Certificate / Certificat
Zertifikat / 合格証

WES 1505053 C001

exida hereby confirms that the:

AccuTrak Position Monitor Series: 360, 366, 1040, 2007, 5004, 5044, 9044, 9358, 9468 and 9479

Westlock Controls
Saddle Brook, NJ - USA

Has 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_H Device

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

Safety Function:
The Position Monitor switch(es) will change it's output when the attached Valve moves to the configured position.

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

Evaluating Assessor

Certifying Assessor

The manufacturer may use the mark:

exida CERTIFIED IEC 61508 SIL 3 CAPABLE

Revision 2.1 March 20, 2020
Surveillance Audit Due
July 1, 2021

ANSI ACCREDITED

ISO/IEC 17065
PRODUCT CERTIFICATION BODY
#1004

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Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

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

AccuTrak Position Monitor Series: 360, 366, 1040, 2007, 5004, 5044, 9044, 9358, 9468 and 9479

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_H.

Versions:

Series	Switch Type (Option Code)	Switch Quan (x)
AccuTrak 360 & 366	SPDT/DPDT Mechanical (xM02/2M04) SPDT Magnum (xM06 or xM12)	2 or 4
AccuTrak 1040	SPDT/DPDT Mechanical (2M02/2M04)	2
AccuTrak 2007	SPDT/DPDT Mechanical (xM02/xM04)	2, 4 or 6
AccuTrak 5004 & 5044	P&F Inductive Sensor NJ2-V3-N (xM08) SPDT Mechanical (xM09) SPDT Magnum (xM12)	2 or 4
AccuTrak 9044 & 9358	SPDT Magnum (2M06 or 2M12)	2
AccuTrak 9468	SPDT Magnum (xM06 or xM12)	2 or 4
AccuTrak 9479	SPDT Magnum (xM06 or xM12) P&F Inductive Sensor NJ2-V3-N (xM08)	2, 4 or 6

IEC 61508 Failure Rates[1] in FIT[2]

AccuTrak Series Switch Circuit Qty (all Switch Codes)	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
1 Switch Circuit	0	11	0	94
2 Switch Circuits	0	23	0	119
3 Switch Circuits	0	34	0	149
4 Switch Circuits	0	45	0	174

[1] Failure Rates listed are only applicable if the switch contacts current is limited to 60% of the switches rated capacity and the end user has added external transient protection if being used with non-resistive loads.
[2] FIT = 1 failure / 10^9 hours

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 a mandatory part of certification:

Assessment Report: WES 15/05-053 R002 V2 R3 (or later)

Safety Manual: SMAN-002 Rev A (or later)

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Sellersville, PA 18960