



The manufacturer may use the mark:



Revision 4.0 June 27, 2017  
Surveillance Audit Due July 1, 2020



ANSI Accredited Program  
ISO/IEC 17065  
PRODUCT CERTIFICATION BODY  
#1004

# Certificate / Certificat Zertifikat / 合格証

AUT 090204 C002

exida hereby confirms that the:

**AutroPoint HC200  
with FR option**  
Infrared Hydrocarbon Gas Detector

**Autronica Fire and Security AS  
Trondheim, Norway**

Has been assessed per the relevant requirements of:

**IEC 61508 : 2010 Parts 1-7**

and meets requirements providing a level of integrity to:

**Systematic Capability: SC 2 (SIL 2 Capable)**

**Random Capability: Type B Element**

**SIL 2 @ HFT=0; SIL 2 @ HFT = 1; Route 2<sub>H</sub>**

**PFD<sub>AVG</sub> and Architecture Constraints  
must be verified for each application**

### Safety Function:

The AutroPoint HC200 IR gas detector will sense hydrocarbon gas and signal the 4 – 20 mA or relay output to indicate the potentially dangerous condition.

### Application Restrictions:

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



*John C. Yozallinas*  
Evaluating Assessor

*[Signature]*  
Certifying Assessor

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**Random Capability: Type B Element**

**SIL 2 @ HFT=0; SIL 2 @ HFT = 1; Route 2<sub>H</sub>**

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**Systematic 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 stated.

**Random Capability:**

The SIL limit imposed by the Architectural Constraints must be met for each element. This Device meets *exida* criteria for Route 2<sub>H</sub>.

**IEC 61508 Failure Rates in FIT<sup>1</sup>**

<b>HC200 Output Options</b> (with or without FR Option)	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
Analog Output	0	46	1655	123
Relay Output	106	222	1335	130
Add-on FITs when HC200 is used with AV20 Universal Display	0	54	36	19

<sup>1</sup> FIT = 1 failure / 10<sup>9</sup> hours

**SIL Verification:**

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD<sub>avg</sub> 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 element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

**Assessment Report:** DET 09/02-04 R002 V3 R1 (or later)

**Safety Manual:** 95-8694-5.1 (or later)

