![exida logo]

Certificate / Certificat Zertifikat / 合格証

BHR 1910018 C001

exida hereby confirms that the:

Flame Tracker
RS-FS-9001, RS-FS-9004, RS-FS-9006

Reuter-Stokes, LLC
Twinsburg, OH - USA

Have been assessed per the relevant requirements of:

IEC 61508 : 2010   Parts 1-2

Flame Detector Device Requirements:

EN 298:2012, EN 50156-1:2015

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 1$_H$ Device

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

Safety Function:
The Flame Tracker will detect the presence of a flame and
provide an analog output within the stated safety accuracy.

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

_____
Evaluating Assessor

_____
Certifying Assessor

Certificate / Certificat / Zertifikat / 合格証

BHR 1910018 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 1_H Device

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

Flame Tracker –

**RS-FS-9001,
RS-FS-9004,
RS-FS-9006**

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*

Failure Category	Failure Rate (FIT)	
	Profile 3	
Fail Safe Undetected	271	
Fail Dangerous Detected	18	
Fail Detected (detected by internal diagnostics)		0
Fail High (detected by logic solver)		7
Fail Low (detected by logic solver)		11
Fail Dangerous Undetected	190	

* FIT = 1 failure / 10^9 hours

Application Standards: EN 298:2012, EN 50156-1:2015

The Flame Tracker was evaluated as the flame detector device portion of a system per the relevant requirement of the listed application standards. All requirements of an Application Standard and the Authority Having Jurisdiction must be met for any particular application. Any additional regulatory requirements that exist must be followed.

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 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: BHR 1910121 R002 V4R1 (or later)

Safety Manual: FS-9000SM Rev. D (or later)

80 N Main St
Sellersville, PA 18960

T-061, V5R2