

Control system for elevators

EKM 64

Description
Part 2: Parametrition

Version 01
PRELIMINARY

REKOBA

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6 Parametritron

Parametritron is split in:

- Function set-up : Booking on variants for functions
- In-/output set-up : Booking of functions onto in-/output terminals
- DSE64-parametritron : Digital shaft-copying (at face)

Parametritron is possible by service module or by computer. Procedure is the same in both types.

By computer parametritron is more easy and more surveyable for menue-offer is more comfortable and function-keys help during parametritron. At computer the possibilities for selection are offered in menues, for set-up by display of service module the variants in 2. line are to choose with keys \uparrow and \downarrow . Moreover the computer offers more possibilities for working on files (parameter-file) and for printing.

Requests for parametritron:

EKM6400/01 is to connect to power supply V1/V0.

(EKM64-parametritron includes datas for I/O-modules also.)

by service module

by computer

Wiring of computer (COM1 or COM2)
with cable *LTG-EKM-St9.4* to X7 (serial 2).

Starting parametritron:

open jumper for write-protection „S2“

Display (for decision):

```
Parametr.start  
< key > or PC:Para64.exe
```

- call program „PARA64.exe“
- press function key F2 „Parametritron“
- selection: COM1/COM2
and baud-rate (9600,)

E

Password: This demand appears only if password-protection (in main menu) was set with variants „Password“ (only) or (incl.) „master password“. (max. 6 digits, position for input flashes)

```
Master-  
Password?
```

E

```
Password?  
#####
```

E

```
Master-  
Password?
```

```
Password?  
_____
```

Display offers signs at these
6 positions after key-pressure

Input of password by keyboard and „ENTER“
(available signs 0-9, A-Z to enable approach)
(with service module.)

Choise of position: $\Leftarrow \Rightarrow$

Choise of sign: $\uparrow \downarrow$

Available signs: (0-9,A-Z, #= no Z)

Confirm password by **E**

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After entering the password main menu appears (see item 6.1).

By cursor keys ↓ ↑ ⇐ ⇒ and enter-key **E** moving through parametriton and selection is possible.

For operationg the menue with computer the function keys: **F3** last item
F4 last level serve additionally.

In basic-parametriton the parametriton-level is asked.

-standard (usual input for operator)

-insider (in contact with REKOBA only)

Parameters which were set in „insider-mode“ only are marked in followings by *.

Input-levels are to leave by selection „to main menu“ only.

End of parametriton is done in main menu by „test and end“. By this it will be checked if input is complete in all relevant items and if inputs are correct. Faults will be shown for correction. If end was correct following message appears:

```
==Parameter-OK==  
>close write-protection
```

After closing switch „S2“ the lift could start an orientation-travel.

Additional features for parametriton by computer:

Operation line:

F1 Help

F2 Set-up

F3 Param.read

F4 File/ Print

F5 End

By function key

F3

parametriton-state of command unit is shown on screen.

By function key

F4

= „**File/ Print**“ following features are offered for selection:

- Store parameters: Actual parametriton file (text-file) which is shown on screen will be stored as computer file.
- Print parameters: Actual parametriton file (text-file) –shown on screen– will be printed.
- Read parameters: Computer file which was stored before is read and shown on screen.

Following **copy** -functions allow to take over parametriton-datas of an EKM64 (stored in EEPROM) into computer file and transmission to another EKM64.

This causes following advantages:

- economical parametriton of equal installations (series)
- economical parametriton of similar installations (set-up parametriton only)
- organization of standards in office

- Copy parameters: Writing Parametriton-datas are transmitted from file to EEPROM
Attention! : existing parametriton is superscribed.
- Copy parameters: Reading Parametriton-datas are transmitted from EEPROM to file
(file-name is selectable)

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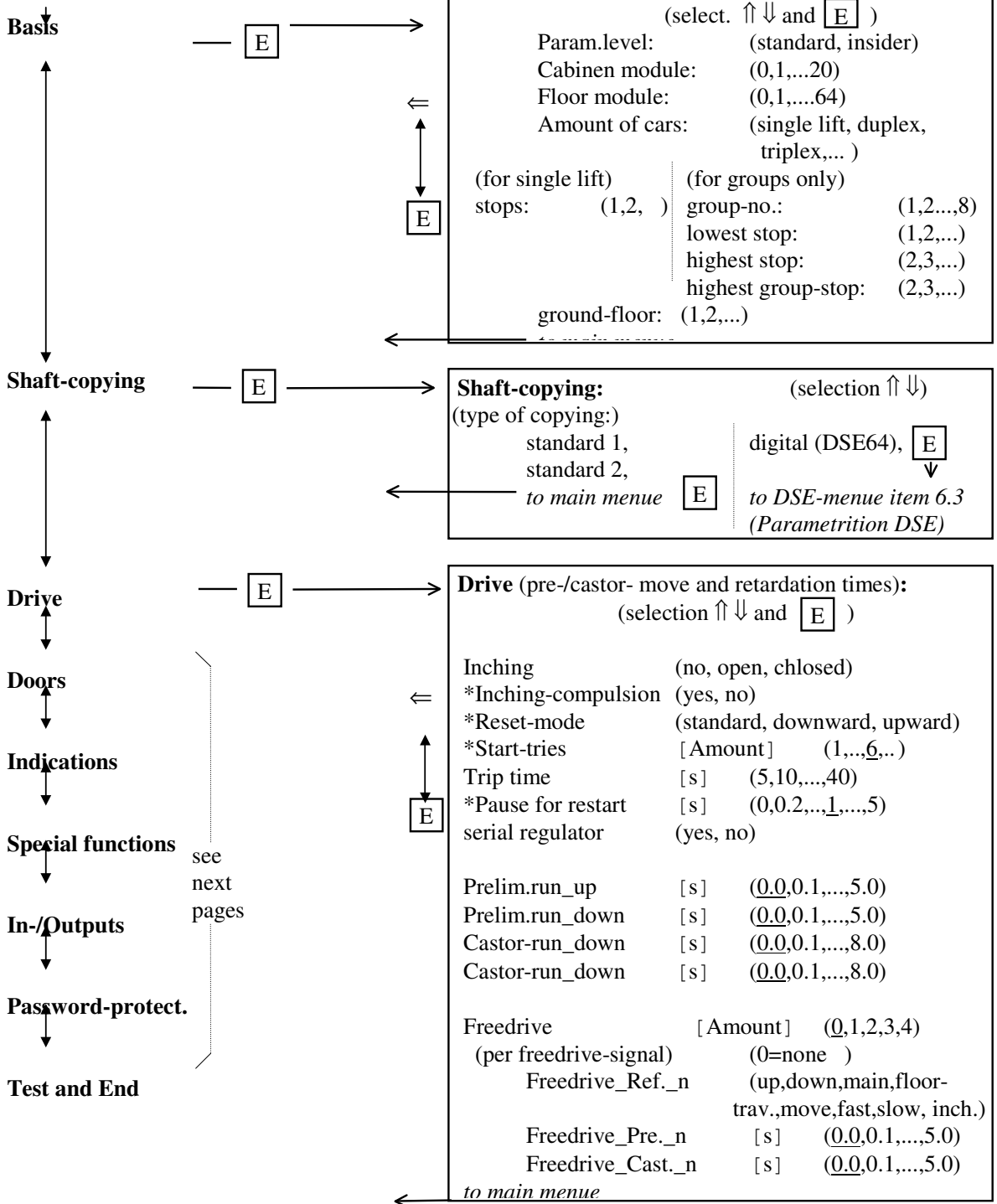
6.1 Parametriton of functions

Scematic survey on parametriton:

Password: ***** (input for „assword: yes“ only)

Main menue (selection by ↑ ↓)

Functions



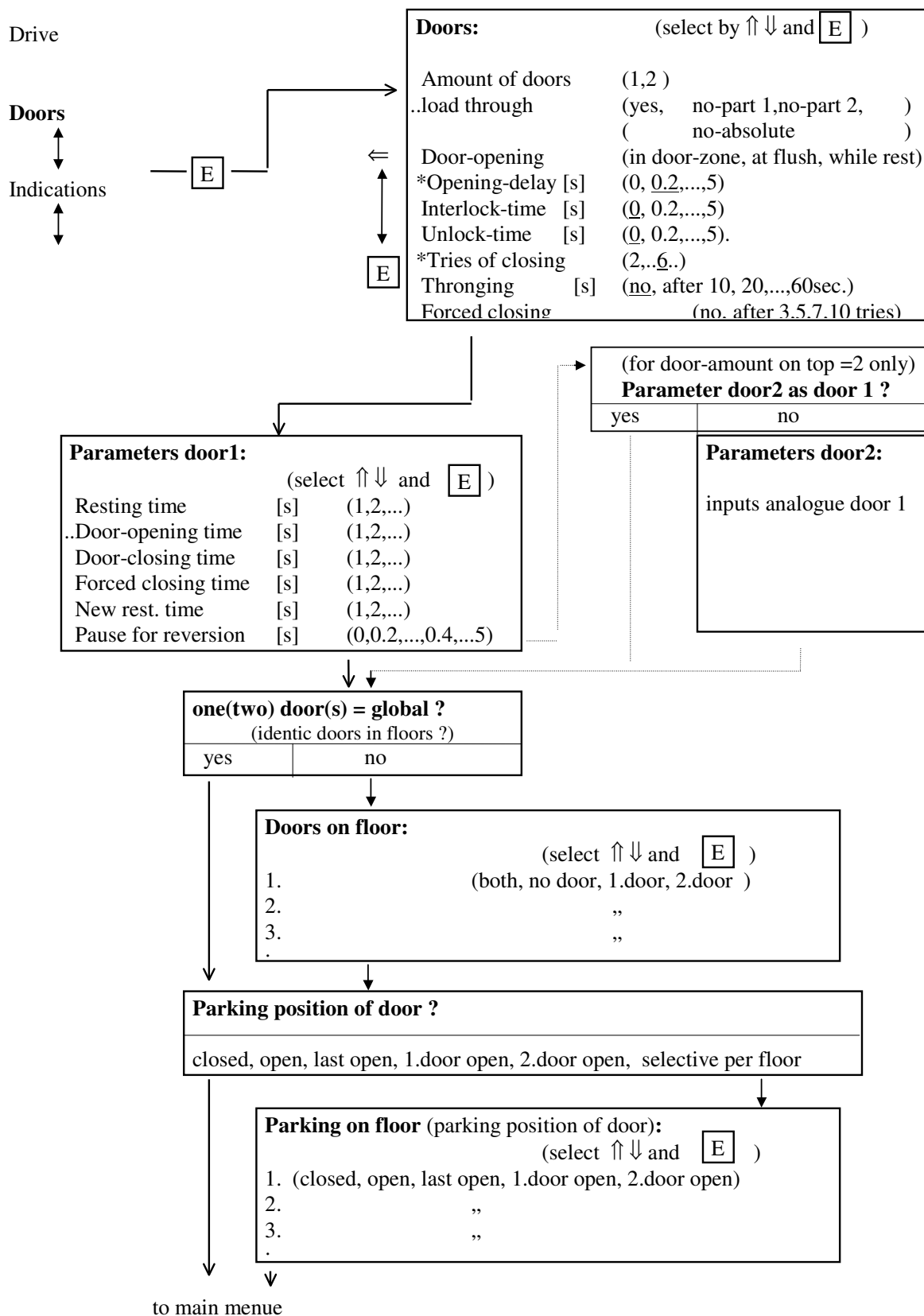
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Main menu (selection by ↑ ↓)

Drive

Doors

Indications



Main menue (selection by ↑ ↓)

Doors

Indications

Special functions

In-/outputs

see item
2.2

see next
page

Indications:

(select ↑ ↓ and **E**)

indication-basis: (0,1,2,)
 free indications: (no, yes)
 at stop 1: (HEX-input acc. special manual)
 at stop 2: „
 : „
 Gong-retardation: [s] (0,0.5,...,5)
 to main menue

Special functions:

(select ↑ ↓ and **E**)

Therm. stop 1: [s] (delayed) (0,1,...,60)
 Therm. stop 2: [s] (delayed) (0,1,...,60)
 Firemens ride: (none, standard, mode 1, mode 2)
 Firem.-avail.: [s] (10,15,...)
 Firem.aims: [amount] (0,1,2,3,4)
 Firem. stop 1: [floor] (1,2,...)
 Shut-off: (no, standard)
 Shut-off stop: [floor] (1,2,...)
 Evacuation: (none, to fixed aim, to next stop)
 Evacuation stop: (1,2,...)
 Parking travel: (none, simple, dynamic several
 aims,)
 (TESIM-parking clock)
 Parking floor: [floor] (1,2,...)
 Parking aim: [floor] (1,...,4)
 Parking1/2/...: [floor] (1,2,...)
 Parking-toler. [amount of stop] (0,1,...,5)
 Parking time [s] (5,...,60)
 Lowering travel: (no, yes)
 Lower. time: [min] (1,...,120)
 Warm-up travel: (no, yes)
 Warm-up cycle:[min] (15,...,120)

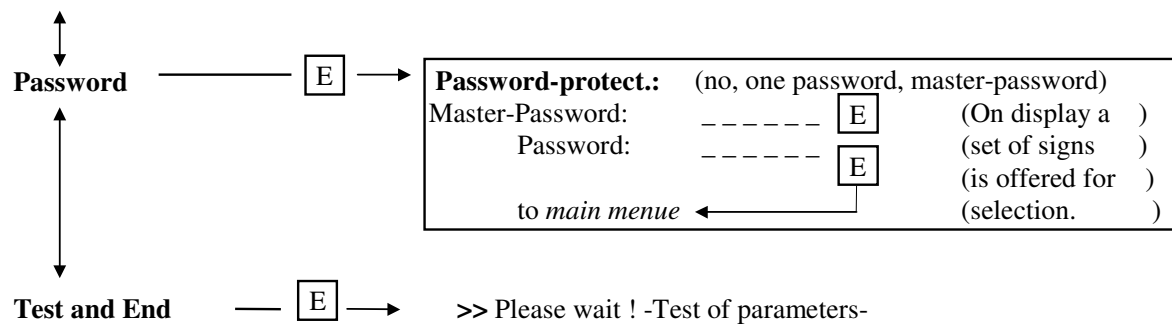
 Pref.-time: [s] (5,...;120)

 (for group-elevators)
 Group functions: (standard, energy-saving, fixed aim,
 fast aim, variable) see item 4.2
 (Z- and B-parameters)

 Traffic evaluation: (no, standard, variable) see item 4.3
 (S-parameter, T-par., time for exeption)

 (for TESIM-compatibility):
 TESIM-modem: [Baud] (standard 9600, modem 2400)
 TESIM-number: (1,...,8)

Main menue (selection by ↑↓)



NOTE !:

This item of menue ensures the only possible ending of parameter-settings.
Take-over of parameters is done permanent while parametrition; without testing.
In this test is checked if each input-item is already set-up (also for earlier parametritions)
and that inputs are without contradiction.
For faults a correctuion is necessary; there are hints given and a reset to point of input.

>> **Close writing-protection** (S2 on board 6401)

6.2 Parametritition of in- and outputs

While in- and output parametritition terminals of EKM64 command unit and of modules the described functions are booked. Each booking is done in several steps of input. These bookings will be noted into a list which is proceed during input and could be regarded at service module in single steps or via computer as block. By computer a hard-copy is possible also. Before set-up of in-/outputs following parameters are to set-up, because they are very important for offer of terminals and functions:

cabin modules (amount)	lowest stop	amount of doors
floor modules (amount)	highest stop	

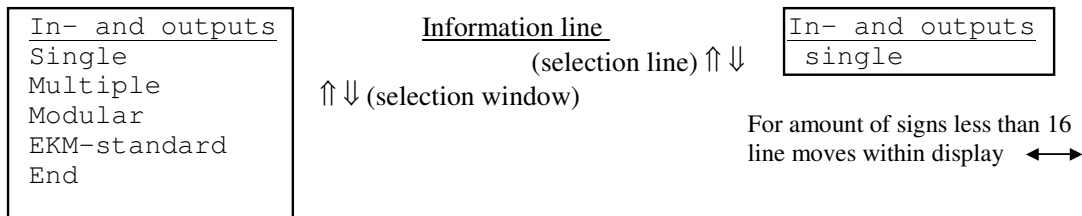
Input by computer is analogue to input at service module (2-line display) but offers more comfortable survey on choice and previous settings.

Input-keys cause:

↑ ↓ fine selection	← back last step	(⇐⇒ overall-select.) (for terminals only)	E ENTER Confirmance	(⇐⇒ together) ESC Break/return
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Selection by: screen

service module

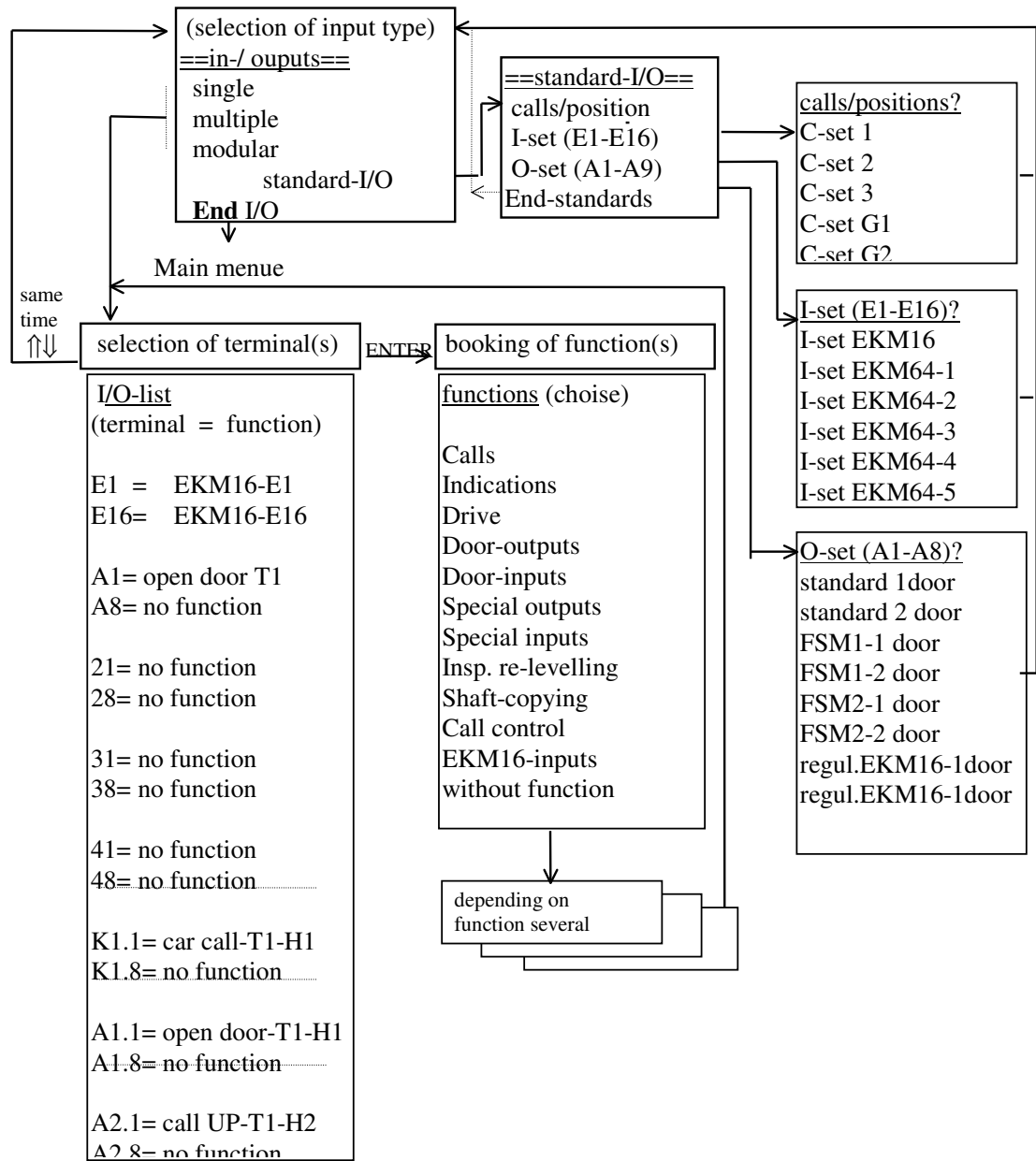


For rational booking of functions several input types are available:

- Single Input is done single for each terminal.
Using: - booking of single functions which have no multiple characteristics
 - Exchanges for single terminals which were booked first with EKM-standard, multiple or modular as block.
- Multiple Input is done for terminals with similar functions.
 (like term. 21-26 with function call-downward-T1-H02-H07).
By this type of input terminal 1 is booked with function and variant to last function (*H07*).
Further terminals (-26) get referring booking.
....Note: Booking of functions for several floors or indications which require several terminals (PIN).
- Modular Input for a module is done analogue to an already set-up module.
Using: for example floor module 4 for 2. floor is analogue to module 3 in floor 1.
- EKM-standard By this type of input functions of same terminals at EKM16 are forwarded to terminals E1-E16, A1-A8,21-28,31-38 and 41-48 of command unit in singular steps. By followed inputs „Single“ non requested terminals could be booked with other functions of EKM64.
- End I/O-input .. with step to main menu of parametritition

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Booking of functions for terminals refer to following logics:



I/O-listing offers terminals of command unit and modules for input. Given modules refer to parametered amounts. Set-up functions accord state of parametrition.

For modules an automatic precessed numbering is made which is identic with adress to set-up at module (K1= cabin module 1 / A2= floor module 2).

In above shown example of I/O-shedule only first and last terminals of a block (module) are listed.

Inputs are to do each by $\uparrow \downarrow$ for selection and ENTER for confirmation. By keys $\Leftarrow \Rightarrow$ jumping between terminal-blocks is possible.

(in I/O-shedule only: $\Leftarrow \Rightarrow$ rough selection, $\uparrow \downarrow$ together: leaving I/O-shedule)

I/O-parametrition is to end by selection (input-type) „End I/O“ and „ENTER“-key only.

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inputs: (single examples)

Aim of input:

a) Booking of terminals E1-E16 as EKM-standard (EKM 16).

in- and ouputs	EKMstd-E1-E16
EKM-standard	yes

b) Change terminal E16 to function „close door button“; opposite to EKM-standard.

in- and outputs	E16 EKMstd-E16	function door-inputs
		door-inputs ? open door button

c) Booking of cabin modul terminals K1.1-K16 with car calls for door 1 and floor 1-6.

in- and outputs	terminal 1 no functions	function calls
		call-type cabin
		car call-Tn door 1
		Car call-T1- Hxx
		Car call-T1-H1- Hxx

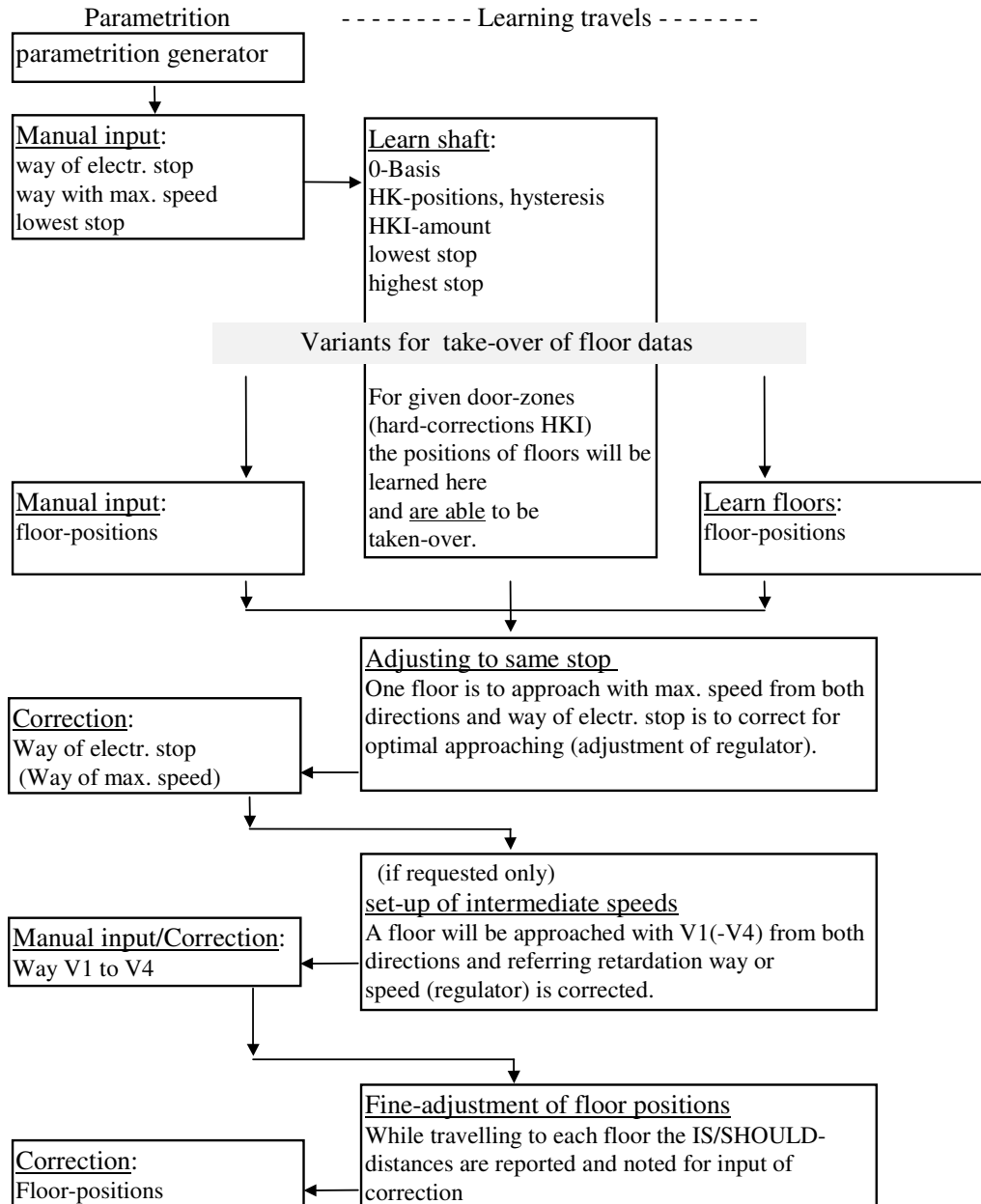
6.3 Parametritition and set-up of DSE64

Parametritition and set-up of digital shaft-copying is done together leaning-travels, evaluations and inputs on EKM64-display. Before parametritition following preparations must be finished:

- Lift is moveable by „Inspection “; emergency limit-switches are in function.
- Upper and lower hard-correction switches are set.
Distance to last stop: way for braking at maximal speed plus 10 cm for security
(for regulators without optimal speed-mode: $2 \times V_{\max} + 10\text{cm}$)
- Correction-signals (HKI) are set if given. (for pre-opening doors or inching with open doors the door-limit switches are used for this.)

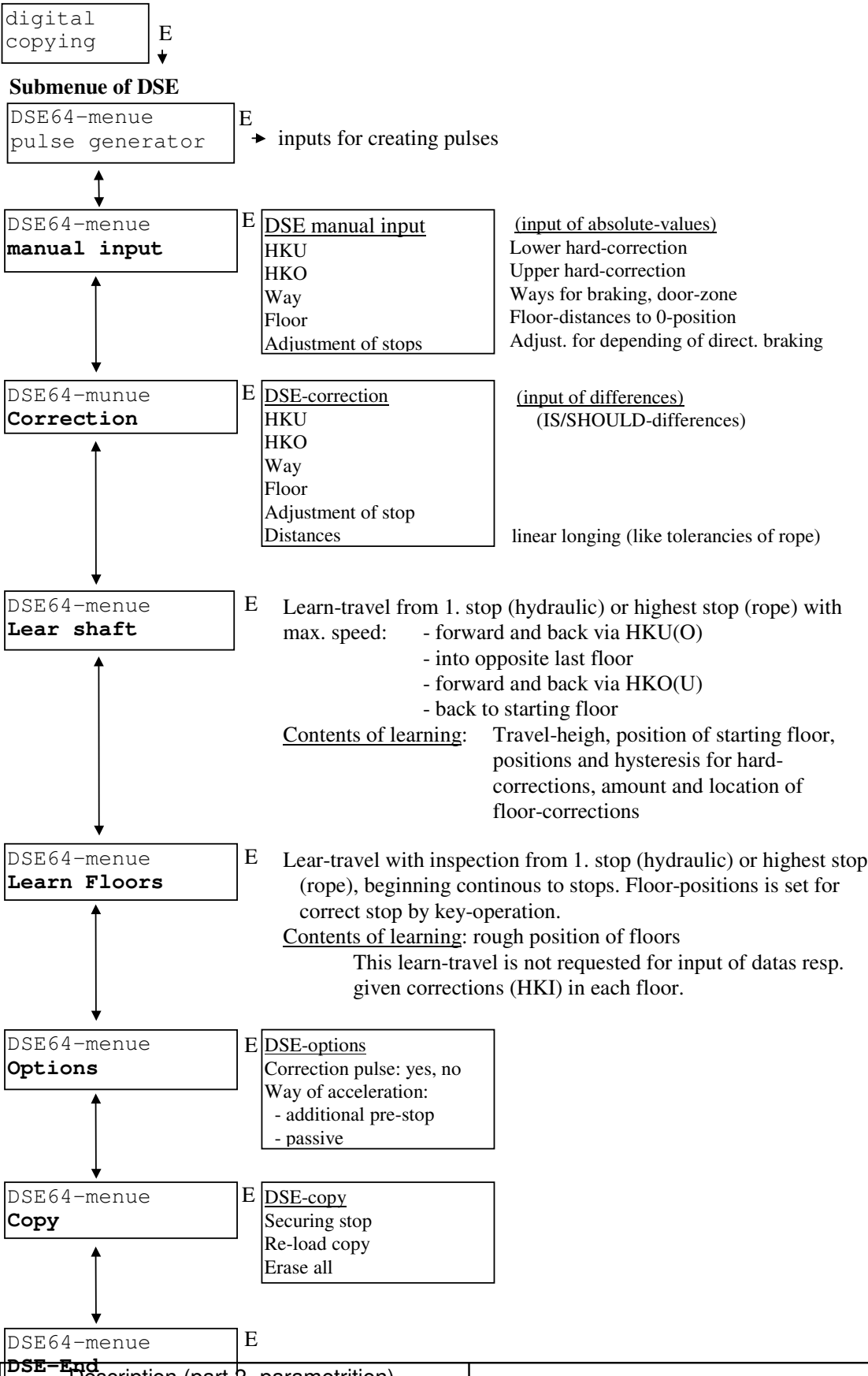
To enable these preparations moving with inspection or re-levelling is possible without DSE64-parametritition.

Steps of set-up DSE:



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Survey on parametritition of DSE:

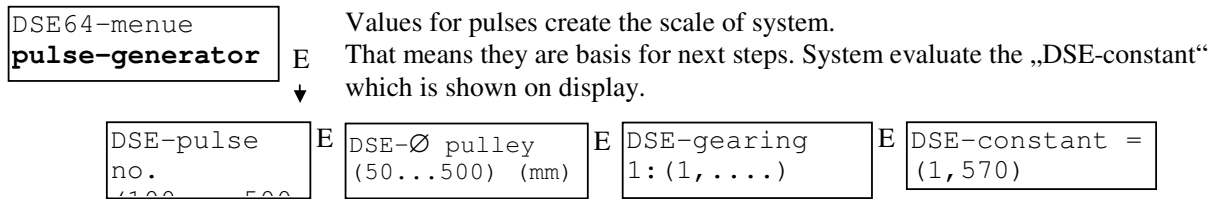


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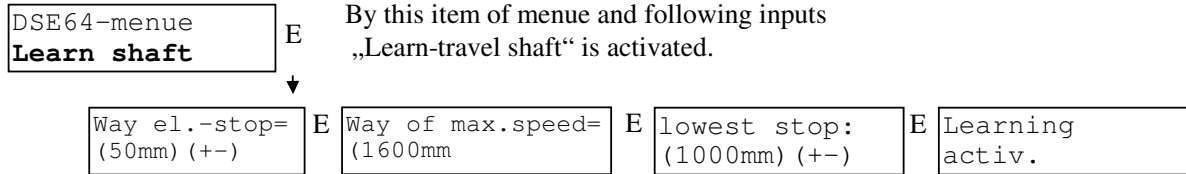
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Included steps for inputs, learning and operation of above surveys are described in following:

Parametritron pulse-generator:



Learn shaft:



Cabin must rest exactly at 1. stop (hydraulic) or highest stop (rope).

For travel is not possible in parametritron mode „closing of write-protection“ is demanded.

Learn-travel is done as follows: travel a little more than HKU(HKO) and back to starting floor, travel to opposite last stop, travel a little more than accorded HKO(HKU) and back to last stop, travel back to starting floor.

On display is shown:

during learn-travel

Learn shaft
P: HK:

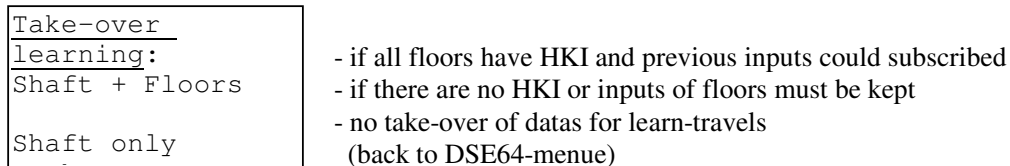
P= position [mm] from 0-basis
HK= last correction in [mm]

after learn-travel

Learn shaft end
L: HKI:

L= total vertical rise [mm]
HKI = amount of pulses for hard-correction

Write-protection is to open again and offer is done for take-over the results of learn-travel.
(This is with sence for exact approach at starting-floor and confirmity of HKI only.)



Learn floor

DSE64-menue
Learn floors

Learning-step is necessary only if floors were not learned with „Learn shaft“ and take-over. A „manual input“ of measures is equivalent.
Normally a fine-adjusting is following.

By this item the „Learn-travel floors“ is activated.

Condition: „Learn shaft“ -results were take-over before. The cabin is (yet) located in first (hydraulic) or highest (rope) stop.

For the travel is not possible in parametrition mode a demand for „Close write-protection“ is made.

Elevator will do automatic orientation travel from last floor. Position for entering cabin-roof is to adjust by re-levelling and using display (key \Leftarrow).

For lifts without re-levelling diagnosis-function „Travel command“ is used.

Last floors were already taken with „Learn shaft“. Remaining floors are to approach one after the other with „Inspection“, for hydraulics beginning with 2. stop upward or for rope-traction beginning with last but one stop downward and confirmed individual.

Each move to next floor is done with inspection-speed. Into opposite direction the lowest speed is automatically set for approaching the exact stop is more simple. Inspection „Off“ causes opening of door (this offers an exact control of positioning).

Confirmation of floor-positions is done by inspections-keys „Up“ and „Down“ together while inspection is on. Readiness for confirmation of next floor results for laaving the door-zone (parameter „Door-zone“) of last confirmed floor. Missing floors (for groups) have to be set without exactness. After confirmation of last but one stop the learning-travel ends for last floor is already known from „Learn shaft“.

Floor indications display during learning-travel:

- Indication flashes: Position ready for confirmation
- Indication is on: Position is still known, elevator rests within door-area
- Indication changes: Cabin is between known positions

On display is shown:

during learn-travel

Learn floors
S: x Z:-- F:--D:-

after learn-travel

Leran floors End
-> Write-

Posit.-indication as above

Write-protection is to open; an offer follows for take-over the results of learning-travel:

Take-over
learning:
Floors
Brake

(back to DSE64-menue)

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Adjusting to similar stop:

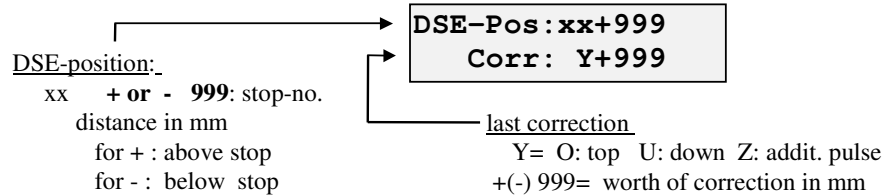
After „Learn shaft“ and set of floor-positions (input resp. learn-travel) a stop is approached from both directions with max. speed in normal mode. First the approach is to do from below.

Control of travel and adjusting is operated at display:

For pressing the ENTER-key the operation-indication at display is switched to „Set calls“.

After selection and confirmation of a call the operation-indication returns.

For pressing of key ⇐ following DSE-informations are shown:



For adjustment onto same stop only indication „DSE-position“ (with sign) is relevant.

The real positions of stop have not to be noted now.

Way of deviate shown by DSE for approach from below is to set incl. sign as correction of „way of elect. stop“.

For repetition of approach the deviate must be approx. „0“.

This step is eventually to repeat for regulators with adjustment of an optimal approaching.

Then the floor is to approach from top. Depending on type of drive following is to expect:

- regulated drives: Indication of „DSE-position“ approx. „0“
(for ways of retardation depend on direction)
if not equal: retardation is not yet finished; a precocious non-„electrical“ stop;
loadings have influence on stopping
- rope-tract. (unregulated): Indication of „DSE-position“ approx. „0“ (with average load)
- hydraulics: Indication of „DSE-position“ +/-deviation

Deviations on stop are possible depending on principle and inevitable.

The noted value incl. sign is to set as correction of parameter „Stop-compensation“.

Adjustment of intermediate speeds (if installation requests only)

Activation of a further speed is done by set-up a retardation-way different from „0“. A floor is to approach with V1 (up to max. V4) from both directions. For each single speed the according parameters „Speed“ (regulator) or

„Retardation-way“ (DSE) are to set-up in that way the required slow-motion remains. General parameters of regulator, booking diagrams, are not to change.

Fine-adjustment of floor-positions

Depending on previous inputs and adjustings there will be quite exact positions of floors. A fine-adjustment on each floor with approaching from top and below is necessary as follows.

- Recognition of floor-deviations: Normal-travels to each stop as a chain from start-floor and back with noting deviations per floor and direction.
- re-parametritions: Input of deviation in parametrization-menu „Floor-correct.“
Cabin is too high: type-in value of correction with sign „-“.
Cabin is too low: type-in value of correction with sign „+“.

(Differences between directions are to type-in as intermediate value. Larger deviates)

(will mark faults of adjustment at same stop resp. of intermediate speed.)

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Meanings of DSE64 parameters

Parameter

input for	parametr.	learn	parametrition
	man. inp.	shaft	floor
			correction possible

DSE pulse amount	generator		1)
DSE- Ø of pulley	generator		1)
DSE-reduction	generator		1)

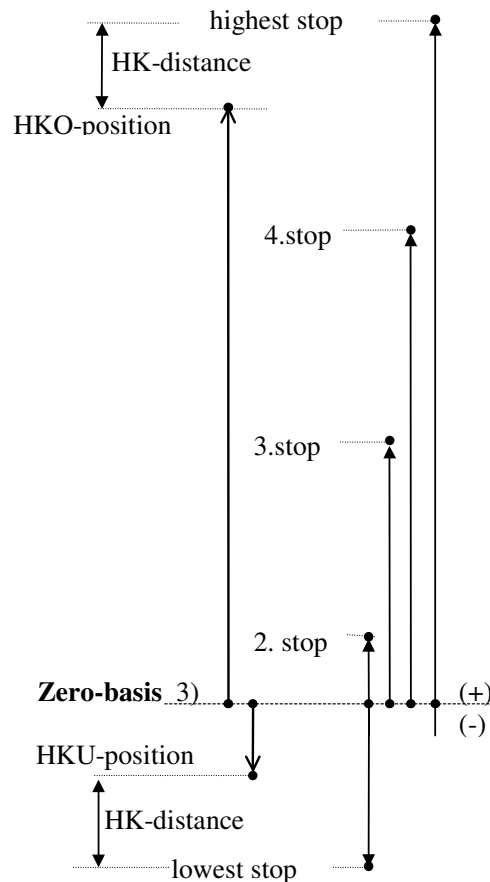
HKU-position		x	1)
HKO-position		x	1)

(Brake)Ways

Way of max.speed	x		x
Way of V4	x		x
Way of V3	x		x
Way of V2	x		x
Way of V1	x		x
Way of el. stop	x		x
Way of Vi (inspect.)	x		x
Inching-exactness	x		x
Door-zone	x		x

Floor-positions

highest stop	x	x2)	x	x
:				
3. stop	x	x2)	x	x
2. stop	x	x2)	x	x ...
lowest stop 3)	x			x



HK-distances:

Switches for hard-correction are to install as follows:

Way of retardation with max. speed + 10cm reserve for adjusting
(for regulators without optimal speed mode: this way twice +10cm)

(Brake)Ways: ([mm]) to aim-stop with different speeds

-Vn:	Inching-exactness
-V0: (Approaching)	Way for electr. stop, point of stop for approaching that floor
-Vi: (Inspection)	Way for brake while fast inspection travel
-V1-Vmax:	„real ways of brake“
-Door-zone:	Distances for maximal inching and for possible pre-opening of doors

This values are identical for all floors.

- 1) These values constitute scale for copying system (mm/pulse).
Correction is with sense after changing devices only.
- 2) Take-over of floor positions during „Learn shaft“ is to do for „external door-zone“-switches are given only and their amount was stored correctly in learn-travel.

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- 3) Zero-basis can be set according to drawings of building by input of „lowest stop“ in mm optional.

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7 Standard-sets of parametritition

7.1 Standard-sets for inputs

Use of given parametritition-sets should enable a more simplified parametritition of inputs. For this an advantage would be to select a suitable set and than individual set-up of input-bookings after.

Booking of inputs in standard-sets depends on „shaft copying“ set-up before (standard 1, standard 2, digital) and

type of inching (see item 2.3.1.1).

For „digital shaft copying“ inputs E3, E4, E16 are booked in standard-sets firmly with DSE-signals as follows: E3= HKI, E4=HKu, E16=HKo and other shaft-signals are not booked.

For menue-controlled I/O-parametritition following parametritition-sets for inputs E1- E16 and cabin modules –if given– are offered.

I-set EKM16:	At terminals E1-E16 functions of EKM16 (terminals e1-e16) are generated.
I-set EKM64-1:	Input-signals are booked as in EKM16 but functional multiple usings of inputs were dissolved.
I-set EKM64-2:	Input signals were arranged new for this set is suitable if there are no relations to EKM16.
I-set EKM64-3:	Here signal-sequence of set 2 is basis for booking. Additionally a compression is made (move-up of functions to unused inputs).
I-set EKM64-K1:	This set generates a suitable division of input functions while using a cabin module.
I-set EKM64-K2:	Here signal-sequence of set K1 is basis for booking. A compression is made (similar to set 3).

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I-Set EKM16: This set generates at input terminals E1-E16 of EKM64
 inputs E1-E16 widely same functions as terminals e1-e16 of EKM16.
 For coincidence with functions of EKM64 there is a note to them.

Terminal	EKM64-function	Use at EKM16	Effect as EKM64-function				
E1	EKM16-e1	counting pulse	Pulse	2.3.1.1			
E2	EKM16-e2	for E6=0 light barrier (open door) for E6=1 see there	Light barr. D 1	2.3.3			
E3	EKM16-e3	flush	Flush	2.3.1.1			
		lower flush (for inching)	Lower flush	2.3.1.1			
E4	EKM16-e4	correction (for standard 1)	Correction	2.3.1.1			
		lower correction (for standard 2)	Lower correct.	2.3.1.1			
E5	EKM16-e5	for E6=0 hall calls OFF for E6=1 see there	Hall call lock	2.3.8			
E6	EKM16-e6	for E6=1 inspection/ra levelling ON control is made as follows:					
			booking of signal inputs				
			<u>E6</u>	<u>E2</u>	<u>E5</u>	<u>E8</u>	
Re-levelling		ON (stop)	1	0	0	1	1= has signal 0= without voltage
"		travel UP	1	1	0	1	
"		travel DOWN	1	0	1	1	
Inspection		ON (stop)	1	0	0	0	
"		travel UP	1	1	0	0	
"		travel DOWN	1	0	1	0	
E7	EKM16-e7	upper flush (for inching)	Upper flush	2.3.1.1			
E8	EKM16-e8	for E6=0 trip-time monitoring for E6=1 see there	Drive is still	2.3.2			
E9	EKM16-e9	firemens travel	Firem.-cabin	2.3.7.1			
E10	EKM16-e10	full load	Full load	2.3.8			
E11	EKM16-e11	single lift (for group mode)	Single lift	5.2			
E12	EKM16-e12	door 1 is closed	Limit switch D1	2.3.3			
E13	EKM16-e13	door 2 is closed	Limit switch D2	2.3.3			
E14	EKM16-e14	light barrier door 2	Light barr. D 2	2.3.3			
E15	EKM-e15	close-door button	Close-door but.	2.3.3			
E16	EKM-e16	upper correction (for standard 2)	Upper correct.	2.3.1.1			

Differences to EKM16:

- Corrections in standard 2 are separated to E4 and E16 in EKM64 (no supply via direction-relays).
- Pulse-diagram standard 1: lowest stop, see there (flush also necessary, pulse must last longer).
- Preference travels with „E9+E10+car call“ is cancelled.

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Input-terminal EKM64	Bookings of terminals for E-set:			(forced) (for digital) (shaft copying)
	EKM64-1	EKM64-2 (3)	EKM64-K1 (K2) (Cabin modules)	
E1	pulse / pulse down	correction/lower corr.	-	
E2	light-barr. door1	- /upper correction	-	
E3	flush \ lower flush	pulse /pulse down	-	(HKI)
E4	correction / lower corr.	- /pulse up	-	(HKu)
E5	- \electrical stop	flush \lower flush	hall call lockage	
E6	inspection-ON	- \upper flush	re-levelling IN	
E7	- \upper flush	- \electrical stop	-	
E8	drive is still	drive is still	drive is still	
E9	- /pulse UP	inspection-ON	-	
E10	full load	re-levelling-ON	full load	
E11	re-levelling-ON	Insp.re-lev.-UP	re-levelling-UP	
E12	Insp.re-lev.-UP	Insp.re-lev.-DOWN	re-levelling-DOWN	
E13	Insp.re-lev.-DOWN	light-barr. door1	-	
E14	light-barr. door2 (booking only if 2. door is set-up)	light-barr. door2	-	
E15	Türzutaster	Türzutaster	-	
E16	- /upper correct.	full load 2.)	-	(HKo)
		K1.1 correct./lower-correct.	K2.1 inspection-ON	
		K1.2 - /upper correct.	K2.2 inspection-UP	
		K1.3 pulse /pulse down	K2.3 inspection-DOWN	
		K1.4 - /pulse up	K2.4 light-barr. door1	
		K1.5 flush\lower flush	K2.5 light-barr. door2	
		K1.6 - \upper flush	K2.6 close-door button	
		K1.7 - \electr. stop	K2.7 -	
		K1.8 -	K2.8 -	

(For digital copying terminals K1.1-K1.7 are without shaft-signals.)
(That means that functions of K2.1-K2.6 are booked on 1. module.)

Remarks:

1. Terminal-bookings of compressed sets 3 and K2 result on compression of signals.
2. Using set EKM64-2 with digital shaft copying causes E1=full load.
3. Shaft signals with „ / “ result on choose of shaft copying: standard 1 / standard 2.
4. Shaft signals with „ \ “ result on choose: without \ with inching.

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7.2 Sets of parametrization for terminals 21-48

C-set 1: calls/position: up-/down-collective (selective) up to 6 stop - one door (as EKM16/6QQS; <i>E16-6SA</i>)				C-set 2: calls/position: down- <u>or</u> wild-collective (1 button) up to 8 stop - one door (as EKM16/8QQS; <i>E16-8AA</i>)				C-set 3: calls/position: down- <u>or</u> free-collecting (single button) up to 4 stops - two doors (as EKM16/8QQS for 2 doors)			
terminal 1				terminal 1				terminal 1			
EKM64	stop	EKM64-function		EKM64	stop	EKM64-function		EKM64	stop	EKM64-function	
car calls				car calls				car calls			
21	1	Car	call-T1-H01	21	1	Car	call-T1-H01	21	1	Car	call-T1-H01
22	2	"	-H02	22	2	"	-H02	22	2	"	-H02
23	3	"	-H03	23	3	"	-H03	23	3	"	-H03
24	4	"	-H04	24	4	"	-H04	24	4	"	-H04
25	5	"	-H05	25	5	"	-H05	25	1	Car	call-T2-H01
26	6	"	-H06	26	6	"	-H06	26	2	"	-H02
hall calls				hall calls				hall calls			
27	↑ 4	Call	UP T1-H04	27	7	"	-H07	27	3	"	-H03
28	↑ 2	Call	UP T1-H02	28	8	"	-H08	28	4	"	-H04
hall calls				hall calls				hall calls			
31	↑ 1	Call	UP T1-H01	31	1	Call-???-T1-H01		31	1	Call-???-T1-H01	
32	2 ↓	C. DOWN	T1-H02	32	2	"	-H02	32	2	"	-H02
33	3 ↓	C. DOWN	T1-H03	33	3	"	-H03	33	3	"	-H03
34	4 ↓	C. DOWN	T1-H04	34	4	"	-H04	34	4	"	-H04
35	5 ↓	C. DOWN	T1-H05	35	5	"	-H05	35	1	Car	call-T2-H01
36	6 ↓	C. DOWN	T1-H06	36	6	"	-H06	36	2	"	-H02
37	↑ 5	Call	UP T1-H05	37	7	"	-H07	37	3	"	-H03
38	↑ 3	Call	UP T1-H03	38	8	"	-H08	38	4	"	-H04
position 1:1				position 1:1				position 1:1			
1	Posit. 1 to 1		-H01	1	Posit. 1 to 1		-H01	41	1	Posit. 1 to 1	-H01
2	"		-H02	2	"		-H02	42	2	"	-H02
3	"		-H03	3	"		-H03	43	3	"	-H03
4	"		-H04	4	"		-H04	44	4	"	-H04
5	"		-H05	5	"		-H05	45			
6	"		-H06	6	"		-H06	46			
				7	"		-H07	47			

The ???-functions of hall call terminals are for non-collective: **Free-call-T1-H0x**.

Down-collection is done always to ground floor (**Call DOWN-T1-H0x**); stops below and ground floor itself collect upward (**Call UP-T1-H0x**). Positions of ground floor are set-up in basis-parametriton.

Terminals are to book according amount of stops (basis-parametriton) only.

For changing parameters, terminals not to be booked will be not changed.

While delivery of EKM64 the terminals are „without function“.

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Sets of parametrization for terminals 21-48 (group-lifts)

terminal EKM64	C-set G1 calls/position: up/down-collective (selective) up to 8 stop - one door; group (as EKM16/8QQS-G)		C-set G2 calls/position: up/down-collective (selective) up to 4 stop - two door; group (as EKM16/8QQS-G)	
	stop	EKM64-function	stop	EKM64-function
	car calls		car calls	
21	1	Car call -T1-H01	1	Car call-T1-H01
22	2	" -H02	2	" -H02
23	3	" -H03	3	" -H03
24	4	" -H04	4	" -H04
25	5	" -H05	1	Car call-T1-H01
26	6	" -H06"	2	" -H02
27	7	" -H07"	3	" -H03
28	8	" -H01"	4	" -H04
	hall calls		hall calls	
31	1	Call-UP -T1-H01	1	Call-UP -T1-H01
32	2	Call-?? -T1-H02	2	Call-?? -T1-H02
33	3	Call-?? -T1-H03	3	Call-?? -T1-H03
34	4	Call-?? -T1-H04	4	Call-DOWN-T1-H04
35	5	Call-?? -T1-H05	1	Call-UP -T1-H01
36	6	Call-?? -T1-H06	2	Call-?? -T1-H02
37	5	Call-?? -T1-H07	3	Call-?? -T1-H03
38	3	Call-DOWN-T1-H08	4	Call-DOWN-T1-H04
	position 1:1		position 1:1	
41	1	Posit.1to1 -H01	1	Posit.1to1 -H01
42	2	" -H02	2	" -H02
43	3	" -H03	3	" -H03
44	4	" -H04	4	" -H04
45	5	" -H05	5	
46	6	" -H06	6	
47	7	" -H07	7	
48	8	" -H08	8	

Above bookings refer to group elevators with call-splitting (see item 5.1).

For splitting of hall calls

lift 1 is booked with calls downward and lift 2 is booked with calls upward.
Call buttons of last floors are wired in parallel to both controls.

Terminals are to book according amount of stops (basis-parametrization) only.

For changing parameters, terminals not to be booked will be not changed.

While delivery of EKM64 the terminals are „without function“.

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7.3 Set of parameters for relay-output terminals A1-A9

terminal EKM64	Standard-1door functions	Standard-2doors functions	FSM1-1door functions	FSM1-2doors functions
A1	open door T1	open door T1	open door T1	open door T1
A2	close door T1	close door T1	close door T1	close door T1
A3	fast	fast	fast	fast
A4	slow	slow	drive	drive
A5	down	down	down	down
A6	up	up	up	up
A8	next-dir..-A-down	open door T2	next-dir.-A-down	open door T2
A9	next-dir.-A-up	close door T2	next-dir.-A-up	close door T2
	(as EKM16)	(as EKM16)		

terminal EKM64	FSM2-1 door functions	FSM1-2 doors functions	Regulator- EKM16-1 door functions	Regulator- EKM16-2 doors functions
A1	open door T1	open door T1	open door T1	open door T1
A2	close door T1	close door T1	close door T1	close door T1
A3	drive	drive	floor-travel	floor-travel
A4	slow	slow	slow	slow
A5	down	down	down	down
A6	up	up	up	up
A8	next-dir..-A-down	open door T2	next-dir.-A-down	open door T2
A9	next-dir.-A-up	close door T2	next-dir.-A-up	close door T2
			(as EKM16) (with regulator)	(as EKM16) (with regulator)

- Relay outputs referring to input and special terminals are described in item 2.3.2.

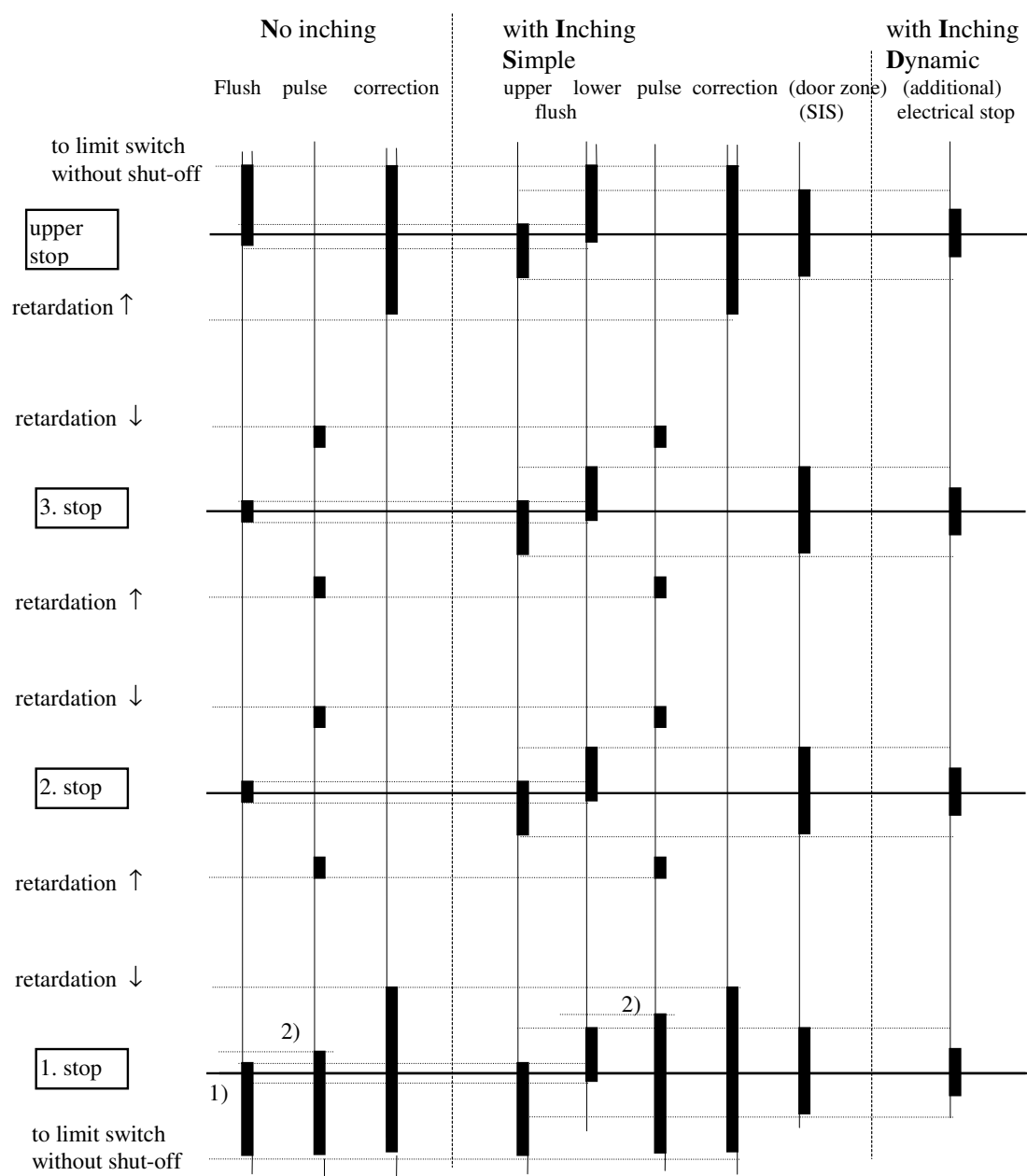
Further explanations see doors (item 2.3.3) and drive (item 2.3.2).

- Next-direction (type A; item 2.3.5) is changeable by I/O-parametrition „single“ from A8/A9 to other time-basis for displaying.

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8. Diagrams on shaft-pulses

Standard 1: way of retardation < half distance of floor



- pulses: Length of pulses and pulse-distance should be „ > 10cm x speed“.

(that means for speed = 1,5 m/s > 15 cm)

- changes in 1. stop to EKM16:

1) - flush is necessary even without inching

2) - pulse is longer than highest „flush“

- inching:

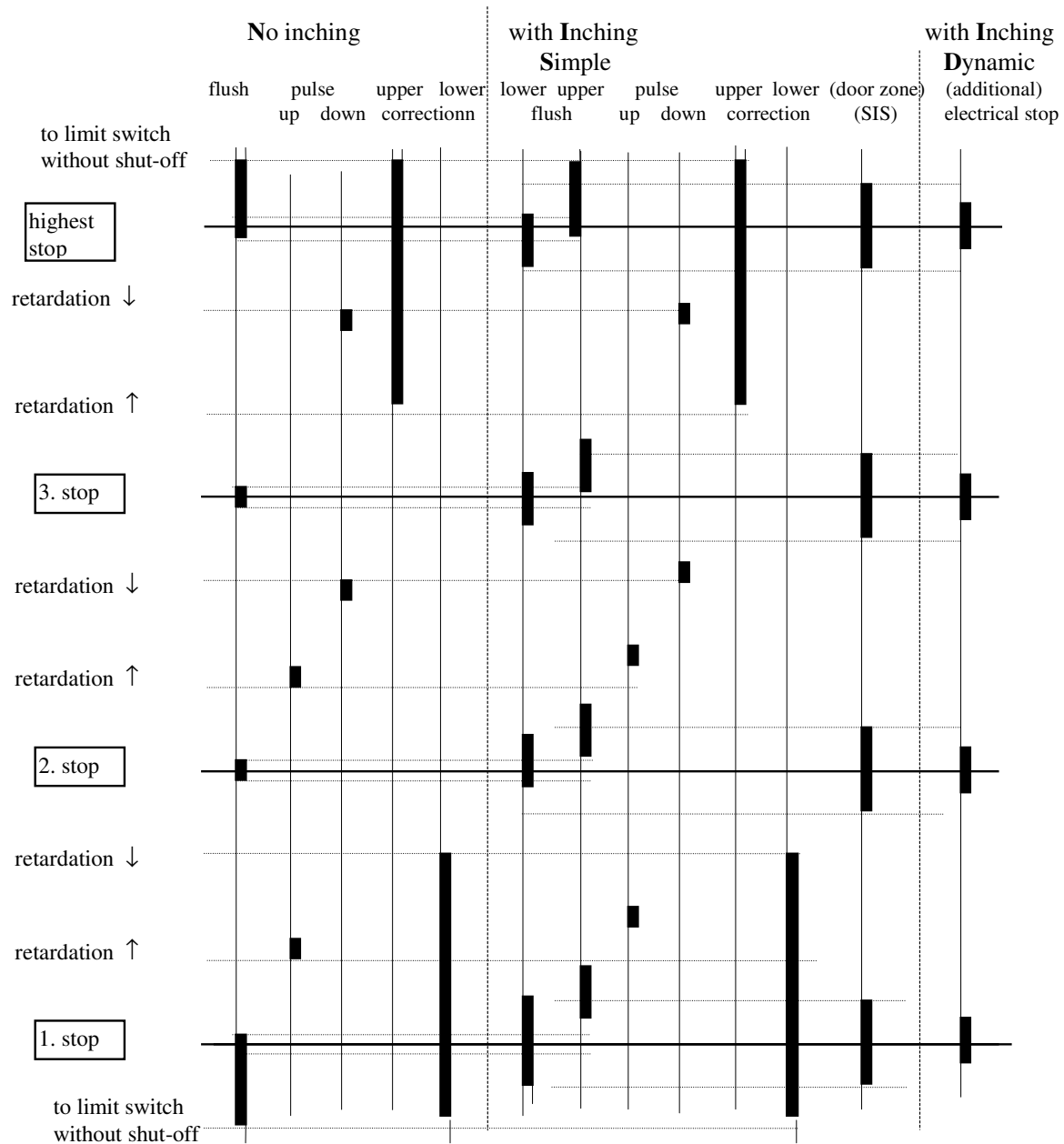
„Flush“-overlap determines exactness of inching.

For this is normally too small for stop of regulator while approaching the regulator is stopped by additional signal „electrical stop“.

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Shaft-pulses

Standard 2: Way of retardation > half distance of floor



- pulses: Length of pulses and pulse-distance should be „> 10cm x speed“.
(that means for speed = 1,5 m/s > 15 cm)
- changes to EKM16:
 - pulses may be forwarded to input „pulse“ via direction-relays ↑ ↓ as for EKM16.
 - for corrections this is not possible (must be 2 inputs).
- inching:
 - „Flush“-overlap determines exactness of inching.
 - For this is normally too small for stop of regulator while approaching the regulator is stopped by additional signal „electrical stop“.

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