

1. UNITED KINGDOM CONFORMITY ASSESSMENT UK-TYPE EXAMINATION CERTIFICATE



2. Equipment or Protective systems intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3. UK-Type Examination Certificate No: **FM23UKEX0039X**

4. Equipment or protective system:
(Type Reference and Name) **X1 Series System**

5. Name of Applicant: **G.M. International s.r.l.**

6. Address of Applicant **Via Mameli 53/55, Villasanta 20852, (MB) Italy**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8. FM Approvals Ltd, Approved Body number 1725, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in confidential report number:

PR464224 dated 9th January 2025

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012

10. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11. This UK-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance with the Regulations. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include:



Epsilon X accompanied by additional marking defined in the Annex.

13. Description of Equipment or Protective System:

Certificate issued by:

15 January 2025

Victor Aluko-Oginni
Certification Manager, FM Approvals Ltd.

Date

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The X1 Series System contains a range of interfaces for universal marshalling. The X1 Series System is composed of termination boards and different I/O modules.

Refer to Annex for the different termination boards and I/O modules.

14. Specific Conditions of Use:

1. The apparatus must be installed within a tool secured enclosure that provides a minimum degree of protection of IP54 and is in accordance with EN IEC 60079-0.
2. The apparatus shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1. See Annex for additional Specific Conditions of Use.

15. Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16. Test and Assessment Procedure and Conditions:

This UK-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for UKCA Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Regulations in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's UKCA Certification Scheme.

17. Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Approved Body.

18. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
15 January 2025	Original Issue.

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ANNEX

X1-IS-AI-01-Sa Current Repeater Power Supply Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module is a high integrity analog input interface. It provides an isolated supply for energizing conventional two-wire passive 4-20 mA transmitters located in hazardous area, while repeating the current to the system card. Two-wire active transmitters are also supported. The circuit allows bi-directional HART communication for both passive and active devices. The module always sinks current and the Termination Board extends its use to source loops. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 35 to 22 mA.

X1-IS-AI-01-Sa Current Repeater Power Supply Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z:

Uo = 27.3 V, Io = 96 mA, Po = 655.2 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.086	3.9	54.5
IIB	0.681	15.4	218.2
IIA	2.28	30.9	436.3
I	4.0	50.6	715.8
IIIC	0.681	15.4	218.2

Terminals B-C:

Ui = 30 V, Ii = 128 mA, Ci = 6.27 nF, Li = 0

Uo = 1.1 V, Io = 56 mA, Po = 16 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	100	11.3	2327
IIB	1000	45.4	9309

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IIA	1000	90.7	18618
I	1000	148.8	30545
IIIC	1000	45.4	9309

X1-IS-AI-02-Sa Current Repeater Power Supply Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module is a high integrity analog input interface. It provides an isolated supply for energizing conventional two-wire passive 4-20 mA transmitters located in hazardous area, while repeating the current to the system card. Two-wire active transmitters are also supported. The circuit allows bi-directional HART communication for both passive and active devices. The module always sinks current and the Termination Board extends its use to source loops. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 35 to 22 mA.

X1-IS-AI-02-Sa Current Repeater Power Supply Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z:

Uo = 27.3 V, Io = 96 mA, Po = 655.2 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.086	3.9	54.5
IIB	0.681	15.4	218.2
IIA	2.28	30.9	436.3
I	4.0	50.6	715.8
IIIC	0.681	15.4	218.2

Terminals B-C:

Ui = 30 V, Ii = 128 mA, Ci = 6.27 nF, Li = 0

Uo = 1.1 V, Io = 56 mA, Po = 16 mW

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Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	100	11.3	2327
IIB	1000	45.4	9309
IIA	1000	90.7	18618
I	1000	148.8	30545
IIIC	1000	45.4	9309

X1-IS-AO-01-Sa Isolated Driver Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module is a high integrity analog output interface. It isolates and transfers a 4-20 mA signal from a controller located in Safe Area to a load in Hazardous Area. The circuit allows bi-directional communication signals, for HART® smart positioners. Line and load open/short circuit detection is provided: the fault in the field is directly mirrored to the PLC AO card as open circuit and it is also reported on the common fault line. This module is rated 24 Vdc, 47 to 29 mA.

X1-IS-AO-01-Sa Isolated Driver Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z: Uo = 26.8 V, Io = 92 mA, Po = 616 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.086	3.9	57
IIB	0.714	16.8	231
IIA	2.36	33.6	462
I	4.19	55.2	757
IIIC	0.714	16.8	231

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X1-IS-AO-02-Sa Isolated Driver Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module isolates and transfers a 4-20 mA signal from a controller located in Safe Area to a load in Hazardous Area. The circuit allows bi-directional communication signals, for HART smart positioners. Line and load open/short circuit detection is provided: the fault in the field is directly mirrored to the PLC AO card as open circuit and it is also reported on the common fault line. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 47 to 29 mA.

X1-IS-AO-02-Sa Isolated Driver Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z: $U_o = 26.8 \text{ V}$, $I_o = 92 \text{ mA}$, $P_o = 616 \text{ mW}$

Gas Group	Co (μF)	Lo (mH)	Lo/Ro ($\mu\text{H}/\Omega$)
IIC	0.086	3.9	57
IIB	0.714	16.8	231
IIA	2.36	33.6	462
I	4.19	55.2	757
IIIC	0.714	16.8	231

X1-IS-DI-01-Sa Switch/Proximity Detector Repeater Module

Markings:

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II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module can be configured for switches or proximity detectors, located in Hazardous Area, and repeats the input state to an open-collector transistor in Safe Area. The selectable fault detection circuit is available for proximity sensors or switches equipped with end-of-line resistors. When selected, the fault drives the common line and forces the output open. Input to output function can be inverted. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 21 to 15 mA.

X1-IS-DI-01-Sa Switch/Proximity Detector Repeater Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z:

Uo = 10.5 V, Io = 11 mA, Po = 29 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	2.4	293.8	1266
IIB	16.8	1000	5067
IIA	75	1000	10135
I	95	1000	16628
IIIC	16.8	1000	5067

X1-IS-DI-02-Sa Switch/Proximity Detector Repeater Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module can be configured for switches or proximity detectors, located in Hazardous Area, and repeats the input state to an open-collector transistor in Safe Area. The selectable fault detection circuit is available for proximity sensors or switches equipped with end-of-line resistors. When selected, the fault drives the common line

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and may also force the output open, if required. Input to output function can be inverted. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 21 to 15 mA.

X1-IS-DI-02-Sa Switch/Proximity Detector Repeater Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z:

Uo = 10.5 V, Io = 11 mA, Po = 29 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	2.4	293.8	1266
IIB	16.8	1000	5067
IIA	75	1000	10135
I	95	1000	16628
IIIC	16.8	1000	5067

X1-IS-DI-03-Sa Switch/Proximity Detector Repeater Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc

II (1) D [Ex ia Da] IIIC

I (M1) [Ex ia Ma] I

Tamb: -40°C to +70°C

Description of Equipment:

This module can be configured for switches or proximity detectors, located in Hazardous Area. The output port can assume two different impedance values (RL or RH) or it can open completely. The module output repeats the input state according to the following correspondence: low input state -> RL, high input state -> RH. Alternatively, the output can be configured to invert the input state. In both cases, the output can be configured to open if any fault (open or short circuit) occurs at the corresponding input. Four different (RL, RH) sets can be selected through DIP switch to match different system Digital Input card requirements. This product requires a dedicated Termination Board. The module is rated 24 Vdc, 30 to 20 mA.

X1-IS-DI-03-Sa Switch/Proximity Detector Repeater Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

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Terminals A-Z:U_o = 10.5 V, I_o = 11 mA, P_o = 29 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	2.4	293.8	1266
IIB	16.8	1000	5067
IIA	75	1000	10135
I	95	1000	16628
IIIC	16.8	1000	5067

X1-IS-DI-04-Sa Switch/Proximity Detector Repeater Module**Markings:**

II 3(1) G Ex ec [ia Ga] IIC T4 Gc
 II (1) D [Ex ia Da] IIIC
 I (M1) [Ex ia Ma] I
 Tamb: -40°C to +70°C

Description of Equipment:

This module can be configured for switches or proximity detectors, located in Hazardous Area. The output port can assume two different impedance values (RL or RH) or it can open completely. The module output repeats the input state according to the following correspondence: low input state -> RL, high input state -> RH. Alternatively, the output can be configured to invert the input state. In both cases, the output can be configured to open if any fault (open or short circuit) occurs at the corresponding input. Four different (RL, RH) sets can be selected through DIP switch to match different system Digital Input card requirements. This product requires a dedicated Termination Board. The module is rated 24 Vdc, 30 to 20 mA.

X1-IS-DI-04-Sa Switch/Proximity Detector Repeater Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:**Terminals A-Z:**U_o = 10.5 V, I_o = 11 mA, P_o = 29 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	2.4	293.8	1266
IIB	16.8	1000	5067
IIA	75	1000	10135

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I	95	1000	16628
IIIC	16.8	1000	5067

X1-IS-DO-01-Sa Digital Output Driver Module**Markings:**

II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +60°C...+70°C

Description of Equipment:

This module can drive solenoid valves, visual or audible alarms to alert a plant operator, or other process control devices in Hazardous Area from control signals located in Safe Area. They can also be used as switchable supplies to power measuring or process control equipment. On the field side, the three most widespread Intrinsic Safety valve family parameters are supported. On the system side, a wide compatibility towards different DCS/PLC is guaranteed: driving pulse testing is permitted by a dedicated internal circuit, which prevents spurious activations and LED flickering, while offering an acceptable resistance to the DO Card. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 88 to 56 mA.

X1-IS-DO-01-Sa Digital Output Driver Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:**Terminals A-Z:**

Uo = 25.3 V, Io = 143 mA, Po = 905 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	1.73	39.4
IIB	0.819	6.95	157.7
IIA	2.86	13.9	315.3
I	4.75	22.8	515.3
IIIC	0.819	6.95	157.7

Terminals B-Z:

Uo = 25.3 V, Io = 110 mA, Po = 696 mW

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Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	2.94	51.4
IIB	0.819	11.75	205.4
IIA	2.86	23.5	410.9
I	4.75	38.6	674.1
IIIC	0.819	11.75	205.4

Terminals C-Z:

Uo = 25.3 V, Io = 94 mA, Po = 595 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	4	60.2
IIB	0.819	16.1	240.8
IIA	2.86	32.2	480.1
I	4.75	52.8	787.7
IIIC	0.819	16.1	240.8

Specific Conditions of Use:

1. The X1-IS-DO-01-Sa derates linearly from 40 mA at 60°C to 30 mA at 70°C.

X1-IS-DO-02-Sa Digital Output Driver Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +60°C...+70°C

Description of Equipment:

This module can drive solenoid valves, visual or audible alarms to alert a plant operator, or other process control devices in Hazardous Area from control signals located in Safe Area. They can also be used as switchable supplies to power measuring or process control equipment. On the field side, the three most widespread Intrinsic Safety valve family parameters are supported. On the system side, a wide compatibility towards different DCS/PLC is guaranteed: driving pulse testing is permitted by a dedicated internal circuit, which prevents spurious activations

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and LED flickering, while offering an acceptable resistance to the DO Card. Line and load short/open circuit detection are provided, both when the load is off and when the load is on. The fault in the field is directly mirrored to the PLC DO by artificially increasing the input impedance without changing the output state, and it is also reported to the cumulative fault. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 101 to 65 mA.

X1-IS-DO-02-Sa Digital Output Driver Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z:

Uo = 25.3 V, Io = 143 mA, Po = 905 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	1.73	39.4
IIB	0.819	6.95	157.7
IIA	2.86	13.9	315.3
I	4.75	22.8	515.3
IIIC	0.819	6.95	157.7

Terminals B-Z:

Uo = 25.3 V, Io = 110 mA, Po = 696 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	2.94	51.4
IIB	0.819	11.75	205.4
IIA	2.86	23.5	410.9
I	4.75	38.6	674.1
IIIC	0.819	11.75	205.4

Terminals C-Z:

Uo = 25.3 V, Io = 94 mA, Po = 595 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.105	4	60.2
IIB	0.819	16.1	240.8
IIA	2.86	32.2	480.1

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I	4.75	52.8	787.7
IIIC	0.819	16.1	240.8

Specific Conditions of Use:

1. The X1-IS-DO-02-Sa derates linearly from 40 mA at 60°C to 30 mA at 70°C.

X1-IS-TMP-01-Sa Temperature Converter Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This module accepts a low level dc signal from millivolt, thermocouple or 2/3/4-wire resistance/RTD or transmitting potentiometer sensor, located in Hazardous Area. After linearizing it, the module generates, with isolation, a proportional 0/4-20 mA current to the system AI card. Output current signal can be direct or reverse. A fault can be issued in case of input sensor burnout (on any wire) or when configurable thresholds are exceeded. If required, the unit can be recalibrated through the Gateway. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 12 to 8 mA.

X1-IS-TMP-01-Sa Temperature Converter Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-B-C-Z:

Ui = 20.2 V, Ci = 3 nF, Li = 0

Uo = 7V, Io = 20 mA, Po = 35 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	15.7	89	1022
IIB	300	356	4089
IIA	1000	711	8177
I	1000	1167	13416
IIIC	300	356	4089

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X1-IS-UNI-01-Sa Universal Module

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +60°C...+70°C

Description of Equipment:

This module can interface 2-wire active/passive 4-20 mA (AI), smart positioners (AO), switches and proximity detectors (DI), as well as solenoid valves and other process control devices (DO) located in Hazardous Area. HART communication is supported for both active and passive transmitters, and I/P. The module always sinks current and the Termination Board extends its use to source loops. Programmable line and load open/short circuit detection and out-of-range current fault is also provided. The module automatically matches the application, without reprogramming; if required, it can be re-calibrated through the configuration software. This product requires a dedicated Termination Board. This module is rated 24 Vdc, 105 to 63 mA.

X1-IS-UNI-01-Sa Universal Module

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

Terminals A-Z (AI Passive Transmitter, AO or DO):

Uo = 26.8 V, Io = 92 mA, Po = 616 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	0.086	3.9	57
IIB	0.714	16.8	231
IIA	2.36	33.6	462
I	4.19	55.2	757
IIIC	0.714	16.8	231

Terminals B-Z (AI Active Transmitter):

Ui = 30 V, Ii = 128 mA, Ci = 3.65 nF, Li = 0

Uo = 1.1 V, Io = 56 mA, Po = 16 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	100	11.3	2327
IIB	1000	45.4	9309
IIA	1000	90.7	18618

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I	1000	148.8	30545
IIIC	1000	45.4	9309

Terminals C-Z (DI):U_o = 10.7 V, I_o = 11 mA, P_o = 29.4 mW

Gas Group	Co (μF)	Lo (mH)	Lo/Ro (μH/Ω)
IIC	2.22	294	1230
IIB	15.6	1000	4919
IIA	69	1000	9837
I	85	1000	16140
IIIC	15.6	1000	4919

Specific Conditions of Use:

1. The X1-IS-UNI-01-Sa module when configured for DO derates linearly from 40 mA at 60°C to 35 mA at 70°C.

X1-TB-08-FOX-01a 8-Position X1-Series Termination Board**Markings:**

II 3(1) G Ex ec [ia Ga] IIC T4 Gc
 II (1) D [Ex ia Da] IIIC
 I (M1) [Ex ia Ma] I
 Tamb: -40°C to +70°C

Description of Equipment:

This Termination Board (X1-TB) provides direct connection between the I/O Card of the system and X1-Series modules. Intrinsically Safe protection and signal isolation between Safe and Hazardous Area is provided by Associated Apparatus (X1-IS), while simple galvanic isolation or conditioning is provided by Repeaters/Converters (X1-NIS). The board is rated 24 Vdc, max 1.5A as total supply.

X1-TB-08-FOX-01a 8-Position X1-Series Termination Board

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

The Energy Limitation Parameters are dependent on the X1-IS module installed in each position.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE

to UK-Type Examination Certificate No. FM23UKEX0039X

Specific Conditions of Use:

1. The X1-TB-08-FOX-01a is not permitted to have a mixture of X1 IO Modules with intrinsically safe (X1-IS) and non-intrinsically safe (X1-NIS) IO Modules.
2. Mounted modules shall not exceed supply and channel rating of the termination board. Electromechanical relay output modules (X1-NIS-RLO/EM) must be mounted with other modules of the same type or relay input module (X1-NIS-RLI) or pass-through module (X1-NIS-PAS).
3. Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated supply voltage value of 85 V.

X1-TB-08-GMI-01a 8-Position Sink Type Termination Board

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This Termination Board (X1-TB) provides direct connection between the I/O Card of the system and X1-Series modules. The Intrinsically Safe protection and signal isolation between Safe and Hazardous Area is provided by X1-Series Associated Apparatus (X1-IS). The 24 Vdc Power Supply of the X1-TB is connected to two plug-in terminal blocks, for a redundant power supply. A monitoring circuit activates a fault in case of supply or module failure. The board can host a gateway belonging to the X1-GW series for module identification, configuration, monitoring, and HART® communication. This termination board is rated 24 Vdc, max 1.5A.

X1-TB-08-GMI-01a 8-Position Sink Type Termination Board

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

The Energy Limitation Parameters are dependent on the X1-IS module installed in each position.

Specific Conditions of Use:

1. The X1-TB-08-GMI-01a is not permitted to have a mixture of X1 IO Modules with intrinsically safe (X1-IS) and non-intrinsically safe (X1-NIS) IO Modules.
2. Mounted modules shall not exceed supply and channel rating of the termination board. Electromechanical relay output modules (X1-NIS-RLO/EM) must be mounted with other modules of the same type or relay input module (X1-NIS-RLI) or pass-through module (X1-NIS-PAS).

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SCHEDULE

to UK-Type Examination Certificate No. FM23UKEX0039X

X1-TB-16-GMI-01a 16-Position Sink Type Termination Board

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This Termination Board (X1-TB) provides direct connection between the I/O Card of the system and X1-Series modules. The Intrinsically Safe protection and signal isolation between Safe and Hazardous Area is provided by X1-Series Associated Apparatus (X1-IS). The 24 Vdc Power Supply of the X1-TB is connected to two plug-in terminal blocks, for a redundant power supply. A monitoring circuit activates a fault in case of supply or module failure. The board can host a gateway belonging to the X1-GW series for module identification, configuration, monitoring, and HART® communication. The termination board is rated 24 Vdc, max 1.5A.

X1-TB-16-GMI-01a 16-Position Sink Type Termination Board

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

The Energy Limitation Parameters are dependent on the X1-IS module installed in each position.

Specific Conditions of Use:

1. The X1-TB-16-GMI-01a is not permitted to have a mixture of X1 IO Modules with intrinsically safe (X1-IS) and non-intrinsically safe (X1-NIS) IO Modules.
2. Mounted modules shall not exceed supply and channel rating of the termination board. Electromechanical relay output modules (X1-NIS-RLO/EM) must be mounted with other modules of the same type or relay input module (X1-NIS-RLI) or pass-through module (X1-NIS-PAS).

X1-TB-16-TRI-01a 16-Position X1-Series Termination Board

Markings:



II 3(1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I
Tamb: -40°C to +70°C

Description of Equipment:

This Termination Board (X1-TB) provides direct connection between the I/O Card of the system and X1-Series modules. Intrinsically Safe protection and signal isolation between Safe and Hazardous Area is provided by Associated Apparatus (X1-IS), while simple galvanic isolation or conditioning is provided by Repeaters/Converters (X1-NIS). The board is rated 24 Vdc, max 1.5A as total supply.

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X1-TB-16-TRI-01a 16-Position X1-Series Termination Board

a = blank or "/" and two alpha-numeric characters, referring to functionally diversified versions that do not change the safety requirements and compliance.

Energy Limitation Parameters:

The Energy Limitation Parameters are dependent on the X1-IS module installed in each position.

Specific Conditions of Use:

1. The X1-TB-16-TRI-01a is not permitted to have a mixture of X1 IO Modules with intrinsically safe (X1-IS) and non-intrinsically safe (X1-NIS) IO Modules.
2. Mounted modules shall not exceed supply and channel rating of the termination board. Electromechanical relay output modules (X1-NIS-RLO/EM) must be mounted with other modules of the same type or relay input module (X1-NIS-RLI) or pass-through module (X1-NIS-PAS).

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