the

Concept

2000Xp

from

Conson

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home and building automation

concept
2000 Xp

Index 0.1
Numbering of pages

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number of power supplies according to the number of actors sensors bus push buttons feedbacks	number of link modules 99 pro **Conbus**	number of relay modules 99 pro **Conbus**	number of dimmer modules 99 pro type and pro **Conbus**	number of gateways XP130 1 pro **Conbus** and more with a Consonbox

Power supplies	Links	Actors		Communication

Power supply XP11	Linkmodule XP20 2nd generation	Relaymodule XP24	Dimmermodules XP31LED/LR/CR XP31BC/BCU/DD XP33LED/LR	Gateways XP130 XP230

Conbus

Consonbus   Consonbus   Consonbus   Consonbus   Ethernet

to interfaces XP2506 XP2506A XP2506B XP28 XP28A XP28B	direct inputs and feedbacks for LEDs and other as CP2505	to interfaces XP2506 XP2506A XP2506B XP28 XP28A XP28B	direct inputs and feedbacks for LEDs and other as CP2505	to interfaces XP2506 XP2506A XP2506B XP28 XP28A XP28B	direct inputs and feedbacks for LEDs and other as CP2505	to interfaces XP2506 XP2506A XP2506B XP28 XP28A XP28B	to laptop touch-screen router Wifi Internet

Maximum numbers to use

Max number of relay modules XP24 per **Conbus**: 99 -> these are 396 relay outputs.

Max number of dimmers per **Conbus**: 99 per type -> if single channel dimmer, these are 99 dim outputs per type. If a three-channel dimmer, these are 396 dim outputs per type.

Example 99 x XP31LED + 99 x XP33LED = 495 dim outputs.

Max number of **Consonbuses**: this depends on the layout of the building. A house can be divided into basement, ground floor and first floor. In large buildings, the layout will be much more.

Max number of push button interfaces on **Consonbuses** 99 per type -> example: for the XP28 this is 99 x 8 inputs = 792 push buttons.

Maximum number of Gateway's XP130 -> 1 per **Conbus** and with multiple **Conbuses** multiple XP130's collects at a switch and then to the modem and the **Consonbox**. See 10.1.

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The Software Contool can be downloaded for free on Conson's website: www.conson.com . Go to E-services and make an account. When Conson has verified your account, the software and other tools will be available. The program has been built in Java and can function on several controlling platforms, such as Windows and Apple. After downloading and installing the program, one can start it up. At „Offline"- applications, it is possible to develop a complete project. At „Online"- applications, it is necessary to set the IP address of the computer to a different IP address than the one of the gateway XP130/XP230. This defaults to the address 192.168.1.17. Thus, set the IP address of the computer to 192.168.1.20, for example. „Online" means that one wants to communicate with the electrical enclosure. Below, one can find the different steps to finish a project.

Note: the actors are the relays and dimmer modules, the sensors are bus push-buttons, like the interfaces XP2506 and XP28.

| Select	To do	Remarks
Select Settings Automatic connection	After placing a check mark, the outputs of the different relays and dimmer modules are not to be immediately appointed.	If not automatic, each time after placing an actor an window goes open that allows to appoint these actor.
Select Add Use shared enclosures	A standard floorplan emerges with the question "Add your floorplan."	As long as there is no plan, it's impossible to continue in the program.
Select Design state Floorplans ...	The floorplans of the project are to be placed in advance in the directory Contool2000XP - FloorPlanImages.	It is of great importance the use of floorplans. The file-extensions of type jpeg, gif, jpg, png, bmp are admitted. A simply drawing on paper and a photo of it is also sufficient.
Select Sensors/actors Select Actors	Place the different circuits of actors on the floorplan. Relays, dimmers, motors and fans.	
Select Sensoren/actoren Sensoren	Place the different bus push-buttons XP2506 and interfaces XP28 on the floorplan.	The interfaces XP28 can never work alone. The necessary buttons that are attached to the XP28 should be placed in the proximity of them.
Select Programming state	Now the programming can be assigned to all actors and sensors.	In a later stage the programming will be loaded (upload) in the different modules.
Select on the floorplan A bus push-button or an push-button connected to an XP28	Specify the location of the push bush-buttons . Specify the function of the various buttons. Do this for all interfaces.	As long as no location is specified by an interface, it is impossible to continue the programming.
Select in the right pane A push-button from a bus push-button or an push-button connected to an XP28	The selected push button will be purple colored.	This color change indicates that an actor can be selected.
Select on the floorplan A lamp or others	The actor window goes open. Appoint the actor (lamp or others) : for example, Living. Select the required action(s). Press OK. Do this for all the actors.	The choice of the different actions and the combination of multiple actions requires a certain knowledge. This is explained in the descriptions of the various modules.

After having done all this, the file of the project partially finished. When the installation is complete, the programmed data can be sent to the various modules. This will only be possible if the serial number of all the modules have been communicated. Thus, the quickest method is to enter all the serial numbers of the actors into the enclosure, and also those of the sensors. Right click on a sensor, setup module and enter the number required in the corresponding box. Choose the tab „Files" and save everything. Thereafter, choose below the tab „Files" „Disconnect". The opening screen of the ConTool is ready again. Remove the checkmark from „Offline mode" and start again. Then go to the tab „Enclosure" and choose in the right box the selection button „Upload". The Upload window opens. Press „Ok". After this, the installation has been programmed.

The software „XP Service Tool" is a kind of explorer about how the system is constructed. It may be used to check the operation of the modules and it realizes the update to a new firmware. The action list of a module can be retrieved in order to understand how Concept 2000XP is constructed. The XP Service Tool software can be downloaded from the website of Conson for free: www.conson.com. Go to E-Services and make a account. After Conson confirmed your account, software and other products will be available. The program installs itself under the directory „Progam Files" – „Conson" – „XP Service Tool". It is necessary to adjust the IP address of your computer to a different IP address than the IP address of the gateway XP130/XP230. This defaults to the address 192.168.1.17. Thus, set the IP address of the computer to 192.168.1.20, for example.

After starting the XP Service Tool, click the selection button „Connect". At the bottom, a horizontal box will be filled with green color. This means that the service tool is connected to the XP130/XP230. The name of the selection key changes from „Connect" to „Disconnect".
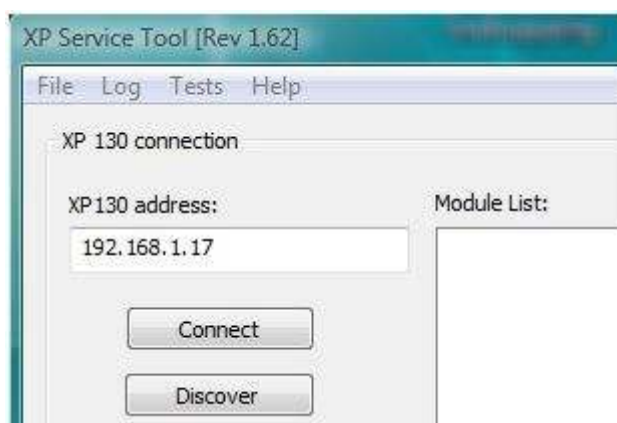

Next, click the selection button „Discover" and Detect XP Units window will appear. The program searches which modules are present. In the example below, there are six modules and 5 modules connected to the Consonbus. After "OK" has appeared in bold, press „OK".
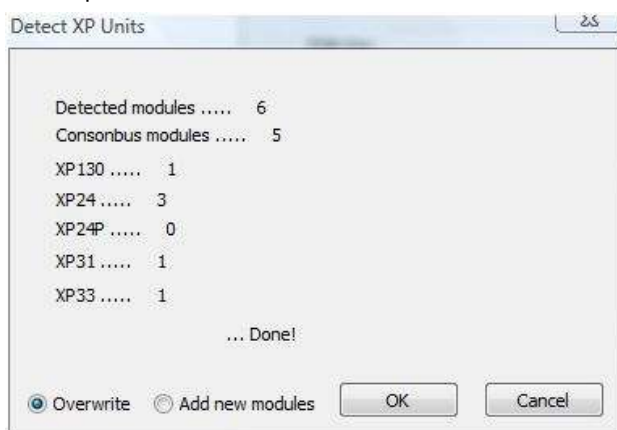
After pressing „OK", all the modules that are located in the electrical enclosure will appear in the „Module List" box. On the top of the list, XP130/XP230 are mentioned and directly below the relay and dimmer modules are mentioned as well. Where a plus sign is stated, a Consonbus with this module is started. After clicking the plus sign, the structure of the connected interfaces on the Consonbus appear. For example: by right-clicking a module XP24, a down list will appear.
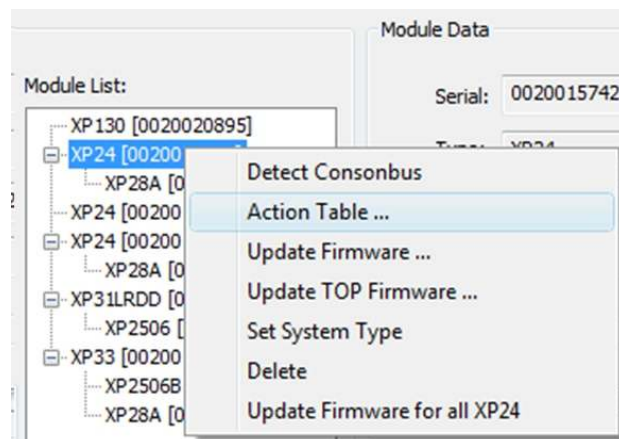
Select „Action Table ...". Press „Load" and the action table opens. For specialists, this is a must in order to understand the Concept 2000XP better. Changes can be made but only on the condition that one knows what he/she is doing. More information can be found in the directory of the Service tool: namely the file „XP service tool.chm".
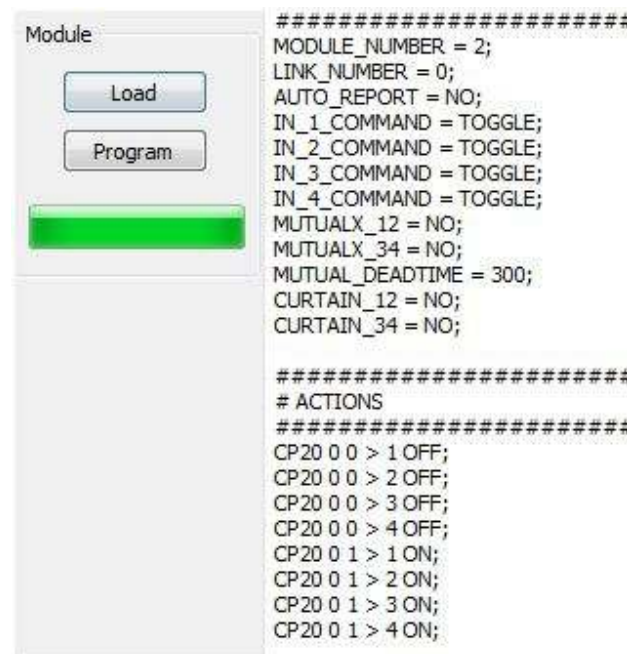
Example for using a XP24 for two rollershutter motors.
At „IN_1_COMMAND" write TOGGLE = 30 s
Identical for „IN_2_COMMAND" till „IN_4_COMMAND".
Write „YES" instead of „NO" at „MUTUALX_12" and at „MUTUALX_34".
See next page.

Delete all actions CP20 0 0> 1 OFF; etcetera. These actions are programmed for everything on and everything off. The zero after the CP20 means Link 1, the following zero channel 1. The numeral 1 represents a 2. Click the selection button. „Program". When the loading is completed, XP24 can control two motors.

Example action table interface XP 28


```
####################
MODULE_NUMBER = 0;
LINK_NUMBER = 3;
AUTO_REPORT = NO;
SHORT_LONG = 00000000;
GROUP_ON_OFF = 00000000;
ALL_OFF_KEYS = 00000000;
ALL_ON_KEYS = 00000000;
KEY_ORIENTATION = (null);
IR_GROUP = 0;
LIGHT_MAKE = 1020;
LIGHT_BREAK = 1020;
LIGHT_DELAY = 0;
TEMPERATURE_MAKE = 127;
TEMPERATURE_BREAK = 127;
TEMPERATURE_DELAY = 0;
INVERT = 00000000;
AND_MASK_1 = 00000001;
AND_MASK_2 = 00000010;
AND_MASK_3 = 00000100;
AND_MASK_4 = 00001000;
AND_MASK_5 = 00010000;
AND_MASK_6 = 00100000;
AND_MASK_7 = 01000000;
AND_MASK_8 = 10000000;
```

The meaning of SHORT_LONG = 00000000;
There is no single channel of the XP28 Link Number 3 which programmed as short / long. If it would be: SHORT_LONG = 00000100; then it means that channel 3 isprogrammed as short / long.

The meanings of GROUP_ON_OFF = 00000000; INVERT = 00000000; are identical with the previous one. The SHORT_LONG = function 01000000; now means that channel 7 of the XP28 Link 3 is inverted.

The meanings of ALL_OFF_KEYS = 00000000; ALL_ON_KEYS = 00000000;
is that not one input from the XP28 a Link 3 will get an everything-on-button or an everything-off-button .
ALL_OFF_KEYS = 00000001;
ALL_ON_KEYS = 00000010;
Now, this means that the input 1 is an all-on, and that input 2 is an all-off.

The meaning of AND_MASK_1 = 00000001;
is that an AND-function doesn't exist for the channel 1.
AND_MASK_1 = 10000001;
Now, this means that there is an AND-function between the channels 1 and 8. Channel 1 will only be active when channel 8 will be closed.

Some more useful information:
If in the „Module List" an XP2506 is selected, then it will usually be joined by a check mark. When this mark is checked, then the central led of the bus-push-button will no longer be lit permanently. If in the „Module List" a XP33LR or another type of dimmer is selected, and next, choosing „Light levels" by right-clicking these types, then the light levels are being displayed. In our example, 0 40 60 of a XP33. If in the „Module List" a XP24 is selected, then the relay can be controlled to on and off by adding a mark in the boxes 1 .. 4. And this is also possible at the push-buttons, and interfaces in order to test the workings of the LEDs
Note: The re-loading of the firmware ensures that the module is reprogrammed as if has left the factory, or at least as the latest firmware version.

Communication with XP130/XP230

In order to communicate with the gateway XP130/XP230, it is necessary to adjust the network settings of the laptop or of the desktop computer. The connection of the module XP130/XP230 to the computer is a connection from server to server and requires a cross-network cable . Following procedure to adjust the network settings: Go to the „Control Panel" - select „Network center" - select „Change adapter settings" (1) - select the LAN connection (2) with the right-mouse-button – the window „LAN-connection proper-ties" (3) opens - select „Internet Protocol Version 4 (TCP/IPv4)" (4) and select „Properties" (5) – the „Properties of Internet Protocol Version 4 (TCP/IPv4)"opens - Select „Use the following IP address"(6) - enter: 192.168.1.20 (7) and then click on the first cell of „Subnet Mask" (8) – the numbers appear 255.255.255.0 - Now press „OK" (9) and the window closes - Press „OK" (10) and now the settings are saved . From now on , it is possible to communicate with the controller via the XP130 and XP230.
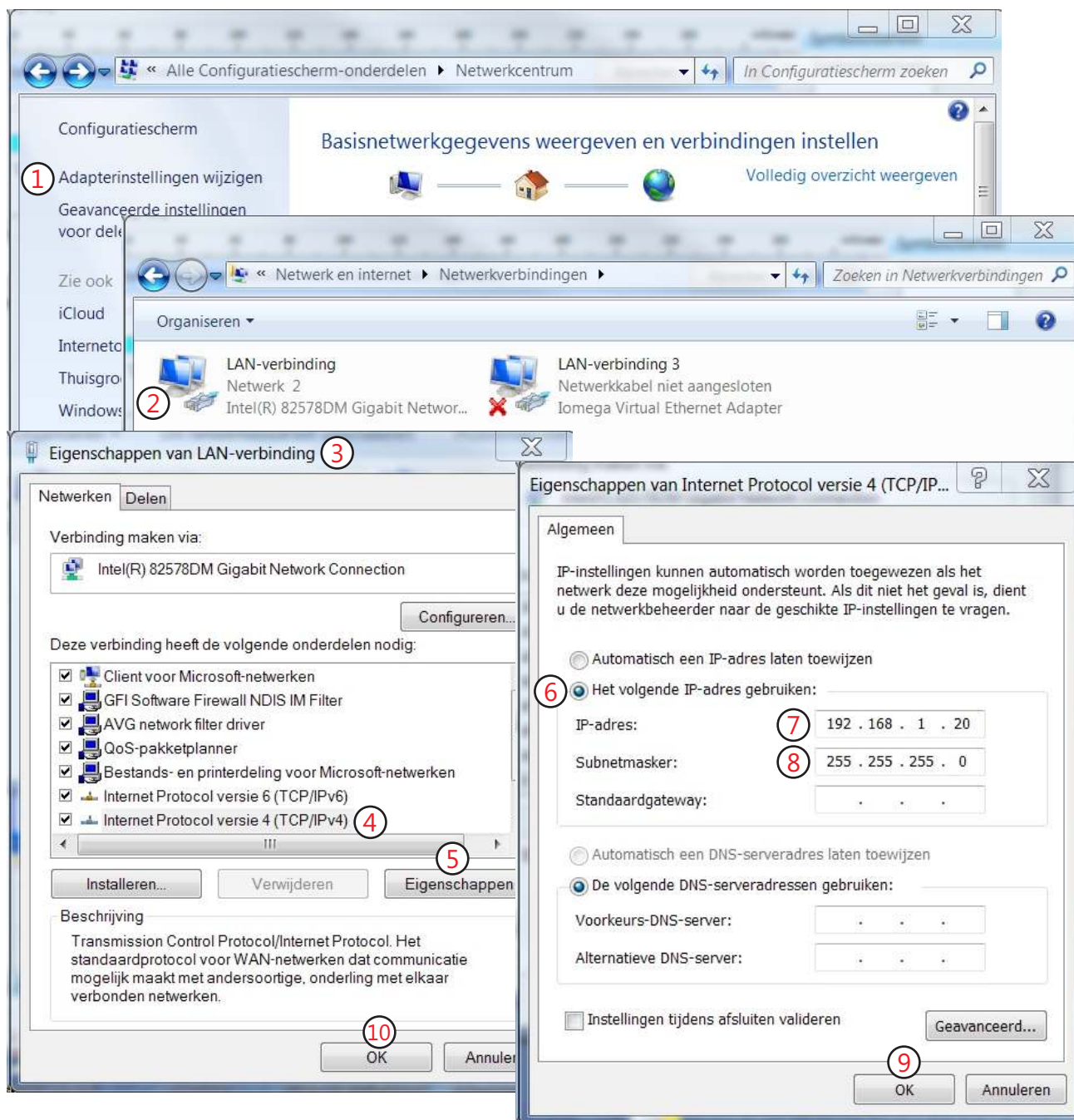
Another possibility is, by using a crossover network cable, to connect the gateway XP130/XP230 with a Wi-Fi device. It then provides the ability to walk freely with a wireless laptop in the building. As such, the various modes and scenes can be adapted via the „Programming ConTool"and can be controlled via „User's interface". Simple and effective.

Note: If a power supply XP11 is used in old Concept 2000, then there are bus couplers to go from a 3-pin socket to a 4-pin socket and vice-versa.
The references are as follows:
XP06CPV Horizontal bus coupler from 3 to 4-pole 3 cm
XP06CPH Horizontal bus coupler from 4 to 3-pole 3 cm
For a vertical bus coupler with a length of 25 cm length there are respectively the XP09CPV and the XP09CPH.

The use of multiple power supplies and the vertical bus coupler XP09

NOTE! Disconnect the positive wire from the bus coupler XP09. Only the data and the minus must be connected.

Data XP
Plus (+) 24VDC
Minus (-)
Data Conbus

Note: The number of power supplies in a system is dependent on the number and the type of modules. Rule of thumb is 10 relay modules for one XP11. The software Contool determines automatically the number of power supplies.

Introduction

The XP11 is a 24 VDC stabilized and short-circuit power supply to the modules of CONCEPT 2000 XP. The power supply can deliver 30 VA which is enough to supply 10 pieces of XP24 relay-modules. In an installation, the number of power supplies is dependent on the number of system modules, the used electrical load of the led-outputs and other accessories.

The technical specifications

Power voltage

Input voltage	100-240 VAC 50-60Hz
Overvoltage protection	275 VAC

Low voltage

Output voltage	24 VDC
Stabilized and short-circuit proof	
Output power	30 W maximum

Testing and EMC

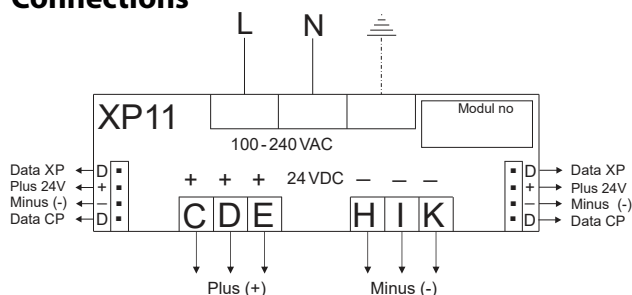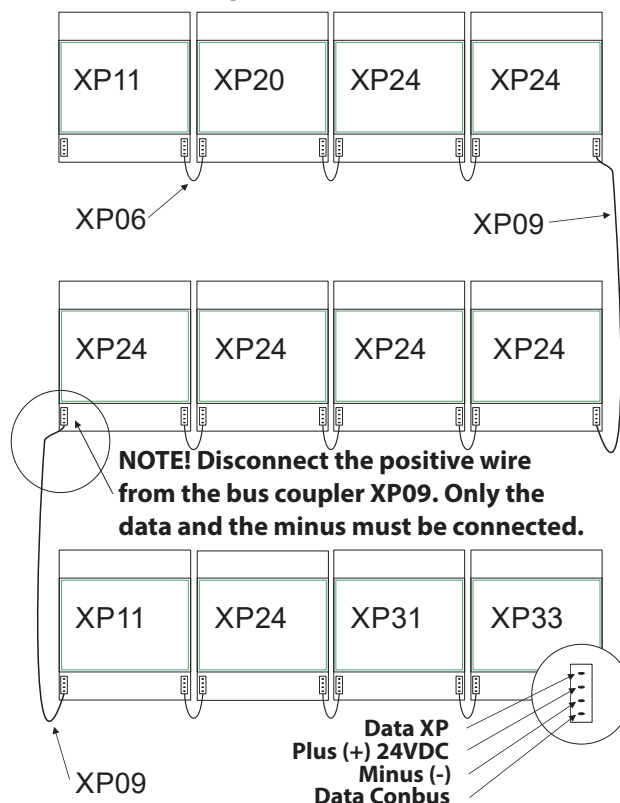|	
Appearance according	to EN55022
Immunity	to IEC 61000
Security	to EN 60950

Mechanical data

Monting	Din-rail DIN46277
Dimensions	85x70x72 mm
Weight	168 g

Connections

Note: The installation must be equipped with an overvoltage protection Class I and Class II.

Bus couplers

XP07 horizontal bus coupler 25 cm EAN No. 5703513056193

XP09 vertical bus coupler 25 cm EAN No. 5703513054731

XP06 horizontal bus coupler 3 cm EAN No. 5703513057329

XP08 interconnector to connect two XP07 or XP09 bus couplers together EAN No. 5703513054601

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Introduction

The Switch-Link XP20 is an input module with 8 channels. Potential-free push buttons, switches, sensors and others can be connected to these inputs. The XP20 is similar to the CP20 of the Concept 2000 system, but the difference is that the XP20 uses a bus-connector with 4 poles.

The Switch-Link modules in Concept 2000 XP are required to create modes such as all on, all off, group on/off and so on.

Upon activation of an input, the XP20 sends commands to the local bus. These commands are used by the relay- and/or dimmer-modules to execute the configured actions.

The XP20 cannot be programmed as a real XP-module, but its addressing and programming can be done as with the Concept 2000 system using the Conkey CP79 or the Conbeam XP78 with Contool software.

The inputs of the XP20 module can be changed in order to create special functions such as inverting, AND-functions, short/long and groups on/off. Each data-bus can contain four XP20 modules, which means that there are 4 x 8 = 32 high level functions possible with four XP20 modules. An alternative for the XP20 module is the push button interface XP28, which can be programmed by using the Contool software.

Check the technical description of the XP28.

Note: The XP20 will be changed to an execution on the basis of a XP28, thus also programmable as an XP module.

Programming special functions by using the Conkey CP79

To program special functions with the Conkey CP79, please check the technical sheet of the CP20 (www.conson.com).

Programming special functions by using the software Contool

The special functions are programmable using the input logic setup window of the module, select the tab „Fusebox" to open it. All the project modules are graphically displayed. Just right-click with the mouse on the chosen XP20 module. The window of the input logic setup will open up. The efficiency of an input channel can be changed by checking the right checkbox.

Technical specifications

Low current

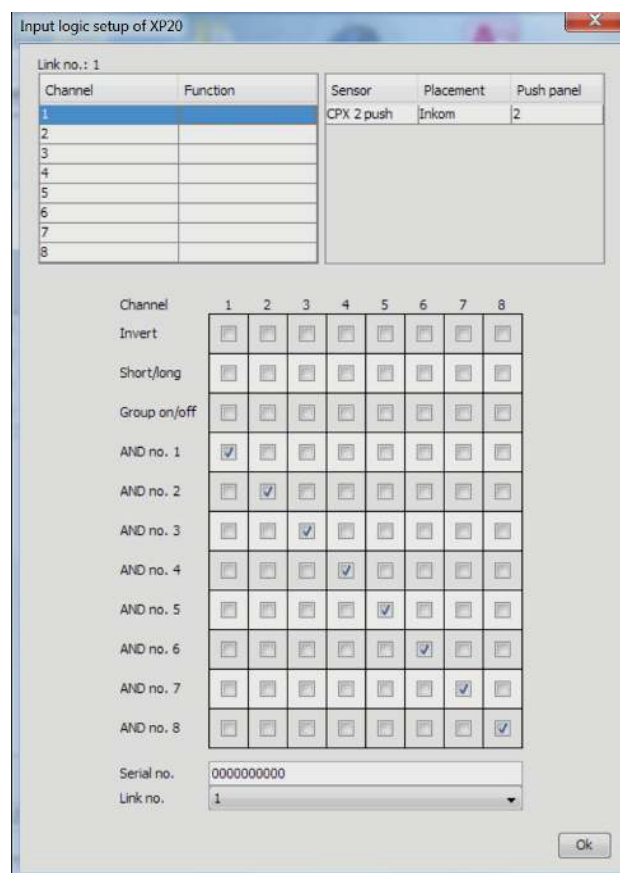|	
Voltage	24 VDC
Power consumption	0,5 W
8 inputs switched by the minus	
Input current all inputs	0,5 mA
Pulse time short press	between 20-300 msec
Pulse time long press min.	greater than 300 msec

Mechanical data

Montage Din rail symmetric	Din-rail DIN46277
Dimensions (HxWxD)	85x70x72 mm
Weight	85 g

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The different functions of the XP20 and commands which are sent to the Conbus (Similar for the interfaces XP2506 and XP28)

Input action	Explication	Programmed XP20 functions			Bus-command
		Invert	Grp on/off	Short/long	
Close contact	Close contact				START
Open contact	Open contact				STOP
Close contact	Close contact	✓			STOP
Open contact	Open contact	✓			START
Close contact	Close contact		✓		Alternating START/STOP
Open contact	Open contact		✓		-----------
Short impuls	Short impuls			✓	START
Long impuls	Long impuls			✓	STOP
Short impuls	Short impuls	✓		✓	STOP
Long impuls	Long impuls	✓		✓	START

When closing or opening a contact which is connected to an input of an XP20 a command is sent to the Conbus. No permanent data is transmitted to the bus.

Explanation and examples of the different functions in relation to the actions applied to the actors.

Inverting

When closing the contact on a non-inverted input, the action is immediately executed. For example:

Example 1
A magnet contact NC is available in a closet and is connected with input 7 of the XP20. In the window of "input logic setup of the XP20" check the checkbox number 7 on the line „Invert".
The action of the actor that must turn on and off the light is „auxiliary relay" (Help function) . When opening the closet, a start-command will be placed on the Conbus and the matching light will turn on. When closing the contact, the stop-command is placed on the Conbus and the light turns off.

Example 2
An actor controls the toilet light and the other one controls the ventilation. Whenever the toilet light turns on, it would be great to turn on the ventilation for x-time. The LED-output of the actor (XP24) that controls the light is connected to input 6 of the XP20. Input 6 is inverted. When turning on the toilet light, the LED-output of the actor (XP24) that controls the light is connected with input 6 of the XP20. Input 6 becomes inverted. When turning on the toilet light, the LED-output becomes low of the actor that controls the light. Whenever the toilet light turns off, its LED-output becomes high. This information sends a start-command channel 6 Switch-Link 1 to the bus and the ventilation starts for x-time.
Remark: This way of programming is somehow devious. Using the „Actor programming" from Contool is much easier and without any feedback cabling.

Example 3
The wish is to control the blinds up and down with one pushbutton. Install the number of motors on the floor plan and program the relays 1 and 3 of the XP24 modules with the action „On 30 sec" using channel 4 of the XP20. Program the relays 2 and 4 of all XPs with the action „On 30 sec" using channel 5 of the XP20. Connect the inputs 4 and 5. Program in the window of the „Input Logic of XP20" the following: check the checkboxes 4 and 5 on the line „short/long". Invert input 5. The relays 2 and 4 control the blinds down, and the relays 1 and 3 control the blinds up. In case of a short impulse of the pushbutton, a start-command is sent to the Conbus and all blinds go up. In case of a long impulse of the pushbutton, all blinds go down.

Short/long

The short/long-command responds differently depending on the action that has to be performed. Most actions that actors can perform are started by a short impulse. When the corresponding channel of the XP20 is inverted, it is a long impulse that performs the action. Only by using the action „Auxiliary relay" (Help function), the short/long-function will do a start- and stop-command. This means that all actors (relay- and dimming modules) that are programmed with the action „Auxiliary relay" (Help function) in relation to the input channel of the XP20 and to the short/long-function, will start with a short command and stop their actions with a long command. Some examples follow below.

Example 4
Situation: Hall-light, wall-light in the living room, dimmable lighting fixture in the seating area, kitchen-light. Desired mode: pushbutton in the entrance hall; with a short push, all these lights will turn on, and these lights will turn off with a long push. After a short push, the hall-light must stay on for 10 minutes. The light in seating area must be on and dimmed for 65%.
Solution:
Channel 5 of the XP20 short/long.
Action hall-light „Auxiliary relay" and „On 10 minutes"
Action wall-light „Auxiliary relay"
Action dimmable lighting fixture „Auxiliary relay" and light level 65%
Action kitchen-light „Auxiliary relay"

Example 5
Situation: The outdoor lights have 4 circuits. Each circuit can be controlled individually.
Desired mode: With one pushbutton, when pressed long, all outdoor-lights go on for 60 minutes and when pressed shortly the lights will turn off. This mode can also be used in stressful situations. When one is panicking, he/she has the intension to press the button for a long time. Whenever a potential-free contact of an alarm installation is switched simultaneously, the alarm will turn on the outdoor lights for one hour.
Solution:
Channel 6 of the XP20 short/long and invert.
Actions of the 4 actors of outdoor-lights „On 60 minutes".

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Example 6

Situation: Child room has one dimmed light-point. Desired mode: short/short/long. With a short impulse, light turns on, and another short impulse it turns off. With a long impulse the light goes on for 5 minutes.
Solution:
Program in the XP20 channel 6 short/long and invert.
Connect channel 6 with channel 5.
Program the actor of the light-point of the child room as follows:
„Impulse" via channel 5 of the XP20
„On 5 minutes" through channel 6 of the XP20
Previous mentioned solution can also work using a different way in case the pushbutton is connected with the direct input of the XP24. Make a connection between the direct input of the XP24 and input 6 of the XP20. Then one only needs the following programming: „On 5 minutes" via channel 6 of the XP20.

Groups on/off

Groups on/off is interesting when light-circuits need to be turned on and off using one pushbutton. The usual action assigned to a group of actors is „Auxiliary Relay" (Help function). Without the function „Groups on/off", the light-circuits will turn on when closing the pushbuttons and they will turn off when the pushbuttons are opened. The fact that the function „Groups on/off" will be assigned to the alternate close/close of a pushbutton indicates that the lights will respectively go on and off. The action „Auxiliary relay" can be followed by an action „Set light level to e.g. 75%" and an action with timer for example „On for 10 minutes".

Example 7

On the floor of an office, there are 4 rows of dimmed light-circuits with outside glazing. It can be controlled with Dali using 4 pieces of XP31DD. At the beginning of the floor, there are 5 pushbuttons with LED-feedback (e.g.: pushbutton or CP2505 or other). The center button is connected to e.g. input 7 of an XP20. The others are connected to the direct inputs of the four XP31DD with their LED-feedback via the outputs of the modules.
Programming goes as follows:
„Auxiliary relay" for all four XP31DD
Additional: Set light level to x-%
For light-circuit 1 the most close to the glass to 50%. For the light circuits 2, 3 and change it to 70%, 80% and 90%. The result is a similar light-distribution over the complete surface of the whole floor. When changing the light levels using the direct inputs of the XP31DD's, they will turn back to the original light level as mentioned above. By adding the action „Automatic light level" the whole system will be better in energy saving. See the description of the XP31xx dimmers.

AND-functions

An AND-function works when a specific input-channel of the XP20 sends a command on the bus when there is compliance with a specific condition. This condition can be that one or more channels must be active before the AND-channel can put data on the bus.

Schematic
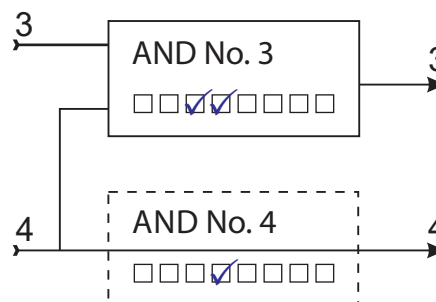
The schematic representations symbolizes two rows of checkboxes for the input- channels 3 and 4 of the XP20 as mentioned in the set-up window of the input logics of the XP20. It's the input-channel 3 that must be 'AND' with respect to input-channel 4. Thus, channel 4 must be active in order to place the command of channel 3 on the bus. When, for example, a dusk switch is connected to input 4, it can work freely. It is important to never use this type of sensor and to 'AND' it with another channel. Reason is that a twilight-switch can be used to turn on the stair-lights when it's getting dark by placing a movement sensor that turns on the lights outside for x-time.

Example 8

Following situation: 3 pushbuttons in the hall, hall-light, outside lights and night-lights, sensor is a twilight-switch CP75S (channel 8). Potential free contact of the alarm center to channel 6.
Desired modes: pushbuttons „All on" (channel 1) and „Welcome home" (channels 3 and 4 connected in similar ways). With the „All off"-pushbutton, the command will only be active if the alarm is armed. Night lights „on/off" by the setup of twilight-switch CP75S.
Programming of the actors goes as follows:
In the actor-window from the night-lights delete the action „Turn on", as well as the checkmark in the checkbox of the „Member of all off".
Action-actor night-lights „Auxiliary relay" via trough channel 8.
Action-actors that want to do something in modes starting with "Turn on" using channel 3 of the XP20.
Action-actors that have to be on with the mode „Welcome home" when it's getting dark put „Turn on" through channel 4.

Programming the AND-function:

AND No. 1 ☑☐☐☐☐☐☑☐☐
AND No. 4 ☐☐☐☑☐☐☐☐☑

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Output connections

Bipolar example

Introduction

The XP24 is a programmable relay module with four outputs of 13A and two by two supplied by the common inputs L1 and L2. The module has four direct inputs to   directly control the 4 relays. Each input controls its corresponding relay. The inputs are programmed by default as pulse-inputs (teleruptor). When programming the module, other functions will be available such as an auxiliary-relay or a time-set. Furthermore,   it is possible to program 2 relays to the action "Lock mutually" and in combination with a timer function. It's surprisingly interesting to use it for controlling curtain motors, projection screens and other. The actions slave-/pulse-/relay when using the local bus can be executed with a timer function.

Technical data

High power
Relay data

Max load at 277 VAC/24 VDC	16A
In application 240 VAC/24VDC	13 A
Operate time	15 ms
Release time	15 ms
Dielectric between coil and contacts	4000 VAC
Dielectric between open contacts	1000 VAC
Maximum rating at the powerinputs L1 and L2	
Resistive cos φ 1,0	2 x 2300 VA
Inductive cos φ 0,5	2 x 1150 VA
Maximum value fuse	2 x 16 A

Low power

Consumption in the idle	0,2 W
Consumption all relays on	2,4 W
Voltage at the inputs D en E (no load)	13,6 VDC
Voltage at the inputs F en G	5,0 VDC
Minimum responstime	40 ms
Minimumscurrent at the inputs	0,5 mA
Maximum loss resistance control line	1 KΩ
Maximum charge Led-outputs	75 mA

Tripolar exemple

Fourpolar exemple

to L1 en L2 from the next XP24

Input connections

L1 | 1.1 | 2.1 | 3.2 | 4.2 | L2

IR com
Power regulation

Electronic control

Data Clock

B C D E F G H I K L

Led-outputs connections

L1 | 1.1 | 2.1 | 3.2 | 4.2 | L2

IR com
Power regulation

Electronic control

Data Clock

B C D E F G H I K L

to the input of
a linkmodule like
an XP20 or an XP28
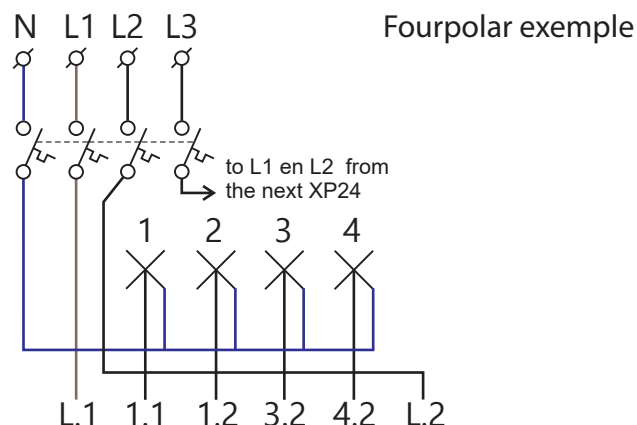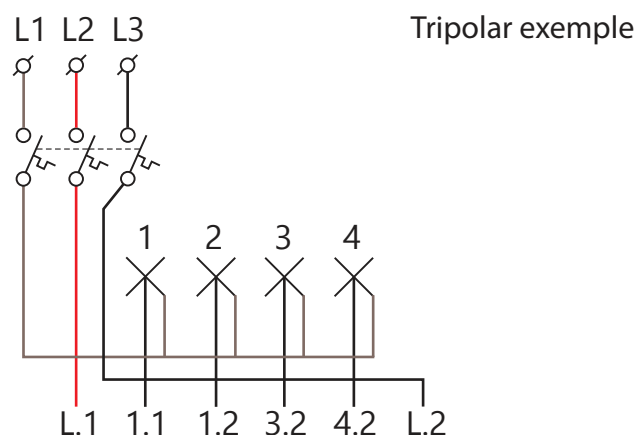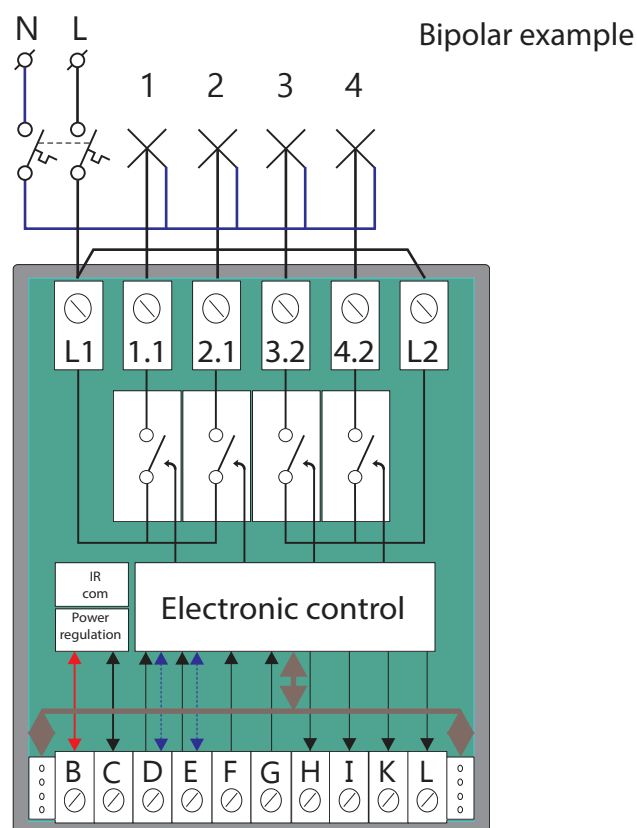
An XP24 module leaves the factory as a CP24 module. In case it used as a CP24, please check the technical information for a CP24. In case the XP24 is programmed via the gateway XP130 and the Contool software, it will become a real XP24 with all its possibilities.

Resetting to the factory settings without using the software can be done by connecting MINUS with the 4 inputs (CDEFG). Make a power-up: the left led goes slightly on, freezes for an amount of time and ends the process by flickering two times.

The inputs of the XP24 are standard impulse-inputs like electromechanical switches. Activating an input with a pushbutton always works with respect to the minus. The minimal input-current is 0,5 mA. This results in a maximum loss resistance of the control line <1 KΩ.
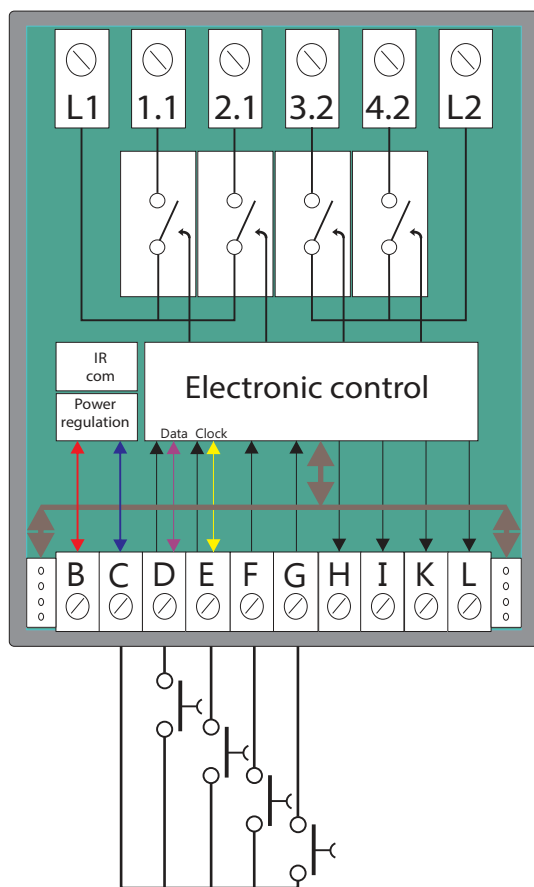
The inputs can be programmed to other functions using the Contool software. Each input can be programmed to a staircase-time-lighting. This is interesting when the light-circuit doesn't use direct controls. Both inputs 1 and 2 as well as inputs 3 and 4 can be mutually locked.

This interlocking is implemented till the relay outputs. In that way, the motors for sunshades and other can be controlled. See: explanation "motor controls".
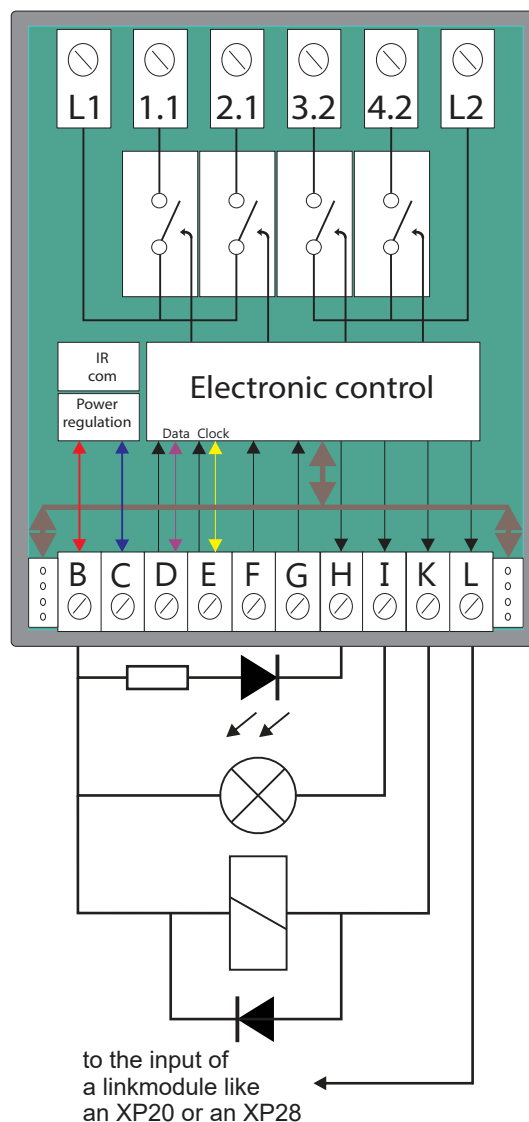
The Conson relay and dimmer modules have since 1980 LED-outputs. This is interesting for several appliances. The LED outputs H, I, K and L can support maximally 75 mA.

Connecting a LED to a LED output:
TThe used dropping resistor depends on the used type of LED. Following formula to calculate the dropping resistor: 24V - 2,2V/10 = 2,18 KΩ. The 10 stands for the value 10 mA according to the LED-type. The pushbuttons of the Conson type CP2505 use a 3 mA type.

Connecting a signalization lamp to a LED output:
The use of filament lamps is not recommended because of their high consumption. Usually, the type is a 30 mA so it becomes difficult to use more than two.

Connecting a relay to a LED output:
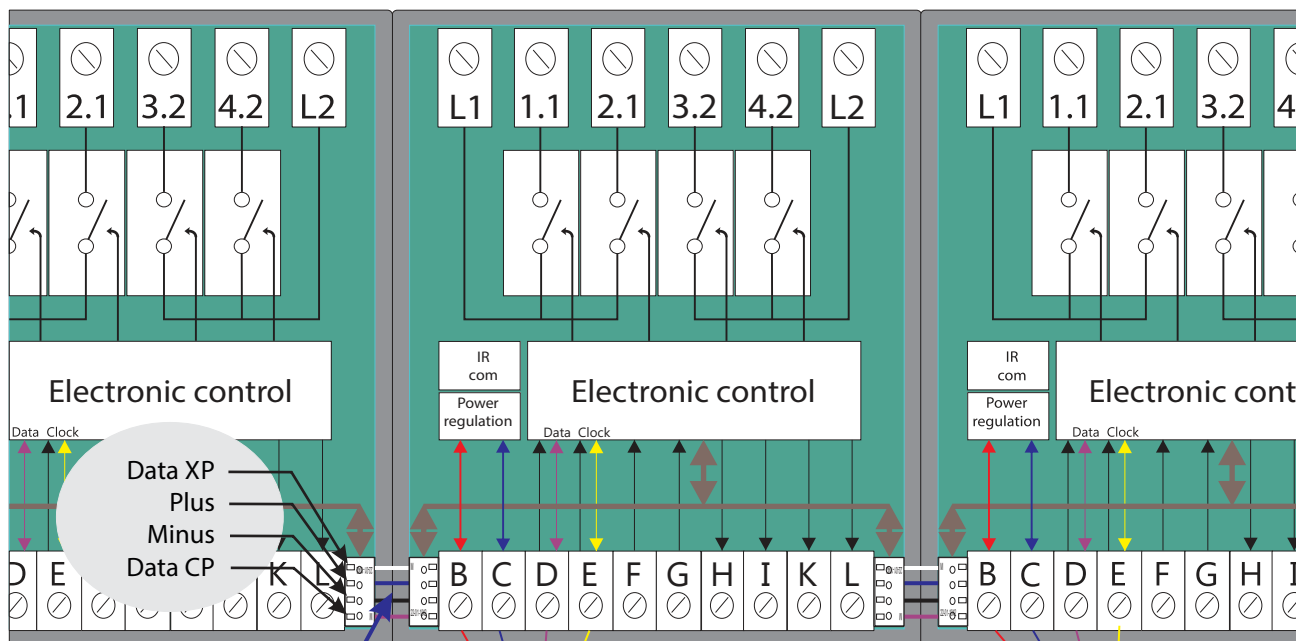A relay connected to a LED output can be used to control another actor. Don't forget the blocking diode. Most of the time the used types of relays have inside a blocking diode.

A LED output used for a feedback signal:
An LED output can serve to supply an information to an XP20 or an XP28 to perform an action followed by an action.

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Communication between the modules mutually and the sensors such as the BUS push buttons and the XP28 interfaces.

Terminals (module 1): 1 2.1 3.2 4.2 L2

Electronic control

Data Clock

Data XP
Plus
Minus
Data CP

D E ... K L

Terminals (module 2): L1 1.1 2.1 3.2 4.2 L2

IR com
Power regulation

Electronic control

Data Clock

B C D E F G H I K L

Terminals (module 3): L1 1.1 2.1 3.2 4.

IR com
Power regulation

Electronic cont

Data Clock

B C D E F G H I

The short 4-wired local bus connects the modules mutually = **Conbus**

Plus (+) 24VDC
Minus (-)
Data
Clock

The 4-wired external bus is a longer bus = **Consonbus**.

From any actor, a new bus can be started up. This is a special feature of Concept 2000XP.

The number of sensors (Bus-pushbuttons like X P2506 or bus-interfaces XP28) is limited to 99 of each type per bus that is started-up (XP2506, XP2506A, XP2506B, XP28, XP28A and XP28B). This is really enough for all types of installations.

Remark!

The choice of the type of cable and its length depends on the influence of the data- and clock-signal with respect to each other (inducing). Data and clock can never be a part of the same pair! The diagram on the right shows the influence of the clock with respect to the data and vice-versa.

XP28 module:

S - S - 5V 2 1 -
NTC | IR | O/I

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5 703513 059521

XP28

20025467

BUS

+ - D E + - D E

Outputs 1-8 | Inputs 1-8

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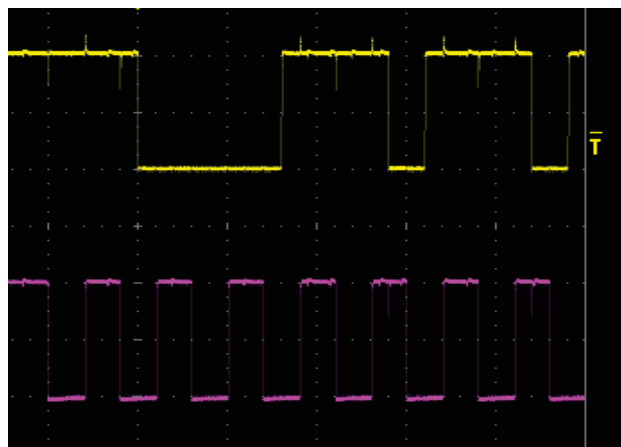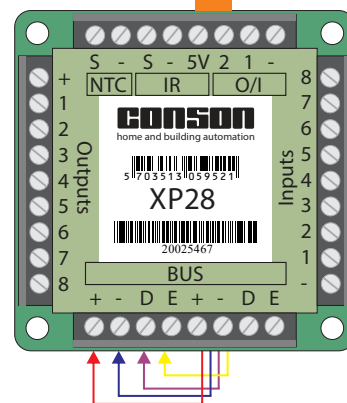
Controlling motors
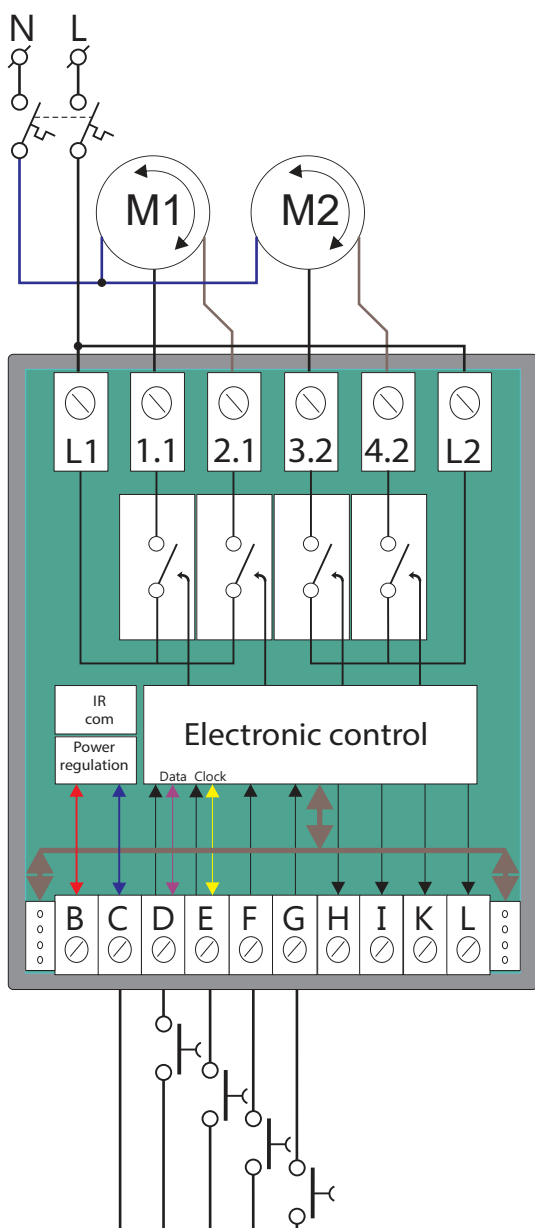
Programming other actions to the direct inputs of an XP24 and programming the direct inputs for controlling motors using the software Contool.
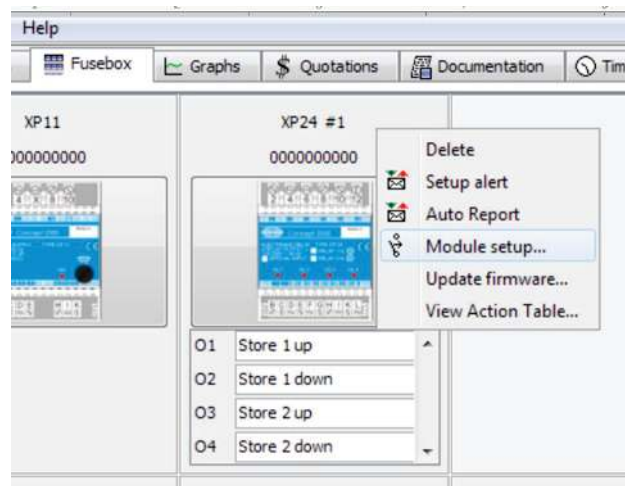
Place 2 motors on the floor plan. The Contool software adds automatically an XP24. Select the tab "Fusebox". Right click on the XP24 module (right in the top corner) and an action window will open. Select „Module set-up". The window „XP24 module programming" appears (see image below). Relay 1, 2, 3 and 4 are mutually blocked. Change the duration-time depending on the type of rollers, shutters or blinds, e.g. 30 seconds.

Important remarks:
In case the motors have an electronic cross limit switch , change the blocking time to 500ms.

In case the blinds have slats , use „Blinds 1-2 (3-4)".

The explained work method to program the direct inputs for motor controlling is also the same according to the other action to control the direct inputs of an XP24 relay module. It is possible to assign an action „On 5 minutes" to input 3 and not an impulse action, so a Pir-detector can be connected to the direct input.

When using the Consonbus at D and E, do not change the actions of the direct inputs 1 and 2!
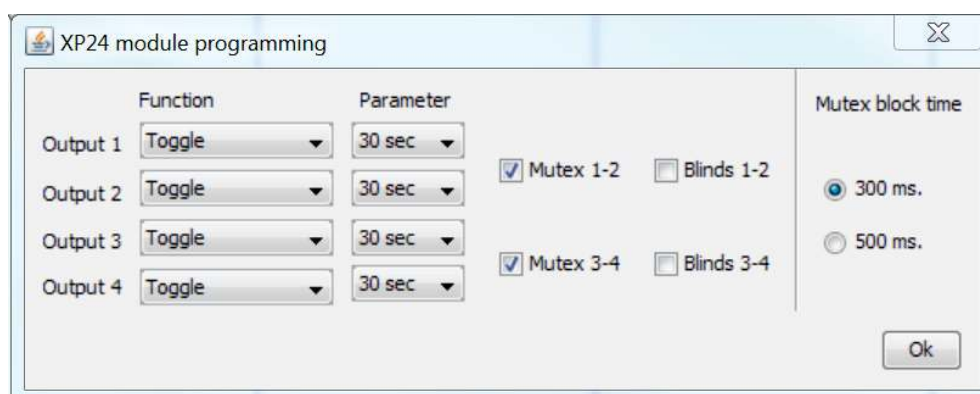
Programming of XP24 in Concept 2000 Xp

Start the Contool software and add a floor plan. Choose tab „Design", then tab „Sensors/actors" and put both an actor-lamp On/Off, a sensor XP28A and a double pushbutton on the floor plan.

Select the tab „Programming", select the double pushbutton on the floor plan, and on the right you see a separate window. Give a location, e.g. living room. Select the left button on the double pushbutton and write its behavior in the corresponding box: e.g. on/off.

Below the pushbutton-panel window you find the programming method, please select the XP28 sensor. Select the assigned module of „Not assigned" to XP28AL1 and choose channel 1. Click on the lamp that can be found on the floor plan. The window „Functions for actor XP24 on/off" appears. Change the actor-name into „Living room".

Choose in the drop-down menu the action "Impulse" and click on "Add". Click OK to close.

Channel 1 becomes red and this means that this channel has been used. Thus, the lamp is controlled by channel 1 of link 1 of the Concept 2000 XP (not same link 1 of the Concept 2000 system). Go the main tab „Fusebox". Click „Upload". The data will be sent to the XP24 module.

Click again on the main tab „Floorplan" and select the right window „User interface". Click on the left button of the pushbutton and the light goes on, clicking again will turn it off.

In case you click on the arrow direction right of the right window, it will disappear. When you click the pushbutton on the floor plan it will become bigger and can be controlled with the mice cursor or touch screen.

Click on „Design" and choose the tab „Detect XP sensors". Below, a window appears with a list. Drag the XP28A from the list to the XP28A on the floor plan. A window appears asking whether the serial number of the XP28A should be copied or not. Click OK.
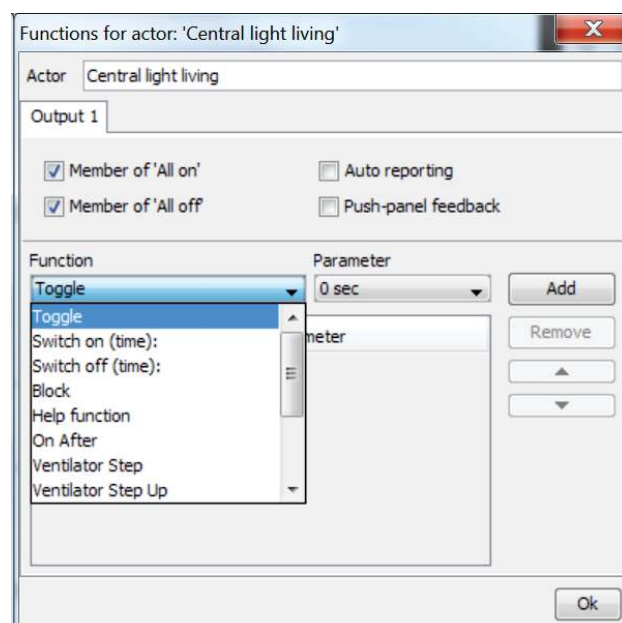
Go to the main tab „Fusebox" and click on „Upload".

Connect both pushbuttons with input 1 and 2 of the XP28A and test the functions.

These previously mentioned methods of programming are the same for all actors and sensors of the Concept 2000 Xp

The different actions of the XP24

Impulse	When pressing and pressing again the actor goes „on and off".
Impulse + x-time	When pressing and pressing again the actor goes „on and off". When „on" there is a duration time of x-time.
On	On means that the actor goes on.
On+ x-time	On + x-time means that the actor goes on for a duration of x-time.
Off	Off means that the actor goes off.
Off+ x-time	Off + x-time means that the actor goes off after a duration of x-time.
Block	Blocking means when blocking is assigned to a particular actor by a specific channel, that as long as this channel is active, the actuator cannot be operated. Thus locking certain buttons on alarm as an example.
Help fonction	Auxiliary relay means when pressing a pushbutton (or door contact) that the actor comes on and when unloading the actor goes out.
Help relay + next line x-time	See description XP20.
On after x-time	On after x-time means that actor goes on after x-time.
Ventilation step by step	To control in ventilation systems.
Random timer	Description in a next edition

Functions for actor: 'Central light living'

Actor: Central light living

Output 1

☑ Member of 'All on'   ☐ Auto reporting
☑ Member of 'All off'   ☐ Push-panel feedback

Function   Parameter
Toggle   0 sec   Add
Toggle
Switch on (time):   meter   Remove
Switch off (time):
Block   ▲
Help function
On After   ▼
Ventilator Step
Ventilator Step Up

Ok

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XP31LED: Dimmer 2 VA - 200V ohms en capacitive
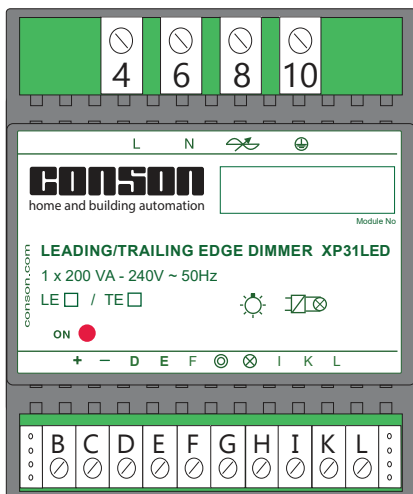
EAN-Nr.: 5703513056124

The dimmer module XP31LED is an intelligent programmable dimmer for dimming ohmic and capacitive loads with a capacity of 2 VA - 200VA. The dimmer is set as a trailing edge dimmer (TE) by default. The dimmer is switched to a leading edge dimmer via a start-up procedure. The XP31LED regulates logarithmically and has a built-in soft start, thermal protection and notification of an interrup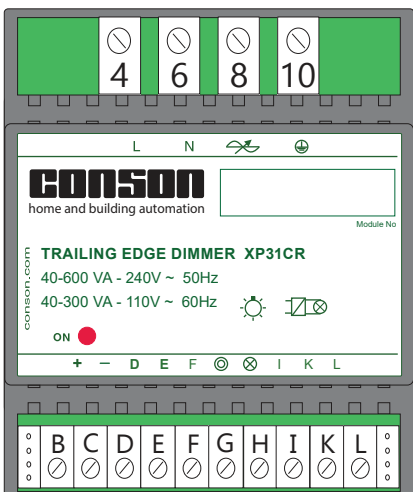tion of the neutral conductor. The dimmer has a direct impulse input. When the data bus is taken into use, up to 99 programmed functions can be performed for the realization of modes and this with the actions per percent dimming, up and down, time and fade functions and daylight management.

XP31LR: Dimmer 40-1000VA ohms inductive
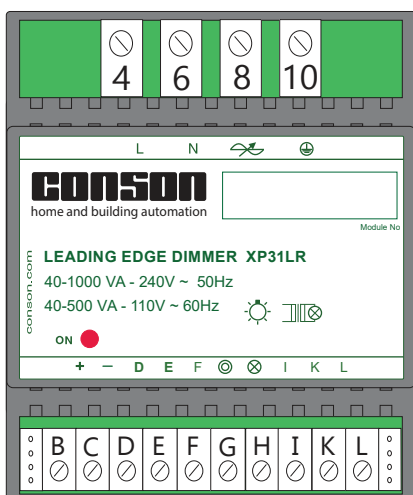
EAN-Nr.: 5703513058845

The dimmer module XP31LR is an intelligent programmable dimmer to dim the ohms and inductive loads with a power of 40-1000 VA (leading edge). The XP31LR regulates logarithmically and has a built-in soft-start, thermal security and reporting of an interruption of the neutral conductor. The dimmer has a direct impulse input. When using the data-bus, up to 99 programmed functions are performed for the realization of modes and this by using dimming actions by percent, up and down, time and fade functions and daylight management.

XP31CR: Dimmer 40-600 VA ohms capacitive

EAN-Nr.: 5703513055288

The dimmer module XP31CR is an intelligent programmable dimmer to dim resistive and capacitive loads with a power of 40 - 600 VA (trailing edge). The XP31CR regulates logarithmically and has a built-in soft-start, thermal protection and reporting of neutral interruption. The dimmer has a direct impulse input. When using the data-bus, up to 99 programmed functions are performed for the realization of modes and this by using dimming actions by percent, up and down, time and fade functions and daylight management.

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XP31BC: Ballast dimmer 0-10V/10-0V

2 4 6 8 10 12

NO   L   N   0-10V   COM   10-0V

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Module No

BALLAST DIMMER XP31BC
BALLAST CONTROLLER 0-10V / 10-0V
µ13A 240V ~ 50-60 Hz

ON ●

+ − D E F ◎ ⊗ I K L

B C D E F G H I K L
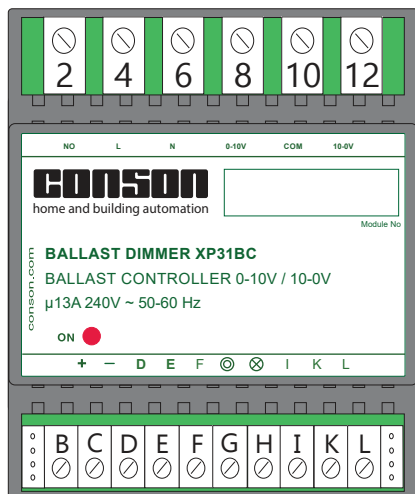
EAN-Nr. : 5703513055240

The dimmer XP31BC module is an intelligent programmable dimmer to dim LED-drivers and HF-ballasts and others with a 0-10V/10-0V control signal. A relay 13A is provided in order to switch the power supply of the ballasts. The dimmer controls XP31BC regulates lineary and has a built-in soft-start. The dimmer has a direct pulse input. Upon the commissioning of the data-bus, up to 99 programmed functions are performed for the realization of the modes and this includes the dimming actions by percent, up and down, time and fade functions and daylight management.
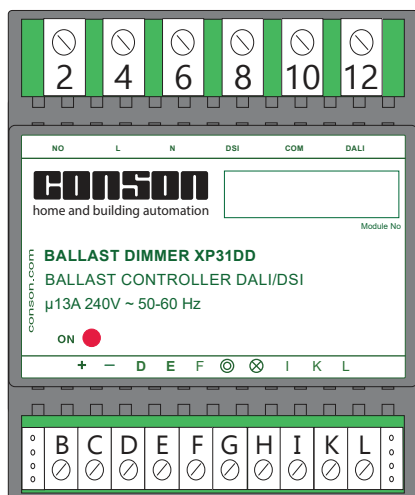
XP31BCU: Universal ballast dimmer 0-10V/10-0V Dali/DSI

2 4 6 8 10 12

NO   L   N   DSI DALI   COM   0-10V 10-0V

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Module No

BALLAST DIMMER XP31BCU
UNIVERSAL CONTROLLER
µ13A 240V ~ 50-60 Hz

A ☐ 0 - 10V
B ☐ 10 - 0V
C ☐ DSI
D ☐ DALI

ON ●

+ − D E F ◎ ⊗ I K L

B C D E F G H I K L
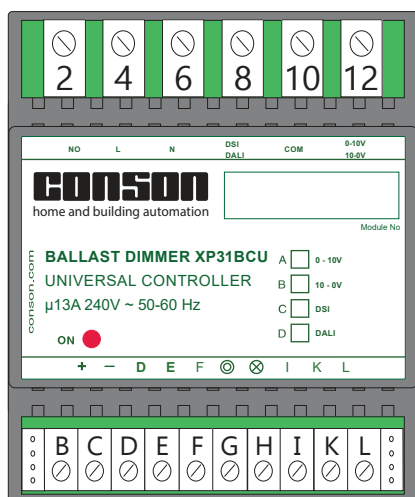
EAN-Nr. : 5703513055257

The dimmer XP 31 BCU module is an intelligent, universal and programmable dimmer to dim LED-drivers, HF ballasts and others with various signals such as 0-10V/10-0V/Dali and DSI (Digital Addressable Lighting Interface) or DSI (Digital Serial Interface – a non-addressable digital control). A relay 13A is provided for switching the power supply of the ballast. The dimmer XP31BCU regulates logarithmically and has a built-in soft-start. The dimmer has a direct impulse input. Upon the commissioning of the data-bus, up to 99 programmed functions are performed for the realization of modes, and this includes dimming actions by percent, up and down, time and fade functions and daylight management. Through the ConTool software one can program the type of control signal. The XP31BCU is the ideal ballast-dimmer when one does not know in advance what type of ballast it will be.

XP31DD: Ballast dimmer Dali en DSI

2 4 6 8 10 12

NO   L   N   DSI   COM   DALI

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Module No

BALLAST DIMMER XP31DD
BALLAST CONTROLLER DALI/DSI
µ13A 240V ~ 50-60 Hz

ON ●

+ − D E F ◎ ⊗ I K L

B C D E F G H I K L

EAN-Nr. : 5703513055387

The dimmer XP31DD module is an intelligent programmable dimmer to dim LED-drivers, HF ballasts and others with this Dali (Digital Addressable Lighting Interface) or DSI (Digital Serial Interface - a non-addressable digital control). A relay of 13A is provided for switching the power supply of the ballast. The dimmer XP31DD regulates logarithmically and has a built-in soft-start. Upon the commissioning of the data-bus, up to 99 programmed functions are performed for the realization of modes, and this includes dimming actions by percent, up and down, time and fade functions and daylight management. Through the ConTool software one can program the type of control signal.

Main features

The dimmers XP31 have a microprocessor for progressive steering. Special features inter alia, soft-start, adjustable fade-in and fade-off times, thermal security, logarithmic arrangement, potentiometer-control, analog daylight-dependent control, slave control, security against neutral-break and a minimum and maximum setting without adjustment-potentiometers.

Softstart and fade-in en fade-out
When switching on the dimmer, the output voltage goes from zero to the last used or desired level and this according to a certain amount of time defined in the firmware of the module. This working method prevents brutal interference on the mains when switched on and extends the life of the lamp. In addition, a timely limitation is ensured by a short-circuit during the breakage of the filament. The fade-in and fade-off times can be accessed via the bus and this with actions ranging from 5 seconds to 2 hours.

Thermal protection
This limits the temperature inside the module. The level of limitation is dependent on the type of dimmer. If this temperature is exceeded, the dimmer sends an SOS signal. Because of the SOS signal, the LED-dimmer flashes in rhythm of 3 x short and 3 x long. This signal is also present at the output of the LED-dimmer module. During the SOS signal, the output level is adjusted downwards. The reset is done by activating the impulse input of the dimmer for 20 seconds, or by removing the power supply voltage 24 VDC. This protocol can be different according to type of dimmer.

Protection against short-circuit
The dimmer of the CR and U are short-circuit proof. The power of these dimmers is controlled by the power mosfet-transistors. These are fast enough to switch the output switch.

Logarithmic control
The dimmers have a logarithmic regulation which ensures that, when being operated, an ergonomic feeling arises between the operation and the determination of the light variation.

Protection against neutral-break
A disconnected or interrupted neutral is indicated by the LED on the dimmer. This light flashes rhythmically, followed by a long pause. In this mode, the dimmer will not work. These security includes inter alias the following advantages: it must connect properly so that the filter network is functioning (interference suppression to the mains and vice versa) and it protects the component against overstrain (e.g. 380V instead of 230 V). A neutral-break from the base means that there is a high tension in certain light grids on the load and thus cannot simply be transferred to the load. More so, Conson has deliberately opted for sustainable control components that can withstand 1000V.

Power loss of a dimmer
The choice and quality of the components contribute to a minimal power loss of 1% to the load. Thus 10W for XP31LR with a full load of 1000VA, 6W for XP31CR with a full load of 600VA and 10W for XP31U with a full load of 1000VA. This loss of power must always be taken into account. This generates heat dissipation in the enclosure and can be removed through natural ventilation.

Important remark:
Always insert the dimmers at the bottom of the enclosure. Thus, this cannot be heated by other components.

Potentiometer control
All dimmers type XP31 have a potentiometer input. This input is also a 1-10 VDC input. Between 0.75 and 10 VDC dimmer regulates itself from minimum to maximum and at 0.5 VDC it turns off.

Automatic daylight-dependent level
All dimmers type XP31 have a daylight level and cooperation with a light sensor. Thus, it is possible to obtain a constant light-level at the workplace. This function can also be reversed. This is useful for example, to extend the day at bird farms or for the enlightening of advertising panels.

Slave function
More dimmers of the type XP31 can be connected in parallel to the control level. Useful in banquet rooms with movable walls. When all the walls are pulled back, all buttons work similarly. Can also be used to control three-phase dimmable loads.

Minimum and maximum level
Het minimum en maximum niveau is instelbaar via de rechtstreekse ingang of via de software Contool. Het minimum instellen is bijzonder nuttig wanneer de lichtbron verdoken zit in zijn armatuur (men ziet de gloeidraad of andere niet, b.v. uplighters).

The minimum and maximum level is adjustable via the direct input or via the ConTool software. Setting the minimum is particularly useful when the light source is hidden in its armature (one cannot see the filament or others, e.g. uplighters). May also be useful for the minimum speed of fans. Through the ConTool software, one can decided that the first dimmer is directed towards the maximum, such that the engine get to its speed. The maximum is useful in terms of energy savings. The difference between 95% and 100%, is hardly visible.

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Connections high power of the XP31LED/LR/CR/BC/BCU/DD
Connecting the control line of the XP31BC/BCU/DD

Example with a XP31LR
Power-regulation

L N   PE

Remark: The earthing system of the dimmer should always be connected.

L N ⌇ ⏚

Electronic control

IR com
Power regulation
Clock Data

N ?
% ?

B C D E F G H I K L

Example with a XP31BC
0 - 10 VDC regulation

Outputs of the ballasts or others to various lamps such as fluorescent tubes, halogen lamps, LEDs.

Electronic ballast or PWM transformer for LED 0 - 10 VDC

Electronic ballast or PWM transformer for LED 0 - 10 VDC

Electronic ballast or PWM transformer for LED 0 - 10 VDC

Electronic ballast or PWM transformer for LED 0 - 10 VDC

L N PE

NO L N 0-10 V COM 10-0 V

Electronic control

IR com
Power regulation
Clock Data

N ?
% ?

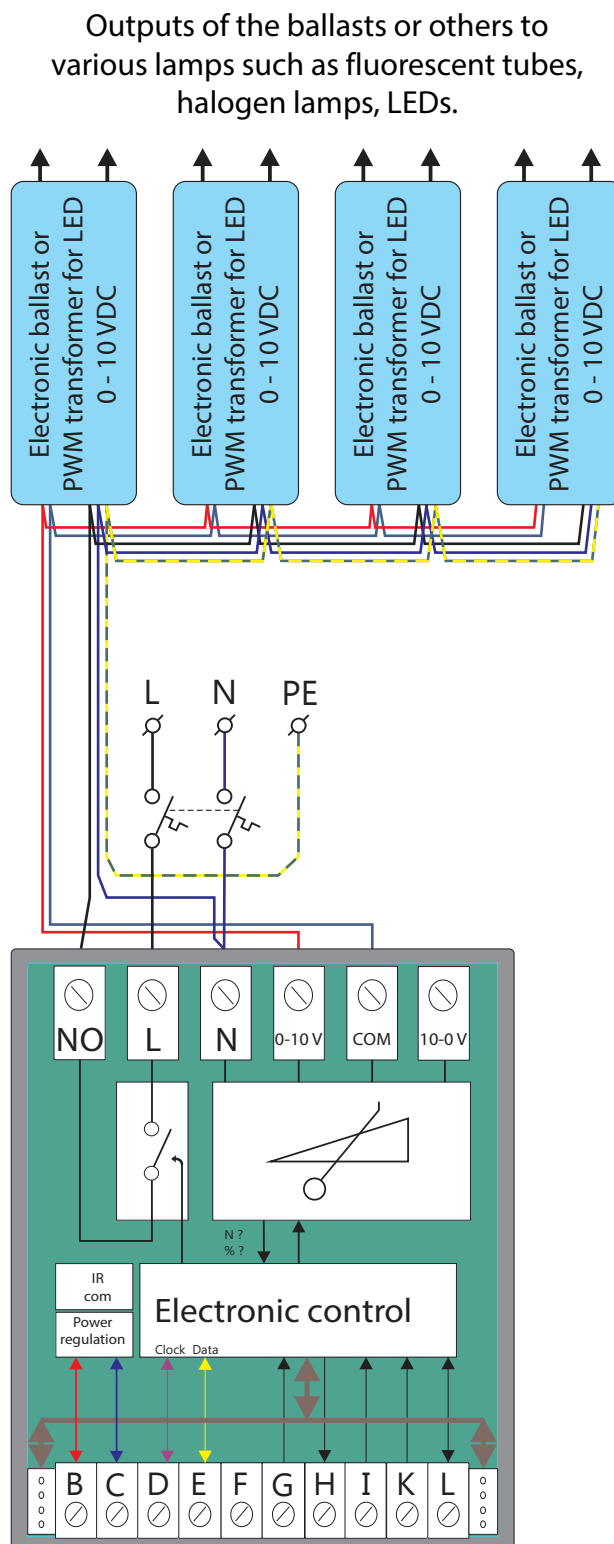B C D E F G H I K L

Important information:
The dimmer XP31BCU is a universal ballast controller. This type of ballast controller is particularly useful when it is not known in advance which load will be operated.

Through the ConTool software, the following modes of output signals are selectable: analog 0-10 V or 10-0 VDC or digital Dali or DSI.

Be careful: the analog outputs are located between terminals 5 and 6, the digital outputs between terminals 5 and 4. The terminal 5 is the common or the minus.
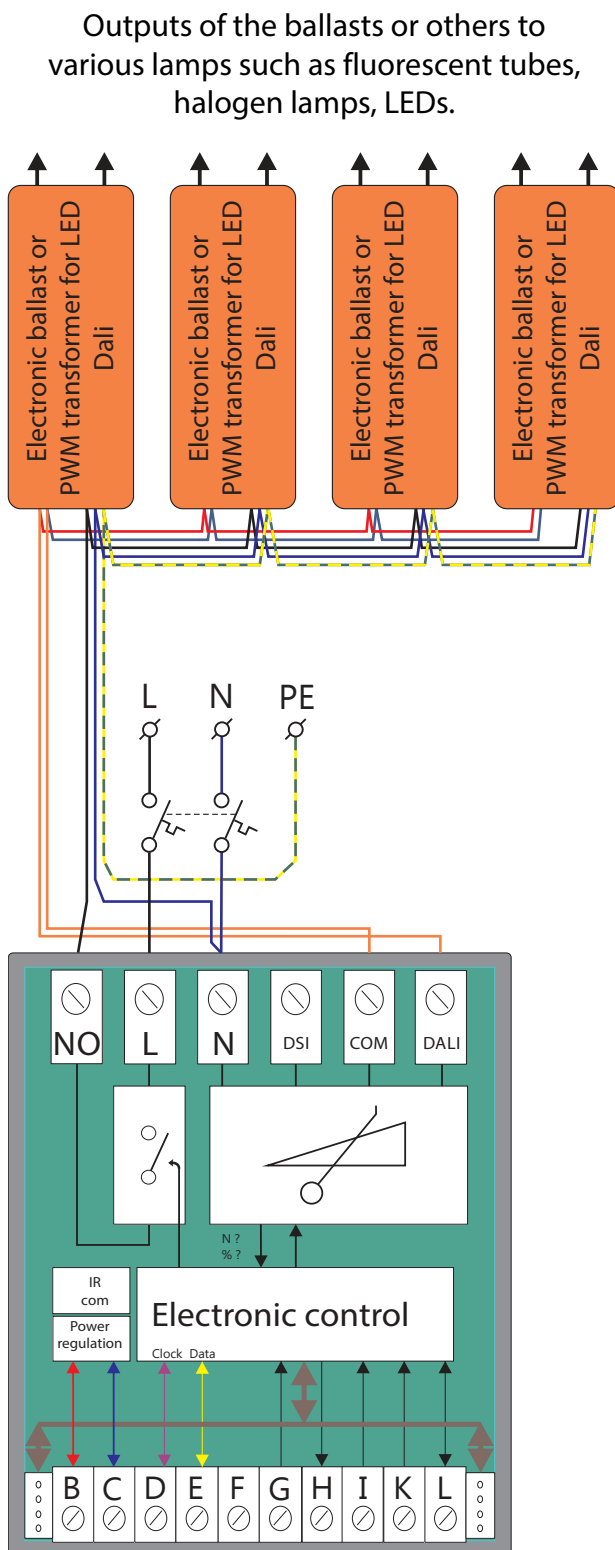
Connections high power side of the XP31LED/LR/CR/BC/BCU/DD
Connecting the control line of the XP31BC/BCU/DD

Example with a XP31DD
Dali regulation

Outputs of the ballasts or others to various lamps such as fluorescent tubes, halogen lamps, LEDs.

Electronic ballast or PWM transformer for LED Dali

L N PE

NO | L | N | DSI | COM | DALI

IR com
Power regulation
Electronic control
Clock Data
N ?
% ?

B C D E F G H I K L

Example with a XP31BCU
DSI regulation

Outputs of the ballasts or others to various lamps such as fluorescent tubes, halogen lamps, LEDs.

Electronic ballast or PWM transformer for LED DSI

L N PE

NO | L | N | Dali DSI | COM | 0-10 V 10-0 V

IR com
Power regulation
Electronic control
Clock Data
N ?
% ?

B C D E F G H I K L

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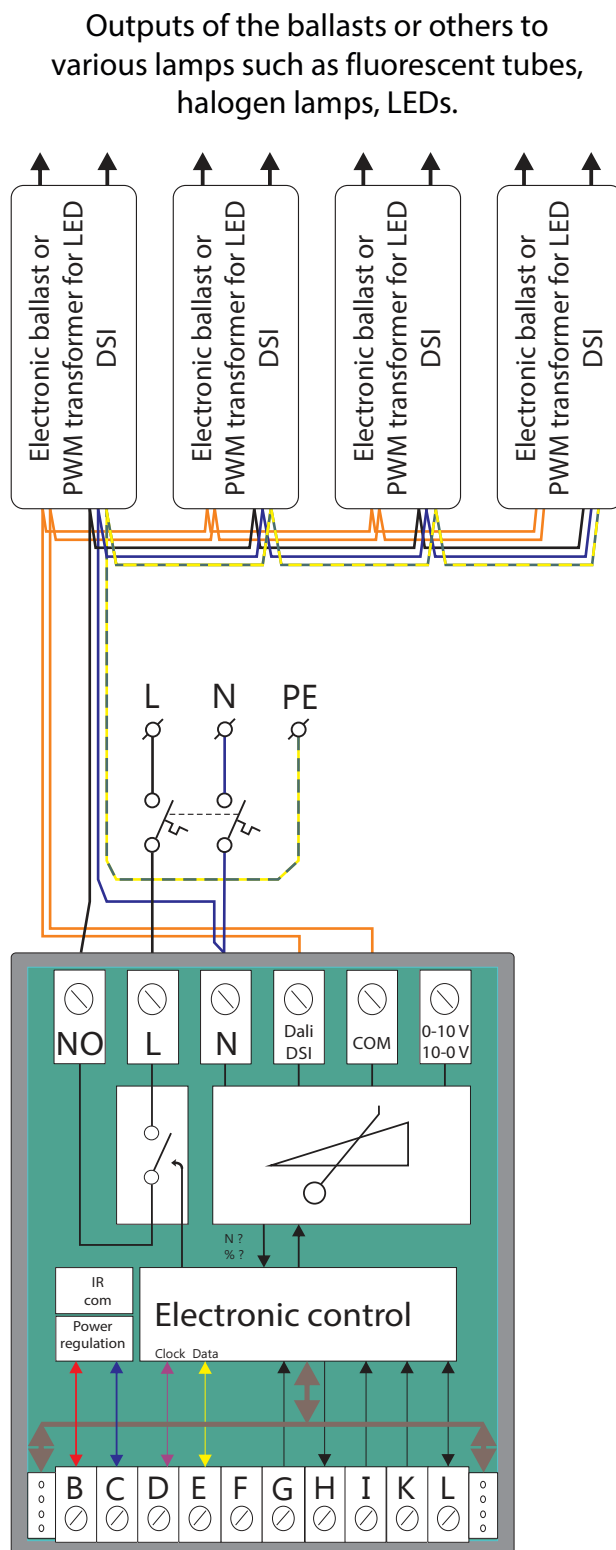
Low power connections of dimmers XP31LEDLR/CR/BC/BCU/DD

Control via the direct inputs
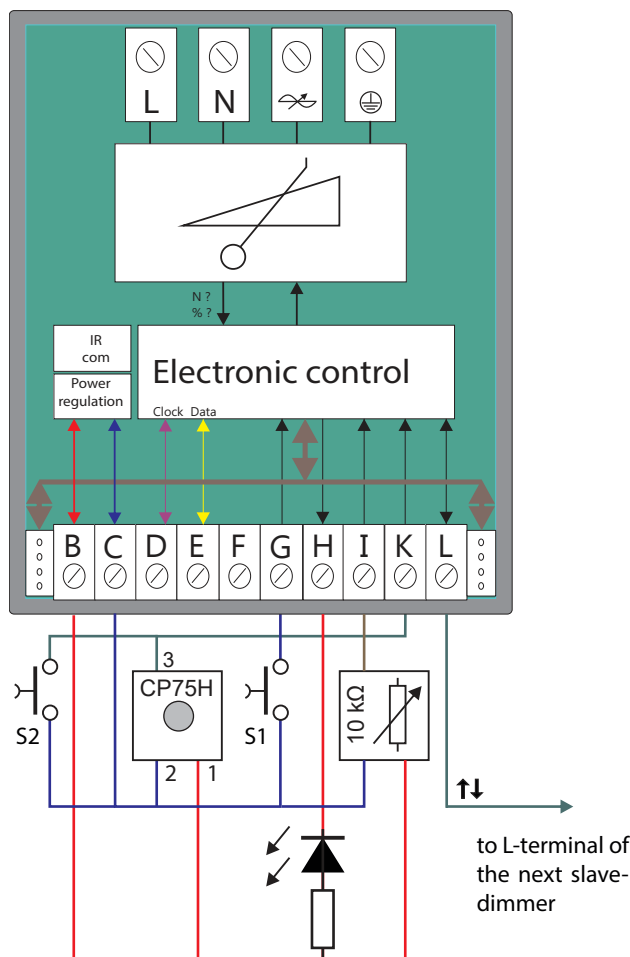
S1 push-button dimming and on / off
S2 push-button automatic daylight level on / off

Note: The potentiometer-input (terminal I) is also a 1 -10 VDC input. Between 0.75 V and 10 V control from minimum to maximum at 0.5 V dimmer off.

Setting minimum and maximum

By connecting the push-button S1 to the direct impulse input of the dimmer, it is possible to set the minimum and maximum light level. Following method: Keep pressing the push-button S1 when dimming downwards to the zero-level. Continue pressing the pushbutton until the dimmer naturally goes to a 100% light level (about 20 s). Then, while dimming, set the maximum light level. When the maximum level is set, give a short impulse and the light goes out. Press the button again and set the minimum light level. Then, again, give a short impulse, the light goes out. Again, give an impulse, the light goes on in its set minimum. After 10 seconds the light goes out, the dimmer has a its minimum and maximum stored.

Control by the Consonbus

Plus (+) 24VDC
Minus (-)
Data
Clock
4-wires signalisationcable
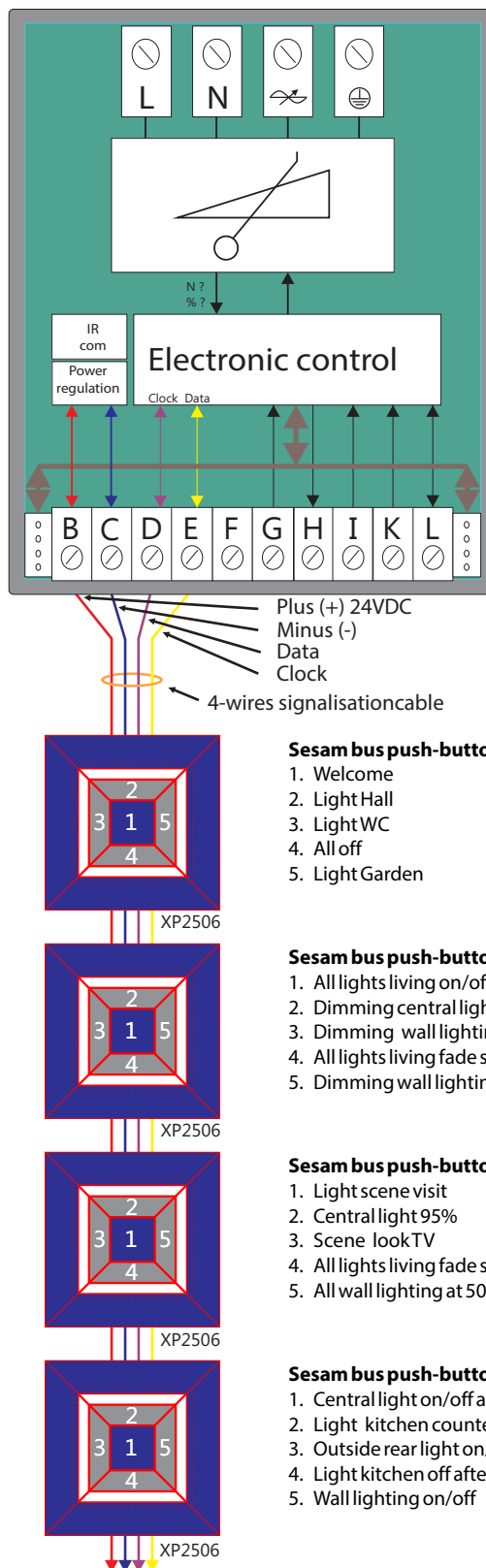
Sesam bus push-button in Hall
1. Welcome
2. Light Hall
3. Light WC
4. All off
5. Light Garden

XP2506

Sesam bus push-button 1 in Living
1. All lights living on/off
2. Dimming central light
3. Dimming wall lighting left side
4. All lights living fade slowly out
5. Dimming wall lighting right side

XP2506

Sesam bus push-button 2 in Living
1. Light scene visit
2. Central light 95%
3. Scene look TV
4. All lights living fade slowly out
5. All wall lighting at 50%

XP2506

Sesam bus push-button in Kitchen
1. Central light on/off and at 50 %
2. Light kitchen countertops on/off
3. Outside rear light on/off
4. Light kitchen off after 15 sec
5. Wall lighting on/off

XP2506

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Programming XP31 in the Concept 2000 Xp

Open ConTool software - add a floor plan - choose tab "Design state" - choose tab "Sensors/actors" (1) - Place the following components on the floor plan: select at the symbol "Lamp" (2) an actor XP31LR for the dining area and an actor XP31LR for the sitting area - select at the symbol "push-buttons" (3) a sesame push-button XP2506. Select the "Programming state"-tab (4) - select the XP2506 on the floor plan - it will appear in the right cameo.
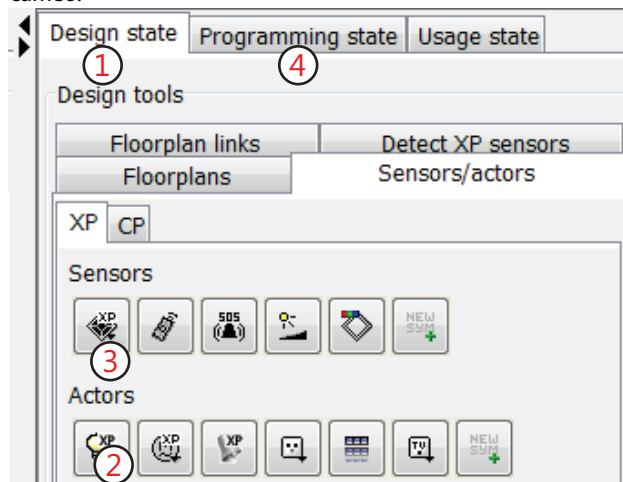

Specify a location for example, living room (5). Select the center push-button (it changes color from white to purple = active key) and write its function in the corresponding box: e.g. living room lights on / off 80% (6). At the bottom of the push-button panel, the programming method shows up automatically for the XP2506 sensor.
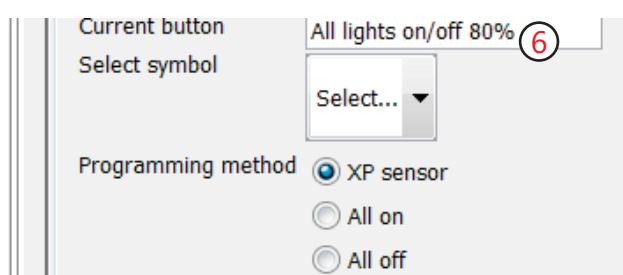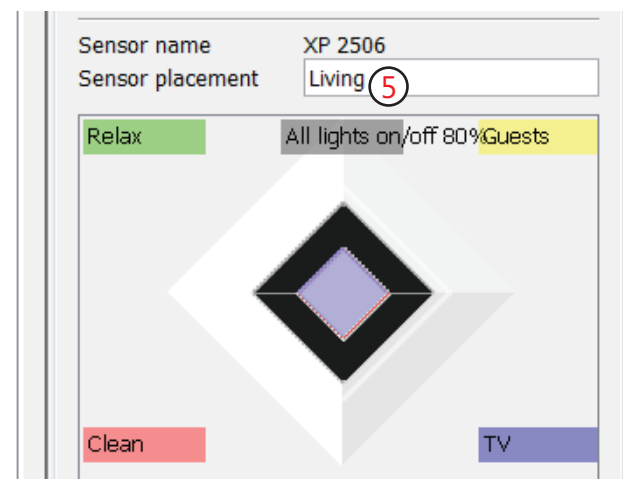
Click on the lamp of the dining area located on the floor plan. The "Functions for actor"Circuit XP31LR" window opens. Change the actor-name (7) into the name "Dining area". Choose within the drop down menu (8) the action "Auxiliary relay" (Help function) and click "Add". Then choose the action "Adjust light level" and select 80% and click "Add". Click "OK" to exit. Click on the lamp of the living saloon located on the floor plan. The "Functions for actor Circuit XP31LR" window opens. Change the actor-name into the name "Sitting area". Add the actions similar to the light of the dining area and press OK.
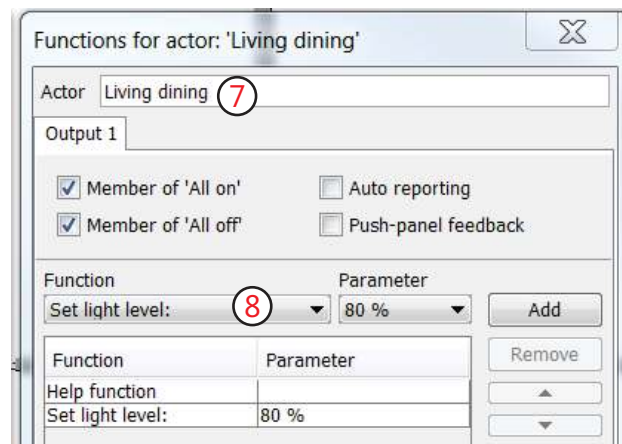
Select on the floor plan the sesame push-button XP2506, right click and select "Module setup. The "Special programming XP2506" window opens. Place a check marker for channel 1 (9) on the line "Group on/off". Go to the front tab "Control box" and click "Upload". The data are sent to the two dimmers XP31LR.
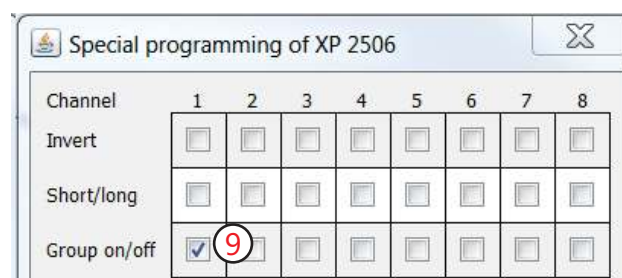
Click again on the front tab "Floor Plan" and select in the right cameo "User's interface". Click in the floor plan on the XP2506. The center button is activated to operate and the lights go on at a light level of 80%, press again and the lights go out. Now only the sesame push-button needs to be activated. This can be done in different ways. Either by directly filling in the serial number into the "Special programming XP2506" window, or via "Design" - tab "Insert XP sensors" – drag XP2506 from the list to the XP2506 on the floor plan and allow the serial number to copy.

The above method of programming is reflexive for all actors and sensors of the Concept 2000 Xp

The various actions

Impulse	When pressing and pressing again, the actor goes on/off.
Impuls + x-time	When pressing and pressing again, the actor goes on/off. By non-pressing again the actor goes out after x-time.
On	On means actor on.
On + x-time	On with a x-time means actor on for x-time.
Off	Off means actor off.
Uit + x-tijd	Off with a x-time means actor off after x-time.
Block	Blocking means when a certain actor is blocked by a specific channel of a link, that as long as this channel is active, the actor cannot be operated. Thus, for example, locking certain push-buttons on alarm.
Auxilary relay	Auxiliary relay means when pressing a push-button (or door contact) that the actor goes on and goes off when unloading the actor.
Auxilary relay + next line x-time	See groups on/off description XP20.
On after + next line for x-time	On after x-time means actor on for x-time.
Light up/down	Sending the light level upwards.. Sending the light level downwards.
Light level up (%) down (%)	Sending the light level upwards with a certain %. Sending the light level downwards with a certain %.
Set light level at x - %	Set the light level on a certain percentage.
Set fade-time	Set fade-time in x-time (from 0.5 sec until 120 min).
Set controle method	Choice between potentiometer, daylight-dependent or invert daylight-dependent.
On after	Start after x-time (from 0.5 sec until 120 min).
Random timer	Will be discussed in a later edition.

Programming special functions

To Fade

It is possible to regulate the light level to slowly to move up or down over time, this to a
certain percentage or completely off. Next working method: Choose a push-button that has to
perform the function. Click on the circle of light that it must perform. The actor window opens. Select the action "Adjust light level": (1) choose parameter e.g. 95% (2) and click
"Add" (3). Then select "Set fade time" and choose the parameter 10 min, resulting in (4), click on "Add" (3) and close with "OK" (5).

To fade downwards, take another push-button, and perform the same routine, but then to a level of light that is smaller, for example, 20% (6). To fade downwards and then completely off, add an action line Off (time): 10 min (7). Remark: The fade-time is the time to go from 0% to 100%. When the dimmer is set at 50% and one ask to go up to 100%, dimmer at 50% to 100% and asks to go, then the duration of the fade-time only is one half.

Special functions programming

With the latest versions of the XP31LED it is possible to switch the output from LE to or TE with the following method: for the LE mode (leading edge), de-energize the module, connect the minus to the D-input and Startup. The left Led blinks 2x and then 2 sec as confirmation. Same for TE (trailing), but then switch input E to minus.

Technical data

XP31 LED/LR / CR

High power

Power supply	110/230 VAC 50/60Hz
Minimum and maximum load	
XP31LED	0-200VA
XP31LR	40 - 1000 VA
XP31CR	0 - 600 VA
Own loss	< 1%
Rise time (soft start)	500 ms
Off time	750 ms
Fuse that has to be used	up to 10 A

Low power

Current decrease at rest at 24 VDC	10,8 mA
Consumption at rest at 24 VDC	0,026 W
Input current of all inputs	0,5 mA
Impulse time all inputs	between 50-300 msec

Mechanical data

Montage	Din-rail DIN46277
Measurements	85x70x72 mm

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XP33LED: Three-channel dimmer 3x100VA ohms capacitive

EAN-Nr.: 5703513058999

The XP33LED is a 3-channel dimmer for controlling different types of LED lamps. Each output can be configured as a leading edge dimmer (LE) or as trailing edge dimmer (TE). In both modes it can be resistive and capacitive loads. The 3 outputs of the XP33LED are short-circuit proof. The XP33LED regulates logarithmically and has a built-in soft start, thermal protection and notification with the first LED when the neutral is interrupted. Each of the three channels can control a load of up to 100VA. The XP33LED has 5 direct impulse inputs, three for dimming each channel, one for dimming all three outputs together and one for selecting one of the four pre-programmed scenes. When the data bus is taken into use, up to 99 programmed functions can be performed for the realization of modes and this, among other things, with the actions per percent dimming, up and down, time and fade functions.

XP33LR: Three-channel dimmer 3x240 VA ohms inductive

EAN-Nr.: 5703513058982

XP33LR is a 3-channel dimmer for dimming resistive and inductive charges. The XP33LR regulates logarithmically and has a built-in soft-start, thermal protection and reporting of neutral interruption. The total power of the three channels is 640 VA. One channel can take 500 VA, and the rest is has to be distributed to the other two dimmers. The XP33LR owns 5 immediate impulse inputs, three in order to dim of the three channels, one to dim all three together and on/off, and one to select from four preset scenes. At commissioning of the data-bus, up to 99 programmed functions are performed for the realization of modes, and this by using dimming actions by percent, up and down, time and fade functions.

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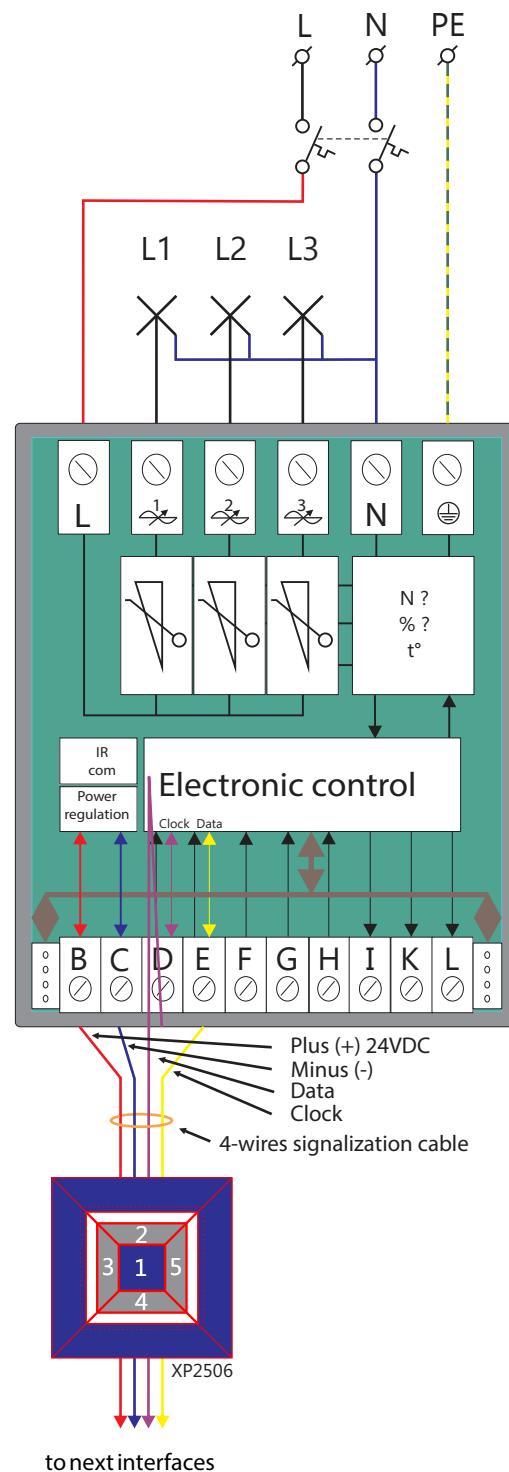
Connections of the XP33

Connections high power of the XP33
Connections low power: control via direct inputs and LED outputs
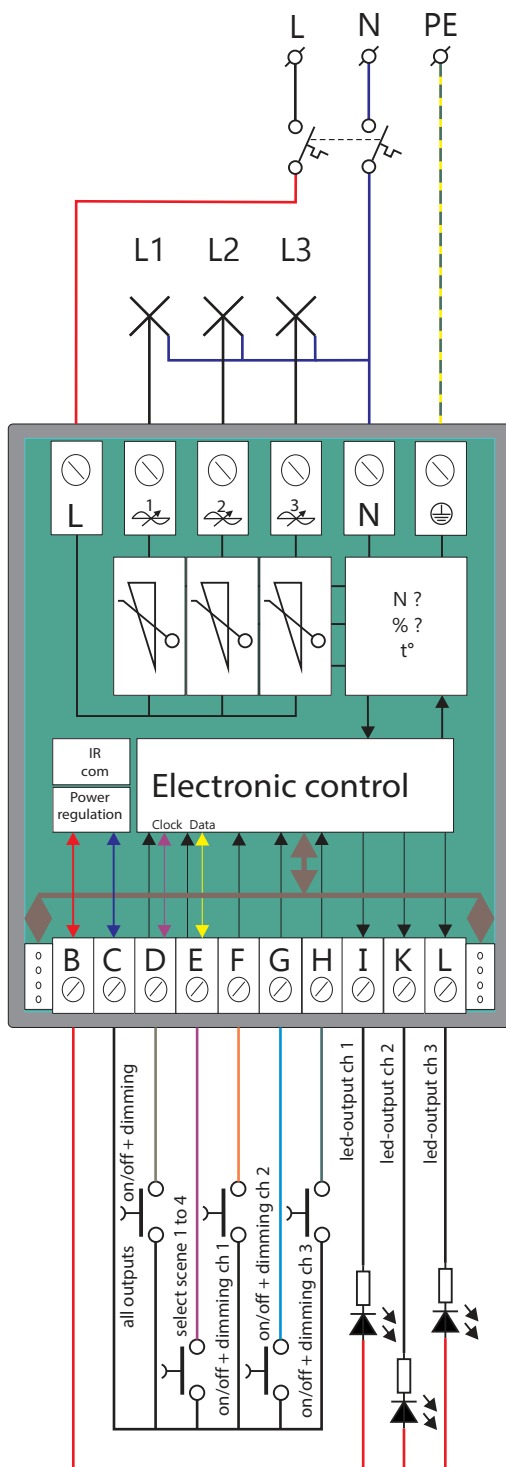
Connections high power of the XP33
Connections low power: Control via the Consonbus

L   N   PE

L1   L2   L3

L   1   2   3   N

N ?
% ?
t°

IR com
Power regulation

Electronic control

Clock Data

B C D E F G H I K L

all outputs

on/off + dimming

select scene 1 to 4

on/off + dimming ch 1

on/off + dimming ch 2

on/off + dimming ch 3

led-output ch 1

led-output ch 2

led-output ch 3

L   N   PE

L1   L2   L3

L   1   2   3   N

N ?
% ?
t°

IR com
Power regulation

Electronic control

Clock Data

B C D E F G H I K L

Plus (+) 24VDC
Minus (-)
Data
Clock

4-wires signalization cable

2
3 1 5
4

XP2506

to next interfaces

General characteristics of the XP33-dimmers

Dimmers XP33 have a microprocessor for progressive regulation. Special features inter alia, soft-start, adjustable fade-in and fade-off times, thermal security, logarithmic arrangement, potentiometer-control, analog daylight-dependent control, slave control, security against neutral-break and a minimum and maximum setting without adjustment-potentiometers.

Softstart and fade-in and fade-uit

When switching on the dimmer, the output voltage goes from zero to the last used or desired level and this according to a certain amount of time defined in the software of the module. This working method prevents brutal interference on the mains when switched on and extends the life of the lamp. In addition, a timely limitation is ensured by a short-circuit during the breakage of the filament. The fade-in and fade-off times can be accessed via the bus and this with actions ranging from 5 seconds to 2 hours.

Thermal protection

This limits the temperature inside the module. The level of limitation is dependent on the type of dimmer. If this temperature is exceeded, the dimmer sends an SOS signal. Because of the SOS signal, the LED-dimmer flashes in rhythm of 3 x short and 3 x long. This signal is also present at the output of the LED-dimmer module. During the SOS signal, the output level is adjusted downwards. The reset is done by activating the impulse input of the dimmer for 20 seconds, or by removing the power supply voltage 24 VDC. This protocol can be different according to type of dimmer.

Protection against short-circuit

The dimmer of the CR and U are short-circuit proof. The power of these dimmers is controlled by the power mosfet-transistors. These are fast enough to switch off their load.

Logarithmic control

The dimmers have a logarithmic regulation which ensures that, when being operated, an ergonomic feeling arises between the operation and the determination of the light variation.

Protection against neutral-break

A disconnected or interrupted neutral is indicated by the LED on the dimmer. This light flashes rhythmically, followed by a long pause. In this mode, the dimmer will not work. These security includes inter alias the following advantages: it must connect properly so that the filter network is functioning (interference suppression to the mains and vice versa) and it protects the component against overstrain (e.g. 380V instead of 230V).

A neutral-break from the base means that there is a high tension in certain light grids on the load and thus cannot simply be transferred to the load. More so, Conson has deliberately opted for sustainable control components that can withstand 1000V.

Power loss of a dimmer

The choice and quality of the components contribute to a minimal power loss of 1% to the load. Thus, the power loss depends on the load used. The larger the load, the higher the power loss. With LED lighting, this is negligible in practice. However, the power loss of a dimmer must always be taken into account. It develops heat inside the electrical enclosure and can be discharged by natural ventilation.

Important remark:

Always insert the dimmers at the bottom of the enclosure. Thus, this cannot be heated by other components.

Minimum and maximum level

The minimum and maximum level is adjustable via the direct input or via the ConTool software. Setting the minimum is particularly useful when the light source is hidden in its armature (one cannot see the filament or others, e.g. up-lighters).

May also be useful for the minimum speed of fans. Through the ConTool software, one can decided that the first dimmer is directed towards the maximum, such that the engine get to its speed.

The maximum is useful in terms of energy savings. The difference between 95% and 100%, is hardly visible.

Scene control

The purpose of the XP33 dimmer is to use this dimmer in one and the same room where 3 elements are installed. It is easier to program four different scenes (modes) in advance and ensure that they can be recalled in a fairly simple way. Thus, the user does not always have to push several buttons. Scenes such as watching TV, cleaning the room, reading a book, dining, etc.. If one needs only 2 points of light in a room, one can isolate the third output of the other two outputs. How to proceed is described below.

Programming the dimmers XP33 via ConTool

Start the ConTool program and create a new project. As an example, we take the project „Villa Seascape". The entered names are fictitious, but serve as a guide through the example. Place a checkmark in the „Offline"(1) and then press „OK"(2).
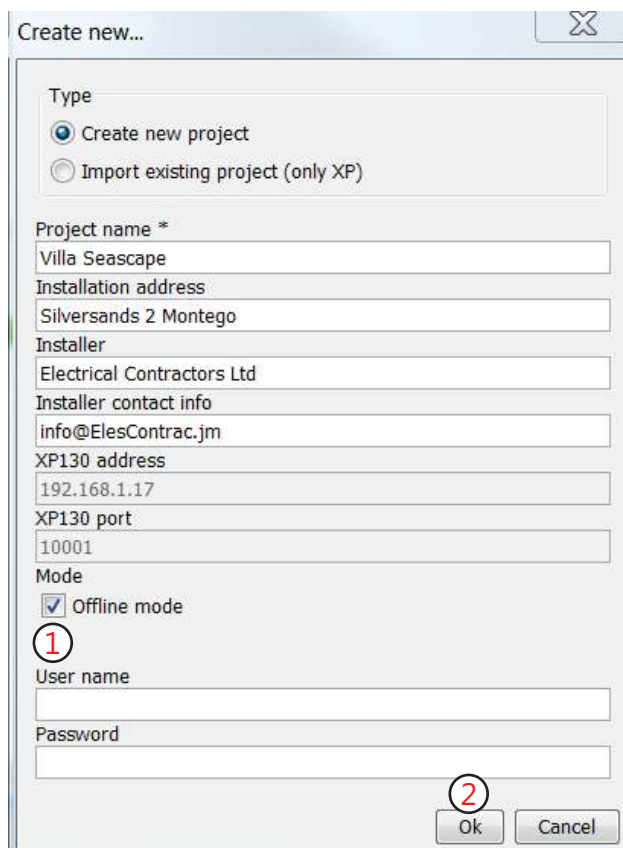
The ConTool-program starts with a blank worksheet. Before continuing, it is necessary to add a floor plan. In our example, by means of the Windows Explorer, a floor plan was copied to the „Floor Plan Images" directory. This directory is located in the root directory of the ContoolXP.

Remark: The file extension may be one of the following: jpeg., gif., jpg. or bmp.. The most CAD-programs can perform this conversion. A drawing on paper may also be used by simply photographing and copying the drawing beneath the above directory.

In the right pane, click on „Add" (3) and a standard floor plan appears on the worksheet. If he floor plan is charged, then proceed as follows: Choose the button „ ... " (4). A window „Open" (5) appears. Select the desired floor plan. Press „Open" (6).
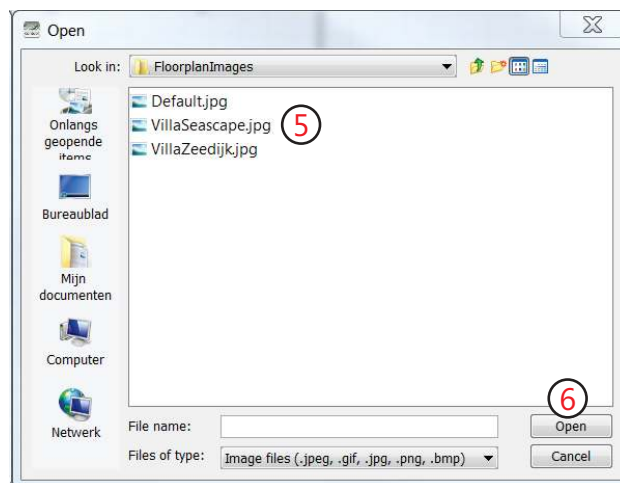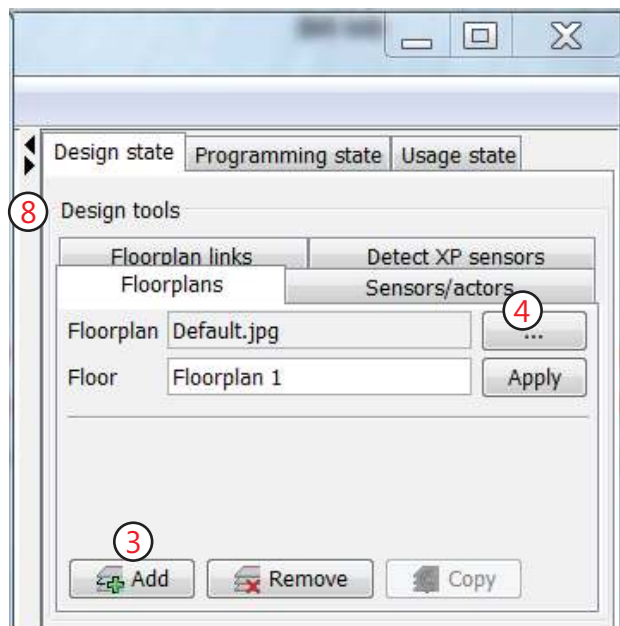
After pressing „Open" (6), a window with the message „Select Import Size of Image" appears again. The size of the floor plan can be customized. The most simple choice is „Stretch to fit hidden right panel". Press „Ok" (7). The floor plan appears and this at full screen width. With the arrows (8) on the left at the height of the right panel one can change the screen content and the size. Only the floor plan or only the right panel, or both. Clicking on the arrows or dragging the left side of the right panel.
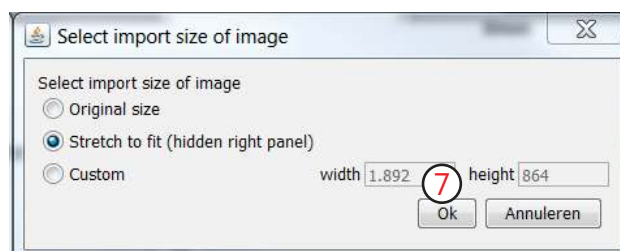
Programming the dimmers XP33 via ConTool

At the top left of the tab select „Settings" and a drop menu appears – add a check mark at „Automatic connection". Go to the „Design state" (9) tab - select the tab „Sensors/actors" (10) – click the selection button „Actors lamp Xp" (11) - a drop down menu opens, select „XP33 lamp" - now drag this lamp to the floor plan, click on the place where it should be located. Do this three times, see below. As long as the mouse pointer can be seen on the floor plan, it is to place a lamp. Once the pointer is outside the worksheet, the working stops. By using the mouse, an item can always be moved.
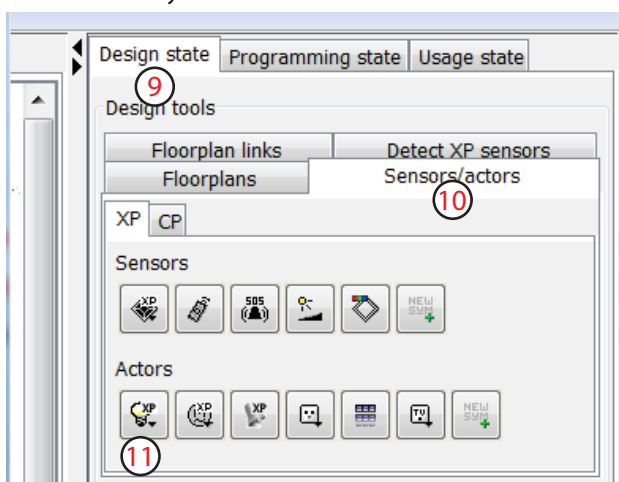

Due to the fact that in „Settings" the program is not set to „Automatic connection" a window (12) always is opened after placing a circle of light. Place a checkmark next to the first output of the XP33 (13) and give it a name, e.g. Central SLK 1. Do the same for the wall light and the light above the bed. Each time, press „Ok".
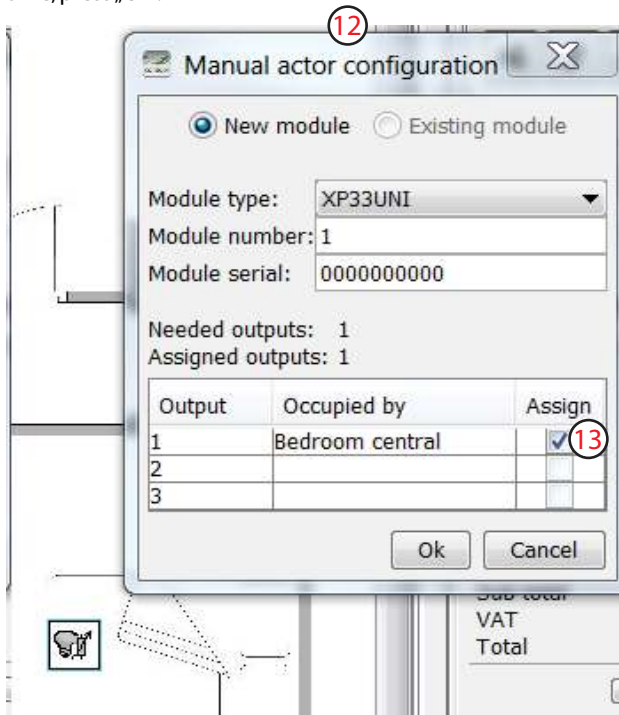
At the top, select the tab „Fusebox" (14). A XP33-module appears. The outputs (15) report their location. These are written in light-gray.
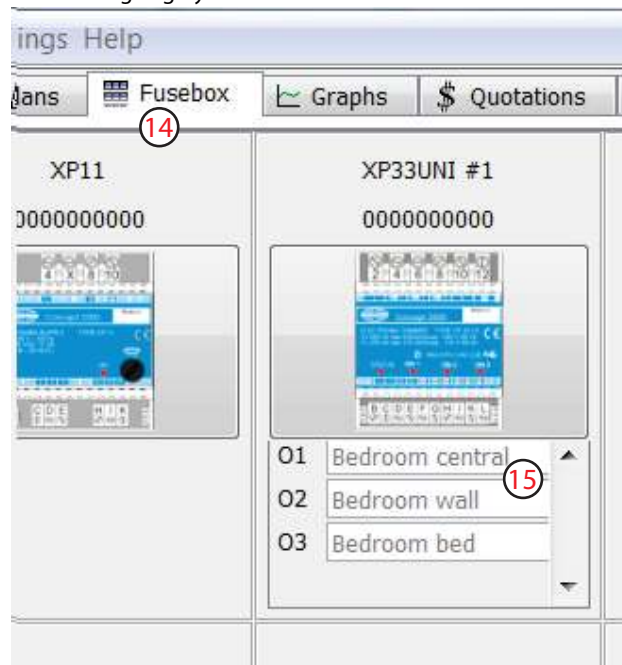
Return to „Floorplans" – „Design state" – „Sensors/actors" - click on the selection key pushbuttons Xp - choose a Bus-pushbutton XP2506 and drag it to the floor plan and place it at the door entrance (16) of the bedroom 1. Insert also a XP2506 at the left of the bed (17).

Bedroom
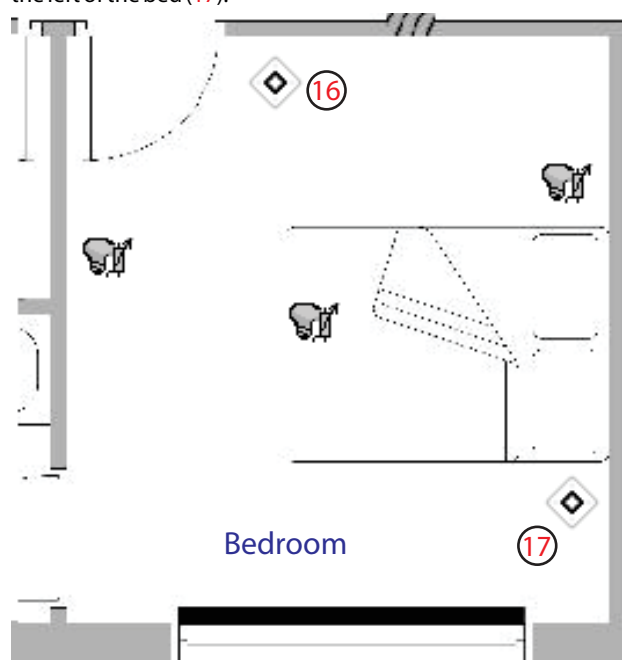
Remark: It is useful to save the project from time to time. Select the tab „File" and „Save".

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Programming the dimmers XP33 via ConTool

Go to „Programming state" and select the bus-pushbutton at the door entrance of SLK 1. The following window appears.

Enter the location (18) „Bedroom door" and select the middle button of the XP2506. As long as no location is specified, one cannot continue the procedure. A warning screen will appear.
By clicking on the middle button, it takes on a purple color. The default name is „GO"(19), but it can be replaced by „Welcome to the bedroom". When this button is activated, it means that one can address an actor. Select the lamp „Central SLK2" and the actor XP33-window opens. Choose the „Scene 1" (20) function and press „Ok".

On the floor plan (21) is graphically shown that there is a relationship between the center pushbutton and three light circles in the bedroom.
Press the top left button and name it "All 100%". When this button is activated, it means that one can address an actor. Select the circle of light „Bedroom wall" and the actor XP33-window opens. Choose the "Scene 2" (22) function and press „Ok".
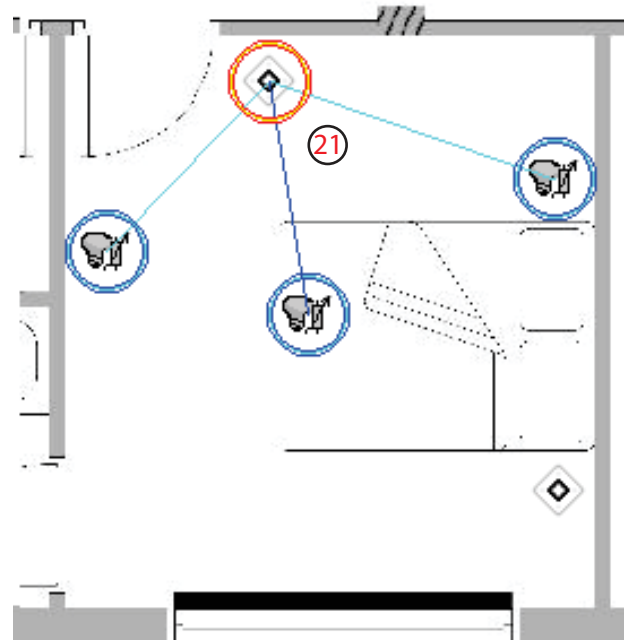
And one can go on for the other pushbuttons. With the push button right below, one can simply turn off all the lights by granting, one by one, the action „Off" to the three circles of light. Hereafter follows how various scenes are set.

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Programming the dimmers XP33 via ConTool

Go to the tab „Fusebox" and right click on the XP33 - a menu appears - select „Setup Module" - The „XP33 module programming"(23) opens.

Technical data

XP33LED/LR
High current

|	
Power supply	110/230 VAC 50/60Hz
Minimum and maximum load	
XP33LED	3 x 100VA
XP33LR	Total maximum of the three outputs: 640 VA
	Maximum of one output: 500VA – rest has to be distributed
Own loss per output	< 1%
Rise time (soft start)	500 ms
Off time	750 ms
Fuse that has to be used	maximum 10 A

Low current
Idle consumption at 24 VDC

XP33LED	0,6 W
XP33LR	0,3 W
Input current of all inputs	0,5 mA
Impulse time all inputs	tss 50-300 msec

Mechanical data

Montage	Din-rail DIN46277
Measurements	85x70x72 mm

Load type setting XP33LED
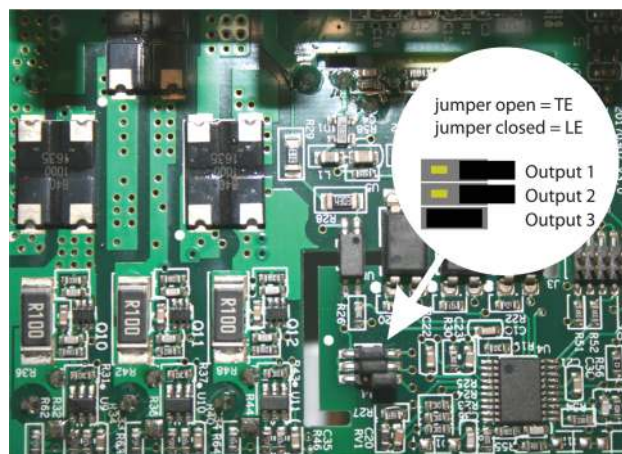
The dimmers XP33LED have the following factory settings:
All 3 outputs are set for loads requiring trailing edge (TE trailing edge). In this mode 95% of the currently available LED lamps can be dimmed, regardless of the load being of a different type. If it appears that the lowest level is unstable during dimming, switch the relevant output to LE (leading edge). For inductive loads it is recommended to use the dimmer XP33LR.

Note: In the latest versions of the XP33LED it is possible to switch the three outputs from LE to or TE with the following method: for LE mode, de-energize the module, connect the minus to the D input and start up . The left Led blinks 2x and then 2 sec as confirmation. Same for TE but use the input E.

The different scenes (25) from 1 to 4 can be set with the sliders of the three outputs. In our example of the bedroom, scene 1 was assigned to the middle button. Adjust the sliders so in accordance with the result that gives the best impression when entering the bedroom.

With the establishment of the fade time-scene (26) one obtains a soothing effect to go from one scene to another. This can be useful in a bedroom when one awakens or goes to bed simply by choosing a low-light-level scene while the action „Off after X-time" is ascribed to all three outputs, possibly with different durations. The check-boxes (27) of the outputs have to isolate one or two outputs of the various scenes. The check-boxes (28) can ensure that a certain output starts at the maximum and not at the last memorized light level .

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Bus-pushbuttons XP2506

XP2506 5703513056223
Bus-pushbutton with five buttons, five LEDs
and input NTC, Sesame-function

XP2506A 5703503056353
Bus-pushbutton with five buttons, five LEDs and
input NTC, Sesame-function
but with IR-eye for remote control 38kHz

XP2506B 5703503056483
Bus-pushbuttons with five buttons, five LEDs and
input NTC, Sesame-function
but with IR-eye for remote control 455kHz
(for example, Beo4 remote control)

Interfaces for bus-pushbuttons XP28

XP28 5703513059521
Interface with 8 inputs for pushbuttons and other
8 outputs to drive LEDs and other
NTC for temperature measuring
two I/O's

XP28A 5703503059781
same characteristics as the XP28 but for
reception infra-red remote controls 38kHz

XP28B 5703503059781
same characteristics as the XP28 but for reception
infra-red remote controls 455kHz (Beo4)

Buscable
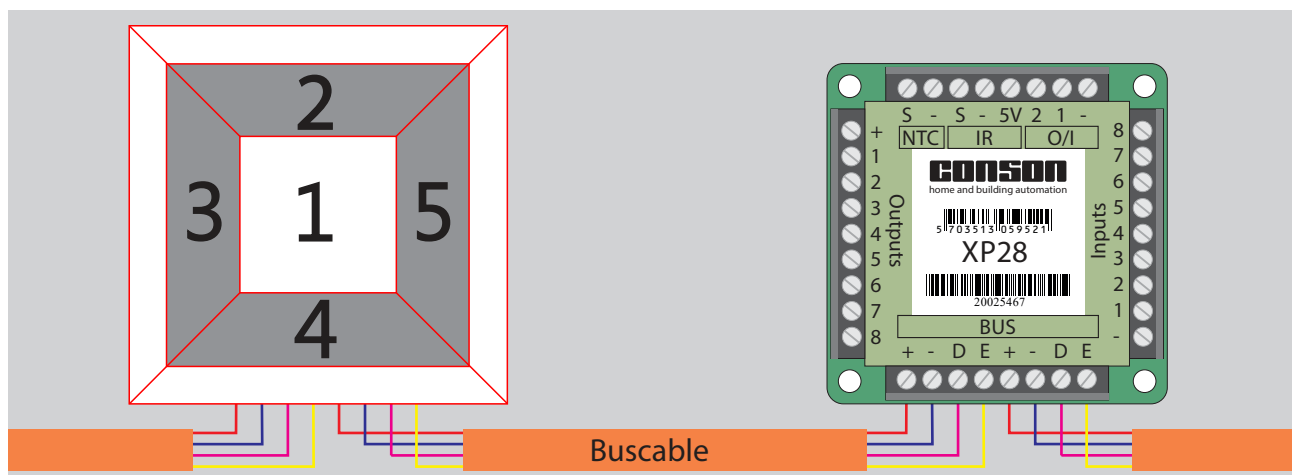
The bus-pushbuttons have two 4-pin connectors. In the Concept 2000XP, one has the freedom to start multiple buses from the electrical enclosure. There can be a bus for the ground floor, one for the first floor, one for the attic rooms, one for the closed porch, etcetera. The use of multiple buses has a great advantage in terms of operational reliability. One bus cannot disturb the other and there is a better power distribution when using LED-feedback or other.
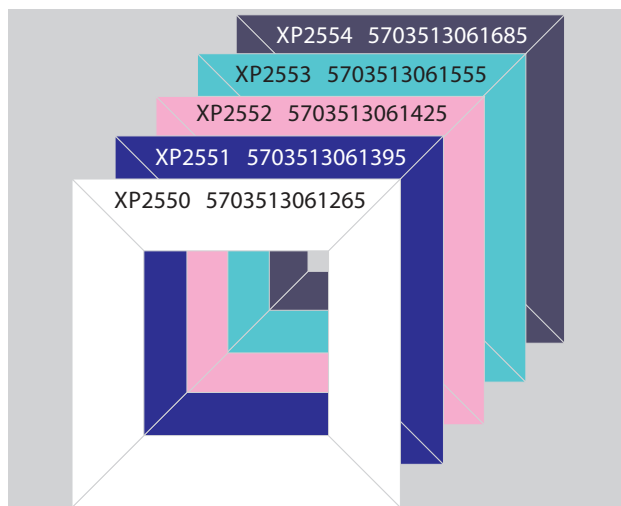
The application of the bus-pushbuttons XP2506 offers many benefits in terms of wiring and
possibilities. The combination pushbutton and its frame has a modern look. Where
it does not fit in the interior, a different type can be simply chosen.
There are plenty of manufacturers of pushbuttons on the market such as Niko, CJC Systems, BTicino, Legrand, Simon, Berker, Gira, etcetera, and, commissioned by an architect, it is possible that one of those types is assigned.
The solution is then the use of the XP28 interface. Conson is essentially about what happens in the electrical enclosure.
Whether the choice is a single or multiple pushbutton-panel with or without LEDs, the XP28 interface provides the solution. The XP28 can, for example, control four pushbuttons in the entrance hall, one at the door of the toilet and three in the garage. It suffices to place only one interface in the wall box of the entrance hall and to wire the other locations from this interface.

Kaders voor de XP2506

XP2554 5703513061685
XP2553 5703513061555
XP2552 5703513061425
XP2551 5703513061395
XP2550 5703513061265

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concept
2000 Xp

Bus-pushbuttons and interfaces
XP2506 XP2506A XP2506B XP28 XP28A XP28B

Example of the application of the Concept 2000XP in a building

Imagine the following situation: There are several floors in a building that should be operated in their entirety. On each floor there is a switch, but each has its own power supply and various relay- and dimmer-modules. In the electrical enclosure of level 1 is a gateway XP130 or a gateway XP230. In the Contool-software, different floor plans can be brought in. Each floor allows to be programmed and controlled. The communication between the different electrical enclosures happens through the Conbus (local bus) of each enclosure in order to connect with each other. This can be done with e.g. UTP cable. Connect only the minus, the data and the data-XP. At long distances, it is necessary to close both data-busses with two resistors of 4.7kOhm to the plus.

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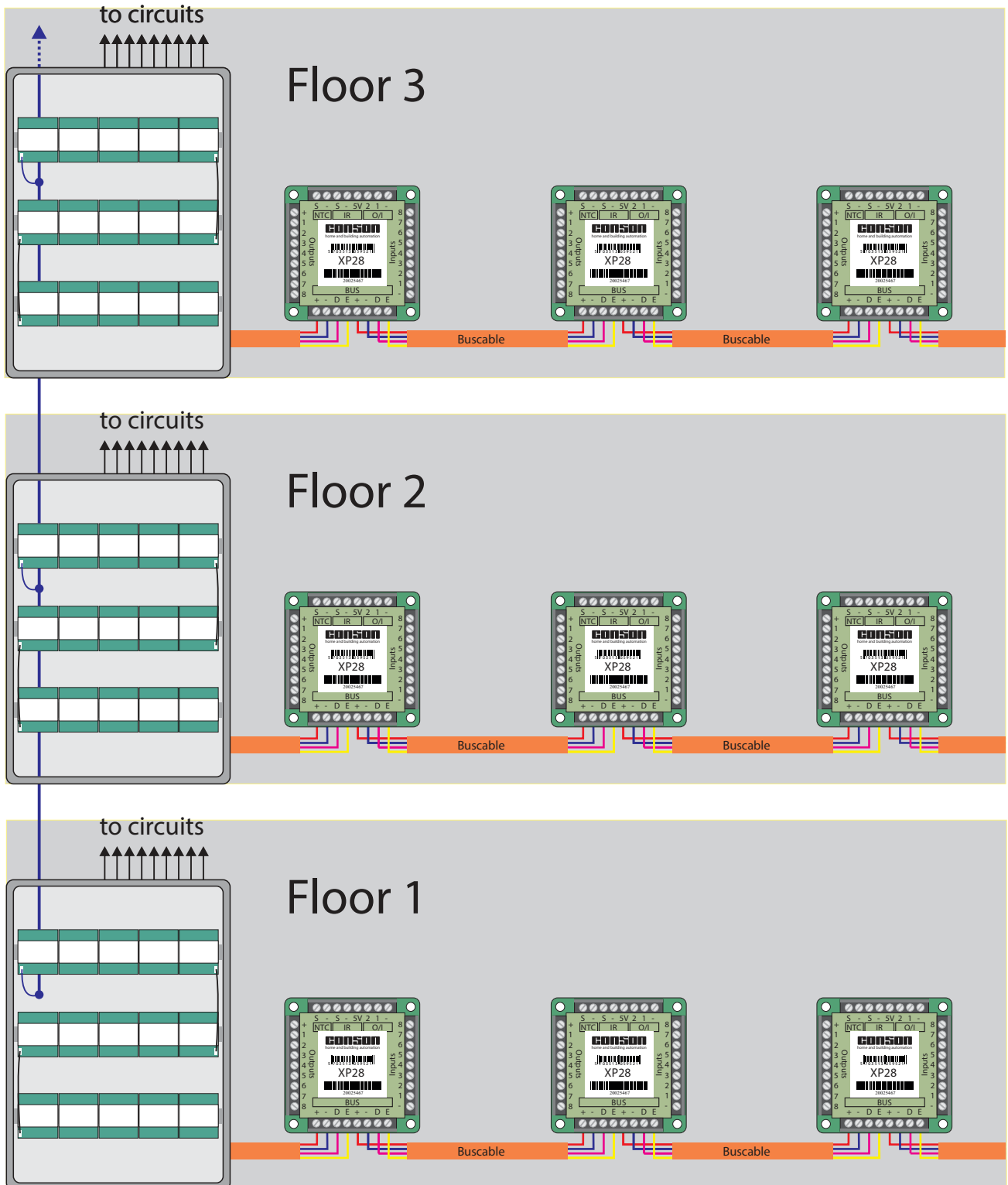
Example of programming IR 38 kHz

The interfaces of type A can be used to control an installation via an IR remote control 38 kHz. The coding of this standard infra-red signal originates from an industrial standard developed by Siemens. In total, there are 512 codes (IR-commands). Conson has divided these codes into 16 groups of 32 channels. Group 1 corresponds to the IR-links 1, 2, 3 and 4. Being the channels 1 to 8, 9 to 16, 17 to 24 and 25 to 32. The programming CP79 operation of the old Concept 2000 can send out these 32 channels. There are several providers on the market that have these codes, including a Logitec touch-screen remote control or remote controls with the learn-function-code. A special remote control is the Siemens IR-64K STC6120. It has the ability to set the different groups and the channel range from via coding jumpers. For example: Group 2 and codes 40-47. See table below. The remote control with this code will thus react with the A-interface programmed with the selection circuit 2 and the allocated channels 9 till 16. If, for example the 8-channel remote control is used, up to 64 controllers can be used in a system (512 divided by 8).

Table Group 1 for an 8-channel remote control

Toets Nr	1	2	3	4	5	6	7	8
Code	0	1	2	3	4	5	6	7
Kanalen	1	2	3	4	5	6	7	8
Code	8	9	10	11	12	13	14	15
Kanalen	9	10	11	12	13	14	15	16
Code	16	17	18	19	20	21	22	23
Kanalen	17	18	19	20	21	22	23	24
Code	24	25	26	27	28	29	30	31
Kanalen	25	26	27	28	29	30	31	32

Table Group 2 for an 8-channel remote control

Toets Nr	1	2	3	4	5	6	7	8
Code	32	33	34	35	36	37	38	39
Kanalen	1	2	3	4	5	6	7	8
Code	40	41	42	43	44	45	46	47
Kanalen	9	10	11	12	13	14	15	16
Code	48	49	50	51	52	53	54	55
Kanalen	17	18	19	20	21	22	23	24
Code	56	57	58	59	60	61	62	63
Kanalen	25	26	27	28	29	30	31	32

When placing an XP28A interface or an XP2506A pushbutton-panel on the floor plan, a window "XP2506A Configuration IR-eye" appears. The group is set default to group 1. Changing this group is only necessary when multiple remote controls are used. For special applications, a change is required.

After pressing OK the window disappears. Place the programming-control CP79 on the floor plan. Go to "Programming" and click on the control. You will be asked to select an IR-eye the floor plan. Thereupon, a connection between the control and the IR-eye appears and in the right window the list of the 32 control-channels opens.

The rest of the programming is the same as explained earlier and has each time the following steps:

Enter the location of the control and the various functions of the keys used.

If e.g. button 8 (Channel 8) "Mode Entrance hall light on".

When selecting, this turns purple.

Click on the light from the entrance hall and the window "Functions for actor: Entrance hall" opens.

Select "On" and click on "Add" and next on OK. Repeat for the other channels.

1	Zithoek mode TV
2	Zithoek mode bezoek
3	Eethoek lichten 95%
4	Eethoek lichten 20%
5	Buitenverlichting aan
6	Buitenverlichting uit
7	Keukenlcht aan/uit
8	Inkomhall licht aan
9	CP 79 - 9
10	CP 79 - 10
11	CP 79 - 11
12	CP 79 - 12
13	CP 79 - 13
14	CP 79 - 14
15	CP 79 - 15
16	CP 79 - 16
17	CP 79 - 17
18	CP 79 - 18
19	CP 79 - 19
20	CP 79 - 20
21	CP 79 - 21
22	CP 79 - 22
23	CP 79 - 23
24	CP 79 - 24
25	CP 79 - 25
26	CP 79 - 26
27	CP 79 - 27
28	CP 79 - 28
29	CP 79 - 29
30	CP 79 - 30
31	CP 79 - 31
32	CP 79 - 32

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Example of programming IR 455 kHz

The interfaces of type B can be used to operate an installation via an IR remote control type Beo4 of Bang & Olufsen.
In the Concept 2000XP was thought off a wider and easier supply of control options.

The orders were divided into 5 groups. In a group, an order consists of a number combined with an action-button. The action-buttons are the pushbuttons with the single and double arrows (wind, rewind and step up and step down) and the Go-pushbutton.
In each group there are 12 numbers, of which each number can be combined with an action-button. This means that there are 12 x 5 = 60 orders possible for each group. For group 0, five orders are added by the symbol keys green, yellow, blue, red and stop, that behave like a normal five-piece pushbutton-panel. A total of 60 x 5 +5 = 305 commands can thus be performed with a Beo4-control.

Group	Available keys
0	Symbol keys groen - geel - blauw - rood - Stop Keys 0 - 11 in combination with actions keys wind - rewind - step up - step down - Go
12	Keys 12 tot 23 in combination with actions keys
24	Keys 24 tot 35 in combination with actions keys
36	Keys 36 tot 47 in combination with actions keys
48	Keys 48 tot 59 in combination with actions keys

Start the Contool software and upload a ground plan. Go to the tab "Design" and place a triple dimmer XP33LR on the floor plan, an interface XP28B, a 6-way pushbutton-panel and a Beo4 remote control.
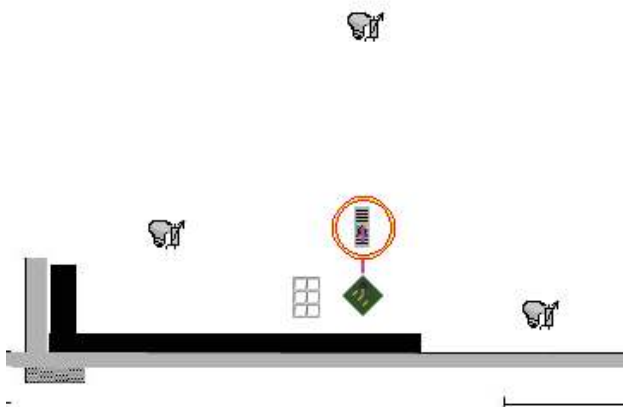
When placing the interface XP28B the window „Configuration of the IR-eye" appeared and the default installation "Group 0" was mentioned. Usually one group is sufficient. In a larger house, for example, one can select a group for the living room, a group for the bedroom, a group for outside, etcetera.

Select the „Program"-tab and click on the Beo4 remote control on the floor plan. The control is circled in red and in the window on the right appears the question „Select an IR-eye on the floor plan".

Click on the XP28B-interface and a connection between the control and the interface will appear. An image of the keypad of a Beo4 appears at the same time.

Select the green symbol-key. This turns purple. Click on one of the lights controlled by the XP33LR. The actor window opens and now add the action „Select Scene 1".

Do the same for the yellow, blue and red key, but for the scenes 2, 3 and 4 respectively. Select the button „Stop" and click on a light. Add the action „Off", optionally with time. In this way, the symbol-keys were commissioned.

Next steps include a numeric key in combination with an action.

Select key 1. This turns blue. Then, select the step up key. This turns brown.
Select the lamp of the output 1 of the XP33LR. The actor window opens.
Add the action „Light level up" and press OK. Select again key 1 and next the step down key.
Click again on the lamp of which the output 1 is one of the XP33LR.
The actor window opens again and add the action „Light level down" and press OK. Repeat the process for the numbers 2 and 3 but respectively for the outputs 2 and 3 of the XP33LR. This allows the user to dim and to switch off the 3 elements of XP33LR separately using the stop-key or the user can call up the different scenes and adjust them by using the keypad.

XP130 EAN-Nr: 5703513055967
XP230 EAN-Nr: 5703513055981

Introduction

The gateway XP130 is used for programming an installation, that is constructed with the Concept 2000 Xp and this by means of the Contool software. Once the installation is programmed, it can be controlled and watched via a local network or the internet.

The structure of the XP130 is derived from the gateway CP485 of the Concept 2000 in combination with a TCP-connection. Thus, the system obtains an IP-address. By default, this address is 192.168.1.17. The IP-address can be changed through a browser. When changing the address, it is necessary to write it down in the file. When the data is lost, the IP-address can be traced using the „DeviceInstaller"-program of Lantronics. See the file „XP service tool.chm" in the directory of the XP Service Tool.

The connection of the XP130 with the modules haps via a 4-pin bus-cable that delivers the power supply 24 VDC and that connects the two data lines. The modules of the Concept 2000XP possess one pin more than the modules of the old Concept 2000. This pin primarily serves to program the modules and to communicate with the modules to exchange information with the interfaces that are connected to the Conson-busses (See earlier description: Topography of the concept 2000XP).

The lower pin serves to send the data derived from the linking modules of the old Concept 2000 to the actors. In the new concept, the lower pin serves the clock-signal from the local bus.

To the clamps BCDE, a Consonbus can be started. This can only be done if the XP130 remains in the electrical enclosure. Regardless of where a Consonbus is connected, it may always be moved to another actor even after the programming.

Internal structure and communication

The terminals at the bottom are the inputs that were used in the Conlinx system to recognize the statuses of the linked LED outputs or others of the Concept 2000. The same for terminals 1, 2, 3 and 4 at the top. The clamps 5 through 8 are the temperature inputs and the analog I / O. The characteristics of these may depend on the settings of the module. In the Concept 2000 Xp, the abovementioned clamps are currently unused.

The clamps 9 through 12 form an RS485 serial bus. This can be used to connect to the Bang & Olufsen MLGW bus via an RS485 to RS232 converter.

The installation is linked to the outside world via the TCP interface. If it is paired with a WiFi device, it is possible to program and control the installation wirelessly. Modes and scenes can then easily be changed on while in a particular room. When programming over the Internet, it is impossible to update the firmware of the various modules. This was blocked for security reasons. The unlocking is only possible with a human hand. Hence the push button located at the front of the module. For an installer, servers and htlm pages are not his domain. His only solution was to call on an IT specialist. To simplify everything, Conson has decided to go a different way, namely that of the Apps. Thus the XP230 was developed. The XP230 gateway is a combination of an XP130 with a server where the data of the project is stored. Thus, an installation can be controlled via a Smartphone or other

and no other equipment needs to be present. Simply pair the XP230 with the home or building router and the job is done. The XP230 and the Apps have already been surpassed by new developments. Thus, in the future, the XP130 will only be used for programming an installation and others and the XP230 when it must remain in the installation.
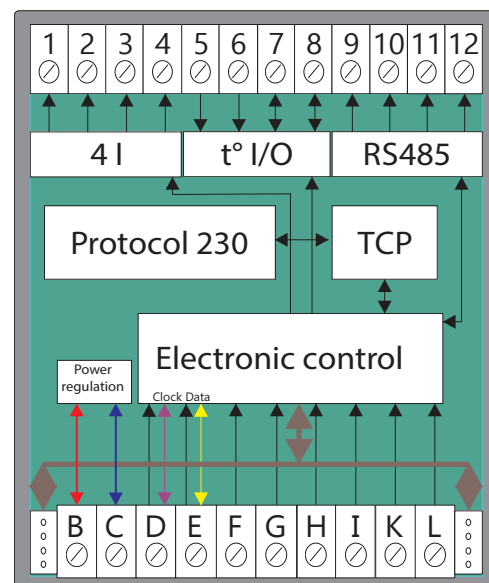
The configuration and application of the XP130 / XP230 modules via Contool software

The XP130 module has a permanently configured IP address. It can be invoked through the software's Contool or Service Tool. By default, the XP130 has the IP address 192.168.1.17. The XP130 is only used to program an installation.

The XP230 module has 2 options: on the one hand programming an installation and on the other hand applying the Contool App. For security, the XP230 module has a dynamic IP address, and can only be found using the Bonjour Software. This can be downloaded via http://support.apple.com/kb/dl999.

After installing the Bonjour Software, it is necessary to reboot the computer. After starting the Contool software, you can choose between an XP130 module or an XP230. When selecting the XP230 module, the serial number of the XP230 must be entered as follows:
xp230-<SERIENUMMERXP230MODULE>.local

Attention: <SERIENUMMERXP230MODULE> is the serial no. of the module preceded by 00. bv. xp230-0020030335.local

To then use the XP230 module via your smartphone / tablet, you need to install the Nabto software and create a Nabto account via your smartphone / tablet.

The Nabto software can be found via Apple's App Store or Google's Google Play store. After installation, you must provide your e-mail address and a password to create an account via the "Sign Up Account" button. Further instructions will be emailed to the email address you provided.

You then need to open your web browser (preferably Firefox or Chrome) for a first login of the XP230 module. Therefore surf to the address below:
http://SERIALNUMBERXP230MODULE.xp230.conson.com/demo.html

e.g. http://0020030335.xp230.conson.com/demo.html

Under "first_time_login.json", in the "pin_code" field, enter the PIN code of the XP230 module, e.g. 02022 and then click on the "Go" button.

In the "Response" field you will see the message "Success" and a "0". This is important and enables communication between the XP230 module and your smartphone / tablet.

Then go to Contool and create or upload a project. To do this, you must first download the latest version of Contool via E-SERVICES on the Conson website (Rev. 2.5.0-2016)

Once you have a project ready in Contool, you can select a number of buttons on the floor plan to use on your smartphone / tablet.

Go to "Floorplan" > "Design tools" > "Floorplan Links". Name a place you want to create: e.g. Dining area. Click on the top left corner, top right corner, bottom right and bottom left on the part of the floor plan where the dining room is located. The selection appears in transparent blue. The selection does not have to be a rectangle. The push buttons that fall into the selection will be displayed in the App. You can do this for any place that you wish to control via the App on your smartphone/tablet.

Then go to "Fusebox" and click on "Upload".

Select "ConApp" and then the OK button.

You will see a prompt for PIN/Password, and enter your PIN. Then click OK to upload your project to the XP230 module. In the Conson App on your smartphone/tablet you will first have to log in with your e-mail address and password (see instructions Nabto software).

On the first page you will see a list of XP230 modules found with their own serial number.

Eg. 0020630236 should be present, then click on it.

The Conson App then shows a white page with a green bar at the top.

Click on the button with 3 white lines in the top left corner. Select "Access rights". On this page you can activate the push buttons you want.
Go back to "List of rooms". Select a place and the assigned push buttons or sliders for the dimmers are operable.

Consonbox

Preface

The Consonbox is a kind of on-board computer whose task is to build a hub for a home, a building or for the multiple of these. New projects or projects already completed with the Concept 2000Xp can then manage, control and monitor everything via the Consonbox. For the previous Concept 2000 most things are possible, but to a lesser extent due to the fact that there is no information on the local bus regarding output statuses.

Objective of the Consonbox

The aim is to simplify everything in terms of operation and increase comfort without compromising the traditional. Theoretically it is possible to execute a project without push buttons using only PCs, smartphones or tablets. In addition, the Consonbox will not only make a good contribution to the environment in terms of energy savings, but also in terms of monitoring the maintenance of the installation.

Application domains

Homes, office buildings, shops, hotels, factories, sports centers, holiday centers, wellness centers and spas, shopping centers, parking garages, etc. In principle, the scope of a project or of a multi-project is not limited.

Method for handling a project

Everything will be done over the Internet. The installer or someone responsible for a project can fill out a questionnaire on the Conson site. After confirmation, the data will be forwarded to the Conson agent responsible in the country of the applicant.
It can be either an old project or a project to be carried out.
For existing installations, the file created with the Contool software will be the basis for processing the data required for the Consonbox.
Thus each Consonbox will be a plug and play version for a specific project each time.

The Consonbox itself.

The Consonbox is powered by the Conlinx system which allows it to be operational with the most recent browsers such as Firefox, Edge, Chrome, Opera, Safari and others. The Conlinx App works with both IOS and Android and is available through Play Store and App Store.

### Start-up menu of the Conlinx App
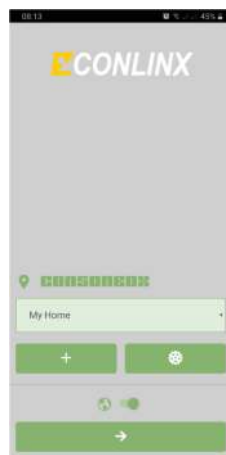
After loading the App, the Conlinx logo will appear on your screen of your smartphone. Place this on your first screen. Click on the logo and the start screen of the Conlinx will open. In this it is possible to record different projects so that a quick switch can be made to different locations such as private, country retreat or other. Locations can be added, edited or deleted. It is possible to switch from Internet to local network. And with the arrow the selected project is loaded.

Organizing a project

The Conlinx can operate multiple XP130 in the same project. An example of this is an office building with several floors. There are several offices per floor and per floor there is one switch box with an XP130. All XP130s join the network and eventually end up at the router.
In this way it can be determined via user management what a user may operate or set.
In a house, the division is easy due to the fact that the different spaces have their own identity such as garage, kitchen, bathroom, etc.
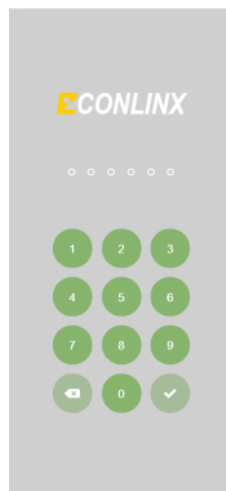
Enter access code

You will receive a 6-digit code from your installer or from the master. After entering this six-digit code and after confirmation, the first operating screen will open. In case of incorrect entry, the 6-digit code must be re-entered. After ten errors, you will be denied access to the Conlinx system for 24 hours. This helps prevent unwanted or expired users from gaining access to the system.

This is not a definitive leaflet - just starting information

User management

Several users can simultaneously operate the project, either locally or via the Internet, according to the assigned authorization.

There are 2 types of users: master users and the regular users. A main user has a separate menu that the regular user does not see. The master user determines who the users are and what they are allowed to perform. He can assign passwords to himself and to users. Usually, the installer is the first master user and the owner is the second main user. To create a user, he selects "USERS" in his menu and will fill in the following data: Name and first name, email address if relevant information must be obtained for service to be provided, in which language to work and fill in a 6-digit unique code.

The master user goes to his menu and selects tasks. Press the + sign and the menu of a new task will appear. He chooses a place, chooses what to operate (light point, store, thermostat, etc., describes the task name, then makes the choice between "specific date, specific days, scope of dates). Then he fills in the start data and, if necessary, the stop data. He always has the choice between "a specific time, at sunrise, at sunset, before the sun rises and before sunset". A percentage can be entered for the dimmers and the degrees Celsius for the thermostats. After tapping on "confirm" and the task is active. In the same menu there is the possibility to disable this task.

Service

Data must be available to provide service. The data could be the number of times it turns on and off or how many hours something was on. In addition, there is the possibility to save the data continuously or to reset it when a certain value is reached. When this set value is reached, a service message is also sent. An example for counting: an electrically controlled garage door would require maintenance after 3000 times. The main user will receive an email message with information about the event. Another example: a 20,000 LED lamp is on. Then the "Reset total life" is set to 20000 hours. When this value is reached, the installer can be informed by email to take the necessary action. The possibilities of all this are inexhaustible in terms of ideas.

Monitoring a limit value is particularly useful for heating and cooling. Take a cold room that is monitored: the limit value set at 4 °. The moment the Consonbox determines that the temperature is too high, it sends a service message to the person or persons who need to know.

In addition, he can enable a refreshing security flag on authentication, confirm that the user is allowed to receive service messages and that the user can only access during a certain period of time. Now he can still check in which rooms a user has access. An enormous amount can be achieved with the aforementioned, such as for example granting access to a depot where a supplier may deliver something or a customer comes to collect something, grant access to a hotel room and everything in it, dear son can only control his own room, etc. .
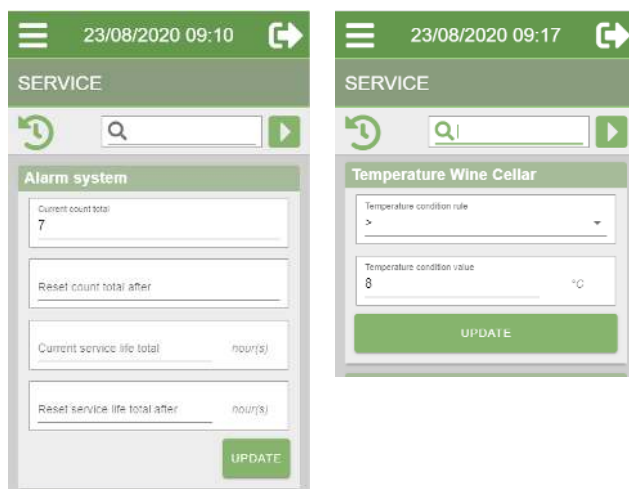
Tasks

For everything that is switched or dimmed, it is possible to control it with a clock. This also applies to heating and cooling, because the Conlinx can do this perfectly.

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concept

2000 Xp

10.3

Consonbox

Connect your Conson installation to the world

Examples of service settings

Schematic representation of a project in relation to the Consonbox

Enclosure
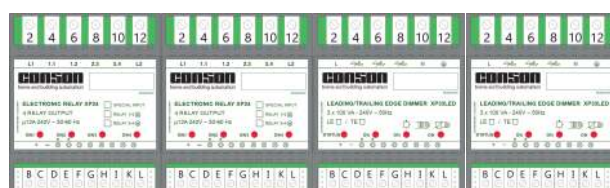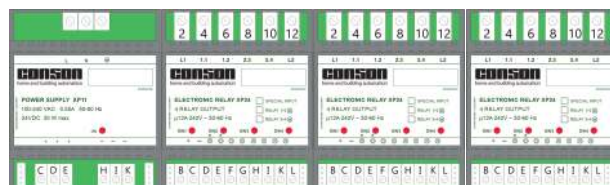
Configuration of the Conlinx App

The configuration of the Conlinx App is initially done by the installer and then it is also communicated to the main user (s). The main user can perform the following in the item "GENERAL": Activate remote assistance, switch presence simulation on and off, switch off and on the different groups of tasks including all tasks for lighting, all tasks for heating and cooling, all thermostats of the heating and all thermostats of the cooling. There are also settings regarding "Network information", "Time zone - Message service - etc..

CONSONBOX → ROUTER → to Internet
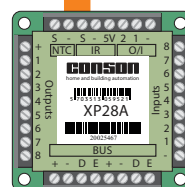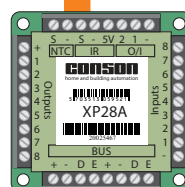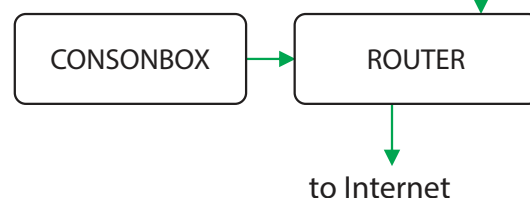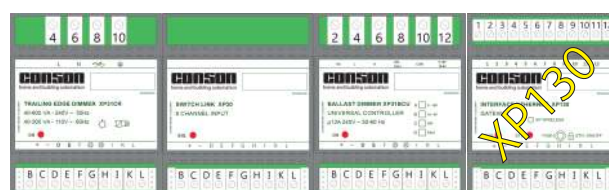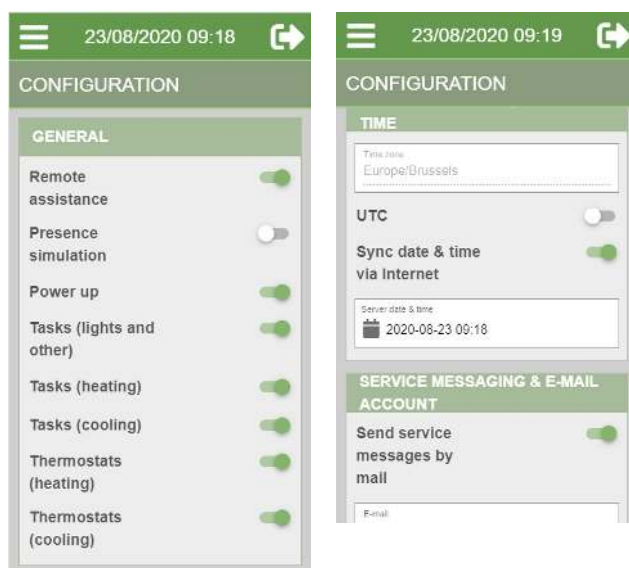
The Gateway XP130 module is placed in the switch box in order to program the installation. This communicates with the local bus that connects all modules with each other. Thus, data can be sent and received from all modules located on the local bus. It is connected to the router with a UTP cable. The Consonbox finds its place next to the router and is directly connected to it.

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Text for the installer, engineering office and architect

1   The electrical installation is of the type "home and building automation". The construction is carried out with DIN rail modules in one or more enclosures, with or without the fuses.

2   The modules are powered by a 24VDC power supply. The number of power supplies depends on the size of the project. In the enclosures, the legal overvoltage technology will always be provided and this according to the regulations of the country.

3   The modules have direct inputs to which the outputs may be addressed directly.

4   The relay and dimmer modules have physical feedback outputs. Thus, these modules can be used in a conventional manner. Today this is not the intention but to provide service to older installations and other applications.

5   The modules are interconnected via 4-pole connectors and thus form a local bus (internal bus). The modules can be programmed in this way and exchange data with each other. Programming is done via this local bus by means of a gateway in combination with a software that is made available free of charge. The relay and dimmer modules can accommodate 100 programming lines in each module in a non-fleeing memory.

6   From each module, a 4-pole shielded bus cable can leave the enclosure to connect the push button interfaces in the house or building (external bus). These interfaces have 8 inputs, 8 LED outputs, IR input (standard or B&O) and NTC input for temperature measurement.

7   Multiple external buses may be installed. The number of interfaces on the total of the external buses is limited to 99 per type. The same principle applies to the modules themselves, 99 per type.

8   An installation that is carried out and programmed in this way must then be able to operate completely autonomously in terms of operation and others.

9   If the installation later has to be controlled and managed with a PC, smartphone or tablet via the local network (Wi-fi) and / or the Internet, the installation will be provided with a box that will take care of all needs. This is extremely important for service purposes such as messaging, user management, heating, cooling, time switches, monitoring, registration of lifespan and number of on/off times, energy management, voice control, audio info channels, responding to environmental factors , etc ...

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