

EU-TYPE EXAMINATION CERTIFICATE

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

Certificate no. : NL18-400-1002-245-03 Revision no.: 1

Description of the product : Lift Control Panel for electric lifts

Trademark, type : Artemislift, Arcode Lift Control Panel

Name and address of the manufacturer : Artemis Asansör San. Dış Tic. Ltd. Şti.
Beysan Sanayi Sitesi, Fuar Caddesi
No: 25, Haramidere / Beylikdüzü
Istanbul - Turkey

Name and address of the certificate holder : Artemis Asansör San. Dış Tic. Ltd. Şti.
Beysan Sanayi Sitesi, Fuar Caddesi
No: 25, Haramidere / Beylikdüzü
Istanbul - Turkey

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

Certificate based on the following standard : EN81-20:2014
EN81-50:2014

Test laboratory : None

Date and number of the laboratory report : None

Date of EU-type examination : March – October 2018

Additional document with this certificate : Report belonging to the EU-type examination certificate no.: NL18-400-1002-245-03REV.1


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 (variable) : ML magnets / LiftSense
Max. response time DBR board : 10 ms
Total response time UCMP : 25 ms
Speed and distance travelled : to be calculated
See chapter 2 & 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 : 11-10-2018
Valid until : 18-09-2023


ing. P.J. Peeters
Manager


Certification decision by

Report EU-type examination

Report belonging to EU-type examination certificate no.	: NL18-400-1002-245-03
Date of issue of original certificate	: September 18, 2018
Product description	: Component
No. and date of revision	: 1 / 11-10-2018
Requirements	: Lift Directive 2014/33/EU Standards: EN81-20:2014, EN81-50:2014
Project no.	: P180062

1. General specifications

Name and address manufacturer	: Artemis Asansör San. Diş Tic. Ltd. Şti. Beysan Sanayi Sitesi, Fuar Caddesi No: 25, Haramidere / Beylikdüzü Istanbul - Turkey
Description of lift component Type	: Lift Control Panel for electric lifts Artemislift, Arcode Lift Control Panel
Address component test location	: Artemis Asansör San. Diş Tic. Ltd. Şti. Beysan Sanayi Sitesi, Fuar Caddesi No: 25, Haramidere / Beylikdüzü Istanbul - Turkey
Data of examination	: March – October 2018
Examination performed by	: W.Visser

2. Description lift component

The Artemislift, Arcode Lift Control Panel is a complete lift controller which can be used for Machineromless electric lifts. The base of the Artemislift, Arcode Lift Control Panel is the Arcode integrated lift controller. The controller comprises the CPU Board, Display Board, IO Board, Encoder Board, EMC Filter and Power Board (VVVF inverter). Additionally a door bridging functionality (DBR board) can be added to the unit. These PCB's and others mentioned, have been subjected to (EU)type-examinations and fulfill the requirements of EN81-20 and EN81-50. Limits of use and safety components used can be found in the ARCODE EU type examination certificate and its annex NL13-400-1002-048-11Rev.4.

To complete the electrical system of the lift there are interface boards for the controller (KBK-12 and KBK-13), a control board in the inspection box (IBC-S), a car door contact and landing door lock contact monitoring board (DFC) and not safety related boards for the car panel, landing door and signalization.

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 an EN81-20 Test panel is included, consisting of a main switch, a BYPASS selector switch, a level indicator, a speed and direction indicator, buttons for dynamic brake testing and safety gear / overspeed governor testing.

The inspection and recall switches are breaking the safety chain by positive separation, normal operation of the lift is not possible. Via a normally open contact ("run") and a direction push button the safety chain is restored for inspection or recall drive. The inspection/recall switch and direction buttons belong to category AC 15 as defined in EN 60947-5-1 and fulfill to EN 81-20. Even if the run time limiter has tripped, inspection operation will function. The automatic movement of the car-door is stopped by the safety switches of Recall or Inspection drive and by all emergency stop switches.

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.

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). Furthermore internal phase sequence monitoring is provided. The temperature of the drive motor is monitored on the Arcode main board. Any earth fault in both the safety circuit as the brake circuit leads to stopping of drive and dropping of the brake, due to activation of the RCD's.

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.

Parameter settings and wiring connections must be done correctly, conformity with this certificate and to the requirements of the harmonized standards are influenced by them. Parameter settings can be protected by a password to prevent easy changes to essential safety settings. To assure conformity Wittur provides installation and maintenance instructions.

The Arcode controller has an additional Door Bridging Circuit (DBR), which is also used to 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 Ø130-Ø133 (landing door locks side A), Ø133-Ø135 (landing

door locks side B), Ø135-Ø137 (car door side A) and Ø137-Ø140 (car door side B) on the additional door monitoring board (DFC). DFC, after completion of the necessary tests, returns a Success or Fail response to the Arcode controller. The secondary car door closed monitoring signals are monitored through input K19A and K19B of the controller.

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

- landing and cardoor by-pass system by the use of the BYPASS switch
- 2 inspection operation stations, 1 recall operation station
- maximum inspection drive speed is limited to 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
- car door nudging
- detection of stuck-at failures at monitoring inputs

Error handling

In general Arcode controller has three levels of errors.

- Permanently blocking errors; These errors are stored in non-volatile memory and need to be reset with the AREM handheld device,
- Blocking errors; these errors are not saved and can be reset by power up sequence, system reset or inspection/recall mode switching and
- Temporary errors; these errors clear automatically if the error reason disappears or after a certain time period.

In most cases when a monitoring fault is recognized by the system, Arcode controller will try to start again after 30 seconds, if the fault is cleared the lift will run again. If the fault reappears within 30 runs, the lift will be blocked. Other faults such as UCM detection will immediately give a permanent error.

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 Arcode controller.

Technical details	: Artemislift, Arcode Lift Control Panel
Integrated drive / controller	: Arkel, Arcode, models 4B14A, 4B17A, 4B26A, 4C35A, 4C50A, 4D75A
Main board	: Arkel CPU V1.xx*, Main board (EU-Type Cert. NL13-400-1002-048-11Rev.4.)
Safety board	: DBR V1.xx*, PCB for bridging the door safety circuit during (re-) levelling of the lift including detection of unintended movement of the car (UCM). Response time 10 ms
Other boards	: KBK-12 V1.xx*, connection interface board,

	KBK-13 V1.xx*, connection interface board KDB V1.xx*, connection interface board in pit IBC-S V1.xx*, connection interface board on car roof DFC V1.xx*, door monitoring board
Door zone switches	Arkel, MTM monostable Response time 1 ms Arkel, LiftSense Response time 2 ms
Technical Data	: OKA Transformer, type 155VA Telemecanique/Schneider LC1D, LC1K series, motor and brake contactors
Software version main board	: 171002 or higher

* For the PCB's Arkel applies a version systematic which allows updates of the PCB's without renewing the type certification. This is based on changes not related to the safety related circuits and components which were part of this certification. The second part of the PCB version numbering (xx) will increase with these kind of changes. The first number (V1) reflect the latest safety related update as certified. All changes will be communicated and archived in the technical file.

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 EN81-20:2014 and EN81-50:2014.

Issues not covered by or not complying these Standards are directly related to the above mentioned essential requirements based on the risk assessment, where applicable with the aid of harmonized A-and B-standards.

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 Artemislift, Arcode Lift Control Panel took place at Artemis premises. For the tests a complete control panel, installed with a gearless electric lift, was 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 detecting UCM are:

Detection distance (variable)	:	ML magnets or LiftSense system switching point
Max. response time Arcode (DBR)	:	10 ms
Total response time UCMP	:	25 ms
Speed and distance travelled	:	to be calculated

Monitoring functions are present in the Arcode controller.

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:

- Arcode integrated controller shall take the lift out of service when a fault in the functionality or door-zone information to the DBR occurs.
- The response time of the UCM detection circuit is 10 msec.
- The door-zone sensors activation must be monitored on proper operation by detecting the delayed activation of the second sensor after activation of the first.
- The door-zone magnet must be properly fixed (e.g. screwed, glued).
- Both the mono-stable door-zone switches SML1 and SML2 as the LiftSense system shall be suitable to article 5.11.2.5 of EN 81-20.
- The Arcode manual and the operating instructions for UCMP including the required UCMP tests procedures need to be available for installation, maintenance and testing purposes.
- The AREM handheld device shall be available for maintenance and inspection.
- Incoming ground/neutral is connected on terminal 10A of the CPU board. The ground/neutral used for the main contactors shall be supplied from terminal 10B of the CPU board.
- When an emergency power unit (UPS) is applied an additional contact of the main switch (SMP) must be connected to the output of the UPS.
- On this certificate the conditions of EU-type examination certificate of the ARCODE control unit apply. See Annex NL13-400-1002-048-11Rev.4 which is part of this certificate
- In case the main switch is located near the landing door, an additional 3-phase switch shall be installed in the well, near the machine.
- Inspection drive operation speed shall be limited to 0,3 m/s unless other measures are taken to fulfill EN81-20 clause 5.12.1.5.2.1.f.
- The installer of the lift needs to define the final complete UCMP solution taken into account the key-parameters of the Artemislift, Arcode Lift Control Panel and the UCMP stopping means.
- The devices in the Artemislift, Arcode Lift Control Panel shall be lit by a permanently installed lighting with an intensity of at least 200 lux at the device.

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 EC / 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
Productspecialist Certification
Liftinstituut B.V.

Certification decision by:



Annexes

Annex 1 Artemislift, Arcode Lift Control Panel



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

title	document number	date
Arcode manual	V1.6	21-11-2017
EI diagram 81-20	V1.0	09-03-2017

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
-	18-09-2018	Original
1	11-10-2018	Change in product type indication