



The manufacturer
may use the mark:



Revision 2.3 February 4, 2021
Surveillance Audit Due
February 28, 2023



Certificate / Certificat Zertifikat / 合格証

Weidmüller 070902 P0002 C006

exida hereby confirms that:

**HART transparent repeater
ACT20X-(2)HAI-(2)SAO-S/P**
Device version 2

**Weidmüller Interface GmbH CO KG
Detmold, Germany**

Has been assessed per the relevant requirements of:

IEC 61508 : 2000 Parts 1 - 7

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A Device

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

Safety related function:

The HART transparent repeater isolates 4..20mA process signals and realizes a ground loop elimination.

Application restrictions:

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





Evaluating Assessor



Certifying Assessor

Certificate / Certificat / Zertifikat / 合格証

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A Device

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

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 these products 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 Capability:

The SIL limit imposed by the Architectural Constraints must be met for each subsystem.

Summary for the Universal Converter ACT20X-(2)HAI-(2)SAO-S/P:

Type A device

IEC 61508:2000 Failure rates

	λ_{Safe}	λ_{DD}	λ_{DU}	$\lambda_{No\ effect}$
Single active input and active output	0	173	41	177
Single active input and passive output	0	174	41	177
Single passive input and active output	0	160	40	164
Single passive input and passive output	0	160	41	165
Dual active input and dual active output	0	377	11	315
Dual active input and dual passive output	0	376	11	316
One passive input and one active input and dual active output	0	363	11	304
One passive and one active input and dual passive output	0	363	11	305

All failure rates are given in $FIT=10^{-9}/h$

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.

The following documents are mandatory parts of this certificate:

Weidmüller 0709-02-C R016 V2 R2 Assessment Report

Safety manual ACT20X-HAI-SAO-S V0.1

Safety manual ACT20X-2HAI-2SAO-S V0.1



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T-061, V3R1