

Detector Electronics Corporation
6901 West 110th Street
Minneapolis, MN 55438 USA
Tel 952.941.5665 Fax 952.829.8750
www.det-tronics.com



A UTC Fire & Security Company

For Immediate Release

Date: Wednesday, July 25, 2007

Contact: Cathryn Kasic
952 833 8661
cathryn.kasic@detronics.com

SIL-2 Safety Certified Fire and Gas Detection System

Det-Tronics receives certification from exida and TÜV Nord

Minneapolis, MN (July 24, 2007) — Detector Electronics Corporation (Det-Tronics) today announced the release of a fire and gas detection system certified for applications to Safety Integrity Level 2 (SIL-2) by the globally-recognized certification agencies exida and TÜV Nord.

Det-Tronics SIL-2 certified X3301 multi-spectrum infrared flame detector and PIRECL Eclipse infrared combustible gas detector, together with the Eagle Quantum Premier (EQP) controller and Enhanced Discrete Input/Output (EDIO) module, are the components that form the SIL 2 capable system.

The SIL-2 EQP system provides industrial customers a single solution that fulfills both the needs of a Safety Instrumented System and an approved fire and gas detection system (FM approved to NFPA 72). Requiring the most reliable fire and gas detectors and systems available, companies are moving toward implementation of safety systems in accordance with the international safety standard IEC 61508.

The IEC 61508 standard is a risk-based approach for determining the safety integrity level of safety instrumented functions. It is widely accepted as the design standard for critical safety instrumented systems in the global oil and gas industry.

About Detector Electronics

Detector Electronics Corporation (Det-Tronics) a UTC Fire and Security Company (UTX) is a world leader in optical fire detection, gas detection, and hazard mitigation systems. Det-Tronics designs, builds, tests, and commissions safety systems that range from conventional panels to fault-tolerant, addressable systems. Det-Tronics flame and gas detectors are globally certified to the latest product approvals standards, including critical SIL-2 industrial applications. Learn more at www.det-tronics.com.

exida[®]

The manufacturer
may use the mark:

Certificate / Certificat
Zertifikat / 認証

DET 050701 C001

exida hereby confirms that the:

**Eagle Quantum Premier (EQP)
Safety System**

Safety Manual 95-8599, Revision 1.5 or greater

**Detector Electronics Corporation
Minneapolis, MN USA**

Has been assessed per the relevant requirements of:

IEC 61508 Parts 1, 2, 3

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 2 Capable

**Random Integrity: SIL 2 Capable @
HFT=0**

Safety Function:

The EQP Safety System detects flame, gas or other programmed hazardous condition and energizes an output per the programmed logic.

Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.

Reports:

DET 0507-01 R002 FMEDA
Report V1 R1

DET 0507-01 R003
Assessment Report V1 R1

Validity:

This assessment is valid for
the EQP Safety System,
simplex and redundant
controllers.

This assessment is valid
until June 30, 2010.

Revision 1.1 June 1, 2007



Michael Medoff
Product Assessor

William M. Holt
Auditor

Form	Version	Date
C61508	1.8	May 2007

Eagle Quantum Premier (EQP) Safety System, simplex and redundant

Detector Electronics Corporation, Minneapolis, MN, USA

Systematic Integrity: SIL 2 Capable

SIL 2 Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 2. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than the statement without “prior use” justification by end user or diverse technology redundancy in the design.

Random Integrity, Type B. SIL 2 @ HFT = 0

Failure rates EQP Safety System

Device	λ_{sd}	λ_{su}	λ_{dd}	λ_{du}	SFF
EQ300X – common	0 FIT	455 FIT	2175 FIT	88 FIT	96.7%
EQ3730EDIO – common	0 FIT	243 FIT	469 FIT	21 FIT	97.1%
EQ3730EDIO – per Input monitored for open and shorts	0 FIT	67 FIT	32 FIT	1 FIT	99.0%
EQ3730EDIO – per Input monitored for open only	0 FIT	67 FIT	26 FIT	7 FIT	93.0%
EQ3730EDIO – per monitored output	0 FIT	50 FIT	41 FIT	1 FIT	98.9%
X3301 – Multispectrum IR Flame Detector with EQPSL communications	0 FIT	789 FIT	2670 FIT	133 FIT	96.3%
PIRECL – Eclipse Infrared Gas Detector with EQPSL communications	0 FIT	711 FIT	2099 FIT	132 FIT	95.5%

The failure rates for a given system depend on the specific components chosen. For SIF verification instructions, consult the Det-Tronics Safety Manual.

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each subsystem must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

* FIT = 1 failure / 10^9 hours

Certificate

TÜV NORD SysTec GmbH & Co. KG hereby certifies

Detector Electronics Corporation
6901 West 110th Street
Minneapolis, MN 55438
USA

that the realisation of the safety system

Eagle Quantum™ Premier™ (EQP)

complies with the requirements listed in the following standards

IEC 61508: Part 1:1998 + Corrigendum 1999; Part 2:2000; Part 3:1998
Functional safety of electrical/electronic/programmable
electronic safety-related systems
SIL 2 capability

based on report no. SAS-181/2006T in the valid version.
This certificate entitles the holder to use the mark:



Certificate No.: SAS0015/07, Vers. 1.0
File Reference: M.IB5.03.124.01.SLA
Expiry Date: 2012-July-02

Augsburg, 2007-July-02



Dr. Immanuel Höfer