Manual technical supervisory organisation
PROCESSORSYSTEM DAVID 613

DIAGNOSIS - INFORMATION
TEST FUNCTIONS

CANopen LIFT

EN81-20/50 Konform

UK CA

KW Aufzugstechnik GmbH Mikroprozessorsystem DAVID-613 Version V1.22 from 20.03.2024

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Inhalt

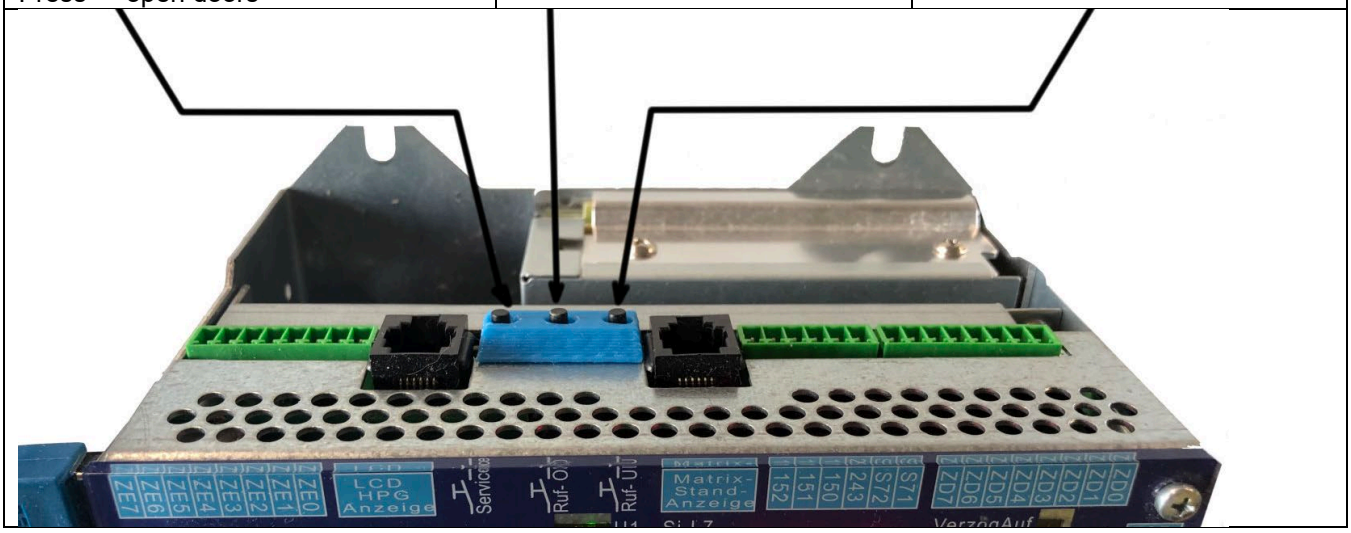
0. New features in the versions

V118	Creation of the document with the aim of providing documentary support for the ZÜSs during the acceptance of lift systems with the DAVID-613 lift controller from KW Aufzugstechnik GmbH.
V119	Documentation of the CRC check code in menu D9 of the two Sil-3 shaft copying systems Variotech ANTS SAFE and ELGO LIMAX CP 33.
V120	Extension of the documentation with the further development of the ANTS SAFE system in the form of the Kübler ANTS LES02 system. CRC check code stored in menu D9.
V121	Extension of the documentation with regard to the CRC check code for the ELGO LIMAX CP33 and the extended TÜV functions for the electromagnetic catch, as well as new error messages.
V122	Extension of the documentation relating to the touch operating terminal on the D613 from 03-2024.

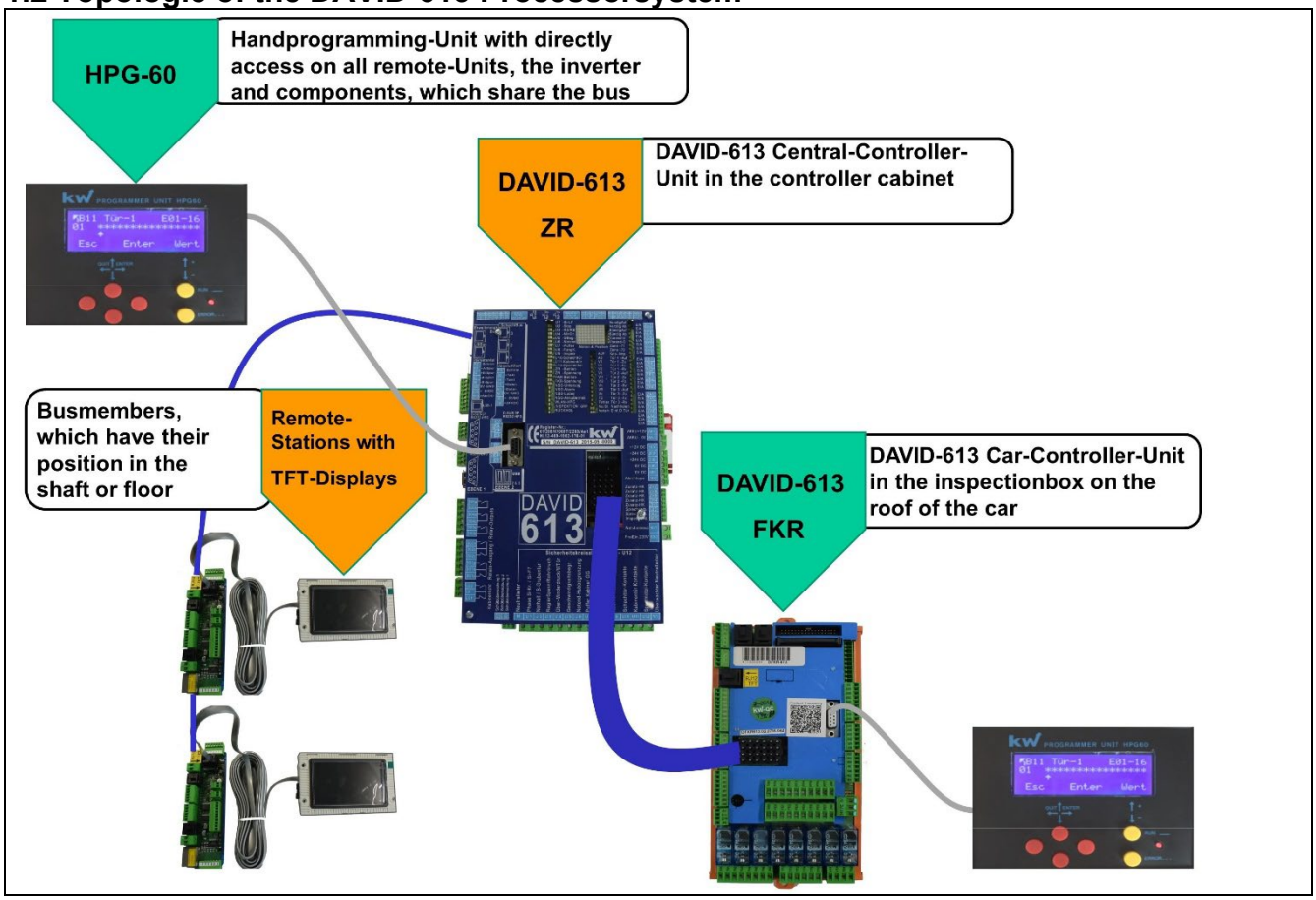
1. SYSTEM DESCRIPTION

1.1 Functions-Push-buttons on the surface of the DAVID-613 ZR

Button for service doors-to	Button for the top call	Button for the lowest call
When the button is pressed, the doors remain closed for 15 minutes. 2.th Press -> open doors	-> Elevator car moves to the top stop.	-> Elevator car drives to the lowest stop.



1.2 Topologie of the DAVID-613 Processorsystem



2. PERFORMANCE FEATURES

2.1 D613T - Basic structure & functions of the touch terminal

The D613T touch terminal contains two basic functions.

The first is the GW60-104 gateway, which connects the elevator controller to the KWEB server via the Internet. This is done physically via the LTE stick, but is also possible via LAN network cable.

The most important feature, however, is the 7-inch touch display, which provides five function pages in the first software version.

The display on the D613T is located on the inside of the enclosure door and can be flexibly adjusted in terms of viewing height using the magnets.
The pages can be selected in the lower area of the display and thus turned.

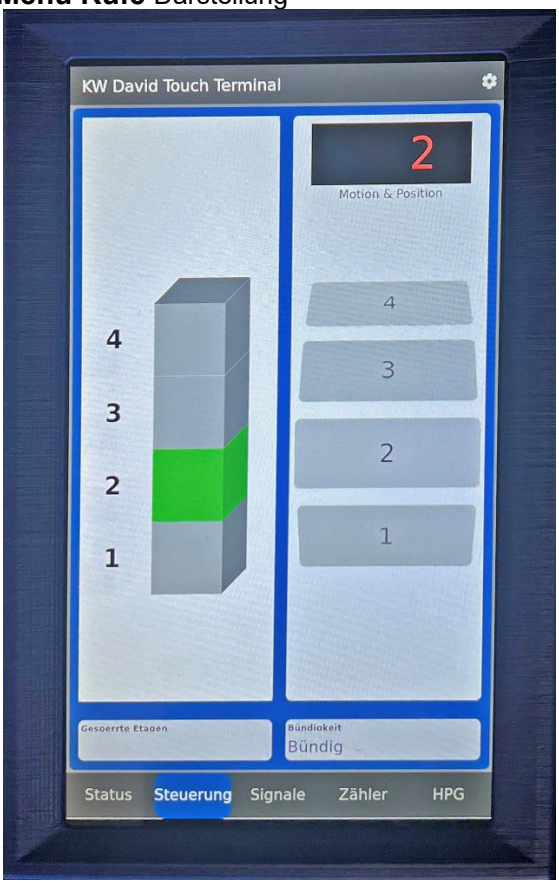
Information is communicated, for example on the status page which visualizes the classic display of the LED signals of the DAVID processor series or counter readings, but it is also possible to make commands and settings as with the HPG-60.

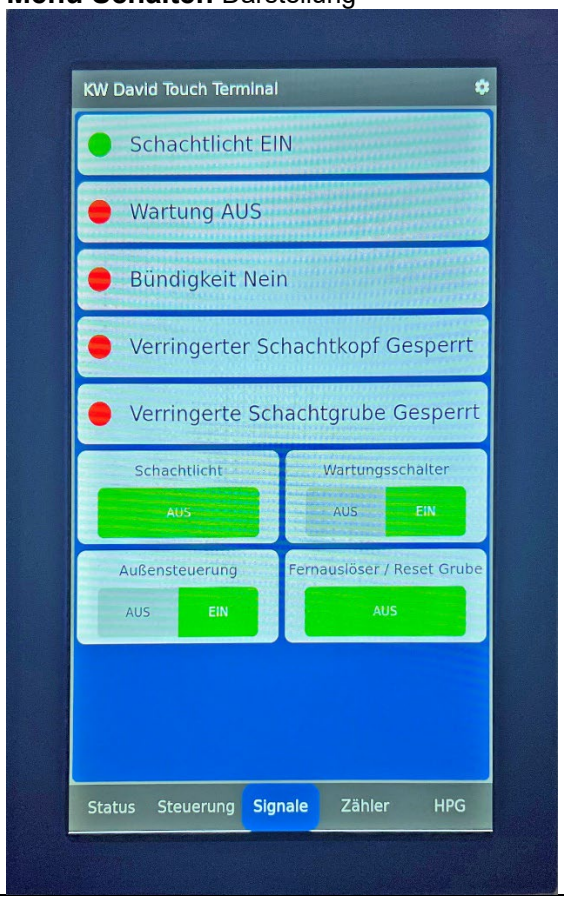
2.1A Status menu Description

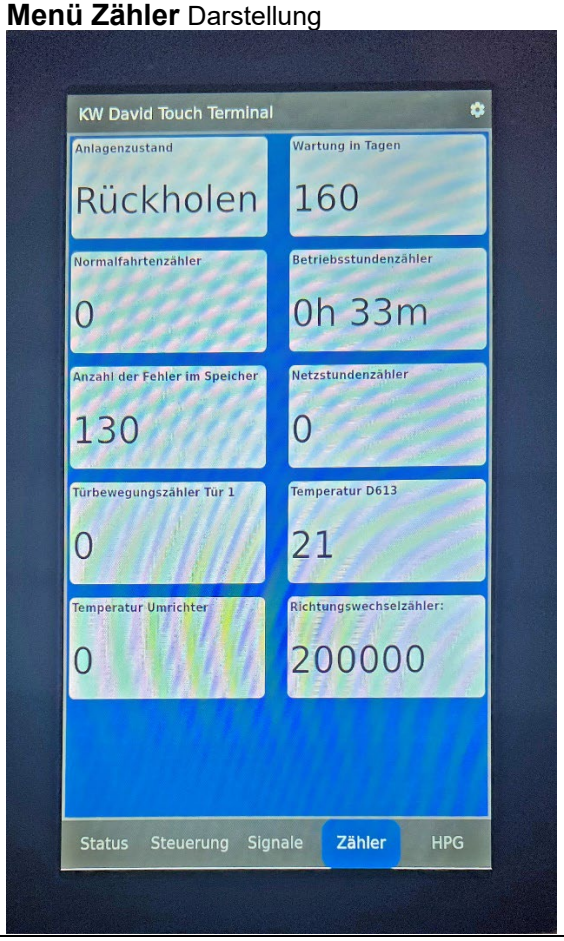
The display corresponds to the previous LED module in the D-613 ZR or that in the KWEB.
The STATUS displays shown indicate the status of signals such as the safety circuit, the status and voltage monitoring of the ZR and FKR computer units, the output speeds, the shaft copying information or the door movements.

The car position, direction of travel and levelness are also displayed.

Menü Signale Darstellung

2.1B	**Control menu Description** The functionality is similar to that in KWEB. The elevator car moves in the shaft and the door movement is displayed. The direction of travel and car position are displayed in an output window in the upper part. In the middle part there is a rotary button / rotary control to set the car call. There are two output fields in the lower part. On the one hand, the status of the elevator system or blocked floors is displayed, and on the other, the message about the flush position of the elevator car.	**Menü Rufe** Darstellung 

2.1C	**Signals menu Description** Up to 6 status messages are displayed in the upper part of the output window. This includes: - Shaft ON / OFF - Maintenance mode ON / OFF - Flush NO / YES - Traction sheave brake Open / Closed - Reduced shaft head Closed / Free - Reduced shaft pit Closed / Free In the lower field we have the switches for: - Shaft light - Maintenance switch - External control The remote triggerand pit reset touch functionscan only be triggered by activating them in the menu. In push-button operation, activity is only available as long as the finger is touching the touch surface.	**Menü Schalten** Darstellung 

2.1D	**Menu Counter Description** The meter interface contains the following status messages and data from the control system: - System status - Maintenance time - Trip counter - Operating hours counter - Number of errors in the memory - Mains hours counter - Door movement counter door 1 - Door movement counter door 2 - Control unit temperature - Frequency inverter temperature (only for GOLIATH-90 / 921)	**Menü Zähler** Darstellung 

2.1E	**Menu HPG Description** All parameters can be viewed and changed using the HPG interface. This includes not only the control system, but also the regulation. Permanent status messages on the display show the current actions of the control system. All collected errors can be viewed in the error memory. The functionality corresponds to that of KWEB or the HPG-60:	**Menü HPG** Darstellung 

2.2 DESCRIPTION HANDPROGRMMING UNIT HPG60

Structure Of The Display:

Parameter name
Parameter And Value
Controler Mode
Function Of The Push-Buttons

Yellow Push-Buttons:

Push-Button To Increase The Value / Name

Push-Button To Decrease The Value / Name

Red Push-Buttons:

Menu Direction Up

Quit Of The Menu Enter Of The Value

Menu Direction Down

The hand programming unit HPG60 is a universal In- and Output device for the controller- and invertersystem. It has 6 Buttons, a four line LCD-Display, a red LED, and also a 9-pol. RS232-Interface. With the HPG-60 you have a look on all parameters and you can change it. Actual messages are indicated on the display about the happening in the microcontroller system. There is a memory, with a lot of volume for 100 entries. You can give calls and make a RESET about the HPG-60, too.

There are three positions, in which you can connect the HPG-60 in order to communicate the microprocessorsystem:

1) **Cenral Unit Controller ZR (Casing)**
2) **Car Controller FKR (At the top of the car)**

NORMAL MENU

In the normal menu the four main groups of LIFTPARAMETERS / CONTROL PARAMETERS / DIAGNOSIS / INFORMATION are stored among the parameters of the elevator. Navigation through the red button takes you to the submenu. The change in the values of the parameters using the yellow buttons.

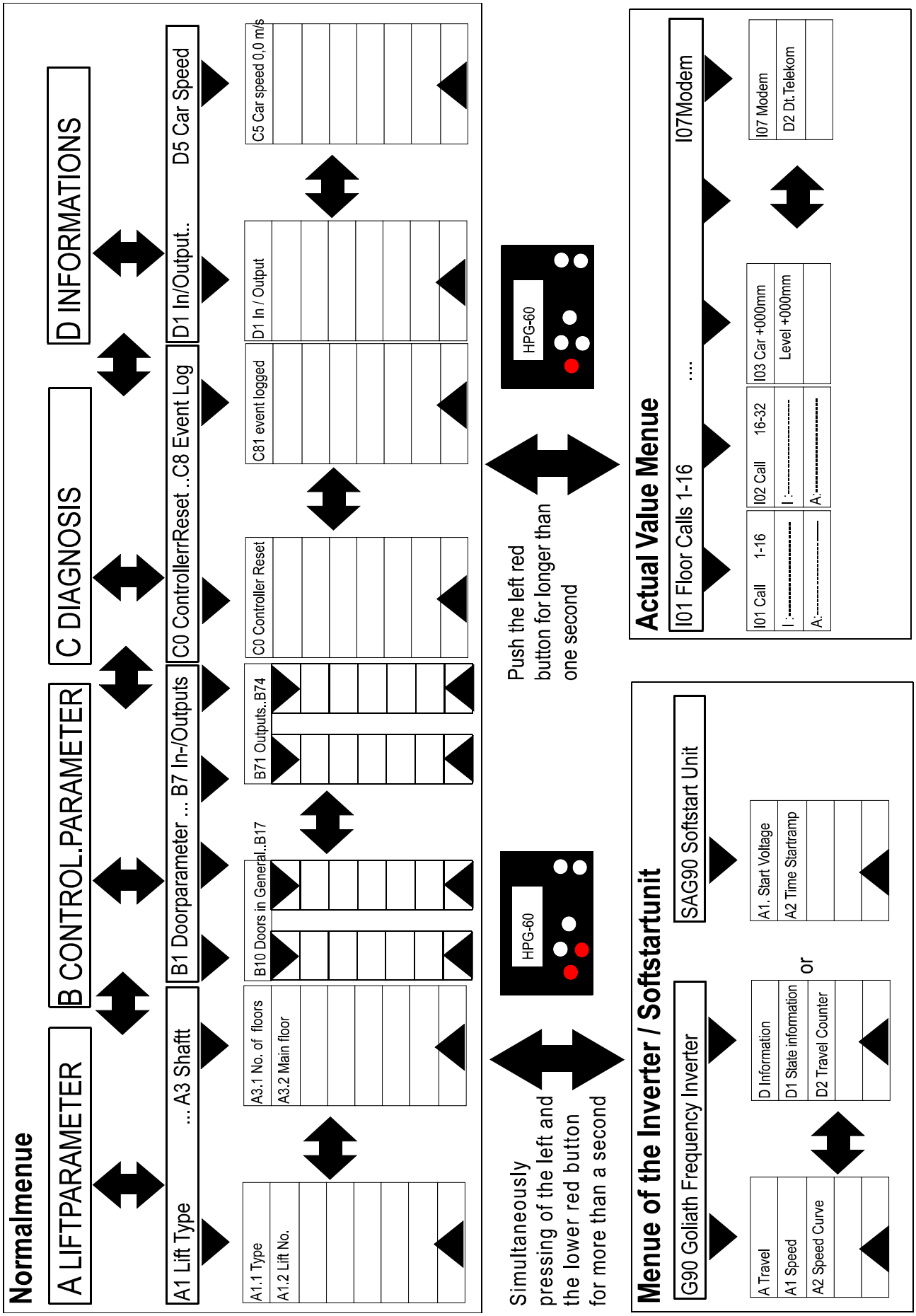
ISTWERT MENU

If you are in the normal menu, you can (about 1 sec activity). Either press the red button to get into the left Istwert-menu or use the yellow buttons to scroll through the menu of I1 calls to I9, the modem display. In this menu, the current actions, such as existing calls, car position, door movements, state of the safety circuit shown. To return to the normal menu press the red button to the left.

MENU OF THE REGULATOR-UNIT

By pressing the red button to the left, and the lower red button you can access the menu of the regulator unit. Precondition is the use of KW Liftbus. Due to the fast data link with a cycle time of 2 ms, the display of the parameters and response to key operate in real time. In a DCP-3 connection, e.g. Ziehl-Abegg frequency-inverter, it is also possible to enter the menu of the controller. The screen display is a bit slower, cycle time due to the 17ms. The return to the normal menu is controlled in turn by pressing the red button to the left and the lower red button.

2.3 NAVIGATION WITH THE HPG-60



3. Menu C – DIAGNOSIS AND FAULT HANDLING

C0 Controller reset

In sub-menu **CO RESET** it is possible to put back the controller unit. If during the assembly, enterprise or error tracing come to a condition so that the controller is locked, a control reset can be released by the HPG60.
For example it is possible to set car calls to move car again.

C1 Give calls

In **submenu C1 give** calls are possible to call C10 car calls. Car calls can be set with the help of the two right keys and enter key. Car calls are processed by control.
Because the HPG60 can be put in central computer, car computer and car calling controller. So one has the possibility to admit car calls from different places.
Menu option **C11 priority calls** are not activatable now.

In menu **C12 random calls inside** the random number generator can be activated for car calls. The function can be scheduled temporally by input of a temporal upper limit of up to 48 hours.

In menu **C13 random calls car** the random number generator can be activated for priority calls. The function can be scheduled temporally by input of a temporal upper limit of up to 48 hours.

C2 In / Output Signals

In the submenu C2 of In/Out Signals it is possible to regard lining up signals to regconize as well as the programmed output and input functions on this clamp!

	
The desired plugin can be selected by upper and lower red-key. The bits can be selected with two right yellow keys.	In alternating representation the bit and deposited output and input function are represented. For example terminal ZA0 has no output function but a input function. “Safety Circuit off”. Terminal ZA0 has no tension.

Plug	Device	Bit 0 to 7	
ZA	ZR	ZA0 to ZA7	**legend:**
ZB	ZR	ZB0 to ZB7	
ZC	ZR	ZC0 to ZC7	„- „ no tension on terminal
ZD	ZR	ZD0 to ZD7	„* “ tension +24V on terminal
FE	FKR	FE0 to FE7	
FF	FKR	FF0 to FF7	
IC	EIT	IC0 to IC7	
ID	EIT	ID0 to ID7	
IE	EIT	IE0 to IE7	

C3 FAULT LOG

Error memory is accommodated in **submenu C3** in C 31. Error memory prossesses a depth of 100 possible error registrations. The most current entry always stands on position one and shifts all following entries on a deeper position. After return the highest error position, the error memory can be cleared by menu C30. Error memory is stored in battery RAM of the clock component and is secured against power failure.

Following additional information for error situations can be called up through **push of a yellow key upward:**

Line top	**Floor and drive direction**	**Shaft switch (Top & Buttom, concise Top & Down, Zone 1 & Zone 2)**
Line bottom	**Issuing oft he comands (Auf, Ab, Vi, Vn,V0,V1,V2,V3)**	**Output of contactor control (Up, Down, K5, K7)**

C4 MOT-Approval

This chapter describe briefly all individual Mot functions. A specification and execution of the function find in the chapter: **„I04 - COMMISSIONING THE INSPECTOR FUNCTIONS C40 to C418 ".**
In **submenu C40 run time test** it is possible to limit all running times for the next trip on 1.0 secondes.

In the **submenu C41 buffer trip** it is possible to drive with the back getting control downward (without obligation delay by the before-finalswitched 13B on the cab buffers). But only if the limit switch down at the strip of passing is pressed by technical personal.

In the **submenu C42 seat sample** it is possible to drive with the back getting control downward (without obligation delay by the before-final switched 13B on the counterweight buffers). But only if the limit switch down at the strip of passing is pressed by technical personal. The speed for this trip is to be positioned in the regulation.

In the **submenu C43 catch sample** it is possible to deactivate the sort-circuit protection and the monitoring function V<0,2 m/s.

In the submenu **C44 driving abillity** will spend the speed of the car as well as the number of revolutions of drive.

In the **submenu C45 break test** it is possible to deactivate the processor system DAVID-613 during switched resent control the short-circuit protection and the monitoring function V<0,2 m/s.
Security of the monitoring function becomes V>V, then activates which brake is the one with exceeding of the nominal speed terminated (both brake coils come without tension).

In the submenu **C46 remote trigger** of the processor system DAVID-613 it is possible to switch on the function remote release for the cab over the tracer the S50 on operates. After release in tracer the S50 deactivates the function again.

In the submenu **C47 reset remote trigger** of the processor system DAVID-613 it is possible to put back by switching on of the function on with ramble remote releases for the cab with resetting coil over the tracer S50 for these.

In the submenu **C48 remote trigger counterweight** of the processor system DAVID-613 it is possible by switching on of the function remote to release for the counterweight over the tracer the S50 on to operation. After releasing the tracer the S50 deactivates the function again.

In the submenu **C49 reset remote trigger** of the proseccor system DAVID-613 it is possible to put back by switching on of the function with racable remote releases for the counterweight. With resetting the tracer the S50 deactivates the function again.

In the **submenu C410 limit switch trip up** of the processor system DAVID-613 it is possible to overdrive by switching on of the function on for the upper concise and drive in such a way on the upper limit switch.

The **submenu C411 limit switch trip down** of the processor system DAVID-613 it is possible to overdrive by switching on the function for the lower concise and drive in such a way on the lower limit switch.

In **submenu C412 switch gear cabinet temperature test** of the processor system DAVID-613 it is possible to lower the threshold value of the temperature monitoring through contactors of the function in such a way that error registration takes place immediately.

In the **submenu C414 DSK encoder test** of the processor system DAVID-613 it is possible to switch off the encoder of the shaft copy for one travel. The shaft copying software technically produces an error response. A condition is natural so that in the menu B600 monitoring functions the DSK monitoring is activated.

In the **submenu C415 Test Sink Prevention** of the processor system DAVID-613 it is possible to activate the function Test Sink Prevention over the Switch S50 on the operating panel of the controller cabinet in order to switch off the coil of the speedlimiter. After turning off the switch S50 the function is switched off.
In the **submenu C416 Test UCM-drive** of the processor system DAVID-613 it is possible to activate the function to test by turning on the emergency operation function and the UCM-zone trip. The area leaving the door with the door open to EN 81-1/2 A3 - 9.13.2 is simulated.

In the **submenu C417 Test braking element brake-1** of the DAVID-613 processor system, it is possible to switch off the monitoring of the braking element of drive 1 for software purposes in order to generate an error response. This corresponds to a physical interruption of the line of the respective brake element. This is required for brake components requiring monitoring, in order to simulate a failure of a brake element according to EN 81-20.
In the **submenu C418 Test brake test** of the DAVID-613 processor system, it is possible to activate the brake test for one trip. After pressing the corresponding key switch S82A or S82B, the stopping distance in mm is displayed after stopping the elevator car. This function can only be used in conjunction with a GOLIATH-90 inverter.

In the submenu C419 Test direction change counter, it is possible to simulate a triggering of the direction change counter for the suspension cables / carrying straps by test activation.
In the submenu C420 Test rope wear counter, a triggering of the rope wear counter for the suspension ropes / straps can be simulated by test activation.
In the submenu C421 Test brake element brake-2 of the DAVID-613 processor system, it is possible to switch off the monitoring of the braking element of drive 2 for software purposes in order to generate an error response. This corresponds to a physical interruption of the line of the respective brake element. This is required for brake components requiring monitoring, in order to simulate a failure of a brake element according to EN 81-20.

In submenu C422 Test Reset GB pre-shutdown of the DAVID-613 processor system, it is possible to reset this by activating the function in the case of a lockable pre-shutdown of the GB for the car with reset coil via pushbutton S50. After releasing the button S50, the function is deactivated again.

SAFE shaft copy system:
When using SAFE shaft copying, the settings can be viewed in menu D9.

I**n submenu C423 Hydraulic Testdrive – Broken-Pipe-Valve** of the DAVID-613 processor system, it is possible to output the fast speed (V2) by switching on the function for the next run with the return control in the downward direction. This enables the functionality of the pipe rupture valve to be tested. The error message “overspeed” is ignored and travel is not aborted.
In **submenu C425 Test eFANG** (electromagnetic safety gear), the DAVID-613 processor system can trigger the electromagnetic safety gear by software.
In **submenu C426 Reset eFANG** (electromagnetic safety gear), the DAVID-613 processor system can trigger a software reset on the electromagnetic safety gear.
In submenu **C427 Emergency light test** of the DAVID-613 processor system, it is possible to switch on the emergency light by switching on the function.

C5 Leveling control

In the submenu **C5 Leveling control** is spent the current position of the car in mm. If the car is located concisely in the stop additionally a second numerical value provided with a sign is spent. A minus means that the car is located too low in purchase to the measured position. A plus means that it stands too high.

C6 Modul Monitor

In the menu **C60 equipment control** is spent in the subitem ER 00 to 16 and ER16 to 32 the condition of all devices at the pit bus i.e. all floor computers and auxiliary`s groups.

Legend:
"-" it is not missing a remote station at this address
"*" remote station at this adress is correct
"?" remote station at this adress has a defect

In addition the **pulse conditions** can be monitored during **digital shaft copying**. For normal counting it is necessary that the impulse conditions increase in the one direction and decrease in the other direction.
In addition the **revision number** of the individual operating system of blocks can be found there.
For the programming of the ER-2007 remote station serves **the parameter remote station address program.**
The remote station ER-2007 which can be programmed is connected to the RJ-45 cable with the central unit. All other floor computers may not be connected. Those program-bends at the ER-2007 must be set. By the choise of the floor number (01 to 32) ER-2007 gets its address. Afterwards the ER-2007 is installed into the appropriate floor.

C7 ASSEMBLING TRAVEL

In the **submenu C7 point C70** assembly travel can be activated during active resend control of these parameters.
When the assembling of a lift switches off, the safety circuit is not yet set at the beginning. This function makes the safety entrances U3 to U12 tension movement possible with the resend control. A condition is that against U1 and U2 clamping rests.
This reaches automatically the use of a KW assembly pear. If the resend control break this parameter it is automatically deactivated.

C8 EVENT LOG

In the **submenu C8, point C81 Event Log**

Event Log with the last 30 Events messages:
- Message -00: Power -ON
- Message -10: Emergency Evacuation ON
- Message -11: Emergency Evacuation Floor
- Message -12: Emergency Evacuation OFF

Event Log

	Event Messages			M55 Shaft light ON
	M00 power on			M56 Shaft light OFF
	M01 inspection on			M57 Earthquake evacuation on
	M02 inspection off			M58 Earthquake Evacuation Level
	M03 manual drive ON			M59 Earthquake evacuation off
	M04 manual drive OFF			M60 Relief travel START
	M05 standby travel ON			M61 Relief travel END
	M06 standby travel OFF			
	M07 emergency power ON			
	M08 emergecy pow.floor			
	M09 emergeny power OFF			
	M10 fire evacuation ON			
	M11 fire evac. floor			
	M12 fire evacuation OFF			
	M13 firefighter ON			
	M14 firefighter car			
	M15 firefighter OFF			
	M16 rescue travel ON			
	M17 rescue floor			
	M18 rescue travel OFF			
	M19 elevator check ON			
	M20 elevator check OFF			
	M21 attendant mode ON			
	M22 attendant mode OFF			
	M23 deadman mode ON			
	M24 deadman mode OFF			
	M25 WLAN-connection ON			
	M26 WLAN-connection OFF			
	M27 sabbath mode ON			
	M28 sabbath mode OFF			
	M29 preference car ON			
	M30 preference car OFF			
	M31 preference floor ON			
	M32 preference floor OFF			
	M33 lock floorcall ON			
	M34 lock floorcall OFF			
	M35 revision-door ON			
	M36 revision door OFF			
	M37 guide mode ON			
	M38 guide mode OFF			
	M39 erase error log			
	M40 maintenance switch ON			
	M41 maintenance switch OFF			
	M42 flood travel ON			
	M43 flood travel OFF			
	M44 directional change counter ON			
	M45 directional change counter OFF			
	M46 directional change counter warning			M95 modem ext. call
	M47 directional change counter reset			M96 safecopy relaytest
	M48 rope wear counter ON			M97 Test eFang OK
	M49 rope wear counter OFF			
	M50 rope wear counter warning			
	M51 rope weasr counter reset			
	M52 Evacuation Gas-ON			
	M53 Evacuation Gas-Floor			
	M54 Evacuation Gas-OFF			

C9 Doorcontrol manuel

	**In the menue C9, Point C90 Door 1 OPEN / CLOSE** The doors can be controlled manually only in the inspection operation with the two yellow button P-UP (door 1 - OPEN) and P-DOWN (Door 1 CLOSED).
	**In the menue C9, Point C91 Door 2 OPEN / CLOSE** The doors can be controlled manually only in the inspection operation with the two yellow button P-UP (door 2 - OPEN) and P-DOWN (Door 2 CLOSED).
	**In the menue C9, Point C92 Door 3 OPEN / CLOSE** The doors can be controlled manually only in the inspection operation with the two yellow button P-UP (door 3 - OPEN) and P-DOWN (Door 3 CLOSED).

F01 Error messages - description Controller

Code-No.	Error entry	Description
F00	**Phase Emergency Unit**	The power line for the cabin light resp. the emergency power supply is missing. Either circuit breaker F5 is activated or L2 of the main power connection is missing.
F01	**F01-Overvoltage protection**	
F02	**Security Circuit U1**	Safety Circuit power is missing. Either circuit breaker F7 is activated or L1 of the main power connection is missing.
F03	**Security Circuit U2**	The emergency stop has been activated and thus the safety circuit was opened.
F04	**Security Circuit U3**	The shaft door has been opened or the contact of the control strain weight was activated, which opens the safety circuit.
F05	**Security Circuit U4**	The maintenance door has been opened or the contact of the rope loose switch was activated, which opens the safety circuit.
F06	**Security Circuit U5**	The contact of the speed limiter has been activated, which opens the safety circuit.
F07	**Security Circuit U6**	The emergency stop switch Top or Bottom has been activated, which opens the safety circuit.
F08	**Security Circuit U7**	One of the buffer contacts has been activated and opened the safety circuit.
F09	**Security Circuit U8**	The catch contact on the cabin has been activated, which opens the safety circuit.
F10	**Security Circuit U9**	The contact of the rope loose contact cabin, the hatchway contact or the emergency stop cabin has been activated and opened the safety circuit.
F11	**Security Circuit U10**	One of the shaft doors has been opened during travel, which opens the safety circuit.
F12	**Security Circuit U11**	One of the cabin doors has been opened during the travel, which opens the safety loop.
F13	**Security Circuit U12**	One locking device contact has opened during travel and opened the safety circuit.
F14	**Voltage 24V ZR**	The ZKR's +24V DC power supply is in overload conditions, resp. shorted in the system.
F16	**Voltage 24V FKR**	The FKR's +24V DC power supply is in overload conditions, resp. shorted in the system.
F18	**Carlight defect**	The carlight in the cabin is out of order
F20	**Correction switch Top and Bottom activated - locking**	Both pre-end switches are activated. Either one of both switches is defect or one is mounted incorrectly. The installation is locked.
F21	**Correction switch Up defect**	The top pre-end-switch S13A is not switching, although the car has reached the top floor.
F22	**Correction switch Down defect**	The bottom pre-end-switch S13B is not switching, although the car has reached the lowest floor.
F23	**Correction switch Up and Down defect**	The top pre-end-switch S13A and the bottom pre-end-switch S13B are not switching, although the car is driven to both end floors.
F24	**2. Correction switch Up and Down aktive-Blockade**	Both second pre-end switches are activated. Either one of both switches is defect or one is mounted incorrectly. The installation is locked.
F25	**2. Correction switch Up and Down defect**	The second top pre-end-switch S15A is not switching, although the car has reached the top floor.
F26	**2.Pre-end switch Down defect**	The second bottom pre-end-switch S15B is not switching, although the car has reached the lowest floor.
F27	**2. Correction switch Down and Up defect**	The second bottom pre-end-switch S15A is not switching, although the car has reached the highest floor.
F28	**Bolt – End switch OFF**	The bolt loader is expected to deactivate the limit switch (s)
F29	**Bolt – End switch ON**	The bolt loader is expected to activate the limit switch (s)
F30	**UCM Error Block Valve**	Error Message of Bucher ivalve or Oildynamic NGV-A3
F31	**UCM - KW**	When leaving the inner zone with open door> A3 case -> blocking the system.

F32	**UCM - Monitoring**	When leaving the inner zone with open door> A3 case -> blocking the system.
F33	**UCM – SL-Sink Protection**	When leaving the inner zone with open door> A3 case speed limiter -> blocking the system.
F34	**U10 - Shaftdoor**	The error message F34 "U10 shaft door" indicates a selected bridge in the area of the shaft doors. Check at the clamping list X6 pit pit and X1 shaft cabinet, as well as the shaft door contacts on bridges!
F35	**U11 - Cardoors**	The error message F35 "U11-Cardoors" indicates a limited bridge in the area of the cabin doors. Check the X11 inspection box and the X1 manhole cupboard, as well as the cabinet door contacts on bridges!
F36	**Releveling distance**	With the releveling the releveling area was left.
F37	**Releveling- time**	With the releveling the maximum releveling time was exceeded.
F38	**Releveling Attemps**	With the releveling the maximum number of attempts was exceeded.
F39	**Quick Start**	This message is entered, if the Quick Launch the feedback E524 is not right. Only fault entry, no interruption of movement. The journey starts in case of error without quick start.
F41	**Regulation Fault**	The regulation (inverter) has a problem
F42	**Battery monitor**	The Battery of EOS or other external Units is too low
F43	**Temperature Switch cabinet 1**	The switchcabinet temperature is too cold –> limit 1
F44	**Temperature Switch cabinet 2**	The switchcabinet temperature is too hot –> limit 2
F45	**Motor temperature**	The PTC of the engine is activated. Reaction according to configuration.
F46	**Journey Time Start**	The configured delay for the Start Time Monitor has elapsed. After a configured number of trials, the installation is locked.
F47	**Journey Time Travel**	The configured delay for the Journey Time Monitor has elapsed. Reaction according configuration.
F48	**Journey Time Deceleration**	The configured delay for the Deceleration Time Monitor has elapsed. Reaction according to configuration.
F49	**Journey Time Stop**	The configured delay for the Stop Time Monitor has elapsed. Reaction according configuration.
F50	**U12-bar**	An error has occurred at tap U12 of the SiKr - erroneous bridging of the blocking means circuit
F51	**Brake opening monitor**	There is no expected signal levels at the monitoring braking inputs of the control DAVID-613
F52	**Brake shoe monitor**	The monitor for the brake wear has been activated. Reaction according configuration.
F53	**Contactor Stop**	The monitor for the main and brake relay has been activated. Reaction according configuration.
F54	**Brake opening synchronization**	The monitoring of the braking elements has been activated. One of the monitor inputs is out of order or it is slower than the other (s) channel. Please check it.
F55	**Contactor Travel**	The monitor for the main and brake relay has been activated. Reaction according configuration.
F56	**Phase Change**	The ranking of the phases U,V,W is wrong
F57	**Brake & Bolt Voltage**	The voltage monitor of the brake & bolt has sent an error
F58	**Low Pressure**	The pressure of the hydraulic is too low
F59	**Rope Stretching**	Error message loadmeasurement-systemes about an uneven stretching of a rope.
F60	**A3 - Case**	The car has left the floor with the door open and the lift was blocked. (Even in Simmulation!) **Three different ways to reset of the error "F60 A3-Case":** 1.) In the menu C0 Controller Reset 2.) Simultaneously pressing the three buttons maintenance call top-down call on the central unit ZR. 3.) De-energizing the FKR in the inspection box.
F61	**Door Close**	The door could not be closed within the configured time.
F62	**Separation Door**	The door could not be opened within the configured time.
F63	**Flap Apron**	The folding apron does not drive although the lowest stop left.
F65	**Push-Button landing call up**	Tracer landing call up wedges

F66	**Push-Button landing call down**	Tracer landing call down wedges

F67	**Push-Button Door open**	An entry takes place if the tracer is operated longer than 45 seconds in the stop and/ or in normal operation.
F68	**Photocell blocked**	An entry takes place if the lght barrier is operated longer than 45 seconds in the stop and/ or in normal operation.
F69	**Revers Contact blocked**	An entry takes place if the contact is operated longer than 45 secods in the stop and/or in normal operation
F70	**Blocked – End switch**	The hydraulic elevator is driven into the top end-switch. After leaving the top-end-switch the elevator has lowered and blocked in the lowest stop.
F71	**Blocked Journey time**	The hydraulic elevator lowered after the occurance of a run time arror
F72	**Blocked- TV60-1**	Two inputs channels of the TV60-1 are monitored for synchronization.
F73	**Blocked- TV60-2**	Two inputs channels of the TV60-2 are monitored for synchronization.
F78	**DSC 2. Pre-switch Bottom**	The digital shaft copying have started that the counted impulse conditions do not agree with the impulse conditions at the pre-end switcher down. A correction was implemented.
F79	**DSC 2. Pre-switch Top**	The digital shaft copying have started that the counted impulse conditions do not agree with the impulse conditions at the pre-end switcher up. A correction was implemented.
F80	**Communication I/O CPU**	The central unit and logic unit is internally disturbed. Ask customer service- reasonable.
F81	**Communication I/O FKR**	Communication to the car controller is disturbed. That is 15 pole. D-Subkabel correctly put or damages?
F82	**USV Defect / empty**	The UPS for emergency rescue is defective, or the charge status is empty.
F83	**DSC Change Puls**	The encoder pulses of the shaft encoder must be exchanged. (Input 81 and 82)
F84	**DSC No pulses**	From the pulse generator of the digital pit copying no impulses come. Are the giver and impulse entry correct?
F85	**DSC Floornumber**	The floor number determined by the learning trip does not agree with the registered. Please examine the entry in the software and zone switch for switching gap and function.
F86	**Correction ZONE**	Correction trip released by counter deviation for the zone.
F87	**Correction Pre-Switch Down**	Correction trip released by counter deviation Pre-end-switch down
F88	**Correction Pre-Switch Top**	There is a difference between the counter of the digital shaft-copy and the position of the Pre-switch top. The counter was adapted.
F90	**Watchdog-Reset**	Internal reset – damage in the hardware
F91	**Reset-Groupbus**	Internal reset due to error in the group bus
F92	**Security circuit**	The security circuit has sent an error. A cause a missing or retarded zone.
F93	**Liftbus Communication**	On the Liftbus (communication regulation STG) an error was sent.
F94	**Test Safety Photocell**	An error was announced of the safety photocell which was determined by the self check.
F95	**Interrupt Safety Photocell**	An error was announced of the safety photocell which was determined during the travel.
F97	**Zone Switches**	The contacts of the zone switches have a lot of switching acts
F98	**Prelevel-Switch-UP**	The contact of the Prelevel-switch UP has a lot of switching acts.
F99	**Prelevel-Switch-DOWN**	The contact of the Prelevel-switch Down has a lot of switching acts

F101	**IPM -Overcurrent** – Error message caused through wrong motor datas (**Nominal speed** – Motor datas)! – Error message caused through wrong motor datas (**Nominal current** – Motor datas)! – Old machines: Please switch off the **possition regulator**! Or change the settings! – Gearless: Is the motorwire correctly installed (U – V – W)? – Overcurrent because there is a shortcut in the motorwire? – Is the encoder wire connected correctly? Perhaps you must change the channels A and B? - Is the car easily running? Have the fixing shoes enough oil? Is the half-load OK?
F102	**Overcurrent U - Overcurrent because there are wrong motor datas or oscillations of the car** – Error message caused through wrong motor datas (**Nominal speed** – Motor datas)! – Error message caused through wrong motor datas (**Nominal current** – Motor datas)! – Old machines: Please switch off the **possition regulator**! Or change the settings! – Gearless: Is the motorwire correctly installed (U – V – W)? – Overcurrent because there is a shortcut in the motorwire? – Is the encoder wire connected correctly? Perhaps you must change the channels A and B? - Is the car easily running? Have the fixing shoes enough oil? Is the half-load OK?
F103	**Overcurrent V - Overcurrent because there are wrong motor datas or oscillations of the car** – – Error message caused through wrong motor datas (**Nominal speed** – Motor datas)! – Error message caused through wrong motor datas (**Nominal current** – Motor datas)! – Old machines: Please switch off the **possition regulator**! Or change the settings! – Gearless: Is the motorwire correctly installed (U – V – W)? – Overcurrent because there is a shortcut in the motorwire? – Is the encoder wire connected correctly? Perhaps you must change the channels A and B? - Is the car easily running? Have the fixing shoes enough oil? Is the half-load OK?
F104	**Overcurrent W - Overcurrent because there are wrong motor datas or oscillations of the car** – Error message caused through wrong motor datas (**Nominal speed** – Motor datas)! – Error message caused through wrong motor datas (**Nominal current** – Motor datas)! – Old machines: Please switch off the **possition regulator**! Or change the settings! – Gearless: Is the motorwire correctly installed (U – V – W)? – Overcurrent because there is a shortcut in the motorwire? – Is the encoder wire connected correctly? Perhaps you must change the channels A and B? - Is the car easily running? Have the fixing shoes enough oil? Is the half-load OK?
F105	**Dissipator Temperature: Temperature Dissipator too high –** - The inverter is overloaded or the controller casing is too hot. Is the power class of the inverter according to the motor? - Has the controller cabinet an air ventilation? Is above the inverter casing enough air room? - Are the fans of the inverter OK? - Is there any dirt on the pcb-board or in the heat sink?
F106	**DC-Overvoltage:** – There is no brake resistor connected or the type is incorrect -> Please measure the Ohm-value! – Main supply voltage too high -> Please check it – you must have a voltage of 400V AC! – There are voltage peaks on the main supply? - Is the frequency inverter connected to the ground?
F107	**DC-Undervoltage**:–The supply voltage is too low or the main contactor is switched off during the travel: - The DC voltage is too low –> Please control the supply voltage! - The maincontactors are switched off during the travel -> A phase of the supply voltage is missing! - The power class of the inverter is too low for the motor!
F108	**Main Contactor-Start:** - At the start, the main contactors do not switch ON -> The power supply is too low? - At the start, the main contactors do not switch ON -> The safety circuit is interrupted (Doorcontacts) - At the start, the main contactors do not switch ON -> The Fuse is switched OFF?
F109	**Main-Contactor-Travel:** - During the travel, the main contactors switch OFF -> The power supply is too low? - During the travel, the main contactors switch OFF -> The safety circuit is interrupted (Doorcontacts) During the travel, the main contactors switch OFF -> The fuse is switched OFF?

F110	**No Release:**
	- Drive direction UP or DOWN is missing at the end of the travel
	  o Controller: Delay for switch off the direction!
	- Drive direction UP or DOWN is missing at the end of the travel
	  o Safety circuit, check the door management!
	- Drive direction UP or DOWN is missing at the end of the travel
	–> Delay time for switching off the contactors to 1500 ms.

F111	**Release UP + DOWN** You must only have one direction of travel -> In case of a certain controller, which works only with one direction, please change the parameter setting in the inverter!
F112	**Wrong Direction** - Please change the encoder channels A/B, because the machine rotates in the wrong direction! - Perhaps it is the wrong type of encoder? -> **Menu A4 Motor/Gearbox -> Encoder system** - The number of pulses are wrong? -> **Menu A4 Motor/Gearbox -> Encoder Pulses** - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encoder-shield is not connected to both sides -> Change it immediately! - The encoder wire is parallel to the motor wire -> Change it immediately! - The encoder coupling or the encoder is not mechanically fixed with the motor wave -> Please check it!
F113	**Speed Variance** **–** The motor works, but the encoder is out of order or connected incorrectly. -> Control the pinning! - Perhaps it is the wrong type of encoder? -> **Menu A4 Motor/Gearbox -> Encoder system** - The number of pulses are wrong? -> **Menu A4 Motor/Gearbox -> Encoder Pulses** - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encoder-shield is not connected to both sides -> Change it immediately! - The encoder wire is parallel to the motor wire -> Change it immediately! - The motor and his metal socket are grounded very poorly -> Change it immediately! - The frequency inverter is not connected to the ground -> Change it immediately! - The motorwire-shield is not connected to both sides -> Change it immediately! - The brake resistor wire-shield is not connected on both sides -> Change it immediately! - The encoder coupling or the encoder is not mechanical fixed with the motor wave -> Please check it! - The frequency inverter has a current limit (full power) -> Power class too low - Is the car easily running? Have the fixing shoes enough oil? Is the half-load OK?
F114	**No Encoder Pulse** **-** The motor works, but the encoder is out of order or incorrectly connected. -> Control the pinning! - Perhaps it is the wrong type of encoder? -> **Menu A4 Motor/Gearbox -> Encoder system** - The number of pulses are wrong? -> **Menu A4 Motor/Gearbox -> Encoder Pulses** - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage ! - The encoder-shield is not connected to both sides -> Change it immediately! - The encoder wire is parallel to the motor wire -> Change it immediately! - The motor and his metal socket are grounded very poorly -> Change it immediately! - The frequency inverter is not connected to the ground-> Change it immediately! - The motorwire-shield is not connected to both sides -> Change it immediately! - The brake resistor wire-shield is not connected to both sides -> Change it immediately! - The encoder coupling or the encoder is not mechanical fixed with the motor wave -> Please check it
F115	**DC Precharge**: - After switching ON the inverter, the DC-voltage is too low -> Ground connection of the brake resistor wire - After switching ON the inverter, the DC-voltage is too low -> Ground connection of the brake resistor wire - After switchinf ON the inverter, the DC-voltage is too low -> The little two fuses into the inverter are out of order !
F116	**Release Change during the travel – Lift controller error** – Error of the lift controller or wrong settings in the parameter oft the controller / inverter!
F117	**Liftbus communication during the travel is out of:** - Wrong Liftbus parameter! - Wrong Liftbus cable or the shield not connected

F118	**SSI-Communication:** - Is there really **SSI-encoder connected**? -> **Menu A4 Motor/Gearbox -> Encoder system** - The encoder is out of order, e.g. after the test of the safety gear? - The encoder is falsely connected -> Please check the pinning -> Did you use the right adapter? - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encoder wire is parallel to the motor wire -> Change it immediately! - The encoder coupling or the encoder is not mechanically fixed with the motor wave -> Please check it!
F119	**EnDat-Communication:** - Is there really **EnDat-encoder connected**? -> **Menu A4 Motor/Gearbox -> Encoder system** - The encoder is out of order, e.g. after the test of the safety gear? - The encoder is falsely connected -> Please check the pining -> Did you use the right adapter? - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encode rwire is parallel to the motorwire -> Change it immediately! The encoder coupling or the encoder is not mechanically fixed with the motor wave -> Please check it!
F120	**Hiperface Communication:** - Is there really **Hiperface-encoder connected**? ->**Menu A4 Motor/Gearbox-> Encoder system** - The encoder is out of order, e.g. after the test of the safety gear? - The encoder is falsely connected -> Please check the pinning -> Did you use the right adapter? - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encoder wire is parallel to the motor wire -> Change it immediatly! - The encoder coupling or the encoder is not mechanically fixed with the motor wave -> Please check it!
F121	**Sin/Cos Communication:** - Is there really **Sin/Cos-encoder connected**? -> **Menu A4 Motor/Gearbox -> Encodersystem** - The encoder is out of order, e.g. after the test of the safety gear? - The encoder is falsely connected -> Please check the pinning -> Did you use the right adapter? - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - The encoder wire is parallel to the motor wire -> Change it immediatly! - The encoder coupling or the encoder is not mechanically fixed with the motor wave -> Please check it!
F122	**Angle Variance:** - The number of pulses are wrong -> Please change the setting - The encoder channels are out of order -> Please change the encoder? - The encoder is falsely connected -> Please check the pinning -> Did you use the right adapter?
F123	**Encoder Voltage-too low:** - Short cut at the encoder terminal -> Please check the pinning -> Did you use the right adapter? - The encoder is out of order, e.g. after the test of the safety gear? - The encoder is falsely connected -> Please check the pinning -> Did you use the right adapter? - The encoderwire is out of order or too long (>30m) ! -> Please increase the encoder voltage! - Is the correct type of **encoder connected**? -> **Menu A4 Motor/Gearbox -> Encoder system**
F124	**Motor Temperature-too high:** - The temperature of the area is too high - The motor is overloaded - The motor fan is out of order
F125	**Command Voltage-too low: Short cut at the 24V-Terminal, 24V-Terminal is overloaded:** - Short cut at the output terminal +24V -> Please check as soon as possible ! - The output channel +24V is overloaded -> please use an external power supply !
F126	**24V Output Driver** - Short cut at the output terminal -> Please check the pinning The output channels EA1 to EA8 are overloaded -> Perhaps there is a short cut or the current is too high -> Please check it, perhaps you must use external relays!
F127	**Relay Monitor-1:** Internal Relay-1 is out of order or the open-contact is clewing -> The switching load is too big (Inductive)! Please use a contactor to switch big loads, like the brake-magnet!
F128	**Relay Monitor -2:** Internal Relay-2 is out of order or the open-contact is clewing -> The switching load is too big (Inductive)! Please use a contactor to switch big loads, like the brake-magnet!
F129	**Relay Monitor -3:** Internal Relay-3 is out of order or the open-contact is clewing -> The switching load is too big (Inductive)! Please use a contactor to switch big loads, like the brake-magnet!

F130	**Monitor Brake-1:** - Brake-circuit-1 does not open / closed during the travel -> Are the settings OK? Do you have opener or closer-contacts? 0V (NPN-Thyssen) or+24V (z.B. Ziehl-Abegg,..) - Do have connected the brake wires correctly? - Do you have observed if the brakes open ? -> Brake wires ? - Are the brake-contacts OK ? -> If you have any doubts, make a measurement !
F131	**Monitor Brake-2:** - Brake-circuit-2 does not open / closed during the travel -> Are the settings OK? Do you have opener or closer-contacts? 0V (NPN-Thyssen) or+24V (z.B. Ziehl-Abegg,..) - Do have connected the brake wires correctly? - Do you have observed if the brakes open ? -> Brake wires ? Are the brake-contacts OK ? -> If you have any doubts, make a measurement !
F132	**Monitor Brake-3:** - Brake-circuit-3 does not open / closed during the travel -> Are the settings OK? Do you have opener or closer-contacts? 0V (NPN-Thyssen) or+24V (z.B. Ziehl-Abegg,..) - Do have connected the brake wires correctly? - Do you have observed if the brakes open ? -> Brake wires ? - Are the brake-contacts OK ? -> If you have any doubts, make a measurement !
F133	**Monitor Brake-4:** - Brake-circuit-4 does not open / closed during the travel -> Are the settings OK? Do you have opener or closer-contacts? 0V (NPN-Thyssen) or+24V (z.B. Ziehl-Abegg,..) - Do have connected the brake wires correctly? - Do you have observed if the brakes open ? -> Brake wires ? - Are the brake-contacts OK ? -> If you have any doubts, make a measurement !
F134	**Monitor Main Contactor:** - One of the main contactors cannot be switched ON -> Please control the contactors! - Please check the opener-contacts, clean it or change it! - Are the opener-contacts for 24V DC ? -> Please look at the data sheet!
F135	**ADC1-Zero-Offset:** - The current sensor-U is out of order. It is an internal error. Please contact our hotline.
F136	**ADC2-Zero-Offset:** - The current sensor-V is out of order. It is an internal error. Please contact our hotline.
F137	**ADC1-Offset:** - The AD-Changer-V is out of order. It is an internal error. Please contact our hotline.
F138	**ADC2-Offset**: - The AD-Changer-U is out of order. It is an internal error. Please contact our hotline.
F139	**Ground Fault:** - The motor is out of order, please measure each coil of the motor and compare it! - Please check, if the motorwire or resistor wire have any connection to the ground!
F140	**IPM-Error: or Supply voltage to low:** - Overtemperature in the IGBT-Chip -> Is there any dirt on the pcb-board or in the heat sink ? - The voltage of board is too low! -> Is the main supply voltage OK ?
F141	**Position Regulation:** - The difference at the start handling is too high, wrong parameter (**Nominal speed** -> motor-datas,..)! - The motor works, but the encoder is out of order or falsely connected. -> Control the pinning! - Perhaps it is the wrong type of encoder? -> **Menu A4 Motor/Gearbox -> Encoder system** - The number of pulses are wrong? -> **Menu A4 Motor/Gearbox -> Encoder Pulses** - The encoder wire is out of order or too long (>30m) ! -> Please increase the encoder voltage ! - The encoder wire is parallel to the motor wire -> Change it immediately! - The encoder-shield is not connected to both sides -> Change it immediately! Old machines: Please switch off the **position regulator**! Or change the settings!
F142	**NTC-Dissipator ::** - The temperature sensor delievers the wrong value: Please check the connection! - The temperature sensor is out of order. Please contact our hotline.
F143	**DC Battery Voltage:** At the evacuation-travel with battery, the voltage of the battery was too low. Please check the battery voltage!
F144	**Watchdog-Reset** There is an internal reset by the watch dog. Please contact our hotline.
F145	**Monitor Brake wear-1:** The input channel for the brake wear monitor is active. You need a new brake shoe or brake is not correcty adjusted!

F146	**Monitor Brake wear-2:** The input channel for the brake wear monitor is active. You need a new brake shoe or brake is not correcty adjusted!
F147	**Monitor Brake wear-3:** The input channel for the brake wear monitor is active. You need a new brake shoe or brake is not correcty adjusted!
F148	**Monitor Brake wear-4:** The input channel for the brake wear monitor is active. You need a new brake shoe or brake is not correcty adjusted!
F149	**Offset measure Pole Number:** There is a difference between the parameter motor type and the actual type!
F150	**Offset measur Brake:** During the offset measure, the motor does not rotate – please check the brake, because it is not open!
F151	**Offset measure Invalid :** The measured offset angle is not valid – check electric wiring and make the offset measure a second time!
F152	**Brake Resistor:** There is a short cut at the brake resistor!
F153	**Hydraulic – Pressure Sensor:** The input channel for pressure sensor is low. Please check the wire to the pressure sensor.
F154	**Hydraulic – Turbine:** The input channel for turbine is low. Please check the wire to the turbine.
F155	**Hydraulic – Low Pressure:** If the low pressure function is active, there is an error**.** The pressure is too low, because there is a problem in the hydraulic system or the limit-setting of the parameter is too high.
F156	**Resolver Fault:** Error on resolver in drive machines with resolver
F157	**SAS blocked:** The SAS module of the G90 frequency inverter has been disabled.
F158	**SAS Fault:** The SAS module of the frequency inverter G90 gives an error. Check door contacts!
F159	**V< 0,2 m/s:** The speed threshold V> 0.2 at the UCM (crawl with open door in the HS) was exceeded!
F160	**BISS-C Communication:** The absolute encoder with the BISS-C protocol has an error. Connection and, if necessary, PIN control necessary
F161	**IPM-Modulsafety:** Current value is exceeded. Safety shutdown of the module.
F201	**Mains Frequency**: - The softstart unit can not synchronizice with the power supply! - Wrong Power frequency? -> Has the power supply a frequency of 50 Herz ? - If there is a power supply with 60 Hz Netz – Please change the parameter B6 to 60 Hz !
F202	**Phase Failure:** - There are not all three phases at the power input ! - One phase is missing ! -> Please check voltage and current !
F203	**Phase Sequence:** - The phase sequence at the power input is wrong ! - Right: L1 – L2 – L3 Wrong: L2 – L3 – L1 or..L3 – L1 – L2
F204	**Phase Rotation**: - The phase rotation at the power input is no right-rotation-field! Right: L1 – L2 – L3 Wrong: L2 – L1 – L3 or.. -> Please check it and make a right rotation field !
F205	**Dissipator Temperature too High**: - The softstart is overloaded, is the power class of the unit ok? - The temperature sensor delievers the wrong value: Please check the connection! The temperature sensor is out of order. Please contact our hotline.
F206	**Motor Temperature - Motor and oil too hot:** - The temperature of the area is too high ! - The motor is overloaded ! - The number of travels is too high ? -> Do you need an oil-cooling?
F207	**Relay-1 Contactor:** Internal Relay-1 is out of order or the open-contact is clewing -> The switching load is too big (Inductive)! Please use a contactor to switch big loads, like the valve-magnet!

F208	**Relay-2 Contactor:** Internal Relay-2 is out of order or the open-contact is clewing -> The switching load is too big (Inductive)! Please use a contactor to switch big loads, like the valve-magnet!
F209	**Main Contactor Monitoring:** - One of the main contactors cannot be switched ON -> Please control the contactors! - Please check the opener-contacts, clean it or change it! - Are the opener-contacts for 24V DC ? -> Please look at the data sheet!
F210	**Liftbus Communication is interrupted:** - Wrong Liftbus parameter ! - Wrong Liftbuscable or the shield not connected!
F240	**Fan Monitoring Controller-Cabinet** The fan of the controller-cabinet is out of order. Please check the fuse, wiring & the fan.
F241	**Carlight Monitoring** One of the lights of the car lights is out of order. Please check the fuse, wiring & light
F243	**Monitoring Doorstep Heating – 1** The heating of the shaft-doorstep is out of order. Please check the fuse, wiring & the heating
F244	**Monitoring Doorstep Heating – 2** The heating of the shaft-doorstep is out of order. Please check the fuse, wiring & the heating
F245	**Monitoring Doorstep Heating – 3** The heating of the shaft-doorstep is out of order. Please check the fuse, wiring & the heating
F246	**Monitoring Doorstep Heating – 4** The heating of the shaft-doorstep is out of order. Please check the fuse, wiring & the heating
F247	**Carfan Monitoring** The fan of the car is out of order. Please check the fuse, wiring & the fan.
F248	**Electric Socket Monitoring** The electric socket in the pit is out of order. Please check the fuse, wiring & the socket.

F250	Light Curtain Door-1	Door-1 light cutain outputs error message and is therefore defective.
F251	Light Curtain Door-2	Door-2 light cutain outputs error message and is therefore defective.
F252	Light Curtain Door-3	Door-3 light cutain outputs error message and is therefore defective.
F253	Overspeed – Manual Speed	If the return travel of 0.3 m / s is exceeded, the journey is interrupted. Possible causes: 1.) Incorrect setting of the return speed in the control unit. 2.) Wrong setting of the nominal speed in menu A3.6. 3.) Incorrect setting of the return speed in menu B601.
F254	Overspeed – Inspection Speed	If the inspection distance of 0.5 m / s is exceeded, the journey is interrupted. Possible causes: 1.) Incorrect setting of the inspection speed in the control unit. 2.) Wrong setting of the nominal speed in menu A3.6. 3.) Incorrect setting of the inspection speed in menu B601
F255	Overspeed – Nominal Speed	If the nominal run of 15% is exceeded, the journey is interrupted. Possible causes: 1.) Incorrect setting of the nominal speed in the control unit. 2.) Wrong setting of the nominal speed in menu A3.6.
F256	UCM-Zone-1	Relay-contact of UCM-Zone-1 is not switching
F257	UCM-Zone-2	Relay-contact of UCM-Zone-2 is not switching
F288	Flood in pit	Water senor is active, because water is in the pit
F265	F265 eFANG Reset	The eFANG (electromagnetic catch) could not be reset after the reset or the feedback signal at input E1004 is missing.
F266	F265 eFANG Test	The feedback input E1004 of eFANG (electromagnetic catch) did not switch as intended during test sequence and this leads to blocking!
F300	CAN1-Bus – REC Warning	
F301	CAN1-Bus – TEC Warning	
F302	CAN1-Bus – REC Passing	
F303	CAN1-Bus – TEC Passing	
F304	CAN1-Bus – Bus-Off	Der CAN1-Bus is switched OFF
F305	CAN1-Bus – ID02-Heartbeat missing	At the CANbus Device ID02 there is no Heartbeat-Signal
F306	CAN1-Bus – ID04-Heartbeat missing	At the CANbus Device ID04 there is no Heartbeat-Signal
F307	CAN1-Bus – ID07-Heartbeat missing	At the CANbus Device ID05 there is no Heartbeat-Signal
F308	CAN1-Bus – ID08-Heartbeat missing	At the CANbus Device ID06 there is no Heartbeat-Signal
F309	CAN1-Bus – ID09-Heartbeat missing	At the CANbus Device ID09 there is no Heartbeat-Signal
F310	CAN1-Bus – ID13-Heartbeat missing	At the CANbus Device ID13 there is no Heartbeat-Signal
F311	CAN1-Bus – ID16-Heartbeat missing	At the CANbus Device ID16 there is no Heartbeat-Signal
F312	CAN1-Bus – ID17-Heartbeat missing	At the CANbus Device ID17 there is no Heartbeat-Signal
F313	CAN1-Bus – ID18-Heartbeat missing	At the CANbus Device ID18 there is no Heartbeat-Signal
F314	CAN1-Bus – ID19-Heartbeat missing	At the CANbus Device ID19 there is no Heartbeat-Signal
F315	CAN1-Bus – ID20-Heartbeat missing	At the CANbus Device ID20 there is no Heartbeat-Signal
F400	F400 SAFE end switch top	The position of the end switch on the top has been reached
F401	F401 SAFE end switch bottom	The position of the end switch on the bottom has been reached
F402	F402 SAFE UCM	SAFE shaft copy has interrupted the SiKr – the exiting of the cabin with an open door has been noticed and cancelled

F403	F403 SAFE end switch top inspection	SAFE shaft copy has interrupted the SiKr – the position of the end switch on the top for the inspectional operation with shortend shaft copy has been reached. Inspectional operations only possible if going down.
F404	F404 SAFE end switch bottom inspection	SAFE shaft copy has interrupted the SiKr – The position of the end switch on the bottom for the inspectional operation with shortend shaft copy has been reached. Inspectional operations only possible if going up.
F405	F405 SAFE deceleration monitor	SAFE shaft copy has interrupted the SiKr – The speed on the checkpoint for the delayed control was too high. -> Termination of the trip.
F406	F406 SAFE overspeed	SAFE shaft copy has interrupted the SiKr – the speed value of the catch-up speed.
F407	F407 SAFE inspection speed	SAFE shaft copy has interrupted the SiKr - the speed value of the catch-up speed.
F408	F408 SAFE system	SAFE shaft copy has interrupted the SiKr due to a system error.
F409	F409 SAFE system off	SAFE shaft copy has interrupted the SiKr due to a system error because the system is turned off.
F410	F410 SAFE overspeed releveling	SAFE shaft copy has interrupted the SiKr – the speed value of the catch-up speed was exceeded.
F411	F411 SAFE overspeed leveling	SAFE shaft copy has interrupted the SiKr - the speed value of the catch-up speed was exceeded.
F412	F412 SAFE Hardware	If the eSGC is active and the connection is open, i.e. the electromagnetic safety gear is not connected, the following error message is displayed

4.0 Menu D - Information

D9 Safecopy

The menu D9 is used to quickly get an overview of the function and the configuration of the connected SAFE system. There can be no parameters set there.

D9 Status:

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D9 Status:
Normal operation
Normal operation
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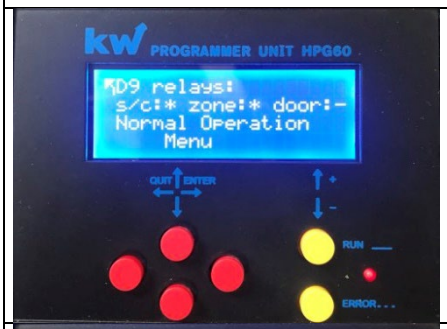
menu

Display of the state of the safe copy. The following states are possible:

Normal operation: ANTSSAFE works flawlessly
Wait reset: ANTSSAFE has become due to an Error locked. Reset dur. New start
Setup-1: The ANTSAFE was not yet configured
Setup-2: The first part of the basic configuration was carried out
Setup-3: The second part of the basic configuration was carried out.

system off:	ANTSSAFE not available
system ini:	state during power up
system start:	state during power up



D9 Relay

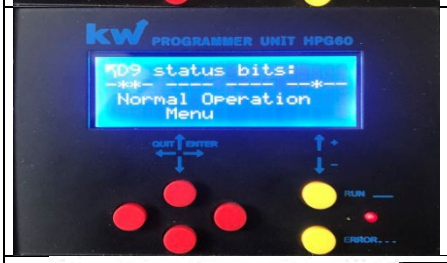
```
D9 Relais:
SiKr:* zone:* Door:-
Normal operation
```

menu

* =: Closed/ active
- =: Open / deactive

Display of the switching position of the following relays SiKr, door zone & door lock.

Sikr:*/-	If "*" then the safety circuit is closed, the system is ready to drive
Zone: */-	If "*" then the zone area is output, the cabin is in the door zone area
Tür: */-	If "*" then the safety relay for the door override has been activated



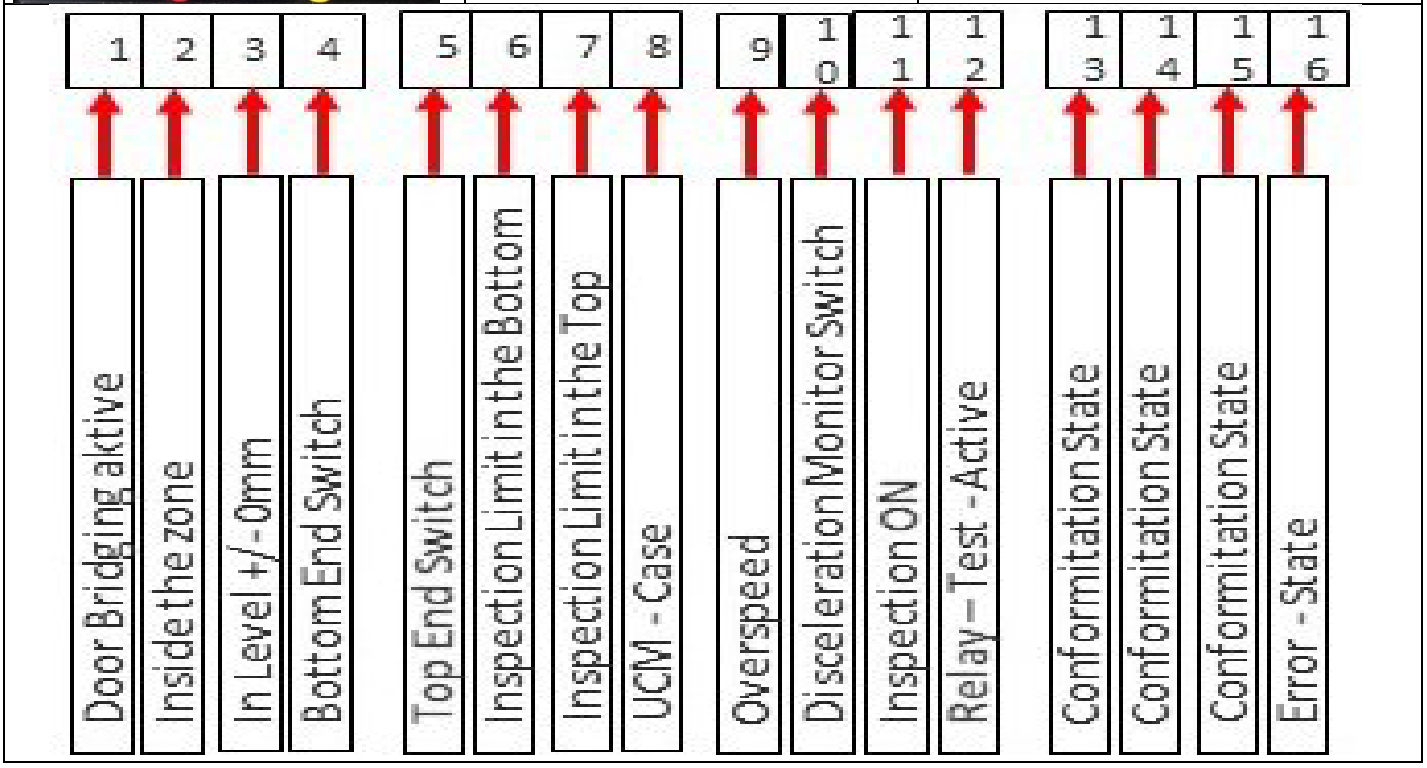
D9 Status bits

```
D9 Status bits:
-**- ---- ---- --*-Normal
operation
```

menu

Display of the internal communication between the SAFE copy and the D613 controller.

Here, the internal PSU status bits, which are transmitted from the SAFE copy to the controller using the CANopen-Lift protocol, are displayed.
These are for internal documentation purposes only and may be required to be sent to our hotline.



	**D9 ANTSSAFE - zones** D9 zone: length: 400mm Normal operation menu Display of the door zone length in mm.	Here, the zone length is shown, the during the configuration in the SAFE Copying was saved.
	**D9 ANTSSAFE - Inspection** D9 inspection: Only speed monitoring Normal operation menu Display of the supervision of the inspection speed. The following information is possible:	„ no monitoring ": The inspection monitoring is deactivated "Only speed monitoring": In inspection mode, the max. Speed over-wacht (0,6m / s) "Limit switch up": The function "inspection limit switch-up" for the protection room monitoring in the shaft head is activated "Limit switch down": The function "inspection limit switch-down" for protection room monitoring in the shaft pit is activated "Limit switch up + down": Both guard room monitors are activated
	**Monitoring Nominal speed** Monitoring Nominal speed.:5,000m/s Normal operation Menu Display of the monitored rated speed in m / s.	Here, the speed threshold is displayed in m / s, which at the Configuration of the SAFE copy was saved.
	**end switch- TOP** end switch-TOP position: xxx,000m Normal operation menu Display of the switch position top in m.	Position: xx, xxxm The absolute position of the upper, taught-in limit switch is displayed here.
	**end switch-BOTTOM** end switch-BOTTOM position: xxx,000m Normal operation menu Display of the switch position down in m.	Position: xx, xxxm The absolute position of the lower taught-in limit switch is displayed here.
	**dec. monitor BOTTOM** Dec. monitor-BOTTOM Control above: Off/On Normal operation menu Indication of whether the deceleration control was activated below.	Off / Position: xx, xxxm Here, you can see if the delay check below when configuring the SAFE copy disabled or enabled. If this has been activated stands there the absolute position of the monitoring point.

	**decel. Monitor TOP** decel-monitor-TOP Control above: Off/On Normal operation menu Indicates whether the delay control has been activated above.	Off / Position: xx, xxxm Here, you can see if the delay control above in the configuration of the SAFE copy disabled or enabled. If this has been activated stands there the absolute position of the monitoring point.
	**floors - ANTSSAFE** floors ANTSSAFE: 04 floors D613: 04 Normal operation menu Here, the number of floors of the SAFE copy and the floor number of the control D613 is displayed in comparison.	Here, the number of taught-in levels of the SAFE copy after the Learning trip and the specified number of floors in the shaft shown. **Both floor values must have the same value after commissioning!**
	**D9 ANTSSAFE /Limax 33CP- Software** ANTSSAFE-Software: CRC: xxxxxxxx Normal operation menu Here, the CRC sum of the safe core of the Sil-3 software is displayed.	Here, the CRC sum of the safe core of the Sil-3 software is displayed. This sum should match the value of the certificate of the type examination certificate. Off and On switches rewatch the CRC value. The CRC sum may vary depending on the software version.

Display at Variotech ANTS Safe

The software signature ANTS-ASA2: 0x7950DE2A is in the file ASA2_ASE-EU_conformity2019_01 on page 6/12 point 2.25. This signature (CRC sum) is read by the D613 and displayed in menu D9.

TÜV-A-AT-1-18-0545-EUES-1 – Anhang 1 / *Annex 1*

2.11 ANTS-ASE Schutzgrad / *Degree of protection:* IP 30

2.12 ANTS-ASA2 Schutzgrad / *Degree of protection:* IP 00 eingebaut im geschützten und geerdeten Gehäuse / *Installed in a protected and grounded housing* ≥IP2X

2.13 Spannung Stromkreis des SC1 / *Voltage of the SC1 circuit*: 48 – 230 V/ 50 Hz oder / *or* max. 24VDC

2.14 Spannung Stromkreis der Türüberbrückung: 48 – 230 V/ 50 Hz oder / *or* max. 24VDC
Voltage of the door overbriging circuit:

2.15 Überlast-, Kurzschlussschutz Stromkreises SC1: max. 2 A /AC oder / *or* 1 A / DC
Overload, short cut circuit protection of the SC1 circuit :

2.16 Überlast-, Kurzschlussschutz Stromkreises Türüberbrückung: max. 2 A /AC oder / *or* 1 A / DC
Overload, short cut circuit protection of the door overbriging circuit:

2.17 Türzonenemulation / *Door zone emulation (X6)*: 24VDC / VAC, max. 100 mA

2.18 Betriebstemperatur / *Operating temperature:* -5°C bis / *to* 55 °C

2.19 Lager- und Transporttemperatur / *Storage and transport temperature*: -10°C bis / *to* 70°C

2.20 Relative Luftfeuchte / *Relative humidity*: < 90%, ohne Kondensation / *without condensation*

2.21 Luftdruck / *Air pressure*: 1013 hPa bis / *to* 800 hPa bis / *up to* 2000 m über / *above* NN

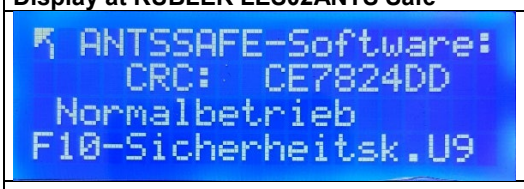
2.22 Identifikation der Platine ANTS-ASA2 / *Identification number of PCB of ANTS-ASA2:*
ASAv100, UCMIFv100

2.23 Identifikationsnummer Platine des ANTS-ASE / *Identification number of PCB of ANTS-ASE:*
ASERXv100, ASETXv100

2.24 Softwareversionsnummer / *Software version number* ANTS-ASA2: v200

2.25 Softwaresignatur / *Software signature* ANTS-ASA2: 0x7950DE2A

Display at KÜBLER LES02ANTS Safe



The software signature LES02ANTS: 0xCE7824DD is in the file LES02_ASE-EU_conformityon page 6/12 point 2.23. This signature (CRC sum) is read by the D613 and displayed in menu D9.

TÜV-A-AT-1-19-0603-EUES – Anhang 1 / *Annex 1*

2.22 Softwareversionsnummer / *Software version number* PSU02: v210

2.23 Softwaresignatur / *Software signature* PSU02: 0xCE7824DD

2.24 Systemreaktionszeit / *System reaction time*: <25 ms

Display at ELGO LIMAC 33 CP	**Encoder systems - delivery by OCTOBER 2020 SW2.3**
LIMAX33CP-Konfig: CRC: 25E52A88 Normalbetrieb Menü	This CRC depends on the basic configuration, which is either programmed by us (in addition the configuration printout, which should be included with CRC sums) or can be configured on site.
LIMAX33CP-Software: CRC: 0B55D094 Normalbetrieb Menü	**The file BES_ELGO_EU-ESD 030-1_20190617 file contains the new CRC total of the firmware for the current LIMAX33CP version.**

Seite 2 von 2
Unsere Zeichen/Erstelldatum: IS-FTT-STG/ /17. Juni 2019

TÜV SÜD Industrie Service

System Component	Identification	
HW version	-LIMAX33CP.03.3 -LIMAX33CP.03.3 und LIMAX33SGC.00.0 -LIMAX33CP.03.3 und LIMAX33SGC.00.1	
SW version	2.3	R5
CRC	0x0B55D094	

Identifikation von LIMAX33 CP

Dieses Schreiben ergänzt die beiden EU-Baumusterprüfbescheinigungen EU-ESD 030 vom 29.01.2018 bzw. Nr. EU-ESD 030/1 vom 31.07.2018
Die übrigen Festlegungen der Bescheinigungen gelten unverändert weiter.

Mit freundlichen Grüßen

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

Achim Janocha

Der Sachverständige

Peter Retzbach

Display at ELGO LIMAC 33 CP	**Encoder systems - delivery from November 1, 2020 SW2.4**
LIMAX33CP-Konfig: CRC: 744EC631 Normalbetrieb F09-Sicherheitsk.U8	This CRC depends on the basic configuration, which is either programmed by us (in addition the configuration printout, which should be included with CRC sums) or can be configured on site.
LIMAX33CP-Software: CRC: E1E79812 Normalbetrieb F09-Sicherheitsk.U8	**The file BES_ELGO_EU-ESD 030-1_20190617 file contains the new CRC total of the firmware for the current LIMAX33CP version.**

Seite 2 von 2
Unsere Zeichen/Erstelldatum: IS-FTT-STG/ /06. Juli 2020

TÜV SÜD Industrie Service

System Component	Identification	
HW version	-LIMAX33CP.03.3 -LIMAX33CP.03.3 und LIMAX33SGC.00.0 -LIMAX33CP.03.3 und LIMAX33SGC.00.1	
SW version	2.4	R1
CRC	0xE1E79812	

Identifikation von LIMAX33 CP

Dieses Schreiben ergänzt die beiden EU-Baumusterprüfbescheinigungen EU-ESD 030 vom 29.01.2018 bzw. Nr. EU-ESD 030/1 vom 31.07.2018
Die übrigen Festlegungen der Bescheinigungen gelten unverändert weiter.

Mit freundlichen Grüßen

Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile

Achim Janocha

Der Sachverständige

Peter Retzbach

Display at ELGO LIMAC 33 CP

Encoder systems - delivery from January 2021 SW2.5

This CRC depends on the basic configuration, which is either programmed by us (in addition the configuration printout, which should be included with CRC sums) or can be configured on site.

The file BES_ELGO_EU-ESD 030-030-1_201202 file contains the new CRC total of the firmware for the current LIMAX33CP version.

In dem „Technical Report" mit Report No.: ER91576T Version 1.9 vom 01.12.2020 von TÜV SÜD Rail GmbH, wurden die neue SW-Version v2.5r0 geprüft und freigeben.

Anstelle wie in den oben genannten Bescheinigungen unter Ziffern 2.4 bzw. 2.5 genannt, ist das System durch Hardware-/ und Software-Version wie folgt zu kennzeichnen:

System Component	Identification	
HW version	LIMAX33CP.03.3 LIMAX33SGC.00.0 LIMAX33SGC.00.1	
SW version	v2.4r1	V2.5r0
CRC	0xE1E79812	0xEAEEFF74

Identifikation von LIMAX33 CP

V. 2020-11

Sitz: München
Amtsgericht München HRB 96 869
USt-IdNr. DE129484218
Informationen gemäß § 2 Abs. 1 DL-InfoV unter www.tuvsud.com/impressum

Aufsichtsrat:
Reiner Block (Vors.)
Geschäftsführer:
Ferdinand Neuwieser (Sprecher),
Thomas Kainz

Telefon: +49 711 7005-754
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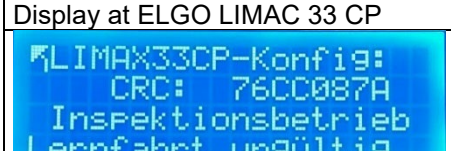
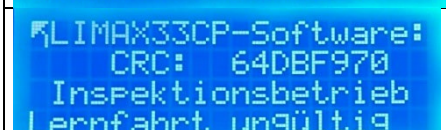
TÜV SÜD Industrie Service GmbH
Zentralbereich Fördertechnik
Abteilung New Technologies
Gottlieb-Daimler-Str. 7
70794 Filderstadt
Deutschland

Display at ELGO LIMAC 33 CP

encoder systems - delivery from September 2022 SW2.6r2



This CRC depends on the basic configuration, which is either programmed in by us (for this purpose the configuration printout, which should contain CRC sums) or can also be configured on site!



The file U4g-BES_ELGO_LIMAX33CP_220427 contains the new CRC sum of the firmware for the current LIMAX33CP version.

In dem „Technical report" mit Report No.: ER91576T Version 1.10 vom 19.02.2022 von TÜV SÜD Rail GmbH, wurden die bestehenden und neue SW-Version v2.6r2 geprüft und freigeben.

In den unter Ziffer 2.4 bzw. Ziffer 2.5 der oben genannten Bescheinigungen, ist das System durch Hardware-/ und Software-Version wie folgt gekennzeichnet:

System Component	Identification		
HW version	LIMAX33CP.03.3 LIMAX33SGC.00.0 LIMAX33SGC.00.1		
SW version	v2.4r1	v2.5r0	v2.6r2
CRC	0xE1E779812	0xEAEEFF74	0x64DBF970

Identifikation von LIMAX33 CP

Sitz: München
Amtsgericht München HRB 96 869
USt-IdNr. DE129484218
Informationen gemäß § 2 Abs. 1 DL-InfoV unter www.tuvsud.com/impressum

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Thomas Kainz, Simon Kellerer

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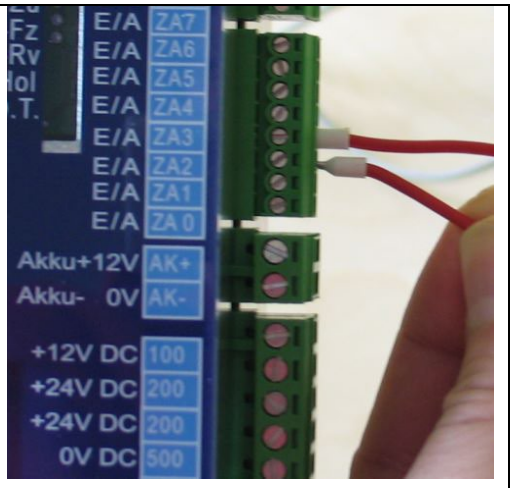
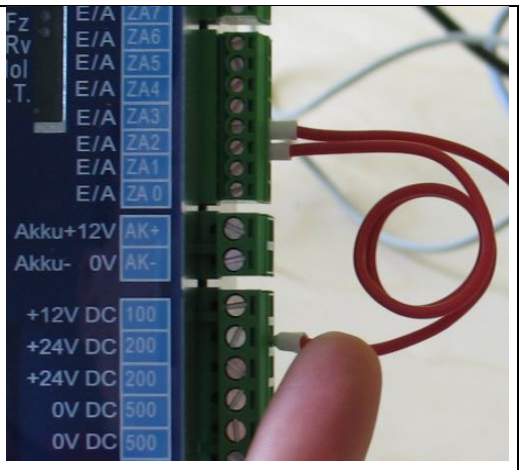
70794 Filderstadt
Deutschland

5.0 Test instructions & TÜV approval

I01 Function test – Self-Monitoring of the Braking Elements after EN81-1/2:1998+A3:2009

Generally
Due to the development of the software, the function of the brake elements in-plant monitoring at KW Aufzugstechnik GmbH in the testing, as well as in the on-site commissioning of the lift system must be examined. The description of the functional test is part of the manual.

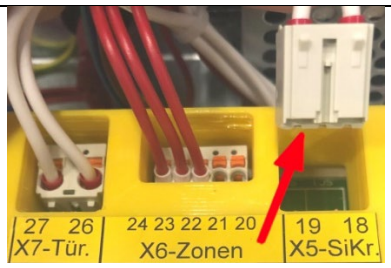
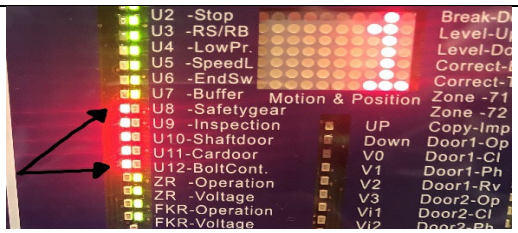
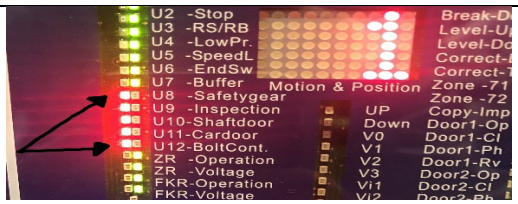
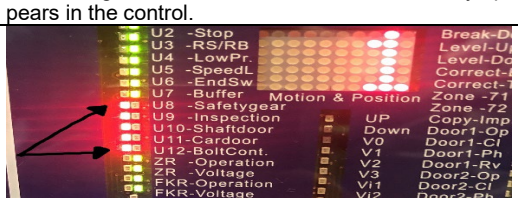
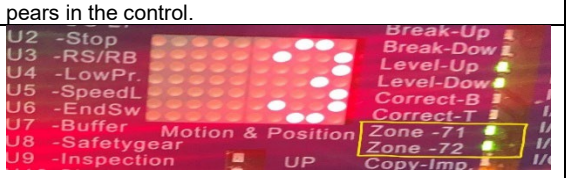
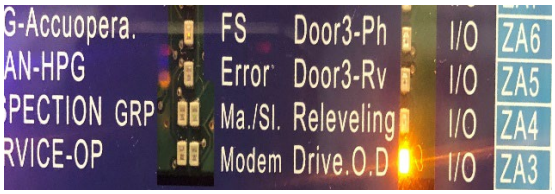
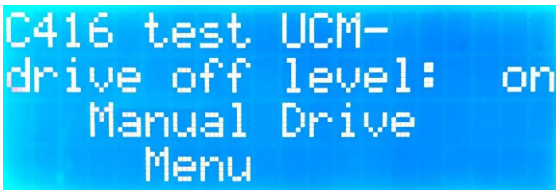
Test cable break - Monitoring Input 1 1.) Switch off the signal line at the monitoring input channel 1. 2.) Return Motion Drive UP or DOWN 3.) The Controller DAVID 606/613/2005 gives the error message "F54 – Brake Element Synchronization" and locks. More trips are not possible! 1.) Switch on the signal line at the monitoring input channel 1. 5.) With the Return-Drive to try to take a ride. A drive may be not possible! 6.) In the menu C0 the Controller DAVID 606/613/2005 can be unlocked in the fault memory by selecting the error. The elevator system is ready to start again.	 Removing the monitoring channel 1

Test cable bridge - Monitoring Input 1 1.) Switch off the signal line at the monitoring input channel 1 and put in a jumper between terminal 200 (+24 V DC) and channel 1. 2.) Return Motion Drive UP or DOWN 3.) The Controller DAVID 606/613/2005 gives the error message "F51 – Brake Element Function" and locks. More trips are not possible! 4.) Put off the jumper between the terminal 200 and channel 1. Switch on the signal line at the monitoring input channel 1. 5.) With the Return-Drive to try to take a ride. A drive may be not possible! 6.) In the menu C0 the Controller DAVID 606/613/2005 can be unlocked in the fault memory by selecting the error. The elevator system is ready to start again.	 Setting the jumper between 20o and Channel 1

Repeat the test steps
After the two test steps were carried out for the monitoring braking element 1, then for all other brake circuits have now equivalent to the test steps are carried out!

I02A ANTS-SAFE instruction for ANTS-ASA2-ASE:

The ANTSSAFE shaft copying system with the ANTS-ASA2-ASE evaluation unit is a safe position evaluation according to SIL-3 for implementing the functions of limit switches, inspection limit switches, deceleration limit switches, Unintended Car Movement (UCM) as well as for safe bridging of the safety circuit in the area of the doors in the event of premature failure door opening / retrieval of elevator systems according to EN81-20. The complete system consists of two devices, the ANTS-SAFE encoder and the ANTS-SAFE evaluation unit (ASA2) described here. In contrast to a conventional shaft copying with safety limit switches, as well as redundant zone switches with a safety circuit for door bridging, safe-copying no longer exists! The position detection takes place exclusively via a coded band, as well as a redundant evaluation unit. Thus, it is not possible to test non-existent switches! In a learning sequence, the positions of the limit switches and the floors must be taught-in. Thereafter, the taught-in limit switch positions and the zones around the taught-in levels are emulated. The functioning of the emulated switches is not tested, since the safe system (SIL-3) already performs all self-tests

STEP - 1	 **Checking the opening of the safety circuit:** To ensure that an ANTS-SAFE fault actually opens the safety circuit, the XTS connector can be disconnected at the ANTS-ASA-2-ASE evaluation unit.	>	 As a result, the safety circuit of the elevator control is interrupted. This can be visually checked on the D613, all LEDs of the safety circuit from U8 must now light up red.
STEP - 2	 **Checking the limit switches above:** The limit switch position can be approached in the D613 control via the "C410 limit switch travel up" menu.	>	 When passing this position, the safety circuit on the ANTS-ASA2-ASE is opened at connector X5. At the D613 control, all LEDs of the safety circuit now light up red starting at U8. At the same time an error entry appears in the control.
STEP - 3	 **Checking the limit switches below**: In the D613 control, the limit switch position can be approached via the "C411 limit switch travel down" menu.	>	 When passing this position, the safety circuit on the ANTS-ASA2-ASE is opened at connector X5. At the D613 control, all LEDs of the safety circuit now light up red starting at U8. At the same time an error entry appears in the control.
STEP - 4+5	 **Check the zone switch:** First of all, in menu D9 floors ANTSSAFE: xy "/" floors D613: xy "it can be checked that the ANTSSAFE and the D613 control board have learned the same number of floors.		 **The zone areas** can be identified on the D613 using the two green ZONE LEDs. Only in the area of the zones around the respective floors may these LEDs light up. The zone information is from the ANTS ASA2 ASE.
STEP - 6+(7)	 The function of the door override can be checked by activating in the menu "B16 retraction with open door". When traveling up to the floor, the door lock is activated only in the zone area, which is indicated by the rapid flashing of the LED "Drive O.T in the D613. independently and permanently and thus, e.g. the permitted door lockout complies with the standards.		 **In addition (OPTIONAL**), the function "C416 Test UCM zone travel" can be checked on every floor so that the UCM case is triggered when leaving the zone when door lock is activated.

I02B – ELGO LIMAX CP33 Test Instructions

The shaft copying system ELGO LIMAX CP33 is a safe position evaluation according to SIL-3 for the implementation of the functions of limit switches, inspection limit switches, deceleration limit switches, Unintended Car Movement (UCM) as well as for safe bridging of the safety circuit in the area of the doors in the case of premature door opening / retrieval of Lift systems according to EN81-20.
The complete system consists of the central unit LIMAX CP33 and the corresponding magnetic tape. In contrast to a conventional shaft copying with safety limit switches, as well as redundant zone switches with a safety circuit to bridge the door, safe-copying no longer exists! Position detection takes place exclusively via a coded band as well as a redundant evaluation unit. Thus, it is not possible to test non-existent switches! In a learning sequence, the positions of the limit switches and the floors must be taught-in. Thereafter, the taught-in limit switch positions and the zones around the taught-in levels are emulated. The functioning of the emulated switches is not tested, since the safe system (SIL-3) already performs all self-tests independently and permanently and thus, e.g. the permitted door lockout complies with standards.

STEP-0

System Reboot
Some self-diagnostic checks of the LIMAX33CP-00 are only performed when the system is restarted. Therefore, it is absolutely necessary to restart the LIMAX33CP-00 at the annual check. This can be done either via the RESET button, by a RESET command from CAN or by disconnecting / reconnecting the main power supply.

Magnet Tape
For the magnetic tape, tape guide and tape presence sensor, observe the maintenance instructions in the manual for the magnetic tape.

Configuration Set
The configurable parameters / features of the LIMAX33CP-00 are noted on the information sheet enclosed with the lift documentation. They must correspond to the conditions of the elevator.

STEP-1

>

Checking the opening of the safety circuit:
To ensure that a fault of the LIMAX CP33 actually opens the safety circuit, the connector 2Z-3 can be removed from the FKR.

On the LIMAX CP33, the safety circuit is opened at the OC / terminal 2Z - 3 SiKr output. All LEDs of the safety circuit from U8 on the D613 control now light up red.

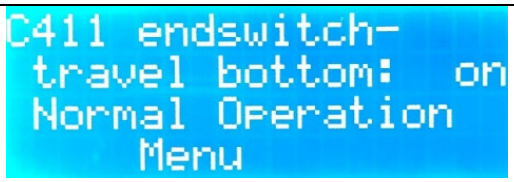
STEP-2

>

Check the limit switch above:
The limit switch position can be approached in the D613 control via the "C410 limit switch travel up" menu.

When crossing this position, the safety circuit on the LIMAX CP33 at the OC / terminal 2Z - 3 SiKr output is opened. At the D613 control, all LEDs of the safety circuit now light up red starting at U8. At the same time, a fault entry appears in the control.

STEP-3



>

Checking the limit switches below:
In the D613 control, the limit switch position can be approached via the "C411 limit switch travel down" menu.

When crossing this position, the safety circuit on the LIMAX CP33 at the OC / terminal 2Z - 3 SiKr output is opened. At the D613 control, all LEDs of the safety circuit now light up red starting at U8. At the same time, a fault entry appears in the control.

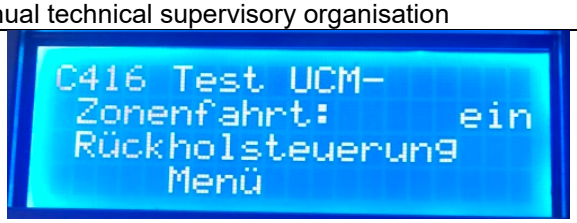
STEP-4+5

Check the zone switch:
First of all, in menu D9 floors ANTSSAFE: xy "/" floors D613: xy ", it can be checked that the ANTSSAFE and the D613 controller have learned the same number of floors

The zone areas can be identified by the two green ZONE LEDs on the D613. Only in the area of the zones around the corresponding floors may these LEDs light up. The zone information comes from the LIMAX CP33

STEP- 6+(7)

The function of the door override can be checked by activating in the menu "B16 retraction with open door". When traveling to the floor, the door override is activated only in the zone area, which is indicated by the rapid flashing of the LED "Einf.O.T in the D613.



Additionally (OPTIONAL) the function "C416 Test UCM zone travel" can be checked on every floor to trigger the UCM case when leaving the zone when the door lock is activated.

STEP- 8

The function of checking the inspection direction is initiated by activating the inspection. The examiner drives the elevator up and down half a meter to see if it is moving in the right direction.
In the event of deviations in this test, the wiring of the inspection inspection is checked and, if necessary, corrected. If the elevator first moves in the right direction but is then stopped by an open OC, the UP and DOWN signals are incorrectly connected to the LIMAX33CP-00.

On the LIMAX CP33, the safety circuit is opened at the OC / terminal 2Z - 3 SiKr output. At the D613 control, all LEDs of the safety circuit now light up red starting at U8.

STEP- 9

The function of checking the inspection limit switches is initiated by activating the inspection. When approaching the inspection limit switches at normal inspection speed, due to the open OC, the cab should come to a stop before the pre-set stop system triggers. Otherwise a man would be trapped on the roof or in the pit.
The inspector carries out an inspection trip at normal inspection speed upwards. OC opens when the upper limit switch position is overrun and the vehicle comes to style. Control: Standstill is reached before the position of the
The same thing happens in the down direction. After the cab has come to the style stand, it should be possible to move the vehicle in the safe direction to push the correct direction button.

On the LIMAX CP33, the safety circuit is opened at the OC / terminal 2Z - 3 SiKr output. At the D613 control, all LEDs of the safety circuit now light up red starting at U8.

STEP- 10

Function of overspeed V-rated (advance solution)

The tester adjusts the elevator control / inverter so that overspeed can be achieved. It moves in both upward and downward direction and at a speed slightly above the speed ahead. Check: OC opens when the pre-trip speed is reached and the engine brake stops the lift.

On the LIMAX CP33, the safety circuit is opened at the OC / terminal 2Z - 3 SiKr output. At the D613 control, all LEDs of the safety circuit now light up red starting at U8.

STEP- 11

Function of overspeed V-inspection

The inspector carries out an inspection run at an inspection speed higher than the prefeeling speed in inspection of the LIMAX33CP-00.
To check: OC opens on reaching the "advance speed inspection" and the engine brake stops the elevator.

On the LIMAX CP33, the safety circuit is opened at the OC / terminal 2Z - 3 SiKr output. At the D613 control, all LEDs of the safety circuit now light up red starting at U8.

I02C Function Test – Bypass of the Door- and bolt magnet EN81-20

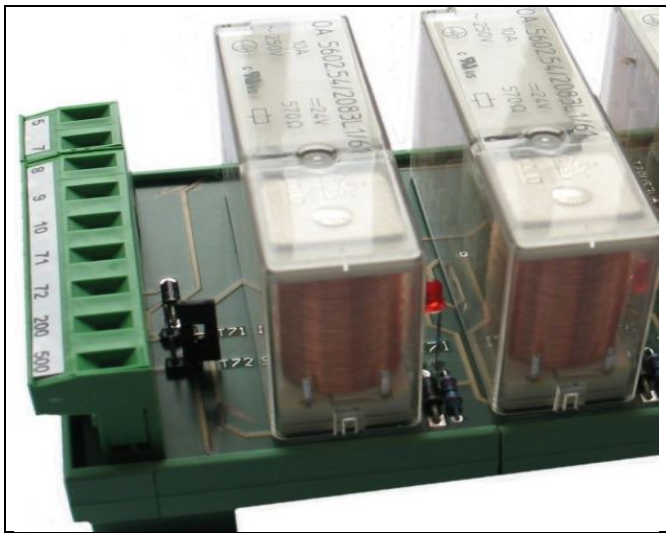


Illustration:

Security circuit SIS16-101 with the two contacts strips T71 and T72, and one Jumper. Here you can set a Jumper for permanently activation of the safety-relais for the zone 71 or zone S72 in order to simulate a no opening contact set of a zone-switch.

Definition
An independent switching element for the zone, also referred to as a zone switch, may be a magnetic switch, a Hall switch, a forked light barrier, an inductive switch, a capacitive switch, a roller switch, a "sensor" which according to the prior art can detect a zone, likewise, a zone can be output via an absolute position measuring system in cooperation with the control computers. In conjunction with one of the switching elements described above (S71 via discrete switching element, S72 via absolute value encoder & control computer output), this results in a higher level of safety. In order to guarantee a perfect speech regulation we talk about zone sensors (devices), which generate a zone signal!

General
The zone switches S71 and S72 are installed after the defaults in the solenoid plan and the switching contacts are closed, i. E. the car is within the zone range.

Experation
Give a call to any floor and keep you closed with the start of the car the zone switch to S71. In addition you push a Jumper over the upper Dil-contact strip T71 with the clamp 71.
At the entry into the finish level now no bypass of the door contacts and the check central switch take place. The green LED „status“ does not shine any longer and the next trip remains closed.

Procedure for systems with external Servicepaneel
Give you a call in any floor and hold it at the start of the car closed the zone switch S71. This is the terminal to 71 to 200 bridges.
At the entrance to the destination floor now takes no bridging de door contacts and the locking means switch instead. In the HPG, the error message “F92 – safety ciruit”.

Properties
With elevators with hydraulic drive and adjusted sinking trip an error of the protection circuit 16-101 leads not to an immediate blockage during the next trip, but only after the emergency sinking and reaching the sinking level. With rope elevator plants the reaction is adjustable in the menu production circuit.

Unblocking
After you removed the Jumper over the Dil contact strip T71 you must switch the controller on and off. The accumulator buffering must be interrupted however likewise at short notice (to take off emergency power batteries).

Repetition
The same procedure must be repeated now for the zone switch S72. Therefore the Dil contact strip T72 is to you at the disposal. The further operational sequence the reaction as well as the unblocking is an equivalent procedure.

Attention!

Remote the put Jumper in any case after the functional test!

I03 Functional test – Detection of an unintended car movement EN 81-20:2014-11

To initiate the journey from the zone, note the following:

1.) Stopping the elevator car flush with the bottom landing (top stop).
2.) Turning the Return Motion Drive -> Close the doors.
3.) Function “UCM-zone drive” in the TÜV Menue-C416 activate
4.) Return Motion Drive UP (DOWN), until the security circuit SIS16-101 interrupt.
5.) Open the shaft door and measure the stopping distance.
6.) Close the shaft door
7.) In the **C0 RESET menu** error „F60 A3-case“ reset
8.) Cabin with Return Motion Drive downwards (top down) drive.
9.) Return Motion Drive off -> door opens -> normal operation
10.) Repeated process for the top stop on your way down zone -> () note entries!

General

According to the new standard **EN 81-20: 2014-11** “protection of unintended car movement away from the landing with the landing door not in the locked position and the car door not in the closed position” the car must leave the door zone and must come to a halt within the legal stopping distance.
As a worst-case scenario here, the “Motor-driven exit” door opener in the zone with acceleration values of the normal operation is considered.

Basically, the simulation of the process is never done with an open door!

To facilitate this, a separation in the control terminal is available a Relay “K69”, the safety circuit of the door lock of SIS16-101 / feedforward separates drive contactors in the simulation case. In order to allow the elevator to the start of the journey, is a software function in TüV menu of the control computer of the series D606, D912 and D2005 activates the security circuit for a drive, so that the drive and braking elements contactors are energized until they leave the zone. After leaving the zone, the drive is disconnected and so the car comes to a stop. You can now open the landing door with the emergency release and determine the stopping distance, based on the hatch door to the cabin doorway clamp.

Experation

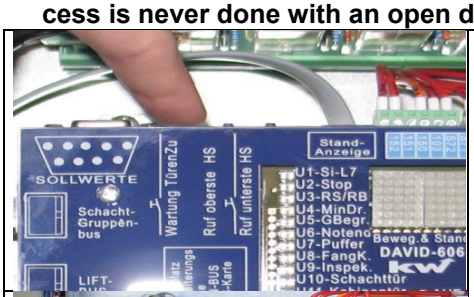
The elevator car is parked in the lowest landing floor and turned on the Return Motion Drive. This will be the landing and car door closed and a call input over indoor and outdoor control is suppressed.
Please listen in with the local intercom in the cabin, if there are people in it. You can take the handheld terminal HPG-60 in the control computer to the TÜV menu 416th UCM-zone drive. The UCM-zone drive is set to ON. Now you can start with the Return Motion Drive Switch UP holt the drive, which ends when you leave the zone. Automatically increase the speed to rated speed and the acceleration was increased to 100% (in conjunction with GOLIATH inverter).
The stopping distance is displayed in mm on the display. The system is locked with the error “F60 A3-case”. Optionally, you can open the Landing door chess with the emergency release and measure the stopping distance (Chess doorway to the cabin door threshold).
After re-closing the landing door and turning off the safety circuit fuse F7. Before switching on the safety fuse F7 in the circuit, **C0 RESET menu** must be reset the A3 error then you can drive with the Return Motion Drive Switch DOWN, the elevator car in the lowest station.

Repetition

The same process must now be repeated for the top stop. Therefore, the elevator car at the top station is placed flush with the zone and performs way down.

I04 Functional test – Mech. Brake-Opening in landing and the car door is not in the closed position EN 81-20: 2014-11

According to the new standard EN 81-20: 2014-11 “protection of unintended car movement away from the landing with the landing door not in the locked position and the car door not in the closed position” the car must leave the door zone and must come to a halt within the legal stopping distance. **Basically, the simulation of the process is never done with an open door!**



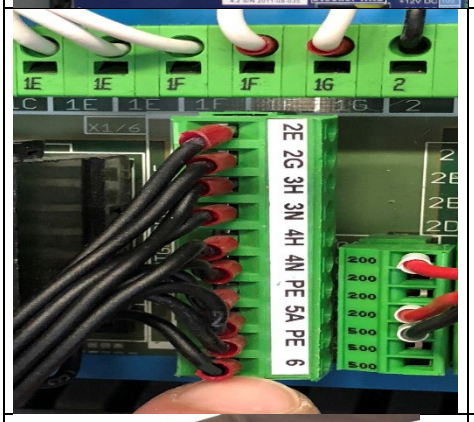
1.) **Stopping the elevator car aligned in a middle floor.**

2.) **Listening-with the phone, if there are people in the elevator car.**

3.) **If there any people, then push the service-button on the upper left of the central unit D606/ D613/ D2005 to close the doors.**

4.) **All the doors are closed, when all the LED lights are green of the Safety-Circuit-Positions U1 to U12!**

5.) **Switch off the landing control via the switch S36 in the service panel in right position.**



6.) **Please switch off the fuse F7 of Safety-Circuit.**

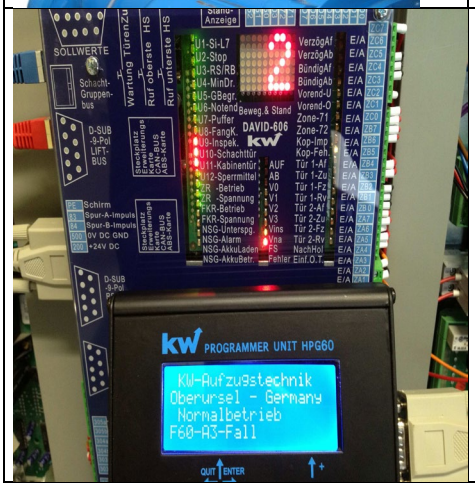
7.) **Please put away the wire X1/6 Number 6.**

8.) **Please isolate the wire!**

9.) **Please switch on the fuse F7 of Safety-Circuit.**

10.) **Now the LEDs are red for the Safety-Circuit-Positions of the doors, but in reality the doors are closed!**

11.) **Mechanical press brake lever until the safety circuit SIS16-101 interrupts the journey when leaving the zone, or at a safety device with anti-creep until the catch engages.**



12.) **The Communicator HPG-60 shows the error F60 A3 case. The elevator system is locked!**

13.) **Please open the shaft door and possibly measure the stopping distance. Then close shaft door again.**

14.) **Please switch off the fuse F7 of Safety-Circuit.**

15.) **Please put in the wire X1/6 with the designations 6.**

16.) **Please switch on the fuse F7 of Safety-Circuit.**

17.) **Reset the error "F60 A3-case" in the C0-RESET menu.**

18.) **Switch on the landing control via the switch S36 in the service panel in right position.**

I05 Inspector-session

4.0 Execution of the Watchdog Timing

In the submenu **C40 run time** test of the processor system DAVID-613 it is possible to limit all running times for the next trip on 1,0 seconds.

1	The car is in a stop concisely place
2	Adjust the menu C-Diagnosis/ Inspection-session, **C40 run time** test in the processor DAVID-613. All running times are set on one second
3	Call input by lowest/ highest call at the top side of the DAVID-613 central processing unit in the menu C-Diagnosis /C- Call input
4	The plant opposes with run time error when going away from the stop
5	Unblocking the plant by In-/ Offswitching the switch S33 or releasing of the reset in the menu C-Diagnosis / C0-Reset
6	The system is in normal operation again

4.1 Execution of the buffer trip

In the **submenu C41 buffer trip** it possible is to be driven with the back getting control downward. (without obligation delay by the before-finalswitched 13B on the cab buffers). But only if the limit switch down by technical personal at the strip of passing is pressed.

1	The back getting control S61 switch on
2	Adjust the menu C-Diagnosis/ Inspection-session, **C41 buffer trip** in the processor DAVID-613. The pre-end switch Down S13B is not considered.
3	Switch over hand terminal (HPG-60) into the parameters of the frequency changer (Goliath-60). Increase the parameter “speed Vi” in the menu “desired value” to the desired worth.
4	The protection F7 switch off and emergency limit switch down bridge. Protection F7 restart.
5	The car drive with the releveling control upwards on the buffer.
6	After examination the car drive upward from the buffer. Bridge from the safety circuit remove and the speed back of Vi put to the the regular value.
7	The releveling control S61 switch off. The control returns to normal operation.

4.2 Execution of the seat sample

In the **submenu C42 seat sample** it possible is to be driven with the back getting control downward. (without obligation delay by the before-final-switched 13B on the counterweight buffers). But only if the limit switch down by technical personal at the strip of passing pressed. The speed for this trip is to be positioned in the regulation.

1	The back getting control S61 switch on
2	Adjust the menu C-Diagnosis/ Inspection-session, **C42 seat sample** in the processor DAVID-613. The pre-end switch Up S13A is not considered.
3	Switch over hand terminal (HPG-60) into the parameters of the frequency changer (Goliath-60). Increace the parameter “speed Vi” in the menu “desired value” to the desigred worth.
4	The protection F7 switch off and emergency limit switch down bridge. Protection F7 restart.
5	The car drive with the releveling control upwards on the buffer.
6	After examination the car drive upward from the buffer. Bridge from the safety circuit remove and the speed back of Vi put to the the regular value.
7	The releveling control S61 switch off. The control returns to normal operation.

4.3 Execution of the Claw Test of the elevator car

In order to implement the catch sample with the elevator car the car must arrive in overspeed. This is only possible if that short-circuit protection and the monitoring function V<0,2 m/s deactivated.

1	The car in the center and/or in the upper half of the pit concisely place.
2	Invite the test weights into the elevator car.
3	The releveling control S61 switch on.
4	Adjust the menu C-Diagnosis/ Inspector-session, **C43 Claw Test** in the processor system DAVID-613. By this parameter that becomes short-circuit protection in frequenz inverter of the series Goliath-60. The monitoring function is waived which prevents the brake opening at a speed of more largely 0,2 m/s.
5	The emergency freeing switch S80 activate and the brake opening key S81 press unto the car has impris-oned.
6	Switch over the hand terminal the HPG-60 into the parameter frequence inverter Goliath-60. In the menu drive out /stop the parameter catch freeing activate. Thus for short time the current is increased on 2.0 sub-ject of the rated current.
7	The car with the releveling control in upward direction from the catch pull.
8	The back getting control S61 switch off. The control returns to normal operation.

4.4 Driving abillity with fixed counterbalance

1	The car is in a highest stop concisely place
2	The back getting control S61 switch on
3	Adjust the menu C-Diagnosis/ Inspection-session, **C44 speed in the processor** DAVID-613. In this menu are spend the speed of the car and the number of revolutions of the drive.
4	The car move upward with the releveling control. If the car comes to short time to a halt, evidently at the speed of 0 m/s but the number of revolutions of the drive larger 0 rpm is waived the driving ability and the examination successfully terminates. If the speed does not drop to 0 m/s the driving ability is too high.
5	The car with the releeling control upwards from the upper emergency limit switch move.
6	The releveling control S61 switch off. The control returns to normal operation.

4.5 Brake test

In the **submenu C45 break test** the processor system DAVID-2005-613 is possible during switched resent control the short-circuit protection and the monitoring function V<0,2 m/s to deactivate. Security the monitoring function becomes V>Vnenn activates which bracked with exceeding of the nominal speed terminated (both brake coils become without tension).

	Attention! The following activities may be accomplished only by authorized technical personal. Thus all irregu-laties and disturbances can when assembling and with operated a lift to be recognized and repaired. Regardless of the safety regulation specified in this guidance in the user country valid laws regulations are to keep guidelines and standards.
1	The car must be at least two floors below the highest stop.
2	Please pay attention of the empty car. You scolded the resend control S61 and drive the cab outside of the door zone. The doors remain closed.
3	Adjust the menu C-Diagnosis/Inspector-session, **C45 brake test**. By this parameter that becomes short contactor power down in the frequency inverter of the series Goliath-60. The monitoring function is waived (those the brake opening at a speed of more largely 0,2 m/s prevented).
4	Give a car call with the HPG-60 or press at the central unit the calling button for the lowest stop place.
5	After the car has started moving you must activate the break-test key button S82 by a rotation to the right. Press the brake opening racer S 82A. Now the brake is opened permanently.
6	Now operate the brake opening tracer S81A. The security circle interrupted the brake coil A is still under tension and remains open, but the brake coil B drops.
7	The brake coil B which can be examined closes, rake coil A is still under tension. The minimum delay value for a brake circuit amounts to 0.4 m/s2, and/or the maximum stopping distance with Vnenn= 1.0 m/s amounts to 1,8 m and/or with Vnenn= 1. m/s of 3,5m!
8	Test procedure for the second brake circuit repeat!
9	After successful braking code switch S82 braked switches off and keys off takes.

4.6 Execution of the Remote Trigger Car

In the submenu **C46 Remote Trigger Car** of the processor system DAVID-613 is possible to activate the function Remote Trigger Car over the Switch S50 on the operating panel of the controller cabinet in order to switch on the coil of the speedlimiter. After put off the switch S50, the function is switched off.

4.7 Execution of the Reset Remote Trigger Car

In the submenu **C47 Reset Remote Trigger Car** of the processor system DAVID-613 is possible to activate the function Reset Remote Trigger Car over the Switch S50 on the operating panel of the controller cabinet in order to switch on the Reset-coil of the speedlimiter. After put off the switch S50, the function is switched off.

4.8 Execution Remote Trigger Counterweight

In the submenu **C48 Remote Trigger Counterweight** of the processor system DVID-613 is possible to activate the function Remote Trigger Counterweight over the Switch S50 on the operating panel of the controller cabinet in order to switch on the coil of the speedlimiter of the counterweight. After put off the switch S50, the function is switched off.

4.9 Execution Reset Remote Trigger Counterweight

In the submenu **C49 Reset Remote Trigger Counterweight** of the proseccor system DAVID-613 is possible to activate the function Reset Remote Trigger Counterweight over the Switch S50 on the operating panel of the controller cabinet in order to switch on the Reset-coil of the speedlimiter of the counterweight. After put off the switch S50, the function is switched off.

4.10 Execution End Switch Travel Top

In the submenu **C410 End Switch Travel Top** of the processor system DAVID-613 it is possible to overdrive the highest level point by switching on the function. The travel ends in the end switch top.

4.11 Execution End Switch Travel Bottom

The submenu **C411 Endswitch Travel Bottom** of the processor system DAVID-613 it is possible to over-drive the lowest level point by switching on the function. The travel ends in the end switch bottom.

4.12 Execution Switch Cabinet Temperature Test

In submenu C412 switch cabinet temperature test of the processor system DAID-613. You can decrease the temperature limit, inorder to produce an error message. It is very important that the switch cabinet temperature function is active in the menu B600 monitoring functions.

4.13 Execution Motor-PTC Test

In the submenu **C413 motor PTC test** of the processor system DAVID-613 it is possible to simulate a motor PTC error for one travel, in order to generate an error in the controller system. It is very important that the PTC-function is active in the menu B600 monitoring functions.

4.14 Execution DSC-Pulse-Encoder Test

In the submenu **C414 DSK encoder test** of the processor system DAVID-613 it is possible to switch off the encoder of the shaft copy for one travel. The shaft copying software technically produce an error response. A condition is natural that in the menu B600 monitoring functions is the DSK monitoring active.

4.15 Execution Test Sink-prevention

In the submenu **C415 Test Sink Prevention** of the processor system DAVID-613 is possible to activate the function Test Sink Prevention over the Switch S50 on the operating panel of the controller cabinet in order to switch off the coil of the speedlimiter. After put off the switch S50, the function is switched off.

4.16 Functional test –Detection of an unintended car movement EN 81-20:2014-11

	To initiate the journey from the zone, note the following: 1.) Stopping the elevator car flush with the bottom landing (top stop). 2.) Turning the Return Motion Drive -> Close the doors. 3.) Function “UCM-zone drive” in the TÜV Menue-C416 activate 4.) Return Motion Drive UP (DOWN), until the security circuit SIS16-101 interrupt. 5.) Open the shaft door and measure the stopping distance. 6.) Close the shaft door 7.) In the **C0 RESET menu** error „F60 A3-case“ reset 8.) Cabin with Return Motion Drive downwards (top down) drive. 9.) Return Motion Drive off -> door opens -> normal operation 10.) Repeated process for the top stop on your way down zone -> () note entries!

General

According to the new standard **EN 81-20: 2014-11** “protection of unintended car movement away from the landing with the landing door not in the locked position and the car door not in the closed position” the car must leave the door zone and must come to a halt within the legal stopping distance.
As a worst-case scenario here, the “Motor-driven exit” door opener in the zone with acceleration values of the normal operation is considered.

Basically, the simulation of the process is never done with an open door!

To facilitate this, a separation in the control terminal, is availabel a Relay “K69”, the safety circuit of the door lock of SIS16-101 / feedforward separates drive contactors in the simulation case. In order to allow the elevator to the start of the journey, is a software function in TüV menu of the control computer of the series D613, D912 and D2005 activates the security circuit for a drive, so that the drive and braking elements contactors are energized until they leave the zone. After leaving the zone, the drive is disconnected and so the car comes to a stop. You can now open the landing door with the emergency release and determine the stopping distance, based on the hatch door to the cabin doorway clamp.

Experation

The elevator car is parked in the lowest landing floor and turned on the Return Motion Drive. This will be the landing and car door closed and a call input over indoor and outdoor control is suppressed.
Please listen to the local intercom in the cabin, if there are people in it. You can take the hand held terminal HPG-60 in the control computer to the TÜV menu 416th UCM-zone drive. The UCM-zone drive is set to ON. Now you can start with the Return Motion Drive Switch UP holt the drive, which ends when you leave the zone. Automatically increase the speed to rated speed and the acceleration was increased to 100% (in conjunction with GOLIATH inverter).
The stopping distance is displayed in mm on the display. The system is locked with the error “F60 A3-case”. Optionally, you can open the landing door chess with the emergency release and measure the stopping distance (Chess doorway to the cabin door threshold).
After re-closing the landing door and turning off the safety circuit fuse F7. Before switching on the safety fuse F7 in the circuit, **C0 RESET menu** must be reset the A3 error then you can drive with the Return Motion Drive Switch DOWN, the elevator car in the lowest station.

Repetition

The same process must now be repeated for the top stop. Therefore, the elevator car at the top station is placed flush with the zone and performs its way down.

4.17 Carrying out simulation failure of brake element-1 in accordance with EN81-20

In submenu C417 test braking element brake-1 of the DAVID-613 processor system, it is possible to switch off the monitoring of the braking element of drive 1 for software purposes in order to generate an error response. This corresponds to a physical interruption of the line of the respective brake element. This is required for brake components requiring monitoring, in order to simulate a failure of a brake element according to EN 81-20.

4.18 Carrying out the brake test

In submenu C418 test brake test of the DAVID-613 processor system, it is possible to activate the brake test for one trip. After pressing the corresponding key switch S82A or S82B, the stopping distance in mm is displayed after stopping the elevator car. This function can only be used in conjunction with a GOLIATH-90 inverter.

4.19 Test direction change counter

In submenu C419 test direction change counter, it is possible to simulate a triggering of the direction change counter for the suspension cables / carrying straps by test activation.

4.20 Test rope wear counter

In the submenu C420 test rope wear counter, it is possible to simulate a triggering of the rope wear counter for the suspension ropes / carrying straps by test activation.

4.21 Test brake monitor brake-2

In submenu C421 test brake element brake-2 of the DAVID-613 processor system, it is possible to switch off the monitoring of the braking element of drive 2 for software purposes in order to generate an error response. This corresponds to a physical interruption of the line of the respective brake element. This is required for brake components requiring monitoring, in order to simulate a failure of a brake element according to EN 81-20.

4.22 Resetting the speed-gov pre-trigger

In submenu C422 test reset GB pre-shutdown of the DAVID-613 processor system, it is possible to reset this by activating the function in the case of a lockable pre-shutdown of the GB for the car with reset coil via pushbutton S50. After releasing the button S50, the function is deactivated again.

⚠	**SAFE shaft copy system:** **When using SAFE shaft copying, the settings can be viewed in menu D9.**

4.23 Hydraulic-Testdrive – Broken-Pipe-Valve

In submenu C423 Hydraulic test drive – Broken-Pipe-Valve of the DAVID-613 processor system, it is possible to output the fast speed (V2) by switching on the function for the next run with the return control in the downward direction. This enables the functionality of the pipe rupture valve to be tested. The error message “overspeed” is ignored and travel is not aborted.

4.25 Performing the electromagnetic safety gear (eFANG) test

In the C425 Test eFANG submenu of the DAVID-613 processor system, it is possible to trigger the electromagnetic safety gear by switching on the function.

4.26 Performing the reset on the electromagnetic safety gear (eFANG)

In the C426 Reset eFANG submenu of the DAVID-613 processor system, it is possible to trigger a reset on the electromagnetic safety gear by switching on the function.

4.27 Performing the emergency light test

In submenu C427 Emergency light test of the DAVID-613 processor system, it is possible to switch on the emergency light by switching on the function.