



# Certificate / Certificat Zertifikat / 合格証

COW 1505085 C003

exida hereby confirms that the:

**Series A2A Booster**

The manufacturer  
may use the mark:



**Cowan Dynamics Inc.  
Montreal, QC - Canada**

Have 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 3 (SIL 3 Capable)**

**Random Capability: Type A, Route 2<sub>H</sub> Device**

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

Revision 1.1 December 27, 2018

Surveillance Audit Due  
January 1, 2022

**Safety Function:**

The Booster will provide a 2:1, 3:1, or 4:1 pressure boost ratio.

**Application Restrictions:**

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



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



Evaluating Assessor

Certifying Assessor

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**Systematic Capability: SC 3 (SIL 3 Capable)****Random Capability: Type A, Route 2<sub>H</sub> Device****PFD<sub>avg</sub> and Architecture Constraints  
must be verified for each application**

## Series A2A Booster

**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. This device meets *exida* criteria for Route 2<sub>H</sub>.

**IEC 61508 Failure Rates in FIT\***

Device	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
A2A Booster	0	0	0	1807

\* 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:** COW 15-05-085 R004 V1R3

**Safety Manual:** SIL Safety Guide-Series A2A (or later)



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Sellersville, PA 18960