

KNX for the "Vila Artok" Project An Extraordinary Single Family Home



Figure 1. View of the manorial villa with KNX control near Cairo

The four-story single family home is built on 6500m² of land and is located in the modern residential suburb El Mokatem of Cairo. The home is built in a fairytale oriental style and leaves nothing to be desired. The garage is on the underground level, the lobby, office and living room are on the ground floor and the two upper floors have additional rooms for the family. A spectacular view over Cairo from the top of the house adds additional charm.

Aside from the beautiful architecture there is appropriate KNX technology to provide indulging comfort. The home features everything from dimmable lighting, automatic shading, temperature controls for fan coil units and split air-conditioning units and a universal visualization system – the owner did not forgo anything. The residents have the choice of multiple light scenes which can be controlled through local switches, infrared remote control and the visualization system.

Benefits of KNX for this projects

- Free choice of KNX components thanks to manufacturer independent interoperability of KNX
- Single room climate control with KNX devices
- Central operation and scheduled control of the entire system through a single visualization system
- High flexibility and possibility to easily expand the system
- High redundancy through decentral KNX automation

Project Nr.: W4 / 06 / D

Country: Egypt

Type of Building

RESIDENTIAL

- Single Family Home
- Apartment Building
- Apartment
- Other

COMMERCIAL

- Office / Public Administration Building
- Business
- Sales
- Hotel and Restaurant
- Entertainment
- (Cinema, Theater, Museum, etc.)
- Health Care
- Educational (School, University, etc.)
- Recreational (Sport, Wellness, etc.)
- Other

PUBLICITY

Trade / Systems

- Lighting
- Shading / Daylighting Control
- Heating, Ventilation, Air-Conditioning
- Home appliances
- Alarm System
- Monitoring
- Energy Management System
- Audio / Video
- Visualization
- Interface to other Systems
- Remote Control and Administration
- Other Application

Size

- Number of Areas / Lines: 1/2
- Number of KNX-Devices: 253



Figure 2. View into the dignified interior of the manorial villa



Figure 3. KNX switches and touch panel for smart and comfortable control

Connecting all trades with KNX

Realizing multiple demands with the complete implementation of KNX

- 56 switched lighting groups, pre-programmed scenes and timer controlled
- 134 dimmed lighting groups with a total of 468 modules, pre-programmed scenes and timer controlled
- Shading through motorized curtains, individual control, pre-programmed scenes, indoor and outdoor temperature control to avoid overheating

• Heating, cooling and ventilation through ten fan coil units and three split air-conditioning units with KNX actuators: valve control, three-step fan control, temperature sensing and room temperature display on KNX operating terminals.

Aside from local switches there are remote-control handsets in various rooms to control the KNX system. Every local switch allows a central on/off command.

Sophisticated Features

Application of KNX fan coil actuators from Woertz. These offer connections for heating and cooling valves, temperature sensor, stepped switches and 3-step fan control. The combined temperature sensor/step switch with display can also be provided as KNX device. Additional information can be communicated over KNX like timer control, error messages and outdoor temperature control.

Involved Parties

Owner:
Shafik Gabr, Al-Mokatem, Cairo

Architect:
Artok group for investment and development, Cairo

KNX integrator:
El. Eatemad Co., Cairo

Everything Under Control with the Visualization System

The advantage of a complete KNX network: All data points can be used from any part of the network, e.g. for a central visualization system. The visualization system for this villa is available on a PC and offers daily, weekly or yearly scheduled controls depending on the demands of the residents. For the operation and control there is a graphic representation of all KNX applications. The visualization system also controls logical links like the shading control based on temperature. For this project the contractor El. Eatemad Co. could draw from past experience with many projects like hotels, office buildings, gymnasiums and movie theaters that have been built in the recent years in Egypt.

Awards



KNX Award 2006
Category International



KNX Association
Bessenveldstraat 5
B - 1831 Brüssel-Diegem
Phone: +32 - (0) 2 - 775 85 90
Fax: +32 - (0) 2 - 675 50 28
E-Mail: info@konnex.org
Web: www.konnex.org

Anfragen an die Redaktion:
Inquiries to the editorship:
Redaktion KNXJournal
Lüdersstraße 10
12555 Berlin
Germany

Telefon / Phone
+49 - (0) 30 - 64 32 62 79
+49 - (0) 30 - 64 32 62 78
E-Mail: knx-journal@konnex.org
redaktion@knx-journal.com
Web:
www.konnex.org/news/journal