TÜV SÜD

Italia

CERTIFICATE
according to IEC EN 61508

Certificate No.: TUV IT 22 SIL 0090

CERTIFICATE OWNER: Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.
No. 988, Yuexiu Road,
Fenhu Economic Development Zone,
PC: 215200, Suzhou City,
Jiangsu Province,
P.R. China

WE HEREWITH CONFIRM THAT

IDD SERIES LIMIT SWITCHES

MEET THE SIL REQUIREMENTS DETAILED IN THE ANNEXED TABLE

FOR THE SAFETY FUNCTION:

"Correct switching on demand (open to closed / closed to open), in low demand mode of operation"

Examination result: The above reported IDD Series Limit Switches were found to meet the standard defined requirements of the safety levels detailed in the following table according to IEC EN 61508, under fulfillment of the conditions listed in the Report TUV IT 22 SIL 0084 Rev.1 dated July, 11th 2022 in its currently valid version, on which this Certificate is based

Examination parameters: Construction/Functional characteristics and reliability and availability parameters of the above mentioned IDD Series Limit Switches

Official Report No.:   R TUV IT 22 SIL 0084 Rev.1

Expiry Date   July, 10th 2025

Reference Standard   IEC EN 61508:2010 Part 1, 2, 3, 4, 5, 6, 7

Sesto San Giovanni, July, 11st 2022

TÜV ITALIA Srl

TÜV ITALIA Srl
Industrie Service Division
Managing Director

Alberto Carelli

TÜV®

SUMMARY TABLE

E/EE/EP safety-related system (final element)	IDD Series Limit Switches produced by Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.
System type	Type A
Systematic Capability	SC3
Safety Function Definition	"Correct switching on demand (open to closed / closed to open), in low demand mode of operation"
Max SIL[1]	**SIL3**
λ_{TOT}	7,699E-09
λ_{NE}	0,000E+00
λ_{S}	0,000E+00
$\lambda_{DD,PST}$[2]	0,000E+00
$\lambda_{DU,FPT}$	7,699E-09
β and β_D factor	10%
MRT	8 h
Hardware Safety Integrity	Route 2_H
Systematic Safety Integrity	Route 2_S

Remarks

(1) The Safety Integrity Level (SIL) of the entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{AVG} considering the 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 the minimum hardware fault tolerance (HFT) requirements.

(2) Considering an automatic Partial Stroke Test.

SIL classification according to Standard IEC EN 61508:2010 for IDD Series Limit Switches produced by Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.

NOTE: The present table is integral part of the Document TUV IT 22 SIL 0090
Date: July, 11st 2022