CCC
Safety Instruction Manual

X1 series

Note: This manual contains only safety instructions.
For the complete installation and user manuals, data sheets and certificates, supplier code of conduct, code of ethics, terms and conditions of sale and warranty please refer to www.gminternational.com.

Summary

1 Installation information 3

1.1 General 3

1.2 Installation for intrinsically safe associated apparatus application 3

1.3 Installation for zone 2 application 4

1.3.1 Special conditions for safe use 4

1.4 Inspection, maintenance and repair 4

2 Certification data 5

2.1 Table 1: Certificates and operating temperature 5

2.2 Table 2: Contacts ratings 7

3 Intrinsically safe parameters 7

1 Installation information

1.1 General

X1 series termination board is suitable for installation on DIN-Rail, with any orientation over the entire ambient temperature range. Modules and other electrical connections can be plugged and unplugged to termination boards without suffering or causing any damage.

Fit the module on the termination board along the guides until it is completely inserted. Extract the module from the termination board using the appropriate lever mechanism. In this way no incorrect insertion is allowed.

The device can house both intrinsically safe (X1-IS-*) and non intrinsically safe (X1-NIS-*) modules, but all housed modules must be of the same type. Electromechanical relay output modules (X1-NIS-RLO/EM-*) must be mounted with other modules of the same type or relay input (X1-NIS-RLI-*) or pass-through (X1-NIS-PAS-*).

Cables for field connections must be suitably temperature rated for the application. Respect the tightening torque of the terminal block screws and the maximum wire size that can be inserted. Connect only one individual conductor per each clamping point. The wiring cables must be proportionate in base to the current and the length of the cable.

The device must be connected to SELV or PELV supplies. All circuits connected to the devices must comply with the overvoltage category II (or better) according to IEC/EN 60664-1. Field connections intended to be energized from a mains supply shall be protected by fuses, circuitbreakers, thermal cut-outs, impedance limiting circuits or similar means. Field connections of any electromechanical relay output module (X1-NIS-RLO/EM-*) shall be protected with a transient voltage suppressor, according to the application.

Warning: do not remove or replace fuse when energized.

Warning: if field connections are energized with hazardous live potential, de-energize main power source before servicing to avoid electrical shock.

The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC/EN 60664-1. The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.

For those models having a relay output: connect relay contacts checking the load rating to be within the contact maximum rating. To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions (for complete details please refer to table 2, if present).
For those models having a transistor output: connect transistor contacts checking the load rating to be within the contact maximum rating (for complete details please refer to table 2, if present).

Storage: if the unit is not installed directly on a system (parts for spare or expansion with long storage periods), it must be conveniently stocked. Stocking area characteristics must comply with the following parameters: temperature -45 to +80°C; humidity 0 to 95%.
Vibration: no prolonged vibration should be perceivable in the stocking area to avoid loosening of parts or fatigue ruptures of components terminals.
Pollution: presence of pollutant or corrosive gases or vapours must be avoided to prevent corrosion of conductors and degradation of insulating surfaces.

For complete instruction manual, datasheet and certifications please refer to our website www.gminternational.com.

1.2 Installation for intrinsically safe associated apparatus application

The device must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards, following the established installation rules.

Intrinsically safe circuit cables must be clearly identified and must be carefully segregated from the non intrinsically safe circuit cables, make sure that conductors are well isolated from each other and do not produce any unintentional connection. The device must not be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

When housed modules are in maintenance position, use only intrinsically safe associated apparatus as instruments to carry out field measurements, with intrinsically safe output parameters according to input parameters of field intrinsically safe devices.

In the system safety analysis, always check that field device maximum allowable voltage, current and power are not exceeded by the safety parameters of the X1 series associated apparatus connected to it. Check also that added connecting cable and field device capacitance and inductance do not exceed the limits given in the associated apparatus parameters for the effective gas group (Co, Lo, Lo/Ro).

Associated apparatus		Field device
Uo	≤	Ui
Io	≤	Ii
Po	≤	Pi
Co	≥	Ci + Ccable
Lo	≥	Li + Lcable
Lo/Ro	≥	Li/Ri and Lcable/Rcable

When used with separate powered intrinsically safe devices, check also that maximum allowable voltage, current and power of the X1 series associated apparatus are not exceeded by the safety parameters of the field device.

Associated apparatus		Field device
Ui	≥	Uo
Ii	≥	Io
Pi	≥	Po
Ci + Ccable	≤	Co
Li + Lcable	≤	Lo

See parameters indicated in “Intrinsically safe parameters” section.

For installations in which both the Ci and Li of the field device exceed 1% of the Co and Lo parameters of the associated apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB, IIIC and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200 pF per meter (60 pF per foot), inductance 1 µH per meter (0.20 µH per foot).

1.3 Installation for zone 2 application

The device must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards, following the established installation rules.

Warning - explosion hazard: do not connect or disconnect when energized, unless area is known to be nonhazardous.

1.3.1 Special conditions for safe use

The apparatus must be installed within a tool secured enclosure that provides a minimum degree of protection of IP54 and is in accordance with GB/T 3836.1.

The apparatus shall only be used in an area of at least Pollution Degree 2, as defined in IEC 60664-1.

Only for termination boards (X1-TB-*):

The apparatus is not permitted to have a mixture of X1 IO Modules with intrinsically safe (X1-IS-*) and non-intrinsically safe (X1-NIS-*) field terminal connections.

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 (X1-NIS-RLI-*) or passthrough (X1-NIS-PAS-*).

1.4 Inspection, maintenance and repair

The device must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

No adjustment is necessary to safely operate the unit.

The device cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

Installation, repair, etc. standards:

- GB/T 3836.13 爆炸性环境 第 13 部分：设备的修理、检修、修复和改造
- GB 38 36.15-2024爆 炸性环 境第15 部 分：电气装置的设计、选型 安 装规范
- GB 38 36.16-2024爆 炸性环 境第16部分：电气装置检查与维护 规范
- GB/T 3836.18-2024 爆炸性 环境第 18 部分：本质安全电气 系统
- GB 50257 电气装置安装工程爆炸和火灾危险环境 电气装置施工及验收规范
- GB 15577 粉尘防爆安全规程

2 Certification data

2.1 Table 1: Certificates and operating temperature

Model family	Standards	Markings	Operating temperature
X1-IS-AI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-AI-02	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-AO-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-AO-02	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DI-02	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DI-03	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DI-04	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DO-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-DO-02	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-TMP-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-IS-UNI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-NIS-AI-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-AI-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-AO-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C

Model family	Standards	Markings	Operating temperature
X1-NIS-AO-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DI-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DI-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DI-03	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DI-04	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DO-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-DO-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-PAS-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-PAS-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLI-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLO/EM-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.8	Ex ec nC IIC T4 Gc	-40 ÷ 55 °C
X1-NIS-RLO/EM-02	GB/T 3836.1 GB/T 3836.3 GB/T 3836.8	Ex ec nC IIC T4 Gc	-40 ÷ 55 °C
X1-NIS-RLO/EM-03	GB/T 3836.1 GB/T 3836.3 GB/T 3836.8	Ex ec nC IIC T4 Gc	-40 ÷ 55 °C
X1-NIS-RLO/EM-04	GB/T 3836.1 GB/T 3836.3 GB/T 3836.8	Ex ec nC IIC T4 Gc	-40 ÷ 55 °C
X1-NIS-RLO/EM-05	GB/T 3836.1 GB/T 3836.3 GB/T 3836.8	Ex ec nC IIC T4 Gc	-40 ÷ 55 °C
X1-NIS-RLO/SS-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLO/SS-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLO/SS-03	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLO/SS-04	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-RLO/SS-05	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-TMP-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-NIS-UNI-01	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C
X1-TB-08-FOX-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-TB-08-FOX-02	GB/T 3836.1 GB/T 3836.3	Ex ec IIC T4 Gc	-40 ÷ 70 °C

Model family	Standards	Markings	Operating temperature
X1-TB-08-GMI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-TB-16-GMI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C
X1-TB-16-TRI-01	GB/T 3836.1 GB/T 3836.3 GB/T 3836.4	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	-40 ÷ 70 °C

2.2 Table 2: Contacts ratings

Model family	Contacts type	Contacts function	Contacts ratings
X1-IS-DI-01	Transistor	Out	50 mA, 35 Vdc (≤ 1.5 V voltage drop)
X1-IS-DI-02	Transistor	Out	50 mA, 35 Vdc (≤ 1.5 V voltage drop)
X1-NIS-DI-01	Transistor	Out	50 mA, 35 Vdc (≤ 1.5 V voltage drop)
X1-NIS-DI-02	Transistor	Out	50 mA, 35 Vdc (≤ 1.5 V voltage drop)
X1-NIS-RLI-01	Transistor	Out	50 mA, 35 Vdc (≤ 1.5 V voltage drop)
X1-NIS-RLO/EM-01	Relay	Load	2 A 250 Vac 500 VA, 2 A 110 Vdc 100 W resistive load
X1-NIS-RLO/EM-02	Relay	Load	2 A 250 Vac 500 VA, 2 A 110 Vdc 100 W resistive load
X1-NIS-RLO/EM-03	Relay	Load	2 A 250 Vac 500 VA, 2 A 110 Vdc 100 W resistive load
X1-NIS-RLO/EM-04	Relay	Load	2 A 250 Vac 500 VA, 2 A 110 Vdc 100 W resistive load
X1-NIS-RLO/EM-05	Relay	Load	2 A 250 Vac 500 VA, 2 A 110 Vdc 100 W resistive load
X1-NIS-RLO/SS-01	Relay	Load	2 A 60 Vdc 120 W
X1-NIS-RLO/SS-02	Relay	Load	2 A 60 Vdc 120 W
X1-NIS-RLO/SS-03	Relay	Load	2 A 60 Vdc 120 W
X1-NIS-RLO/SS-04	Relay	Load	2 A 60 Vdc 120 W
X1-NIS-RLO/SS-05	Relay	Load	2 A 60 Vdc 120 W
X1-TB-08-GMI-01	Transistor	Fault	100 mA, 35 Vdc (≤ 1 V voltage drop)
X1-TB-16-GMI-01	Transistor	Fault	100 mA, 35 Vdc (≤ 1 V voltage drop)

3 Intrinsically safe parameters

X1-IS-AI-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=27.3 V; Io=96 mA; Po=655.2 mW Characteristic: linear	IIC	0.086	3.9	54.5
	IIB	0.681	15.4	218.2
	IIA	2.28	30.9	436.3
	I	4	50.6	715.8
	IIIC	0.681	15.4	218.2
Term. C-B: Uo=1.1 V; Io=56 mA; Po=16 mW Ui=30 V; Ii=128 mA; Ci=6.27 nF; Li=0 µH Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-AI-02 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=27.3 V; Io=96 mA; Po=655.2 mW Characteristic: linear	IIC	0.086	3.9	54.5
	IIB	0.681	15.4	218.2
	IIA	2.28	30.9	436.3
	I	4	50.6	715.8
	IIIC	0.681	15.4	218.2
Term. C-B: Uo=1.1 V; Io=56 mA; Po=16 mW Ui=30 V; Ii=128 mA; Ci=6.27 nF; Li=0 µH Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-AO-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=26.8 V; Io=92 mA; Po=616 mW Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-AO-02 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=26.8 V; Io=92 mA; Po=616 mW Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DI-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=10.5 V; Io=11 mA; Po=29 mW Characteristic: linear	IIC	2.4	293.8	1266
	IIB	16.8	1000	5067
	IIA	75	1000	10135
	I	95	1000	16628
	IIIC	16.8	1000	5067

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DI-02 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=10.5 V; Io=11 mA; Po=29 mW Characteristic: linear	IIC	2.4	293.8	1266
	IIB	16.8	1000	5067
	IIA	75	1000	10135
	I	95	1000	16628
	IIIC	16.8	1000	5067

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DI-03 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=10.5 V; Io=11 mA; Po=29 mW Characteristic: linear	IIC	2.4	293.8	1266
	IIB	16.8	1000	5067
	IIA	75	1000	10135
	I	95	1000	16628
	IIIC	16.8	1000	5067

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DI-04 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z: Uo=10.5 V; Io=11 mA; Po=29 mW Characteristic: linear	IIC	2.4	293.8	1266
	IIB	16.8	1000	5067
	IIA	75	1000	10135
	I	95	1000	16628
	IIIC	16.8	1000	5067

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DO-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. C-Z (Out C): Uo=25.3 V; Io=94 mA; Po=595 mW Characteristic: linear	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
Term. B-Z (Out B): Uo=25.3 V; Io=110 mA; Po=696 mW Characteristic: linear	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
Term. A-Z (Out A): Uo=25.3 V; Io=143 mA; Po=905 mW Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-DO-02 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. C-Z (Out C): Uo=25.3 V; Io=94 mA; Po=595 mW Characteristic: linear	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
Term. B-Z (Out B): Uo=25.3 V; Io=110 mA; Po=696 mW Characteristic: linear	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

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-Z (Out A): Uo=25.3 V; Io=143 mA; Po=905 mW Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-TMP-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. A-B-C-Z: Uo=7 V; Io=20 mA; Po=35 mW Ui=20.2 V; Ci=3 nF; Li=0 µH Characteristic: linear	IIC	15.7	89	1022
	IIB	300	356	4086
	IIA	1000	711	8177
	I	1000	1167	13416
	IIIC	300	356	4089

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-IS-UNI-01 series

		Co [uF]	Lo [mH]	Lo/Ro [uH/Ω]
Term. B-Z: Uo=1.1 V; Io=56 mA; Po=16 mW Ui=30 V; Ii=128 mA; Ci=3.65 nF; Li=0 µH Characteristic: linear	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
Term. C-Z: Uo=10.7 V; Io=11 mA; Po=29.4 mW Characteristic: linear	IIC	2.22	294	1230
	IIB	15.6	1000	4919
	IIA	69	1000	9837
	I	85	1000	16140
	IIIC	15.6	1000	4919
Term. A-Z: Uo=26.8 V; Io=92 mA; Po=616 mW Characteristic: linear	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

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

X1-TB-08-FOX-01 series

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between separated intrinsically safe circuits.

X1-TB-08-GMI-01 series

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between separated intrinsically safe circuits.

X1-TB-16-GMI-01 series

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between separated intrinsically safe circuits.

X1-TB-16-TRI-01 series

Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits. Isolation in accordance with GB/T 3836.4 clause 6.3.13 is provided between separated intrinsically safe circuits.

www.gminternational.com

technology for safety

Via G. Mameli 53/55,
20852 Villasanta (MB), Italy

Note: This manual contains only safety instructions.
For the complete installation and user manuals, data sheets and certificates, supplier code of conduct, code of ethics, terms and conditions of sale and warranty please refer to www.gminternational.com.