EATON | Holec

Xanura™ home automation system

Home automation for new and existing buildings

- Technical description
- Application examples
- Installation tips
- Functionalities
- Sales support
- Ordering information

Home automation

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Xanura makes home automation available to everybody

With Xanura, Eaton Holec has developed a new system that makes home automation available to everybody. The system, that has been specially designed for domestic consumers, is easy to install in both new and existing buildings. Xanura is the alternative to busbar systems in homes and, thanks to its unique concept, can be offered as a solution that exactly satisfies individual consumer requirements at a very attractive price.

How is that possible? Simply because Xanura can be applied in existing lighting networks and be operated with any type of switching device. As a result, demolition and chasing work is not necessary and installation and material costs are therefore greatly reduced. By fitting transmitting and receiving components behind switches and wall sockets so that they are invisible, switching commands can be sent over the existing lighting network. In addition, if alterations are required later, the Xanura system can easily be extended or modified.

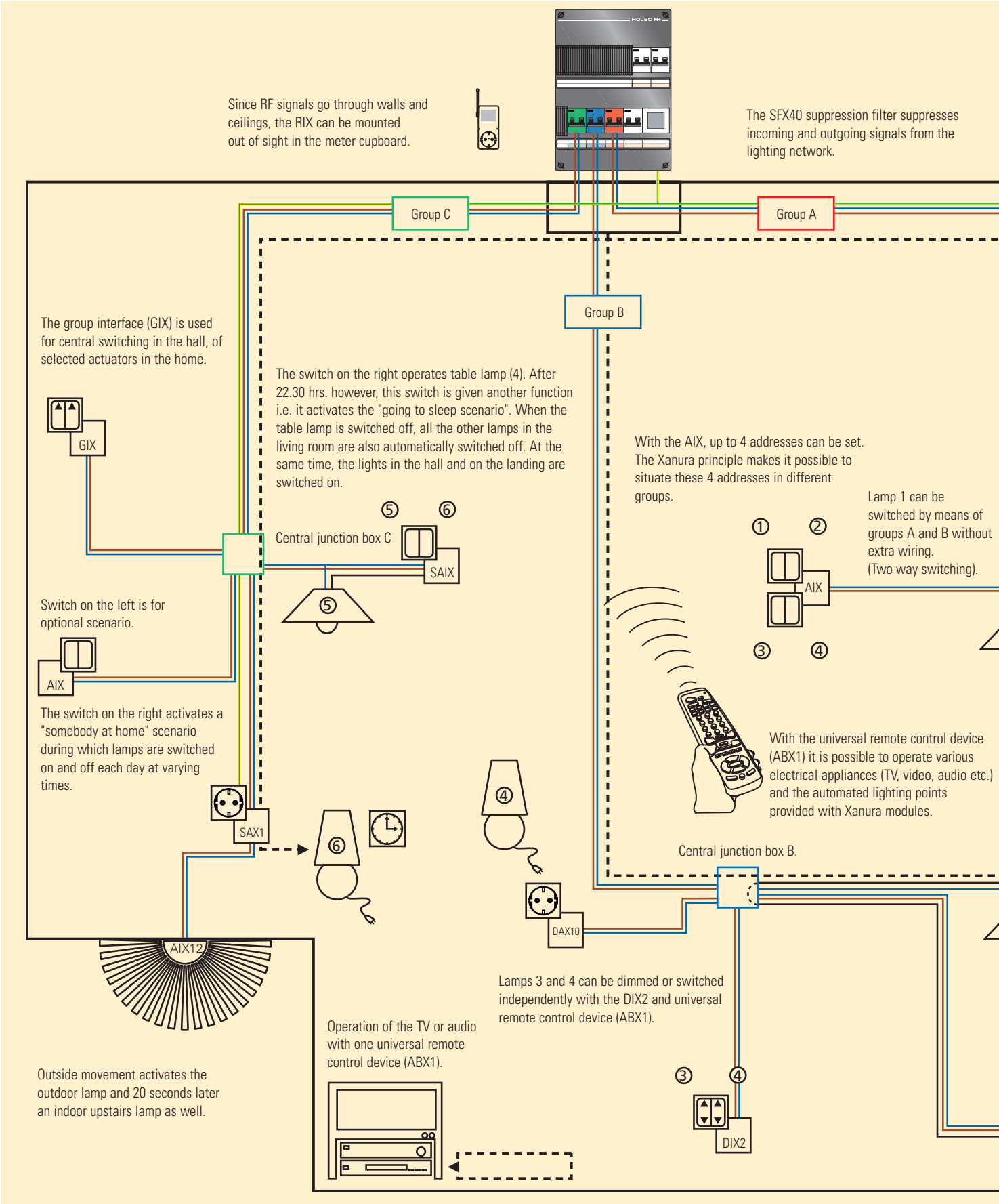
Advantages of Xanura

- Suitable for existing and new homes
- No chasing and demolition work
- Easy to install
- Invisible when installed
- Can be operated by any type of switching device
- Simple to operate
- Can be operated by switches, remote control via a PC or fully automated
- Universal remote control device also suitable for TV, video and audio appliances
- Can be used for lighting and various types of electrical appliances
- Can optionally be operated via a PC with Xanura software
- Easy to extend

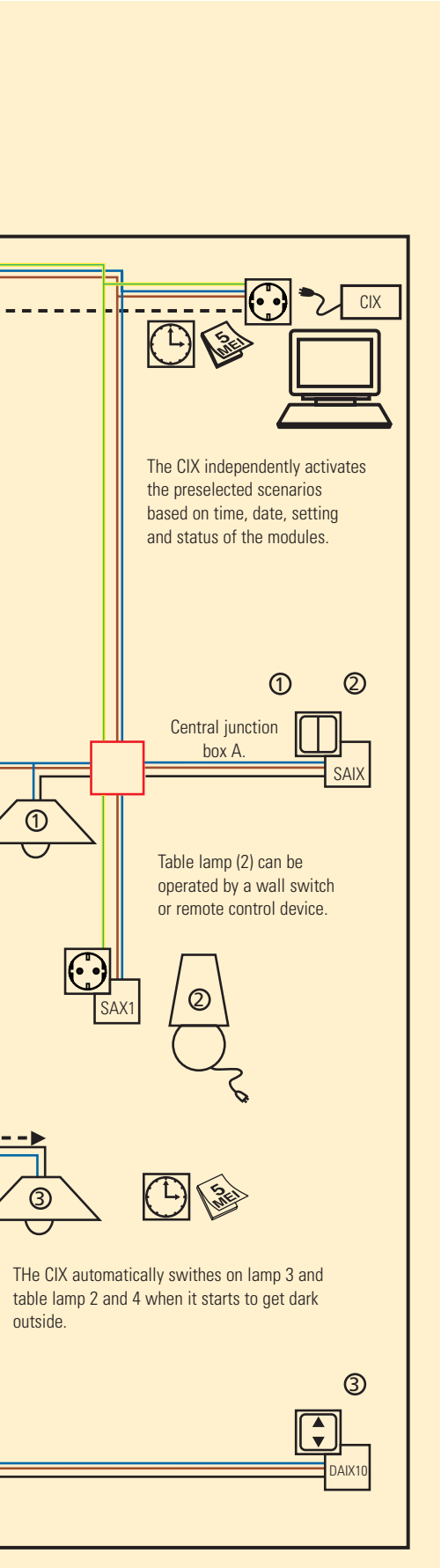
Complete modular concept

Xanura is a modular and very flexible house automation system. As a result, it is possible to offer for each individual home a solution that exactly suits the personal requirements of the residents.

In the schematic example below, a number of the most popular Xanura applications are illustrated. A concise description of the components applied is given on page 5. For a more comprehensive description go to the page referred to by the information icon.

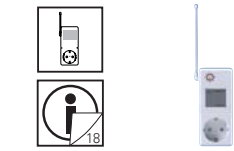


Schematic summary

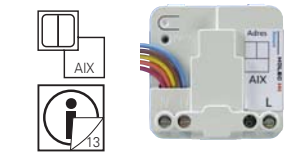


Abreviations and meanings

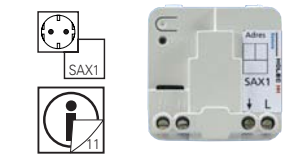
ABX1 • Remote Control Device Xanura
One remote control device for operating the TV, video, DVD, audio (infrared) and various Xanura applications. (Radio frequencies).



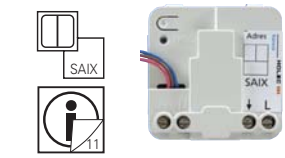
RIX • RF-Interface Xanura
Receives RF signals from the remote control device and transposes these into Xanura commands that are then sent via the mains.



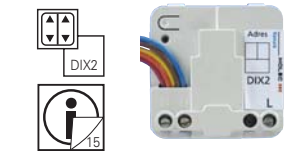
AIX • On/Off Interface Xanura
Switch interface for mounting behind switches or pulse switches. For sending on/off commands.



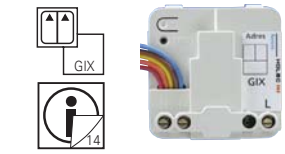
SAX1 • Switch/Actuator Xanura
Mounted behind wall sockets or in fitment/ appliance housings. For remote control switching of lighting and various electrical appliances.



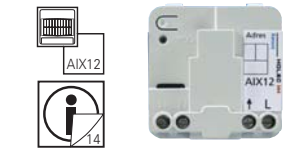
SAIX • Switch Actuator/Interface Xanura
Mounted behind switches or pulse switches. For local switching of the actuator and for sending Xanura commands to other Xanura components for switching or control.



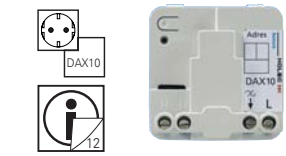
DIX2 • Dimmer Interface Xanura
Mounted behind toggle pulse switch. For local or remote control dimming/switching of lighting points provided with dimming activators.



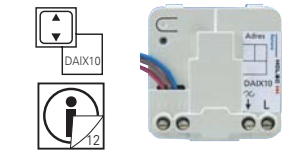
GIX • Group Interface Xanura
Mounted behind switches or pulse switches. For control of various activators by means of group commands.



AIX12 • On/Off Interface Xanura
Mounted behind, for example, any 230 V movement detector. Sends on/off commands when movement is detected.



DAX10 • Dimmer actuator Xanura
Mounted behind wall sockets in central junction boxes or lighting fitments. For remote control dimming or switching of lighting points.



DAIX10 • Dimmer actuator/Dimmer interface Xanura
Mounted behind (toggle) pulse switch. For local and remote control dimming or switching of lighting points.

CIX • Computer interface Xanura
With this facility, switch actuators or group switch actuators can be automatically operated by an electronic clock or calendar.

Xanura functionalities

What can a consumer actually do with Xanura? A simple question that is difficult to answer. Due to the flexible character of the Xanura system, it is impossible to describe all the specific application possibilities. With the computer interface and Xanura software, it is possible to perform with Xanura in a simple way, almost any switching operation that can be translated into conditions and actions (IF...AND/OR...THEN..). The following "sleeping" scenario example illustrates this: if it is later than 22.00 hrs. (one of the conditions) and the light in the hall is turned off (another condition), the light on the landing will automatically go on (action) and the lights in the living room will be turned off (action). The system however has more to offer than comfort alone. Xanura can also help to create a feeling of personal safety and in addition, be useful in cases whereby somebody has to be cared for at home. In this section, a few examples are given of the unlimited possibilities that Xanura can provide.

What can be operated by remote control?

- All individual lighting points or group lighting points provided with actuators can be switched or dimmed by remote control.
- TV, video and audio appliances can be operated by means of the same universal remote control device.
- Automated lighting points and/or electrical appliances can be operated "on line" with the PC.
- Lighting, electrical appliances or scenarios can be switched on or off with a (mobile) telephone by simply phoning into the Xanura system.

Which automatic switching operations are possible with Xanura?

- Each light/appliance provided with an actuator can be independently switched on or off at a preselected time or date.
- Specific lights can be automatically switched on or off at dawn or dusk if so required.
- Lights can be switched on after darkness has been detected by an outdoor detector (for example outdoor illumination or lighting in the hall, to make coming home more pleasant).

Switching scenarios: what are these exactly?

The residents can themselves preselect with Xanura software and interface, individual switching, dimming and/or combinations of these two. These are termed scenarios. A few examples are given below.

- By one touch of a switch or remote control device, a cosy atmosphere is created in which the required lighting effects are acquired immediately.
- When leaving home, activation of the "not at home" scenario, whereby various lights or other equipment (e.g. rolling-shutters) is actuated, whether preselected or not, to give the impression that somebody is at home.
- By one touch of a switch, an "asleep" scenario is created, whereby the downstairs lighting is switched off and that on the landing and in the bathroom is switched on.
- Activation of a "holiday" scenario, whereby the normal living circumstances can be assimilated and various lights and other electrical appliances can be automatically switched on and off at varying times during the day and night.
- Automatic switching off of appliances when leaving the home (for example the kitchen oven).

Can Xanura be used for health care applications?

Xanura can be applied in professional health care projects in combination with products that have specifically been developed for these applications. In this way, old and infirm people are given the opportunity to stay at home longer. Various examples are:

- The way to the bathroom is automatically lit up when a person gets out of bed to go to the lavators at night, and automatically switched off when they go back to bed.
- In combination with a community warning system:
  - Can act as a welfare detector (or activity detector), for instance when no activities in the home have been signaled in the control room for four hours. The responsible people can then take action.
  - In an emergency, by simply touching for instance a warning device hung around the neck, a communication line connected to the control room can be activated. The control room can then automatically unlock the front door of the person concerned.

What can Xanura offer in the area of protection?

With Xanura it is possible to create the impression that the home is being lived in, even when nobody is at home during short or longer periods. This is accomplished by switching on and off lighting and other appliances in accordance with preselected programmes. Needless to say, a varied switching sequence provides a higher level of protection than a constant sequence. Xanura can also be provided with an alarm system, a few examples of which are:

- When nobody is at home lights switched on and off at various intervals.
- When something wrong occurs, all the downstairs lights can be switched on from one switch in the bedroom.
- When outdoor movement is detected, the outdoor lighting is turned on and, for instance, 10 seconds later the downstairs lighting as well.
- When an alarm situation occurs, the lighting both in the home and outside is switched on in combination with an audible warning.

Does Xanura possess other special characteristics?

Yes. Thanks to the unique operation and technology applied, various special applications are possible, a few of which are mentioned below.

- Lighting located in different places in the home can be switched on and off by means of the existing switches, no matter to which group or phase they are connected.
- Software associated functions can be allocated to switches in a home and/or be altered. For instance, a switch in a bedroom can be adapted such that it can also operate outdoor lighting without the necessity of extra wiring.
- A room in a home can be wired up and later extended to suit future requirements.
- Wall sockets can be temporarily de-energised, for instance in the children`s bedroom.
- A switch can be provided with extra time dependent functions. In this way for instance, when lights in the corner of the sitting room are switched off after 22.00 hrs., all the other lights in the room are automatically also switched off. At the same time, those in the hall and on the landing are switched on.
- By providing the wall sockets with time dependent facilities, the washing machine, dryer and dishwasher can be switched on such that, if applicable, they operate during low tariff hours.
- Xanura makes it possible to operate the three positions of the mechanical ventilation system from any location in the home.

Operation

Xanura is a system that is easy to apply. Because use is made of the (existing) lighting network, investment of time and money for a special network is not necessary. To give an insight into how the system works, a step-by-step explanation of Xanura is given below.

Astute use of the existing lighting network

When applying Xanura, use is made of the existing lighting network infrastructure. For communication via this network, Xanura modules are applied. These communicate with each other by means of the A10 protocol.

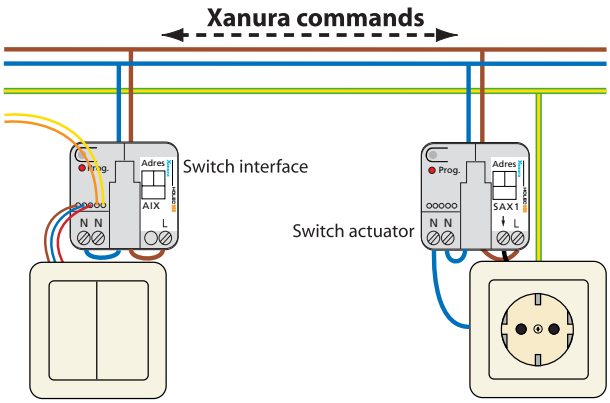
The Xanura basis

The basis of Xanura comprises built-in modules that are located in the junction boxes situated behind wall sockets and light switches. In principle, there are two types of modules: actuators and (switch) interfaces.

* Actuators are switching components that are situated behind either the wall socket junction boxes, wall switches, in central junction boxes or appliances.
* (Switch) interfaces are situated behind wall switches and send commands over the lighting network.

Receipt over the complete lighting network

For communication via the lighting network, use is made of the phase and neutral wires. When an Xanura command is sent, this signal is received by the whole lighting network, even if a module is located in another group.



Schematic illustration of application of built-in modules.

Seeing that all Xanura components are provided with an address during installation, only the specific receivers (actuators) will carry out the desired actions.

Invisable mounting

Thanks to their compact design (45x45x16mm), Xanura modules can be mounted behind wall sockets and switches without being visible.

Switching actuators

Two types of switching actuator modules are available for application with Xanura, i.e. one for mounting behind wall junction boxes and another for behind wall switches. These actuators react with a switching action when Xanura commands are created by interfaces.

Hybrid switching technique

The hybrid switching technique applied in the switching actuators makes it possible to operate them with a current of 16 A. This is the case for not only the resistive*[1] and inductive*[2] loads but also for capacitive*[3] loads. Switching in the modules is provided by a combination of a relay and a semiconductor component, whereby the risk of "welding" of the relay contacts is a thing of the past. Furthermore, this design makes it possible to keep the housing very compact. This switching technique, that has been developed by Eaton Holec for house automation applications, was patented in 2002.

*[1] Light bulb. *[2] Motors and halogen lighting with conventional transformers.
*[3] Energy-saving light bulbs and fluorescent lamps.

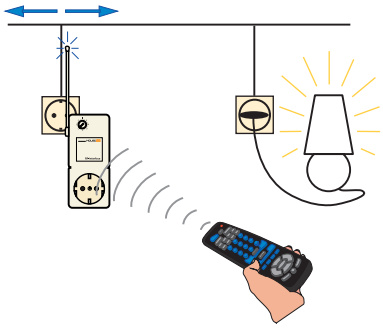
Switch interfaces

The switch interface is mounted in the junction box behind the wall switch. Switch interfaces "translate" an action - e.g. pressing the switch or pulse switch into an Xanura command that is then sent via the lighting network. Only the specific switch actuator with the correct address reacts to the command. In this way, it is possible to select a simple on/off function or a circuit interface that can control different switch actuators simultaneously.

Remote control

To operate Xanura by remote control, the Xanura remote control device can be used. This can be done from any position in the home due to the fact that RF signals (radio frequency) travel through walls and

ceilings. To translate RF signals into Xanura commands, the RF interface is used. This is carried out in an adapter which is placed in a central position in the home. Individual lamps or groups of lighting can be switched on and off or dimmed by means of the remote control device.



Operation of consumer appliances

The universal Xanura remote control device makes it possible to operate almost all types of audio and video appliances. The device is programmed such that it can be used for almost all consumer electrical appliances and after the associated make and type code has been fed in, is ready for use.

Personal scenarios

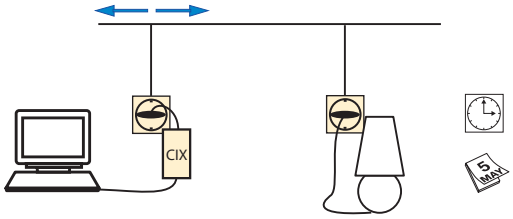
With Xanura it is possible to automate certain switching operations. Consequently, personal scenarios can be fed in so that the lighting effects can be adjusted to suit the indiviual tastes and comfort. This can be arranged to occur on a certain date and/or time. In this manner, a "not at home" scenario can also be created so that specific lighting can be preselected to go on and off when, for example, the residents are away on holiday.

Computer interface

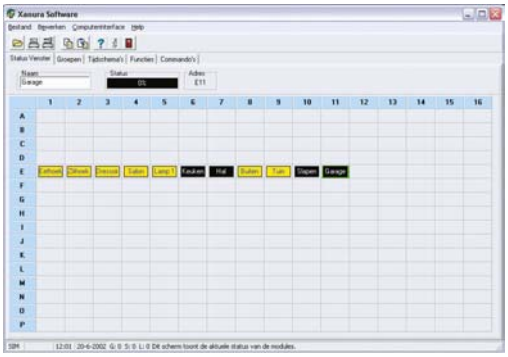
For making and carrying out scenarios, the computer interface has to be connected to a wall socket in the home. The computer interface is then connected to the COM-port of the PC so that the requirements can be programmed. The geographic clock in the computer interface makes it possible to carry out switching operations at dusk or dawn. Furthermore, the computer interface ensures that the lighting can be switched or dimmed in a flexible manner. With selected wall switches, different lamps can be switched at various times. Almost all switching operations that can be "translated" into conditions and actions (IF/THEN), can be easily programmed in the computer interface with the Windows® based Xanura software, by the person who installs the equipment or the resident.

Computer interface without computer?

It may sound contradictory, but the Xanura computer interface gives instructions to the Xanura installation



completely autonomously (Disconnected from the PC). The computer is actually only needed for setting or programming the individual scenarios. After the personal settings have been stored in the memory of the computer interface, the series connection with the computer can be disconnected.
However, it is necessary that the plug of the computer interface remains inserted in one of the wall sockets in the vicinity, due to the fact that the commands are sent via the lighting network.



"Real time" monitoring

As long as the computer interface remains connected to the PC, it is possible to monitor "real time" which applications are active/inactive. The lighting and electrical appliances can now also be operated with the PC.

Also without computer interface

The computer interface offers additional possibilities for an Xanura installation, but is not an essential component. When a resident is only interested in switching or dimming lights, (with or without remote control or movement detector and central on-and-off switching) computer interface is not necessary.

Manual switching

Needless to say, with Xanura it remains possible to operate lighting and electrical appliances manually. Scenarios and automatic switching can be switched off at all times by means of the wall switches. In this way, residents always remain "the boss" in their own homes.

Coupling of external appliances

Xanura is an open system. Any potential-free outlets of electrical appliances can be connected to the potential-free wiring of the Xanura modules. In this way, it is possible to let external appliances create Xanura commands, for instance an existing alarm system that activates the lighting when an emergency situation occurs.

Single or three phase?

When installing the equipment, it is important to know whether an installation in the home has single or three phase wiring. If it concerns a three phase installation and the Xanura components are divided over more than one phase, then it is necessary to install a phase coupler. This phase coupler is mounted in the meter cupboard and sends the Xanaru commands that have been received via one phase, on to the other phases. In addition, these signals are amplified for all three phases.

Suppression filter

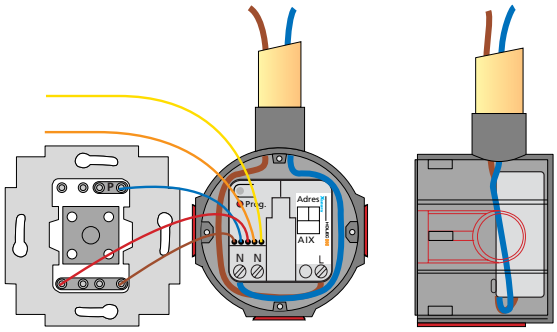
To prevent the signals that are transmitted via the lighting network from leaving the building, and possible signals from outside from entering it, filters need to be fitted. This filtering can take place in the meter cupboard by means of a suppression filter. This filter is a modular component that can be mounted in the distribution box.

No demolition or chasing work

Xanura can be applied in both new and existing homes. No demolition or chasing work is necessary.

What are the minimum demands for applying Xanura?

To be able to install Xanura by using the built-in modules that make it invisible, has to be taken the depth of the built-in junction boxes into account. For switches, a minimum depth of 40 mm is required.



Front and side view of built-in AIX module

The same applies for wall sockets that are not earthed. For earthed wall sockets, built-in junction boxes with a depth of 50 mm are required. Apart from the depth of the junction boxes, the fact that phase and neutral wiring has to be fitted also has to be taken into consideration. This means that a neutral wire has to be run through to the junction boxes where switches are fitted. In brief, a newly built home provided with 50 mm junction boxes and phase and neutral wiring is suitable for (future) installation of Xanura.

During what stage of the home being built should Xanura be installed?

Xanura can be installed as soon as the above-mentioned minimum installation demands have been satisfied. This can even be done after the home has been built and is being lived in, and the residents have had time to determine their requirements with regards to automation facilities. The equipment can also be extended at any time.

Installation by a skilled electrical contractor

Xanura is an advanced home automation system that should be installed by a specialist in this field. For this purpose, Eaton Holec organises special training courses for electrical contracting engineers.

Installation tools

To be able to install Xanura quickly and professionally, it is recommended that, apart from the normal tools required, use is also made of the Xanura(PUX) programming unit. This unit can send and receive Xanura commands and show them in the display. Furthermore, the strength of the signal and the interference noise level are measured. In this way, it is possible to test the lighting network before the system is installed and to remove any interference by means of a filter. The modules that have been fitted can also be tested straight away. Finally, the complete system can be tested before the home is handed over to the resident.

Programming of built-in modules

Each module is provided with an address and, where applicable, a functionality. This can be set in the module by activating the programming position on the module and sending the commands by means of the Xanura(PUX) programming unit. Addresses can also be provided by means of a computer interface(CIX). Once the modules have been provided with an address, the addresses cannot be removed, even if a power cut occurs. Consequently, the modules can be provided with an address in the workshop or on site.

Product descriptions

Descriptions of the products mostly applied are given below. For a complete summary refer to pages 26 and 27.

Actuators

For remote control switching and dimming, each (switching) point to be automated requires an actuator. All these actuators are provided with an address. Xanura actuators can be mounted in the built-in junction boxes that are located behind the (switching) points. Depending on the application, actuators suitable for mounting behind wall sockets or switches are available.

SAX1 switch actuator
Built-in module

Product desciption

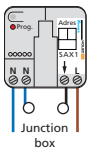
The SAX1 is a switching actuator and is mostly mounted behind wall sockets. In addition, these actuators can be mounted in central junction boxes, lighting fitments or housings of electrical appliances. By application of the SAX1, conventional wall sockets can be energized by remote control.

Characteristics

- 220V, 16A, suitable for ohmic, inductive and capacitive loads
- Can be automatically switched on when a load is created
- Can be included in group commands
- Automatic signalling of status possible
- Status can be retained after the mains has been cut off and switched back on again

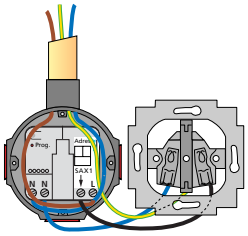
Operation

The SAX1 can be operated by means of Xanaru commands sent by Xanura interfaces or remote control devices.



Installation instructions

- For wall sockets that are not earthed, a junction box of 40 mm is sufficient
- For earthed wall sockets, a junction box of 50 mm is required



SAIX
switching actuator/switch interface
Built-in module

Product description

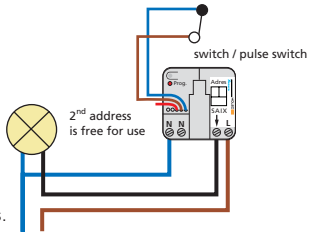
The SAIX is both a switching actuator and switch interface, that can be mounted in a built-in junction box located behind light or pulse switches provided with wiring connected to the associated lighting point. By fitting an SAIX module, lights (or electrical appliances) can also be operated by remote control.

Characteristics

- 230V, 16A, suitable for ohmic, inductive and capacitive loads
- Can control up to a maximum of 2 consecutive addresses
- Can be included in group commands
- Automatic signalling of status possible
- Status can be retained after the mains has been cut off and switched back on again

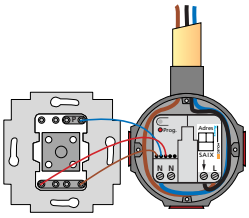
Operation

The wires of the SAIX module can be connected to a potential-free switch or pulse switch, so making it possible to operate it by remote control. The module has two addresses. The first address switches the live outlet by energizing the internal relay. The second address can be used to control another switching actuator. This address can also, if desired, be used in combination with the Xanura computer interface (CIX) to start a (conditional) scenario. The SAIX can also be operated by means of Xanura commands originating from other Xanura interfaces or remote control devices.



Installation instructions

- Phase, neutral and switching wires must be fitted
- Junction box must be at least 40 mm deep

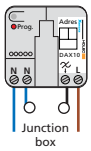


DAX10 dimming actuator
Built-in module

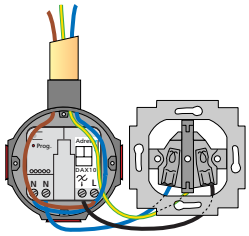
Product description
The DAX10 is a dimming actuator and is mainly mounted behind wall sockets. In addition, it can also be mounted in central junction boxes or lighting fitments. By applying a DAX10 dimming actuator, a conventional wall socket can be energized or dimmed by remote control.

Characteristics
- 25-250 W
- Suitable for 230 V conventional and halogen lighting, and low voltage halogen lighting with a coil wound or (leading or trailing edge) electronic transformer
- Can be included in group commands
- State of memory function switches onto last dimming position used
- Can be set to absolutely lowest dim position
- Status can be retained after the mains has been cut off and switched back on again
- Soft start and soft dim

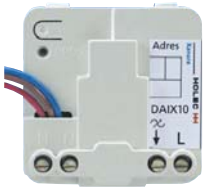
Operation
The DAX10 can be switched and dimmed by means of Xanura commands originating from Xanura interfaces or remote control devices.



Installation instructions
- For wall sockets that are not earthed, a junction box of 40 mm is sufficient
- For earthed wall sockets, a junction box of 50 mm is required



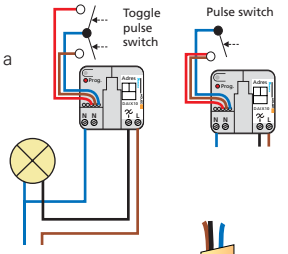
DAIX10
dimming actuator/dimmer interface
Built-in module



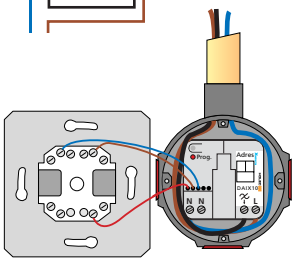
Product description
The DAIX10 module is both a dimming actuator and dimmer interface. These modules can be mounted in junction boxes behind a (toggle) pulse switch. By applying the DAIX10, it is possible to switch and dim the lights locally and by remote control.

Characteristics
- 25-250 W
- Suitable for 230 V conventional and halogen lighting, and low voltage halogen lighting with a coil wound or (leading or trailing edge) electronic transformer
- Can be included in a group command
- State of memory function switches on to last dimming position used
- Can be set to absolutely lowest dim position
- Status can be retained after the mains has been cut off and switched back on again
- Soft start and dim

Operation
The wires of the DAIX10 module can be connected to a potential-free (toggle) pulse switch. In this way, this module can be operated locally. The DAIX10 can also be switched and dimmed by means of Xanaru commands originating from other Xanaru interfaces or remote control devices. Just as with switching actuators, simple alternating and crisscross switching can be carried out in combination with dimmer interfaces.

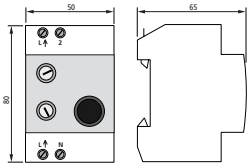


Installation instructions
- Phase and neutral wiring must be fitted
- Junction box must be at least 40 mm deep



Example with toggle pulse switch

DAX4 dimming actuator
DIN modular component



Product description
The DAX4 is a modular dimming actuator that can be mounted in the distribution box. All lighting connected to the DAX4 can be switched and dimmed by remote control.

Characterisics
- DIN modular dimmer
- Switches and dims lighting from 60 to 700 W
- Suitable for 230 V conventional and halogen lighting and low voltage halogen lighting with an electronic or coil wound transformer
- Reacts to group commands
- State of memory function switches on to last dimming position used
- Soft start and dim

Operation
The DAX4 can be dimmed or switched by means of Xanura commands originating from Xanura interfaces or remote control devices.

Interfaces

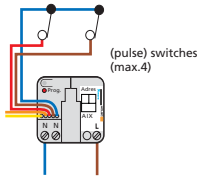
To operate the (switching/dimming) actuators that have been fitted, interfaces are required. When desired, each switching actuator can be controlled by more than one interface. This can be easily accomplished without having to alter the wiring. All that has to be done is that the correct addresses have to be set in, even when the actuator and interface are located in different groups or phases. Depending on the application, various interfaces can be used. Apart from the modular built-in interfaces, other interfaces are also included in the Xanura package. The latter includes the computer interface that, amongst other things, adds time functions to the system. The most important interfaces are mentioned below.

AIX on/off interface
Built-in module

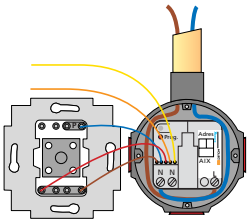
Product description
The AIX is a switch interface that is mounted in a junction box located behind switches or pulse switches. By applying the AIX, it is possible to switch lighting or other electrical appliances provided with switching actuators by remote control. Used in combination with an SAIX, the AIX can carry out various alternating and crisscross switching operations.

Characteristics
- Sends ON/OFF commands
- Can control up to a maximum of 4 addresses
- Automatic status adaption or fixed mode
- Status can be requested after commands have been sent
- Can be connected to a potential-free outlet of an external electrical appliance

Operation
The wires of the AIX module can be connected to potential-free switches or pulse switches, thus enabling it to be operated locally. With one module, a maximum of four addresses can be controlled by means of, for example, connecting it to two series of switches or four pulse switches/changeover switches. The addresses can also, in combination with the Xanura computer interface (CIX), be used to start (conditional) scenarios.



Installation instructions
- Phase and neutral wires must be fitted
- Junction box must be at least 40 mm deep



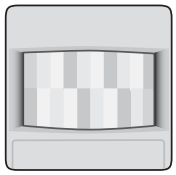
AIX12 on/off interface 230 V
Built-in module

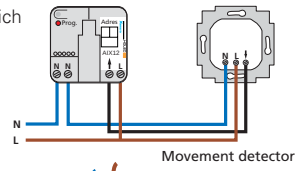
Product description
The AIX12 is a 230 V input module that is mounted, for example, in a junction box located behind standard 230 V movement detectors or light sensors. By applying the AIX12, it is possible to automatically switch lighting points (or appliances) provided with switching actuators and/or to start scenarios after a movement detector has operated.

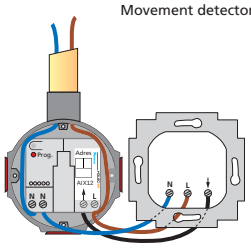
Characteristics
- Operates when connected to, amongst other units, standard 230 V movement detectors or light sensors.
- Sends ON/OFF commands

Operation
The output connector of, for instance, a 230 V movement detector or light sensor is connected to the input connector of the AIX12. Signals from the the light sensor or movement detector activate the AIX12, which in turn sends an Xanura command. Xanura scenarios can also be created by applying an AIX12 in combination with the computer interface (CIX).

Installation instructions
- Phase and neutral wiring must be fitted
- Must be mounted in a junction box that is at least 50 mm deep or in the central box







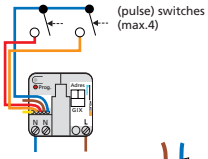
GIX circuit interface
Built-in module

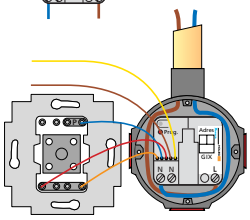
Product description
The GIX is a group interface that can be mounted in a junction box located behind switches or pulse switches. By applying the GIX, various actuators can be controlled by means of circuit commands (ALL LIGHTS ON) and (ALL LIGHTS OFF). In addition, one extra address can be set.

Characteristics
- Feeds various actuators simultaneously by means of group commands
- Has 1 free programmable address
- A maximum of 4 switches/pulse switches can be connected to a GIX
- A maximum of 16 addresses can be controlled with one GIX by means of group commands

Operation
The wires of the GIX module can be connected to a potential-free switch or pulse switch. With a GIX, three group commands and the programmed address can be sent.

Installation instructions
- Phase and neutral wires must be fitted
- Junction box must be at least 40 mm deep





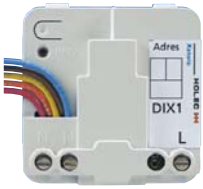
DIX1 dimmer interface
Built-in module

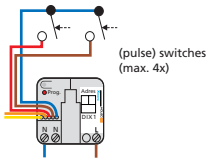
Product description
The DIX1 is a dimmer interface that can be mounted in a junction box located behind pulse switches. By applying the DIX1, lighting points provided with a dimming actuator can be dimmed and/or switched locally or by remote control.

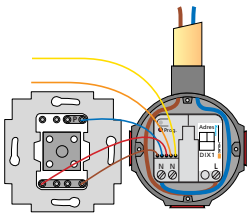
Characteristics
- Sends ON/OFF and DIM commands
- Can control up to a maximum of 4 addresses
- One wire per address for on, off, bright and dim
- Can only be used with pulse switches
- Status can be requested after commands have been sent

Operation
The wires of the DIX1 module can be connected to potential-free pulse switches. With one module, a maximum of 4 addresses can be controlled by, for instance, connecting it to two 2-way pulse switches or four 1-way pulse switches.

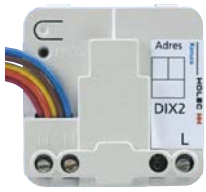
Installation instructions
- Phase and neutral wiring must be fitted
- Junction box must be at least 40 mm deep







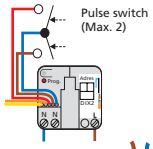
DIX2 dimmer interface
Built-in module



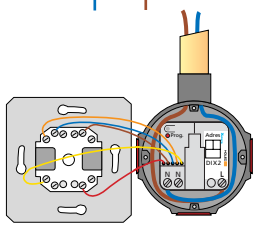
Product description
The DIX2 is a dimmer interface that can be mounted in a junction box located behind a toggle pulse switch. By applying the DIX2, lighting provided with a dimming actuator can also be switched or dimmed by remote control.

Characteristics
- Sends ON/OFF and DIM commands
- Can control up to a maximum of two addresses
- Two wires per address; 1 for on/bright and 1 for off/dim
- Can only be applied with toggle pulse switches
- Status can be requested after commands have been sent

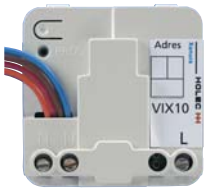
Operation
The wires of the DIX2 module can be connected to potential-free (toggle) pulse switches. With one module, a maximum of two addresses can be controlled by connecting it to, for example, one 2-way toggle pulse switche or two 1-way toggle pulse switches.



Installation instructions
- Phase and neutral wiring must be fitted.
- The junction box must be at least 40 mm deep



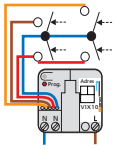
VIX10 ventilator interface
Built-in module



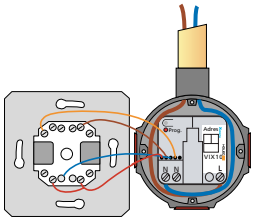
Product description
The VIX10 is a ventilator interface that can be mounted in a junction box located behind 4-way pulse switches. It can control, via the lighting network, 2 SAX1 modules that operate air-suction-ventilators installed in homes. These ventilators have three operating positions. By applying several VIX10 interfaces, it is possible to operate the three positions of the mechanical ventilator from various places in the home.

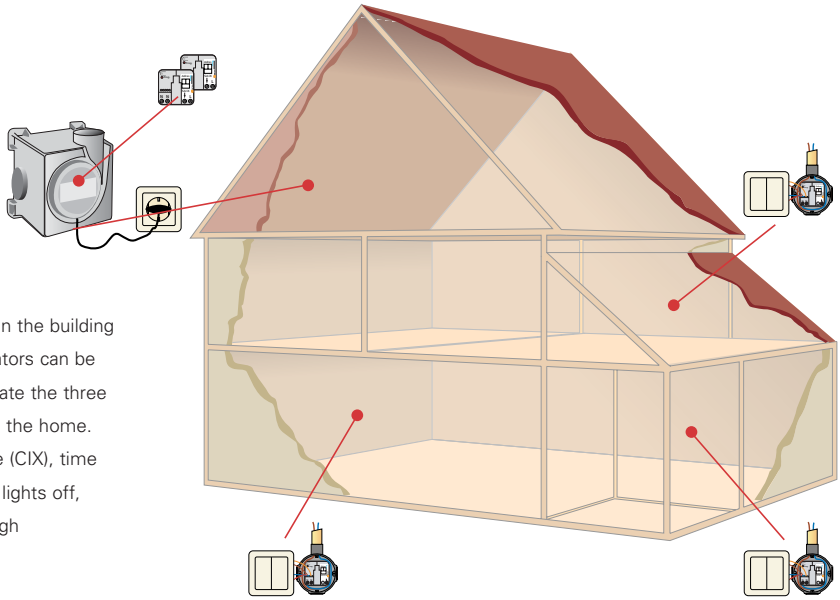
Characteristics
- Sends ON/OFF commands over two addresses
- Can be applied in combination with a 3 or 4-way pulse switch
- Including a sticker with position indicator for attaching to the pulse switch

Operation
The wires of the VIX10 module can be connected to a potential-free 3 or 4-way pulse switches. With this pulse switch, it is possible to send VIX10 Xanura commands to the switch actuators that feed the mechanical ventilator provided with three operating positions.



Installation instructions
- Phase and neutral wires must be fitted
- Junction box must be at least 40 mm deep
- Two actuators (SAX1) must be fitted for switching the ventilator box





By fitting more VIX10 ventilator interfaces in the building (phase and neutral) the ventilator box actuators can be switched. In this way, it is possible to operate the three operating positions from different places in the home. In combination with the computer interface (CIX), time functions are also possible. (e.g. bathroom lights off, ventilator operates for 15 minutes in the high position and thereafter in the low position).

CIX computer interface

Product description

In the CIX, it is possible to store individual Xanura scenarios that can be carried out in a home provided with Xanura components. The CIX electronic clock/calendar makes it possible to carry out the scenarios on the stipulated times and dates. Scenarios can easily be added or changed by making use of the associated Xanura software. With this software, it is also possible to program so-called conditional scenarios such as: "IF" the switch in the hall is switched on "AND" it is dark, "THEN" the table lamps in the living room go on.

Characteristics

- The plug is for feeding and communicating with Xanura components
- Works completely autonomously: is disconnected from the PC
- Simple connection with PC via com-gate for program changes
- Status of the lighting can be read if the PC is

online with the computer interface.

- 256 addresses that can immediately be switched or dimmed to any dimming position desired
- Clock/calendar function
- Takes summer and winter time into account
- Geographical clock keeps a record of dawn and dusk times for the set geographical position
- Extensive conditional switching scenarios can be made
- Programmed settings easy to print and store in a neatly arranged manner
- Switching groups easy to compose and alter
- Easy to program

Operation

The CIX can be automatically operated by its own electronic clock/calendar. Programming of the CIX can be carried out by means of a PC and the associated Xanura software. The CIX can be operated online when a PC is connected to it.

easy to make scenarios

Interfaces communication with external equipment

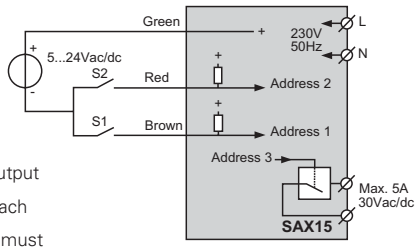
SAX15 potential-free actuator/interface
Built-in module

Product description

The SAX15 is a potential-free/interface in a module housing for linking up, for example, the door bell or electronic lock to Xanura. Heating systems (24 V a.c.) can also be linked up.

Characteristics

- 2 inputs and 1 output (potential-free and separated galvanically)
- Sends ON/OFF commands (Max. 2 addresses)
- Receives ON/OFF commands and transfers these after the contacts of the built-in relay have closed and opened respectively.(Max.5A 30 V)
- Can be included in a group command
- Automatic indication of status possible
- Request for status after commands have been sent is possible
- Provided with 20 cm long wires



Operation

The input connectors and switch output connector work independently of each other. Send and receive addresses must be programmed separately. The module has two coupled send addresses and one receive address. (Relay).

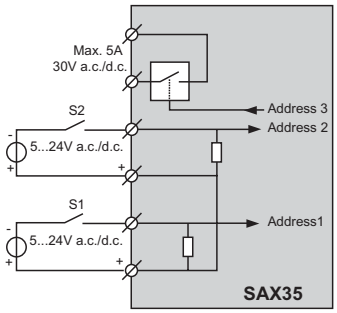
Installation instructions

- Phase and neutral wiring must be fitted
- External rated supply (+5 V...+24 V a.c. or V d.c. for instance bell voltage) required for feeding the input connectors is max. 7.5 mA

SAX35 potential-free actuator/interface
Cable housing

Product description
The SAX35 is, just as the SAX15, a potential-free actuator/interface, however it has a cable housing for linking the signals of, for example, the doorbell, electronic lock or heating system (24 V a.c.) to Xanura.

Characterisics
- 2 inputs and 1 output (potential-free and separated galvanically)
- Sends ON/OFF signals (Max. 2 addresses)
- Receives ON/OFF signals and transposes these after the relay has closed and then opened again. (Max. 5 A, 30 V)
- Can be included in a group command
- Automatic status request is possible
- Request for the status after commands have been sent is possible.
- Length of the primary supply cable is 1.5 m: is provided with an euro plug



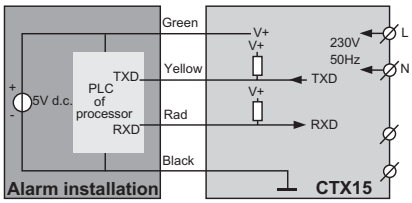
Operation
The input connectors and switching output connectors operate independently of each other. Send and receive addresses have to be addressed separately. The module has two linked send addresses and one receive address (relay).

Installation instructions
- Phase and neutral wires must be fitted
- Rated external supply (+5 V ___+ 24 V a.c. or V d.c., for example bell voltage) needed for feeding the input connectors maximum 7.5 mA

CTX15 data interface
Built-in module

Product description
The CTX15 is a universal serial data interface in a module housing, that makes it possible to send and receive Xanura signals from other equipment, such as an alarm installation, micro processor or PLC via a potential-free (and galvanically separated) serial connection.

Characteristics
- Galvanically separated input and output connectors:
  - 1 potential-free input: RXD serial
  - 1 potential-free output: TXD serial
- Can send and receive all Xanura addresses and commands
- Baudrate 19200
- ASCII-protocol
- Internal message buffer (max. 30 sec.)
- On request: baudrate 9600, 60 Hz
- On request: RS485 address option

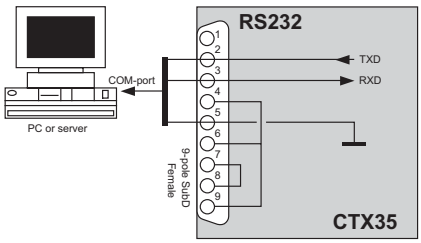


Installation instructions
- Phase and neutral wires must be fitted
- Secondary supply circuit (+5 V) necessary
- Can be applied as a transparent interface in the function of an OEM module

CTX35 data interface
Cable housing

Product description
The CTX35 is, just as the CTX15, a universal serial data interface, however it is mounted in a cable housing that makes it possible to send and receive Xanura signals from other apparatus (such as a PC, microprocessor or PLC) via a potential-free and galvanically separated serial connection.

Characteristics
- Galvanic separated connection with PC by means of 9-pole Sub-D female RS232
  - 1 potential-free input connector: RXD serial
  - 1 potential-free output connector: TXD serial
- With built-in transceiver RS232
- Can send and receive all Xanura addresses and commands
- Baudrate 19200
- ASC11 protocol
- Internal message buffer of 30 seconds
- On request, baudrate 9600, 60Hz can be supplied
- On request, RS485 addressing possibilities
- Length of cable for primary supply 1.5 m: provided with euro plug



Installation instructions
- Phase and neutral wires must be fitted
- Can be connected to a PC or (internet) server

PIOX15 on/off interface

Built-in module

Product description

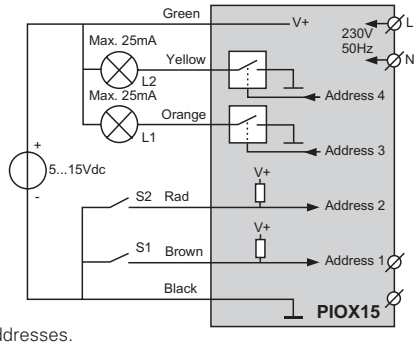
The PIOX15 is an on/off interface in a module housing for linking up Xanura to external systems such as health care alarms. Conventional (12V) alarm systems can also be coupled by means of the PIOX15.

Characteristics

- 2 inputs and 2 outputs (potential-free and separated galvanically)
- Sends ON/OFF commands. (Max. two addresses)
- Receives ON/OFF commands and transposes these to 2 transistor output connectors (Open collector, 25mA)
- Outputs can be included in a group command
- Automatic status notification possible
- Request for the status after commands have been sent is possible
- Provided with 20 cm long wires

Operation

The input and output connectors work independently of each other. Send and receive addresses must be programmed separately. The module has two coupled send addresses and two coupled receive addresses.



Installation instructions

- Phase and neutral wires must be fitted
- Rated external voltage (+5V___+15V) needed for operating secondary circuit
- Secondary supply circuit (+5V) needed
- Can be applied as a transparent interface in the function of an OEM module

RF-components

By applying radio frequency Xanura components, it is possible to operate Xanura installations by remote control. A special characteristic of the RF components is that the signals can easily travel through walls and ceilings, so that the sender and receiver do not need to be in the same room. The most important RF components are mentioned below.

ABX1 universal remote control device

Product description

The ABX1 is a universal remote control device with which both lighting and electrical appliances can be switched. The RF signals (radio frequency), that travel through walls and ceilings without any difficulty, operate the typical Xanura applications, whilst the other applications such as TV and audio are operated via IR signals (infrared). The remote control device can not only be used to switch or dim individual lamps, but also to centrally switch large groups of lighting as well.

Characteristics

- Both radio frequency (Xanura) and infrared operation (e.g. SAT, AUDIO, TV, VIDEO)
- One single remote control device with a variety of functions for various electrical appliances
- Easy to use
- The most common types of appliance are already pre-programmed in the device
- Self-programming for appliances that are not programmed
- Provides a number of standard group commands
- Range 30 metres in open space

ABX3 RF-remote control device

Product description

Very simple radio frequency remote control device with which lighting and electrical appliances can be switched from a distance. With this device, individual lamps can be switched and dimmed and groups of lighting can be operated from a central point. Which buttons operate which lamps can be written down on the label affixed to the device.

Characteristics

- Neatly arranged and easy to operate
- Labels for this remote control device can be made manually or digitally via website www.xanura.nl
- Is provided with a number of standard Xanura group commands
- Can operate the Xanura alarm unit
- Range 30 metres in open space

RIX RF-interface

Product description

The RF interface is an adaptor that transposes the signals from RF remote control devices and RF movement detectors (BSX1) into Xanura commands. With the RIX, it is possible to operate the Xanura installation from a distance, without the use of wiring. The RF interface can be connected to any wall socket in the home that is permanently energized.

Characteristics

- Enables the Xanura system to be operated by remote control
- Is simple to install without any installation work
- Is also provided with a built-in actuator
- 16 addresses with one RF interface can be served

CAX (RF-Communication access interface)

Product description

The CAX is a combination of a RF interface with phone call facilities. By connecting the CAX to the telephone network, it is possible to phone in with it. In this way, individual lights and/or preset scenarios can be activated with a (mobile) telephone. The CAX operation panel can be used to switch or dim individual lights or groups of lights.

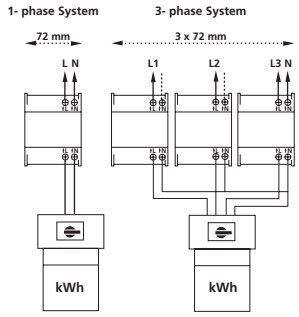
Characteristics

- Can be used functionally as a RF interface
- Individual addresses or group commands can be sent
- Is easy to install without installation work
- Has phone-in facilities

Remaining components

The Xanura assortment provides a range of other products: a description of those most applied is given below.

SFX40 suppression filter
DIN modular component



Product description

The SFX40 suppression filter prevents Xanura commands from leaving the home, or other signals from entering it via the mains. The suppression filter is modular and is mounted in the distribution box.

Characteristics

- Filters Xanura commands, noise and other signals from the mains
- One filter per phase is required
- Rated current is 40 A
- Central frequency is 120 kHz

FKX phase coupler

Product description

The phase coupler receives Xanura commands. These signals are then amplified to the maximum signal level and transmitted on all phases

Installation instructions

- The phase coupler must be connected to a 16 A 3 phase circuit

HIFS35/3 System 55 distribution box
Mains filter box with phase coupler

Product description

The System 55 box with a phase coupler and 3 suppression filters for applying Xanura in homes with a 3 phase network.

Characteristics

- Dimensions 220 x 330 mm

SVX10 signal amplifier
Built-in module

Product description

The SVX10 is a signal amplifier that amplifies and then transmits the signals in a single phase installation. The SVX10 is mounted in a junction box.

Characteristics

- Amplifies all Xanura commands to their maximum value.

ZAX sun blind actuator

Product description

The ZAX is a sun blind actuator that can be applied for operating rolling shutters and sun blinds.

Characteristics

- Can operate 6 A 230 V VAC motors
- Colour: Alpine white

Operation

The ZAX can be operated manually by means of the operating handle supplied. The ZAX can also be operated by means of Xanura commands transmitted from other Xanura interfaces or remote control devices.

Installation instructions

- Built-in junction box must be at least 50 mm deep

PUX programming unit

Product description

The PUX is an indispensible tool for the proficient installation of Xanura. With this programming unit, the Xanura modules can be easily programmed. Furthermore, Xanura commands can be sent and received and shown in the display. In addition, the intensity of the signal and noise level can be measured. In this way, it is possible to inspect the lighting network before the system is installed, isolate any interference with a filter and to test modules at the moment of fitting. Finally, the complete installation can be tested before it is handed over to the resident.

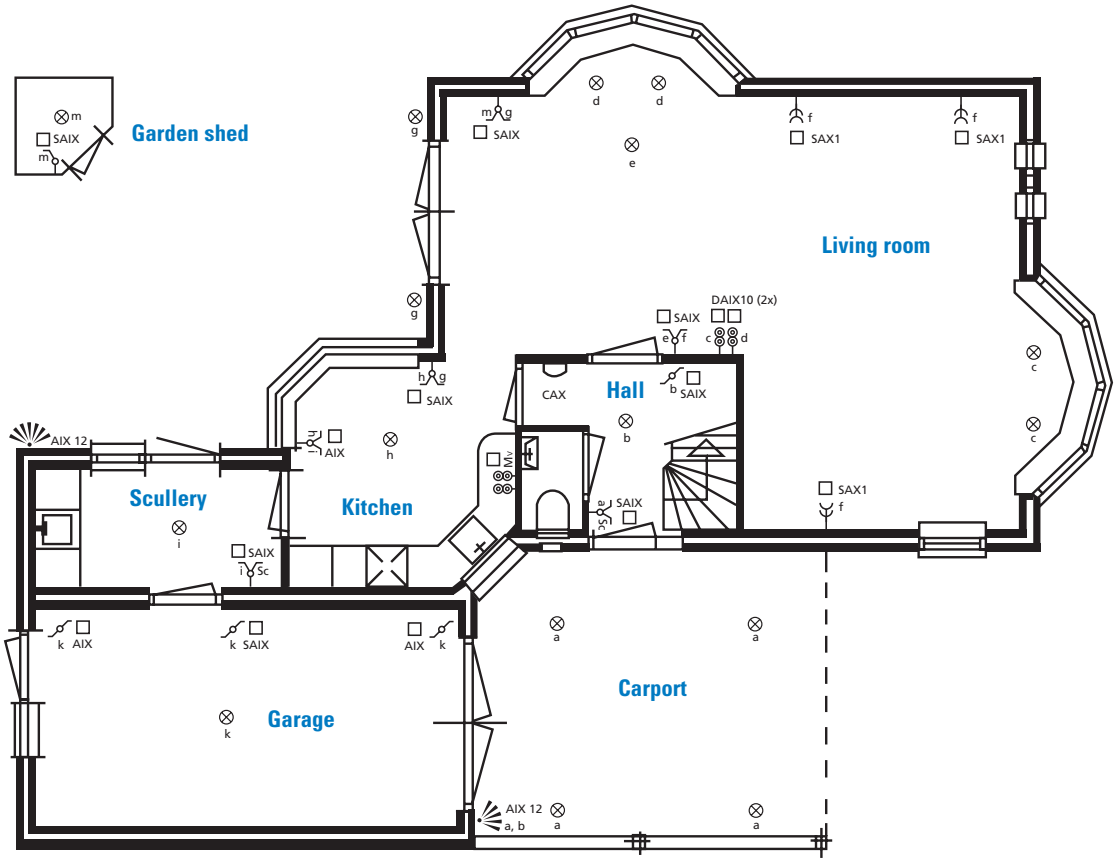
Installation tool

Characteristics

- Easy-to-read LCD display.
- Transmits and receives A10 signals
- Makes commands that have been sent visible

Practical examples

To give an impression of the layout of a Xanura installation and the materials that are required, a comprehensive practical example is shown below. The desires with respect to the switching and dimming possibilities that are described in the left-hand column of the table below and on the following page, are depicted in the diagram by the modules and other Xanura components required. How the work is carried out is described in the column on the right.



Legend

a.	Lighting carport
b.	Lighting hall
c.	Lighting bow-window 1
d.	Lighting bow window 2
e.	Ceiling lighting living room
f.	Wall sockets living room
g.	Rear outdoor lighting
h.	Ceiling lighting kitchen
i.	Lighting scullery
k.	Lighting garage
m.	Lighting garden shed
Sc.	Wall socket with scenario
	Toggle pulse switch
M_V	Mechanical ventilation

Components not shown

Type	Description	Location
CIX	Computer interface	Meter cupboard or in any of the wall sockets
SFX40	Suppression filter	Distribution box
ABX1	Remote control device	Within reach

General desires	Execution
Operation of the "cosy atmosphere" lights and TV, video and audio appliances with only one remote control device.	By choosing the ABX1 for remote control operations, it is possible to switch not only the lighting but also most types of TV`s/videos and audio appliances. For switching the lighting, a RF interface must be fitted in the home.
When nobody is at home, switching of the lights to give the impression that the home is occupied. (Varying daily sequences).	All lighting points that are provided with actuators can be switched and dimmed at any desired time, by setting the computer interface (CIX) to the required sequences.
To create a personal lighting effect by merely pressing one button of the remote control device, for instance a "sleeping" or "cosy atmosphere" scenario.	It is possible by means of the Xanura software, to program in the computer interface (CIX) with which address each scenario can be activated. That address can be activated with the remote control device or a switch provided with a switch interface (AIX).
To have the possibility of switching various lighting points with one switch, together with the flexibility of being able later to change these locations to suit future desires.	By fitting a switching interface (AIX) in a number of places in the home and then coupling the addresses in the software to one of the many lights fitted, it is possible to switch almost all of them. Furthermore, if required, they can easily be modified at a later date, without having to change the whole installation.

Specific desires	Execution
That, when approaching the front door, the carport lighting (a) and the light in the hall (b) go on automatically.	The AIX12 interface behind the movement detector in the carport sends a Xanura command when movement is detected. This command is transposed in the computer interface (CIX) into a switch-on action for the hall (b) and carport lighting (a). To enable switching in these locations to be carried out, switching modules (SAIX) are mounted behind the wall switches "a" and "b" in the hall.
To be able to vary the brightness of the table lamps in both bow windows (c & d) by means of a wall switch or remote control.	The DAIX10 built-in module behind the toggle pulse switch makes it possible to dim lighting points (c & d) with both this switch and by remote control.
To be able to switch the table lamps (f) that are plugged in a wall socket either by remote control and/or automatically via a scenario.	By providing the wall sockets with a SAX1 module, the wall socket junction box on the right-hand-side (f) can be switched by a Xanura command. The command can be given with wall switch f, by remote control and/or automatically via a scenario. For automatic switching, a computer interface (CIX) is required.
To be able to switch the outdoor lighting from in the living room or kitchen.	By mounting a switching actuator/switch interface (SAIX) behind switch g, the outdoor lamps (g) can be switched from in the living room. The second address of the SAIX module behind switch h in the kitchen can also be used to switch these lamps. This address can easily be changed (software) for other applications.
To be able to switch the lighting in the garden shed from in the home, without having to lay new cables.	Due to the fact that the modules are fed by phase and neutral wires, it is only necessary to fit a (SAIX) switch in the garden shed (M). Light m can thus be switched from in the shed or from one or more selected locations in the home, with either switches provided with a switch interface (AIX) or by remote control.
That, by means of movement detection, the outdoor lighting at the rear of the house (g) is switched on and 10 seconds later, the lights in the living room (c,d & e) as well.	The AIX12 interface behind the movement detector on the rear wall of the building, sends a Xanura command via the mains when movement is detected. The outdoor light (g) is then switched on. A second action can be programmed in the computer interface (CIX) i.e. delayed switching on of the lighting in the living room (c,d, & e).
To be able to switch the lighting in the garage (k) with three different wall switches.	By mounting a switching actuator/switch interface (SAIX) behind one wall switch and fitting a switch interface (AIX) with the same addresses to the other two switches, crisscross switching can be obtained. This multi-way switching can be extended by fitting extra switch interfaces (AIX), without having to install extra wiring.
To be able to switch on the lights in the living room (c, d & f) and outdoors (g) automatically every day at dusk with the desired "cosy atmosphere" effect.	By selecting the right geographical position of the residence programmed in the Xanura software, the desired lights in the living room (c, d & f) can be switched on when dusk falls. The geographical clock of the computer interface (CIX) shall automatically follow the times that the sun sets, so that the lights are switched on each day at different moments. Summer and winter time are also taken into account.
When entering or leaving the hall, to be able to switch all the lights in the living room by means of one switch.	By allowing the switching actuators to react to group commands, all lighting points are switched by means of RF phone-in interface (CAX). This fuction can also be obtained with a group interface (GIX) mounted behind a wall switch or pulse switch.
To be able to switch lighting and/or scenarios from a distance by means of a (mobile) telephone.	By connecting a telephone cable to the Communication Access interface (CAX), it is possible to switch lighting by means of the "*" or "#" buttons of a (mobile) telephone. The same applies to preset programmed scenarios in the computer interface (CIX).
To be able to operate all three positions of the ventilation mechanism from the kitchen, bathroom or by means of a time function in the toilet.	By fitting two switching actuators (SAX1) in or nearby the mechanical ventilator, it is possible to operate its three positions by means of a Xanura-ventilator-interface (VIX10) in the bathroom and kitchen via the lighting network. 4-way toggle pulse switches are used to operate the ventilator. For new buildings, no extra conduits for the lighting points in the kitchen or bathroom have to be installed. In combination with the Xanura computer interface and a switching actuator/switch interface (SAIX), it is also possible to provide time functions in rooms where Xanura components have been fitted. (For instance light off in the toilet or bathroom: ventilator on in its highest position for 20 minutes).

Sales support

Eaton Holec supports electrical contractors who are active in the field. Those who have followed Xanura courses and possess demonstration facilities are, for instance, recommended on the Xanura website, from which it is possible for them to be linked up to their own website. Furthermore, they have access to commercial information that is available on the protected electrical contractors section of www.xanura.nl. In addition, potential customers who ask Eaton Holec for more information can be referred to these contractors. In this manner, Eaton Holec invests in contractors who invest in Xanura, whereby the customer is assured of a satisfactory explanation by a well trained engineer who is able to install Xanura systems.The basis of a successful marketing approach is: simplicity, low threshold products, comprehensive information, a good relationship with the customer and a professional installation.

Not all these sales support products are available outside the Netherlands or in the English language. For more information on training, technical andand promotional support and/or materials, please contact the Eaton Holec Support Centre.

Brochure especially for contracting firms with detailed technical information and the Holectuur Special publication with as main feature the Xanura system

Protected section of the website for trained electrical contracting engineers

Practical training for electrical contracting engineers

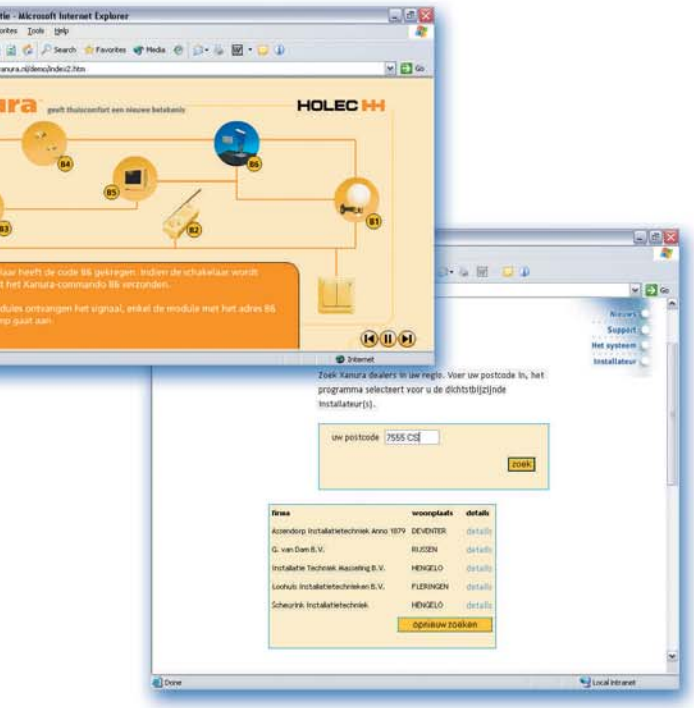
Electronic newsletter for trained electrical contracting engineers

Customer brochure with limited technical information.

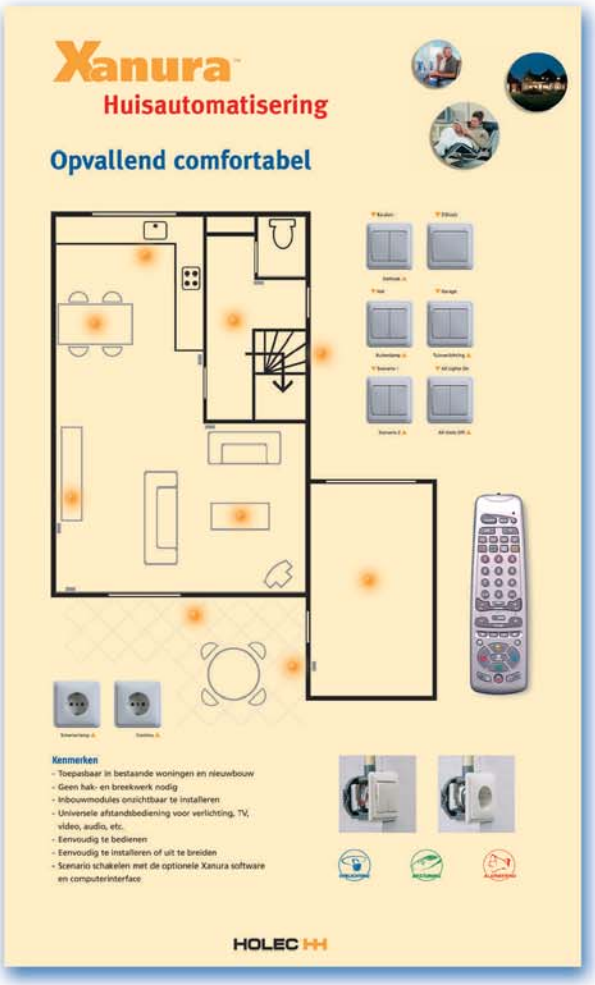
CD-ROM "Easy living with Xanura"
To keep your customers informed on the many possibilities that Xanura offers, Eaton Holec have produced the CD-ROM "Easy Living With Xanura."

CD-Rom "Live in your own home longer"
Xanura is very suitable for application in the health care sector, in combination with specific products that have been developed for this area of application. Especially for this sector, Eaton Holec have produced the CD-ROM "Live in your own home longer" in which all the applications of Xanura that are related to the health care sector are explained.

Xanura-website, www.xanura.nl



On-line animation with explanation and electrical contractors selection program



Functional Xanura demonstration panel for electrical contractors showroom

Ordering information

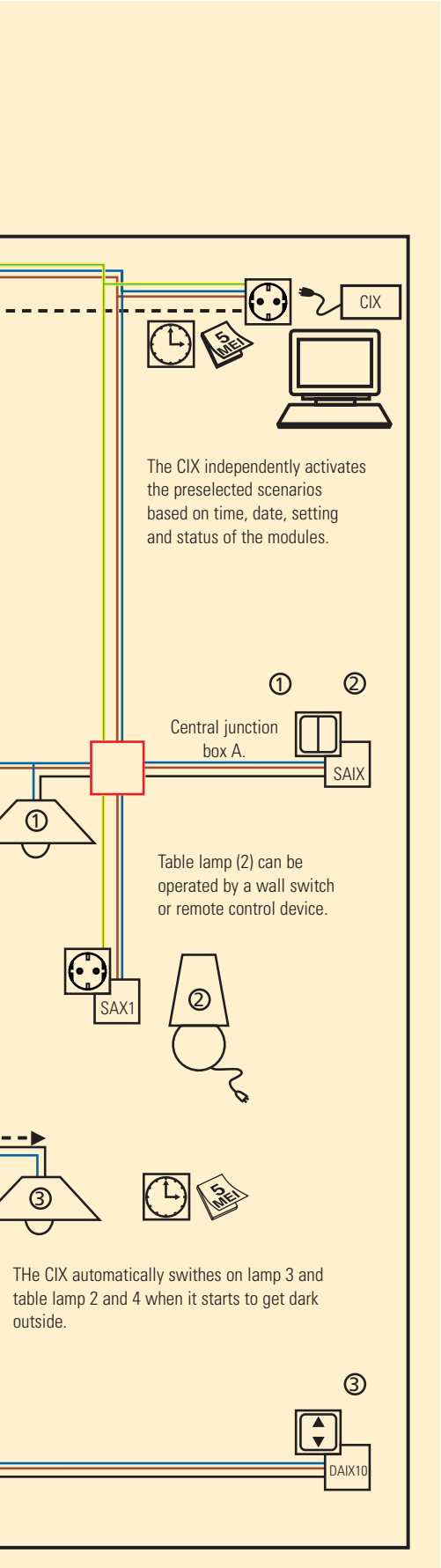
Description	Type	Eaton/Holec No.	Reference No.
Switching actuator 16 A, built-in module	SAX1	1807 505	31935 6
Switching actuator/switch interface 16 A, built-in module	SAIX	1807 508	53346 2
On/off interface, built-in module	AIX	1807 523	74525 4
On/off interface 230 V, built-in module	AIX12	1807 545	10664 2
Dimmer interface, 1 layer built-in module	DIX1	1807 532	21326 5
Dimmer interface, 2 layers built-in module	DIX2	1807 533	31726 0
Dim actuator, built-in module	DAX10	1807 544	31553 2
Dim actuator/dimmer interface, built-in module	DAIX10	1807 543	32064 2
Group interface, built-in module	GIX	1807 534	42126 4
Ventilator interface, 3 positions	VIX10	1807 554	53226 7
Remote control device, universal RF or IR	ABX1	1807 500	42223 0
Remote control device RF	ABX3	1807 599	63726 9
Remote control device, key ring model RF	ABX4	1807 535	95515 8
RF interface	RIX	1807 527	95836 4
Communication access interface (RF + phone-in)	CAX	1807 509	64024 5
Computer interface and scenario software	CIX	1807 510	74324 3
Potential-free actuator/interface	SAX15	1807 558	84926 6

Ordering information

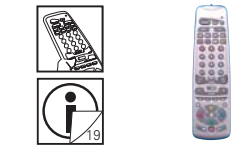
	Description	Type	Eaton/Holec No.	Reference No.
	Potential-free actuator/interface	SAX35	1807 553	42559 0
	Data interface	CTX15	1807 556	74247 5
	Data interface	CTX35	1807 557	74570 4
	On/off interface	PIOX15	1807 555	63659 0
	Dim actuator 300 W, adaptor	DAX2	1807 517	31725 3
	Dim actuator, 700 W, modular	DAX4	1807 513	95735 0
	Switching actuator 16 A, adaptor	SAX2	1807 504	20735 6
	Switching actuator 16 A, modular	SAX4	1807 520	53336 3
	Sun blinds actuator	ZAX	1807 537	53035 5
	Movement detector, RF	BSX1	1807 506	42546 0
	Suppression filter, DIN modular component	SFX40	1807 530	85312 6
	Phase coupler	FKX	1807 516	21325 8
	Signal amplifier	SVX10	1807 552	10593 5
	Appliance filter, adaptor	AFX2	1807 518	42225 4
	Mains filter box with phase coupler, System 55	HIFS35/3	1769 922	85151 1
	Programming unit	PUX	1807 524	82025 5

Due to its policy of continuous research and development, Eaton Holec reserves the right to change the design and specifications of its products without notice.

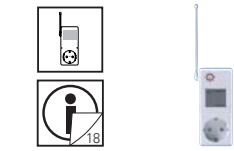
Schematic summary



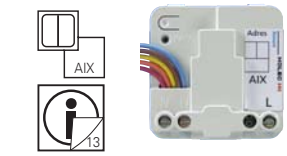
Abreviations and meanings



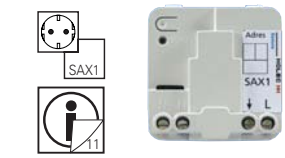
ABX1 • Remote Control Device Xanura
One remote control device for operating the TV, video, DVD, audio (infrared) and various Xanura applications. (Radio frequencies).



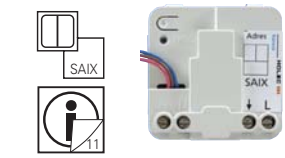
RIX • RF-Interface Xanura
Receives RF signals from the remote control device and transposes these into Xanura commands that are then sent via the mains.



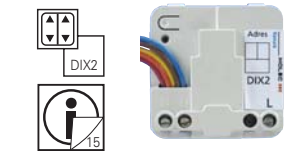
AIX • On/Off Interface Xanura
Switch interface for mounting behind switches or pulse switches. For sending on/off commands.



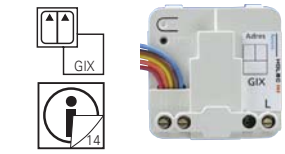
SAX1 • Switch/Actuator Xanura
Mounted behind wall sockets or in fitment/ appliance housings. For remote control switching of lighting and various electrical appliances.



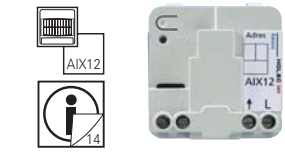
SAIX • Switch Actuator/Interface Xanura
Mounted behind switches or pulse switches. For local switching of the actuator and for sending Xanura commands to other Xanura components for switching or control.



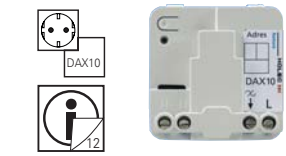
DIX2 • Dimmer Interface Xanura
Mounted behind toggle pulse switch. For local or remote control dimming/switching of lighting points provided with dimming activators.



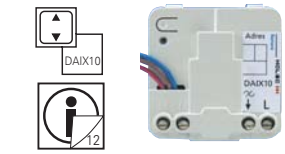
GIX • Group Interface Xanura
Mounted behind switches or pulse switches. For control of various activators by means of group commands.



AIX12 • On/Off Interface Xanura
Mounted behind, for example, any 230 V movement detector. Sends on/off commands when movement is detected.



DAX10 • Dimmer actuator Xanura
Mounted behind wall sockets in central junction boxes or lighting fitment. For remote control dimming or switching of lighting points.



DAIX10 • Dimmer actuator/Dimmer interface Xanura
Mounted behind (toggle) pulse switch. For local and remote control dimming or switching of lighting points.

CIX • Computer interface Xanura
With this facility, switch actuators or group switch actuators can be automatically operated by an electronic clock or calendar.

Basic package lighting and control 1

Type PBLX1, Eaton Holec No. 1807 598, Reference No. 209169

Contents
1 x RF interface type RIX
1 x Universal remote control device type ABX1
1 x Movement sensor type BSX1
7 x Switching actuator/switch interface, built-in module type SAIX
1 x Circuit interface type GIX
1 x Suppression filter, DIN modular type SFX40

Basic package lighting and control 2

Type BPLX2, Eaton Holec No. 1807 596, Reference No. 531376

Contents
Same as basic package lighting and control 1 with in addition:
1 x Computer interface type CIX
1 x CD with scenario software

Aeroserv package

Type ASVX, Eaton Holec No. 1807 594, Reference No. 634510

Complete package for operation of 3-position air suction ventilators in homes by means of Xanura. By applying more VIX10 interfaces, the 3-position ventilator can be operated from various locations in the home.

Contents
1 x Ventilator interface with 3 positions, built-in module type VIX10
2 x Switching actuator 16 A, built-in module type SAX1
1 x Suppression filter, modular type SFX40
1 x Sheet of stickers with position indication

Eaton Electric N.V.
Eaton Holec Laagspanning
P.O. Box 23
7550 AA Hengelo
the Netherlands

tel: +31 (0)74 - 246 32 22
fax: +31 (0)74 - 246 33 02
xanura@eaton.com
www.eaton.com

EATON | Holec

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