



Certificate no. TAI-FS-C-24-0073

WE HEREBY CERTIFY THAT

Product description CONTROL GROUPS FOR ACTUATORS

Models
SA_LR (local-remote - for spring return actuators)
SA_ESD_P (pneumatic ESD - for spring return actuators)
SA_ESD_E (electric ESD - for spring return actuators)
SA_LB_P (pneumatic line-break - for spring return actuators)
DA_LR (local-remote - for double acting actuators)
DA_ESD_P (pneumatic ESD - for double acting actuators)
DA_ESD_E (electric ESD - for double acting actuators)
DA_LB_P (pneumatic line-break - for double acting actuators)

Manufacturer
BIFFI ITALIA S.r.l.
Strada Biffi 165
I-29017 Fiorenzuola d'Arda (PC)

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

Evaluation Report no. TAI-FS-R-24-0142

Expiry date 08.08.2027

Issue date 09.08.2024

TUV AUSTRIA ITALIA
09.08.2024, Monte Roberto (AN)

Ing. Crescenzo Di Fratta

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TÜV AUSTRIA HOLDING AG Deutschstrasse 10, A-1230, Vienna, Austria
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Annex to certificate no. TAI-FS-C-24-0073

Type	A
HFT	0
Safety functions	1. Command a full stroke of the actuator
Mode of operation	Low Demand Mode

Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	$\lambda_{DD(PS)}$ [1/h]	PFD_{AVG} ($T_I=12$ m, $MRT=24$ h)
SA_LR	1	6,11E-09	6,05E-09	2,69E-05
SA_ESD_P	1	1,21E-08	--	5,33E-05
SA_ESD_E	1	1,34E-08	1,33E-08	5,90E-05
SA_LB_P	1	9,32E-09	--	4,10E-05
DA_LR	1	2,52E-08	2,49E-08	1,11E-04
DA_ESD_P	1	1,25E-08	--	5,52E-05
DA_ESD_E	1	4,27E-08	4,23E-08	1,88E-04
DA_LB_P	1	1,19E-08	--	5,24E-05

Systematic capability	3 (Route 1s applied)
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Architectural constraints	Route 1H:	Applied	Route 2H:	Applied
	The maximum SIL according to architectural constraints is: <ul style="list-style-type: none"> • SA_LR: SIL 3 • SA_ESD_P, SA_LB_P, DA_ESD_P, DA_LB_P: SIL 2 • SA_ESD_E, DA_LR, DA_ESD_E: SIL 2 without external diagnostic tests, SIL 3 considering external diagnostic tests 			

Remarks:

- Schemes are representatives of all the possible variants performing the related function: modifications of the schemes, which do not involve the safety function, do not impair the validity of the present certificate
- The Partial Stroke Test is not effective for all the elements in configurations SA_ESD_P, SA_LB_P, DA_ESD_P, DA_LB_P: for this reason, its effect is not considered
- The above values of PFD_{AVG} are calculated for $MRT=24$ h and Proof Test Coverage=100%. For other values of MRT, T_I , T_{IPS} and/or non-perfect Proof Test, the PFD_{AVG} values must be re-calculated

END OF CERTIFICATE

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