

# TYPE EXAMINATION CERTIFICATE FOR LIFTCOMPONENTS

Issued by Liftinstituut B.V.

Certificate no. : NL16-400-1002-206-01      Revision no.: 1

Description of the product : Safe-Off feature of lift drive to reduce required number of motor contactors to one

Trademark, type : Magnetek, HPV900 Series 2

Name and address of the manufacturer : Magnetek (UK) Ltd.  
Unit 3 Bedford Business Centre  
Mile Road  
Bedford MK42 9TW  
United Kingdom

Name and address of the certificate holder : Magnetek (UK) Ltd.  
Unit 3 Bedford Business Centre  
Mile Road  
Bedford MK42 9TW  
United Kingdom

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

Certificate based on the following standard : EN 81-1:1998 + A3:2010 clause 12.7.3 b)  
EN 81-20 :2014 clause 5.9.2.5.4 b)

Test laboratory : None

Date and number of the laboratory report : None

Date of type examination : 10-12-2015  
Rev.1; August 17, 2017

Additional document with this certificate : Report belonging to the type examination certificate no.: NL16-400-1002-206-01 rev.1

Additional remarks : See report


Conclusion : The lift component meets the requirements referred to in this certificate taking into account any additional remarks mentioned above.

Amsterdam

Date : 17-08-2017  
Valid until : 16-02-2021



ing. J.L. van Vliet  
Managing Director



Certification decision by

## Report type-examination

Report belonging to type-examination certificate no. : NL16-400-1002-206-01

Date of issue of original certificate : 16-02-2016

Concerns : Lift Component

No. and date of revision : 1, August 17, 2017

Requirements : Lifts Directive 2014/33/EU  
EN 81-1:1998 + A3:2010 clause 12.7.3 b)  
EN 81-20 :2014 clause 5.9.2.5.4 b)

Project no. : P160408-01

### 1. General specifications

Name and address manufacturer : Magnetek (UK) Ltd.  
Unit 3 Bedford Business Centre  
Mile Road  
Bedford MK42 9TW  
United Kingdom

Description of lift component : Safe-Off feature of lift drive to reduce required number of motor contactors to one

Type : Magnetek, HPV900 Series 2

Laboratory : -

Address of examined component : -

Date / Data of examination : 10-12-2015  
Rev.1; August 17,2017

Examination performed by : P.J. Schaareman / T. Molema

## 2. Description lift component

The HPV 900 Series 2 elevator drive provides high performance, high overload capacity and long-life reliability. It is designed for both new installations and modernization projects. The HPV 900 Series 2 allows easy set-up and adjustment. The drive has a "Safe Off" option which allows to reduce the amount of motor contactors to one.

Technical details	: HPV900S2
Ratings	: 230 VAC input; 7.5 – 40 HP (NA) 460 VAC input; 5.0 – 75 HP (NA) 400 VAC input; 5.0 – 60 HP (EU)
Possible application	: The function "Safe Off" (SO) allows the drive to be applied in combination with one motor contactor according the relevant standards.
HW Control board	: 46S04282-0030
HW Termag board	: 46S04284-1020
Operating temperature range	: -10°C (14°F) to 45°C (110°F)
Altitude	: 1000m (3300 ft)
Humidity	: 95% (non-condensing)

See Magnetek's technical information for more detailed specifications and applications.

## 3. Examinations and tests

The review and examination is meant to provide a confirmation if the design of the HPV900S2 drives is implemented correctly.

For the review it was necessary to check the application of the HPV900S2 drives, the installation manual, the electrical diagrams, the FMEA and the board layout drawings.

The examination covered a check whether compliance with the Lift Directive 2014/33/EU and of the technical file whether compliance with the rules set out are met based on the product standards EN 81-1:1998 + A3:2009 and EN 81-20:2014. Additionally tests were performed in a test setup to confirm the proper operation of the design.

Requirements EN 81-1+A3 clause 12.7.3 resp. EN 81-20 clause 5.9.2.5.4 to be met:

### **A.C. or D.C. motor supplied and controlled by static elements**

b) a system consisting of:

- 1) a contactor interrupting the current at all poles.

The coil of the contactor shall be released at least before each change in direction. If the contactor does not release, any further movement of the lift

shall be prevented. Stuck-at failure of this monitoring function shall have the same result; and

- 2) a control device blocking the flow of energy in the static elements; and
- 3) a monitoring device to verify the blocking of the flow of energy each time the lift is stationary.

If, during a normal stopping period, the blocking of the flow of energy by the static elements is not effective, the monitoring device shall cause the contactor to release and any further movement of the lift shall be prevented;

The drive SW version at the moment testing was SW A4810-010219.32.

## 4. Results

After the final examination the product and the technical file were found in accordance with the requirements. The functional tests passed without remarks.

The application of the HPV900S2 drives with SO functionality is considered to be in accordance with the requirements and conditions set out by EN 81-1 + A3 clause 12.7.3 b) and EN 81-20 clause 5.9.2.5.4 b).

The approach allows the HPV900S2 drives with SO functionality to be applied in lift control systems according EN 81-1 + A3 clause 12.7.3 b) and EN 81-20 clause 5.9.2.5.4 b).

## 5. Conditions

On the type-examination certificate the following conditions apply:

- Installation, setting and commissioning of the HPV900S2 drives shall be done accordingly the Magnetek HPV900S2 installation manual.
- The BE/I9 switch on the control card shall be switched to BE.
- The C2 menu selection shall be set to logic input Safe Off.
- To enable the drive to run the logic input 9 (TB1:26) need to be switched when the safety circuit of the lift is closed.
- No safety chain of the lift shall be connected directly to the inputs of the HPV900S2 drive control card. E.g. an interface relay powered by the safety circuit of the lift may be used to switch Safe Off logic input 9.
- A logic output shall be programmed and set to "SAFE OFF INPT"; This output as well as the remaining motor contactor needs to be monitored by the lift control that they are properly switched off.
- The energy supply to the brake still need to be switched off according the standard.
- Before taking the lift in service the proper operation and fault detection shall be tested and confirmed.



## 6. Conclusions

Goal of the examination was to check and analyse if the approach to apply the HPV900S2 drives with safe off functionality in the control of a lift.

The HPV900S2 drives with SO functionality proved to be in accordance with the requirements and conditions set.

The examination confirms that the application of the HPV900S2 drives with SO in the lift control system fulfil the current state of the art.

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

The type-examination certificate is only valid for products which are in conformity with the same specifications as the type certified product. The type-examination 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 type-examination certificate.

Prepared by:

**P.J. Schaareman**  
Product Specialist Certification  
Liftinstituut B.V.

Certification decision by:

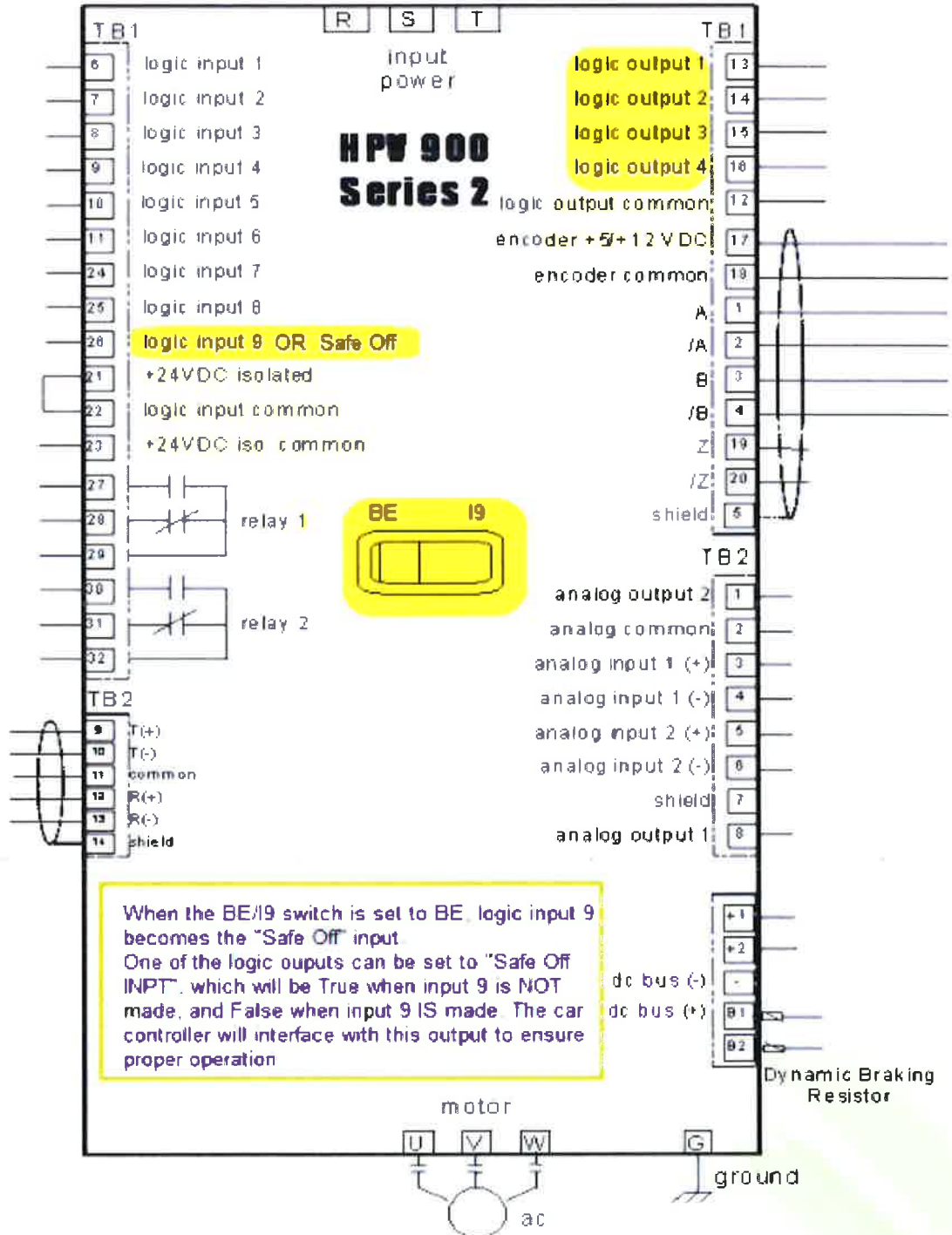
Annexes

Annex 1a : Drive HPV900S2



## Annex 1b : Drive connections related to one contactor application

### Drive Connections



**Annex 2 : Documents of the technical file which were subject of the examination**

Title	Document number	Date
Bill of Material	36741.pdf	29-05-2014
Failure Mode Effect Analyses	T-JN-A07-1x0xx_V0x_xx.xlsx	29-05-2014
PCB artwork and schematics	4KA69Xxxxxxx.pdf	29-05-2014
Failure analyses SO function	HPV900S2 Safe Off Action Response R04.pdf	29-05-2014
Specifications	HPV900S2 Drive Features.pdf	29-05-2014
Guide to set up Safe Off feature	HPV900S2 Safe Off guide R01.1.pdf	29-05-2014
Technical Manual HPV900S2	HPV900S2 TM7333_R16.pdf	29-05-2014

**Annex 3 : Reviewed deviations from the standards**

EN xx-x par.	Requirement	Accepted design
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**Annex 4 : Revision overview**

Rev.:	Date	Summary of revision
-	16-02-2016	Original
1	17-08-2017	Update new Lifts Directive and editorial corrections