 μ W
Co	0.42 μ F
Lo	100 mH

Externally Powered 4-20 mA Input:

Ui	50 V
Ii	24 mA
Pi	1 W
Ci	5.6 nF
Li	0

Uo	24.5 V
Io	29.4 μ A
Po	180 μ W
Co	0.42 μ F
Lo	100 mH



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Internally Powered 4-20 mA Input:

Uo	24.5 V
Io	24.1 mA
Po	0.590 W
Co	100 nF
Lo	0.15 mH

0 to 20 mA Current Output:

Uo	24.5 V
Io	24.1 mA
Po	0.590 W
Co	100 nF
Lo	0.15 mH

MARKING

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

IS42yPUAAH1A

PUAA-LBP70

Use with accessories: IS41ySUAH1A

ART Rev 0

See GEH-6725 for instructions / Voir GEH-6725 pour obtenir des instructions

Class I, Div. 2, Groups A,B,C,DT4

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

Ex ic ec [ic] IIC T4 Gc

-40°C < Ta < 70°C, Wire: 105°C or Greater

Power Supply: 28 V dc, 0.7 A dc

Analog In (1-16): -5 to +5 V dc, -10 to +10 V dc, 0 to 20 mA dc

Thermocouple In (1-16): -154 to +154 mV dc

RTD In (1-16): 0 to 4 V dc, 1 mA dc

Analog Out (1-16): 0 to 22 V dc, 0 to 24 mA dc



IND. CONT. EQ. FOR HAZ. LOC.

13 EN

E207685



DEMKO16 ATEX 1738X

IECEx UL 21.0064X

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



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IS42yYUAA51A

YUAA-LCP72

Use with accessories: IS41ySUAAS1A

ART Rev 0

See GEH-6725 for instructions / Voir GEH-6725 pour obtenir des instructions



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DEMKO16 ATEX 1738X
IECEx UL 21.0064X

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

Accessory Marking Label:

See IO Pack
Installation
Instructions for
use in Hazloc
336A4940FFP80
Rev. 4, 12/2010

Bar Code Label:

