Lift Monitoring System

Everything under control with real-time transparency

Main features

» Plug&Play: automatic exchange of configuration data
» Monitoring of up to 255 single lifts or groups
» Monitoring of third-party controllers
» Monitoring of escalators and moving walkways

Networking

Data exchange across multiple installations using LON-bus or Ethernet mediums

Visualizing

Real-time monitoring of all networked installations

Analyzing

Intelligent diagnostics with recording and long-term statistics functions
Networking lift systems with field bus technology introduce unknown levels of transparency. The area-wide remote monitoring of lift systems with the goal to lower costs for maintenance and remote diagnostics is no longer a vision.

The LMS eleVision lift monitoring system is a flexible visualization system for NEW LIFT controllers that has been designed for networking lifts across multiple buildings. In addition, it provides many functions for remote control and data transmission.

Access to all connected lift systems can be implemented with the LMS server via local network (LAN), Internet or dial-up modem connection.

It is also possible to access single FSTs distributed over various locations connected with a modem (landline) or with a GSM modem (cell phone connection).

Thanks to the modularity of the system, it is possible to connect to third-party systems supporting the OPC industry standard.

**Networking**

The LMS bus spanning multiple lift systems is implemented either as a two wire LON bus or as an Ethernet connection. With the PAM protocol adapter, up to 255 single lifts, groups, escalators and moving walkways can be connected to the LMS bus.

**Transmission standards**

The LMS bus supports two different transmission standards:
- LON bus FTT10 for networking within buildings
- Ethernet for machine rooms with existing network connection

**PAM – protocol adapter module**

The PAM is a universal interface module to connect the FST-2 controller or third-party controller to the LMS bus.

**Connection possibilities with LMS eleVision**

**LMS eleVision Light**

- for monitoring a single lift or group
- RS-232 connection on-site with laptop
- connection to PC via modem

**LMS eleVision with PAM-FTT10**

- connection of up to 255 single lifts, groups, escalators and moving walkways to LMS server via PAM-FTT10 and master PAM
The interface between PAM and FST controller is a serial RS-232 connection. Third-party controllers, escalators and moving walkways are connected using parallel 24V I/O’s.

The PAM meets the requirements and technical regulations for the electrical compatibility of devices (German EMVG) as well as the international standards DIN EN 81-1 and EN 81-2.

**PAM-FTT10**

The PAM-FTT10 networks the controllers of your lift systems as well as escalators and moving walkways with the master PAM via the LON bus. The interface to the LMS server is a serial RS-232 or a USB connection.

**PAM-Ethernet**

Alternatively, you can connect all controllers to the LMS server via Ethernet. In this case, no master PAM is required.

**Client/Server option**

An unlimited number of workstations can use the EleVision system operating as LMS clients over the Ethernet network.

Different levels of user access, if necessary with limited rights, can be created with the integrated user management feature.

A LMS server with modem or Internet connection will even allow access to the entire LMS bus for a remote maintenance provider.

**OPC**

OPC is a standardized software interface in the field of automation technology allowing data exchange between applications from different manufacturers.

Providing evaluation data via the OPC server allows for integration of this information in other building monitoring systems.

All lift system data is available for integration in other systems via the OPC server.

**LMS with PAM-Ethernet and optional OPC-interface**

- **LMS-Clients**
- **Ethernet**
- **third-party applications**
- **Internet**
- **modem**
- **remote workstations worldwide**
- **LMS-Server + OPC-Server**
- **building management system with OPC-client**
- **LMS-bus via Ethernet connection**
- **PAM-Ethernet**
  - **RS-232**
  - **FST-2**
- **PAM-Ethernet**
  - **RS-232**
  - **FST-2 Group**
- **PAM-Ethernet**
  - **digital I/O**
  - **third-party controller**
- **PAM-Ethernet**
  - **digital I/O**
  - **controller for escalator / moving walkway**

**OPC server (optional)**

- An optional OPC server can be integrated in the LMS server
- Provides evaluation data for integration in other building monitoring systems
EleVision Software

EleVision is an extensive PC tool to display and process LMS bus data. The following applications are available:

Monitoring

Three different display levels are available for real-time monitoring of all networked systems in EleVision:

» Campus View: true to scale top view of lifts in building

» Installation View: selection of lifts in vertical section

» Lift View: detailed view of one selected lift system

With the integrated View Editor, you can customize each display level. It is also possible to integrate background images.

Remote control

With the remote control function, you can enter commands and start special drives or parametrizing. Actions are entered using a simulated FST keypad.

Diagnostics

The diagnostics tool contains error lists as well as optical and acoustic fault messages. In addition, logs and graphical representations can be displayed, evaluated and archived. The automatic e-mail messaging function lets you know when faults occur, and the long-term recording function allows you to record the activities of the entire system and play it back at a later time.

Statistics

The statistics function creates and evaluates numerical and graphical long-term statistics for calls, drives and errors.

File transfer

This function facilitates data transfer between master PC and lift controller, for instance for software or parameter updates.

Scheduler

EleVision enables users to automatically perform lift actions at predefined times.

Evacuation function

This function facilitates individual settings for remotely controlled evacuation using an emergency power supply. This allows an automatic, coordinated evacuation.

Data exchange

The LMS bus provides fast and flexible transfer of the following data:

» Monitoring data for real-time visualization

» Remote control data for commands and parametrizing

» Diagnostic data such as error lists and logs

» Statistics for calls and drives

» Messages such as fire signal, evacuation or fault

» Intelligent evacuation strategies for power failures with configurable mutual start-up blocking

### Technical Data PAM

<table>
<thead>
<tr>
<th>Dimension L x W x H</th>
<th>140 x 45 x 140 mm</th>
</tr>
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<tbody>
<tr>
<td>Supply voltage</td>
<td>24V DC</td>
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<tr>
<td>Power consumption</td>
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