BT ELEVATOR

BT BOARD
USER GUIDE

BTELEVATOR OTOMASYON İNŞAAT SANAYİ VE TİCARET ŞİRKETİ
ELEVATOR CONTROL AND AUTOMATION SYSTEMS

BT ELEVATOR

BT BOARD

ELEVATOR CONTROL BOARD USER MANUAL

Serial No:…….

Version: 1.00

NOTE: Make sure that the version numbers of your user manual and the product are the same. Otherwise, the product you use and the explanations in the user manual may differ from each other.

BT BOARD Kumanda Kartındaki Klemens Numaraları ve Anlamları

R,S,T : Main Phases
MP : Neutral
10A : Safety circuit neutral
120 : Stop return, Plug start
130 : A Gate Plug return,
135 : B Gate Plug return, Lock start
140B : B Gate Lock return
140A : A Gate Lock return
10B : Neutral connection of contactors
11 : Ru1/Rah, Ru2/Ryh, Rh/Ray, Rf/Ryy common tips of relays
RU1 : Down direction in rope elevators, down fast relay and connection point in hydraulic elevators
RU2 : Up direction in rope elevators, up speed relay and connection point in hydraulic elevators
RH : Fast in rope lifts, slow down in hydraulic lifts and connection point
RF : Slow up in rope lifts, slow up in hydraulic lifts and connection point
RPB : VVVF Main contactor input of the coil
RPA : VVVF Main contactor output of the coil
LIR1, LIR2 : Normally open tip of the pump relay
1, 2 : Normally close tip of cabin lamp
RTC,RTCOM,RTO : Normally close and normally open tips of Rsvr relay
RYA : Speed Regulator Coil tip input
RYB : Speed Regulator Coil tip output
A3 : Close signal for A gate (common AB15)
A5 : Open signal for A gate (common AB15)
AB15 : Common tips of A3-A5 and B3—B5
B3 : Close signal for B gate (common AB15)
B5 : Open signal for B gate (common AB15)
GND : Encoder supply (-12V DC)
12V : Encoder supply (+12V DC)
A- : Encoder signal
A+ : Encoder signal
B- : Encoder signal
B+ : Encoder signal
100 : +24V DC
1000 : Partner of the 100 signal (-24 Volt)
KAK : Rescue contactor supply
SAK : Network contactor supply
RLC : COM signal in KAK and SAK relay
M0 : M0 counter bi-stable switch input (common 100)
M1 : M1 counter bi-stable switch input (common 100)
141 : ML1 ML2 Down Slowing and stopping in counter system
142 : ML1 ML2 Up Slowing and stopping in counter system
817 : Bistable switch for lower limit break (common 100)
818 : Upper limit breaker bistable switch (common 100)
804 : Overload switch (common 100)
DEP : Quake switch (common 100)
YNG : Fire switch (common 100)
K20 : Automatic door open button, photocell switch, pressure switch (common 100)
DTS : Automatic door close button (common 100)
869 : Well inspection key (common 100)
500 : Inspection down key (common 100)

501 : Inspection up key (common 100)
RGA : Regulator monitoring input (*common* 100)
RGK : Regulator monitoring input (*common* 100)
BRK : Engine brake monitoring input (*common* 100)(Used when gearless motor is used)
ST : Used for recovery direction detection (*common* 100)
ML1 : Magnetic switch input in hydraulic and VVVF controlled systems (*common* 100)
ML2 : Magnetic switch input in hydraulic and VVVF controlled systems (*common* 100)
CL : Door open limit (*common* 100)
OL : Door close limit (*common* 100)
KRC : Contactor control (KRC) signal information input (*common* 100)
PTC : Motor thermistor connection (*common* 100)

Terminal Numbers and Meanings on BT BOARD Terminal Board

A,B,C,D,E,F,G,2G,2BC : Display outputs (*common* 100)
02 : Out of service lamp (*common* 1000)
12 : Busy lamp (*common* 1000)
31 : Down direction arrow lamp (*common* 1000)
32 : Up direction arrow lamp (*common* 1000)
G0-G3 : GRAY code output used to mark floors
1-16 : Call tips (*common* 100, signal *common* 1000)
K869 : Inspection from the Well
P869 : Instection from the Clipboard
142K :
SC1A-SC1B : BT SERIAL is used for connection to the on-board serial communication card.
SC2A-SC2B : Used for group work communication

NOTE: The down arrow, up arrow, out of service and busy lights are factory set to 1000 in common. If desired, it can be arranged to have a common 100 from the jumper on the BT BOARD.

Terminal Numbers and Meanings on the Control Panel:

R,S,T : Main Phases
Mp : Neutral
PE : Ground
U1,V1,W1 : High speed motor outputs for rope lifts, motor winding ends for hydraulic lifts.
U2,V2,W2 : Low speed motor outputs for rope lifts, motor winding ends for hydraulic lifts.
100 : +24 Volt
1000 : Common in 100 signal *(-24 Volt*)
840,2000 : Brake soil tips
810-2001 : Pomp soil tips
1 : Direct phase
1 : Direct phase on cabin
2 : Cabin lamp
110 : Safety circuit start
111,112,113 : Empty connection terminals
120 : Stop return, Plug start
130 : Plug return, Lock start
140 : Lock return
A3 : A gate close signal (*common* AB15)

A5 : A gate open signal (*common* AB15)
AB15 : Common tips of A3-A5 and B3-B5
B3 : B gate close signal (*common* AB15)
B5 : B gate open signal (*common* AB15)
24+,24- : 24V DC door opening voltage if there is a rescuer in the panel.

İÇİNDEKİLER

Our dear customer,
Thank you for choosing the BT BOARD Control Board, which is produced with the latest technology enabled by microelectronic systems. We want your product, which has been produced in modern facilities and has undergone rigorous quality control, to offer you the best efficiency. For this reason, we kindly ask you to read this entire manual carefully before starting the installation of your product and keep it as a reference.
We strive to provide you with many years of service by ensuring the installation and use of your product correctly. For this, we are constantly updating and expanding our technical documents. All technical drawings are presented to your use after checking many times. However, you will appreciate that we may have some mistakes in this long study. Please notify us of the errors you encounter, especially in the technical drawings, and help us in debugging our documents. We will always be here with new documents and enriched updated versions.
Please follow our new products and updates on our website www.btelevator.com.
I hope you will be satisfied using it.

WARNING ! : All documents in this catalog are suggestions. Despite all our efforts, it may contain errors and omissions. Please apply by checking, reflecting and questioning the information in the documents.

1. INTRODUCTION:

BT BOARD elevator control board is a microcontroller-controlled electronic elevator control system. This board can be used to control single speed, double speed, rope VVF (with synchronous and asynchronous machine) and hydraulic elevators. The terminal board called BT TERMINAL supplied with the BT BOARD control card is used to practically connect the control board connectors to the control board.

2. FEATURES OF THE PRODUCT:

• Well copying with encoder
• With different application macros depending on the elevator type, unmatched ease of use and performance superiority are provided for all kinds of elevators.
• Ability to adjust floor from inside the cabin
• Control type can be adjusted.
• The number of stops can be adjusted.
• 16 stops standard, 32 stops expandable
• With the addition of Additional Calling Card, call entries and stop capacity can be increased.
• Call lamps and buttons can be connected to the system with only one cable.
• All parameters can be easily adjusted with the help of LCD screen and program buttons. It saves time and control panel terminals with simple and error-free assembly.
• There are display outputs with short circuit protection and the desired code can be set for each station.
• Overload function is available.
• In case of fire, it can be directed to the previously set stop.
• Manual movement at slow speed using program buttons
• Adjustable parking stop and time to go to the park are available.
• M0 counter, M1 counter, ML1&ML2 counter and Encoder mode are available as floor selector.
• 4 channel encoder input for position information
• Adjustable position reset feature is available.
• Automatic reset of KRC, low speed fault and high speed fault can be achieved.
• There is a warning function on the LCD screen when the door is left open for a long time.
• It has adjustable busy time, waiting time at the stop, lock waiting time, door open time, door open error time, parking time, maximum high speed time and maximum low speed time.
• As classically, seven segment display output can be taken for different types of push buttons.
• Similarly, seven segment display outputs can be received from BT SERIES Serial Communication Card, as well as GRAY, BINARY or FLOOR OUTPUT outputs.
• GRAY code output for external use
• Selection of showing the first stop where the car will go on the display at every floor change.
• Password request can be activated for security reasons.

• It provides savings in flexible cable by communicating with the cabinet with only 2 cables via BT SERIES Serial Communication Card.
• Can work as a group of 6.
• Call transfer in group work
• Choice to move the car up to the limit switches or floor level in the revision
• Automatic door type can be selected and the open/closed waiting position of the fully automatic door can be adjusted. In addition, automatic door type can be determined separately for each floor. Thus, for example, a fully automatic door can be operated on the ground floor and on the 1st floor, and a semiautomatic door can be operated in the garage.
• In addition, it can be ensured that the door is open on the ground floor and the door is closed on the 1st floor.
• Second door support is available with built-in second door relay. Just like the first door, a separate automatic door type can be determined for each floor. Thus, for example, a fully automatic door can be operated on the ground floor and on the 1st floor, and a semi automatic door can be operated in the garage. In addition, it can be ensured that the door is open on the ground floor and the door is closed on the 1st floor.
• Selection of the floor with the fully automatic door of the elevators with only one fully automatic door.
• It can be operated in elevators up to 3.0 m/s. The number of neighboring stops can be adjusted.
• It can operate smoothly in hydraulic lifts whose motor is driven by star-delta or soft starter.
• In star-delta hydraulic lifts, star-delta time, start valve delay, stop motor delay and stop valve delay times can be adjusted independently of each other.
• Soft starter hydraulic lifts have adjustable soft starter contactor delay.
• Thanks to the built-in bridging relays, door pre-opening can be done in rope or hydraulic elevators.
• Thanks to the built-in bridging relays, door open leveling can be done in Rope or Hydraulic elevators.
• Electronic phases, phase sequence and PTC (Motor temperature) control, display of errors related to these controls on the LCD screen on the card, these functions can be disabled by parameter selection, phase level sensitivity can be adjusted
• Quick call with Up and Down Arrow Keys
• Optional BT SES Announcement card

- Integrated operation with BT SERIAL card
- Easy installation that only requires speaker connection
- Announcements can be made in case of floor information, Overload, Out of Service, Rescue, Photocell interruption, and music can be played while the elevator is in motion. Turkish/English/Arabic language options are available.

- Editing all announcements and music with MicroSD card support and computer interface

• Adjustable maintenance time, LCD display warning when the maintenance period is over
• It can keep the most recent 20 errors in its memory.
• All inputs and outputs can be tested via the test menu.
• Suitable for horizontal and vertical use
• Turkish and English language options are available as standard.

3. PARAMETERS:

In order to meet all the needs of the elevators in the field, the user is provided with many adjustable parameter possibilities. Since the number of adjustable parameters has increased, the parameters have been classified according to their properties and/or functions in order to ease and facilitate use. In this sense, it is more practical and easier to reach a parameter and change its value than similar systems.

	Parameter Name	Value range	Factory setting	Explanation
	1- LANGUAGE			
	LANGUAGE	Turkish	English	
		English		
	2-LIFT TYPE			
	LIFT TYPE	Single Speed	VVVF	
		Double Speed		
		VVVF		
		Hydraulic		
	3- GENERAL SETTINGS			
	Counter Type	M0 Counter	Encoder	
		M1 Counter		
		ML1 & ML2 Counter		
		Encoder		
	Encoder Divider	00.0-25.5	25.5	
	Short Floor Path			
	Long Floor Path			
	Control Type	Simple	Mixed	
		Mixed		
		Landing		

		Pickup Double Button Duplex Special		
	Number of Stops	1-16		
	Number of Basements	1-14		
	Parking Stop	1-16		
	Fire Stop	1-16		
	Maintenance expiration	Warning Block	Warning	
	Resquer	Active Passive	Passive	
	Dublex Choice	Dublex A Dublex B	Dublex A	
	Transfer call	Active Passive	Passive	
	Phase protection	Cancel Phase Sequential Phase Unordere	Phase Unordered	
	PTC	Active Passive	Active	
	Cabin Series	Active Passive	Passive	
	Inspection Movement	Kesiciye kadar Kata kadar	Up to the cutter	
	Leveling	Active Passive	Passive	
	Max.Internal Registration	1-16	16	
	Dubbing	Cancel	Cancel	
		Background		
		Announce		
		Background+Announce		
	KRC	Active Passive	Active	
	Position Reset	Active Passive	Passive	
	Regulator Watch	Active Passive	Passive	
	Brake watch	Active Passive	Passive	
	Unexpected movement	Active Passive	Passive	
	Intermediate			

	Initial Installation	Active Passive	Passive	
	4- TIMINGS			
	Busy time	5-20 second	6	
	Door opening	3-20 second	5	
	Door closing	2-30	10	
	Waiting on the Floor	3-15	5	
	High speed Max	5-250	15	
	Low speed	10-50	10	
	Return to the Park	10-250	250	
	Maintenance Time	45-250	45	
	Rx Release	0-25000 milisecond	1500	
	In the Star stay			
	Valve delay			
	After JF go	0-2000	0	
	Photocell duration	1-5	2	
	KAK/SAK duration	1-25	7	
	Direction delay			
	Recovery Finding Direction			
	5- DISPLAY SETTING			
		LCD Contrast		
		Display Brightness		
		Display Output		
		Target Floor Flash	Active	
			Passive	
		Direction arrow Flash	Active	
			Passive	
		Floor Display Settings		
	6-DOOR SETTINGS			
	Door Type	Swing Door Cabin		
		Automatic Limit		
		Cabin Automatic		
		Unlimited		
		Fully Automatic Limit		

		Fully Automatic Unlimited		
	Single Door Automatic	1-16		
	Doors on the Floor	Closed Wait		
		Open Wait		
	Doors in the Park	Closed Wait		
		Open Wait		
	Door Early Opening	Active		
		Passive		
	Early Opening way	10-150	50	
	Floor doors			
	7-FLOOR SETTING			
	8- SPEED ASSIGNMENTS			
	Leveling			
	Approaching to the floor			
	Revoke			
	Kart Inspection			
	Well Inspection			
	Intermediate Speed 1			
	Intermediate Speed 2			
	Intermediate Speed 3			
	Well reading			
	9- ERROR LIST			
	10- COMPANY CODE			
	11- FACTORY SETTINGS			
	TEST MENU			

4. HOW IS THE ELEVATOR COMMISSIONING DONE?

03: NUMBER OF STOPS 03	03. Enter the number of stops by entering the parameter.
44: COUNTER TYPE ENCODER	44. Go to the parameter and select the counter type Encoder counter.
48: ENCODER DIVIDER 026	48. Calculate and enter your Encoder Divider Ratio in the parameter. (Engine speed X Number of Encoder Pulses It is calculated as / 60 / elevator speed and the result is entered into the menu.) EXP: 1500 X 1024 / 60 / 1000 = 26
READ WELL D:01 0.00 65842	If you see this message on the screen, it is understood that the elevator is not learning the shaft. In order to learn the well, you need to take the elevator from the well to the revision position.
57: INITIAL INSTALLATION ACTIVE	Activate Parameters 36 and 57. Note: Cancel the 57th parameter after the well reading and floor settings are made.
INSPECTION FROM THE WELL D:01 0.00 65000	When the elevator is in revision mode (869 LED is off), 817-818 Bi-Stable is on, and press the "ESC" key on the card for 2 seconds. Keep pressed. Note: 817-818 magnets will be at a minimum distance of 2m.
ENCODER RESET D:01 0.00 08564	If you see this message on the screen, it means that the well learning has started. The elevator goes up to the 817 breaker at high speed and stops when it sees the ML1 and ML2 magnets on the bottom floor with its approaching speed.

If you see this message on the screen, in 1. Up learning, the elevator goes at high speed, slows down to a lower floor of the top floor, goes to the top floor at approaching speed and stops when it sees the ML, ML2 magnet.

If you see this message on the screen, in the 1st down learning, the elevator continues at high speed until 817 is interrupted. Stops with ML1 and ML2 then up learning starts 2nd process.

If you see this message on the screen, the 2nd up learning lift learns and memorizes all floor zones by accelerating and decelerating at high speed

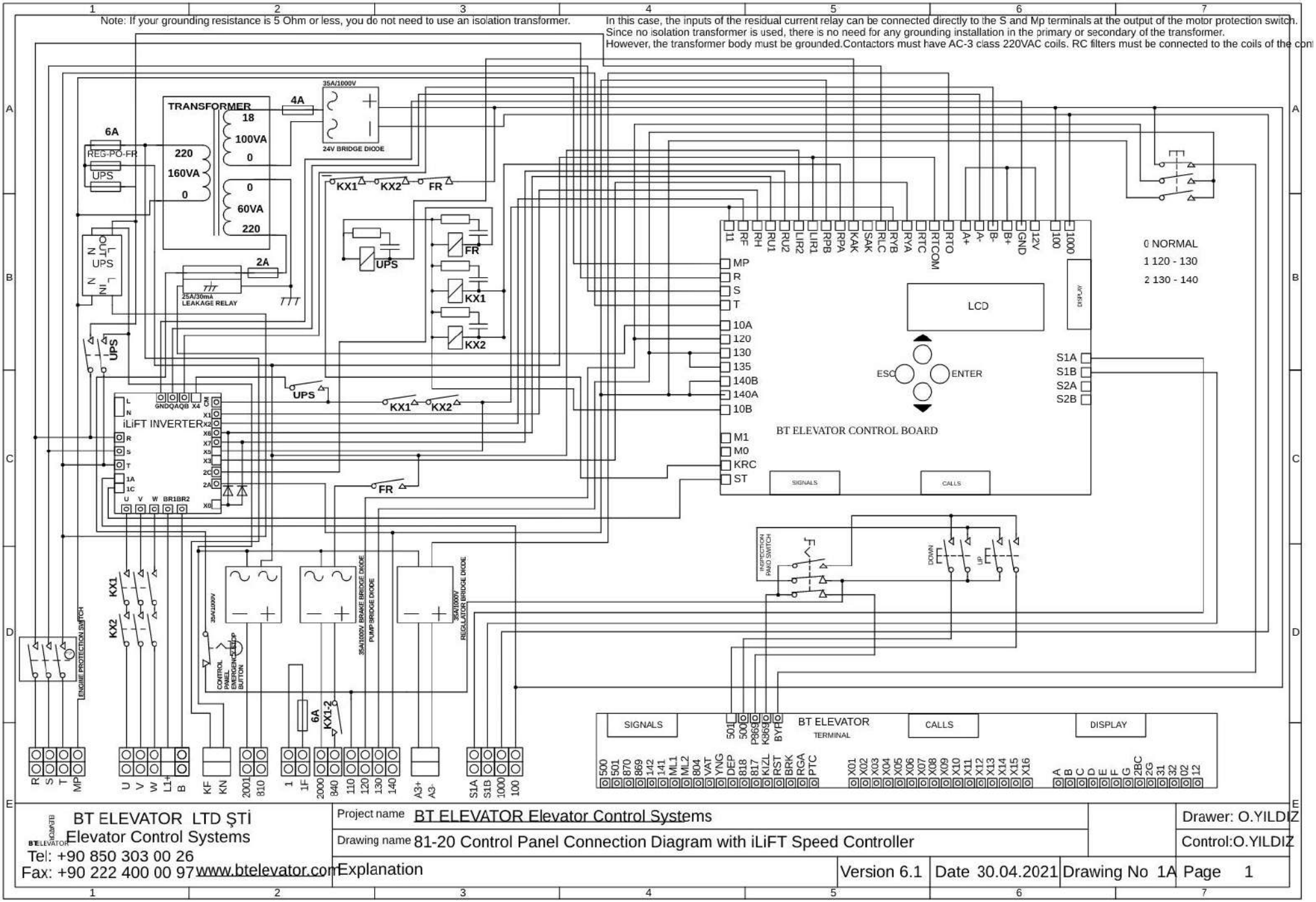
If you see this message on the screen, in the 2nd down learning, the elevator goes at high speed until 817 is interrupted and stops when it sees ML1 and ML2 at the bottom floor with its approaching speed. If a revision is written from the well on the screen, the well reading is completed.

This menu is used to make floor settings downwards. If the lift is above, “-” value is entered, if it is below, “+” value is entered and leveling is done. Each number is 1mm. Correction up to a maximum of 75 mm.

This menu is used to make floor settings in the upward direction. If the lift is above, “-” value is entered, if it is below, “+” value is entered and leveling is done. Each number is 1mm. Correction up to a maximum of 75 mm.

5. HOW TO SET FLOOR FROM THE BUTTON IN THE CAB?

- Press and hold the button of the floor you are on.
- Press and pull the door open button 5 times, if the cabin light goes out, keep your hand pressed on the door open button and take your hand off the floor button.
- Level up by pressing and holding the button of the first floor, that is, the top of the lowest floor. (with 402)
- Do down leveling by keeping the 0th floor button pressed. (with 401)


Note: If your grounding resistance is 5 Ohm or less, you do not need to use an isolation transformer.
In this case, the inputs of the residual current relay can be connected directly to the S and Mp terminals at the output of the motor protection switch.
Since no isolation transformer is used, there is no need for any grounding installation in the primary or secondary of the transformer.
However, the transformer body must be grounded.Contactors must have AC-3 class 220VAC coils. RC filters must be connected to the coils of the con
TRANSFORMER
18
100VA
0
220
160VA
0
0
60VA
220
4A
35A/1000V
24V BRIDGE DIODE
6A
REG-PO-FR
UPS
2A
25A/30mA
LEAKAGE RELAY
KX1
KX2
FR
UPS
iLiFT INVERTER
BT ELEVATOR CONTROL BOARD
LCD
ESC
ENTER
DISPLAY
0 NORMAL
1 120 - 130
2 130 - 140
SIGNALS
CALLS
INSPECTION PANEL SWITCH
DOWN
UP
ENGINE PROTECTION SWITCH
CONTROL PANEL EMERGENCY STOP BUTTON
35A/1000V BRAKE BRIDGE DIODE
PUMP BRIDGE DIODE
35A/1000V REGULATOR BRIDGE DIODE
6A
KX1-2
BT ELEVATOR TERMINAL
SIGNALS
CALLS
DISPLAY
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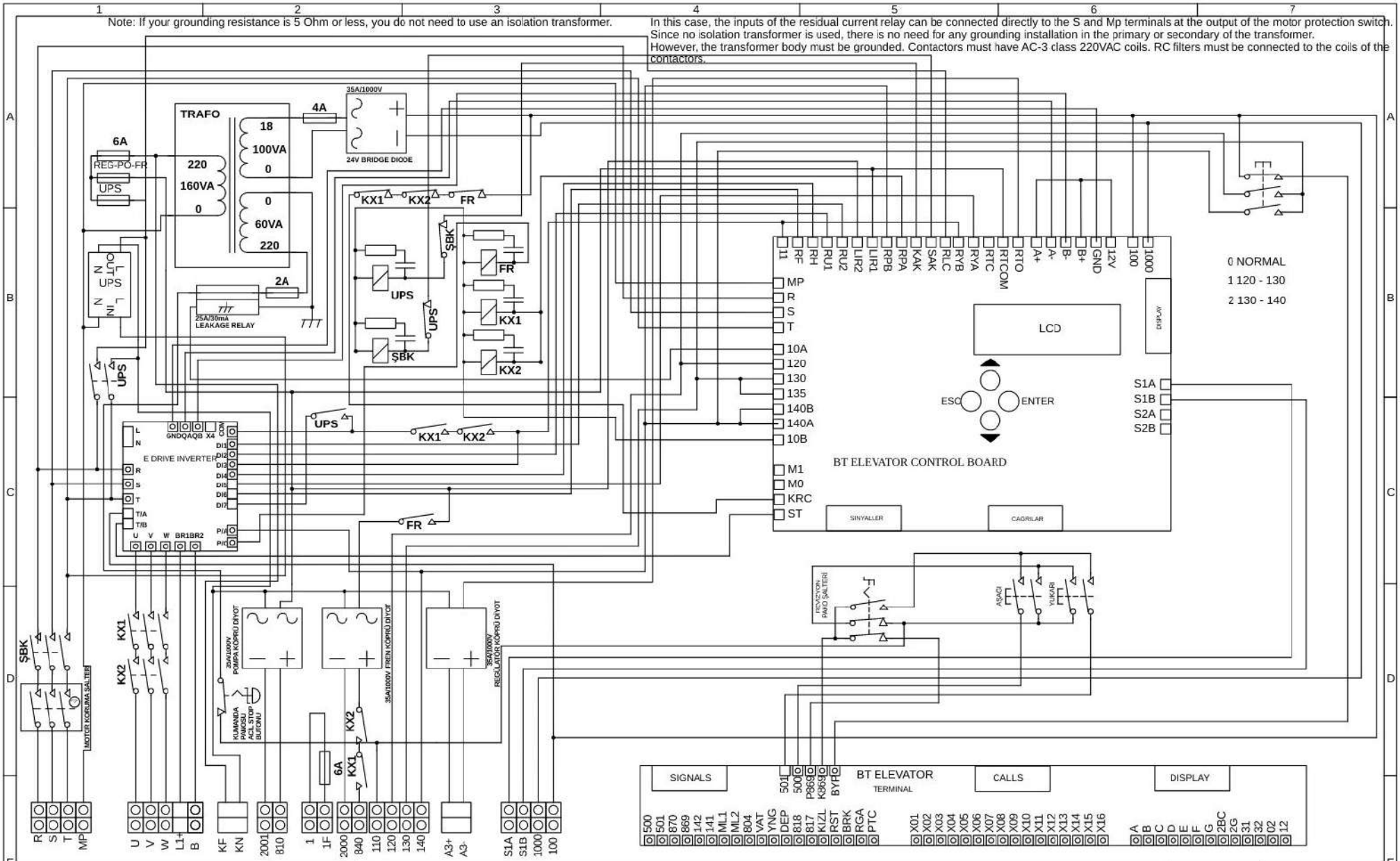
Elevator Control Systems
Tel: +90 850 303 00 26
Fax: +90 222 400 00 97
www.btelevator.com
Project name BT ELEVATOR Elevator Control Systems
Drawing name 81-20 Control Panel Connection Diagram with iLiFT Speed Controller
Explanation
Version 6.1
Date 30.04.2021
Drawing No 1A
Page 1
Drawer: O.YILDIZ
Control:O.YILDIZ

Note: If your grounding resistance is 5 Ohm or less, you do not need to use an isolation transformer.

In this case, the inputs of the residual current relay can be connected directly to the S and Mp terminals at the output of the motor protection switch. Since no isolation transformer is used, there is no need for any grounding installation in the primary or secondary of the transformer. However, the transformer body must be grounded. Contactors must have AC-3 class 220VAC coils. RC filters must be connected to the coils of the contactors.



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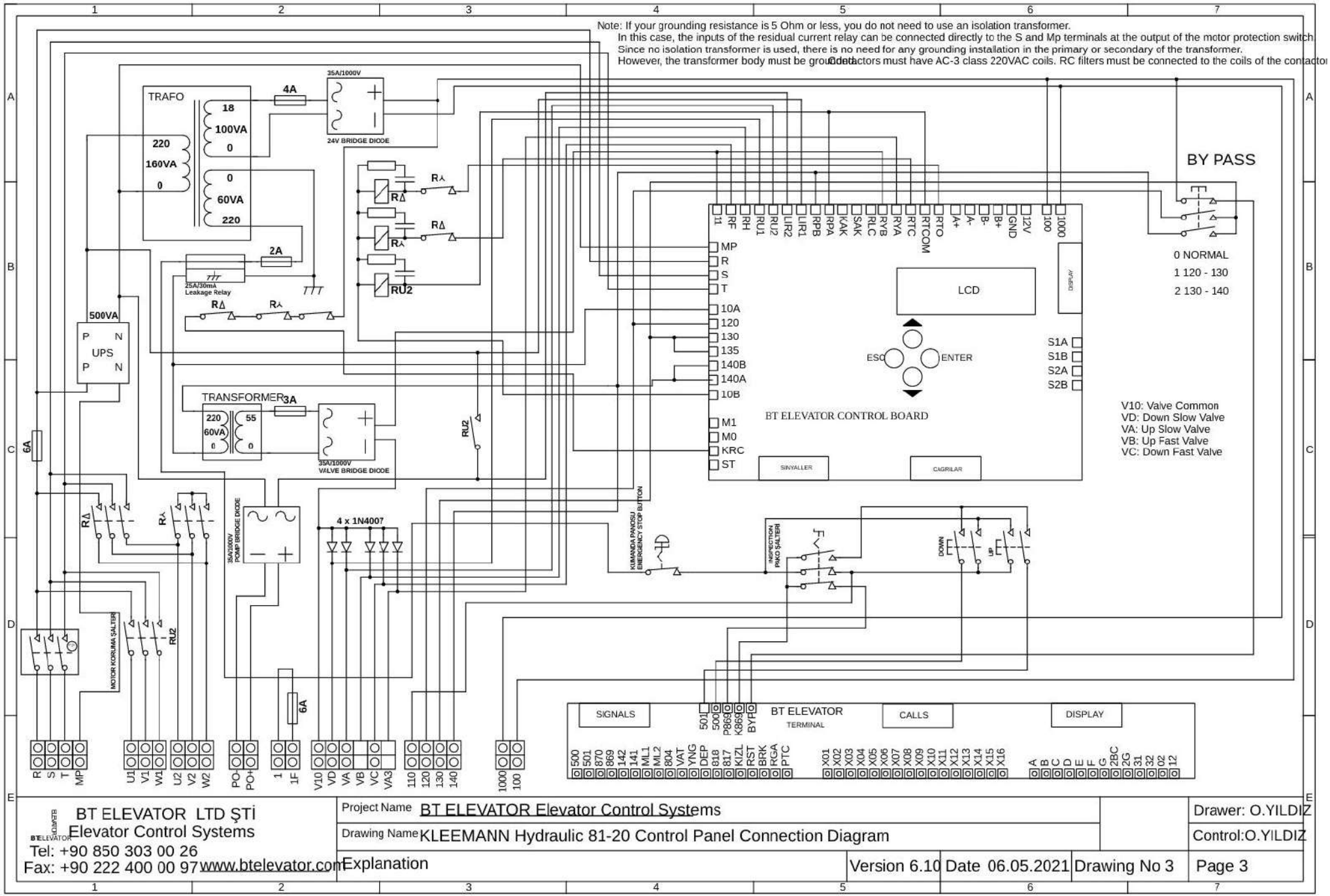
	Drawing Name 81-20 Control Panel Wiring Diagram with EDRIVE Drive			Control:O.YILDIZ
	Explanation	Version 6.1	Date 30.04.2021 Drawing No 1B	Page 2



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Elevator Control Systems
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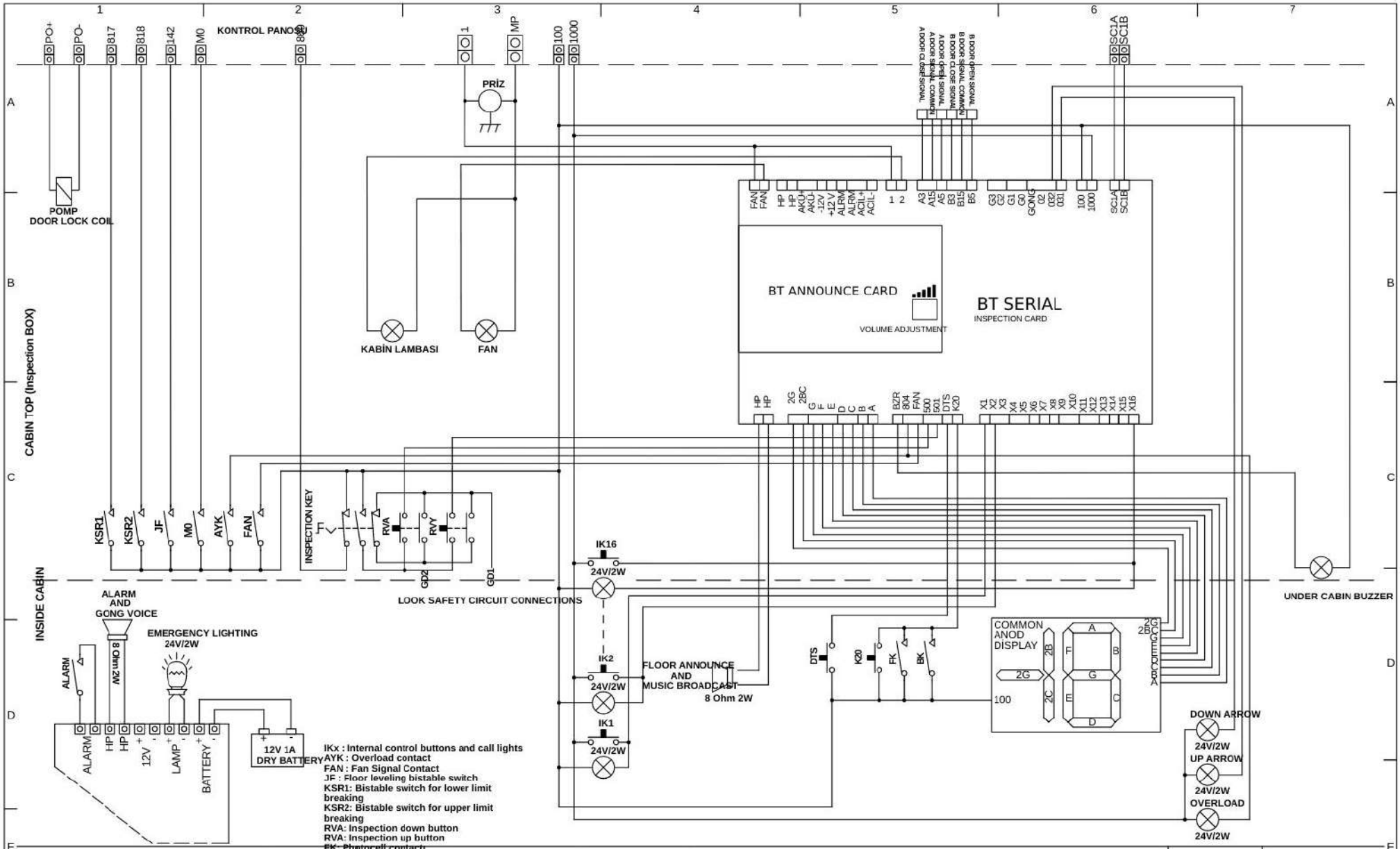
Fax: +90 222 400 00 97 www.btelevator.com

Project Name: BT ELEVATOR Elevator Control Systems			Drawer: O.YILDIZ
Drawing Name: KLEEMANN Hydraulic 81-20 Control Panel Connection Diagram			Control:O.YILDIZ
Explanation	Version 6.10	Date 06.05.2021	Drawing No 3 / Page 3



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Project Name: BT ELEVATOR Elevator Control Systems

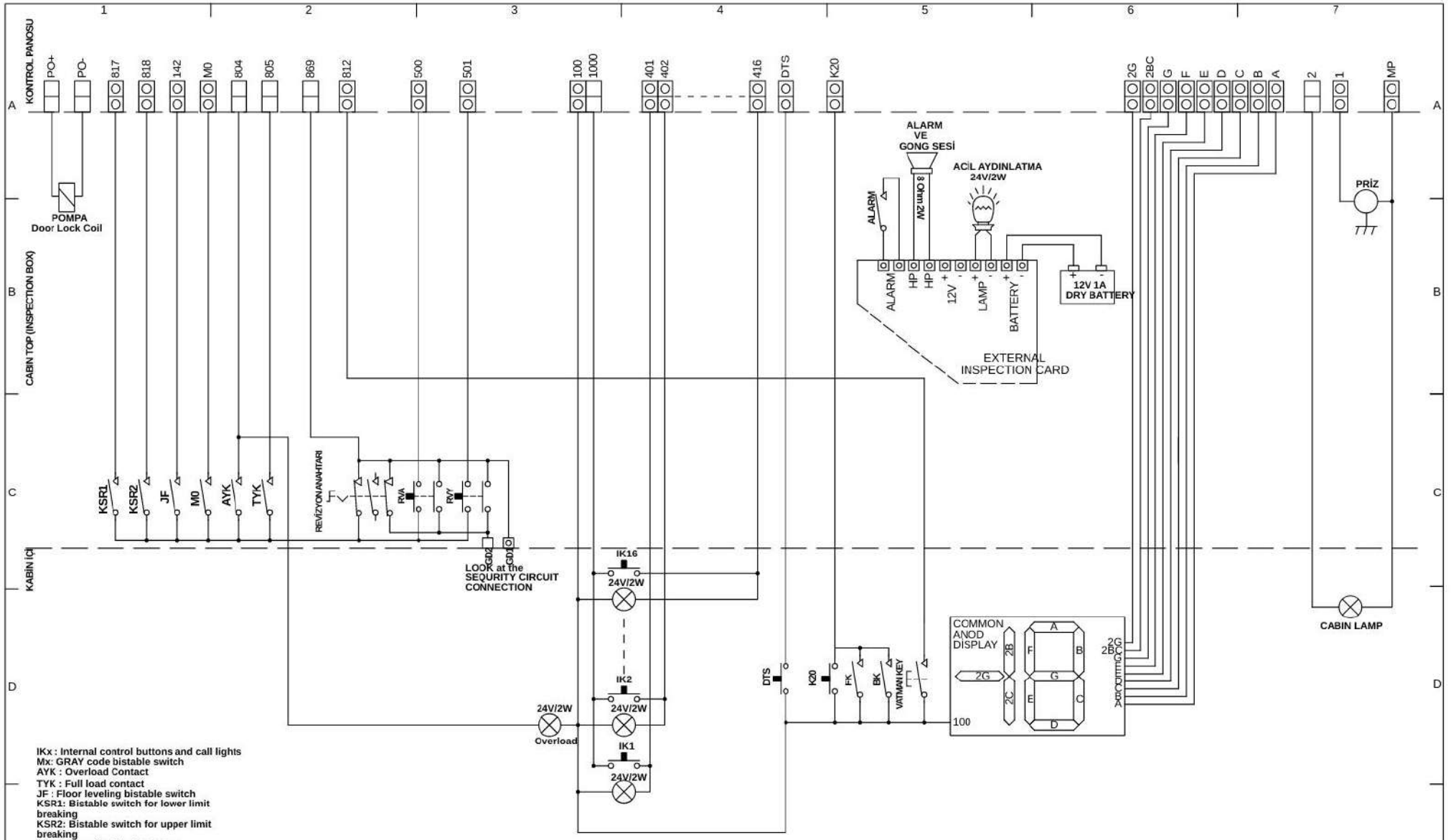
Drawing Name: BT Serial Rack Top Serial Communication Card and Revision Card Connection

Explanation

Version 6.1 | Date 30.04.2021 | Drawing No 1B | Page 6

Drawer : O.YILDIZ

Control:O.YILDIZ



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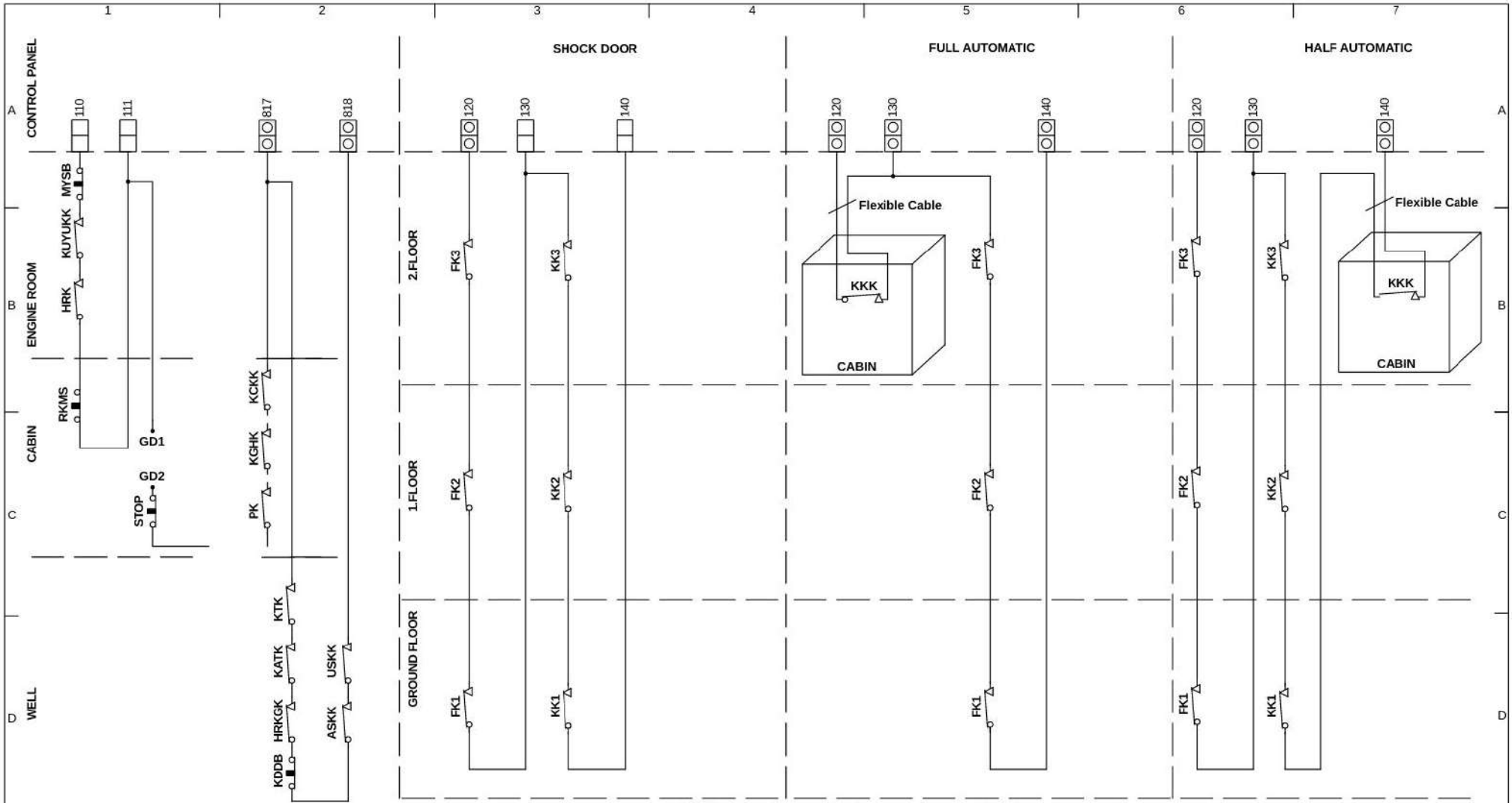
	Drawing Name: PARALLEL CABINET INSTALLATION				Control:O.YILDIZ
	Explanation	Version 6.1	Date 30.04.2021	Drawing No 3	Page 7



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Project Name BT ELEVATOR Elevator Control Systems

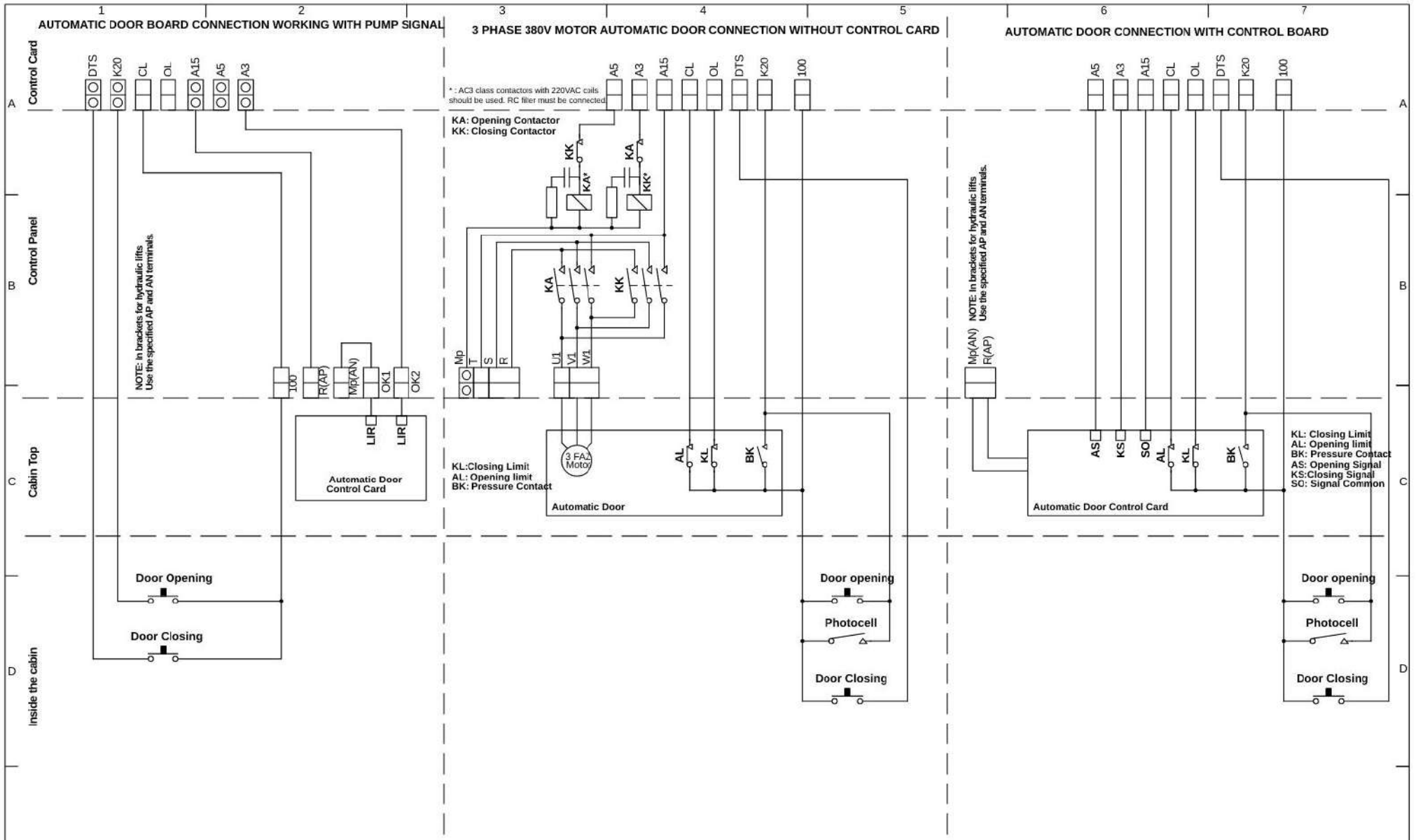
Drawing name SAFETY CIRCUIT CONNECTIONS

Explanation

Version 6.1 | Date 30.04.2021 | Drawing No 8D | Page 8

Drawer : O.YILDIZ

Control:O.YILDIZ



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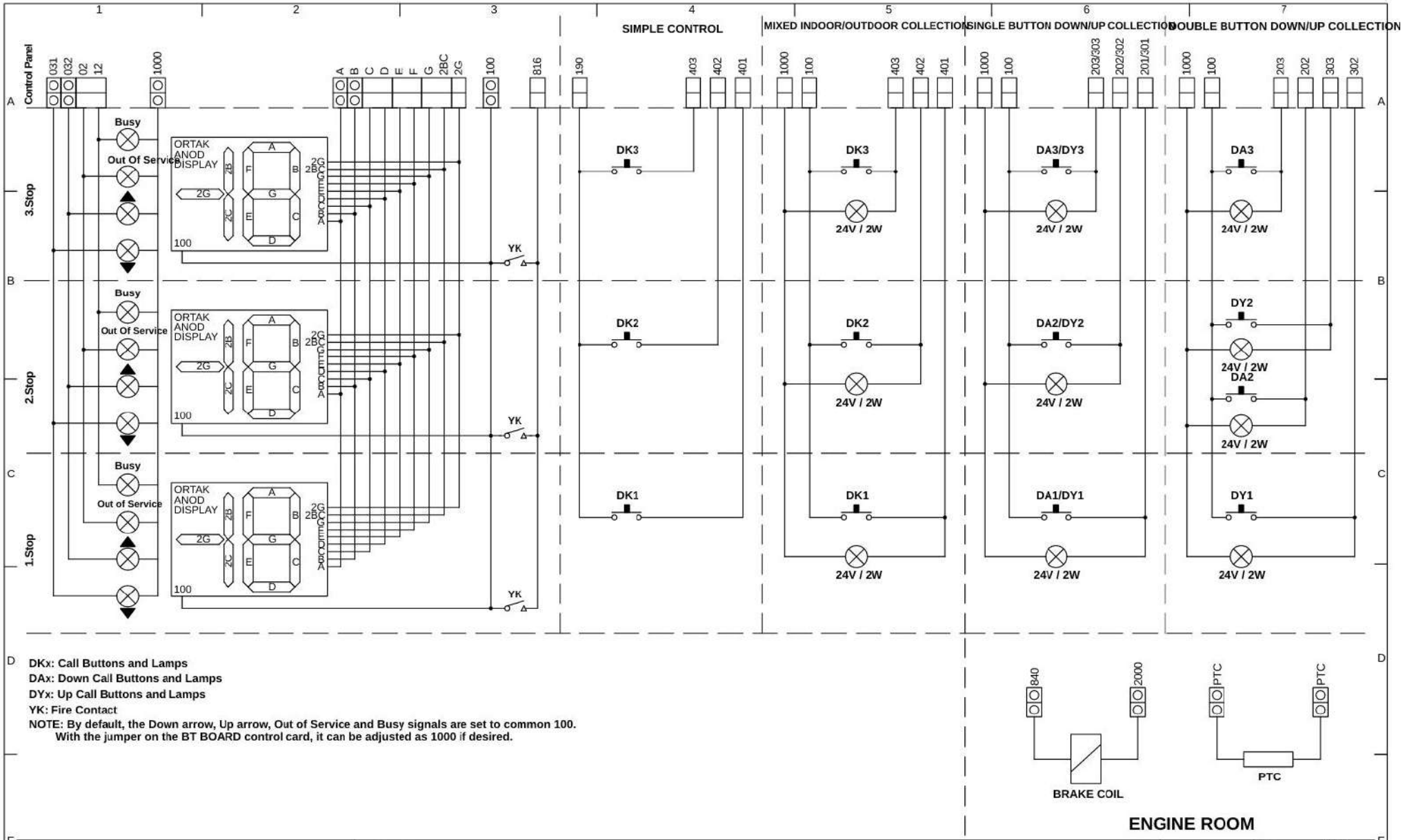
	Drawing Name: Door Card Connection			Control ÖY
	Explanation	Version 6.1	Date 18.04.2021 1	Page 9



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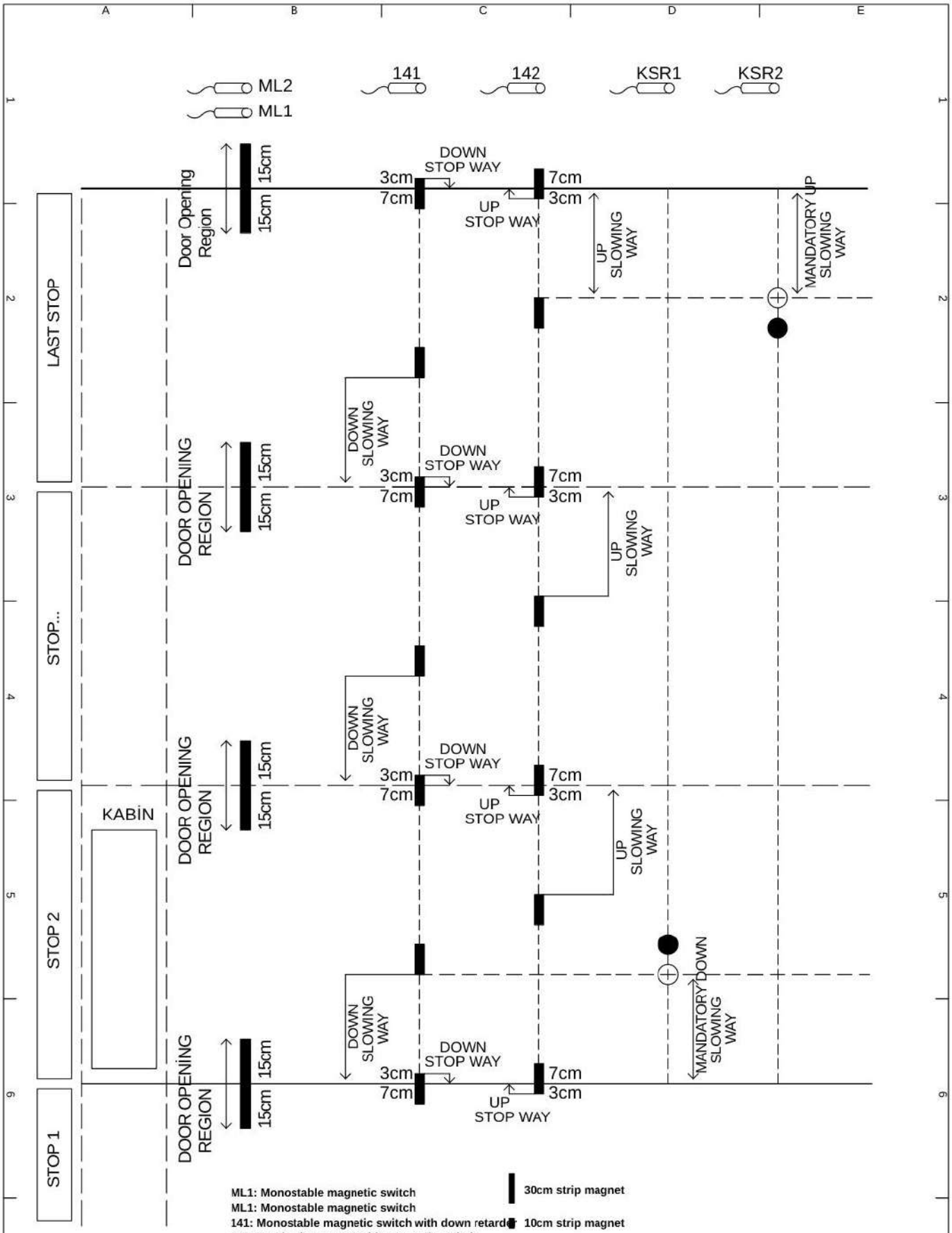
	Drawing Name: Floor Installation, Brake and Motor Thermistor Connections		Control ÖY
	Explanation	Version 6.1 Date 18.04.2021 1	Page 10



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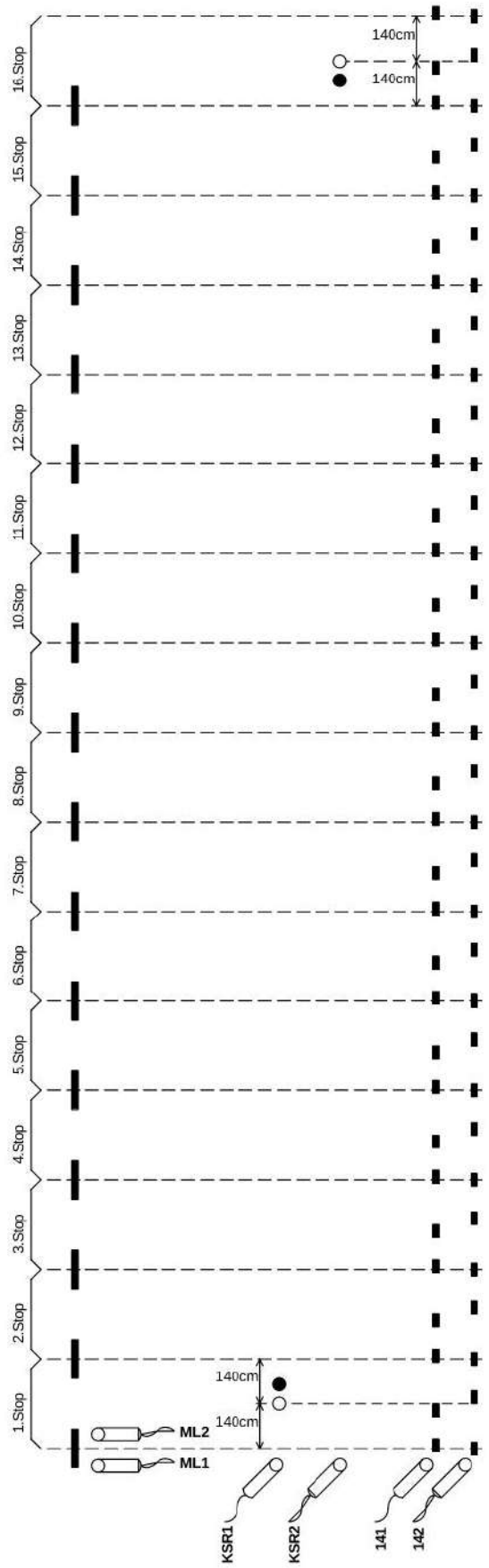
Project Name BT BOARD Elevator Control Systems			Drawer ÖY
Drawing Name **ML1 & ML2 for rope and hydraulic lifts magnet array**			Control ÖY
Explanation	Version 6.1	Date 18.04.2021 Drawing No 17	Page 13



ML1: Monostable magnetic switch
ML2: Monostable magnetic switch
141: Monostable magnetic switch with down retarder
142: Up slowing monostable magnetic switch
KSR1: Bistable switch for lower limit breaking
KSR2: Bistable switch for upper limit breaking

30cm strip magnet

10cm strip magnet

Bistable switch is open (LED on control card is off, red side of magnet)

Bistable switch closed (LED on control card is on, black side of magnet)

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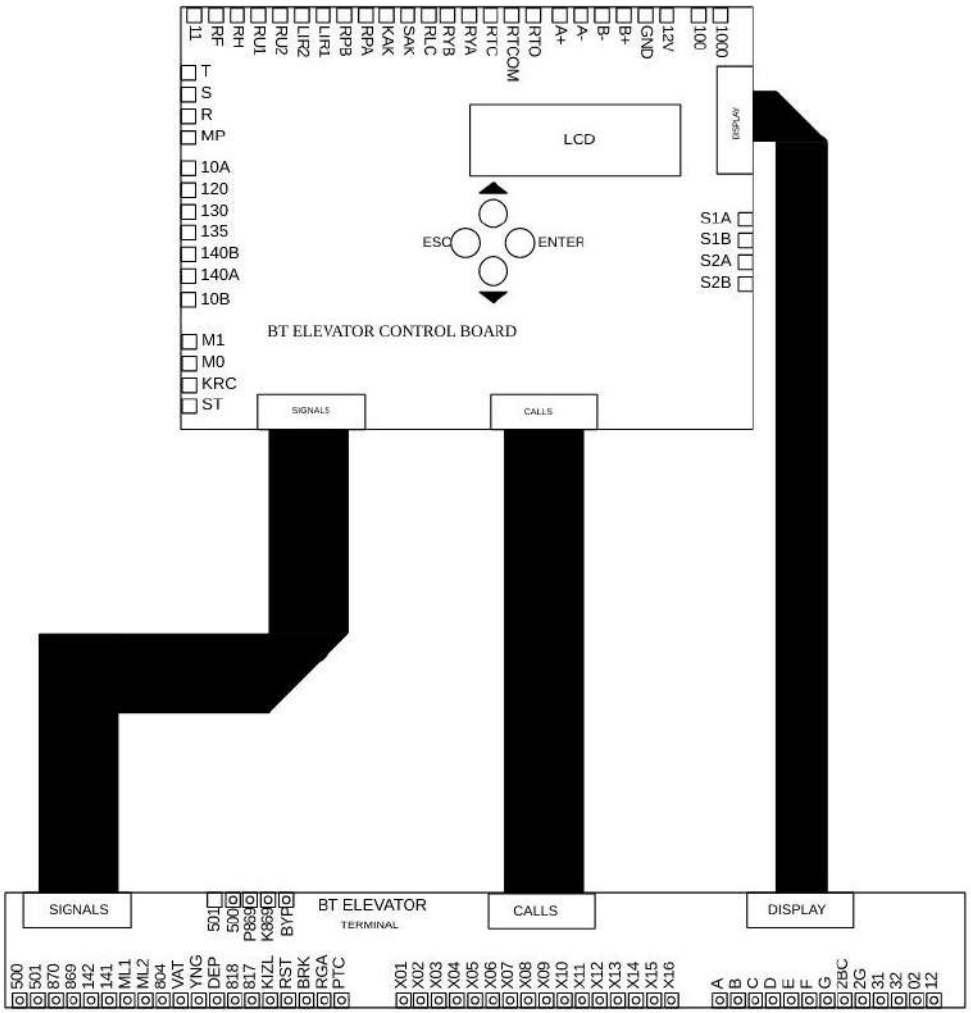
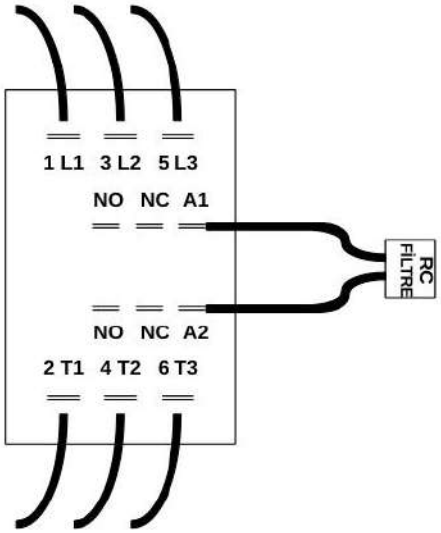
Project Name	BT BOARD Elevator Control Systems		Drawer ÖY
Drawing Name	**ML1 & ML2 for rope and hydraulic lifts magnet array**		Control ÖY
Explanation	Version 6.1 Date 18.04.2021	Drawing No 17	Page 14



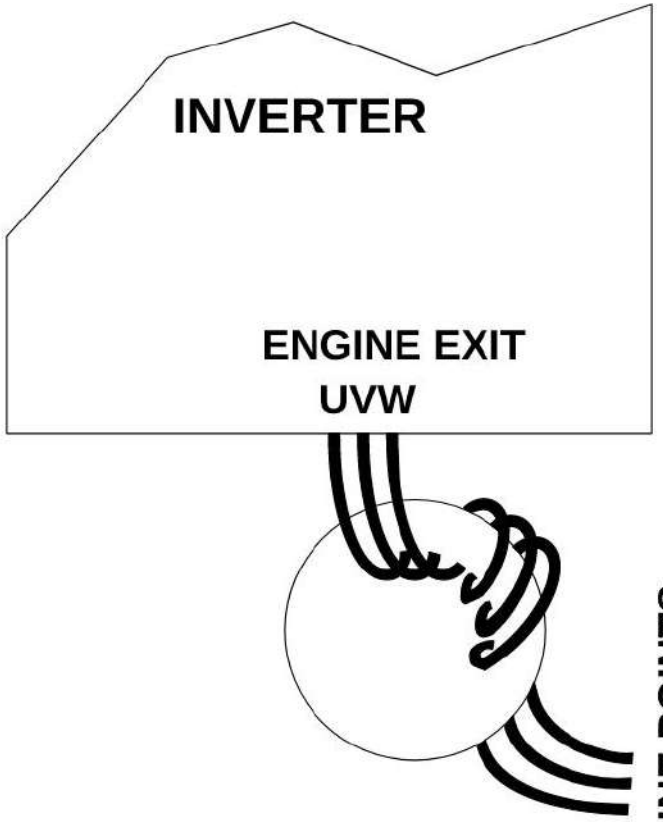
BT ELEVATOR LTD ŞTİ Elevator Control Systems Tel: +90 850 303 00 26 www.btelevator.com Fax: +90 222 400 00 97	Project Name BT ELEVATOR ELEVATOR CONTROL SYSTEMS		Drawer ÖY
	Drawing Name BT BOARD Control board TERMINAL terminal board flexible cable connection		Control ÖY
	Explanation	Version 2.00 Date 18.04.2021 1	Page 15

CONTACTOR AND RC SNUBBER FILTER CONNECTION



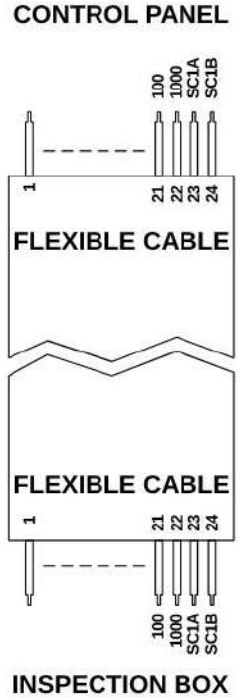
The RC snubber filter used at the contactor coil ends dampens the arcs that occur during the contactor's pull
and release. The parasitic effect will disappear and the

MOTOR DRIVER AND TOROIDAL CORE CONNECTION



Inverter output terminals in elevators using inverter the motor cables connected to the motor must be connected to the toroidal core as shown in the figure. With this connection RF noises created by it are suppressed. Toroidal core should be as close to the device as possible. Number of windings on toroidal core must be at least 2 turns and must be specified by the device manufacturer.

PLACEMENT OF CAB COMMUNICATION CABLE



The flexible cable used to carry the signal between control panel and the inspection box on the cabinet should be used as shown in the figure, especially the serial communication cables. High voltage and low voltage cables should be gathered on both sides of the flexible. With the connection made in this way, the effect of the signal lines on each other is reduced.

BT ELEVATOR LTD ŞTİ
Elevator Control Systems
Tel: +90 850 303 00 26
Fax: +90 222 400 00 97
www.btelevator.com

Project Name	BT ELEVATOR Elevator Control Systems		Drawer GK
Drawing Name	Reducing parasitic effects in the elevator control system		Control ÖY
Explanation	Version 2.00	Date 18.04.2021 1	Page 18

7. FREQUENTLY ASKED QUESTIONS (FAQ):

• **No movement in revision.**
When the system is overhauled with the revision switch on the panel, the signal number 867 on the card should go out, and when the system is overhauled with the revision switch in the well, the signal number 869 should go out. The control card shows on the screen whether the lift is in revision from the well or the panel. Revision action buttons light up signals 500 and 501. If it is not lit, the cabinet installation should be checked. When the elevator is taken into revision, the safety circuit is interrupted. During the revision, the safety circuit completes its circuit through the revision movement buttons. Check whether the safety circuit completes the circuit when the buttons are pressed. Limit switches must not prevent movement. For this reason, the 817 (KSR1) and 818 (KSR2) breaker signals on the board should be lit. If not, limit switches should be checked. Make sure that 120 (Stop), 130 (Plug), 140 (Lock) circuits pass. (All signals on the control card should be lit.)

• ***The elevator stops before it slows down***
If there is the same problem at every stop, it is likely that the sensitive stop magnetic switch on the floor is broken. As soon as the elevator goes slow, the 142 signal on the card should be on. If there is a problem at a single stop, the magnets and the distance of the magnetic switch to the magnets should be checked.

• ***The elevator crashes upwards.***
Check if the 818 (KSR2) circuit of the upper limit switch is working. At the deceleration level of the last stop, the 818 signal on the card should go out. If it does not go out, the tube and magnets should be checked.142 The stopper magnet may be stuck on the floor. The 142 signal should be dim at full floor levels. If it does not go out, check the magnetic switch and magnets.

• ***The elevator crashes down.***
Check if the lower limit switch 817 (KSR1) circuit is working. At the deceleration level of the last stop, the 817 signal on the card should go out. If it does not go out, the tube and magnets should be checked.142 The stopper magnet may be stuck on the floor. The 142 signal should be dim at full floor levels. If it does not go out, check the magnetic switch and magnets.

• ***When one of the buttons is pressed, all other recording signals on the card are also lit.***
Probably the common signal lamps are connected to each other, but 100 (+24V) is not connected to the terminal. For this reason, the buttons complete the circuit jointly.

• ***Position count is messed up.***
Check that the number of stops and digital settings are set correctly. Make sure breaker circuits 817 at the first stop and 818 at the last stop are breaking the circuit. Your card in motion check if a false signal is generated by watching the M1 signal on it. M1 must flash at

least once at each stop. If there is a malfunction, the magnetic switch may be too far from the magnets. The magnetic switch may be faulty. Or there may be magnetization in the rails.

• ***M1 signal is blinking but the card is not counting the stops.***
In order for the stops to be counted properly, the 817,818 limit breakers must complete the circuit. For this reason, 817 and 818 limit breaker signals must be lit at intermediate floors, except for the upper and lower limits. It should be noted that when the elevator is moved by pressing on the contactors, the card cannot count correctly because the card cannot know the direction the elevator is going.

8. MATTERS TO BE CONSIDERED DURING THE INSTALLATION OF THE PRODUCT:

Panel manufacturer company that will make an elevator control panel with BT BOARD control card; MOST81 standard, other relevant norms, regulations and directives, should have sufficient knowledge and experience. BTELEVATOR OTO.INŞ.SAN. and TİC.LTD.ŞTİ. If the information specified here is not followed, it does not take any responsibility for the conformity of the created panel to the EN-81 standard. How to create a double speed elevator control panel with BT BOARD control card is shown in the diagrams. The points to be considered during the construction of the control panel are explained below.

• There must be a minimum 9mm gap between the BT BOARD control card and the surface of the control panel. BT BOARD control board must be fixed through 4 holes in its corners.
• For EMC compliance, the control board should be placed as far away from the contactors as possible.
• 24VDC signal cables and other cables must be routed through separate cable ducts.
• Iron dust, etc., formed during the placement of all electronic cards of the BT BOARD control system into the panel. conductive particles must be carefully cleaned from inside the panel. Otherwise, these parts may fall on the control card or other elements during the transport or assembly of the panel and cause a malfunction.
• Cable connections between BT BOARD control card and terminal boards should be done carefully as shown in the diagrams. The names of the connection connectors are written in large fonts to avoid mistakes.
• Contactors to be used for elevators with AC motors must be AC3 class as defined in EN60947 and must be selected in accordance with the motor power. Their connections must be made as shown in the diagrams.
• Auxiliary contacts placed on contactors must comply with EN60947 standard and It should be checked that the contactors pull or release simultaneously with the power contacts.
• Contact damping circuits (series resistor capacitor) must be connected to the contactor coil ends.
• In case of leakage from the safety contacts to the chassis, a 30mA residual current fuse should be used as shown in the diagrams to cut the supply voltage of the safety contacts.

• Brake and pump bridge diode connections should be made as shown in the diagrams and insulated shoes should be used.
• Brake coil output contacts and RU1 and RU2 contactors are power contacts for a long and healthy operation.
• Control panel revision switch connection should be made as shown in the diagrams. Thanks to this connection, when the revision switch on the cabinet is set to ON, no movement can be achieved with the revision buttons on the control panel.
• The cable connected to the KRC terminal used to control the correct operation of the contactors is passed through the normally closed contacts of the contactors in series. If possible, these normally closed contacts should be auxiliary contacts fixed on the contactor, not auxiliary blocks in the form of additional blocks.
• After completing the construction of the control panel, the panel manufacturer must test the panel by checking all connections.

9. CONNECTION OF THE CONTROL PANEL TO THE ELEVATOR SYSTEM AND MATTERS TO BE CONSIDERED IN COMMISSIONING THE SYSTEM

The information given in this section is an explanation and a suggestion. BTELEVATOR OTO.İNŞ.SAN. and TİC.LTD.ŞTİ. cannot be held responsible under any circumstances. Those who will assemble and commission the elevator should know the EN-81 standard and its applications and have sufficient technical knowledge. The elevator should be commissioned after all safety precautions have been completed.

9.1. Considerations in Connecting the Control Panel to the Elevator System

• The plumbing connections between the control panel and the engine, cabin and well should be done carefully in accordance with the diagrams.
• Contactors, automatic fuses, motor protection switches and thermal relays should be selected with appropriate values according to motor power.
• Neutral and grounding cables must be laid separately, and the panel body must be properly connected to the grounding line.
• All stop mechanisms specified in EN-81 must be present in the lift and the contacts of these mechanisms must be carefully connected to the control panel. These connections must be made in accordance with the safety contact connections shown in the diagrams. All safety contacts to be used must comply with the standards specified in EN60947.

9.2. Matters to be Considered During the Commissioning of the System

• Check that the connections between the control panel and the elevator system are made in accordance with the given diagrams.
• Check if there is any short circuit in the connections with a measuring instrument.
• Set the control panel revision switch to the ON position.
• Turn the motor protection switch to ON position and energize the panel.
• Check that the 02-Out of Service led on the BT BOARD control card and the out of service lamps on the floor buttons are on.
• Observe the existence of the supply voltages by looking at the leds (5V,12V,24V pseudonymous leds) on the control card. Measure the voltage between terminals 100 and 1000 with the meter to be 20…26VDC.
• Make sure that all safety contacts are connected according to the diagrams and work correctly. Check that the safety contact inputs are active by looking at the LEDs (120, 130, 140) on the control card.
• Temporarily bridge the lower and upper cutter bistable switch inputs with terminal 100 so that the cabinet can be moved in both directions. In this case, since the lower and upper cutter bistable switches will not be able to do their job, it should be worked very carefully on the lowest and highest floors.
• Since the inspection switch of the control panel is in the ON position, the car only moves at low speed. Check that the low speed winding of the motor is connected correctly by moving the cabinet with the up or down buttons on the control panel. If the cabin moves in the opposite direction with the button pressed, change only two of the U2, V2, W2 terminals in the connection of the low speed winding of the motor to the control panel.
• While the cabinet is being moved, measure the voltages between terminals 2001 and 810 and terminals 2000 and 840 with a measuring instrument. Measured values should be 180…240VDC.
• Then take the cabin to one of the mezzanine floors and turn the on-cab inspection switch to the ON position. In this case, the cabin cannot be moved with the control panel revision buttons.
• Take the car to the lowest stop. Arrange the magnets of the gray code, floor stopper, lower and upper limit breaker bistable switches as shown in the diagram, up to the top stop.
• Check that the alignment is done correctly by following the stop numbers on the LCD screen or the display on the control card.
• Remove the bridge of the lower and upper breaker bi-stable switch inputs with terminal 100.
• Take the cabin to one of the mezzanine floors and turn the over-cab inspection switch to the OFF position.
• Turn the control panel revision switch to OFF position. Thus, the elevator will switch to its normal operating mode and the OUT OF SERVICE lamps on the floor buttons will turn off.
• Give the elevator a call and check that it moves in the right direction at high speed. If the direction to go and the movement direction of the car are opposite, change only two of the ends (U1,V1,W1) in the connection of the high speed winding of the motor to the control panel.

• Check the car's position at the exact floor level by calling each floor in both directions. If necessary, adjust the location of the bistable switch magnets on the floor.

When the lift is in its normal operating position, the lower and upper breaker bistable switch inputs should never be bridged with terminal 100.

Check that all safety contacts are working properly before the lift is put into its normal operating position

Safety circuits (120 emergency stops, 130 doors, 140 locks) should never be bridged.

10. MAINTENANCE AND CLEANING OF THE BT BOARD CONTROL BOARD:

• Does not require periodic maintenance.
• If it is determined that it does not work correctly, it should be sent to the manufacturer for control and repair.
• Absolutely no water etc. Liquids should not be contacted.
• If necessary, the dust accumulated on it should be cleaned with low pressure air.

AB TİPE UYGUNLUK SERTİFİKASI

No: LDsq09-0616-0080-21

BTELEVATOR ELEKTRONİK OTOMASYON İNŞAAT SANAYİ VE TİC. LTD. ŞTİ.

KUMLUBEL MAH. ESENLİ SK. NO: 103 A – TEPEBAŞI, ESKİŞEHİR, TÜRKİYE

D KARE GÖZETİM TEST VE BELGELENDİRME TİC. LTD. ŞTİ.;
yukarıda unvanı belirtilen firmanın ürettiği ve aşağıda teknik özellikleri belirtilmiş asansör güvenlik aksamının **2014/33/AB Asansör Yönetmeliğinin 1 numaralı Ekinde belirtilen Temel Sağlık ve Güvenlik Kurallarını** karşıladığını değerlendirmiş olup, onaylamaktadır.

2014/33/AB Ek IX Rastgele Kontrol ile Tipe Uygunluk (Modül C2)

Asansör Güvenlik Aksamının	
Tanımı	: 2014/33/AB Asansör Yönetmeliği Ek-I'in 3.2. maddesinde bahsi geçen düşmeleri önleyen yani kabinin düşmesini veya kontrolsüz hareketini engelleyen tertibatlar
Adı	: Asansör Kumanda Kartı – Kontrolsüz Kabin Hareketi Algılama Kartı
Markası	: BT ELEVATOR
Tipi	: BT BOARD
Tip Varyasyonları	: --
Ürün Özellikleri	: KKH Algılama süresi: < 15 mS KKH önleme tertibatı algılama noktası: ML1-ML2
Tip İnceleme Sertifikası	: LDsq08-0607-0074-21
Belge Dayanağı	: LDsq09-0616-0080-21 numaralı Uygunluk Raporu

Bu belge 2014/33/AB Sayılı Asansör Yönetmeliğinin IX numaralı eki kapsamında düzenlenmiştir. Belge sahibi, yukarıda bilgileri verilen asansör güvenlik aksamlarına **CE işareti** ile birlikte **D KARE** Onaylanmış Kuruluş kimlik numarasını **"2528"** iliştirmeye yetkilidir.

Selcan GÖRMÜŞ

Genel Müdür

NOTIFIED BODY 2528

LIFTS-2528-2100186

Yayın Tarihi : 16 Haziran 2021

Geçerlilik Tarihi : 15 Haziran 2022

CE 2528

Cevizli Mah. Hızır Reis Sk. Dragos Park Plaza No:10 D:19 Maltepe - İSTANBUL
Tel: 0216 290 16 78, Fax: 0 216 290 16 79, web: www.dsq.com.tr, e-post:info@dsq.com.tr

AB TİP İNCELEME SERTİFİKASI

No: LDsq08-0607-0074-21

BTELEVATOR ELEKTRONİK OTOMASYON İNŞAAT SANAYİ VE TİC. LTD. ŞTİ.

KUMLUBEL MAH. ESENLİ SK. NO: 103 A – TEPEBAŞI, ESKİŞEHİR, TÜRKİYE

D KARE GÖZETİM TEST VE BELGELENDİRME TİC. LTD. ŞTİ.; yukarıda unvanı belirtilen firmanın ürettiği ve aşağıda teknik özellikleri belirtilmiş olan asansör güvenlik aksamının, **2014/33/AB Asansör Yönetmeliğinin 1 numaralı Ekinde belirtilen Temel Sağlık ve Güvenlik Kurallarını** karşıladığını değerlendirmiş olup, onaylamaktadır.

2014/33/AB Ek IV/A Asansör Güvenlik Aksamı İçin AB Tip İncelemesi (Modül B)

ÜRÜNÜN;

Tanımı	: 2014/33/AB Asansör Yönetmeliği Ek-I'in 3.2. maddesinde bahsi geçen düşmeleri önleyen yani kabinin düşmesini veya kontrolsüz hareketini engelleyen tertibatlar
Adı	: Asansör Kumanda Kartı – Kontrolsüz Kabin Hareketi Algılama Kartı
Markası	: BT ELEVATOR
Tipi	: BT BOARD
Tip Varyasyonları	: --
Temel Özellikler	: KKH Algılama süresi: < 15 ms KKH önleme tertibatı algılama noktası: ML1-ML2 Ürünle ilgili diğer bilgiler sertifika ekinde detaylandırılmıştır.

Bu sertifika ve ekinde belirtilen tipler ve ekipmanlar üzerinde gerçekleştirilecek değişiklikler veya ilgili standart üzerinde meydana gelebilecek değişikler durumunda sertifikanın geçerliliği D KARE tarafından yeniden değerlendirilmelidir.

Bu sertifika 04/06/2021 tarihli ve LDsq08-0604-0074-21 numaralı final raporunda belirtilen bulgular doğrultusunda düzenlenmiştir.

Güvenlik ekipmanının uygunluğunun değerlendirilmesi sırasında TS EN 81-20:2020 ve TS EN 81-50:2020 standartlarında belirtilen muayene ve deney metotları kullanılmıştır.

Selcan GÖRMÜŞ

Genel Müdür

NOTIFIED BODY 2528

LIFTS-2528-2100177

Yayın Tarihi : 07 Haziran 2021

Geçerlilik Tarihi : 06 Haziran 2026

Bu sertifikanın mülkiyeti D KARE Gözetim Test ve Belgelendirme Tic. Ltd. Şti.'ne aittir istenildiğinde iadesi zorunludur. Sertifikanın geçerlilik durumu üzerindeki kare kod ile kontrol edilebilir.

BT ELEVATOR

+90 850 303 00 26 +90 222 400 00 97 info@btelevator.com www.btelevator.com

Kumlubel Mah. Esenli Sk. No: 103/A Tepebaşı/ESKİŞEHİR