

The manufacturer
may use the mark:



Reports:

EM 10/08-036 R001 FMEDA
Report V1 R1

EM 08/01-38 R001
Assessment Report V2 R1

Validity:

This assessment is valid for
the Horizontal Float Switch.

This assessment is valid until
December 1, 2014.

Revision 2.0 November, 2011



Certificate / Certificat Zertifikat / 合格証

EM 080138 C001

exida hereby confirms that the:

Horizontal Float Switch

**Mobrey Measurement
(A Division of Emerson Process
Management)
Slough, UK**

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 2 Capable

Random Integrity: Type A Element

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

Safety Function:

The float switch will actuate a switched signal for either a high or low limit fluid level.

Application Restrictions:

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



Evaluating Assessor

Certifying Assessor

EM 081038 C001

Systematic Integrity: SIL 2 Capable

Random Integrity: Type A Element

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

SIL 2 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 this product must not be used at a SIL level higher than stated without "prior use" justification by end user or diverse technology redundancy in the design.

IEC 61508 Failure Rates in FIT*

4-contact versions - types D and P (FIT)

Device	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	SFF
level switch , MAX Detection	0	87	0	195	30.9%
level switch , MIN Detection	0	89	0	193	31.6%

6-contact versions - types D6, P6, H6 and B6

Device	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}	SFF
level switch , MAX Detection	0	167	0	275	37.8%
level switch , MIN Detection	0	169	0	273	38.3%

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.

* FIT = 1 failure / 10⁹ hours

Horizontal Float Switch
(See Assessment
Report for
configurations covered
by this certificate.)

Mobrey Measurement
Slough, SL1 4UE, UK



Form	Version	Date
C61508	2.7-2	Mar 2011