Supervisory System MelEye Enhances Elevator and Escalator Operation Management with the Latest Network Technology

Latest network technology

- Application of Web server and Web browser
  Because the system configuration is hosted on a Web server, the elevators and escalators can be monitored by multiple PCs at any location desired within the network provided. The use of a Web browser interface allows various functions.

- Application of Ethernet *
  The high-speed broadband network using Ethernet facilitates smooth data communication between the server and the elevators and escalators. Connecting to a special high-security network** enables monitoring from anywhere in the building.

  * Ethernet is a trademark of Xerox Corporation in the U.S.A.
  ** A special high-security network needs to be provided aside from the general LAN circuit.

User-friendly screen

- Versatile monitoring screens
  The system displays the operation mode of each elevator or escalator, or the operational status of each group, on user-friendly screens.

- Easy selection of screens
  Straightforward mouse operation enables the speedy selection of the required information.

- Reliable indications and alarm* for safety
  To ensure passenger safety, indications to warn of all failures of elevators and escalators are provided. An optional alarm, which will go off for specific events such as group or individual car control failure can be added to the warning indications.

  * The alarm is optional and requires speakers for the PC.

Optional features

- Remote control
  A PC connected to the MelEye system can control the special and emergency* operations of the elevators: for example, Floor lockout, VIP operation, Operation by emergency power source, or Fire emergency return.

  * For more details on special and emergency operations, please refer to “Main functions” on page 5 or our product brochures.

- Scheduling of operations
  All buildings have a flow of people moving to specific floors at specific time periods. Scheduling of special operations such as Intense up peak or Lunch time service can be preset to meet the demand inside the building.

- Statistical information
  The past fault logs of the elevators and escalators and the operation logs of PC are recorded*. In addition, the traffic analysis function counts the calls of the elevators and measures the users waiting time. These functions enable the Building Manager to analyze the traffic flow statistically, and helps optimize the efficiency of the elevator and escalator operation.

  * This function is a standard feature.

- Play back information
  The movement of any elevator at any selected time within the past 30 days can be replayed.

- Locations of elevators and escalators
  The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted in order to facilitate timely response under emergency conditions or for troubleshooting.

- Image monitoring
  The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well.

In recent years, the need for a monitoring system utilizing network technology has increased. In large-scale international airports, for example, interfacing with the building and facility management control system has proved an essential oracle. In order to meet this requirement, Mitsubishi Electric Corporation has developed a sophisticated monitoring system - MelEye which utilizes Web-based technology.

MelEye closely observes the operational status of elevators and escalators that handle continually changing passenger traffic. This allows Building Managers to rapidly respond to changing traffic patterns, thus optimizing the performance of elevators and escalators and maximizing the added value of the whole building. The application of the latest network technology has also greatly increased the number of controllable elevators and escalators, which minimizes the cost spent on facilities such as supervisory rooms and monitors. MelEye is our solution to futuristic building traffic monitoring systems.
Versatile Features for Elevator and Escalator Operation Management

**Monitoring screens**
MelEye’s user-friendly screen shows the detailed operational status of the elevators and escalators in real time.

**Remote control**
A PC allows remote control and schedule of special and emergency operations.

**Scheduling of operations**
Operation by emergency power source

**Statistical information**
The past fault logs of the elevators and escalators are recorded in addition to the operation logs of the PC.

**Playback information**
The movement of any elevator at any selected time within the past 30 days can be replayed.

**Locations of elevators and escalators**
The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted.

**Image monitoring**
The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well.

**Recording of logs**
The past fault logs of the elevators and escalators are recorded in addition to the operation logs of the PC.

**Traffic analysis**
Operational data of the elevators, such as the number of calls, the average waiting time and long wait rate, are analyzed statistically.

**Sample image display screen**
Mel Eye’s user-friendly screen shows the detailed operational status of the elevators and escalators in real time.

**Special operation control**
Recording of logs

**Emergency operation control**
Scheduling of operations

**Remote control**
A PC allows remote control and schedule of special and emergency operations.

**Floor Lockout**
Special operation control

**Status monitoring**
Statistical information

**Statistical information**
The past fault logs of the elevators and escalators are recorded in addition to the operation logs of the PC.

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**Locations of elevators and escalators**
The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted.

**Image monitoring**
The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well.

**Recording of logs**
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**Traffic analysis**
Operational data of the elevators, such as the number of calls, the average waiting time and long wait rate, are analyzed statistically.
Specifications

Main functions

<table>
<thead>
<tr>
<th>Classification</th>
<th>Function</th>
<th>Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring screens</td>
<td>Status monitoring</td>
<td>- Monitors the operational status of elevators on three displays: &quot;PLAN VIEW&quot;, &quot;SECTIONAL VIEW&quot; and &quot;STATUS MONITORING&quot;. - Monitors the operational status of escalators on two displays: &quot;SECTIONAL VIEW&quot; and &quot;STATUS MONITORING&quot;.</td>
<td>S S</td>
</tr>
<tr>
<td>Remote control and scheduling of operations**</td>
<td>Special operation control</td>
<td>Controls or schedules the following special operations manually by PC: - Floor lockout (NS) - VIP operation (VIP-S) - Intense up peak (IU) - Lunch time service (LTS) - Up peak service (UPS) - Down peak service (DPS) - Bank-separation operation (BSO) - Remote control car stop (RCS) - Return operation (RET) - Main floor changeover operation (FCS)</td>
<td>0 -</td>
</tr>
<tr>
<td>Emergency operation control</td>
<td></td>
<td>Controls the following emergency operations: - Operation by emergency power source (OEPS) - Fire emergency return (FER) - Earthquake emergency return (EER)</td>
<td>0 -</td>
</tr>
<tr>
<td>Statistical information</td>
<td>Recording of logs</td>
<td>Records the fault logs of elevators and escalators, as well as the operation logs of the PC, in the past 90 days on HDD in CSV format.</td>
<td>S S</td>
</tr>
<tr>
<td>Traffic analysis</td>
<td></td>
<td>Takes statistics of the number of calls, average waiting time and long wait rate of any specified period within the past 30 days and indicates the results in the form of a spreadsheet or histogram.</td>
<td>0 -</td>
</tr>
<tr>
<td>Play back information</td>
<td>Play back</td>
<td>Plays back the movement of the elevator operation of any specified period within the past 30 days.</td>
<td>0 -</td>
</tr>
<tr>
<td>Locations of elevators and escalators</td>
<td>Layout view</td>
<td>Displays the locations of the grouped elevators and escalators installed in the building and highlights any fault.</td>
<td>0 0</td>
</tr>
<tr>
<td>Image monitoring</td>
<td>Image display sent from elevator cameras</td>
<td>The real-time images sent from elevator cameras can be displayed on the image display screen. Also, the recorded images of the specified period can be played as well. - Video system: NTSC, PAL - Image size: 600 × 480 pixel (approx. equivalent to VGA) or 300 × 240 pixel (approx. equivalent to QVGA) - Image refresh interval &amp; recording interval: One second - Continuous recording medium: CompactFlash 8GB is recommended **</td>
<td>0 -</td>
</tr>
</tbody>
</table>

Notes
- **Scheduled operation does not apply to emergency operations and some of the special operations.
- **2. This table contains only some of the available operations. For further details, please refer to our product brochures.
- **3. CompactFlash is a trademark of SanDisk Corporation in the U.S.A.
- **4. The continuous recording time above is calculated using CompactFlash 8GB for reference only.

System configuration

![System configuration diagram]

Glossary

- Ethernet : This is a trademark of Xerox Corporation. It is a standard of bus formed LAN which was jointly developed by Xerox Corporation, Intel Corporation and DEC Corporation in 1980. It was standardized by IEEE802.3 (Association of Institute of Electrical and Electronics Engineers Inc.).
- CSV format (Comma Separated Value format) : On the premise that a file is opened by spreadsheet software, the data is separated by commas or linefeeds when it is arranged. It is used for data exchanges among application software such as spreadsheet software or data base software.

The number of connectable elevators or escalators

In case only elevators are installed

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number of connectable cameras</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 32 groups/ 96 units</td>
<td>Elevators: Up to 32 units, Escalators: Up to 20 units</td>
</tr>
<tr>
<td>Up to 31 groups/ 64 units</td>
<td>Elevators: Up to 31 units, Escalators: Up to 20 units</td>
</tr>
<tr>
<td>Up to 30 groups/ 72 units</td>
<td>Elevators: Up to 30 units, Escalators: Up to 20 units</td>
</tr>
</tbody>
</table>

Notes
- **1. Details to the left represent the minimum specifications.
- **2. Depending on the monitoring functions or the number of elevators/escalators, some capacities to the left will be increased.
- **3. Provision of power supplies is not included.
- **4. Work station, such as a desk and a chair, is not included.
- **5. UPS (uninterruptible power supply) for power failure is not included.
- **6. Elevator camera and recording medium (CompactFlash) are not included.

<table>
<thead>
<tr>
<th>Device</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>- CPU : Intel Core2 1.86GHz - Main memory : 2.0GB - HDD : 40GB</td>
</tr>
<tr>
<td>Monitor</td>
<td>17&quot; - 19&quot; color LCD or CRT display</td>
</tr>
<tr>
<td>HUB</td>
<td>10BASE-T/100BASE-TX</td>
</tr>
<tr>
<td>Printer</td>
<td>Page Printer (Option)</td>
</tr>
</tbody>
</table>

ISO 9001
BUREAU VERITAS Certification