

A system integrator's experience

with the FLS window ventilation system from Belimo integrated into EIB/Konnex



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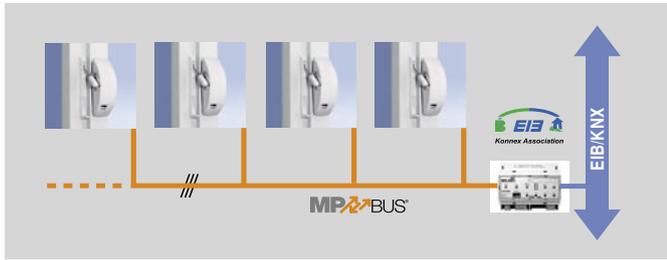
The FLS window ventilation system has been successfully used by Belimo in the company's own new "Longus" building at its headquarters in Hinwil, Switzerland since November 2002.

As a system integrator, I carried out the integration of the LonWorks networks, programming of the light and blind control as well as programming the UK24LON interfaces (MP/LonWorks gateway) in the "Longus".

The excellent experience with the MP/LonWorks gateway UK24LON and the FLS encouraged me to install the window ventilation system in my own home.

Concept

As I have an EIB network at home, it seemed obvious to integrate the FLS window ventilation actuators in EIB/KNX. Belimo has an MP/EIB gateway in its range that makes this integration possible (type UK24EIB).



Up to 8 MP-Bus-capable FLW window ventilation actuators can be connected to EIB/Konnex via the MP/EIB UK24EIB gateway.

The UK24EIB gateway and integration in EIB opened up many opportunities for operating all the FLS window ventilation actuators. Local operation with FLS manual switches and IR remote control can be used for autonomous control. Using the EIB key panels in the rooms, it is possible to operate the individual windows – as well as several sets of windows together – via the UK24EIB gateway.



IR remote control



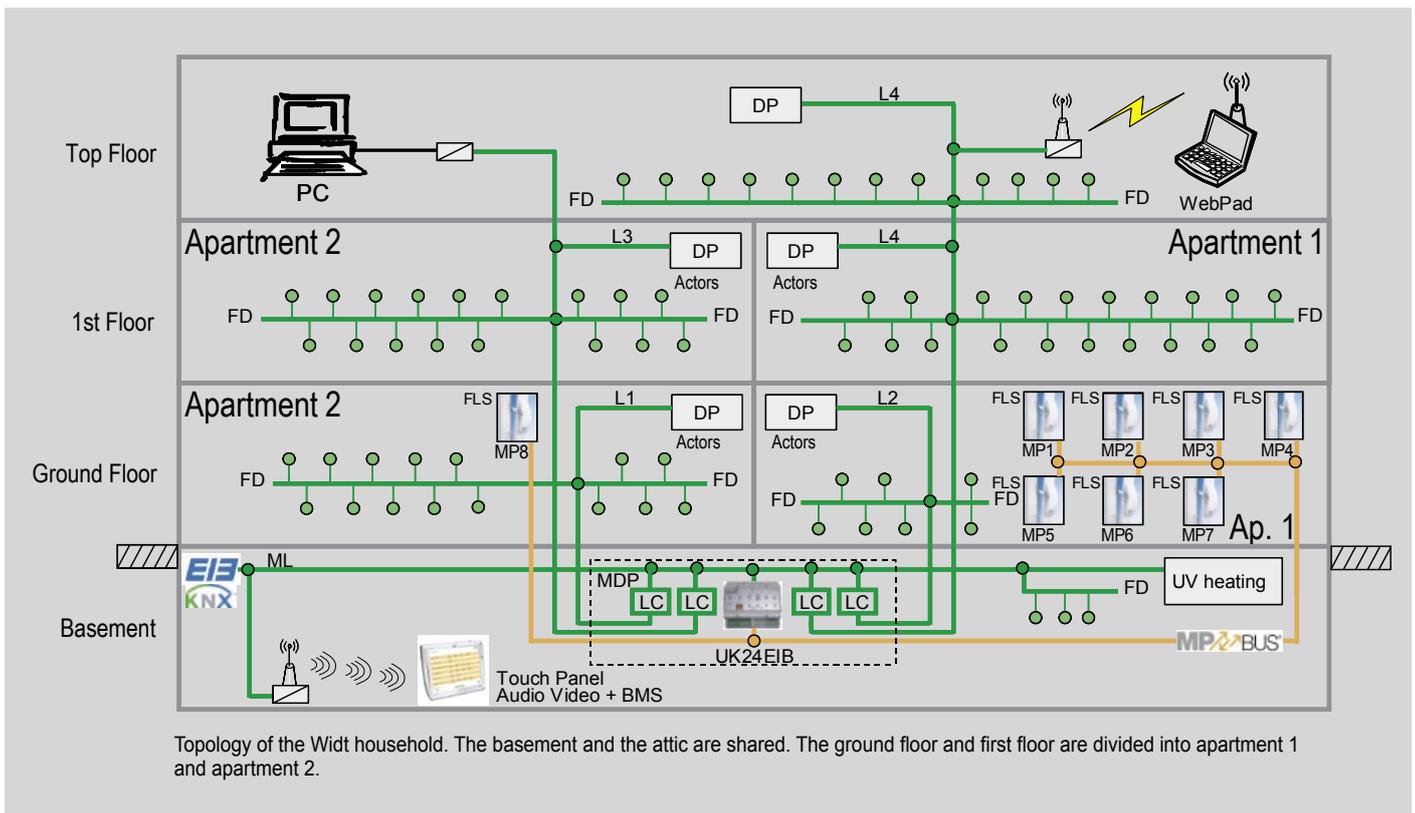
EIB key panel

A WebPad and a radio touch panel also enable individual operation of the windows. As the first step, I wanted to equip eight windows with FLS window ventilation actuators. Consequently, I had to select a group of windows in one part of the building so as to keep the cables short.

I decided to select the ground floor windows. As a result, I was able to install the UK24EIB gateway in the main distribution panel in the basement and power all windows centrally from one location. Already having an EIB weather station on the roof of my house, I decided to dispense with the decentralised FLS weather sensors on the windows. However, this subsequently proved to be a disadvantage, because now all the windows close when it starts to rain. The side of the building not exposed to the weather basically remains dry, but its windows are also closed and locked. The same problem arises when there is a wind alarm. The windows on the side of the building in the lee of the wind are also closed and locked.



The weather sensor is mounted on the outside of the window. This detects rain and snow as well as the temperature and wind force at the window, and it closes the window if necessary. Unfortunately, this sensor was not used in this project.



Topology of the Widt household. The basement and the attic are shared. The ground floor and first floor are divided into apartment 1 and apartment 2.

Installation and cabling of the FLS

Despite having been advised to have the window ventilation system installed by a trained Belimo installation partner, I decided to install the window ventilation system myself relying on the experience I had gathered during the project in the “Longus”. The installation provided to be a breeze thanks to the support from Belimo’s specialists and the sensational installation description in the window ventilation system manual. First, I removed the handles from the windows and then adjusted the fitting so the rotary movement would function easily. I routed the connection cable in through the existing window contact tubing. This was relatively easy. I used recesses in the window frame for routing the cable. It was only necessary to affix the cable lightly with small cable clips. I was able to screw the key panel and the feed-through with plastic hose into the wood easily. Attaching the window ventilation actuator itself was no problem. It is only necessary to mind the hinge side of the windows and screw in the actuator centrally. All that remained before initialising the system was to connect the actuator up to the electrical power supply. I proceeded in this way from window to window and only needed 90 minutes for the last actuator. All in all, the installation was extremely straightforward and child’s play.



I installed one of the eight FLS window guide actuators in my parents’ house (they built their house adjoining ours). At the end of the installation work, I also installed the UK24EIB gateway in the distribution panel. There were no problems with this either. It was very easy to snap the unit into the profile rail and then wire it up.



MP/EIB UK24EIB gateway in the main distribution panel

Programming and setting the parameters of the MP/EIB UK24EIB gateway

The database entry for the ETS (EIB Tool Software) of the UK24EIB gateway is available for download from the Belimo website. Once I had imported the database entry into my ETS, I could start programming and linking up the components. The parameter settings in the ETS are clearly described and the objects are labelled in accordance with EIB. As a result, there were no problems with programming for an EIB integrator. Assigning the MP addresses also went smoothly.

Experience in operation

After my wife and my parents had got used to the appearance of the window ventilation system, I was able to persuade them to let me install the window actuator for a trial run. Now, a few months later, none of them would be without the actuators. My wife is thrilled because we can have fresh air in our bedroom in the morning without losing all the warmth from the room. My little boy (three years only) already understands how to operate the window actuator. Previously, he had been unable to open the window (the turning movement was too difficult for him), but now he can set the window how he wishes at the push of a button (obviously we've got a precocious technician on our hands!). My parents like to operate the windows using the touch screen since it allows them to control the system from the comfort of their sofa. My wife no longer has to run from room to room through the whole house in order to ventilate the building; instead, she can now conveniently open or close all the windows from the touch screen or any key panel. Last but not least, I can now open the window without having to get out of my whirlpool bath (super in winter when the bathroom gets a bit steamed up!). All in all, not one of us now wants to be without the Belimo FLS window ventilation actuators.



Belimo MP-Bus technology at a glance

MP stands for Multi Point. The MP-Bus is the Belimo master/slave bus. Up to eight slaves can be connected to a master unit: MFT(2)/MP damper actuators, MFT(2)/MP valve actuators, VAV compact controllers and FLS window ventilation actuators. Advantages include considerably reduced wiring expenses, a clearer arrangement, substantially higher functionality and cost savings as well. Up to eight MFT(2)/MP actuators can be controlled by one MP master via the MP-Bus. MP masters are PLC or DDC controllers with an MP interface or Belimo "gateways" for fieldbus systems such as LonWorks or EIB/Konnex (see www.belimo.ch for details about MP-Bus technology).

If you have any questions about the project, EIB/KNX in general or general solutions, please do not hesitate to contact Mr. Karl Widt.

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