

Annex to the EU Type-Examination Certificate Reg.-No. 01/208/4A/6121.01/22 dated 2022-04-10

1. Component	- Safety circuit - Monitoring circuits
2. Manufacturer	Detlef Klinkhammer Steuerungen und Komponenten für Aufzüge GmbH Blatzheimerstraße 7-9 53909 Zülpich Germany
3. ID-No. on the component	01/208/4A/6121.01/22 (safety circuit and monitoring circuits are compatible with 01/208/4A/6121.00/17 and 01/208/5A/6024.00/16)
4. Area of application	<u>Safety circuit:</u> - Detection of unintended car movement with open doors acc. to EN 81-20, 5.6.7.7 - Bypass of the door and locking element switches during levelling and re-levelling with open doors acc. to EN 81-20, 5.12.1.4 a) <u>Monitoring circuits:</u> - Connections to different points of the electric safety chain for gathering information acc. to EN 81-20, 5.11.2.1.2
5. Designation / Type	Subarea on the printed circuit board HSE V1.5
6. Intended use / Intended application	Use in passenger and goods passenger lifts: <u>Application of the safety circuit:</u> - Bypass of the door and locking element switches during levelling and re-levelling with open doors - Detection of an unintended movement of the car with open doors beyond the unlocking zone <u>Application of the monitoring circuits:</u> - Detection of signals in the safety chain of passenger and goods passenger lifts for the non-safety related utilisation by the single board controller HSE
7. Characteristics	<u>Monitoring circuits:</u> Input voltage range: max. 250 V AC Input current: max. ca. 8 mA @ 250 V AC Input impedance: min. ca. 30 kOhm @ 250 V AC Terminals: 5 terminals for the safety chain (SK1 - SK4, SAK) 2 terminals for the neutral wire (N_SK, N) <u>Safety circuit:</u> Output voltage: max. 250 V AC (XH12/1(OT), XH12/5(LGS)) Output current: max. 8 A @ 250 V AC (XH12/1(OT), XH12/5(LGS)) Pollution degree: 3 Material group: III Protection degree: IP 00 Operating temperature: 0...+65°C
8. Maintenance	The correct installation has to be checked periodically.

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9. Installation	<ul style="list-style-type: none"> - The instructions in the operating manual for the installation, commissioning as well as the operation of the safety circuit and the safety chain tapings have to be considered. - On the installation, the national regulations and the EN 81-20 are to be considered. - The wiring to the sensors (e.g. zone switches) as well as the output circuit / bypass path shall fulfil the requirements for short-circuit proof. - The return conductor of the safety-relevant contactors is to be made acc. to the wiring diagram of the operating manual and must not have any further connection to the return conductors of the remaining control system. - On the installation an EMC-compatible wiring has to be considered.
10. Ancillary conditions	<ul style="list-style-type: none"> - The PCB has to be mounted in a housing or a cabinet of protection degree IP 54 or better in order to ensure that negative influences as a result of condensation, ingress of water or conductive dusts are prevented. - At the contacts of Rel1 and Rel2 only safety-low voltage (SELV/PELV) is permitted to be connected. - In line with the initial operation and the periodic checks of the lift the following checks have to be performed: <ul style="list-style-type: none"> - Check of the correct installation, - Check of the hardware version, - Check of the safety function of the safety circuit acc. the test instructions in the operating manual, - Check neutral conductor interruption at XH13.7 (N) of the monitoring circuits. <p>Ancillary conditions for the safety function „Detection of unintended car movement with open doors“ acc. to EN 81-20, 5.6.7.7:</p> <ul style="list-style-type: none"> - The retention of the activated state of the protection means - as well beyond an interruption of the power supply system - must be performed by an appropriate additional measure outside of the safety circuit. - As reaction time for the safety circuit to detect an unintended movement 25 ms are to be considered for the signal „Zone innen“ (Terminal XH1/2 and XH1/5 respectively, „SM“) and 150 ms for the signal „Zone außen“ (Terminals XH1/1, „SO“ and XH1/3, „SU“). <p>Reaction times of upstream connected sensors (e.g. zone switches) and downstream connected actors (e.g. tripping unit, operating equipment for braking and holding the car) are not included and have to be considered separately.</p>