G.M. International Intrinsically Safe Isolators

D5040D

D5232Q

Overview

G.M. International's D5000 series uses state-of-the-art solutions to achieve the highest performance for Intrinsically Safe applications and is recognized by more than 15 certification bodies all over the world.

Intrinsically Safe Galvanic Isolators provide the most simple and cost effective means of implementing Intrinsic Safety into hazardous area applications.

Features

- Reduced foot print: high density, 6mm per channel
- Low power consumption
- Reduced cooling needs: low heat dissipation
- Suitable for indoor and outdoor use: certified -40 to +70 °C
- Resilience to surges: 2.5 kV isolation
- Resistant to harsh environments
- Lower ownership cost: certified for 20 years of operation

G.M. International Intrinsically Safe Isolators Selection Guide

Part Number	Price	Isolator Type	Field Device	Channels	Controller Side (PLC/DCS)	Drawing
Analog Input (From Hazardous Area)						
D5014D	$484.00	Analog input repeater/splitter	(2) 4–20 mA HART	2 in / 2 out	(2) 4–20 mA HART	PDF
Analog Output (To Hazardous Area)						
D5020D	$561.00	Analog output repeater/splitter	(2) 4–20 mA HART	2 in / 2 out	(2) 4–20 mA HART	PDF
Digital (Discrete) Input (From Hazardous Area)						
D5030D	$291.00	Digital input repeater/splitter	(2) NAMUR* sensors (2) dry contacts	2 in / 2 out	(2) Configurable contacts	PDF
D5232Q	$415.00	Digital input repeater/splitter	(4) NAMUR sensors (4) dry contacts	4 in / 4 out	(4) Configurable contacts	PDF
Digital (Discrete) Output (To Hazardous Area)						
D5040D	$369.00	Digital output repeater/splitter	Up to 60 mA at 18.2 VDC	2 in / 2 out	(2) 18–30 VDC	PDF
Temperature Transmitter (From Hazardous Area)						
D5072D-096	$701.00	Temperature repeater/splitter	(2) Thermocouple	2 in / 2 out	(2) Equal to input	PDF
Load Cell Strain Gauge Transmitter (From Hazardous Area)						
D5263S	$749.00	Load cell strain gauge repeater	(4) 350Ω or (5) 450Ω or (10) 1000Ω in parallel	1 in / 1 out	(1) Resistance equal to input	PDF

*** A NAMUR sensor is an intrinsically safe 2-wire sensor which supplies one of two signal levels depending on sensor state.**

Part Number Nomenclature

D 5 0 1 4 S

Channels:
S: 1 channel
D: 2 channels
Q: 4 channels

Specific Model

Family:
1: Analog Input
2: Analog Output
3: Digital Input
4: Digital Output
5: Trip Amplifier
6: Load Cell and Other Repeaters/Converters
7: Temperature

Module Size:
0: 12mm
2: 22mm

Series:
5: IS Modules
6: Non-IS Modules

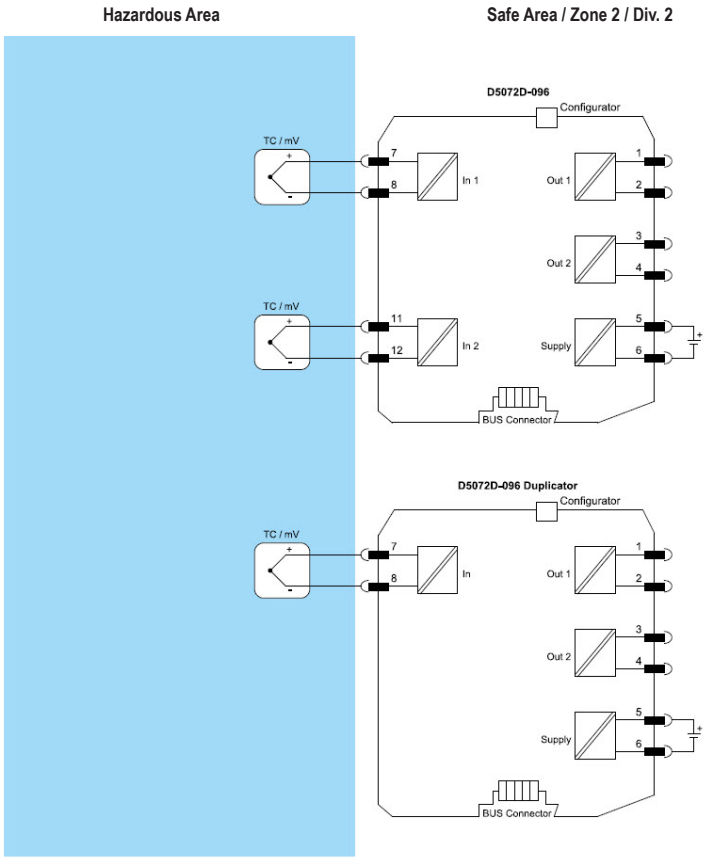
G.M. International Intrinsically Safe Isolators

gmi technology for safety

G.M. International Intrinsically Safe Isolators Specifications			
		Temperature	***Load Cell***
		D5072D-096	***D5263S***
Isolator Type		Temperature repeater / splitter	Load cell / strain gauge repeater
Explosion Protection	Installation Location (per NEC 500)	Zone 2 / Div 2	Zone 2 / Div 2
	Ex Interface (per NEC 500)	Zone 0 / Div 1	Zone 0 / Div 1
	Agency Approvals	UL, ATEX, IECEx, TÜV, Maritime (DNV)	UL, ATEX, IECEx, TÜV, Maritime (DNV)
Safety Data	Max Voltage (U_o)	7.2V	7.2V
	Max Current (I_o)	16 mA	177 mA
	Max Power (P_o)	27 mW	471 mW
Functional Safety	Safety Integrity Level (SIL) Systematic Capability (SC)	SIL 2 / SC3	SIL 2 / SC3
Electrical Data	Number of Channels	2 in / 2 out OR 1 in / 2 out	1 in / 1 out
	Auxiliary Power Range	18–30 VDC	18–30 VDC
	Nominal Current	35 mA @ 24 VDC	75 mA @ 24 VDC with four 350Ω load cells connected
	Max Power Dissipation	0.85W @ 24 VDC	1.8W @ 24 VDC with four 350Ω load cells connected
	Operation Indication	(1) Power LED (2) Fault LEDs	(1) Power LED
	Input Type	Thermocouple	(4) 350Ω, or (5) 450Ω, or (10) 1000Ω in parallel
	Output (Channel A)	(2) Equal to input	(1) Resistance equal to input
Ambient Conditions	Operating Temperature	-40 to +70 °C [-40 to 158 °F]	-40 to +70 °C [-40 to 158 °F]
	Storage Temperature	-45 to +85 °C [-49 to +185 °F]	-45 to +85 °C [-49 to +185 °F]
Mechanical Data	Width	12.5mm [0.5in]	22.5mm [0.89in]
	Weight	135g [4.76 oz]	165g [5.82 oz]
	Wire Gauge Range	Up to 13 AWG	Up to 13 AWG
	Mounting	DIN rail with or without power bus	DIN rail with or without power bus

G.M. International Intrinsically Safe Isolators

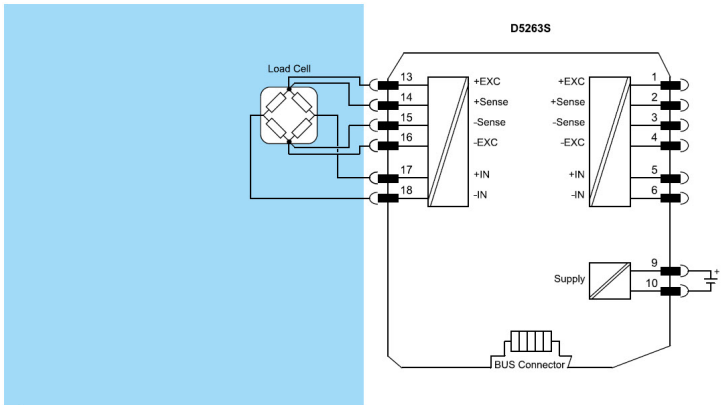
Connection Diagrams (D5072D-096)



NOTE:

The D5072D-096 intrinsically safe isolator is fully programmable. Operating parameters can be changed using a PC with the PPC5092 adapter (sold separately) and free SWC5090-SW software. For details, please consult the product manual.

Connection Diagrams (D5263S)



G.M. International Intrinsically Safe Isolators Accessories

Benefits of Using Power Bus Connectors

- Quick, easy wiring
- Can be installed on standard DIN rail without tools by simply snapping into place
- Can be expanded at any time with additional power bus units
- Suitable for industrial environments subject to vibration

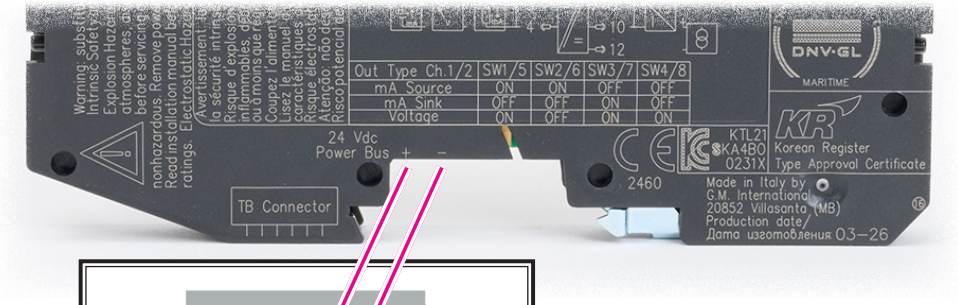
G.M. International Intrinsically Safe Isolators Accessories				
Part Number	***Price***	***Description***	***For Use With***	***Drawing***
JDFT049	$22.50	Power bus connector	D5000 12mm isolators	PDF
JDFT050	$28.00	Power bus connector	D5000 22mm isolators	PDF
OPT5096	$37.00	Mounting brackets and end terminal set	D5000 isolators	PDF

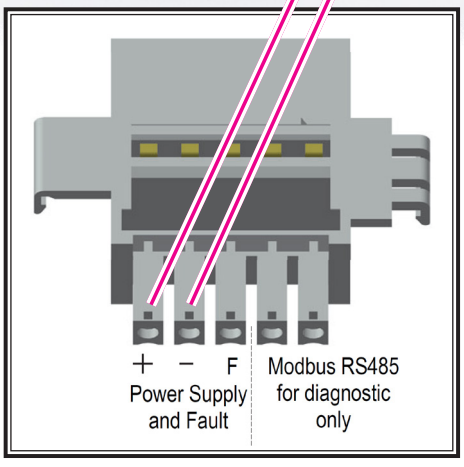
JDFT049

JDFT050

OPT5096

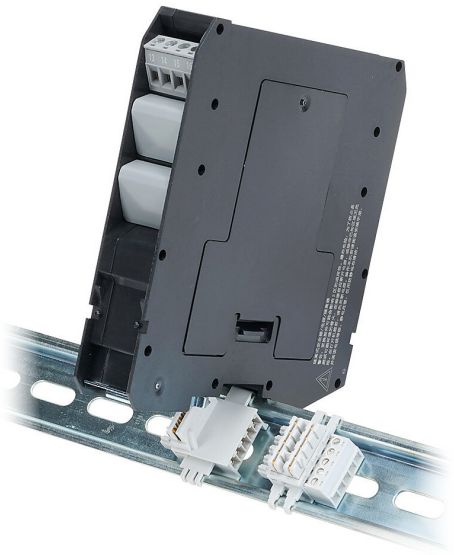
PIn-Out





Several of these modules (including the D5014D, shown here as an example) provide access to signals via the power bus. The signals that are available for each module are printed on the side of the unit.

Installation Detail For Power Bus Connectors



G.M. International Intrinsically Safe Isolators Configuration Software

PPC5092

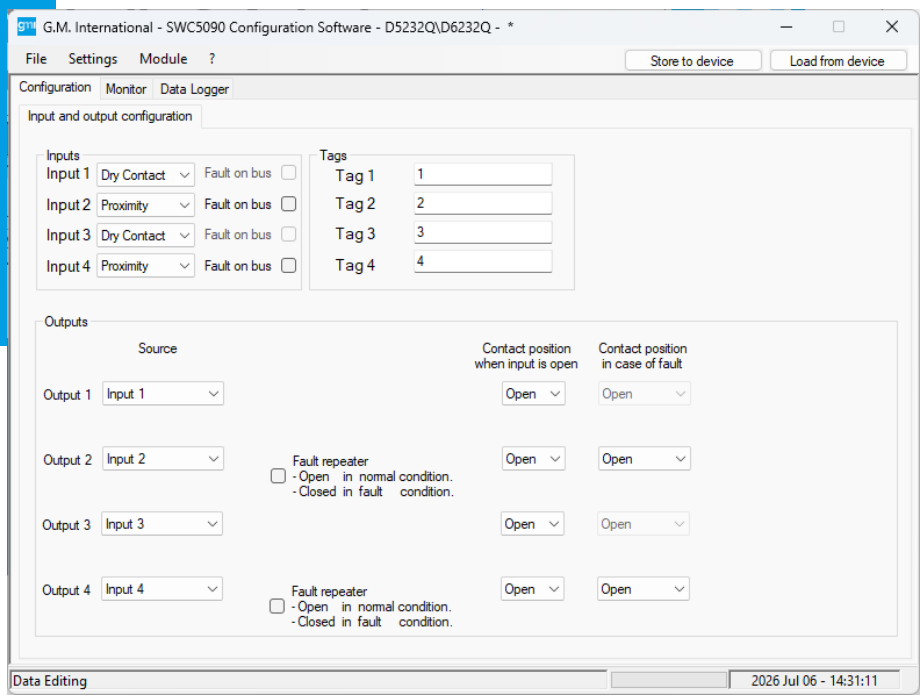
Getting the most out of your D5232Q Digital Input Isolator and D5072D-096 Thermocouple/mV Repeater is easier than ever with the SWC5090-SW Configuration Software — a free PC-based tool designed to simplify setup, monitoring, and troubleshooting for your safety-critical field devices.

For the D5232Q, the SWC5090-SW software lets you configure sensor type (Proximity or Dry Contact) for each of the four inputs, set custom output logic and fault behavior, and monitor real-time input/output status on screen — all while supporting the performance your high-risk application demands.

For the D5072D-096, the software gives you full control over input/output function (Linear, Custom, or Thermocouple), cold junction compensation settings, burnout fault detection, and channel tagging, so your temperature signal repeating is precisely tuned to your process.

Both modules also benefit from the built-in Data Logger, which records live readings to a simple CSV file at your chosen interval, and the Report Sheet feature, which prints a complete configuration summary for easy documentation. Available at no cost and simple to install on any Windows PC, SWC5090-SW puts fast, reliable configuration of your D5232Q and D5072D-096 modules right at your fingertips.

G.M. International Intrinsically Safe Isolators Configuration Cable					
Part Number	***Price***	***Description***	***For Use With***	***Includes***	***Drawing***
PPC5092	$178.00	Configuration cable	D5232Q and D5072D-096	Cable, USB adapter and SWC5090-SW software on CD	PDF



NOTE: always use the USB to Serial adapter. A standard USB A to USB Mini cable to the PC will not work.

G.M. International Configuration Software		
Part Number	***Price***	***Description***
SWC5090-SW	FREE	Configuration software

Safety Products

Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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