

General Dynamics Itronix Releases Hazardous Location Configuration for the GD8000 Fully Rugged Notebook

Background:

CSA International (Canadian Standards Association)¹ has issued a Certificate of Compliance for the General Dynamics Itronix GD8000 Fully Rugged Notebook. The GD8000 is eligible to bear the CSA Mark shown below with the adjacent indicator 'US' for US only or without either indicator for Canada only. A copy of **Certificate Number 1515115 CSA International** can be found at www.csa-international.org. For the U.S. and Canada, a CSA mark with the indicators "C" and "US" or "NRTL/C" means that the product is certified for both the U.S. and Canadian markets, to the applicable U.S. and Canadian standards. If a product has features from more than one area, (e.g. electrical equipment with fuel burning features), the mark indicates compliance to all applicable Standards.

The **GD8000 Certificate** covers product areas:

Class I, Division 2, Group A, B, C, & D, T Code T5



Model GD8000 Notebook Computer².
CLASS 2258 83 - PROCESS CONTROL EQUIPMENT
Non-Incendive – Systems For Hazardous Locations-Certified to U.S. Standards

Ordering Instructions:

General Dynamics expects the GD8000 user base to embrace this option and will begin accepting orders immediately. Please contact your General Dynamics Sales Representative for additional information and ordering instructions. GD8000 Product information, customer feedback and videos, can be found on the Web at <http://www.gd-itronix.com/GD8000>.

GD8000 HAZLOC Configuration Options			
Product	Options	Description	List Price
GD8000	05 5	GD DISP LBL& HAZLOC	\$225.00
GD8000	05 6	GD DISP LBL& HAZLOC & NO RAD	\$250.00
GD8000	05 7	CSTM DISP LBL & HAZLOC	\$320.00
GD8000	05 8	CSTM DISP LBL & HAZLOC & NO, 6 P RAD	\$345.00

A Sign of Confidence:

For millions of people worldwide, CSA marks provide a level of confidence that a product such as the GD8000 have been tested and meet applicable standards for safety and/or performance, including the applicable standards written or administered by the American National Standards Institute (ANSI), Underwriters Laboratories (UL), Canadian Standards Association (CSA), NSF International (NSF), and others. CSA works closely with the International Association of Electrical Inspectors (IAEI), the

¹ CSA International is a provider of product testing and certification services for electrical, mechanical, plumbing, gas and a variety of other products. Recognized in the U.S., Canada and around the world, CSA's marks appear on billions of products worldwide.

² The GD8000 is to be charged by the supplied charging adapter, model Delta, in non-hazardous locations.

Electrical Safety Foundation International (ESFI), Health Canada, provincial regulators, and the U.S. Consumer Product Safety Commission (CPSC) to promote standards for consumer safety in North America and around the world. CSA testing is accepted by key conformity assessment organizations in the U.S. including International Association of Plumbing and Mechanical Officials (IAPMO) and The American Society of Safety Engineers (ASSE). Finally, CSA field representatives conduct more than 50,000 factory visits each year, worldwide, to ensure that CSA-certified products continue to meet the applicable standards.

Simplifying Classes, Divisions and Groups:

According to the National Electric Code (NEC), there are three types of hazardous locations, which are broken down into Classes. The following table describes each Class and typical locations:

Description		Typical locations include:
Class I Gases, Vapors or Liquids	<i>Location</i> is one in which <i>flammable gases or vapors</i> may be present in the air in sufficient quantities to be explosive or ignitable.	<ul style="list-style-type: none"> • Petroleum refineries, and gasoline storage and dispensing areas • Dry cleaning plants where vapors from cleaning fluids can be present • Spray finishing areas • Aircraft hangars and fuel servicing areas • Utility gas plants, and operations involving storage and handling of liquified petroleum gas or natural gas
Class II Dust	Areas made hazardous by the presence of combustible <i>dust</i> .	<ul style="list-style-type: none"> • Grain elevators • Flour and feed mills • Plants that manufacture, use or store magnesium or aluminum powders • Producers of plastics, medicines and fireworks • Producers of starch or candies • Spice-grinding plants, sugar plants and cocoa plants • Coal preparation plants and other carbon handling or processing areas
Class III Fibers and Flyings	Areas where there are <i>easily-ignitable fibers or flyings</i> present, due to the types of materials being handled, stored, or processed.	<ul style="list-style-type: none"> • Textile mills, cotton gins • Cotton seed mills, flax processing plants • Plants that shape, pulverize or cut wood and create sawdust or flyings

The NEC also defines the kinds of conditions under which these hazards are present. The Code specifies that hazardous material may exist in several different kinds of conditions which, for simplicity, can be described as, first, normal conditions, and, second, abnormal conditions.

Finally, the NEC defines the Nature of Hazardous Substances which materials are grouped according to the ignition temperature of the substance, its explosion pressure, and other flammable characteristics.

Summary of Class I, II, III Hazardous Locations			
CLASSES	GROUPS	DIVISIONS	
		1	2
I Gases, vapors, and liquids	A: Acetylene B: Hydrogen, etc. C: Ether, etc. D: Hydrocarbons, fuels, solvents, etc.	Normally explosive and hazardous	Not normally present in an explosive concentration (but may accidentally exist)
II Dusts	E: Metal dusts (conductive,* and explosive) F: Carbon dusts (some are conductive,* and all are explosive) G: Flour, starch, grain, combustible plastic or chemical dust (explosive)	Ignitable quantities of dust normally are or may be in suspension, or conductive dust may be present	Dust not normally suspended in an ignitable concentration (but may accidentally exist). Dust layers are present.
III Fibers and Flyings	Textiles, wood-working, etc. (easily ignitable, but not likely to be explosive)	Handled or used in manufacturing	Stored or handled in storage (exclusive of manufacturing)

Applicable Requirements for Reference:

Agency	Numbering	Description
CAN/CSA-C22.2	No. 0-M91	General Requirements; Canadian Electrical Code, Part II
CAN/CSA-C22.2	No. 60950-00, 3 rd Edition	Safety of Information Technology Equipment
ANSI/UL	No. 60950-2000, 3 rd Edition	Safety of Information Technology Equipment
CAN/CSA-C22.2	No. 213-M1987	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
UL Std	No. 1604, 3 rd Edition	Electrical Equipment for use in Class I and Class II, Division 2 and Class III Hazardous (Classified) Locations
ANSI/ISA	12.12.01:2007	Non-Incendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

Ordering or Upgrading Your GD8000:

Please contact your General Dynamics Sales Representative for additional information about the GD8000 with the HAZLOC Option or to upgrade your current GD8000. Our sales team can be reached at 1-800-441-1309 in the United States, 1-800-571-5434 in Canada, or +44 (0)2476 714800 in the United Kingdom. You may also contact us via the web at www.gd-itronix.com.