



Certificate / Certificat Zertifikat / 合格証

HCC 1702010 C001

exida hereby confirms that the:

Honeywell 7800 Series Burner Controller
Honeywell Inc.
Honeywell Process Solutions
Houston, TX - USA

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-3

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type B Element

SIL 3 @ HFT = 0; Route 1_H

**PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Safety Function:

The Honeywell 7800 Series Burner Control system will control the burner according to specific pre-defined sequences. In addition, the 7800 Relay Module will monitor for the presence of an acceptable flame signal or hardwired inputs with transition to Safety Shutdown (Lockout) upon loss of flame or other inputs.

Application Restrictions:

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

The manufacturer may use the mark:



Revision 3.0 December 28, 2023
Surveillance Audit Due
December 1, 2026



Rudolf P. Chalupa

Evaluating Assessor

ChOB

Certifying Assessor

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Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type B Element

SIL 3 @ HFT=0; Route 1_H

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Honeywell 7800 Series
Burner Control

Systematic Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. 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.

IEC 61508 Failure Rates in FIT*

Application/Device/Configuration	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
7800 Series Burner Control System using Amplifiers with Ampli-Check diagnostics	839	108	0	5
7800 Series Burner Control System using Detectors/Amplifiers with Self-Check diagnostics	976	108	0	6

* FIT = 1 failure / 10⁹ hours

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/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 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: HON 17-02-010 R002 V2R1 (or later)

Safety Manual: RM 7800 Burner Controller Safety Manual, V2R0



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