HD EKO 10

ELEVATOR CONTROL CARD

USER MANUAL

HEDEFSAN

PARAMETER LIST			
00	Elevator Type	19	Fire Stop
01	Command Type	20	Park Stop
02	Door Type	21	Return to Park
03	Automatic Door at Floor	22	Busy Time
04	Automatic Door at Park	23	Wait at Stop
05	One Door Full Automatic	24	Door Open Time
06	Special Door Setting	25	Lock Waiting
07	Number of Stops	26	Door Still Open Error
08	Cabin Serial Card	27	Photocell Waiting
09	Phase Protection	28	Fast Cruising
10	Phase Leve	29	Slow Cruising
11	Ptc	30	RP Delay
12	Contact Feedback	31	Plug Delay
13	Position reset	32	Lock Delay
14	Limit Switch	33	Maintenance Time
15	Digital Setting	34	Change Password
16	Display Exit	35	Counter Type
17	Max. Car Call Registration	36	Factory Settings
18	Number of Basement		

TECHNICAL SPECIFICATIONS	
Dimensions Lenght × Width × Hight (mm)	181 × 150 × 22
Operation Temperature	±0 - +60 °C
Protection Class	IP20
Humidity	%95
Network Control Inputs	3 x 380V, 50Hz, N
Control Feed Voltage	24 ± 5 Vdc
Power Usage	Max. 400mA 10W, for 24VDC
Security Circuit Voltage	230Vac max. For hydraulic elevators in emergency descent 24Vdc
Control Signal Inputs	24 ± 5 Vdc
Control Signal Outputs	24 ± 5 Vdc Short circuit protected

GENERAL FEATURES

- 2-line 16-character LCD display and 4 button keyboard
- RS-485 serial communication for group operation
- RS-485 serial communication for serial system connection with cabin
- Including phase sequential motor protection circuit
- Including in- and output control of 2 automatic doors
- Short circuit protected digital and signal outputs
- Setting of indicator possible via menu: 7-segment and Gray code

OPENING SCREEN

When you power on, you can view the software version and serial number of the card on the opening screen. After a couple a seconds the screen changes to the MAIN SCREEN.

MAIN SCREEN

Here it shows the feed voltage and the number of the floor where the elevator is at the present.

ELEVATOR TYPE

Set your elevator drive type here

One Speed	Choose this setting for single speed roped elevators.
Double Speed	Choose this setting for double speed roped elevators.
Roped VVVF	Continous gear (with asynchronous machine) and gearless (with synchronous machine)

COMMAND TYPE

Set your elevator command type here.

Simple Command	The cabin and floor buttons are connected parallelly. No other expect the one registration is kept in memory.
Mixed Collective	The cabin and floor buttons are connected parallelly. Registrations are kept in memory.
Down Collective	The cabin and floor buttons are connected seperately. Cabin registrations are collected from both sides. Floor calls are collected when when cabin moves in downward direction.
Full Collective (both ways)	Cabin registrations and the up and down buttons at the floors are connected seperately. Cabin registrations and floor calls are collected in appropriate manner of movement direction.

DOOR TYPE

Set the open-close signal type for automatic doors here.

Swing Door	Only for elevators that have no automatic door.
Aut. Unlimited	Only used for elevators with automatic unlimited cabin doors.
Aut. limited	Only used for elevators with automatic limited cabin doors.
Full Aut. Unlimited	Only used for elevators with full automatic unlimited cabin doors.
Full Aut. limited	Only used for elevators with full automatic limited cabin doors.

• According to the EN 81-1/2 standarts in states of emergency stop, revision and take back automatic doors must remain stationary

AUTOMATIC DOOR AT FLOOR

Set the open or closed position of the automatic door when waiting at floor.

AUTOMATIC DOOR AT PARK

Set the open or closed position of the automatic door when waiting at park.

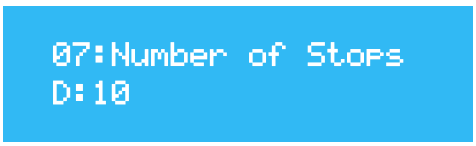
ONE DOOR FULL AUTOMATIC

On elevators with swing doors, set this parameter when there's only one full automatic door.

SPECIAL DOOR SETTING

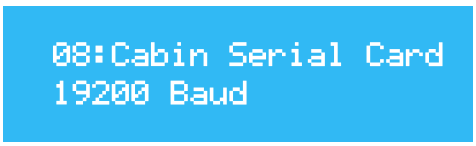
Set the floor at which you want to open the automatic A and B doors. When floor number is blinking, change the floor number with the UP-DOWN buttons till you come to the floor number you want to change. Press the ENTER button and next you will see the door setting blinking. A-B Determine the door setting again by using the UP-DOWN buttons.

NUMBER OF STOP



Set the number of stops (maximum 10) here

CABIN SERIAL CARD



Set the communication speed between the main controller card and the serial communication card here. Or choose to ignore it

PHASE PROTECTION

Set the phase sequence or deactivate the phase here.

Out of Order	Deactivate phase
Phase unsequenced	Activates phase without sequence
Phase sequenced	Activates phase sequenced.

PHASE LEVEL

Adjust the phase imbalance here..

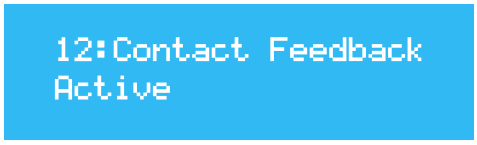
020 - 060	These are the minimum and maximum phase balance time

PTC

Choose the PTC motor thermistor input setting.

ACTIVE	Activates it
CANCEL	Deactivates it.

CONTACT FEEDBACK



Set here the bypassing of the contact feedback error. The controller card does not detect any contactor adhesion when it's cancelled. If it is canceled our company is not responsible.

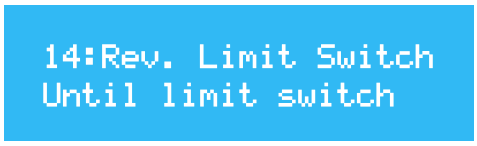
ACTIVE	Activating the contact feedback error
CANCEL	Bypassing the contact feedback error

POSITION RESET

Even when there's a power blackout the controller card will remember its last position. But in some special cases when the power returns, a position reset may be wanted. In that case the elevator will go until it reaches the 817 limit switch of the bottom floor. When it reaches the bottom floor, the floor counter will reset. For example: with systems that have battery charged rescuers, this parameter can be activated to reset the position.

ACTIVE	Position Reset Activates it.
CANCEL	Position Reset Deactivates it.

REVISION LIMIT SWITCH



Set the movement type of the up and down limit switches in revision.

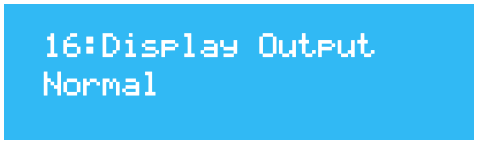
Until Limit switch	When limit switches are enabled the elevator will stop before reaching its floor.
Until Floor	Even when limit switches are enabled the elevator will go to its floor.

DIGITAL SETTING

When the floor number is blinking, set the floor number with the UP-DOWN buttons till you come to the floor number you want to change. Press the ENTER button and next you will see the digits blinking. Set the value you like. When finished exit with the exit button. Or if you want to set another stop/floor, press the enter button, when floor number is blinking, repeat the steps.

Indicator type	Outputs that can be selected
7 Segment indicator	-4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 A, B, C, D, E, F, H, J, L, N, O, P

DISPLAY OUTPUT



Set the display output of the HD EKO-10 controller card and HD EKO SERI card.

7 Segment output	Normal output.
Gray code output	Gray code output.

MAX. CALL REGISTRATION

Set the maximum amount of calls that can be registered from within cabin. When this number is reached it stops registering any calls from within cabine.

01 - 10	Set the number of stops between the minimum and maximum..

NUMBER OF BASEMENT

Set the number of basement here.

If the elevator is down collective, the floors that are under the basement that is set, it will be up collective.
Note: Used in command types except for down collective.

FIRE STOP

Set here the fire stop. When Fire input (at YAN) is active the elevator goes to the defined floor directly and waits with its doors open. Elevator will return to normal operation mode when fire signal is over

01 - 10 Seconds	This is the minimum and maximum time that is waited before going to park stop.
Cancel	Fire stop is not defined in the system.

PARK STOP

Set the park stop here. When elevator pauses its operation,it goes to this floor and waits with open doors.

RETURN TO PARK

Set the waiting time before going to park stop.

0 - 250 Seconds	Set the waiting time between the minimum and maximum.

BUSY TIME

Set the cabin light delay here.

5 - 20 Seconds	Set the cabin light delay time between the minimum and maximum.

According to the EN 81-1/2 standarts it is not allowed to bypass the cabin light delay.

On elevators with simple command (non-collective) this parameter must me equal to the “WAIT AT STOP” time. And the busy time must be at least 2 seconds.

WAIT AT STOP

Set the waiting time before going to other registrations while collecting.

3 - 15 Seconds	Set the waiting time at floor between the minimum and maximum

According to the EN81-1 and EN81-2 standarts, elevators with manual doors must have a waiting time of al least 2 seconds when moving again after reaching its floor

On elevators with simple command (non-collective) this parameter must me equal to the "CABIN LIGHT" time and must be at least 2 seconds.

OPEN DOOR TIME

Set the time from opening till closing of the automatic door.

05 – 20 Seconds	Set the door open-close time between the minimum and maximum.

LOCK WAITING TIME

Set the maximum time to wait for the door lock signal (140) after getting the door closed signal.

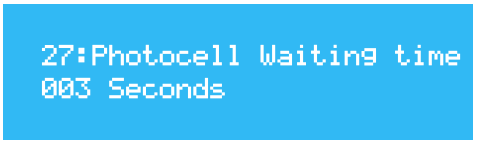
8 - 30 Seconds	Set the lock waiting time between the minimum and maximum.

DOOR STILL OPEN ERROR

If after the time set in this parameter the door is not closed yet the control panel will go out of service. It is possible to choose to bypass this function.

0 - 250 Seconds	Set the time for passing the door still open error between the minimum and maximum.

FOTOSEL BEKLEME SÜRESİ



Set the time of waiting for the photocell signal to close the door after the opening of the automatic door.

02 – 05 Seconds	Set the photocell waiting time between the minimum and maximum.

FAST CRUISING

Set the maximum time of cruising between 2 stops. If this time should be exceeded, the system automatically stops the movement of the cabin and blocks it.

0 - 100 Seconds	Set the fast cruising time between the minimum and maximum.

According to the EN81-1 / 2 standards motor operation time work must not exceed the smaller of the following:

- o 45 seconds
- o Longest cruising distance +10 seconds
- o If longest cruising distance is less than 10 seconds, the timeout should be at least 20 seconds

SLOW CRUISING

Set the maximum time of slow cruising from the moment it meets the stopper of the target floor. If this time should be exceeded, the system automatically stops the movement of the cabin and blocks it.

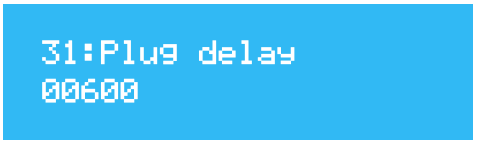
0 - 100 Seconds	Set the slow cruising time between the minimum and maximum.

RP DELAY

It could be demanded with roped VVVF systems to delay the fall of the main contactor. In such cases, the RP delay of the relay output is set by this parameter.

00000 – 25000 Miliseconds	Set the contactor delay time between the minimum and maximum

PLUG DELAY



Set here the waiting time after the 130 circuit.

00000 – 25000 Miliseconds	Set the plug delay time between the minimum and maximum

LOCK DELAY

Set the maximum waiting time for arrival of the lock (140) signal after the door closed signal.

0 - 2000 Miliseconds	Set the lock delay time between the minimum and maximum.

MAINTENANCE TIME

For every day the card operates the value of this parameter drops by one. For example, if it is set for 45 days, this parameter will Show a value of 15 when 30 days have passed. After 45 days the value will be 0.

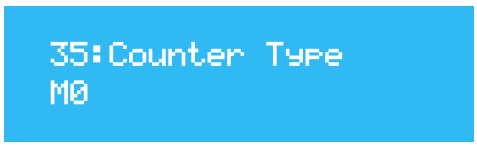
45-250 Days	Set the maintenance time between the minumum and maximum.

CHANGE PASSWORD CODE

Set or change the password code here.

1_0_0_0_0	If the display looks like this, the password is activated.

COUNTER TYPE



Set here your selection of the elevator floor sensor.

Standart M0	Standard M0 counter.
Standart M1	Standard M1 counter.

FACTORY SETTINGS

Here you can cancel your settings and return to factory settings.

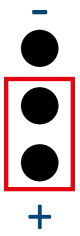
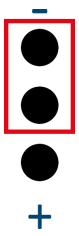
HD Eko 10 Control Card Key Names

Key	Description	
R S T	Main Supply	
MP	Mains Neutral	
1	Cabine Feed input	
2	Cabine Light Feed	
K3	Door Close Signal	
K5	Door Open Signal	
K15	Common signal of door open and door close	
KN	Safety Circuit Neutral	
120	Stop Circuit	Maks. 230Vac
130	Door Plug Contact Circuit	
140	Door Lock Circuit	
M0	Floor counter magnetic switch input	
142	142 Signal	
KRC	Feedback Input of the main contactor. The normally closed contacts of the 100 signal of the main contactor must be connected serially to this entry	
S1A-S1B	Cabin Serial Communication Terminals (With HD EKO SERIAL cards)	
100	Control Circuits Feed (+24Vdc)	
1000	Control Circuits Feed (0V)	
PTC	As long as there is motor thermistor & panel thermostat signal	

HD Eko 10 Card Relay Outputs

Key	Description
11	Common RU1, RU2, RH, RF Contactors Feed Voltage
RU2	Up Direction Contactor
RU1	Down Direction Contactor
RH	High Speed Contactor
RF	Low Speed Contactor

HD Eko 10 Jumper Connection

3-jumper connection on the HD Eko 10 Card	
	
If 31, 32, 02 and 12 signal outputs are 100	If 31, 32, 02 ve 12 signal outputs are 1000

HD KLS Card Key Names

Key	Description
869	Revision Key (from the Revision Box)
500	Revision Downward Button
501	Revision Upward Button
FRI	Fire Alarm Contact
DEP	Earthquake Alarm Contact
DTS	Door Close Button
K20	Door Open Button & Door Jam & Photocell Contact
804	Overload Contact
817	Down Obligatory limit Magnetic Switch
818	Up Obligatory limit Magnetic Switch
869P	Revision Key (to Controller Card)
2G	7-Segment Indicator Outputs
190	Common Simple Command Output
X1-X10	In/Out Controller Recorder Inputs
31	Downward Arrow Light
32	Upward Arrow Light
2	Out of Service Lights
12	Busy Lights

Magnetic Switch and Magnets SETUP

Standard M0 counter system: Used in double speeds elevators where the declaration distance is smaller then half of the distance between two floors.

Drive Type	Cabin Positioning Sensor	Early Door Opener Levelling	Magnetic Switch	Magnet
Double Speed	Standard M0 Counter	Not applicable	M0 (Bi-stable)	Round Magnet

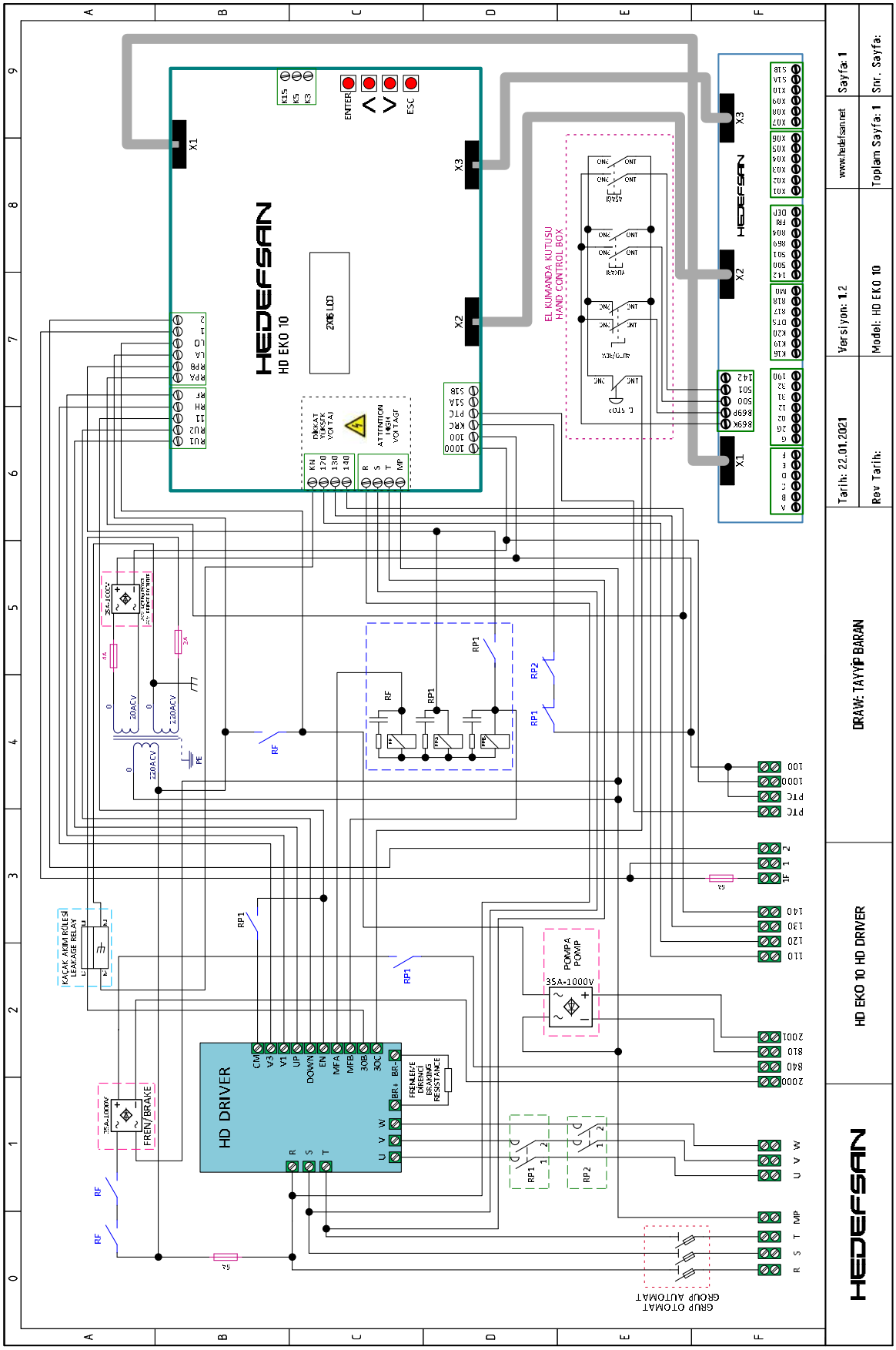
M0 Counter System SETUP

On M0 counter system the cabin movement and floor information is detected with 2 types of magnetic Switches.

- Floor counter and decelerating magnetic switch (SM0, Bi-stable)
- Floor stopper magnetic switch (SJF, Bi-stable) On this counter system bi-stable magnetic switches and round magnets are used. M0 is used as the floor counter and also as the deceler ator. JF (142) switch works as the floor stopper.
- For the magnet arrangement please consult the connections diagrams.
- Connect the switch ends of the M0-100 and 142-100 terminals respectively.

SAFETY NOTES

An elevator (an elevator with safety measures such as an overload system and with automatic doors according to the standards) is risk free for its user and it falls upon elevator industrial companies like us and companies that take care of the installation and maintenance like yours to reduce any chance of risk of an accident to remissible levels. In the following some basic safety points are discussed in relation to the elevator control system. Please pay attention to all these measures to safely operate our lifts, and hence minimizing any risk of an accident. In order for the lift system to be according to the EN 81-1 / 2 standard, the control card, the control panel and electrical connections must be appropriately done. HEDEFSAN guarantees the compliance of the control card to the standards. But the control panel internal connections, external connections and other electrical connections are the responsibility of the installer. Do not pass the safety circuit in any way through a relay or contact. Hide the connectors of the plug and lock circuits connections in the door's free space in a way that it won't touch the door chassis. Take into account that water can flow from upper floors when the stairway is being cleaned and that also there could be liquid spillage inside the cabin. Therefore if possible the safety connections should be put into isolated boxes. If this it not possible they must be insulated with insulation tape. Door frames must be bounded to the grounding bus bar of the panel. When the grounding is not done, it is possible that the saftey circuit is bypassed through the door frame. Years of operation, dust, dirt, oil may cause the loss of functionality of the safety circuit. Do not forget to check the plug and lock functions on the periodic maintenance. HD Eko 10 safety circuit operates with 220Vac voltage. The motor contactors are fed directly from the safety circuit. In this way it prevents involuntary movements outside the control of safety circuits.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HD EKO 10
2X16 LCD
ENTER
ESC
EL KUMANDA KUTUSU
HAND CONTROL BOX
HD DRIVER
FREN/BRAKE
KAÇAK AKIM RÖLESİ
LEAKAGE RELAY
POMPA
POMP
35A-1000V
GRUP OTOMAT
GROUP AUTOMAT
Tarih: 22.01.2021
Rev Tarih:
Versiyon: 1.2
Model: HD EKO 10
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Sayfa: 1
Toplam Sayfa: 1
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HD EKO 10 HD DRIVER
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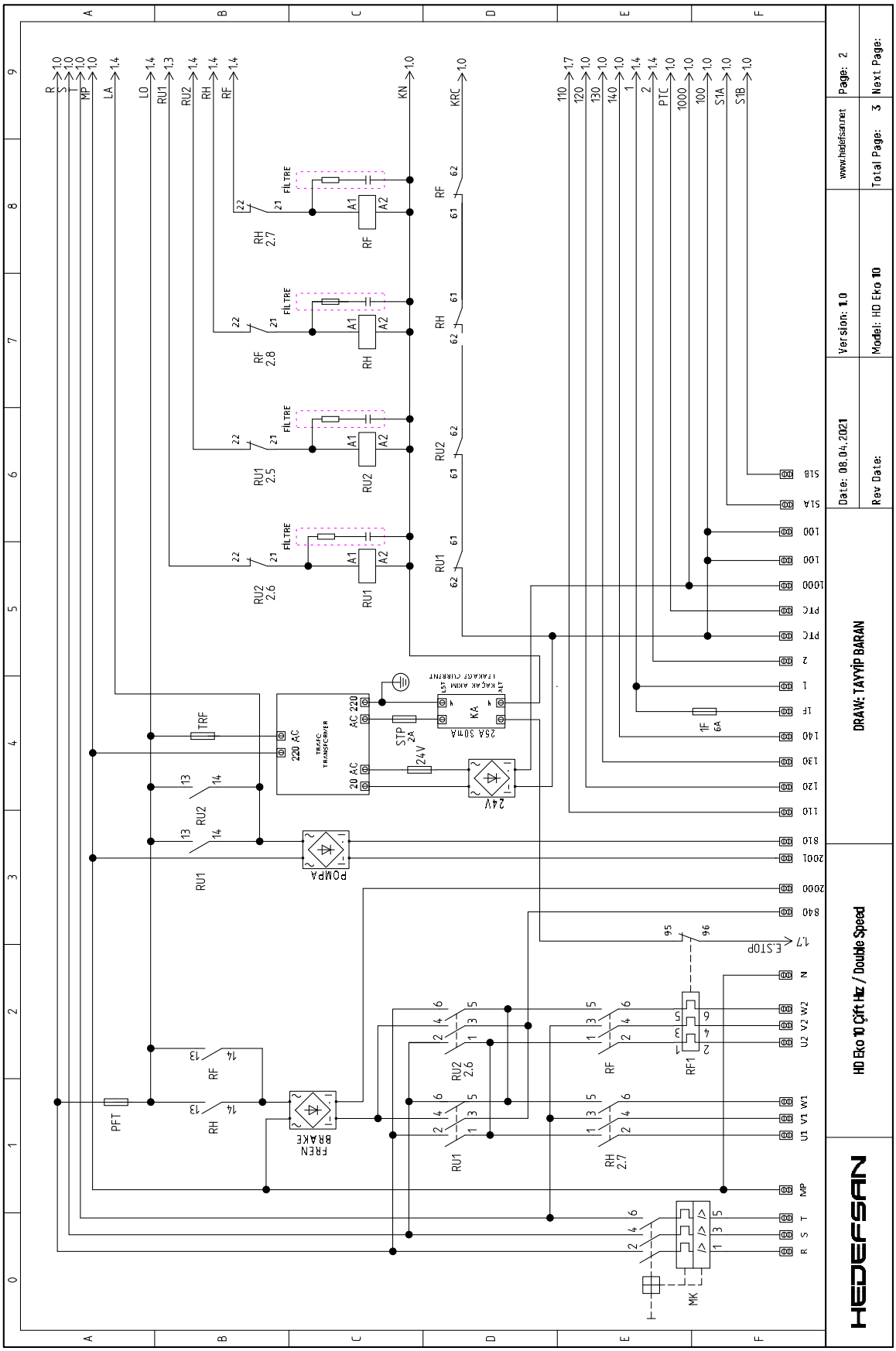
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HD Eko 10 Çift Hız / Double Speed
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Date: 08.04.2021
Rev Date:
Version: 1.0
Model: HD Eko 10
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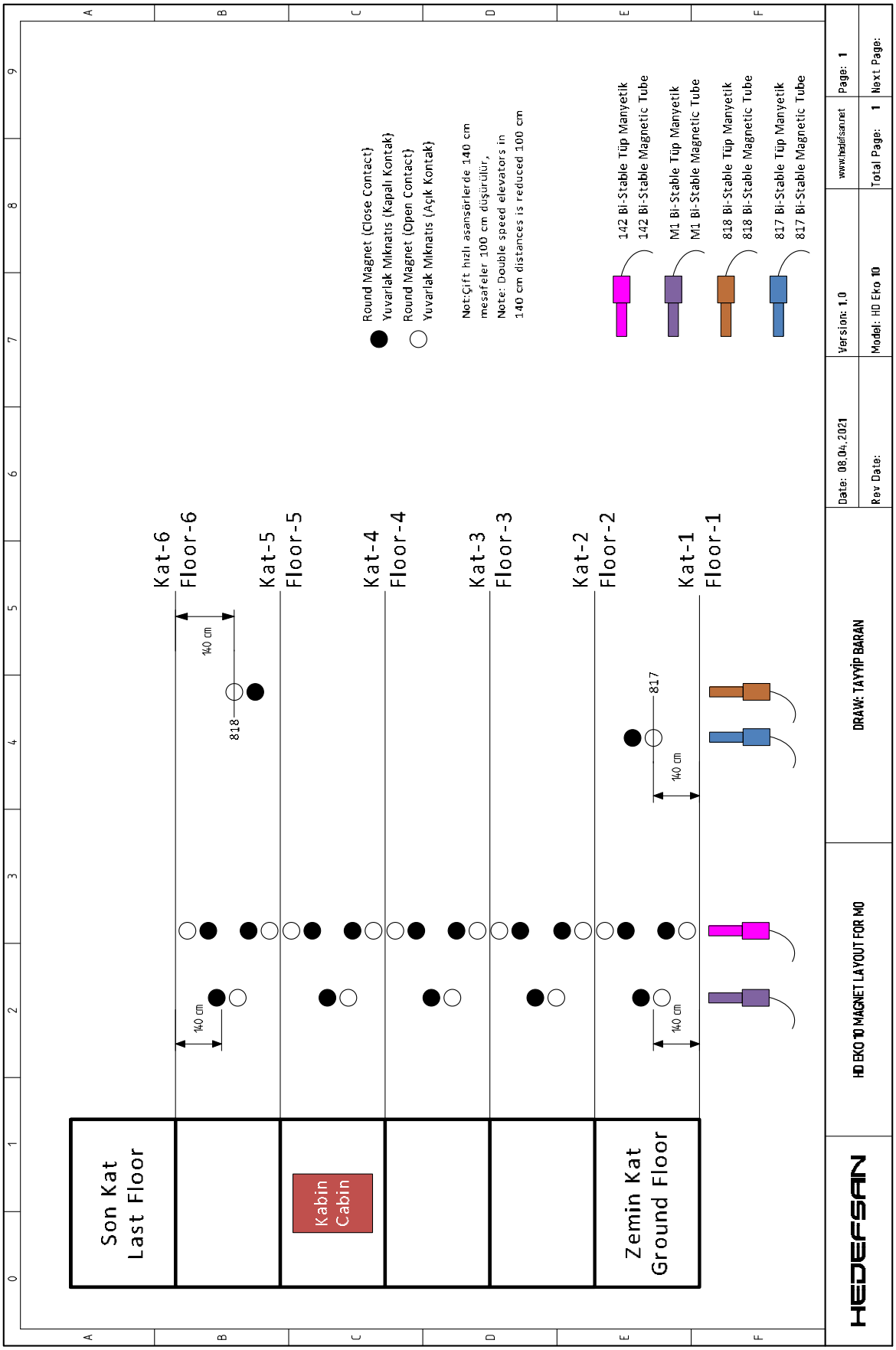
Page: 2
Total Page: 3
Next Page:
FREN BRAKE
POMPA
TRAFO TRANSFORMER
KAÇAK AKIM
LEAKAGE CURRENT
25A 30mA
24V
E.STOP
FİLTRE


Son Kat
Last Floor
Kabin
Cabin
Zemin Kat
Ground Floor
Kat-6
Floor-6
Kat-5
Floor-5
Kat-4
Floor-4
Kat-3
Floor-3
Kat-2
Floor-2
Kat-1
Floor-1
140 cm
818
817
Round Magnet (Close Contact)
Yuvarlak Miknatis (Kapali Kontak)
Round Magnet (Open Contact)
Yuvarlak Miknatis (Açik Kontak)
Not:Çift hizli asansörlerde 140 cm mesafeler 100 cm düşürülür,
Note: Double speed elevators in 140 cm distances is reduced 100 cm
142 Bi-Stable Tüp Manyetik
142 Bi-Stable Magnetic Tube
M1 Bi-Stable Tüp Manyetik
M1 Bi-Stable Magnetic Tube
818 Bi-Stable Tüp Manyetik
818 Bi-Stable Magnetic Tube
817 Bi-Stable Tüp Manyetik
817 Bi-Stable Magnetic Tube
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HD EKO 10 MAGNET LAYOUT FOR MO
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Rev Date:
Version: 1.0
Model: HD Eko 10
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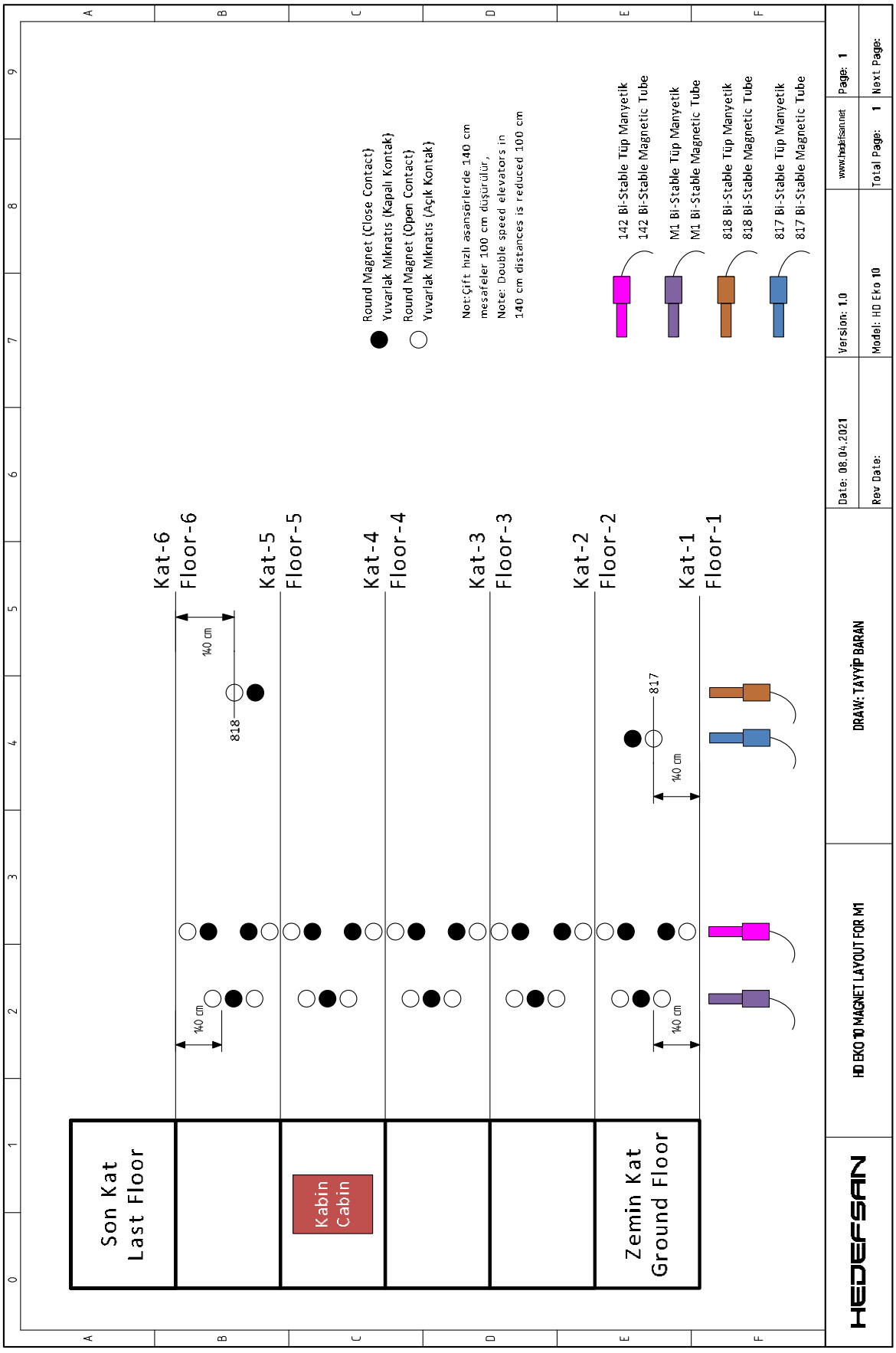
Son Kat
Last Floor
Kabin
Cabin
Zemin Kat
Ground Floor
Kat-6
Floor-6
Kat-5
Floor-5
Kat-4
Floor-4
Kat-3
Floor-3
Kat-2
Floor-2
Kat-1
Floor-1
140 cm
818
817
Round Magnet (Close Contact)
Yuvarlak Miknatıs (Kapalı Kontak)
Round Magnet (Open Contact)
Yuvarlak Miknatıs (Açık Kontak)
Not:Çift hızlı asansörlerde 140 cm mesafeler 100 cm düşürülür,
Note: Double speed elevators in 140 cm distances is reduced 100 cm
142 Bi-Stable Tüp Manyetik
142 Bi-Stable Magnetic Tube
M1 Bi-Stable Tüp Manyetik
M1 Bi-Stable Magnetic Tube
818 Bi-Stable Tüp Manyetik
818 Bi-Stable Magnetic Tube
817 Bi-Stable Tüp Manyetik
817 Bi-Stable Magnetic Tube
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HD EKO 10 MAGNET LAYOUT FOR M1
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