

Submission document for the lift approval

LTÜ²

Safety light grid for freight lifts as a car door replacement

Status: 10.6.2026



Important note:

The data and information in this documentation have been compiled with greatest care. Although everything has been done to make the information contained in this document up to date and correct at the time of publication, no guarantee can be given that it is completely without any errors.

© STRACK LIFT AUTOMATION GmbH
Lise-Meitner-Str. 2, 42489 Wülfrath (Germany)
phone +49 2058 89328-0
HOTLINE: +49 2058 89328-40
support@liftnet.org
www.liftnet.org

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1 Intended use

1.1 LTÜ², all versions

The safety light grid LTÜ² serves as a replacement for car doors of freight lifts with a travelling speed of no more than 0.85 m/s. Basis for this is the resolution of the German Lift Committee (Deutscher Aufzugausschuss - DAA) no. 6/34, which is fully met.

The safety light grid is completely set up as a safety circuit within the meaning of the lift directive 2016/33/EU. Not only the light grid but also all internal functions as well as the signals to and from the lift control are monitored for their correct function.

The LTÜ² can be integrated into every lift system. The integration into the respective control system is largely identical, since only signals are used which are available in all control systems. For lifts with accesses on both ends the connection of the light grids is also identical. Only one control unit is required here.

As the EN 81-1/-2/-20 do not know any lifts without lift car doors, local experts demand various broader requirements on the lift depending on the field of application when safety light grids are integrated. These can be e.g. a restriction of the travelling speed, the user group, or the type of use of the lift. The TÜV Rheinland for example prepared a sample risk evaluation of the shearing and compression points of freight lifts without a car seal. Before remodelling the lift system, ask your responsible (TÜV) expert.

Do not install the LTÜ² in the case of lifts in explosive gases or dusts. Here a different alternative has to be used: the Ex-LTÜ² (see separate instructions).

1.2 LTÜ² without edge prevention (simple version)

The LTÜ² without edge prevention can be used in cases in which the lift is already provided with a protective circuit or a safety switch monitoring the interlocking release zone of the door, i.e. this includes all hydraulic lifts and lifts with the function "doors opening early" (see next section).

1.3 LTÜ² with edge prevention (full version)

According to the DAA the light grid must prevent edges. I.e. if the light grid is interrupted shortly before reaching the target stop and within the interlocking release zone of the door the lift must not stop but continue the last centimetres of its travel so the lift car comes to a flush level stop. This prevents the development of a dangerous edge (stumbling edge).

For this purpose, the LTÜ² with integrated edge prevention is provided with a protective circuit monitoring the interlocking release zone of the door and, in connection with other signals of the control system and the light grid, preventing the development of an edge. On special request by the chemical and the automotive industries, a LTÜ² has been developed exceeding the requirements of the DAA with regard to technology and function. Standard outputs are provided such as "Holding magnetic interlocking device", "Blocking re-levelling", "Reverse shaft door" and "Load control" (see functional description).

The signals can be easily integrated in lifts of all kinds with all types of control systems.

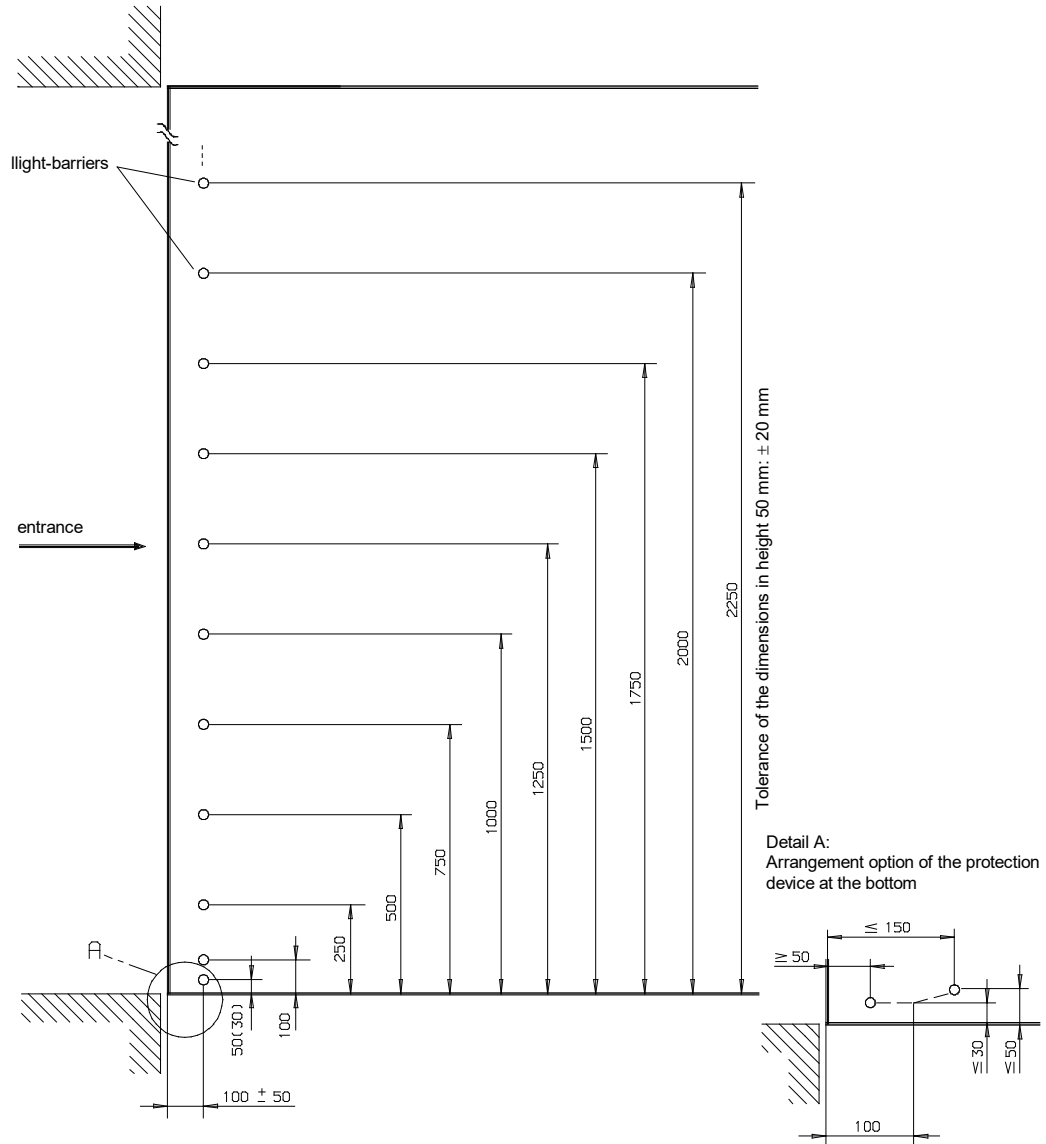
1.4 Arrangement options of the light beams according to the DAA resolution



According to the DAA resolution the space between the centre of the light beam and the edge of the car threshold must be 50 - 100 mm.

NOTE: 100 to 150 is **not** admissible here since the bottom light beam of the LTÜ² is fixed at a height of 30mm. According to DAA, however, the bottom light beam must be variable, see the following figure:

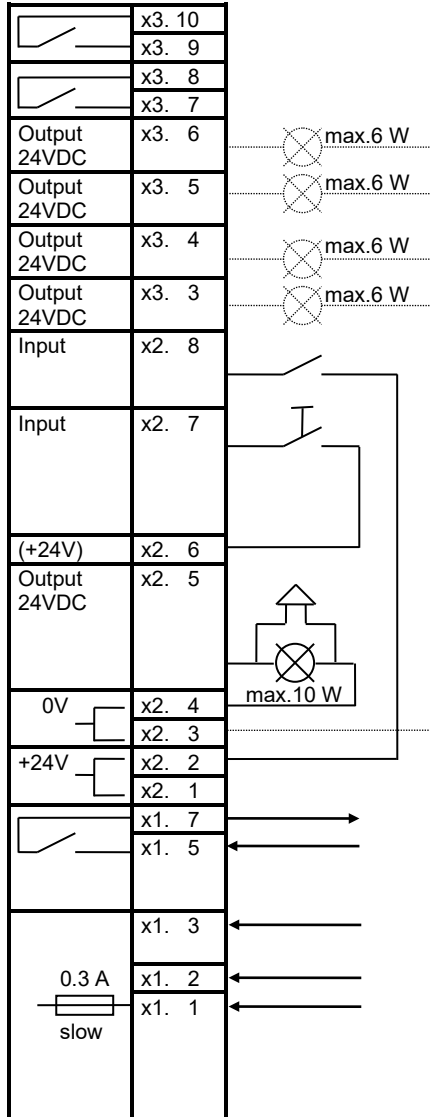
Arrangement
option of the
protective
system (light
beams)
according to the
DAA resolution
No. 6/34



NOTE: It is also **not admissible** to place the sensor strips between the front edge of the car and the shaft wall since the safety clearance to the shaft wall is too narrow.

2 Electrical connection

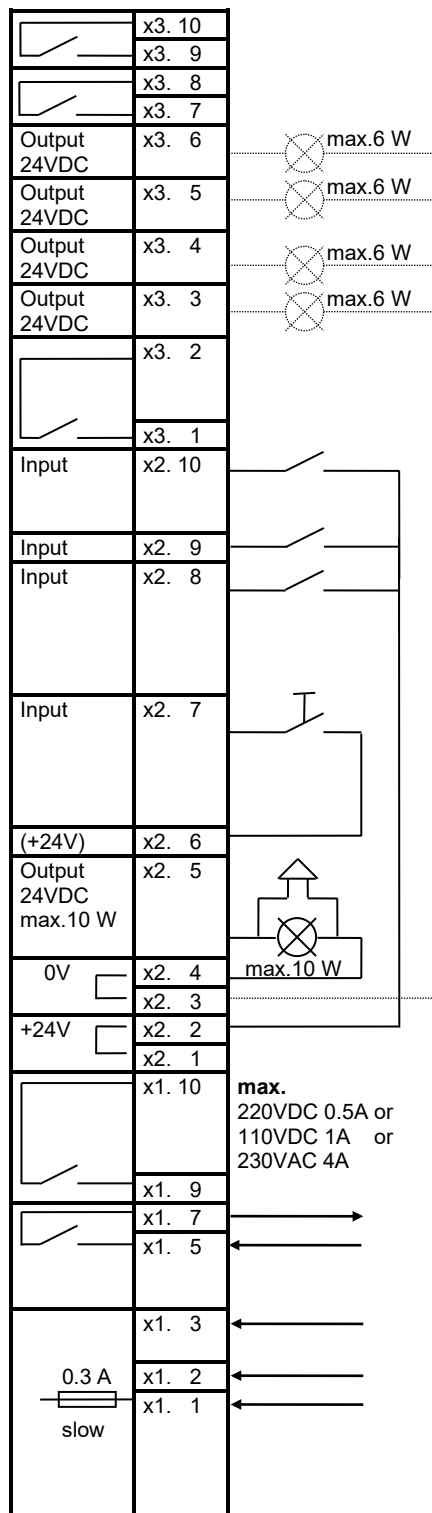
2.1 LTÜ² without edge prevention (simple version)



Reverse door on the rear (only for automatic shaft doors)
Reverse door on the rear (only for automatic shaft doors)
Reverse door at the front (only for automatic shaft doors)
Reverse door at the front (only for automatic shaft doors)
Output for red lamp in the car "Light grid interrupted on the rear" as a load control device (usually not required)
Output for green lamp in the car "Light grid clear on the rear" as load control device (usually not required)
Output for red lamp in the car "Light grid interrupted at the front" as a load control device (usually not required)
Output for green lamp in the car "Light grid clear at the front" as load control device (usually not required)
"Level flush" signal (or message "in door zone"). When the car is stopped flush level an interruption of the light grids is not stored so the push-button "Continue travel" must not be pushed.
Additional push-button "Continue travel" on the car panel (reset). If the "flush level" signal is not switched at terminal x2.8, an interruption of the light grids is stored. A re-alerting is only executed after the push-button "Continue travel" is pressed <i>and released again</i> (input is monitored by the LTÜ ² for correct switching).
(+24V) for push-button "Continue travel"
Message "Light grid interrupted, please press key "Continue travel" ". When the "Flush level" signal is sent to terminal x2.8 the message is suppressed (D [*]).
0V
0V
+24VDC
+24VDC
Output Safety circuit (fuse protection max. 6A admissible)
Output Safety circuit (switch the output so in the safety circuit of the lift that an interrupted LTÜ ² has exactly the same effect as open shaft doors (laid directly in series with the shaft door contacts)
Mains supply line PE (protective earthing and operational earthing of the internal 24VDC)
Mains supply line N
Mains supply line L . It should be possible to switch the mains supply line off via the main power switch of the lift, e.g. picking off the 230V50Hz safety circuit before the emergency stop switch on the car roof. Do <i>not</i> use the lighting mains since otherwise the emergency stop brings the lift to a standstill if the lighting system fails.

* see page 7 "Connection examples"

2.2 LTÜ² with edge prevention (full version)

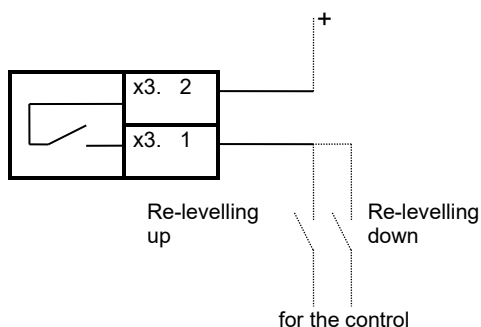


Reverse door on the rear (only for automatic shaft doors)
Reverse door on the rear (only for automatic shaft doors)
Reverse door at the front (only for automatic shaft doors)
Reverse door at the front (only for automatic shaft doors)
Output for red lamp in the car "Light grid interrupted on the rear" as a load control device (usually not required)
Output for green lamp in the car "Light grid clear on the rear" as load control device (usually not required)
Output for red lamp in the car "Light grid interrupted at the front" as a load control device (usually not required)
Output for green lamp in the car "Light grid clear at the front" as load control device (usually not required)
Permit re-levelling The contact is closed when the light grid zone is switched to alert, meaning the lift pulled into the target stop. (A [*]).
Permit re-levelling Signal "Pulling into target stop". The contact must be closed when pulling in, i.e. as of point of delay up to the final standstill (so open during speeding and standstill) (B [*]).
Zone switch 2 Zone switch 1 If the zone evaluation is switched to alert (green LED lights up on the right printed-circuit board), an interruption of the light grid is not stored so the push-button "Continue travel" must not be pushed (see example C [*]) (see also Section Fehler! Verweisquelle konnte nicht gefunden werden.)
Additional push-button "Continue travel" on the car panel (reset). If the zone evaluation is not switched to alert (red LED lights up on the right printed-circuit board), an interruption of the light grid is stored. A re-alerting is only executed after the push-button „Continue travel“ is pressed and released again (input is monitored by the LTÜ ² for correct switching). (D [*]).
(+24V) for push-button "Continue travel"
Message "Light grid interrupted, please press key "Continue travel". If the zone evaluation is switched to alert (green LED lights up on the right printed-circuit board) the message is suppressed.
0V
0V
+24VDC
+24VDC
Holding magnetic interlocking device (100% duty cycle!) . In case of a fault scenario or interruption of the light grids during travel, the shaft door is blocked until the push-button "Continue travel" is pushed in the car (E [*]).
Holding magnetic interlocking device Output Safety circuit (fuse protection max. 6A admissible)
Output Safety circuit (switch the output so in the safety circuit of the lift that an interrupted LTÜ ² has exactly the same effect as open shaft doors (laid directly in series with the shaft door contacts)
Mains supply line PE (protective earthing and operational earthing of the internal 24VDC)
Mains supply line N
Mains supply line L . It should be possible to switch the mains supply line off via the main power switch of the lift, e.g. picking off the 230V50Hz safety circuit before the emergency stop switch on the car roof. Do <i>not</i> use the lighting mains since otherwise the emergency stop brings the lift to a standstill if the lighting system fails.

* see page 7 "Connection examples"

2.2.1 Connection examples for the full version

A Permit re-levelling

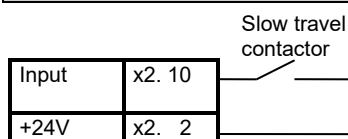


Permit output re-levelling

For lifts with the function "Re-levelling" the re-levelling can be prevented via this output.

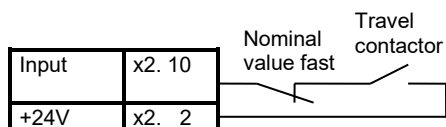
The contact is only closed when the lift is at the target stop. If the light grid is interrupted during a travel and the lift accidentally comes to a standstill within the interlock release range of the door of an intermediate stop (i.e. other than the target stop) this contact is opened. This ensures that during a possible accident situation the lift does not even readjust at an intermediate stop and thus increases possible injuries. The output contact is only closed again when the additional push-button "Continue travel" is pressed within the zone or the lift enters a zone.

B Approach signal



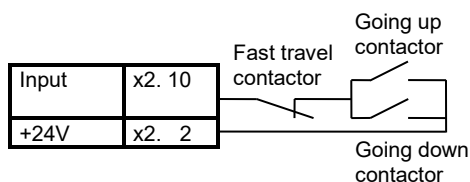
Example

Cable lift pole-changeable uncontrolled



Example

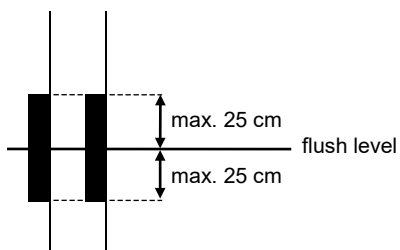
Cable lift controlled



Example

Hydraulic lift

C Zone switch

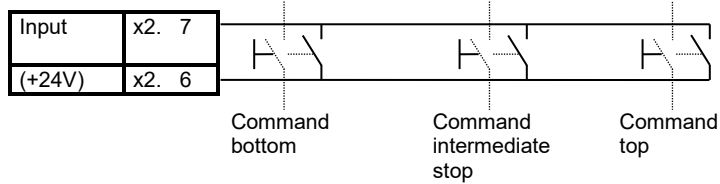


The two transmitters (e.g. solenoid switches) must be mounted so that they do not affect each other.

Both switches must be switched on and off simultaneously. Switch point tolerances must be avoided.

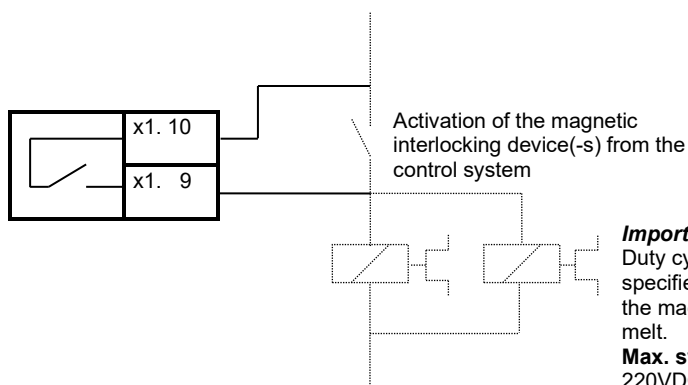
If solenoid switches are used the solenoids must be screwed on or permanently glued on.

D Continue travel signal



Instead of the additional push-button "Continue travel" the available internal command push-buttons can also be used. However, note that with most control systems the push-buttons have to be pushed 2x after the light grid-emergency stop. The LTÜ² only releases the safety circuit after the push-button is released after pressing it 1x. Often only then a travel command is accepted.

E Holding magnetic interlocking device



Important!

Duty cycle of the magnetic interlocking device must be specified with 100% (continuous duty) because otherwise the magnet coils of the magnetic interlocking device can melt.

Max. switched current at

220VDC 0.5A

110VDC 1A

230VAC 4A

Output "Holding magnetic interlocking device"

If the light grid is interrupted during a travel and the lift accidentally comes to a standstill within the interlock release range of the door of an intermediate stop (i.e. other than the target stop) this contact remains closed. This ensures that the shaft door cannot be opened and thus an incorrect behaviour of the passengers cannot shut-down the lift drive. The output contact is only opened when the additional push-button "Continue travel" is pressed.

Operationally (without interruption of the light grid) the output contact opens the output contact only upon reaching the interlocking release zone of the target stop. After leaving the interlocking release zone and during the continued travel the contact closes.

3 Test instructions

3.1 LTÜ² without edge prevention

1. For lifts with accesses on both ends the following steps must each be carried out twice, i.e. for each access separately.
2. Lift stops between floors. Switch off light grid (usually with main switch of lift).
3. Wait one second
4. Switch voltage back on
5. After no more than one second the light grid must switch to alert (indicated by the green LED at the front of the printed circuit board of the light grid)
6. Switch off inspection
7. Let lift pull flush level into a stop
8. Interrupt light grid $\Rightarrow$ the green LED on the printed circuit board of the light grid goes off and the red LED lights up $\Rightarrow$ the lamp and/or the buzzer on the car panel (message "Continue travel") must stay off
9. Release light grid again $\Rightarrow$ the light grid must automatically switch to alert after the release (indicated by the green LED at the front of the printed circuit board of the light grid)
10. Interrupt light grid, close shaft doors and give command
11. The lift must not start moving
12. Release light grid $\Rightarrow$ lift moves
13. Outside the interlock release range of the door and during fast travel interrupt light grid $\Rightarrow$ the LTÜ² must interrupt the safety circuit and the lift must stop immediately. The lamp "Continue travel" must light and a possibly available buzzer must sound.
14. Release light grid again $\Rightarrow$ if an additional push-button "Continue travel" has been included in the panel the lift must neither continue its travel with an internal command nor with an external request. $\Rightarrow$ If the internal command push-buttons has been switched to release the light grids, the lift may not start moving at an external request. Only when an internal command has been pushed (maybe 2x) the lift may continue its travel.
15. Lift moves level into the target stop.
16. Give internal command for a new stop, and interrupt the light grid while pulling into the target stop **but** interrupt the light grid **before the interlock release range of the door** $\Rightarrow$ same performance characteristics as under items 13 to 15 must follow. But usually an internal command for the same stop as should have been approached before will not be accepted any more (depending on control). Then another stop must be selected.
17. Give internal command for a new stop, and interrupt the light grid while pulling into the target stop **but now within the interlock release range of the door briefly before the final stop** $\Rightarrow$ lift does not stop but continues its travel until levelling the car flush, in order to prevent the development of an edge. This function must be provided by the lift control system.

3.2 LTÜ² with edge prevention

1. For lifts with accesses on both ends the following steps must each be carried out twice, i.e. for each access separately.
2. Lift stops between floors. Switch off light grid (usually with main switch of lift).
3. Wait one second
4. Switch voltage back on
5. After no more than one second the light grid must switch to alert (indicated by the green LED at the front of the printed circuit board of the light grid)
6. Switch off inspection
7. Let lift pull flush level into a stop While pulling in the approach signal of the LTÜ² must be activated.
8. The two zone switches must be switched on within the interlock release range of the door. The printed circuit board of the zone evaluation (right printed circuit board) must switch to alert (indicated by the green LED at the front of the printed circuit board of the zone evaluation).
9. Interrupt light grid ⇒ the green LED on the printed circuit board of the light grid goes off and the red LED lights up ⇒ the lamp and/or the buzzer on the car panel (message "Continue travel") must stay off
10. Release light grid again ⇒ the light grid must automatically switch to alert after the release (indicated by the green LED at the front of the printed circuit board of the light grid)
11. Interrupt light grid, close shaft doors and give command
12. The lift must not start moving
13. Release light grid ⇒ lift moves
14. Interrupt light grid during the fast travel outside an interlock release range of a door ⇒ the LTÜ² must interrupt the safety circuit and the lift must stop immediately. The lamp "Continue travel" must light and a possibly available buzzer must sound. The magnetic interlocking device must not drop off (optional, since not required by DAA) because it is held by the LTÜ².
15. Release light grid again ⇒ if an additional push-button "Continue travel" has been included in the panel the lift must neither continue its travel with an internal command nor with an external request. Only when the additional push-button has been pressed a new travel may start. ⇒ If the internal command push-buttons has been switched to release the light grids, the lift may not start moving at an external request! Only when an internal command has been pushed (maybe 2x) the lift may continue its travel.
16. Lift moves level into the target stop
17. Give internal command for a new stop, and interrupt the light grid when pulling into the target stop **but** interrupt the light grid **before the interlock release range of the door** ⇒ same performance characteristics as under items 14. to 16. must follow. But usually an internal command for the same stop as should have been approached before will not be accepted any more (depending on control). Then another stop must be selected.
18. Give internal command for a new stop, and interrupt the light grid while pulling into the target stop **but now within the interlock release range of the door briefly before the final stop** ⇒ lift does not stop but continues its travel until levelling the car flush, in order to prevent the development of an edge.
19. Interrupt the LTÜ² **within the interlock release range of the door** during the fast travel to a stop that has not been selected. I.e. the lift now stops almost level at a stop that has not been selected. ⇒ The lamp "Continue travel" must light and a possibly available buzzer must sound. The magnetic interlocking device must not drop out because it is held by the LTÜ². If the lift is equipped with a re-levelling device ("Go flush level"), it may **not** readjust now (optional, since not requested by DAA) because this is blocked by the LTÜ². Only when the additional push-button (or if the push-button is missing another internal command) has been pressed the lift can readjust and the magnetic interlocking device is released again by the LTÜ².

3.2.1 Zone evaluation (only with the full version)

The printed circuit board for the zone evaluation (right printed circuit board) evaluates two independent signals for even switching. The two signals can be generated e.g. by solenoid switches or initiators. When both channels have switched and the circuit does not show internal errors an output is switched with which the safety devices (e.g. the safety light grid LTÜ²) may be bypassed. Further outputs of the circuit serve as a connection to the higher-ranking light grid and to detect abnormal behaviour.

3.2.1.1 Trouble-free operation

When the input x2.10 ("Pulling into target stop") is energised and the zone switch 1 and 2 do not give a signal, relay -K3 is tripped. Thus relay -K1 can be tripped when zone switch 1 is activated and relay -K2 when zone switch 2 is activated. When zone switch 1 is activated relay -K1 locks in. When zone switch 2 is activated, relay -K2 locks also in. -K3 is energised via one normally-closed contact of -K1 and -K2. Now the zone circuit is switched to alert and the green LED at the front lights up. If the zone circuit is not switched to alert, the red LED lights up.
The circuit is reset by switching off zone switch 1 and zone switch 2.

3.2.1.2 Switching error of a zone switch

Both channels must always switch simultaneously. Here the channels should switch as simultaneously as possible. If the zone switches are switched unevenly, switching to alert again is blocked when the light grid is interrupted. Rebounding zone switches (e.g. with an emergency stop directly at the switching on point of the zone switches) do not cause the error, if the rebounding lasts for no more than 1.5 sec. After these 1.5 sec both switches must have the same status otherwise the error is stored and the LTÜ² blocks.

3.2.1.3 Testing zone switch 1

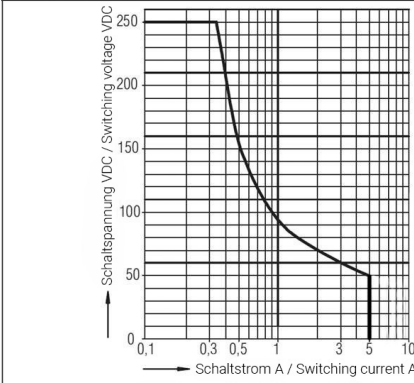
1. The lift is level, zone switch 1 and 2 are closed
2. Insert bridge between terminals x2.2 and x2.8 (error simulation of zone switch 1)
3. Send lift to the next stop
4. When levelled flush at the target stop interrupt the light grid and release it again
5. The light grid must not switch to alert again ⇒ the next travel remains blocked
6. Remove bridge, switch LTÜ² off and on again
7. The light grid switches to alert, the next travel is normal

3.2.1.4 Testing zone switch 2

1. The lift is level, zone switch 1 and 2 are closed
2. Insert bridge between terminals x2.2 and x2.9 (error simulation of zone switch 2)
3. Send lift to the next stop
4. When levelled flush at the target stop interrupt the light grid and release it again
5. The light grid must not switch to alert again ⇒ the next travel remains blocked
6. Remove bridge, switch LTÜ² off and on again
7. The light grid switches to alert, the next travel is normal

4 Technical data LTÜ²

Electrical data		
Supply voltage	V	230 +5/-10% 50Hz / N / PE
Current consumption type	A	0.1 (0.180 for lifts with accesses on both ends)
prim. fuse protection of the power supply	AT	2
sec. fuse protection of the power supply	AT	3.15
Place of installation		max. 2000 m above mean sea level

Output for safety circuit (terminal x1.5 / x1.7)		
Switching voltage, max.	V	250
Starting / continuous current / current on breaking max.	A	20 / 6 / 6
Switching capacity max. AC12 / AC15	VA	1250 / 500
Switching capacity max. DC		 Sicheres Abschalten, kein stehender Lichtbogen, max. 1 Schaltspiel pro Sekunde Safe disconnection, no sustained arc, max. 1 switching cycle per second Lichtbogengrenzkurve (Lastgrenzkurve) / Arc limit curve (load limit curve)
Series fuse max.	A	the output circuit must be protected with no more than 6 A
Response time measured from Interrupting light beam to Opening the output	ms	typ. 25

Other data control unit		
Protection class according to EN 60529		IP 54
Ambient temperature	°C	0 to +40
Casing		Plastic material with transparent cover
Dimensions housing (H * W * D)	mm	415 x 275 x 250 (HxBxD) (without fastening bars)
Weight	kg	6,5
Connection of all external units		Sub-unit terminals
connectable core cross-section	mm ²	0.2 – 2.5

Connection sensor strips		
Connection plugs		Sub-D 25 pole with snap-in locking device
Protection class according to EN 60529		IP54
Length of the connection cable	m	7

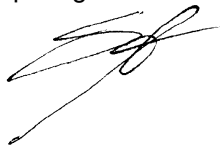
Optical data of the sensor strips		
Surface the lenses		Plastic material with sensor strip type SLG Silicate glass with sensor strip type LTÜ
Insensitive against ambient light	Lux	80,000 (constant light)
Nominal range	m	0 – 4 (special sensors up to 10)
Arrangement of the light beams		Parallel, transmitter/receiver alternating
Size of light spot with 4 meters	mm	400 (channel 4 - 16) / 200 (channel 1 - 3)
Type of light		Pulsed infrared light
Wavelength	nm	950
Pulse frequency of the light	kHz	1.0

5 EU Declaration of conformity

We hereby declare that the units listed below fully comply with the relevant essential protection requirements of the listed directives with regard to their design and components as well as in the version marketed by us in compliance with our circuit and assembly suggestions. The units complying with this declaration are provided with CE emblem. This declaration becomes invalid should the unit be modified without our approval.

Type designation	LTÜ ² - ...with PCB of version: - HP_E - LTUE_E - ZONE_E or DUM_ZONE_E
Date of manufacture	2026 / 2027 / 2028 / 2029 / 2030
Short description	Safety light grid as a substitution for the car door of freight lifts with an operational speed up to 0.85 m/s (see "Intended use")
Basis are the following directives	Lift Directive 2014/33/EU EMC Directive 2014/30/EU
Applied standards	EN 81-1:1998+A3:2009 EN 81-2:1998+A3:2009 EN 81-20:2020
	

This explanation is issued by the responsible manufacturer
STRACK LIFT AUTOMATION GmbH
on 10.6.2026
by
Dipl.-Ing. Dirk Strack, Managing Director



Note

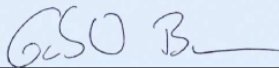
The aforementioned STRACK products are exclusively intended for the installation in lifts or the assembly with other lift parts. The commissioning or distribution within the European Union is only admissible, if the conformity of the finished product corresponds with the relevant harmonised directives of the EU.

6 Certificate

Zertifikat



Nr.: 968/A 129.02/24

Prüfgegenstand	Sicherheitsschaltungen als Teilbereiche der Leiterplatten LTUE_E und ZONE_E	Zertifikatsinhaber	STRACK LIFT AUTOMATION GmbH Lise-Meitner-Straße 2 42489 Wülfrath Germany
Typbezeichnung	LTÜ², basierend auf den Leiterplatten LTUE_E, ZONE_E, HP_E und optional DUM_ZONE_E		
Prüfgrundlagen	EN 81-20:2020, 5.11.2.3	EN 81-50:2020, 5.15	
Bestimmungsgemäße Verwendung	Ersatz von zwangsläufigen Sicherheitsschaltern durch eine Sicherheitsschaltung.		
Besondere Bedingungen	Die Hinweise in der zugehörigen Betriebs- und Wartungsanleitung sowie dem Anhang zu diesem Zertifikat sind zu beachten.		
Gültig bis 03.05.2029			
Der Ausstellung dieses Zertifikates liegt eine Evaluierung entsprechend dem Zertifizierungsprogramm CERT FSP5 V3.0:2020 in der aktuellen Version zugrunde, deren Ergebnisse im Bericht Nr. 968/A 129.02/24 vom 17.04.2024 dokumentiert sind. Dieses Zertifikat ist nur gültig für Erzeugnisse, die mit dem Prüfgegenstand übereinstimmen. Ausgestellt von der durch die DAkkS nach DIN EN ISO/IEC 17065 akkreditierte Zertifizierungsstelle. Die Akkreditierung gilt nur für den in der Urkundenanlage D-ZE-11052-02-00 aufgeführten Akkreditierungsumfang. TÜV Rheinland Industrie Service GmbH Bereich Automation Funktionale Sicherheit Am Grauen Stein, 51105 Köln Köln, 03.05.2024 Zertifizierungsstelle Safety & Security for Automation & Grid  Dipl.-Ing. Gebhard Bouwer			

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TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, 51105 Köln / Germany
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17.04.2024

Anlage zum Zertifikat Reg.-Nr. 968/A 129.02/24

1. Komponente	LTÜ ² basierend auf den Leiterplatten ZONE_E, LTUE_E, HP_E und optional DUM_ZONE_E
2. Hersteller	STRACK LIFT AUTOMATION GmbH Lise-Meitner-Straße 2 42489 Wülfrath
3. Baugruppen	Sicherheitsschaltungen als Teilbereiche der Leiterplatten LTUE_E und ZONE_E (aufgesteckt auf der Leiterplatte HP_E) der Komponente LTÜ ² und optional DUM_ZONE_E als Dummy Ersatz für ZONE_E
4. ID-Nr. / Kennzeichnung auf den Baugruppen	ZONE_E, LTUE_E, HP_E, DUM_ZONE_E
5. Bisherige Prüfgrundlagen	EN 81-20:2014, 5.11.2.3 / EN 81-50:2014, 5.15
6. Anwendungsbereich	Aufzüge für den Personen- und Gütertransport
7. Bestimmungsgemäßer Gebrauch / Bestimmungsgemäße Verwendung	Ersatz von zwangsläufigen Sicherheitsschaltern durch eine Sicherheitsschaltung
8. Nenndaten	Versorgungsspannung: 230 V AC +5% / -10%, 50 Hz L Klemme X1.1 N Klemme X1.2 PE Klemme X1.3
	<u>Sicherheitskreis</u> Klemme X1.5 - X1.7 Ausgangsspannung: max. 250 V AC / 24 V DC Ausgangsstrom: max. 6 A Schaltvermögen: AC15: 250 V 5 A DC13: 24 V 4 A
	<u>Zonenschalter</u> Eingangsspannung: 24 V DC Zonensignal 1 Klemme X2.8 Zonensignal 2 Klemme X2.9 Bezugspotential Klemme X2.2 24 V DC
	Schutzgrad ¹ : IP54
	Betriebstemperatur: 0...+40°C
	Weitere technische Daten zu den Sicherheitsschaltungen siehe Betriebs- und Wartungshandbuch der Baugruppe LTÜ ² der Fa. STRACK LIFT AUTOMATION GmbH.
9. Installation	- Die Vorgaben im Betriebs- und Wartungshandbuch für die Installation, die Inbetriebnahme sowie den Betrieb der Sicherheitsschaltungen sind zu beachten. Des Weiteren sind die relevanten nationalen Vorschriften und die EN 81-20 bei der Installation einzuhalten und es ist eine EMV-gerechte Verdrahtung zu gewährleisten. - Die Zuleitungen zu den Zonenschaltern sowie der Ausgangskreis (Anschluss an den Sicherheitskreis) sind kurzschlussicher auszuführen.

¹ Durch Gehäuseschutzgrad / Einbauraum zu gewährleisten.

17.04.2024



Anlage zum Zertifikat Reg.-Nr. 968/A 129.02/24

9. Installation (fortgesetzt)	- Durch die Wahl eines geeigneten Einbauorts muss sichergestellt sein, dass Umwelteinflüsse keine negativen Auswirkungen auf die Funktion der Sicherheitsschaltung haben.
10. Wartung	Die korrekte Installation ist regelmäßig zu überprüfen.
11. Besondere Bedingungen	Im Rahmen der Erstinbetriebnahme und der wiederkehrenden Prüfungen des Aufzugs sind folgende Überprüfungen durchzuführen: - Prüfung der korrekten Installation, - Prüfung der Hardwareversion, - Prüfung der Sicherheitsfunktion (Zonenschalter) gemäß Kap. 6.3.1 in der Betriebs- und Wartungsanleitung.