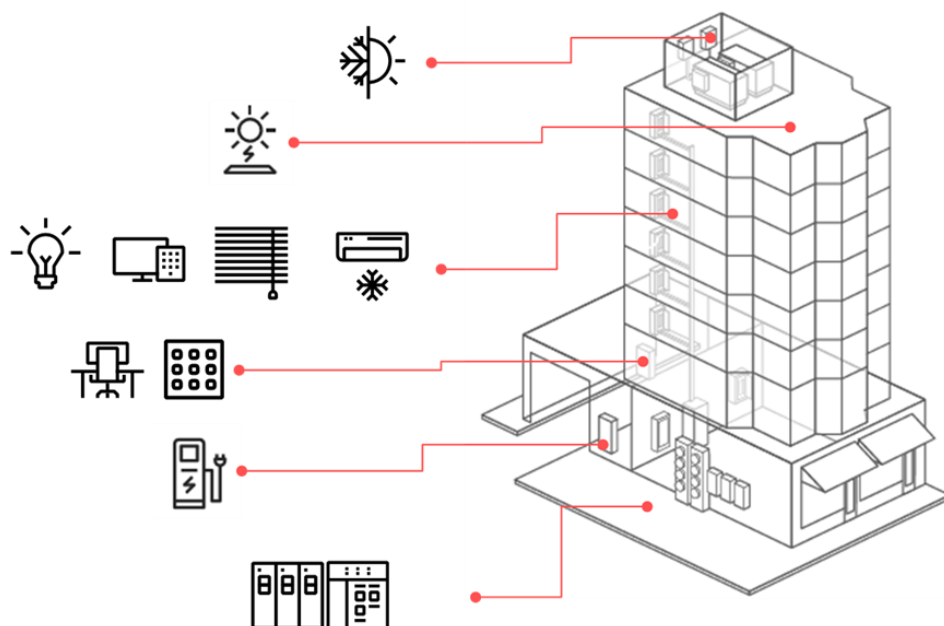




Chameleon

Chameleon Haas

Short guide



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Chameleon HaaS

Summary description

That Chameleon HaaS is an advanced hotel automation solution for hotel units with a capacity of one to ninety rooms. The solution is based on the KNX protocol fieldbus and includes room automation (with Split Unit Air Conditioning control) and central visualization for the reception.

The solution at the room level does not have the classic and unreliable card holder and is based on a sophisticated presence detection algorithm that uses a magnetic contact on the door and a conventional presence detector in each room.

Opening the door initiates the presence detection algorithm, for a certain period. If movement is detected within this interval, the system sets the room in "Occupied" state and stops the detection, thus avoiding any mistake during the guest's presence in the room. When the door closes the algorithm will check again for presence. If no presence is detected within the period, the room enters the "Vacant" state and initiates the energy saving scenarios. The presence control algorithm also has a failsafe for the case of wrongly estimating the absence of a guest from the room. If motion is detected in a "Vacant" room, the algorithm will set the room to "Occupied", but without changing the state of the lighting in the room.

In hotel rooms with automation and presence detection, it is a classic requirement that certain actions are performed automatically when the occupant enters and exits.

Entrance

- When the tenant enters the room, the automation system will activate the “ Welcome Guest ” scene, which turns on specific lighting points at a specified light level, will send a “ comfort ” climate scenario and activate the socket circuits
- If the room is occupied, **no** scene should be activated upon entry to avoid discomfort to the occupants (guest entry while someone is sleeping)

Exit

- When the tenant leaves the room in the “ Guest Out ” scene, all the lighting points in the room will be switched off, the air conditioning will switch to “ standby ” mode after a certain period of time and certain power outlet circuits will be switched off

At reception level the Chameleon available with ready visualization with room integration as well as supervisory functions for the state of the rooms and their management

Room Configuration:

At room level there is a basic unit LOGO! and an expansion unit with a total of 16 inputs and 12 outputs available. The LOGO! module will be combined with conventional push buttons that the end customer will freely choose according to his aesthetic and cost criteria.

The inputs can either control lighting circuits directly (1--1), or trigger scenarios (Scene) to control more than one lighting line. The outputs are lighting circuits (with one or more lamps).

Chameleon will come programmed with a design derived from our personal experience in more than 30,000 hotel rooms.

The first step is to check if this design suits us. For this purpose we will check in the Default folder export the IO settings , Scenes and Sensors files.

In IO setting.pdf we will find the original design of LOGO!, for our lighting loads, our push buttons as well as their placement.

IO setting						
LOGO! 12/24RCEQ, 8DI/4DO						
	Description	Load/Scene name	Type of scene	Type	Controlled output	Room
Inputs	I1 Door Magnetic Reed Contact			Aux (NC)		Generic
	I2 Conventional Presence Detectors			Aux		Generic
	I3 Window Magnetic Reed Contact			Aux (NC)		Generic
	I4 Button Foyer	Foyer		1--1	Q5	Foyer
	I5 Button Bathroom	Bathroom		1--1	Q6	Foyer
	I6 Emergency cord	Emergency cord		Aux		Generic
	I7 Button MUR	MUR		1--1	Q3	Foyer
	I8 Button DND	DND		1--1	Q4	Foyer
Outputs	O1 Power outlets	Power outlets		General Load		
	O2 AC on/off	AC on/off		General Load		
	O3 Lighting Circuit MUR	MUR		Lighting Circuit		
	O4 Lighting Circuit DND	DND		Lighting Circuit		
LOGO! DM16 24R Exp. mod, 8DI/8DO						
	Description	Load/Scene name	Type of scene	Type	Controlled output	Bedroom
Inputs	I9 Button Balcony	Balcony		1--1	Q7	Balcony
	I10 Button Bedside Right	Bedside Right		1--1	Q8	Bed R
	I11 Button Bedside Leftt	Bedside Leftt		1--1	Q9	Bed L
	I12 Button Desk	Desk		1--1	Q10	Desk
	I13 Button scene Master On	Master On	Default	Scene		Bed L/R
	I14 Button scene Romantic	Romantic	Default	Scene		Bed L/R
	I15 Button scene Night	Night	Toggle	Scene		Bed L/R
	I16 Button scene TV	TV	Default	Scene		Bed L/R
Outputs	O5 Lighting Circuit Foyer	Foyer		Lighting Circuit		
	O6 Lighting Circuit Bathroom	Bathroom		Lighting Circuit		
	O7 Lighting Circuit Balcony	Balcony		Lighting Circuit		
	O8 Lighting Circuit Bedside Right	Bedside Right		Lighting Circuit		
	O9 Lighting Circuit Bedside Leftt	Bedside Leftt		Lighting Circuit		
	O10 Lighting Circuit Desk	Desk		Lighting Circuit		
	O11 Lighting Circuit Bedroom ceiling	Bedroom ceiling		Lighting Circuit		
	O12 Lighting Circuit Bedroom concealed lighting	Bedroom concealed lighting		Lighting Circuit		

To form a better picture for the push buttons and their placement inside the room, we can consult the Sensors file . We will see, for example, that there are four push buttons in the hall. Hall and Toilet directly control their respective lighting circuits, the MUR button (Call to clean the room) and the DND button (Do Not Disturb)

Sensors

Foyer	Foyer	Bathroom	MUR	DND	
Balcony	Balcony				
Bed R	Bedside Right	Master On	Romantic	Night	TV
Bed L	Bedside Leftt	Master On	Romantic	Night	TV
Desk	Desk				



From the first two pdfs we are missing the information about what the scenarios do, which we will find in the Scenes file

Scenes

Scenarios	7	Welcome Guest	Guest Out	Master On	Romantic	Night	Night (Toggle)	TV
Circuits		Oc Guest In	Oc Guest Out	I13 (Out)	I14 (Out)	I15 (Out)	I15 (Toggle)	I16 (Out)
Q5	Foyer	+	-		-	-	+	-
Q6	Bathroom	+	-	+		-	-	
Q7	Balcony		-		-	-	-	
Q8	Bedside Right		-		-	-	-	-
Q9	Bedside Leftt		-		-	-	-	-
Q10	Desk		-		-	-	-	+
Q11	Bedroom ceiling		-	+	-	-	-	-
Q12	Bedroom concealed lighting		-	+	+	-	-	+

In this table we will find all the lighting scenarios and circuits. The + indicates that the circuit is on, the – that it is off, and a blank entry that it does not change state.

In the Default folder export we will also find the file “ LOGO! instructions.txt ” which will contain instructions for programming LOGO!.

Configurator (IO setting):

In the event that we want to make changes to the room, we will open the " LOGO Hotel Configurator " and we will navigate to the main page

LOGO! 12/24RCE0, 8DI/4DO	Description	Load/Scene name	Type of scene	Type	Controlled output	Room	+
Inputs	I1 Door Magnetic Reed Contact			Aux (NC)		Generic	
	I2 Conventional Presence Detectors			Aux		Generic	
	I3 Window Magnetic Reed Contact			Aux (NC)		Generic	
	I4 Button Foyer	Foyer		1-1	Q5	Foyer	
	I5 Button Bathroom	Bathroom		1-1	Q6	Foyer	
	I6 Emergency cord	Emergency cord		Aux		Generic	
	I7 Button MUR	MUR		1-1	Q3	Foyer	
	I8 Button DND	DND		1-1	Q4	Foyer	
Outputs	Q1 Power outlets	Power outlets		General Load			
	Q2 AC on/off	AC on/off		General Load			
	Q3 Lighting Circuit MUR	MUR		Lighting Circuit			
	Q4 Lighting Circuit DND	DND		Lighting Circuit			

LOGO! DM16 24R Exp. mod, 8DI/8DO	Description	Load/Scene name	Type of scene	Type	Controlled output	Bedroom	+
Inputs	I9 Button Balcony	Balcony		1-1	Q7	Balcony	
	I10 Button Bedside Right	Bedside Right		1-1	Q8	Bed R	
	I11 Button Bedside Left	Bedside Left		1-1	Q9	Bed L	
	I12 Button Desk	Desk		1-1	Q10	Desk	
	I13 Button scene Master On	Master On	Default	Scene		Bed L/R	
	I14 Button scene Romantic	Romantic	Default	Scene		Bed L/R	
	I15 Button scene Night	Night	Toggle	Scene		Bed L/R	
	I16 Button scene TV	TV	Default	Scene		Bed L/R	
Outputs	Q5 Lighting Circuit Foyer	Foyer		Lighting Circuit			
	Q6 Lighting Circuit Bathroom	Bathroom		Lighting Circuit			
	Q7 Lighting Circuit Balcony	Balcony		Lighting Circuit			
	Q8 Lighting Circuit Bedside Right	Bedside Right		Lighting Circuit			
	Q9 Lighting Circuit Bedside Left	Bedside Left		Lighting Circuit			
	Q10 Lighting Circuit Desk	Desk		Lighting Circuit			
Q11 Lighting Circuit Bedroom ceiling	Bedroom ceiling		Lighting Circuit				
Q12 Lighting Circuit Bedroom concealed lighting	Bedroom concealed lighting		Lighting Circuit				

Reset all
Power user
MUR/DND
MUR/DND
Main
Exit


HaaS

Export project

Scenes

Sensors

LOGO! Connections

Determine LOGO!

The three columns we're interested in making changes to, are the Type column, Load/Scenario Name, and Room, +. By changing the type, the program will erase the fields that are not suitable and will show a red highlight color on fields that are empty and need to be filled. We should make sure that we choose the name we want and that the input/push button placement is correct. In the + option we can define a second position for the push button (parallel cable connection to LOGO !). If we wish to have an Emergency cord / MUR / DND, the existing I,/Q must be used.

Configurator (Error Checking):

After completing our changes, we should make a visual check that we do not have any red field and press the **Determine LOGO !** button, correcting any errors.

Microsoft Excel ✕

Input/Output discrepancy: Q5 Foyer and Couch

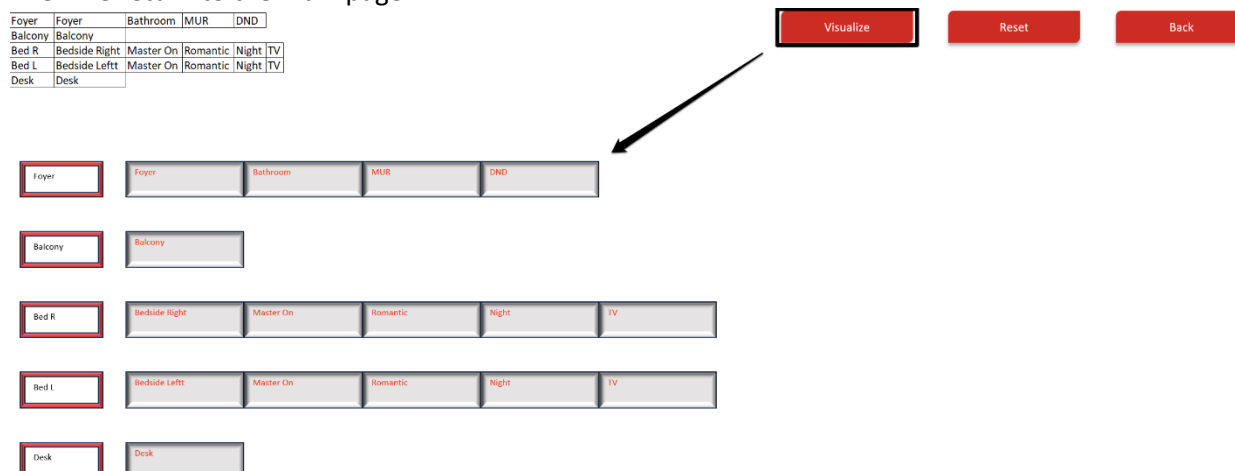
Input/Output discrepancy: Q6 Porch and Bathroom

OK

Configurator (Switches):

By pressing the Sensors button, we will be taken to the Sensors page where by pressing the **Visualize** button, a diagram is created with the positions of the push buttons and the rockers in gray color to help our customer easily form an image of the room.

Then we return to the main page.



Configurator (Scenes):

Pressing the **Scenes** button will navigate us to the scenes page















Scenes								
Scenarios	7	Welcome Guest	Guest Out	Master On	Romantic	Night	Night (Toggle)	TV
Circuits		Oc Guest In	Oc Guest Out	I13 (Out)	I14 (Out)	I15 (Out)	I15 (Toggle)	I16 (Out)
Q5	Foyer	+	-		-	-	+	-
Q6	Bathroom	+	-	+		-	-	
Q7	Balcony		-		-	-	-	
Q8	Bedside Right		-		-	-	-	-
Q9	Bedside Leftt		-		-	-	-	-
Q10	Desk		-		-	-	-	+
Q11	Bedroom ceiling		-	+	-	-	-	-
Q12	Bedroom concealed lighting		-	+	+	-	-	+

In this table we will find all the lighting scenarios and circuits. The + indicates that the circuit is activated, the - that it is deactivated, and a blank entry that it does not change state. By clicking on the field, we can select +/- values from a list or press the Delete key on our keyboard to leave the field empty. After you have finished with the changes, press the **Back** button and you will be taken back to the main page.

When we have completed our changes, we can press the **Export Project** button and the program will produce files with our design and further instructions. Press the **Exit** button to exit the Configurator.

Configurator (Files):

In the same folder as the Configurator we will now find the files created when we pressed the **Export Project** button.

Name	Date modified	Type	Size
 Circuits.pdf		Adobe Acrobat D...	75 KB
 Connections.pdf		Adobe Acrobat D...	144 KB
 IO Setting.pdf		Adobe Acrobat D...	172 KB
 LOGO Hotel Configurator LOGO! import.csv		Microsoft Excel C...	5 KB
 LOGO! instructions.txt		Text Document	5 KB
 Scenes.pdf		Adobe Acrobat D...	128 KB
 Sensors.pdf		Adobe Acrobat D...	131 KB

IO setting : Main page

Connections : The sketch of LOGO !

Circuits : Graphical file of LOGO! programming

Scenes : The scenarios we created (empty or filled, as per our choice)

Sensors : Our push buttons (with or without schematic, as per our choice)

LOGO Hotel Configurator LOGO! import.csv: File that we will import into the diagrams of LOGO ! to update the LOGO ! Soft Comfort with the new name of the inputs and outputs (see "LOGO! Diagram program" guide).

LOGO ! instructions : The file will guide us on the Diagram (. lsc) and Network (. snp) files we need to use to reprogram LOGO !. If LOGO! reprogramming is required , in the same file we will find step-by-step detailed instructions .

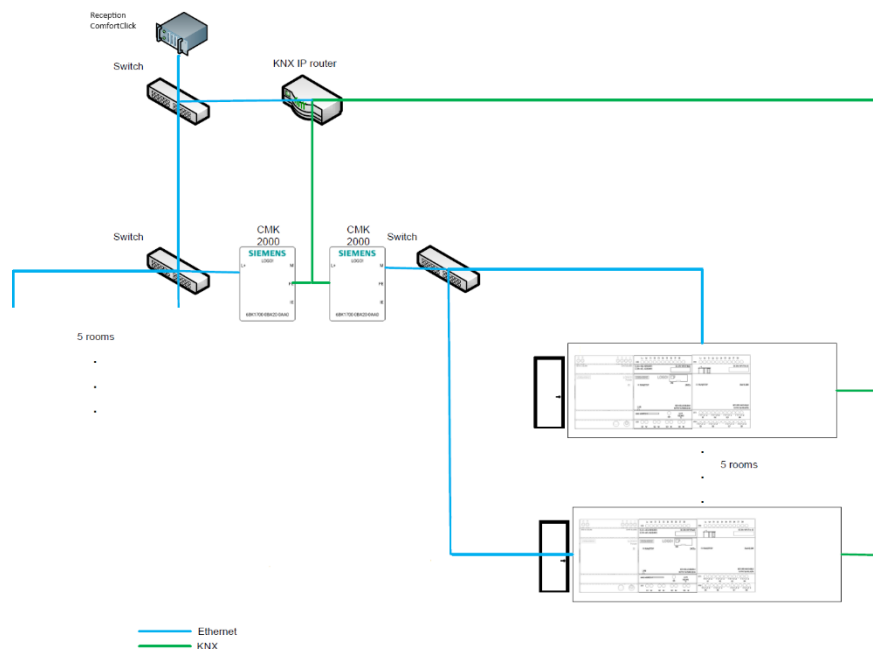
Devices / System Parts:

The system is divided into four categories of devices

- LOGO! devices (base unit, expansion unit and power supply). All LOGO! Devices are placed inside the room
- KNX devices. In each room, an Airzone gateway will be placed to control the air conditioning unit, and on the corridor consumer unit, a Siemens CMK 2000 device (for every five rooms) will be installed as a gateway between the LOGO ! and the KNX fieldbus.
- ComfortClick visualization (bOS PRO License) to be installed on a pc in the reception or on the hotel server
- A Finder Opta controller. This device is only one per project and it activates the operating license of the hotel for the number of rooms we have purchased. The hotel cannot operate without Opta and in case of failure it must be replaced within 30 days (for the reactivation of the hotel license). The license is included in Chameleon HaaS price and does not require renewal. It can be placed on any consumer unit in the hotel common spaces.
- A basic, non-active element, are also the conventional presence detectors. **Their output must be set to 10 sec, and the brightness setting to max (test mode).**

Cabling / topology:

The following figure shows the topology and general wiring of the system. From each room we have a KNX TP cable and an ethernet cable from LOGO!. For every five rooms in the corridor consumer unit, there will be a CMK2000 with KNX TP and ethernet connection. The ethernet cables will end up in the switches / structured cabling of the hotel where the KNX network will also be connected, since the KNX TP cable will in turn end up in one or more KNX IP routers.



Active items / program changes:

As described above we have four parts/types of devices in the system.

- LOGO! devices
- KNX devices
- ComfortClick visualization
- A Finder Opta controller

For each of the above categories there are files ready files and changes to be made

LOGO! devices

As we saw in detail above, if changes are needed the file **LOGO! instructions** it will guide us through all the actions that need to be done to have an updated program for the LOGO! modules.

KNX devices

In the ETS files that we will receive, all the devices are ready for download. If we need to introduce additional routers into our topology, there are already a total of fifteen programmed routers in ETS project and we can simply drag as many devices as we want on new lines (see paragraph 4 in the "KNX_ETS" guide).

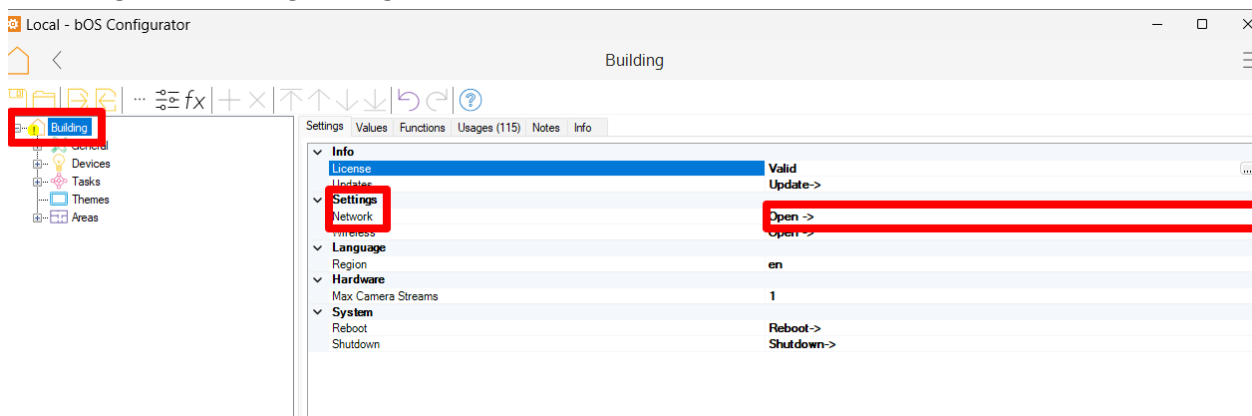
ComfortClick visualization

We will receive a visualization for a 90-room hotel with the original design. If we have modified the original design, we have a different numbering or number of rooms, by sending our changes we will receive a new visualization for the hotel we designed, as well as new room drawings. Both the updated visualization and drawings are automatically generated

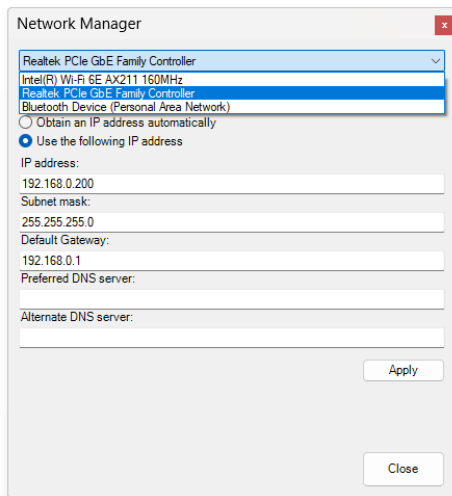
The visualization should be only installed in the hotel and we must set the IP to **192.168.0.98**

By changing the IP of ComfortClick, we are also setting the IP of the pc/server where it is installed.

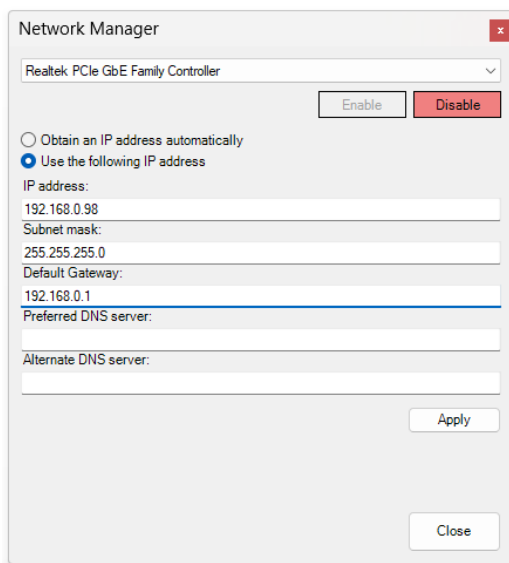
We navigate to Building/Settings/Network



and in the network manager we choose the Wi-Fi or ethernet controller.
It is highly recommended to choose ethernet.



We select Use the following IP Address and we fill in the relevant fields by inserting the:
IP address-->192.168.0.98 SubnetMask-->255.255.255.0 Default Gateway-->192.168.0.1



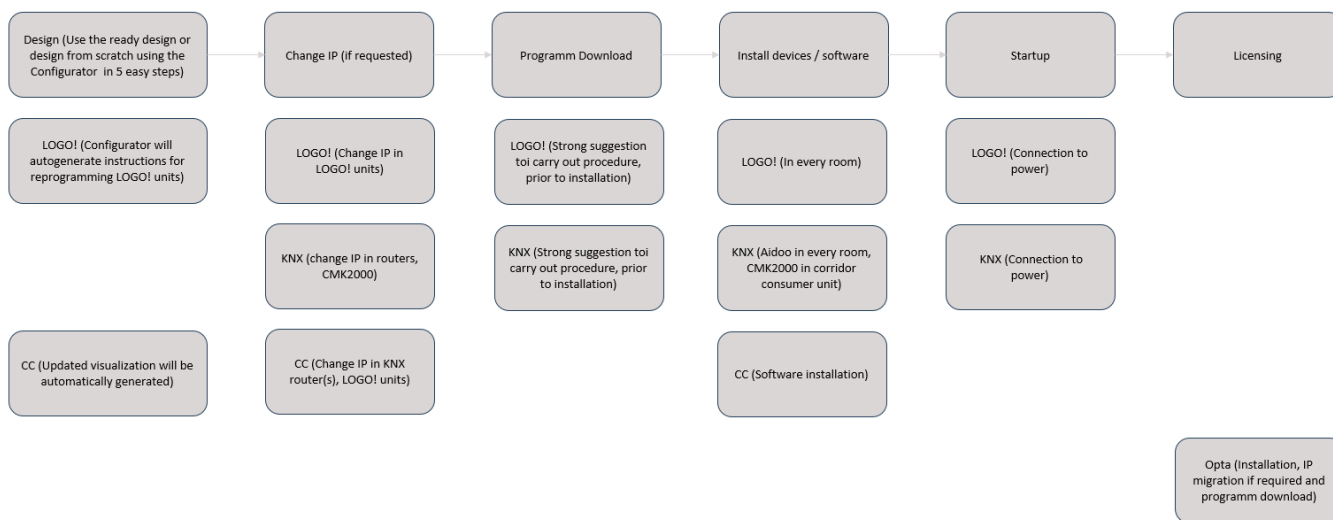
We press the Apply button.

Finder Opta Controller

We will receive and install a program in the Opta device (Chameleon software license).

Task execution sequence

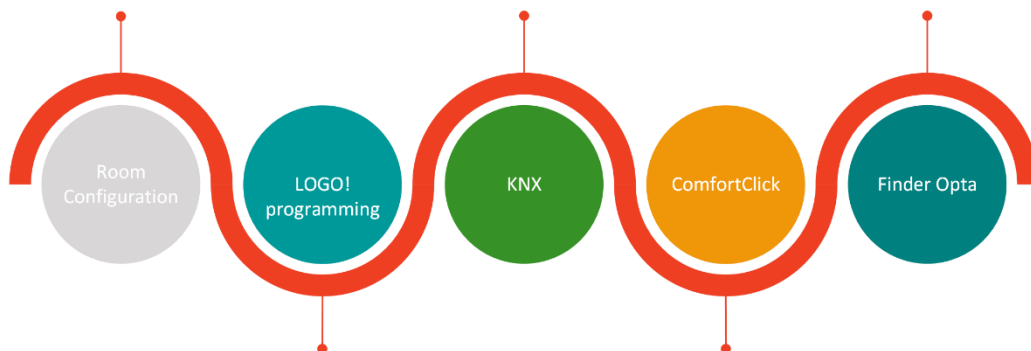
The order of execution of the tasks is shown below. There is the additional step of changing IP addresses if requested.



- Intuitive Configuration software allows for room design and autogenerates complete files and instructions

- Download to KNX devices

- Install the License



- Modify LOGO! with generated guide (if needed)
- Download

- Receive by mail the updated visualization and install it

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Project Steps

In the starting page of LOGO Hotel Configurator we will find the **Project Steps** button, and

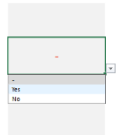


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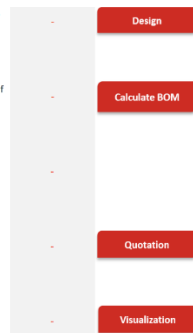
by pressing it we can access the interactive project step guide. Answering two initial questions, will dynamically form the rest of the project steps.

- | | | |
|---|--|---|
| 1 | Ask for a demo | In the Default export files folder you will find all the files describing the default initial design. |
| 2 | Is the initial design satisfactory? | Examine along with your customer if the default design is satisfactory. |
| 3 | Is the Aidoo compatible with the Split Unit? | Click on the link below. |



In the example below for instance the user has chosen to make a new hotel design. Step 4 will now give instructions to press the **Design** button, where in the IO Setting page a new hotel room can be designed. Step 5 will instruct the user to calculate the necessary system components (devices and software). In Step 6 (**Quotation**) the program will compile an email from the project data and make a request for a Chameleon license quotation, and so on.

- | | | |
|---|---------------------------------------|---|
| 4 | New LOGO! Programm | Press the Design Button and after configuring the Room, the Sensors and the Scenarios, press the export button to generate the project files. If you have multiple room types, make a different design for each. |
| 5 | Calculate devices | Fill in all information in the pop up form. Drag your mouse over the field to see relevant notes. By pressing ok, a pdf will be generated, showing the list of materials and the code and price of Chameleon license. |
| 6 | Order devices | Siemens, Legrand and ABB are widely available in the market. If you cannot procure OPTA and Aidoo locally, you can always find them in Arduino and Airzone sites respectively. |
| 7 | Order Chameleon HaaS license | Send an email. You will receive a reply with an active link to buy Chameleon license. |
| 8 | New LOGO! Diagram and Network project | Send an email with the default LOGO! instructions.txt from, the room numbering, (if the numbering is not the default 101-190, attach the Room number list.xls), and receive the Visualization and the room drawings. |



Technical support services (consult the current Service Price List)

As part of the solution support, the following services are available:

- **Tech Support**
 - Providing technical support of a general nature
- **Design LOGO!**
 - Assistance in the new design of the room and delivery of a ready program. lsc
- **Built to order**
 - Assisting in hotel design and delivering complete files for LOGO! units, KNX devices, visualization as well as new designs
- **ETS commissioning**
 - Remote programming of KNX devices
- **Alter Visualization**
 - Chameleon HaaS will give us the right to request up to three different visualizations. Further changes will be possible with the above service.
- **Alter Drawing**
 - Chameleon HaaS will entitle us to request up to three different designs. Further changes will be possible with the above service.
- **IP migration**
 - Delivery of all project files with the new IP addresses.