

Hedefsan Elektronik
FAO Ms. Saliha Baran
Büsan Özel Organize Sanayi Fevzi
Çakmak Mahallesi Demir Caddesi Doruk
Sanayi Sitesi No:15/D
42050 KARATAY - KONYA
TURKEY

Date : July 1, 2019
Our ref. : P180039

Subject : Certification according to Lifts directive 2014/33/EU and the European
Standard EN 81-20/50

Dear Ms. Baran,

Herewith you receive some documents for your attention.

Kind regards,



Dennis Simons
Project Administrator

EU-TYPE EXAMINATION CERTIFICATE

Issued by Liftinstituut B.V.
identification number Notified Body 0400,
commissioned by Decree no. 2018-0000125182

Certificate no. : NL19-400-1002-244-02 Revision no.: -

Description of the product : Lift Control Panel for electric and hydraulic lifts

Trademark, type : Hedefsan, HD-BE Lift Control Panel

Name and address of the manufacturer : Hedefsan Elektronik Asansör Turizm San Ve Tic.Ltd.Şti
Büsan Özel Organize Sanayi Fevzi Çakmak Mahallesi Demir
Caddesi Doruk Sanayi Sitesi No:15/D, 42050
Karatay - Konya - Turkey

Name and address of the certificate holder : Hedefsan Elektronik Asansör Turizm San Ve Tic.Ltd.Şti
Büsan Özel Organize Sanayi Fevzi Çakmak Mahallesi Demir
Caddesi Doruk Sanayi Sitesi No:15/D, 42050
Karatay - Konya - Turkey

Certificate issued on the following requirements : Lifts Directive 2014/33/EU

Certificate based on the following standard : EN 81-20:2014
EN 81-50:2014

Test laboratory : None

Date and number of the laboratory report : None

Date of EU-type examination :

Additional document with this certificate : Report belonging to the EU-type examination certificate
no.: NL19-400-1002-244-02



Additional remarks : The printed circuit board is not subjected to the laboratory tests
according to clause 5.6.3 of EN81-50
Key parameters for detecting UCM:
Detection distance : "ML1-ML2" (variable)
Max. response time UCM detector : 10 ms
Total response time UCMP : 30 ms
Speed and distance travelled : to be calculated
See chapter 5 of the report belonging to this EU-Type
examination certificate for additional conditions.

Conclusion : The safety component meets the requirements of the Lifts
Directive 2014/33/EU taking into account any additional remarks
mentioned above.

Amsterdam

Date : 18-04-2019

Valid until : 18-04-2024


ing. P.J. Peeters
Manager
Certification decision by

Report EU-type examination

Report belonging to EU type-examination certificate no. : NL19-400-1002-244-02
Date of issue of original certificate : April 18, 2019
Product description : Component
Revision number / date : -
Requirements : Lift Directive 2014/33/EU
Standards: EN81-20:2014, EN81-50:2014
Project number : P160386-01, P180039

1. General specifications

Name and address manufacturer : Hedefsan Elektronik Asansör Turizm San Ve Tic.Ltd.Şti
Büsan Özel Organize Sanayi Fevzi Çakmak Mahallesi Demir Caddesi Doruk Sanayi Sitesi No:15/D, 42050
Karatay - Konya - Turkey
Description of lift component : Lift Control Panel for electric and hydraulic lifts.
Type : HD-BE Lift Control Panel
Address component test location : Hedefsan Elektronik Asansör Turizm San Ve Tic.Ltd.Şti
Büsan Özel Organize Sanayi Fevzi Çakmak Mahallesi Demir Caddesi Doruk Sanayi Sitesi No:15/D, 42050
Karatay - Konya - Turkey
Data of examination : February 2017 – April 2019
Examination performed by : W.Visser

2. Description safety component

The Hedefsan HD-BE Lift Control Panel is a complete lift controller which can be used for VVVF electric lifts and hydraulic lifts. It can be a MR version or a MRL version. The Hedefsan HD-BE Lift Controller contains PCB's connected to the safety chain. These PCB's have been subjected to EU-type examinations and fulfill the requirements of EN81-20 and EN81-50.

Main switches are not always part of the delivery of Hedefsan and are the responsibility of the installer. The main switches shall fulfill clause 5.10.5 of EN81-20. Also additional National requirements may be applicable (for example in some European countries the main switch must switch the neutral conductor).

The controller is located in a metal cabinet which provides a protection better than IP2X. At the cabinet the recall operation control box is located consisting of a recall operation switch, push buttons and an emergency stop switch. Also buttons for dynamic brake testing and safety gear / overspeed governor testing are located inside the panel. All parts and terminals are marked accordingly the electrical diagram. Parts that remain live, even when the main switch is turned off, are separated, covered and marked properly on both the controller terminals as the inspection box terminals on the car roof.

In the lift controller a thermo-magnetic switch is available which switches the main power in the controller. The safety circuit (230VAC) is supplied from the secondary side of a safety isolating transformer, the "neutral" of the safety circuit is connected directly to the protective earth (to prevent a floating circuit). For all types of electric or hydraulic drives a phase monitoring device and several required Residual Current Devices (RCD) are provided.

The temperature of the motor will be monitored via the ptc connector on the HD-BE board. In case of hydraulic lifts the temperature of the oil is monitored via the same input. The main board itself has a low and high temperature watchdog function. Exceeding the default settings leads to blocking of normal operation.

The wiring in the controller shall be dimensioned properly for the currents involved during normal operation of the lift. To prevent mistakes no similar yellow, green, yellow/green and blue colored wiring will be used other than for protective earth and neutral wiring.

The electric lifts main contactors used in the controller for the motor and brake belong to the category AC-3 as defined in EN 60947-4-1. The hydraulic lifts main contactors used in the controller for the motor and the hydraulic also belong to the category AC-3 as defined in EN 60947-4-1. Contact ratings shall be dimensioned according their purpose.

As an option the Hedefsan HD-BE Lift Control Panel can be equipped with a UPS which will take care for emergency supply in case of power failure.

Functional description regarding operation:

The EU-Type certified Printed Circuit Board (PCB) HD-BE Ver:1.2 is a controller board for electric and hydraulic lifts. The PCB has several safety related parts:

- a part for monitoring the safety chain,
- an interface section for supervision of the main contactors,

- a part which controls the door bridging (DBB), also applied as Unintended car Movement (UCM) detector,
- a part of programmable inputs which take care of several required monitoring functions.

When the HD-BE Ver:1.2 is applied in a traction lift with gearless drive, the board itself or the applied inverter takes care of the monitoring of the brake contacts at a programmable input. Prior to start and during travel this input is checked.

The HD-BE Ver:1.2 has an on-board Door Bridging Circuit (DBB). The door-bridging circuit is designed as a safety circuit capable of bridging the door and door-lock safety switches. With this option the lift is able to move the car with the doors open for level, re-level and anti-creep purposes. Relays RL23, RL24 and RL25 form a so called A, B, C circuit. Any fault which can occur will result in a safe-state situation. All faults in this circuit are detected by the controller and result in a permanent safe-state situation.

When re-leveling is used this part can also detect UCM. When the car leaves the landing zone with open doors it leads to an open safety circuit because of the door-bridging circuit becoming inactive. The UCM detection status is stored in a non-volatile memory and is cleared only when a dedicated unblocking action is performed. For this action, the lift maintenance person has to select the related menu in the lift controller in order to reset the lift.

The status of the landing door locking contact and the car door contact are monitored through connection terminal Ø135 on the HD-BE Ver:1.2 in case of automatic or semi-automatic doors. The car door closed limit switch is used as the secondary car door closed monitoring signal and is monitored as well.

In case of double entrances at specific floors: the status of the landing door locking contacts and the car door contacts are monitored through terminals Ø130 and Ø136 on the HD-BE Ver:1.2 in case of automatic or semi-automatic doors. In this specific situation relay 20BPS is installed, powering connection Ø135.

So the HD-BE Ver:1.2 controller takes care of monitoring the functionality of the machine brake, keeping the lift out of service after detection of an UCM event and/or malfunctioning of any component of the DBC part. It also has other programmable inputs which take care of several required monitoring functions.

When the HD-BE Ver:1.2 is applied in a hydraulic lift output relay KA3 is operating the UCM hydraulic lock valve. When a down motion is needed, relay KA3 is activated 500 ms before the regular down valve is operated and is dropped 500 ms after this down valve drops in normal operation, due to the use of the programmable relay RL21. This means that the UCM lock valve does not take part in the normal operation of the hydraulic lift and therefore needs no monitoring.

When UCM occurs, the safety line will be open and the UCM valve will be de-energized directly without the above mentioned delay.

The controller has the following, not finite, EN81-20 features, which are not yet mentioned above:

- landing and car door by-pass system by the use of the BYPASS switch
- 2 inspection operation stations, 1 recall operation station
- 2 meter stops for switching off inspection drive speed above 0,3 m/s
- devices outside the well for test operations (EN81-20 Test Panel)
- brake release by continuous manual operation
- protection for maintenance operations
- monitoring of contactors
- monitoring of brake contacts
- car door nudging

Field Test

Field tests as requested by EN81-20 clause 6.3.13 can be performed to check the correct operation of the complete UCM solution. To perform the field tests a special menu is written in the HD-BE Ver:1.2. Detailed field test instructions are given in the "Hedefsan User Manual HD-BE" document accompanying this controller.

Technical details	: Hedefsan, HD-BE Lift Control Panel
Usage	: PCB Controller board for lifts with door bridging circuit, monitoring circuit for safety chain and supervision of control
Main board incl interface boards	: HD-BE Ver:1.2 Main PCB - EU-type cert: NL18-400-1002-244-01 HDB Terminals Board HD Seri HV-1.0 HD Door Pro Ver-1.0
Inverter / Drive	: Fuji or Step AS320
Technical Data	: Schneider LC1D contactors
Software version main board	: V1.4 or higher

See annex 1 for a general overview of the product

3. Examinations and tests

The examination covered a check whether compliance with the Lift Directive 2014/33/EU is met, based on the harmonized product standards EN 81-20:2014 and EN 81-50:2014.

The examination included:

- Examination of the technical file (See annex 2):
- Examination of the representative model in order to establish conformity with the technical file.
- Inspections and tests to check compliance with the requirements.

The examination of the Hedefsan HD-BE Lift Control Panel took place at Hedefsan premises. For the tests two controllers, one installed with a gearless electric lift and one simulating a hydraulic lift application, were available. Liftinstituut performed all functional tests necessary to prove conformity to the requirements of the harmonized standard EN81-20:2014.

4. Results

After the final examination the Lift Control Panel and the relevant parts of the technical file were found in accordance with the requirements. The functional tests, for all applicable requirements from EN81-20:2014, passed without remarks.

The key parameters for UCMP are:

Detection distance	: “Zone ML1, ML2” (variable)
Max. response time UCM detector	: 10ms
Total response time UCMP	: 30 ms
Speed and distance travelled	: to be calculated

5. Conditions

Additional to the applicable demands in the considered requirements / standards (see certificate and/or page 1 of this report), the following conditions shall be taken into account:

- Controller HD-BE Ver:1.2 shall take the lift out of service when a fault in the functionality or door-zone information to the DBB occurs.
- The response time of the UCM detection circuit is 10 msec.
- The door-zone magnet must be properly fixed (e.g. screwed, glued).
- The bi-stable door-zone switches ML1 and ML2 shall be suitable to article 5.11.2.5 of EN 81-20.
- The document “HD-BE User Manual” must be provided with every board, in order to make the correct installation and maintenance and to perform the correct Field tests during Final Inspection. Conditions written in this Technical file have to be met.
- Incoming ground/neutral is connected on terminal 10A of the HD-BE Ver:1.2 board. The ground/neutral used for the main contactors and the transformer for the hydraulic valves shall be supplied from terminal 10B of the HD-BE Ver:1.2 board.
- The installer of the lift needs to define the final complete UCMP solution taken into account the key-parameters of the HD-BE Ver:1.2 and the UCMP stopping means.

- When multiple entrances are used, relay 20BPS has to be installed, in order to be able to monitor all doors independently. This 20BPS relay has to meet clause 5.10.3.2.2 of EN 81-20.
- When an emergency power unit is applied an additional contact of the power main switch must be connected to L4 and T4.

6. Conclusions

Based upon the results of the EU-type examination Liftinstituut B.V. issues an EU-type examination certificate.

The EU-type examination certificate is only valid for products which are in conformity with the same specifications as the type certified product. The certificate is issued based on the requirements that are valid at the date of issue. In case of changes of the product specifications, changes in the requirements or changes in the state of the art the certificate holder shall request Liftinstituut B.V. to reconsider the validity of the certificate.

7. CE marking and EU Declaration of conformity

Every safety component that is placed on the market in complete conformity with the examined type must be provided with a CE marking according to article 18 of the Lift directive 2014/33/EU under consideration that conformity with eventually other applicable Directives is proven. Also every safety component must be accompanied by an EU declaration of conformity according to annex II of the Directive in which the name, address and Notified Body identification number of Liftinstituut B.V. must be included as well as the number of the EU-type examination certificate.

An EU type-certified safety component shall be random checked e.g. according to annex IX of the Lift directive 2014/33/EU before these safety components may be CE-marked and may be placed on the market. For further information see regulation 2.0.1 'Regulations for product certification' on www.liftinstituut.com.

Prepared by:



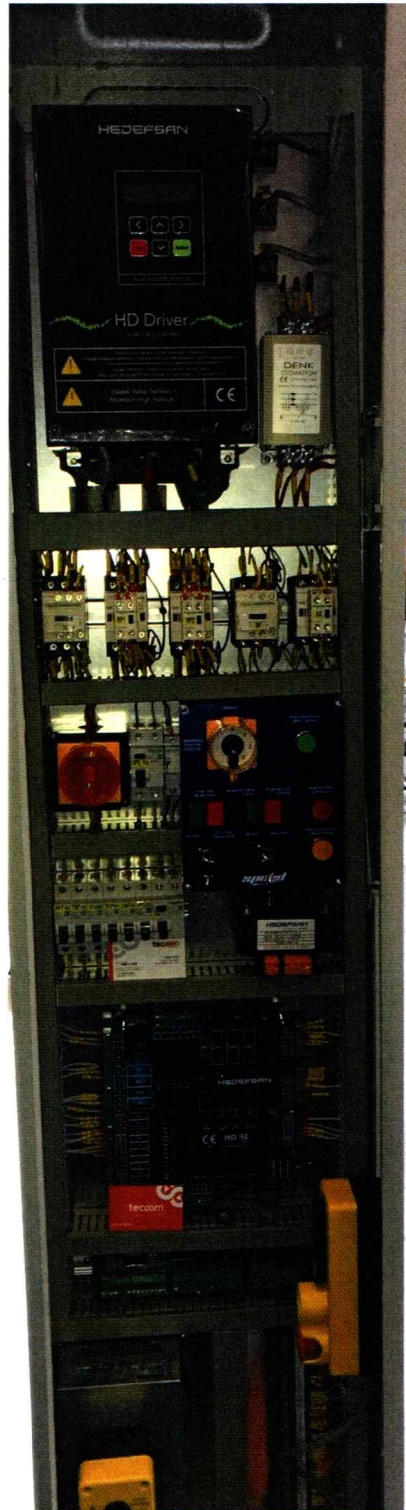
W. Visser
Product Specialist Certification
Liftinstituut B.V.

Certification decision by:



Annexes

Annex 1 General overview of the product



Annex 2 Documents of the Technical File which were subject of the examination

title	document number	date
HD-BE User Guide	V1.1	29-11-2017
HD-BE User manual	V1	14-02-2017
Fuji HD BE elec diagram	V1.6	05-03-2018
IA Star HD BE elec diagram	V1.6	05-03-2018
HD BE Kleemann Hydro elec diagram	V1.3	13-02-2018
Door Bridging Risk Analysis	V1.1	14-01-2018
HDB Terminals Board drawings	Ver.1.0	04-04-2019
HD Seri board drawings	HV-1.0	04-04-2019
HD Door Pro board drawings	Ver-1.0	04-04-2019

Annex 3. Reviewed deviations from the standards

EN xx-x par.	Requirement	Accepted design
x.x.x		

Annex 4 Revision of the certificate and its report

Rev.:	Date	Summary of revision
-	18-04-2019	Original