

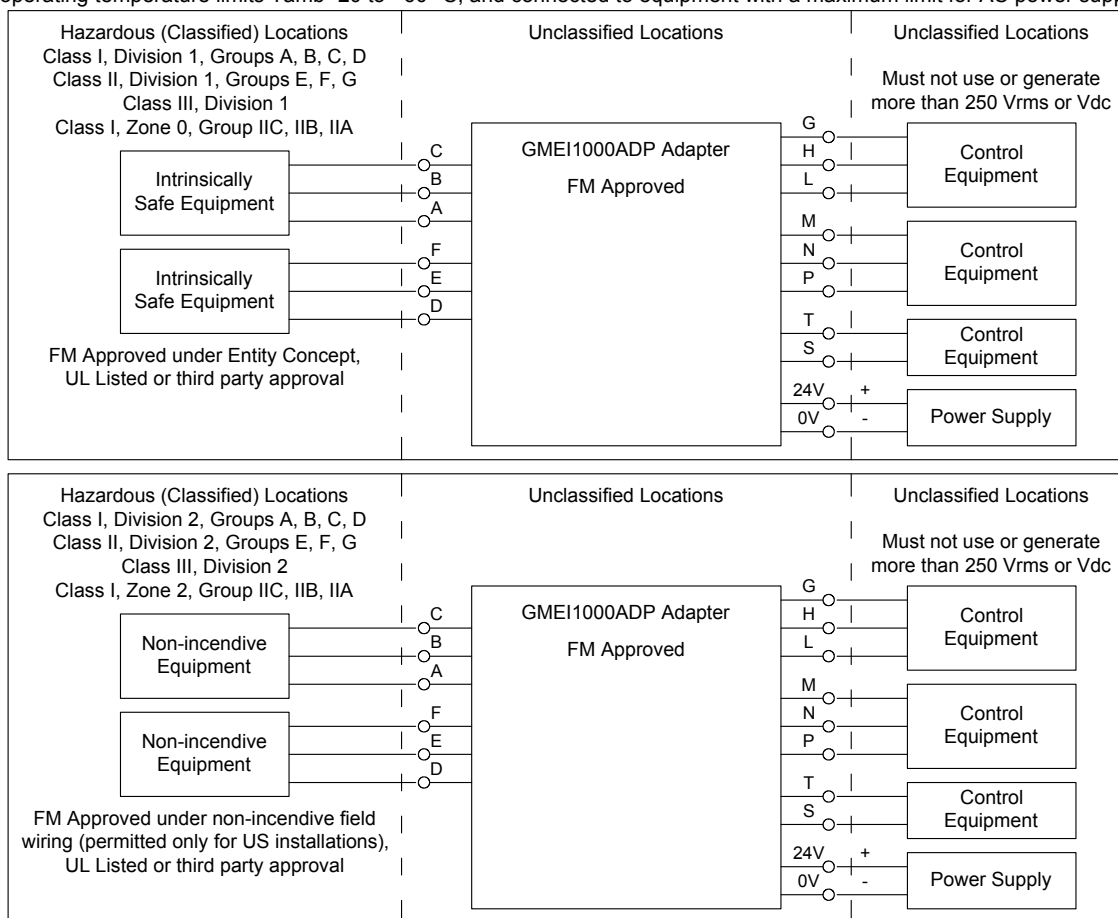
Safety and Installation Instructions:

GMEI1000ADP Series 1000 Adapter

This installation manual is intended to be read and used in conjunction with the relevant Series D1000 module data sheet and instructions manual. For functional and safety parameter aspects please refer to appropriate documentation.

Warning

GMEI1000ADP is an adapter for use with isolated Intrinsically Safe Associated Apparatus Series D1000 module located in Safe Area/Non Hazardous Locations within the specified operating temperature limits Tamb -20 to +60 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.



Non-incendive field wiring is not recognized by the Canadian Electrical Code, installation is permitted in the US only.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

GMEI1000ADP must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. IEC/EN60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines), BS 5345 Pt4, VDE 165, ANSI/ISA RP12.06.01 Installation of Intrinsically Safe System for Hazardous (Classified) Locations, National Electrical Code NEC ANSI/NFPA 70 Section 504 and 505, and the Canadian Electrical Code CEC) following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

Warning: substitution of components may impair Intrinsic Safety.

Warning: GMEI1000ADP adapter is suitable to install Series D1000 modules with $U_m \leq 250$ Vrms and $U_o \leq 30V$ single or dual channel.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.

Any unauthorized modification must be avoided.

Safety Analysis

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U_i/V_{max} , I_i/I_{max} , P_i/P_i) are not exceeded by the safety parameters (U_o/V_{oc} , I_o/I_{sc} , P_o/P_o) of the Associated Apparatus connected to it, indicated in the corresponding installation manual (also described in the corresponding data sheet and enclosure side of the D1000 series):

Associated Apparatus Parameters	Must be	Hazardous Area/ Hazardous Locations Device Parameters	Associated Apparatus Parameters	Must be	Hazardous Area/ Hazardous Locations Device + Cable Parameters
U_o / V_{oc}	$\leq$	U_i / V_{max}	C_o / C_a	$\geq$	$C_i / C_i \text{ device} + C \text{ cable}$
I_o / I_{sc}	$\leq$	I_i / I_{max}	L_o / L_a	$\geq$	$L_i / L_i \text{ device} + L \text{ cable}$
P_o / P_o	$\leq$	P_i / P_i	L_o / R_o	$\geq$	$L_i / R_i \text{ device and } L \text{ cable} / R \text{ cable}$

When checking the power matching also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (C_o/C_a , L_o/L_a , L_o/R_o) given in the Associated Apparatus parameters for the effective gas group (see parameters on enclosure side and data sheets).

For installations in which both the C_i and L_i of the Intrinsically Safe apparatus exceeds 1 % of the C_o and L_o parameters of the Associated Apparatus (excluding the cable), then 50 % of C_o and L_o parameters are applicable and shall not be exceeded (50 % of the C_o and L_o become the limits which must include the cable such that $C_i \text{ device} + C \text{ cable} \leq 50 \%$ of C_o and $L_i \text{ device} + L \text{ cable} \leq 50 \%$ of L_o).

If the cable parameters are unknown, the following value may be used: Capacitance 60pF per foot (180pF per meter), Inductance 0.20μH per foot (0.60μH per meter).

The Intrinsic Safety Entity Concept allows the interconnection of Intrinsically Safe devices approved with entity parameters not specifically examined in combination as a system when the above conditions are respected. For Division 1 and Zone 0 installations, the configuration of Intrinsically Safe Equipment must be FM approved under Entity Concept, UL Listed or third party approved; for Division 2 installations, the configuration of Intrinsically Safe Equipment must be FM approved under non-incendive field wiring or Entity Concept, UL Listed or third party approved.

Storage

If after an incoming inspection 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: -20 to +60 °C, the -45 to +80 °C in the data sheet is meant for limited periods, mainly to arrange for air transport, -10 to +30 °C are preferred.

Humidity: 0 to 90 %, long period high humidity affects the package integrity, 0 to 60 % humidity is preferred.

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 vapors must be avoided to prevent corrosion of conductors and degradation of insulating surfaces.

Disposal

The product should not be disposed with other wastes at the end of its working life. It may contain hazardous substances for the health and the environment, to prevent possible harm from uncontrolled waste disposal, please separate this equipment from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. This product should not be mixed with other commercial wastes for disposal.

Mounting

GMEI1000ADP adapter converts Series D1000 terminal blocks connection to 21 poles DIN 41617 male connector.

Connection requires appropriate mating connector provided by the customer to interface the module input/output/supply.

Follow the above points to correctly install the adapter:

- Disconnect the terminal blocks from Series D1000 module on both side
- Unlock DIN Rail fixing from the module and take out the unit from the adapter
- Plug the GMEI1000ADP adapter into the termination board provided and fix the blocking screw
- Insert the Series D1000 module into the GMEI1000ADP adapter and lock the unit to the DIN Rail (reversing the unit is not possible by a polarization key provided on the adapter)
- Connect the terminal blocks into the Series D1000 module
- Check the presence, if provided, of Power ON LED (green) supply

Installation

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. IEC/EN60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines), BS 5345 Pt4, VDE 165, ANSI/ISA RP12.06.01 Installation of Intrinsically Safe System for Hazardous (Classified) Locations, National Electrical Code NEC ANSI/NFPA 70 Section 504 and 505, and the Canadian Electrical Code CEC), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Units 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.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of GMEI1000ADP must be cleaned only with a damp or antistatic cloth.

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