

Control board for maneuvers of elevators

KSA-18 and Selective KSA-18
(CIR/4804-3)

Operation instructions and parameter

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1 - GENERALITIES

The KSA-18 is an electronic card of control that has been implemented in a compact way and it is based on a solid control programming. He/she can carry out all the essential demands of control maneuvers for electric and hydraulic elevators.

It is realized on a printed circuit of 257 x 217 mm with a height of 40mm for the ways of universal and collective operation.

In the extended version, selective KSA-18 "one has an additional card that is connected vertically in the card it bases, due to that which increases the height from the team to 75mm. The equipment of the cards with relés is carried out in function of the number of stops that there is.

The feeding of tension is carried out AD in the two cases with 24V without filtering.

The realized team presents the following ones characteristic

Maximum of 16 stops. The relés equipment is dependent of the number of stops that there is.

Ways of operation universal, collective, selective slope and selective ascent in basements.

Thirteen control entrances through optoacopladores for:

corrections and evened superior and inferior, recovery, inspection, photo cell, position of doors when parking, control of stopped motor, impulses accountants, control of closed doors, loads complete (this function is only in service with the additional card) and pusher door closing.

Seven control exits through relés for:

Opening and closing of doors, levy control and subida/bajada marches and rápida/lenta

Possibility to regulate the time of stop, time of door and the time of journey violation.

Possibility of shipment programming to the inferior plant.

Tension of 24VDC without filtering for calls and signaling that it is distributed externally.

Additional signaling by means of luminous diodes of the entrances and the exits.

Exits with relés contacts for the sense signs and next march sense.

Exit with relé contact for the busy signal.

Possibility of retard of the order of ascent march for the hydraulic elevators.

Firemen's functions and evacuation.

Control of rebounds in the contacts of the doors to give the levy order.

Control of the temperature of the motor.

Control of abuse of calls

Control of the time of journey

The following ones work they are only possible with the additional card (selective):

Way of selective operation in slope.

Way of selective operation in ascent to five basements (adjustable by means of swicht) until plant it lowers.

Control of complete load.

2 - DESCRIPTION OF THE OPERATION.

2.1 - Principle of collective operation.

The KSA-18 in its version bases (card 4804) it has an entrance of having called by plant and these calls are assisted collectively, independently of the march sense. Once he/she leaves in a sense, this remains until all the calls are assisted in that sense. Then you could change the march sense when he/she had called.

For universal and collective maneuvers it is not necessary to free the calls of booth of the external ones. In universal maneuvers it is received and only assisted at the same time a call. The booth calls have a priority of one second approximately on the external calls. In collective maneuvers they register all the calls and they are assisted collectively, independently of the march sense.

2.2 - behavior when starting up.

When the team is connected he/she is carried out an automatic trip of reset to the inferior plant to initialize the internal accountant of position.

The door of the booth will remain, once realized the reset trip, as parametrizada is (X1). In the moment in that the reset trip concludes the elevator it is prepared to assist calls.

2.3 - behavior during a trip.

After journey the time of stop and for the existence of calls order of closing of doors is given and, in case there is, of levy also; once closed the safe-deposit circuit (lit X15) order of quick march is given. The booth moves for the hole and when he/she receives the bill impulse corresponding to the destination plant or the sign of correction superior/inferior is eliminated he/she retires the order of quick march and order of slow march is given. When receiving the signs from having evened of the destination plant, they retire the march orders and at the same time order is given of opening the doors, being allowed the exit and entrance of users in the booth. It lapses the programmed time of stop. If there is more calls repeat the same previously explained process. If there is not more calls the booth remains in that plant and the door closes with sign in X1 or it remains with open door without sign in X1, but order is not given of closing the levy circuit. When he/she is closing the door or this is already closed, the pusher of calls of the plant in that he/she is the elevator acts like a photo cell sign, being ordered the opening of doors when you pulses. During the closing of doors if one receives photo cell sign he/she retires the closing order and it is given of opening.

2.4 - inspection.

When connecting the switch of inspection this function it is activated. They fade all the march orders, of doors and all the calls. After working one of the two march pushers it is given order of closing of doors in the first place and of levy, in case there is, and when he/she has closed the safe-deposit circuit the march orders they are given. After inspection it is generated a reset trip automatically to the inferior plant. During inspection they are outside of service the functions of control of time of journey, photo cell, renivelación and shipment trip to the low plant.

2.5 - recovery.

When connecting this function it is possible the displacement of the booth surpassing the switch of journey end. This function is practically similar to that of inspection, with the difference that in inspection the march is only allowed until those evened of the plants inferior and superior and in recovery it is allowed to surpass these limits. After a recovery maneuver there is not reset trip.

2.6 - Renivelación.

Depending on the signs of having evened inferior and superior can be carried out a renivelación trip. There is the possibility to use a special speed for this function. It will only be possible to carry out a renivelación trip when any normal trip has not begun.

2.7 - it travels from shipment to the low plant.

After a certain time in that there has not been any call, he/she is carried out a trip automatically to the lowest plant. This function is only necessary for the hydraulic elevators and it is parametrizable by means

of a microinterruptor. One can parametrizar the trip to the inferior plant after having lapsed 7 or 14 minutes without having any call, and one can also leave this function outside of service.

2.8 - firemen's trip and of evacuation.

An evacuation trip is carried out disconnecting the feeding for the calls (X59) and giving a call at the same time to the evacuation plant with external tension. Realizable trip of firemen.

3 - CONFIRMATIONS.

3.1 - stopped motor.

It can only be carried out a trip when before being pulled up it has checked that all the march contactores is fallen. This information is given to the team when there is tension in the borna X2.

3.2 - time of journey.

A violation of time of journey takes place during a trip when movement some of the booth is not detected. When esto happens they retire all the march orders and of doors and they fade all the calls. Next all the march orders are blocked. The signaling of violation of time of journey is carried out through a contact free of potential. You leaves the blockade situation owed to a violation of time of journey moving away during an instant the potential of the borna X2 or disconnecting the tension of feeding of the team shortly.

3.3 - sequence of impulses.

When arriving the booth to each area of having evened he/she is proven if the number of counted impulses has been correct. Dos impulses between plants and an impulse in the plants inferior and superior. If the realized bill of impulses during a trip has not been correct, a trip of automatic reset is generated to the inferior plant.

3.4 - time of outburst.

To assist to a march order he/she is proven the time that lapses since one gives the order of closing doors until he/she closes the safe-deposit circuit. If this time exceeds in twice the time of stop the opening of doors is ordered and you travels the time of stop again, attempting a new outburst again once it has concluded the time of stop. If in the new outburst intent neither closes the safe-deposit circuit they fade all the calls. Starting from that moment they will always fade the calls to the first intent in that you cannot start up until the elevator consigua to start up again.

3.5-control of temperature

To check the temperature of the motor or of the oil it is foreseen a connection for a resistance PTC. If the elevator is in progress when an excess of temperature is detected, that trip concludes and a new outburst is prohibited until the attenuation of the temperature.

The following function is only with the additional card.

3.6 - it loads complete.

In the event of sign of complete load, tension in borna X13, booth calls are only assisted, the floor calls are registered until the disappearance of this sign.

4 - INSTRUCTIONS OF OPERATION AND PARAMETRIZACIÓN

4.1 - feeding tensions.

The bornas of feeding of the KSA-18 is X63(24V) and X62(0V), this tension has to be of 24V \pm 15% of continuous tension rectified without filtering. The consumption current is of approximately 200mA. This tension is protected with the fusible F1 that allows a maximum current of 1A. The KSA-18 uses a tension of 5VDC of feeding for the control logic and 24VDC for the feeding of the reels of all the relés. When connecting the feeding tension it is generated a reset trip automatically to the inferior plant.

4.2 - signaling and calls.

4.2.1 - feeding entrances.

The feeding bornas for the relés of calls and signaling is X61(UR) and X60(0V), this tension has to be of 24V \pm 15% of continuous tension rectified without filtering. The consumption current is calculated as the sum of the activated signaling relés more 25mA for each registered call relé and it should not be superior to a value of 4A corresponding to the protection fuse F2.

The feeding tensions X63/X62 and X61/X60 separate galvánicamente are internally.

4.2.2 - feeding exits for the call pushers.

X54(UK) feeding Exit for the booth pushers in universal elevators.

X55(UA) feeding Exit for the external pushers in universal elevators.

X59(US) feeding Exit for all the pushers in collective and selective elevators.

In the collective and selective ascensores they are all the pushers of calls, so much interior as external, fed through the borna X59(US). In this borna there is always tension except when the inspection functions, recovery and violation of time of journey are activated.

In universal elevators they are all the pushers of calls exterior fed through the borna X55(UA) and those of booth through the borna X54(UK). There is not tensión in these bornas, the same as it happens with X59(US), during the inspection functions, recovery and violation of time of journey and additionally since he/she registers a call until this call is worked.

The booth calls have priority on the external calls. The feeding tension for the booth calls X54(UK) it is connected before that of external calls X55(UA).

4.2.3 - call entrances with registration.

X22(R1), X24(R2).... X50(R15), X52(R16) they are the connection bornas for the entrance of calls from the plant 1 up to 16 o'clock and they are also used like registration of this calls. These bornas is bidirectional and they are commuted as exit of registration of a call after he/she has registered that call. The working of the calls is made with a potential of +24V. Each recognition sign you can load with 1A, but the load total that he/she can have the borna X61 it cannot surpass a value of 4A.

The erased of the calls you carried out when being illuminated the positional corresponding to this plants.

The registered calls are signalled in the leds H41... H56.

The borna X52 always corresponds to the highest plant, still when they are necessary less than 16 plants.

The pusher of call of the plant in which the booth is parked works as if it was a photo cell sign.

4.2.4 - signaling of busy.

The signaling of busy is carried out through the borna X56(B). This borna has a positive potential whenever he/she has called registered, during the time of stop and the inspection functions, recovery and time of journey. This exit can have a peak load of 1A.

4.2.5 - sense signaling and next march sense.

The borna X58(Ab) it signals the slope sense.

The exit is given with a potential of negative and he/she can have a peak load of 1A, During the quick march it signals the sense of current march, and during the slow march and the time of stop signals the next march sense.

The borna X57(Auf) it signals the subiba sense.

The exit potential and the signaling way is the same as X58 stops. (slope)

4.2.6 - positional.

X21(S1), X23(S2),..., X51(S16) they are the bornas of position signaling.

In these bornas the current position of the booth is signalled among the plants 1 and 16. This signaling is made with a positive potential. The positional of the booth is calculated with the bill impulses that there is among each plant and also with the correction signs that there are in the plants inferior and superior.

The borna X51 and the led H36 signals the positional of the last plant, still when there are less than 16 plants.

Information is not given of positional during the inspection functions and recovery, when a violation of time of journey, the elevator takes place it is outside of service or he/she is carried out an erased of all the calls.

Each exit of positional can have a peak load of 1A, but the total load that he/she can have the borna X61 it should not overcome the value of 4A.

The positional one corresponding in each moment it is signalled by the diodes led H21,... H36.

4.2.7 - mishap signaling.

X18 and X19 are the in charge bornas of signalling the mishaps.

Among these two bornas there is a contact free of potential for the signaling of a violation of time of journey or an excess of temperature of the motor. This contact one can parametrizar by means of the microinterruptor X91 like closing contact in the position, S “, or like opening contact in the position, OR “and it allows a peak load of 24V and 1A.

When one gives error signaling he/she fades the led H40 and he/she falls the relé K40.

4.2.8 - calls for inspection and recovery.

X20(I) order of slope march.

The order of slope march in inspection and recovery is given with a positive potential. He/she leaves with slow speed in inspection and recovery. This march order is not registered and neither recognition is given to the misma.En inspection when you arrives to the one evened of the last plant in that march sense retires the march order automatically. During inspection and recovery the functions of violation of time of journey, renivelación and photo cell are outside of service.

After inspection it is generated a reset trip automatically to the inferior plant.

The state of X20 can be recognized through the led H41.

X53(I) as X20, but in ascent.

The state of X53 can be recognized through the led H56.

If the two march entrances are given at the same time, X20 and X53, any march order is not worked.

4.3 - control entrances.

The entrance of signs in the bornas X1,... X13 is carried out with a tension of $24\text{VDC} \pm 15\%$ without filtering, being connected in X14 the negative potential (0V). The potential of the signs X1,... X17 separate galvánicamente of the tensions of feeding of the team is and of signaling.

4.3.1 - X1(Tps) Position of doors when parking.

When there is tension in X1(Tps), after being traveled the time of stop order of closing of doors it is given. The booth parks with the closed doors. When there is not tension in X1(Tps) the door remains open. It can be proven the state of this entrance in the led H1.

4.3.2 - X2(As) Control of stopped motor.

When the main contactores of march is fallen, it should have tension in the borna X2(As). In case one of those contactores is activated, he/she should retire the tension of X2(As).

Before being given a march order it should have tension in X2(As) at least during one second. When there is not tension in X2(As) the function of violation of time of journey enters in service.

At the end of a trip in an elevator without premature opening of doors, it is expected to that there is tension in the borna X2(As) to give order of puertas,es opening to say, the doors open up after having stopped the motor. If there is not sign in X2(As), the door won't open up except in case there is not tension due to a renivelación march.

If during a trip tension is received in X2(As), they retire all the march orders and they fade all the calls. A new outburst of the elevator can only be due to a new call.

The state of this entered can be proven in the led H2.

4.3.3 - X3(Ls) Photo cell.

This entrance is good to invest the closing of doors repeating the time of stop again.

The time of stop is the interval of minimum time that has to lapse between the end of a trip and the possibility that another begins. During the time of stop it always remains the open door. Once lapsed this time you can order the closing of doors due to a call or to the parking parametrización with closed doors.

The KSA-18 divides the time of stop in two periods. The first period or time of stop you bases it can regulate between 2 and 20 seconds with the potentiometer R85. The second period or extended time of stop can last approximately 2 seconds if there is some march order or around 5 seconds if there is not none. In universal elevators during the time of stop feeding tension is given for the booth calls, and when this concludes, if previously he/she has not been carried out any booth call, also for the external calls.

During the time of stop it bases the entrance X3(Ls) he/she doesn't have function.

When receiving photo cell sign during the extended time of stop, this time is initialized.

If one receives photo cell sign during the closing of doors, order is given of opening doors and the time of stop begins to count again.

The entrance X3(Ls) it is outside of service during the inspection functions, recovery and time of journey violation.

The state of X3(Ls) you can recognize in the led H3.

The entrance X3 continues in service during the evacuation function, due to that which should be disconnected outwardly.

4.3.4 - X4(Ins) Inspection.

In way of normal operation he/she has to have tension in the entrance X4(Ins). If he/she retires the tension the inspection function it is connected.

When connecting the inspection function they fall the march relés, doors and it weighs. All the calls are erased and he/she retires the feeding tension for the calls of the bornas X54(UK), X55(UA) and X59(US). He/she retires the position signaling and of march sense. The borna X56(B) of signaling of busy remains always activated during inspection. The march orders in inspection are carried out in the bornas X20 (()) for slope and X53 (()) for ascent. The feeding tension for these calls debit side to be taken outwardly.

When one gives a march order it is given order at the same time of closing doors and it weighs.

When the booth goes in a sense and it arrives to the area of correction of that march sense, in the moment in that one receives sign from having evened they retire the march orders, of closing of doors and of levy (if it is using).

During inspection they are outside of service the functions of control of time of journey, renivelación and photo cell.

After inspection he/she is carried out a reset trip automatically to the inferior plant.

The state of X4(Ins) you can recognize in the led H4.

4.3.5 - X5(Rhs) Recovery.

Moving away the sign of the borna X5(Rhs), whenever there is tension in the borna X4(Ins), the recovery function is connected. The inspection function has more priority than that of recovery. The recovery operation is identical to that of inspection, with the differences that here he/she doesn't stop the elevator when receiving sign from having evened in the corrección areas and that neither he/she is carried out a reset trip when concluding this function.

The state of X5(Rhs) you can recognize in the led H5.

4.3.6 - X6(Tzk) Control of closed doors.

This entrance is good to control a levy in the cases in that it is necessary. The levy order is given once it has finished the time of stop, he/she wants to be carried out a trip and there is present tension in the entrance X6(Tzk). If in the entrance X6(Tzk) there is not tension, the levy is not worked.

The state of X6(Tzk) you can recognize in the led H6.

4.3.7-X7 (TZ) Control of closing of doors, mandatory closing.

With sign in the borna X7 (Tz) the time of stop is annulled and the lapsed closing of doors takes place an adjustable time with the potentiometer R87. With sign of closing of doors the potentiometer R85 of time of stop is disabled.

4.3.8-X8(Imp) Impulses.

The diagrams of impulses, pages 18/19, they indicate like debit side to be carried out an appropriate placement of the bill impulses. These impulses should have as minimum a duration of 20ms, and they are necessary to make a reproduction of the hole and to recognize the displacements of the booth. If one doesn't receive impulse sign in a trip during an adjustable time for the potentiometer R86 between 4 and 40 seconds, a violation of the time of journey takes place. All the calls are erased, and all the control relés falls. Among the bornas X18 and X19 are a contact free of potential that signals the violations of time of journey. You leaves this error situation interrupting the tension momentarily in the borna X2(As) or disconnecting the tension of feeding of the team.

The state of X8(Imp) you can recognize in the led H8.

4.3.9-X9(BU), X10(BO): Evened inferior, evened superior.

These two entrances are good to recognize the level of each plant, for the renivelación control, to check if the series of impulses is correct and for the premature opening of doors.

to) Elevator without renivelación, diagram of pulses page 18.

In this case meetings the bornas X9(BU is connected) and X10(BO) and they receive tension as it is indicated in the diagram of pulses. When the booth arrives in slow march to the one evened, they retire

the march orders and order of opening of doors is given. In the moment in that you/they begin to open up the doors the time of stop he/she begins.

b) Elevators with renivelación, diagram of pulses page 19.

In this case the signs X9(BU) and X10(BO) they are separate and the installation is carried out as it indicates the diagram of pulses. The signs X9(BU) and X10(BO) they are overlapped in the area of having evened, this means that when the booth is parked he/she has to have present the two input signals. You concludes a trip with sense ascent when he/she leaves with slow speed and the sign is received from having evened superior X10(BO), or when losing the sign of having evened inferior X9(BU) if it has not been received the sign before from having evened superior due to an error. In the same way a trip concludes with slope sense when he/she leaves with slow speed and the sign is received from having evened inferior X9(BU), or when losing the sign of having evened superior X10(BO) if it has not been received the sign before from having evened inferior due to an error.

A renivelación order is given when the booth is in a situation of rest and for example to a descent it loses the sign of having evened superior. This order of renivelación march locates the booth in the area of having evened again.

You can use a special speed for renivelación. The renivelación is carried out with independence of the position of the doors. In inspection, recovery, violation of the time of journey and temperature of the motor this function is outside of service. The state of X9(BU) and X10(BO) you can recognize respectively in the leds H9 and H10.

You can program premature opening of doors closing the microinterruptor X85. Order of opening of doors is given when he/she leaves with ascent sense and slow speed and a sign is received from having evened inferior X9(BU). Order of opening of doors is given when he/she leaves with slope sense and slow speed and a sign is received from having evened superior X10(BO).

If the microinterruptor X85 is open, it is expected to that fall all the march contactores (tension in the entrance X2(As)) to give order of opening of doors after a trip.

When the booth surpasses or it arrives to an evened, it is controlled if the received sequence of impulses corresponds with the corresponding diagram, that is to say, 1 impulse in the plants end and two in the intermediate plants. In the event of being detected a bill error, it is corrected the internal accountant automatically so that the booth doesn't have to travel in slow march a big space with the possibility that a violation of time of journey takes place. Once this trip has concluded it is generated a reset trip automatically to the inferior plant to correct the internal position accountant correctly.

4.3.10 - X11(KU) inferior Correction.

This sign is used to recognize the inferior plant, to correct the internal accountant of position and to change to slow march in the slope trips with quick march.

The state of the entrance X11(KU) you can recognize in the led H11.

ATTENTION!!! Correction sign with usually closed contact, opened up in inferior plant.

4.3.11 - X12(KO) superior Correction.

This sign is used to recognize the superior plant, to correct the internal accountant of position and to change to slow march in the slope trips with quick march.

The state of the entrance X12(KO) you can recognize in the led H12.

ATTENTION!!! Correction sign with usually closed contact, opened up in plant superior.

4.3.12 - X13(VL) it Loads complete.

This function is only used with the selective additional card. He/she is proven the state of this entrance before an outburst order and if there is present tension one doesn't work the external calls, only the interiors. The state of the entrance X13 you can recognize in the led H13.

4.3.13 - X15(T1), X16(T0) Control of temperature of the motor.

In bornas X15(T1) and X16(T0)se connects a protection PTC, to check the temperature of the motor or of the oil. The borna X16(T0) it is connected with the borna X14(0V). In the event of sobretemperatura he/she fades the control led H14

If the elevator is in progress when an excess of temperature is detected, that trip concludes and a new outburst is prohibited. If it is stopped, a new outburst is prohibited. When the temperature is adapted to work again, he/she returns to the normal service of operation.

The feeding is carried out on X17 (24V) with 24 VDC without filtering.

4.4 - firemen's maneuver / evacuation.

An evacuation maneuver is carried out 1° disconnecting the tension of feeding of the calls and 2° giving a call at the same time with external tension in the evacuation plant.

1° retire the tension of feeding of the bornas X61(UR) that is necessary for a way of normal operation. Due to ésto X59(US disappears of the bornas), X55(UA) and X54(UK) the tension of necessary feeding for the pushers of calls and also the tension for the signaling exits, they also fade all the calls. The booth stops in the next plant. It is programmed the aparacamiento internally with open doors. The renivelación functions and retard of ascent march remain active.

2° If at the same time a call is given with external feeding in the plant of firemen or of evacuation, he/she is carried out an evacuation trip until this plant in the following way:

If the booth is stopped in an it plants it starts up in the sense of the call, and once it arrives to that plant it is outside of service with the open doors.

If the booth is moving with quick march in sense of the evacuation plant, continuous going until the evacuation plant where it is outside of service.

If the booth is moving a contrario sensu of the evacuation plant, the booth stops in the following possible plant, and without to open doors neither to travel the time of stop it invests the sense of the march until arriving to the evacuation plant where it is outside of service.

The inspection functions and recovery have priority on the evacuación/bomberos function.

4.5 - control exits.

The control exits for puertas,leva and march orders, bornas X66 to X77 and X78 to X81, is carried out by means of relés contacts. The design of the printed circuit and the pattern of utilized relés allow in the bornas X66 to X77 the direct connection of the safe-deposit circuit with a maximum tension of 250 VAC without necessity of intermediate contacts of protection. The contacts can support a maximum current of 8A.

In the bornas X78 to X81 the exits of the marches of speed are given with a maximum tension of 24VDC, having as advantage an additional march for renivelación speed.

4.5.1 - control of doors.

X75(UT) common Feeding for the exits of control of doors.

X76(ZU) I Contact of exit for closing of doors.

X77(AUF) I Contact of exit for opening of doors.

For the control of doors the team has the relés K1 (opening of doors) and K2 (closing of doors). The feeding is connected in the borna X75(UT). To increase the security, the circuit has been designed so that it is impossible to give the opening orders and closing of doors at the same time, piercing X76 „to close doors “with X77 „to open doors “.

One of the closed two exit contacts is always in normal service of operation.

During the time of stop it is the relé K2 (closing of doors) the one that is fallen and K1 (opening of doors) excited. When concluding the time of stop, due to a march order or to that the elevator is scheduled with parking with closed doors, the relé K1(apertura of doors) he/she falls and K2(cierre of doors) it is activated.

The working of doors, when you presses a call in the plant where the booth is or photo cell sign is received, it is described in the section 4.3.3.

The commutation between closing and opening of doors when it finishes a trip he/she is carried out without retard. When order of closing of doors is giving before a trip begins and photo cell sign is

received or you presses a call in the plant in which the booth is, he/she retires the order of closing doors and lapses a retard of approximately 0,5 seconds order is given of opening doors.

If he/she closes the microinterruptor X85, the elevator is programmed with premature opening of doors. In inspection and recovery the relé door K1(apertura) it is always fallen, and K2(cierre of doors) it is active only when one gives a march order. When a violation of time of journey takes place they fall the two relés.

It can be proven the state of the opening relés and closing of doors in the leds H61 and H62 respectively.

4.5.2 - levy control.

X73-X74(RM) levy Sign.

This control is foreseen for the cases in that the working of the levy is independent of the working of puertasa inclination of the swicht X88 (RM+TÜR ZU). The bornas X73 and X74 are connected to a contact of closing of the relé K3, this relé is worked when an order is giving of closing door to carry out a trip and tension is received in the entrance X6(TZK).

With X88 opened up there is only levy sign during door closing in plant and during the trip. With X88 closed there is always levy sign when there is sign of closing of doors.

4.5.3 - control of main marches.

Bornas X67,... X70.

The relés K4(H64), K5(H65), K6(H66) and K7(H67) they control the main march orders.

The team is scheduled to only give only order of quick march during the phase of quick march, and slow march during the phase of slow march. Closing the microinterruptor X89 you can program the team so that you of also order of slow march whenever there is order of quick march.

To carry out the renivelación maneuvers with slow speed K5(lenta), he/she should close the microinterruptor X90.

The relés K6(Ab) and K7(Auf) they control the orders of march of slope sense and ascent respectively. In the cases of hydraulic elevators, you can introduce a continuation of approximately 0,5 seconds in the ascent ventíl, closing the microinterruptor X86.

Bornas X66(SK) confirmation of safe-deposit circuit and X71(UG) it deviates (for renivelación).

The orders of speed and address are only given, when there is present tension in the borna X66(SK), measure with regard to X65(N), and this tension is at least during stable 0,5 seconds. To give an order of renivelación march one doesn't keep in mind this entrance.

In the borna X71(UG) the tension is connected for the investment of the doors and levy contacts in the event of renivelación and leveling with the open doors.

He/she has been carried out the circuit so that you he/she cannot give order of quick march with the open doors.

For bigger security of the team the bornas X64(N has been foreseen) to connect the referencia tension (neuter or common) of the march contactores.

4.5.4-control of auxiliary marches.

Bornas X79 to low tension additional Left X81 for the marches of speed.

The borna X78(U) it is the feeding for the exit bornas X79(NS), X80(LGS) and X77(SCH). These are come out additional low tension, as maximum 24VDC. These signs activate the corresponding relés K (, K9, K10 in an independent way.

The relé K8 gives the exit of renivelación speed X79(NS).

The relé K9 gives the exit of slow speed X80(LGS).

The relé K10 gives the exit of quick speed X81(SCH).

The contacts of the relés K8, K9 and K10 can only work with low tension and they could be used for the control of a regulator of speed.

4.5.5-Luz temporized booth.

The relé K11 next to the bornas X82 (HEAD) and X78 (OR) they carry out the selective control of the booth illumination. K11 remains activated during the opening of doors, the march, the time of stop and he/she stays after closing doors some seconds.

4.6-control abuse of calls.

After the working of the sign fotocélula one works a maximum of two calls interiors. The other booth calls and floor are erased. With each performance of fotocélula sign the suppression of calls is avoided.

5 - SUPPLEMENTARY CARD 4805 on the card base 4804 for registration of calls on selective way

5.1 - construction of the Selective KSA-18.

The KSA-18 can work the calls in way selective clerk of the march sense with the additional card 4805. This additional card is connected perpendicularly in the card it bases 4804. The number of relés of call registration and confirmation that are mounted in the supplementary card, are carried out in function of the number of plants that there is, but the relé will always be mounted and the call of the last plant will be connected in the corresponding to 16 o'clock. The same as in the card it bases foreseen 16 relés are.

Example: Denomination of a team with 5 stopped KSA-SHY-18/5

5.2 - the function selective clerk of the march sense.

The KSA-18, thanks to the additional card 4805, it has two entrances of having called by plant, necessary to be able to work in way selective clerk of the march sense. The booth calls are connected in the call entrances with recognition X1, X2,... X16 of the supplementary card. The external calls are connected in the card it bases. The feeding for the booth pushers, so much interior as external, he/she is carried out for the borna X59(US).

The jumper should OPEN UP X92 and to place the bridge (Br..) corresponding in the locus in quo they are free the relés position. The reception of calls takes place in the following way:

The interior calls and exterior are memorized and registered with a tension of 24VDC.

When the elevator goes from the plant low parametrizada with ascent sense or of slope, he/she only assists the far away call. If the elevator goes toward the low plant, he/she assists all the calls.

The elevator always assists, independently of the march sense, the interior calls or of booth.

The booth calls are those that have priority in the taking of decision of a new march sense.

When one gives a booth call in a plant, this is also registered in the pusher of external call corresponding to that plant. The recognition sign can have a load on the whole of 1A. When arriving the elevator to a plant, he/she retires the sign of registration of the two call pushers.

For the low plant programmed it is only possible a pusher of floor call

The pressed calls are signalled in the diodes led H1 to H16.

5.3 - Parametrización of the low plant for the selective function.

With the card 4805 one can parametrizar the team in selective way in ascent until the 6ª plant. One can parametrizar like low plant that it is worked as selective in ascent and slope, one of those first 6 plants. For this programming they are the couples of switches X93/X94 until X101/X102, and they are programmed in the following way:

to)	Selective slope	superior switch	horizontal
		inferior switch	diagonal
b)	Selective ascent	superior switch	diagonal
		inferior switch	horizontal
c)	Selective subida/bajada	superior switch	horizontal
		inferior switch	horizontal

The elevator assists to all the external calls when it goes with ascent sense toward the low plant.

It is necessary to keep in mind that all the plants, below the floor considered plant lower, they should be coded as selective in ascent.

6-NOMENCLATURE

6.1 - feeding of the team.

X63(24V), X62(0V)	Feeding of the team 24VDC \pm 15%, tension without filtering, Imáx (200mA, protected with F1(1A))
X61(UR), X60(0V) H16	Entrance feeding for the calls and signaling. Bornas (X20 to x59) 24VDC \pm 15%, without filtering I = it Adds of Signaling + 25mA registered Called x Imáx = 4A, protected with F2(4A)

6.1.1 - exit feedings for the call pushers.

X59(US)	H20	Exit feeding for the calls in collective and selective way V = 24VDC taken of X61(UR)
X54(UK)	H39	Exit feeding for the booth calls in universal way V = 24VDC taken of X61 (UR)
X55(UA)	H57	Exit feeding for the external calls in universal way V = 24VDC taken of X61 (UR)

6.1.2 - feeding for the indication signs.

All the indication signs, except X18/19(FEHLER-MISHAP) they take the tension of feeding of the borna X61(UR). X18/19 is bornas free of potential.
The maxim loads allowed it is of 1A for exit.

X56(B)		Exit for the signaling of busy
X57(AUF)	H37 K37	Sense signaling and next march sense, ascent
X58(AB)	H38 K38	Sense signaling and next march sense, slope
X21(S1), X23(S2) until X51(S16)		Signaling of positional of the plants 1,... 16 H21, H22 a.H36
X18, X19 H40		I contact free of potential for the mishap signaling Pmáx = 48W/110VA, Vmáx = 240VAC Imáx = 1A, supporting tension 500VAC

6.1.3 - call entrances / Exits of call recognition.

X22(R1), X24(R2) TO X52(R16)...	Terminal entrada/salida for the calls of the 1 at 16 and exit of registration of those calls
H41,... H56	Ientrada = 25mA
K41,... K56	Ventrada = 24VDC taken of X57(US), or of X52(UK) and
X53(UA)	Isalida = 1Amáx taken of X59(UR)

6.1.4 - march orders in inspection and recovery.

X20(I)	H41 K41	Slope order for inspection and recovery
X53(I)	H56 K56	Ascent order for inspection and recovery

6.2 - control entrances.

All the control entrances are fed with a tension of $24\text{VDC} \pm 15\%$ without filtering. In the borna X14(0V) the negative tension should be connected. The current of load of each entrance is of 10mA.

X1(TPS)	H1	Position of doors when parking
X2(AS)	H2	Control of stopped motor
X3(LS)	H3	Photo cell
X4(INS)	H4	Inspection
X5(RHS)	H5	Recovery
X6(TZK)	H6	Control of closed doors of floors
X7(TZ)	H7	Pusher of door closing
X8(IMP)	H8	Impulses
X9((BU)	H9	Evened inferior
X10(BO)	H10	Evened superior
X11(KU)	H11	Inferior correction
X12(KO)	H12	Superior correction
X13(VL)	H13	It loads complete
X14(0V)	Tension of reference 0V for the entrance bornas X1,... X13	

6.3 - control of temperature.

X14(T1) X15(T0) H14 X17; (24V)	Connection Bornas for a PTC, the borna X16 is connected to X14 Feeding
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6.4 - levy control and doors.

X73(RM)		Entrance tension for the levy, $V_{\text{máx}} = 250\text{VAC}$
X74(RM)	H63	Exit tension for the levy, 250VCA, 8A
X75(UT)		Entrance tension for the orders of doors, $V_{\text{máx}} = 250\text{VAC}$
X76(ZU)	H62	Exit of closing doors, 250VCA, 8A
X77(AUF)	H61	Exit of opening doors, 250VAC, 8A

6.5 - march workings.

X66(SK)	H15	Entrance tension for the working of the contactores in way of normal operation. (End of the safe-deposit series) $U_N = 230\text{VAC}$ against X63, $I_{\text{máx.}} = 8\text{A}$
X65(N)		Neuter, entrance
X64(N)	H15	Neuter, exit for the march contactores

Abierto=estándar
renivelación march

Cerrado=se also gives order of slow march whenever there is an order of

X91

Parametrización: I warn of mishap

ö = of opening; s = of closing

X92

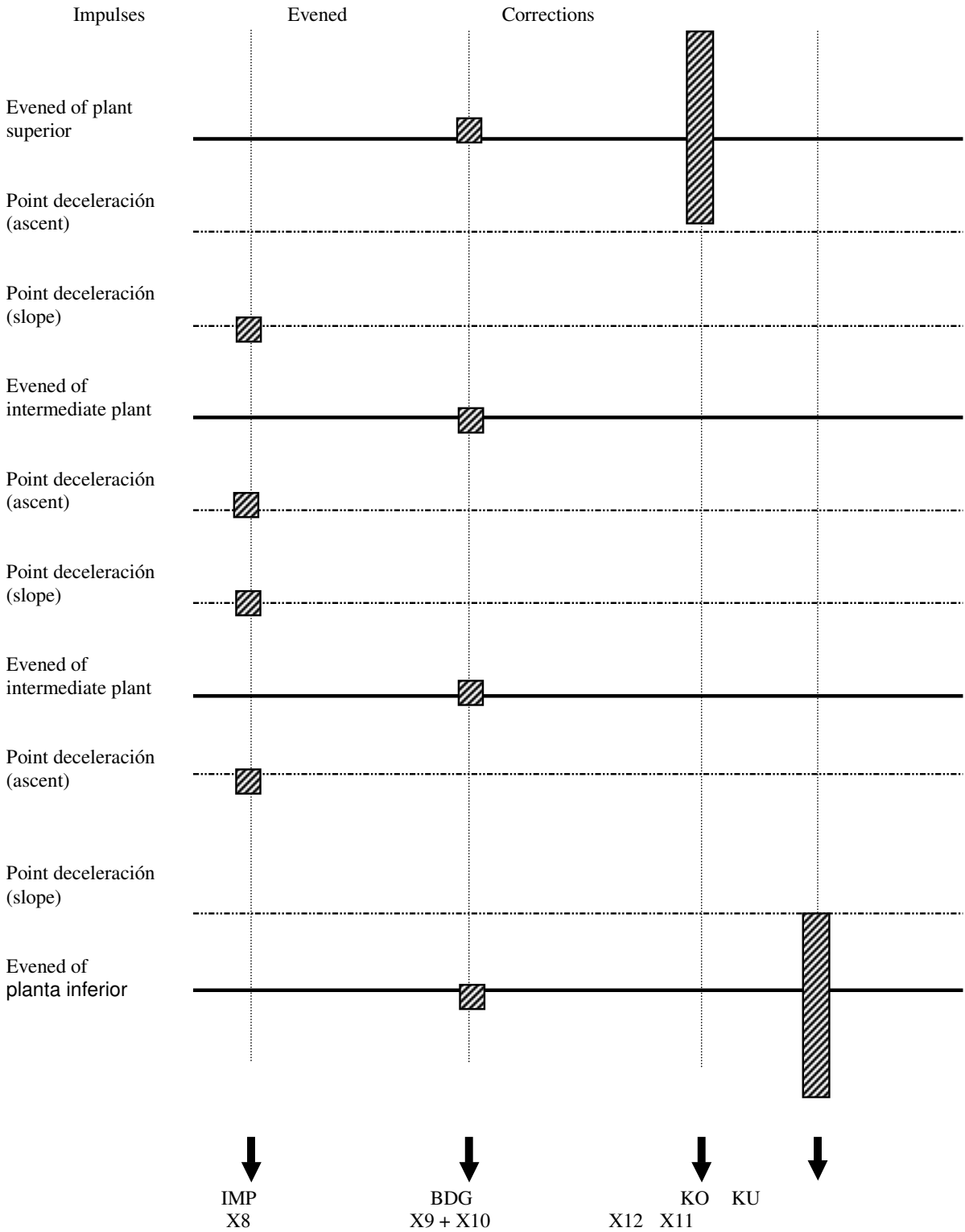
Parametrización: reception of calls

Open = selective slope (only with additional card 4805)
call every time)

Closed =

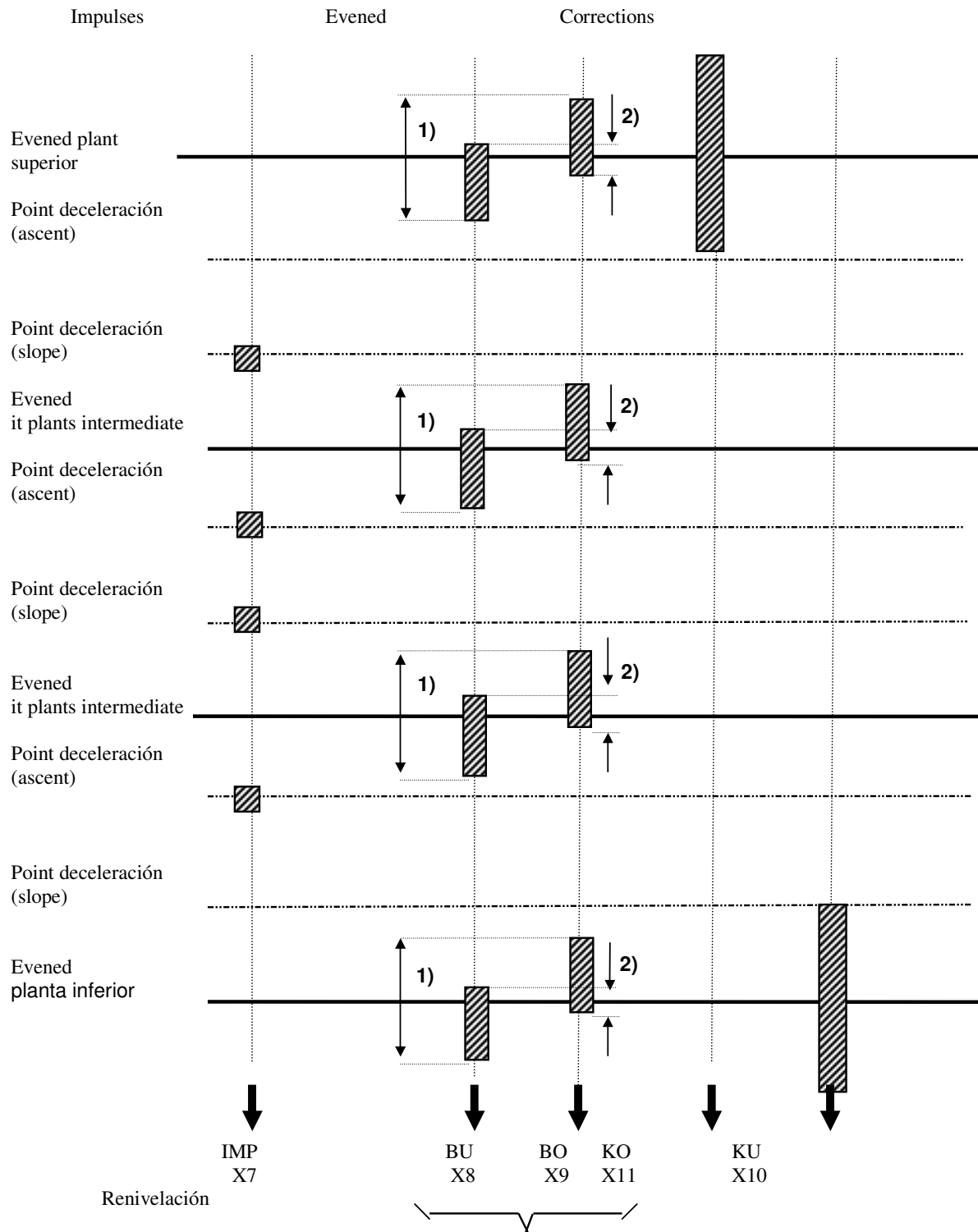
universal (only trabaja a

6.7-diagram of pulses without renivelación.



The minimum duration of the impulses is of 20ms.

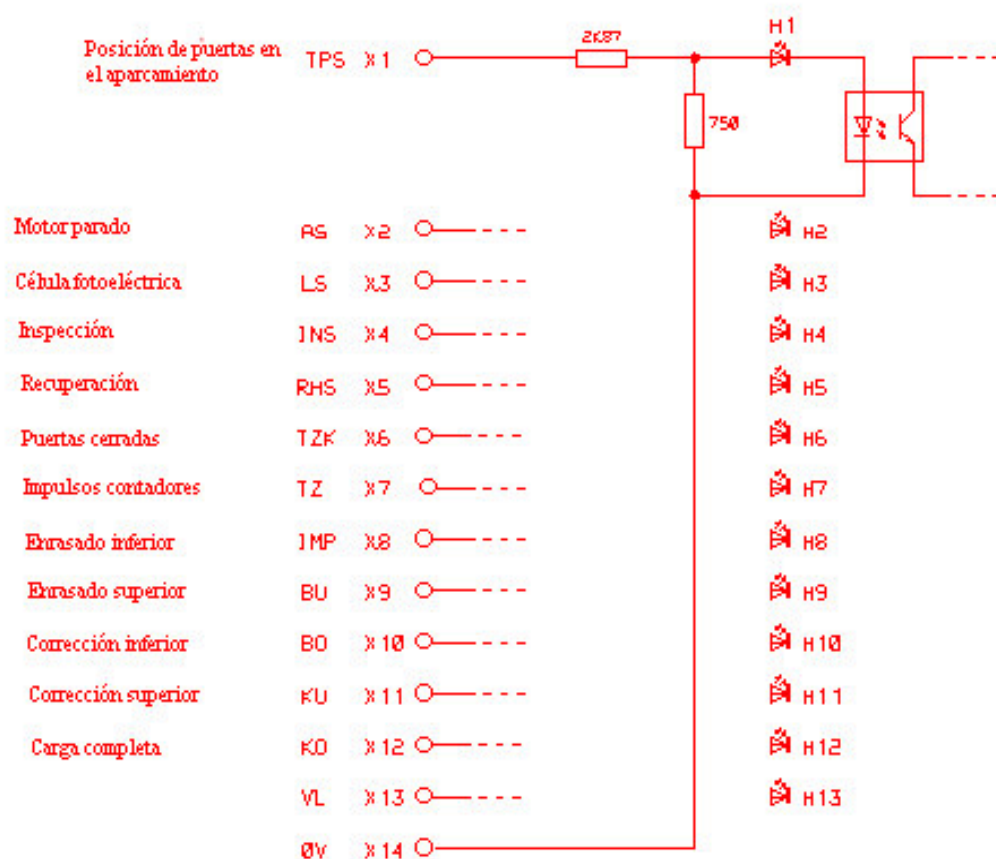
6.9 diagram of pulses with renivelación.



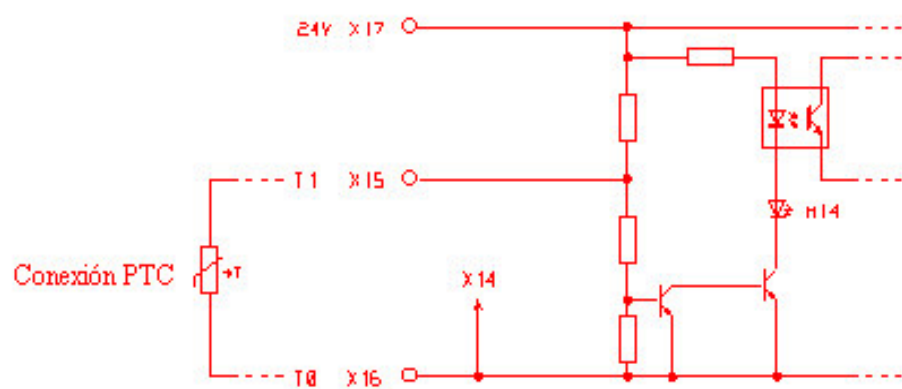
1) renivelación area.

2) area of having evened.

The minimum duration of the bill impulses is of 20ms.



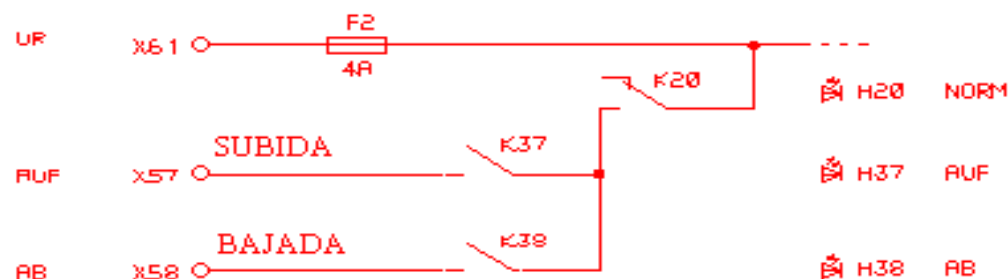
Punto 2.- Esquema de las entradas X1 - X13



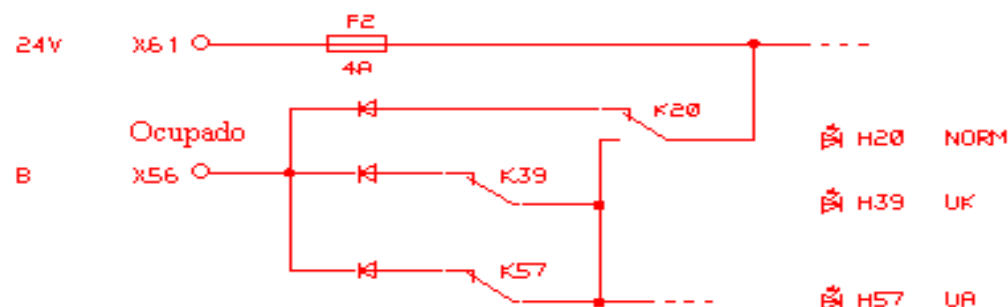
Punto 3. Figura para la conexión de la PTC



Punto 4. Esquema de la salida de avería X18-X19



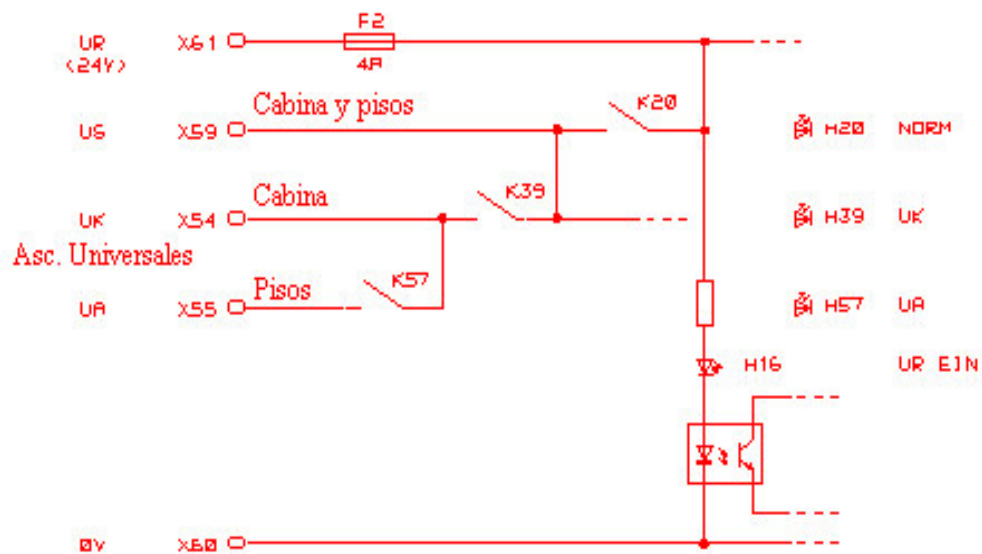
Punto 5. Esquema de las salidas de flechas de dirección X57,X58



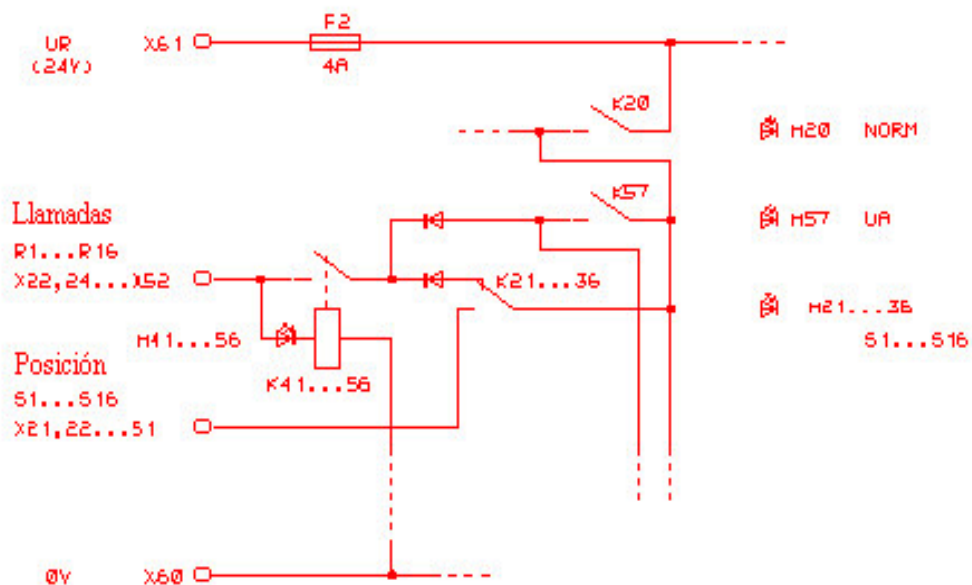
Punto 6.- Esquema de la indicación de ocupado X56



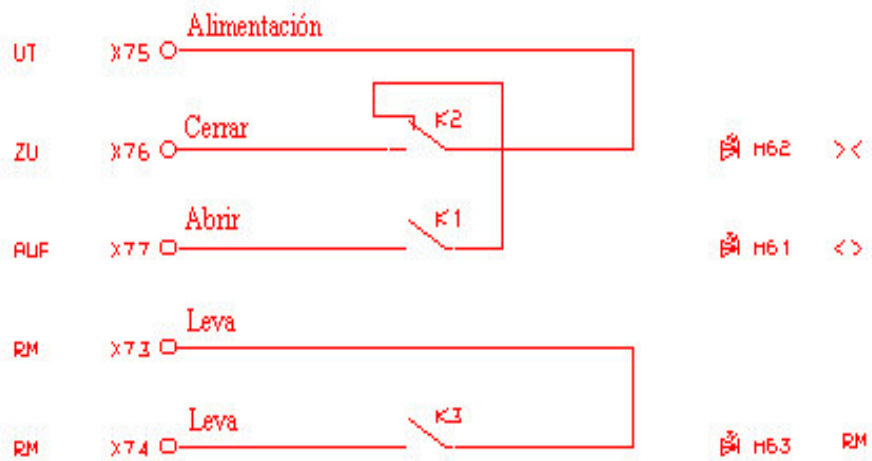
Punto 7.- Esquema de las salidas de velocidades adicionales X78-X82



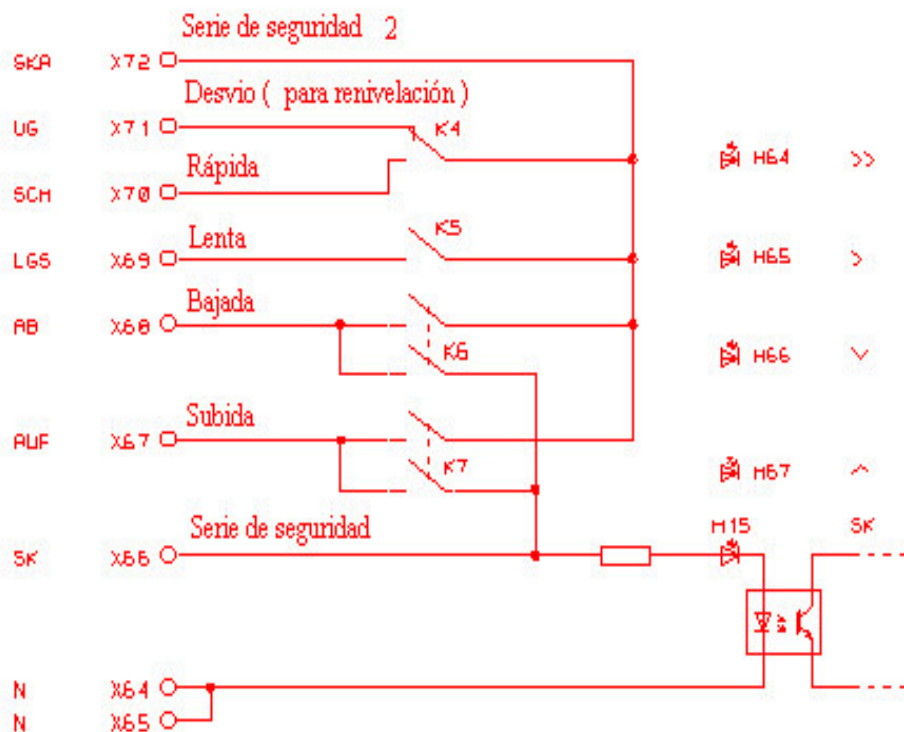
Punto 8.- Alimentación de los pulsadores de llamada



Punto 9.- Esquema de las entradas de llamadas y salida de posición



Punto 10.- Esquema de salidas de puerta y leva



Punto 11.- Salidas de mandos principales

