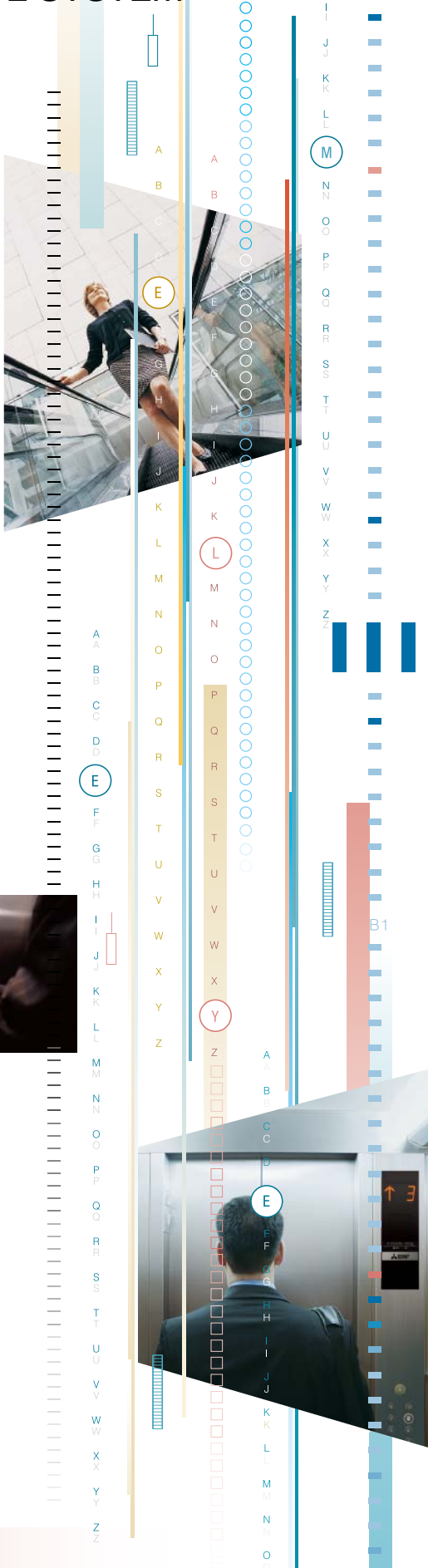# MITSUBISHI ELECTRIC

*Changes for the Better*

# ELEVATOR MONITORING AND CONTROL SYSTEM

for a greener tomorrow

eco Changes

Quality in Motion™

# Mel Eye

In recent years, the need for monitoring systems utilizing network technologies has increased. In large-scale international airports, for example, interfacing with the building and facility management control system has proved to be essential. In order to meet these requirements, Mitsubishi Electric has developed a sophisticated monitoring system - **Mel Eye** which utilizes web-based technologies.

**Mel Eye** 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 technologies has also greatly increased the number of controllable elevators and escalators, which minimizes the cost spent on facilities such as supervisory rooms and monitors. **Mel Eye** is our solution to futuristic building traffic monitoring systems.
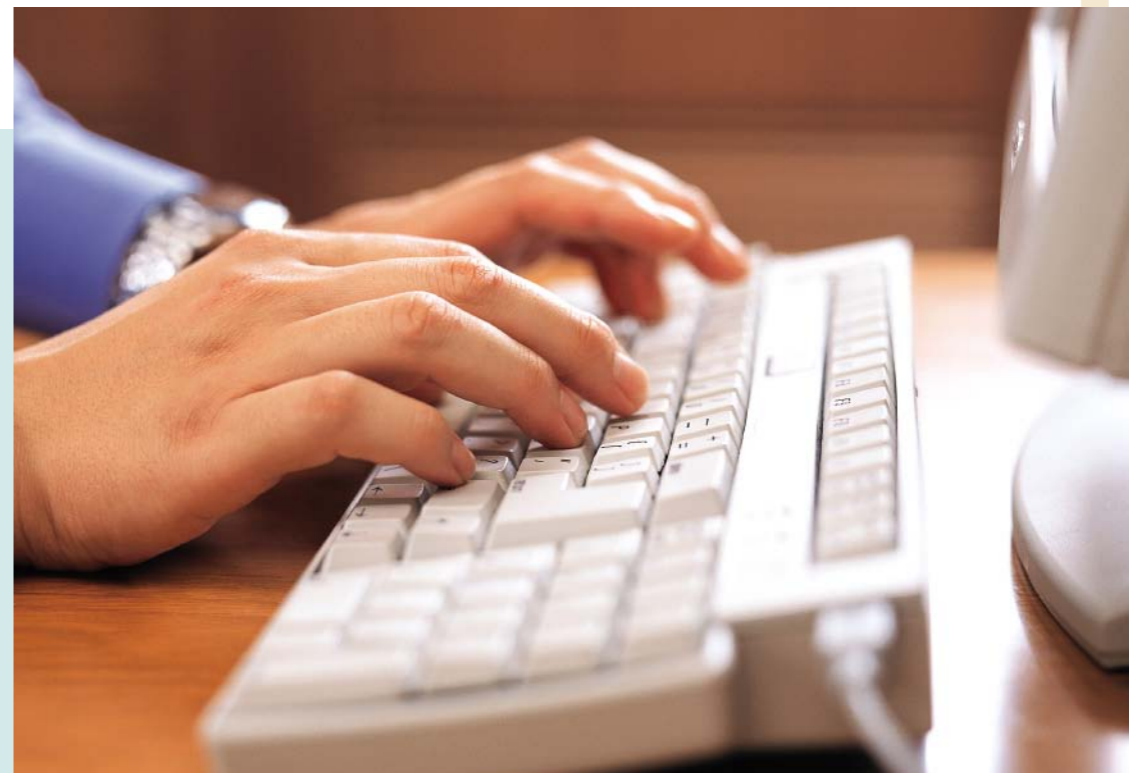
# Supervisory System Mel Eye Enhances Elevator and Escalator Operation Management with the Latest Network Technologies

## Latest Network Technologies

### ▶ 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 computers 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 in addition to the general LAN circuit.
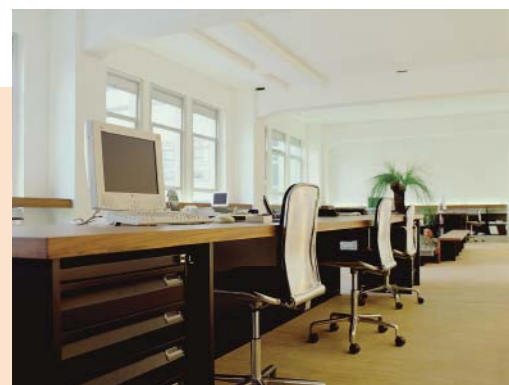
## User-friendly Screens

### ▶ 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 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 is activated 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 computer.

## Optional Features

### ▶ Remote control

A computer 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 in our product brochures.

### ▶ Scheduling of operations

In all buildings, there are flows of people moving to specific floors at specific time periods. Scheduling of special operations such as Intense Up Peak or Lunchtime 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 computers are recorded*. In addition, the traffic analysis function counts the calls of the elevators and measures the user waiting time. These functions enable the building manager to analyze the traffic flow statistically, and help optimize the efficiency of elevator and escalator operations.

\* 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.

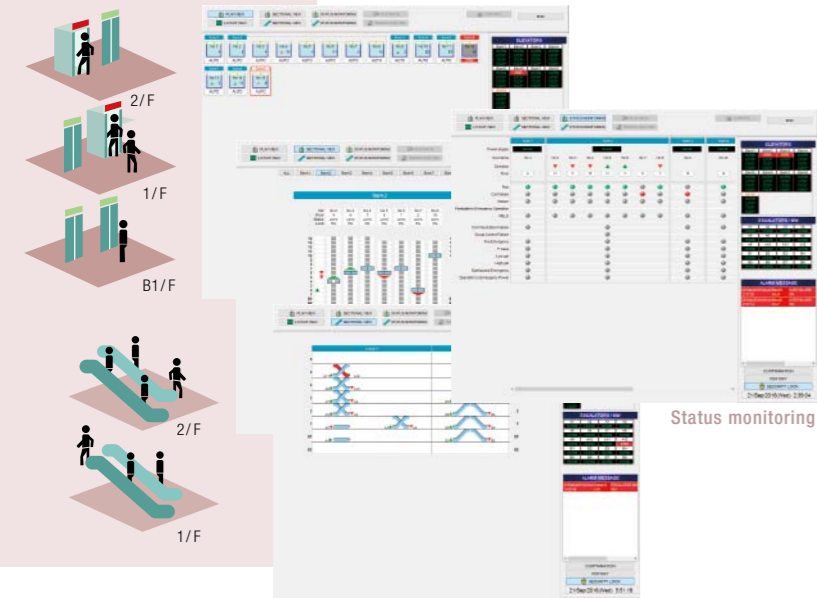### ▶ Locations of elevators and escalators

The locations within the building of the grouped elevators and escalators are displayed and any fault is highlighted in order to facilitate a timely response under emergency conditions or for troubleshooting.
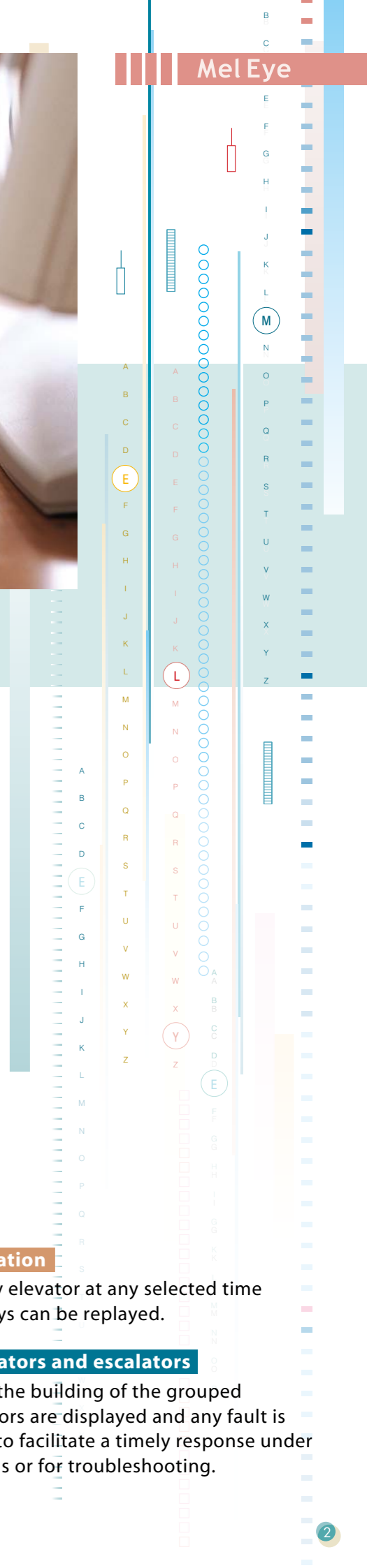
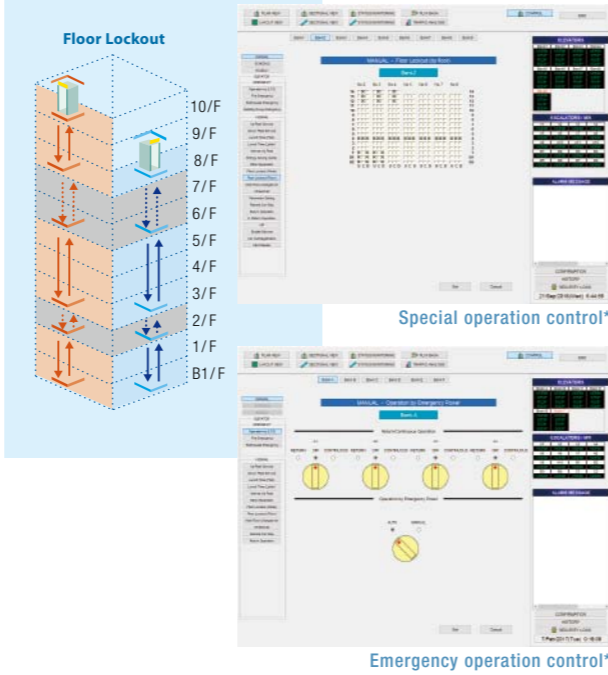# Versatile Features for Elevator and Escalator Operation Management

## ▶ Monitoring screens

MelEye's user-friendly screens show the detailed operational status of the elevators and escalators in real time.
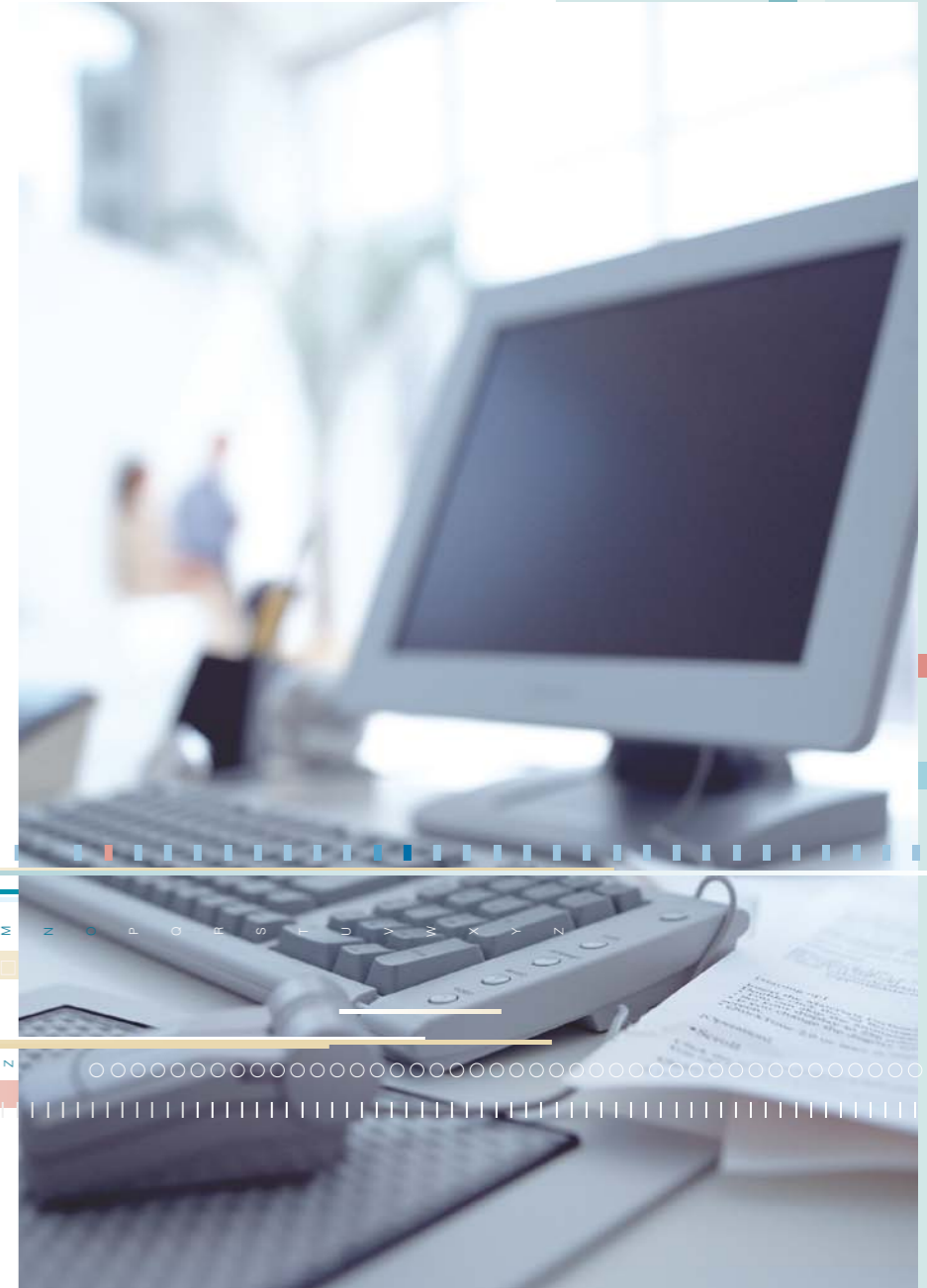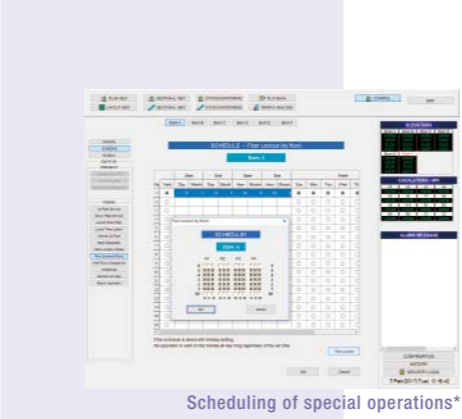
2/F

1/F

B1/F

2/F

1/F

Status monitoring

## ▶ Remote control

A computer allows remote control of special and emergency operations.

Floor Lockout

10/F
9/F
8/F
7/F
6/F
5/F
4/F
3/F
2/F
1/F
B1/F

Special operation control*

Emergency operation control*

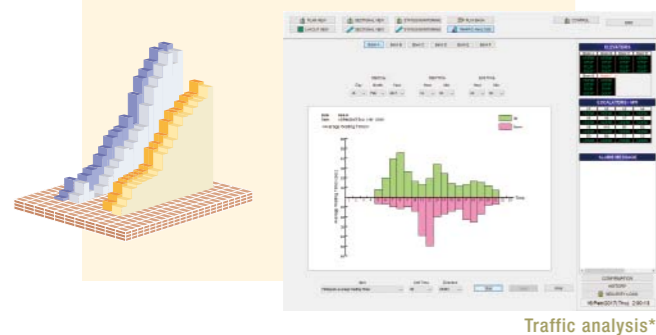## ▶ Scheduling of special operations

Scheduling of special operations*

## ▶ Statistical information

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

memory

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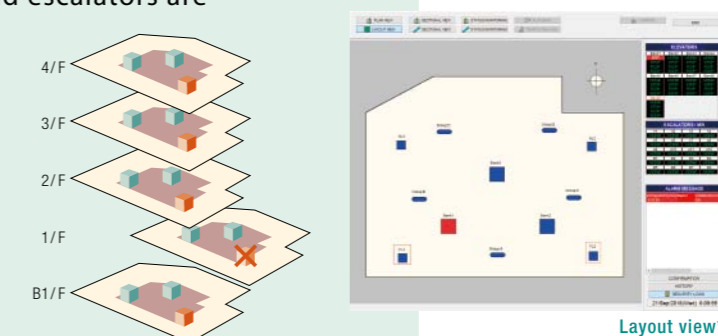
Recording of logs

Traffic analysis*

## ▶ Play back information

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

Play back*

## ▶ Locations of elevators and escalators

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

4/F

3/F

2/F

1/F

B1/F

Layout view*

*Optional feature

# Specifications

## ■ Main Functions

| Classification | Function | Description | Application Ele. | Application Esc. |
|---|---|---|---|---|
| Monitoring screens | Status monitoring | · Monitors the operational status of elevators on three displays: "plan view," "sectional view" and "status monitoring." <br> · Monitors the operational status of escalators on two displays: "sectional view" and "status monitoring." | S | S |
| Remote control and scheduling of operations*1 | Special operation control | Controls or schedules the following special operations*2 manually via a computer: <br> · Floor Lockout (NS)  · VIP Operation (VIP-S) <br> · Intense Up Peak (IUP)  · Lunchtime Service (LTS) <br> · Up Peak Service (UPS)  · Down Peak Service (DPS) <br> · Bank-separation Operation (BSO) <br> · Out-of-service – Remote (RCS)  · Return Operation (RET) <br> · Main Floor Changeover Operation (TFS) | O | – |
| | Emergency operation control | Controls the following emergency operations: <br> · Operation by Emergency Power Source (OEPS) <br> · Fire Emergency Return (FER) <br> · Earthquake Emergency Return (EER) | O | – |
| Statistical information | Recording of operation control logs | Records the operation control logs of the computer in the past 90 days on HDD in CSV format. | S *3 | – |
| | Recording of fault logs | Records the fault logs of elevators and escalators in the past 90 days on HDD in CSV format. | S | S |
| | Traffic analysis | Takes statistics of the number of calls, average waiting time and long wait rate of any specified period within the past 30 days and displays the results in the form of a spreadsheet or histogram. | O *4 | – |
| Play back information | Play back | Plays back the movement of the elevator operation of any specified period within the past 30 days. | O | – |
| Locations of elevators and escalators | Layout view | Displays the locations of the grouped elevators and escalators installed in the building and highlights any fault. | O | O |

Notes *1. Scheduled operation is not available for 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. If neither the special operation control nor the emergency operation control is applied, the operation control logs are not recorded.
*4. Traffic analysis is not available when any of the elevator groups applies the following operations.
 ·Destination Oriented Allocation System (DOAS) ·Bank-separation Operation (BSO)

S: Standard
O: Option
–: Not applicable

## ■ The Number of Connectable Elevators or Escalators

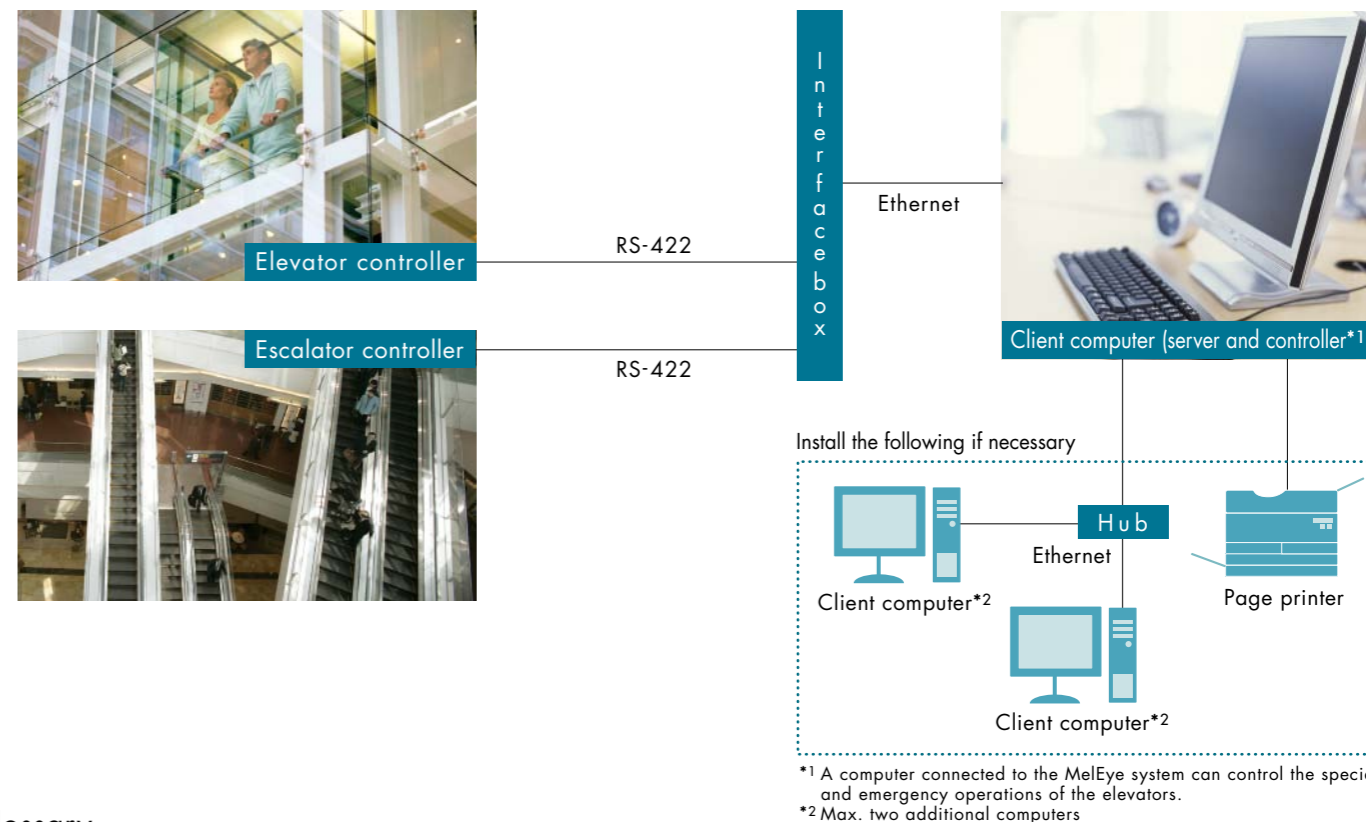| In case only elevators are installed | In case both elevators and escalators are installed | |
|---|---|---|
| Up to 32 groups/96 units | Elevators | Up to 31 groups/64 units |
| | Escalators | Up to 30 units |

Notes 1. If the group or the unit number exceeds the maximum value in the above table, the network needs to be divided. In such cases, please consult our local agents.

## ■ Equipment Specifications

| Device | Specification |
|---|---|
| Computer | · CPU: Intel Core i5 2.9GHz or greater <br> · Main memory: 4.0GB or more <br> · HDD: 40GB or more |
| Monitor | · 17" - 19" color LCD or CRT display <br> · Resolution: 1280 × 1024 |
| Hub | 10BASE-T/100BASE-TX |
| Printer | Page printer (option) |

Notes
1. Details in the table on the left represent the minimum specifications.
2. Depending on the monitoring functions or the number of elevators/escalators, some capacities in the table on the left will be increased.
3. Provision of power supplies is not included.
4. Workstation equipment such as desks and chairs is not included.
5. Uninterruptible power supply for power failure is not included.

## ■ System Configuration

Elevator controller — RS-422 — Interface box
Escalator controller — RS-422 — Interface box
Ethernet — Client computer (server and controller*1)

Install the following if necessary
Client computer*2 — Hub — Ethernet — Page printer
Client computer*2

*1 A computer connected to the MelEye system can control the special and emergency operations of the elevators.
*2 Max. two additional computers

## ■ 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 (Institute of Electrical and Electronics Engineers Inc.).

■ **Comma separated value (CSV) 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 database software.
*For more details, please refer to commercial computer glossaries.

# State-of-the-Art Factories…
# For the Environment. For Product Quality.

Mitsubishi Electric elevators and escalators are currently operating in approximately 90 countries around the globe. Built placing priority on safety, our elevators, escalators and building system products are renowned for their excellent efficiency, energy savings and comfort.
The technologies and skills cultivated at the Inazawa Works in Japan and 12 global manufacturing factories are utilized in a worldwide network that provides sales, installation and maintenance in support of maintaining and improving product quality.
As a means of contributing to the realization of a sustainable society, we consciously consider the environment in business operations, proactively work to realize a low-carbon, recycling-based society, and promote the preservation of biodiversity.

## ISO9001/14001 certification

Mitsubishi Electric Corporation Inazawa Works has acquired ISO 9001 certification from the International Organization for Standardization based on a review of quality management. The plant has also acquired environmental management system standard ISO 14001 certification.

ISO 9001
BUREAU VERITAS
Certification

B U R E A U  V E R I T A S
1828

ISO 14001
JACO
EC98J2017

UKAS
MANAGEMENT
SYSTEMS
051

eco Changes
for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management.
Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

# MITSUBISHI ELECTRIC CORPORATION
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**www.MitsubishiElectric.com/elevator**

⚠ **Safety Tips:** Be sure to read the instruction manual fully before using this product.