



Certifikate

system compatible, SIL 2 compatible

PFD_{AVG} and architecture have to be checked for every new application:

Systematic abilities :

The above mentioned dampers meet all manufacturers, design and process requirements of the Safety Integrity Level (SIL) Level 2. These are designed to provide reasonable integrity against systematic manufacturing design flaws. A safety-related function designed with this product must not be used at a SIL level higher than specified.

Random abilities:

The SIL limit is imposed by architectural constraints

IEC 61508 Failure Rates in FIT*

Failures	Rate for a safe		Rate for a dangerous	
	detected failures	not detected failures	detected failures	not detected failures
	λ_{SD} (FIT)	λ_{SU} (FIT)	λ_{DD} (FIT)	λ_{DU} (FIT)
Shaft tear down	20	181	16	148
Leakage of body	0	0	39	0

SIL-review:

The safety integrity level (SIL) of an entire Safety Instrumented Function (SIF) must be based on a PFD_{AVG} calculation considering redundant architectures, an audit interval, an automatic average repair time diagnosis and the specific failure rates of all in the SIF contained products. Each subsystem must be checked to ensure compliance with the minimum Hardware Fulfillment (HFT) hardware tolerance.

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*FIT = 1 failure /10⁹ operation hours



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JASTA-ARMATUREN hereby confirms, that the dampers

Type LDK-X

fulfil every requirement, that provides a level of integrity to

be system compatible, SIL 2 compatatible

acc. to relevant calculations of

IEC 61508 : 2010 1-7

PFD_{AVG} and architecture have to be checked for every new application:

Safety function:

Opening and closing of the damper LDK-X

Application restrictions:

The dampers have to be designed and installed acc. to instructions manual and safety-related function.

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