Maintenance instructions for T80 inclined stair lifts
The work is to be carried out by qualified technical personnel only!

The following work may be carried out **by qualified personnel only**:

Installation
Adjustments and settings
Maintenance work
Fault finding/rectification

Qualified personnel are persons who
- know how the machine works
- have received instruction on how it works
- have read and understood the operating, installation and service manuals
- are aware of the dangers posed by the machine (and also its components)
- know and understand the interrelationships between the mechanical components
- know and understand the interrelationships between the electrical components
- have the appropriate tools/measuring instruments and know how to use them
- have a sufficient understanding of the German or English language respectively

When carrying out any work on the machine, please note:
- Do not allow other persons to access the machine when there is an increased danger potential (covers removed, safety devices disabled etc.).
- Avoid the risk of tripping up due to the open machine, tools lying around, electrical cables etc.
- The potential dangers of the machine may not have been increased after conclusion of the work on the machine
- Parts of the machine that are not yet firmly connected to the building/running rail are to be secured against falling over

The safety instructions in the operating manual are to be observed!!

Original parts and accessories are specially designed for our platform lifts. We expressly draw your attention to the fact that parts and accessories not supplied by us have also not been tested and approved by us. The installation and/or use of such products can therefore, under certain circumstances, negatively affect the constructive specified characteristics of the lift and impair the active and/or passive travelling safety as a result. The manufacturer accepts no liability whatsoever for damage caused by the use of non-original parts and accessories.

Tools / operating resources and auxiliary materials / measuring and testing devices

Torque wrench 110 Nm (10 to 24 mm)
Spanner, open-ended/ring (7 / 8 / 10 / 13 / 14 / 17 / 30 / 40 mm)
Hexagon keys (2 / 3 / 4 /5 / 6 mm)
Taper pin punch (4 / 6 mm)
Long nose pliers
Side cutters
Circlip pliers A01, A11
Phillips screwdriver (PH1, PH2)
Flat blade screwdriver (1 x 6 mm / 0.6 x 4.5 mm)

Loctite 243
Cable drum
Lamp
Voltmeter (230 V AC / 30 V DC)

9V block battery (1x)
1.5 V AA battery (2x for each external control unit)

Lubricants:
OKS 469 NLGL 2 plastic and elastomer lubricant (- 40 °C to 150 °C) (further designation: S1)
E-COLL NLGI 2 multi-purpose graphite grease II (- 30 °C to 120 °C) (further designation: S2)
E-COLL NLGI 2 multi-purpose grease I, lithium soaped (- 30 °C to 120 °C) (further designation: S3)
Fina Marson L2 (further designation: S4)

Wearing parts / parts that should be carried in case exchange is necessary:
6 V batteries (4 x)
12 V batteries (4 x)
Roller lever switch (1x)
Plunger switch (1x)
Microswitch (2x interior area, 2x exterior area)
Guide rollers incl. bearings (4x)

Maintenance plan based on EN 13015	Manufacturer: **LIPPE Lift GmbH** **Weststrasse 48, D-32657 Lemgo**	**Location:**
Page 1 of 4	Designation of the lift: **Inclined stair lift T80 (chair lift)**	**Serial no.:**

Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating resources and auxiliary materials		Remarks
1.	**Supports**			If present
1.1	*Check firm seating*		A	
1.2	*Examine for corrosion, breakages and deformations*		A	
2.	**Running track**			
2.1	Fastening			
2.1.1	*Examine for corrosion, breakages and deformations*		A	
2.1.2	*Check firm seating*		A	
2.2	Support steelwork: *Examine for corrosion, breakages and deformations*		B	
2.3	Vertical rods: *Examine for corrosion, breakages and deformations*		B	
2.4	Traps			
2.4.1	*Check function*		A	
2.4.2	*Examine for corrosion, breakages and deformations*		A	
2.5	Limit switch curves			
2.5.1	*Examine for corrosion*		A	
2.5.2	*Check position, function and firm seating*		A	
2.6	Unlocking curves		A	If present
2.6.1	*Examine for corrosion and breakages*		A	Replace plastic if necessary
2.6.2	*Check position, function and firm seating*		A	
2.9	Battery charging station			
2.9.1	*Examine for breakages, deformation, corrosion and wear*		A	
2.9.2	*Check contact, function, adjustment and fastening*	Voltmeter	A	Voltage at the battery charging station must lie between 25.5 V and 29.5 V
2.10	Running track tube: *Examine for corrosion, breakages and deformations*		B	

Intervals: A = once per year B = every 2 years

Maintenance plan based on EN 13015	Manufacturer: **LIPPE Lift GmbH Weststrasse 48, D-32657 Lemgo**	**Location:**
Page 2 of 4	Designation of the lift: **Inclined stair lift T80 (chair lift)**	**Serial no.:**

Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating resources and auxiliary materials		Remarks
3.	**Lifting unit**			
3.1	Roller set			
3.1.1	*Examine for corrosion, breakages and deformations*		A	
3.1.2	*Examine the fastening of the lower and **upper** roller set*		A	Insert grubscrew with Loctite 243 (work very carefully!!)
3.1.3	*Check function, adjustment and play*		A	
3.1.4	*Examine for noises, deformation, wear and dirt*		A	
3.2	Rotating drive			
3.2.1	*Examine for corrosion, breakages, noises, dirt and deformation*		A	
3.2.2	*Check adjustment, arrester, firm seating, cotter pins, function and lubrication*	Grease: Plastic guide: S1 Lugs/blocks (metal on metal): S2	A	Grease: for arrester bearing: S3
3.2.3	Main drive chain (duplex)			
3.2.3.1	*Check adjustment, play, lubrication/ re-tension via eccentric bush*	Grease: S2		
3.3	Controller: *Check firm seating*		B	
3.3.1	Replace battery (for acoustic signals)	9V block battery	A	
3.4	Barriers / armrests			
3.4.1	*Check adjustment, function, play and lubrication (bearings and linkage).*	Grease: S4	A	
3.4.2	*Check function and wear of the locking device*		A	
3.4.3	*Examine for corrosion and dirt*		A	
3.5	Contact base (carry out only with the base folded up)			
3.5.1	*Examine for deformation and dirt*		A	
3.5.2	*Check function, fastening and play*		A	
3.6	Interior controller			
3.6.1	*Check function, fastening,*		A	
3.6.2	*Examine for breakages and missing labelling*		A	

Intervals: A = once per year B = every 2 years

Maintenance plan based on EN 13015	Manufacturer: **LIPPE Lift GmbH** **Weststrasse 48, D-32657 Lemgo**		**Location:**	
Page 3 of 4	Designation of the lift: **Inclined stair lift T80 (chair lift)**		**Serial no.:**	
Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating resources and auxiliary materials		Remarks
3.7	Exterior controller			
3.7.1	*Check function, fastening*		A	
3.7.2	*Examine for breakages and missing labelling*		A	
3.7.3	Replace battery	2x 1.5 V AA	A	
3.8	Motor: *Check fastening*		A	
3.9	All switches			
3.9.1	*Examine for breakages, wear and dirt*		A	
3.9.2	*Check function, adjustment, fastening and play*		A	
3.10	Main switch			
3.10.1	*Examine for breakages, wear and dirt*		B	
3.10.2	*Check function and fastening*		A	
3.11	Worm gear: *Examine for breakages and leaks*		B	
3.12	Rear wall: *Check fastening*		B	
3.13	Batteries (6 V and/or 12 V)			
3.13.1	*Examine for corrosion and dirt*		B	
3.13.2	*Check firm seating, function and voltage*	Voltmeter	A	The voltage of each individual battery: min. 6.3 V (12.3 V). Difference between the individual batteries max. 0.2 V (only replace complete blocks!)
3.14	Battery charger			
3.14.1	*Examine for breakages and dirt*		A	
3.14.2	*Check function and fastening*		A	
			Intervals:	A = once per year B = every 2 years

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Page 4 of 4	Designation of the lift: **Inclined stair lift T80 (chair lift)**		**Serial no.:**	
Seq. no.	Work to be carried out (by qualified technical personnel only)	Measuring and testing devices, operating resources and auxiliary materials		Remarks
3.15	Charging circuit breaker			
3.15.1	*Examine for breakages and dirt*		A	
3.15.2	*Check function and fastening*		A	Short-circuit test: Short-circuit the charging brushes on the lifting unit (activate the circuit breaker again afterwards)
3.16	Charging brushes			
3.16.1	*Examine for breakages, deformation and wear*		A	
3.16.2	*Check function, adjustment and fastening*		A	
3.17	Folding seat / safety belt			If present
3.17.1	*Examine for breakages, tears and deformation*		A	
3.17.2	*Check function and fastening*		A	
3.18	Hand wheel: *Check fastening and labelling*		A	
3.19	Emergency call: *Check function*		A	Check batteries if present
3.20	Changeover switch for driving uphill/downhill			If present
3.20.1	*Check adjustment, function and fastening*		A	
3.21	Contact switch, underside of frame			
3.21.1	*Check function, adjustment and play*		A	
3.22	Contact switch, top side hood			
3.22.1	*Check function, adjustment and play*		A	
3.23	Sensitive surface beside drive			
3.23.1	*Check function, adjustment and play*		A	
4.	**Others**			
4.1	Test drive: *Check all functions and driving behaviour*		A	
4.2	Labelling (stickers, warning notices etc.): complete		A	*Possibly not supplemented at customer's request?*
			Intervals:	A = once per year B = every 2 years

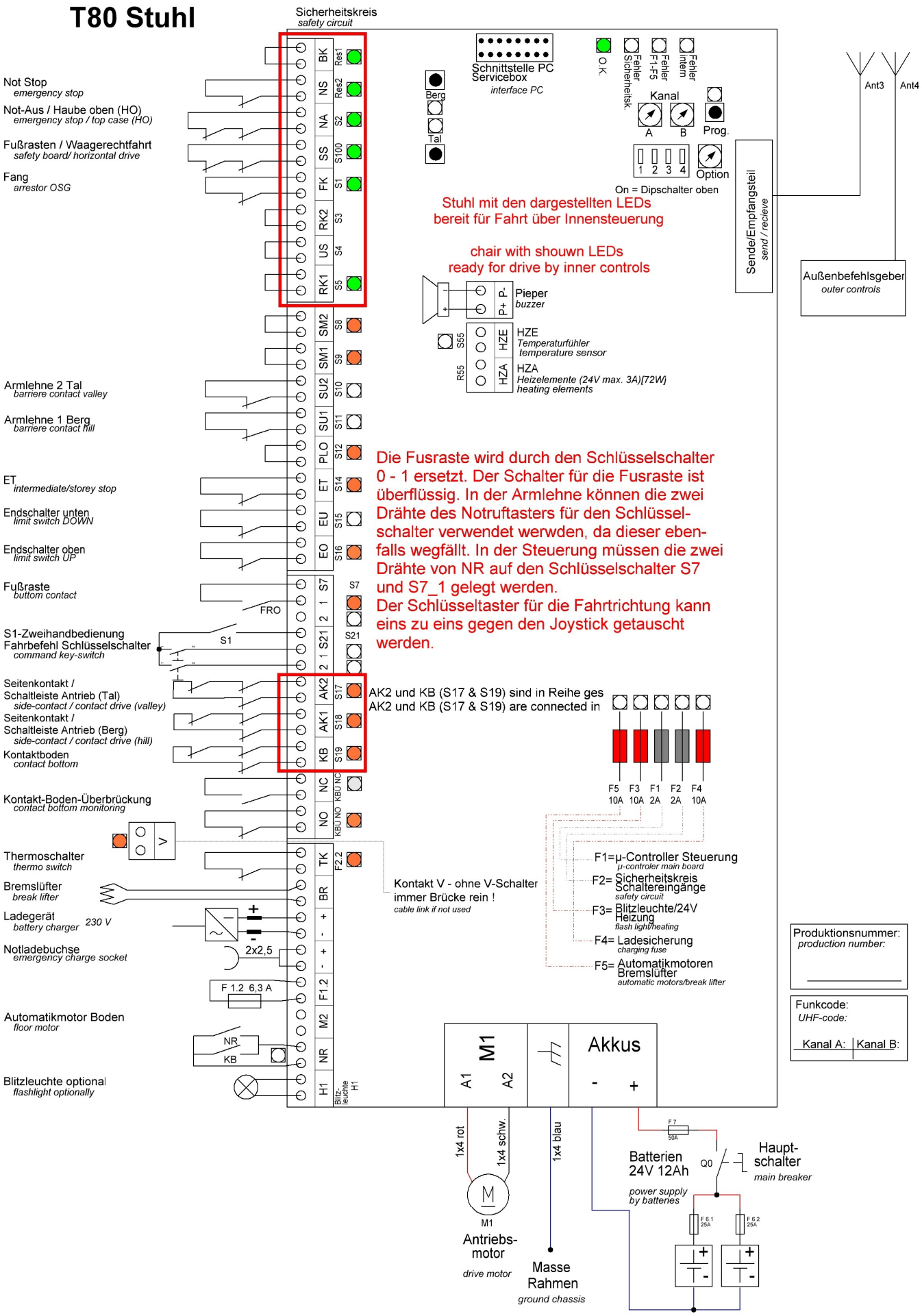
UHF transmit/receiver unit

External control unit

brake vent

without upward/downward drive cable link

No longer necessary – cable


T80 Stuhl
Sicherheitskreis
safety circuit
Not Stop
emergency stop
Not-Aus / Haube oben (HO)
emergency stop / top case (HO)
Fußrasten / Waagerechtfahrt
safety board/ horizontal drive
Fang
arrestor OSG
Armlehne 2 Tal
barriere contact valley
Armlehne 1 Berg
barriere contact hill
ET
intermediate/storey stop
Endschalter unten
limit switch DOWN
Endschalter oben
limit switch UP
Fußraste
buttom contact
S1-Zweihandbedienung
Fahrbefehl Schlüsselschalter
command key-switch
Seitenkontakt /
Schaltleiste Antrieb (Tal)
side-contact / contact drive (valley)
Seitenkontakt /
Schaltleiste Antrieb (Berg)
side-contact / contact drive (hill)
Kontaktboden
contact bottom
Kontakt-Boden-Überbrückung
contact bottom monitoring
Thermoschalter
thermo switch
Bremslüfter
break lifter
Ladegerät
battery charger
230 V
Notladebuchse
emergency charge socket
Automatikmotor Boden
floor motor
Blitzleuchte optional
flashlight optionally
Schnittstelle PC
Servicebox
interface PC
Berg
Tal
O.K.
Fehler Sicherheitsk.
Fehler F1-F5
Fehler intern
Kanal
A
B
Prog.
1 2 3 4
Option
On = Dipschalter oben
Stuhl mit den dargestellten LEDs
bereit für Fahrt über Innensteuerung
chair with shouwn LEDs
ready for drive by inner controls
Pieper
buzzer
HZE
Temperaturfühler
temperature sensor
HZA
Heizelemente (24V max. 3A)[72W]
heating elements
Sende/Empfangsteil
send / recieve
Ant3
Ant4
Außenbefehlsgeber
outer controls
Die Fusraste wird durch den Schlüsselschalter
0 - 1 ersetzt. Der Schalter für die Fusraste ist
überflüssig. In der Armlehne können die zwei
Drähte des Notruftasters für den Schlüssel-
schalter verwendet werwden, da dieser eben-
falls wegfällt. In der Steuerung müssen die zwei
Drähte von NR auf den Schlüsselschalter S7
und S7_1 gelegt werden.
Der Schlüsseltaster für die Fahrtrichtung kann
eins zu eins gegen den Joystick getauscht
werden.
AK2 und KB (S17 & S19) sind in Reihe ges
AK2 und KB (S17 & S19) are connected in
F5 10A
F3 10A
F1 2A
F2 2A
F4 10A
F1=µ-Controller Steuerung
µ-controler main board
F2= Sicherheitskreis Schaltereingänge
safety circuit
F3= Blitzleuchte/24V Heizung
flash light/heating
F4= Ladesicherung
charging fuse
F5= Automatikmotoren Bremslüfter
automatic motors/break lifter
Kontakt V - ohne V-Schalter
immer Brücke rein !
cable link if not used
2x2,5
F 1.2 6,3 A
M1
Akkus
1x4 rot
1x4 schw.
1x4 blau
M1
Antriebs-
motor
drive motor
Masse
Rahmen
ground chassis
Batterien
24V 12Ah
power supply
by batteries
Q0
Haupt-
schalter
main breaker
Produktionsnummer:
production number:
Funkcode:
UHF-code:
Kanal A:
Kanal B:

Key to PCB

Mainboard	Connectors	Anschluß	Connection
Platine	**Stecker**	**Anschluss**	**Connection**
RES1	BK	nicht vorhanden / Brücke	*nonexistent / bridge*
RES2	NS	Notendschalter	*emergency limit switch*
S2	NA	NOT-HALT	*emergency off*
S100	SS	Fußraste / Waagerechtfahrt	*safty board / horizontal drive*
S1	FK	Fangschalter	*switch at arrestor OSG*
S3	RK2	nicht vorhanden / Brücke	*nonexistent / bridge*
S4	US	nicht vorhanden / Brücke	*nonexistent / bridge*
S5	RK1	nicht vorhanden / Brücke	*nonexistent / bridge*
S8	SM2	nicht vorhanden / Brücke	*nonexistent / bridge*
S9	SM1	nicht vorhanden / Brücke	*nonexistent / bridge*
S10	SU2	Armlehne zurück Tal	*switch for barrier (valley) down*
S11	SU1	Armlehne zurück Berg	*switch for barrier (hill) down*
S12	PLO	nicht vorhanden / Brücke	*nonexistent / bridge*
S14	ET	Etagenschalter	*switch for intermediate stop (optionally)*
S15	EU	Endschalter unten	*limit switch DOWN*
S16	EO	Endschalter oben	*limit switch UP*
S7	S7 / 1 / 2	Fußraste unten	*safty board DOWN*
S21	S21 / 1 / 2	Befehlsgeber an Lift	*somand element at carriage*
S17	AK2	Auffahrklappe TAL	*switch for ramp (valley)*
S18	AK1	Auffahrklappe BERG	*switch for ramp (hill)*
S19	KB	Kontaktboden (Serie)	*switch for contact bottom (series)*
KBÜ NC	NC	Kontaktbodenüberwachung (optional)	*switch for contact bottom monitoring (optionally)*
KBÜ NO	NO	Kontaktbodenüberwachung (optional)	*switch for contact bottom monitoring (optionally)*
V	V	Geschwindigkeit (optional)	*switch for speed (optionally)*
F2.2	TK	Thermokontakt M1	*thermo switch drive motor*
Y1	BR	Bremslüfter M1	*brake lifter*
1X20	+ / -	Ladegerät	*battery charger*
1X30	+ / -	Notladebuchse	*emergency battery charging socket*
F1.2	F1.2	Ladesicherung 6,3A	*short circuit - charge contacts*
M2	M2	nicht vorhanden	*nonexistent / bridge*
S50	NR	Notruftaster (optional)	*emergency call switch (optionally)*
H1	H1	Blitzleuchte (optional)	*flash light (optionally)*
Pieper	P+ P-	Pieper	*buzzer*
Heizung (72/73)	HZE	Fühler Heizung (optional)	*temperature sensor*
Heizung (74/75)	HZA	Heizelemente (optional)	*heating elements*
(76/77)	RK1S	nicht vorhanden	*nonexistent*
(78/79)	RK2S	nicht vorhanden	*nonexistent*
(80/81)	SO1	nicht vorhanden	*nonexistent*
(82/83)	SO2	nicht vorhanden	*nonexistent*
(84/85)	PLU	nicht vorhanden	*nonexistent*
M3 (86/87)	M3	nicht vorhanden	*nonexistent*
M4 (88/89)	M4	nicht vorhanden	*nonexistent*
24V	+ -	24V	*24 V*
M1 (A1 / A2)	A1 / A2	Antriebsmotor	*drive motor*
AKKU 24V	AKKU + -	Akkus 24V 9Ah	*power supply by batteries*
Rahmen Masse	GND	Masse Rahmen	*ground chassis*

zusätzliche, nicht in der Steuerung aufgeführten Schalter und Sicherungen	
additional switches and fuse, not mentioned on the control board	

Q0		Hauptschalter	*main breaker*
F4		Ladesicherung extern	*external charging fuse*
F6.1/F6.2		Sicherungen Akku´s	*accumulator fuses*
F7		Hauptsicherung	*Main fuse*
SK1		Seitenkontakt BERG	*side contact hill*
SK2		Seitenkontakt TAL	*side contact valley*
SLA1		Schalterleiste Antrieb BERG	*Contact drive hill*
SLA2		Schalterleiste Antrieb TAL	*Contact drive valley*
HO		Kontakt Haube	*contact hood top*