CROWN PLAZA – Dushanbe, TAJIKISTAN

Case Study

EAE Technology Devices Used

119 Rooms

Total : 1309 Devices

Controlled Equipment

Lightings
Fan Coils

System Provided

KNX GRMS
Central Monitoring & Control
Lighting Control

Project Status

Ongoing

Customer Review

Customer review will be received after project completion.

Project Scope

The project's KNX Guest Room Management System is designed by EAE Technology's expert team to increase the hotel's energy efficiency, ensure security and maximize comfort. The following components are included in the scope:

PMS Integration: The integrated Property Management System allows monitoring of check-in and check-out processes, ensuring precise control and status updates for each room. Once the check-in process is initiated, the scenes in the room are activated. The fan coil is turned on, the room temperature is adjusted, the lights and the television are turned on. In this project, Opera and Fidelio integration is used for Property Management System.

Central Monitoring & Control System Integration: To integrate the automation system with the building's BMS, one of the Centrol Monitoring and Control software facilitates remote control and monitoring of the KNX GRMS system, ensuring cohesive management.

- Lighting Control: The automation system manages room lighting, enhancing both comfort and energy efficiency.

- Fan Coil Control: Fan coils are controlled as on/off in this project through Room Control Unit product.

- Security Systems: Integration of the in-room KNX system with the BMS via Modbus, allowing for effective management and monitoring of card access.

- Energy Conservation: Advanced automation applications are employed to reduce energy consumption and promote significant energy savings.

Used EAE Technology Devices

Field Devices	***Quantity***	***Panel Devices***	***Quantity***
Mona DND/MUR Panel	*119*	*Modbus Gateway*	*119*
Mona Touch Thermostat	*121*	*Room Control Unit*	*125*
Mona Touch Switch	*149*		
Mona Bedside Panels	*228*		
KNX PIR Sensor	*448*		
Door and Window Switches	*238*		

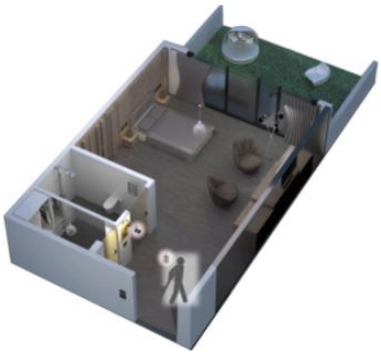
Project Concept

In this project, a comfort and energy-saving focused occupancy-based scenario control system was implemented without the use of a card holder. To achieve this, a KNX/Modbus Gateway was central to the project design, enabling seamless execution of various scenarios.

The KMG features a patent-pending logic controller that powers a room energy saver system, eliminating the need for traditional card holders. This innovative function automatically triggers scenarios when guests are not present in the room. Instead of relying on card holders, EAE Technology's PIR sensors were utilized to detect occupancy.

In addition, lighting and fan coil systems are managed using visualization software, making energy savings more efficient with the KNX/Modbus Gateway device. The KMG is capable of executing eight different scenarios through its advanced logic functions, and in this project, we implemented three key scenes:

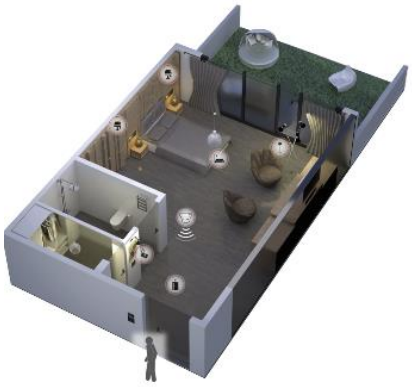
Pre-Welcome: *As the guest enters the room, the entrance lighting automatically turns on, creating an inviting atmosphere.*



Welcome: *Lighting, fan coil, and sockets are fully operational as long as the presence sensor detects the guest's occupancy.*

On the other hand, when the window is opened, if the fan coil is on according to the information received from the magnetic contact on the window, the fan coil is turned off.

Leave: *When the guest exits and closes the door, the leave scenario is triggered after a specified period, turning off all lights, fan coil and sockets*



Property Management System (PMS)

Opera and Fidelio integration are in use for PMS (Property Management System) solution.

Once the check-in process is initiated, above scenes in the room are activated. The status of air conditioning, room temperature, lighting fixtures and the television status is arranged accordingly.

Central Control and Monitoring System

In today's business world, efficiency and control have never been more critical. With the visualization software that provides centralized control, we enhance your operational efficiency and ensure the stable performance of Crown Plaza building. By optimizing energy usage, we not only offer eco-friendly solutions but also help minimize the costs.

EAE's GRMS systems allows the facility management to manage every space effectively, while remote access and monitoring options enable them to keep tabs on your operations from anywhere.

Mona DND/MUR Unit

The hotel's special logo is used on the DND/MUR panel. Mona DND/MUR unit displays the room number in all rooms of the hotel. The "Do Not Disturb" and "Clean My Room" icons on the product are controlled from the bedside units and other wall switches in the room in order to increase the comfort level of visitors. Also the touch bell button becomes passive in the "Do Not Disturb" mode.

Mona Bedside Panels

This project features 3-unit blocks, where each bedside panel seamlessly integrates switches) with socket frames. Lighting is controlled with Mona block switches conveniently located at the bedsides and on the walls of the room. Guests can select the 'Master Light' scenario via the Mona block touch switch by the bedside to quietly fall asleep by turning off all lights in the room.

Additionally, they can adjust room functions according to their needs by selecting options such as night mode or accompanying light without disturbing the guest. All Mona block touch switches, with their RGB led option and unlimited icon support, add a stylish look to the room while ensuring intuitive use for guests.

Mona Switches and Thermostats

The Mona touch thermostat series empowers guests to effortlessly manage climate control in every room, seamlessly blending design, technology, and intelligence into modern environments. Its intuitive touch design, minimalist lines, and frameless surface create a unique user experience.

A simple press of the heating or cooling buttons on the thermostat effortlessly controls the fan coil mode, ensuring optimal comfort while contributing to energy efficiency. The fan coil intelligently adjusts the set temperature when the balcony door or window is opened, saving energy by seamlessly resuming the last status once the door is closed

The Mona touch switch boasts a level of customization that empowers guests to tailor their room experience. Each RGB button can be independently programmed, allowing guests to access multiple controls from a single switch. This flexibility extends to the DND and MUR buttons. When DND or MUR button pressed simultaneously, activate the DND/MUR device in corridor, providing a way to communicate their needs to the hotel staff.

Other Devices

Room Control Unit

KNX Modbus Gateway

Security Perspective for used EAE Technology GRMS System

In the room, EAE Technology's KNX GRMS devices are seamlessly integrated into the building's BMS system through the KNX/Modbus Gateway Module via Modbus/TCPIP function. This sophisticated setup ensures that while the room itself is controlled via KNX, the system transitions to Modbus outside the room.

This dual-layered approach not only enhances the encryption level but also guarantees that the security needs of guests are met with the highest standards. The intelligent design ensures that the room's comfort and control are maintained, while the overall building system operates securely and efficiently, providing peace of mind and an elevated experience for all occupants.