



Certificate no. TAI-FS-C-22-0031

WE HEREBY CERTIFY THAT

Product description LIMIT SWITCH BOX

Models Series GP, GD, GI

Manufacturer EISENBAU S.r.l.
Viale Europa 39
I-20047 Cusago (MI)

IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARDS

IEC 61508 Parts 1–7:2010

AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION
SET OUT IN THE ABOVE-MENTIONED STANDARDS

Summary Report no. TAI-FS-R-22-0064

Expiry date 21.07.2025

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TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
22.07.2022, Monte Roberto (AN)

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Annex to certificate no. TAI-FS-C-22-0031

Type	A
HFT	0
Safety functions	1. Give an output signal to indicate that the actuator has moved from the "normal position" 2. Give an output signal to indicate that the actuator has reached the "safe position"
Mode of operation	Low Demand Mode

Random failure rates				
Configuration	Safety function	λ_D [1/h]	λ_S [1/h]	SFF [%]
With Pepperl+Fuchs NAMUR sensors, standard NAMUR amplifier	1 / 2	9,6E-09	1,6E-08	> 60% > 99% including PST
With Pepperl+Fuchs NAMUR sensors, standard NAMUR amplifier, redundant switches configuration	1 / 2	<1,0E-09	<1,0E-08	> 90% > 99% including PST
With Pepperl+Fuchs NAMUR sensors, fail-safe interface	1 / 2	7,0E-11	2,5E-08	> 99%
With Pepperl+Fuchs sensor models SJ3,5-SN and NJ4-12GK-SN	1 / 2	1,07E-08	1,61E-08	> 60% > 99% including PST
With Pepperl+Fuchs sensor models SJ3,5-SN and NJ4-12GK-SN, redundant switches configuration	1 / 2	<1,0E-09	<1,0E-08	> 90% > 99% including PST
With amplified 2-wire and 3-wire proximity sensors	1 / 2	8,00E-08	5,35E-8	> 60% > 99% including PST
With amplified 2-wire and 3-wire proximity sensors, redundant switches configuration	1 / 2	<1,0E-08	<1,0E-07	> 90% > 99% including PST
With magnetic or mechanical switches	1 / 2	1,0E-08	1,8E-08	> 60% > 99% including PST
With magnetic or mechanical switches, redundant switches configuration	1 / 2	<1,0E-09	<1,0E-08	> 90% > 99% including PST

Systematic capability	3 (Route 1s applied)			
Architectural constraints	Route 1H:	Applied	Route 2H:	Applied
	The product can be used in: • single switch configuration: ◦ with Pepperl+Fuchs NAMUR sensors, fail-safe interface: up to SIL 3 ◦ in all other case: ▪ up to SIL 2 without external diagnostic tests ▪ up to SIL 3 considering external diagnostic tests (only for safety function 1) • redundant switch configuration: up to SIL 3			

Remarks:

- The "line-monitoring" option is included in every limit switch box series, limited to switch options ES, ED, MS and MD
- For further details, including environmental conditions, limitations of use, lifetime, failure rates traceability, mean repair times, common cause factors and systematic capability constraints, make reference to Safety Manual SIL-SM-GBX_EN

END OF CERTIFICATE



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