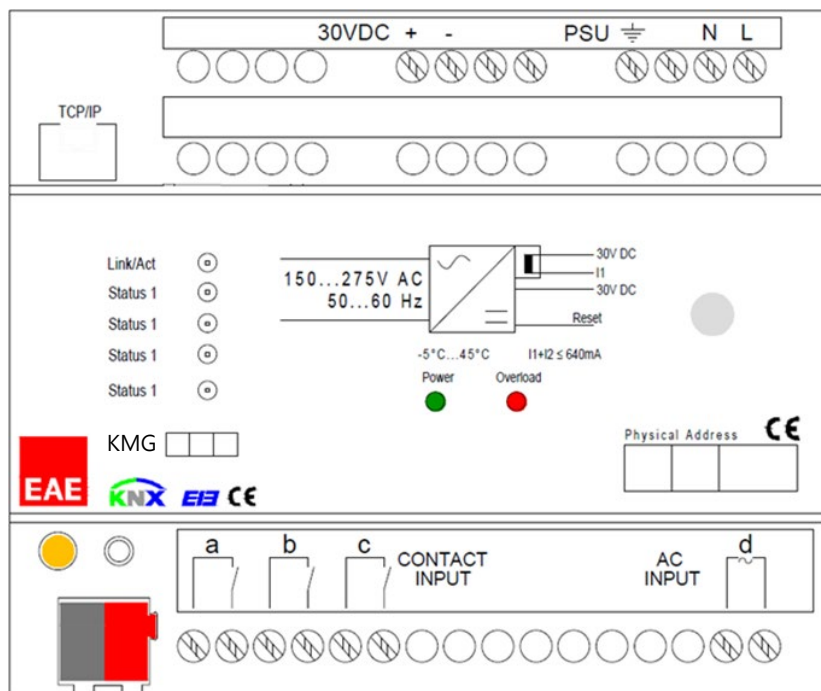


EAE KNX-Modbus TCP router & KNX PSU & Energy Saver without Card Holder



Product Order Numbers

48192	KMG (KNX Modbus Gateway) 220V 640mA	48198	KMG (KNX Modbus Gateway) 220V 320mA
48193	KMG (KNX Modbus Gateway) 110V 640mA	48185	KMG (KNX Modbus Gateway) 110V 320mA



Table of Contents

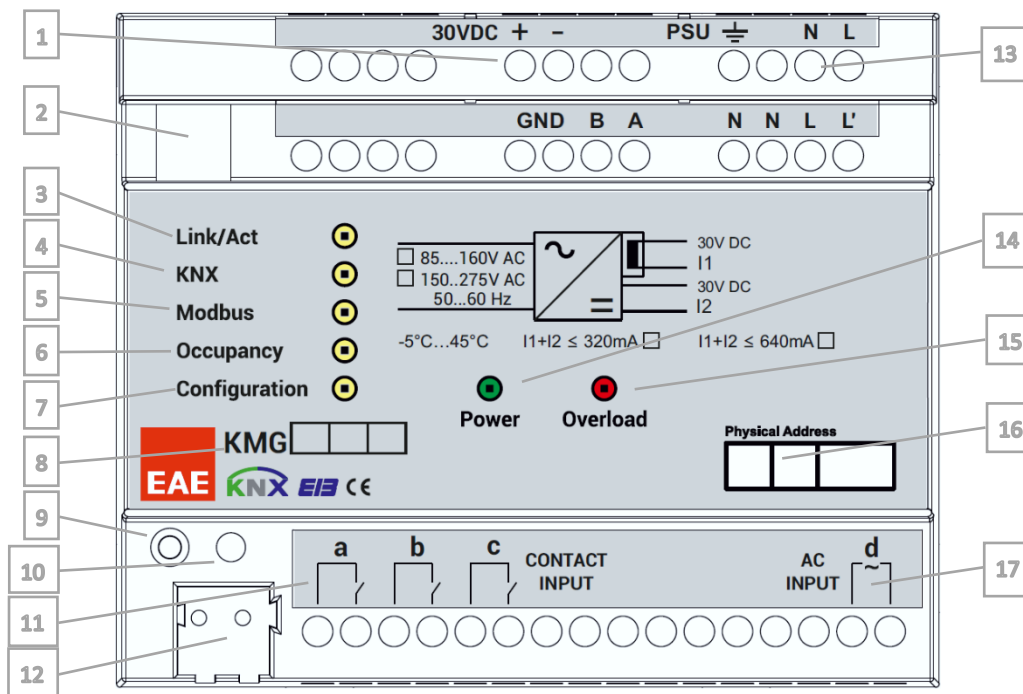
- 1.General Features 3
- 2.Device Technology 4
 - 2.1 Device Peripherals 4
 - 2.2 Connection Diagram 5
 - 2.3. Technical Data 6
 - 2.4. Technical Drawing..... 7
- 3. Settings 8
 - 3.1. Project..... 8
 - 3.1.1. Import Project..... 8
 - 3.1.2. Export Project 9
 - 3.2. IP Config..... 10
 - 3.3. Object Table..... 11
 - 3.4. Hotel State Machine 12
 - 3.4.1. Scenes 13
 - 3.5. Device Management..... 15

1. General Features

- EAE KMG103 can be used to control and monitor KNX installations via SCADA visualization software.
- IP address of device can be given by DHCP server or by manual configuration.
- EAE KMG103 includes patent-pending logic controller that enables room energy saver system without using card holder.
- Device has 3 physical inputs for door, window and presence sensing.
- EAE KMG103 has built-in 320 & 640 mA KNX bus power supply for KNX devices.
- KNX Power supply output is short-circuit and overload protected.
- Power, overload and reset statuses are indicated with three different LED indicators.
- Power supply can be restarted by pressing reset button on the device.

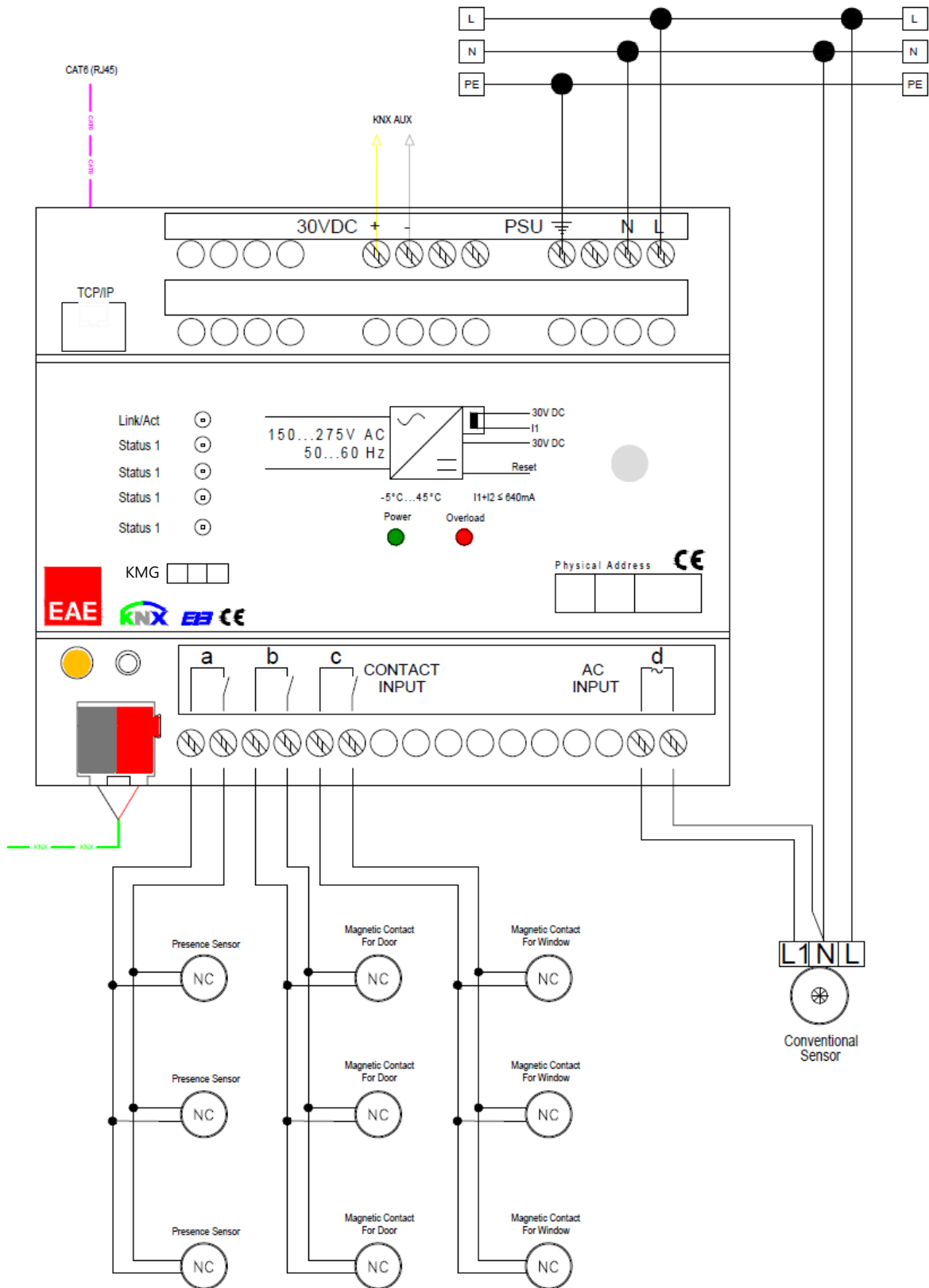
2. Device Technology

2.1 Device Peripherals



No	Function	No	Function
1	KNX Auxiliary Output - 30V	10	Reset / Factory Reset Button
2	CAT6 Modbus TCP/IP Connection	11	Dry Contact Inputs (a, b, c)
3	Ethernet Connection/Transmission LED	12	KNX Connection Terminal
4	KNX Connection/Transmission LED	13	Power Supply Input
5	Modbus Connection/Transmission LED	14	Power LED
6	Occupancy State LED	15	Overload LED
7	PC Configurator Software Connection LED	16	Physical address label
8	Model Name Label	17	AC Input Sensor
9	KNX Reset LED		

2.2 Connection Diagram

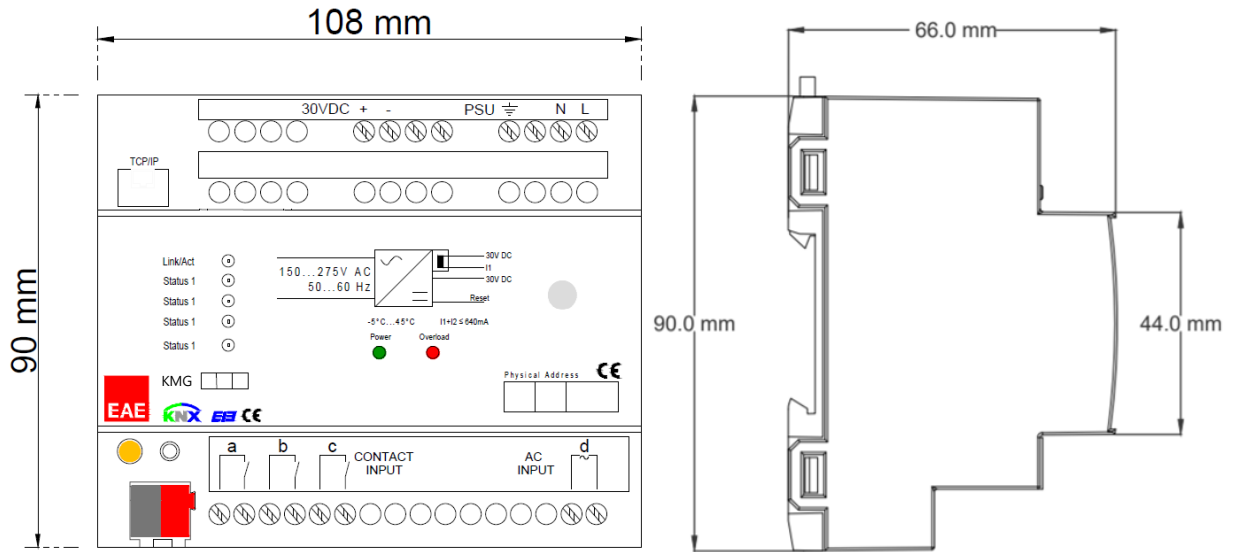


2.3. Technical Data

Type of protection	IP 20	EN 60 529
Safety class	II	EN 61 140
Over voltage category	III	EN 60 664-1
Pollution degree	2	EN 60 664-1
Main supply	Input voltage	150-275V AC, 50-60Hz
	Power consumption	7 W
Output	KNX BUS	30 VDC +1/-2 V, (choke)
	KNX AUX	30 VDC
	BUS + AUX Total Current	640 mA / 320mA
	Short-circuit current	0.5 A
Connections	IP Line	RJ45 socket for 10/100BaseT
	KNX Line	Bus connection terminal
Display elements	Link/Act	Ethernet Connection
	Status 1	KNX Connection
	Status 2	Modbus Connection
	Status 3	Occupancy Status
	Status 4	Configuration Software Connection Status
Operating elements	Reset Button – for KNX Line reset	
Installation	35mm DIN rail mount	EN 60 715 TH 35-75
Temperature range	Operation	-5° C + 45° C
	Storage	-20° C + 60° C
Humidity		Max. 93 % non condense
Dimensions	h x W x L	66 mm x W x 90 mm
	Width W in mm	108 mm
	Width W in units (18 mm modules)	6 modules
Box	Plastic PA66 housing grey	
CE	in accordance with EMC and low voltage guidelines	
	Device complies with, EN 50090-2-2, IEC 60664-1	

NOTE: The device can be configured via KMG Configurator software only. IP Config, Object Table, Hotel State Machine and Device Management settings can be set by own configurator only. Software can be downloaded from EAE Technology website.

2.4. Technical Drawing

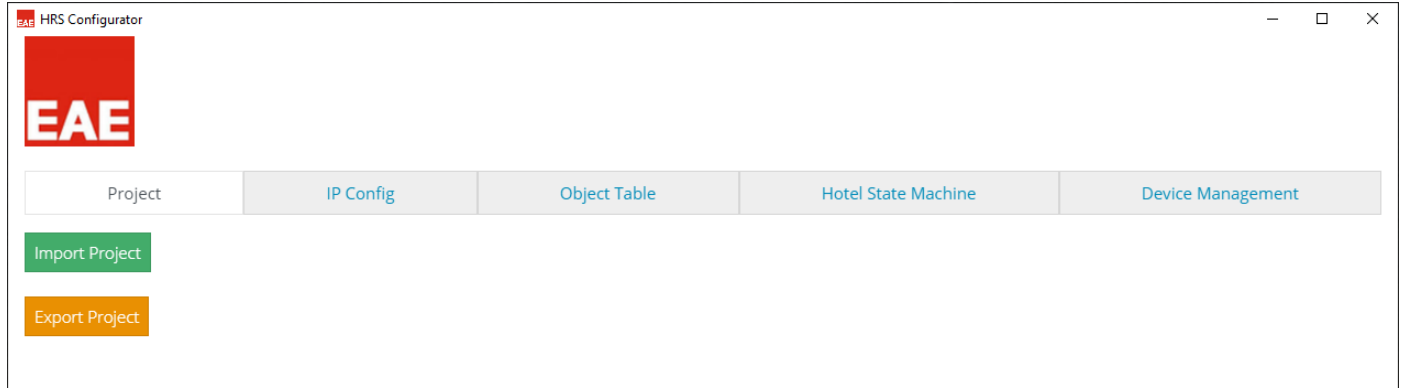


3. Settings

KMG103 can be programmed by its own configurator software. Here is the configurations below.

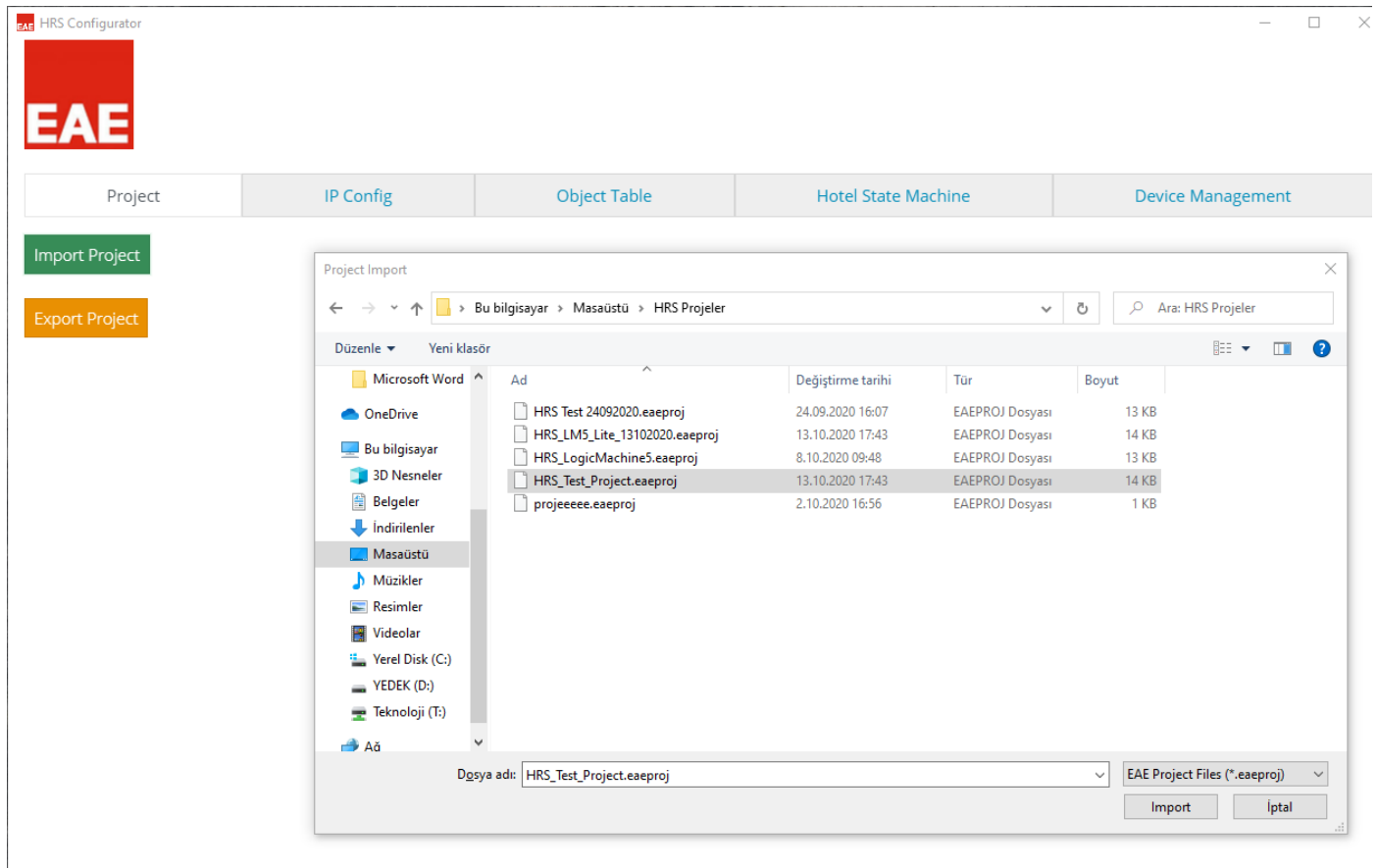
3.1. Project

Project Tab is used to import/exports projects. Project file extension must be ended with **.eaeproj** . Here is the Project Tab shown below.



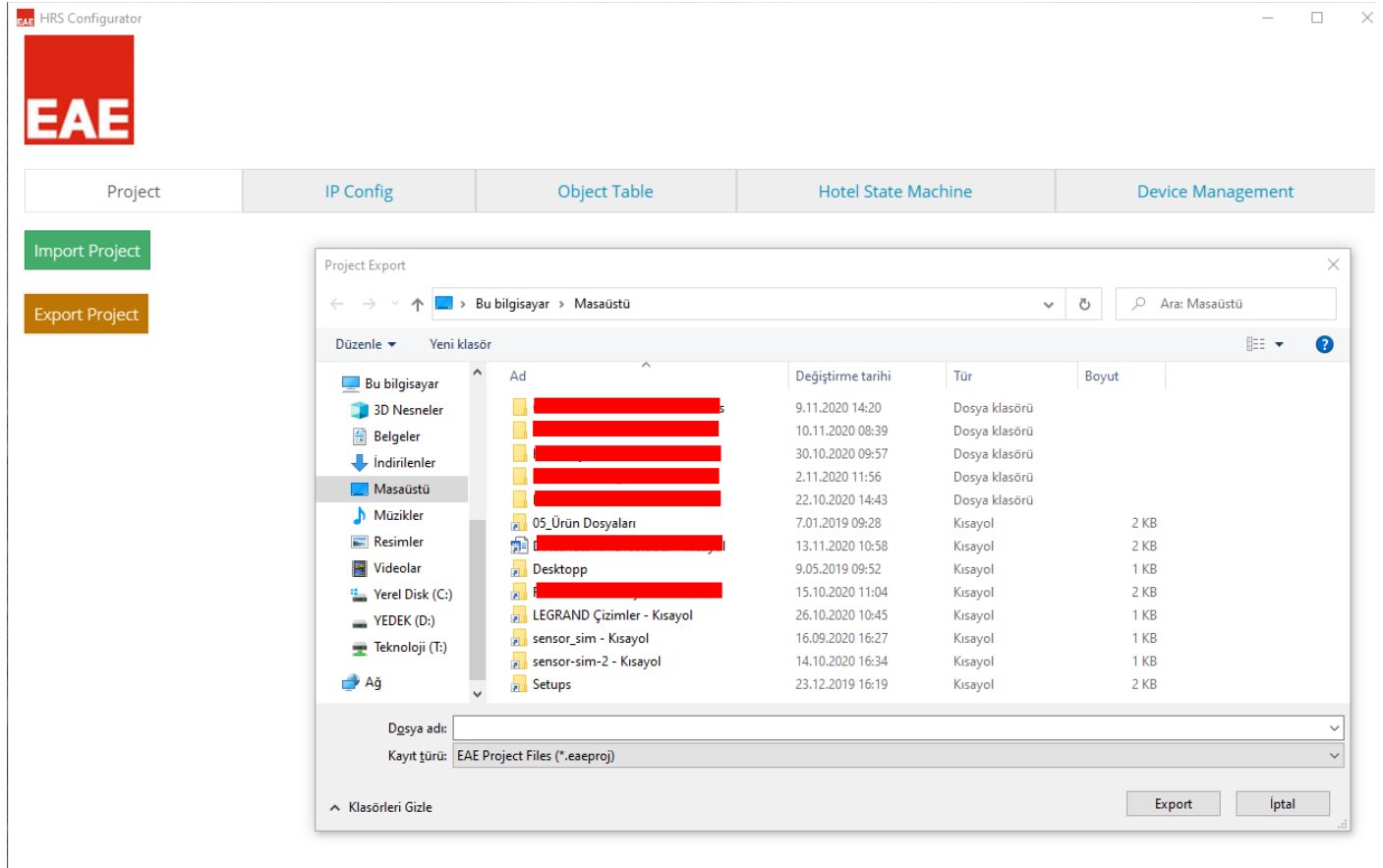
3.1.1. Import Project

It is used to import projects which it is exported from configuration software before. Project Import screen will be popped-up after clicking left to the "Import Project" button. Then, relevant project file must be selected on this window and clicked to Import button of the screen.



3.1.2. Export Project

It is used to export projects which it is created from configurator software before. Project Export screen will be popped-up after clicking left to the “Export Project” button. Then, desired name must be given on this window and clicked to Export button of the screen to save the project file.



3.2. IP Config

In this page, device ethernet connection settings, Modbus TCP port and KNX Physical Address can be changed. Here is the screen below.

The screenshot shows the 'IP Config' tab in the HRS Configurator. The DHCP checkbox is unchecked. The IP Address is 192.168.1.100, Subnet Mask is 255.255.255.0, and Default Gateway is 192.168.1.1. The Modbus TCP Server Port is 502 and the KNX Physical Address is 1.1.1.

DHCP : Device IP Address can be taken automatically over DHCP server of network, If selected.

IP Address : It is an address used in order to uniquely identify a device on an IP network

Subnet Mask : It should be **255.255.255.0** by default.

Default Gateway : IP address of the network router/access point.

Modbus TCP Server Port : Port number to reach Modbus TCP system over ethernet.

KNX Physical Address : Physical address of KNX device.

DHCP Not Active

The screenshot shows the 'IP Config' tab in the HRS Configurator. The DHCP checkbox is checked. The Modbus TCP Server Port is 502 and the KNX Physical Address is 1.1.1. The IP Address, Subnet Mask, and Default Gateway fields are greyed out.

If DHCP activated, IP Address, Subnet Mask and Default Gateway will be disappeared and the device will obtain a random IP address from DHCP server of network. Here is the screen shown above.

DHCP : Device IP Address can be taken automatically over DHCP server of network, If selected.

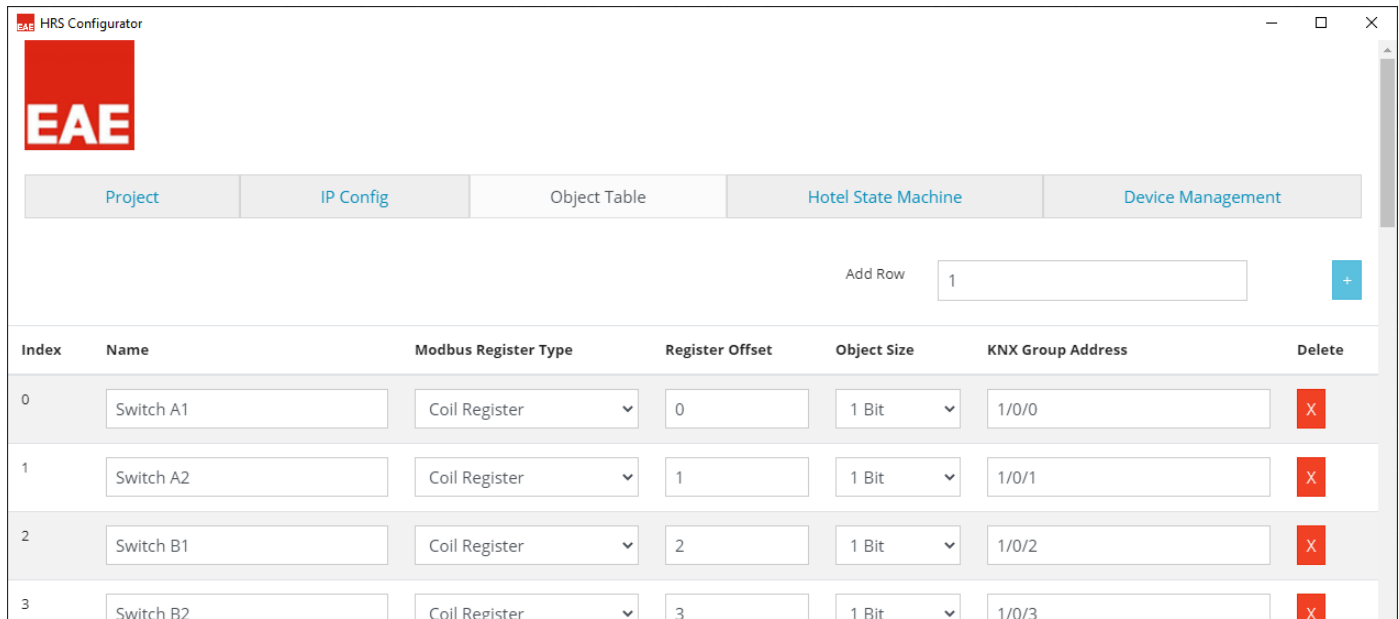
Modbus TCP Server Port : Port number to reach Modbus TCP system over ethernet.

KNX Physical Address : Physical address of KNX device.


DHCP Active

3.3. Object Table

This page is used to create new objects which it is KNX only or KNX with Modbus Register as well. They can be used in Scenes, Inputs, Checkin-out and Occupancy status.



Add Row: Single or multiple rows can be added regarding to the field value.

e.g. If 5 written there and  button pressed, 5 rows will be added to the end of the list.

Name: Object names can be defined in this field.

Modbus Register Type: 4 types of register can be set in this field. Additionally, Modbus can be disabled if selected as “None”. Modbus register specifications are shown on the table below.

Modbus Register Type	Access	Size	Modbus Address Range
Coil Register	Write/Read	1 bit	00000 - 09999
Discrete Input	Read-only	1 bit	10000 - 19999
Input Register	Read-only	8 or 16 bits (1 or 2 Byte)	30000 - 39999
Holding Register	Write/Read	8 or 16 bits (1 or 2 Byte)	40000 - 49999

Register Offset: Written value will be added to Modbus address regarding to modbus register type.

e.g. Coil Register > Offset 6


This object will be writable and readable through **00006** modbus address on ModBus.

e.g. 2 Holding Register > Offset 12

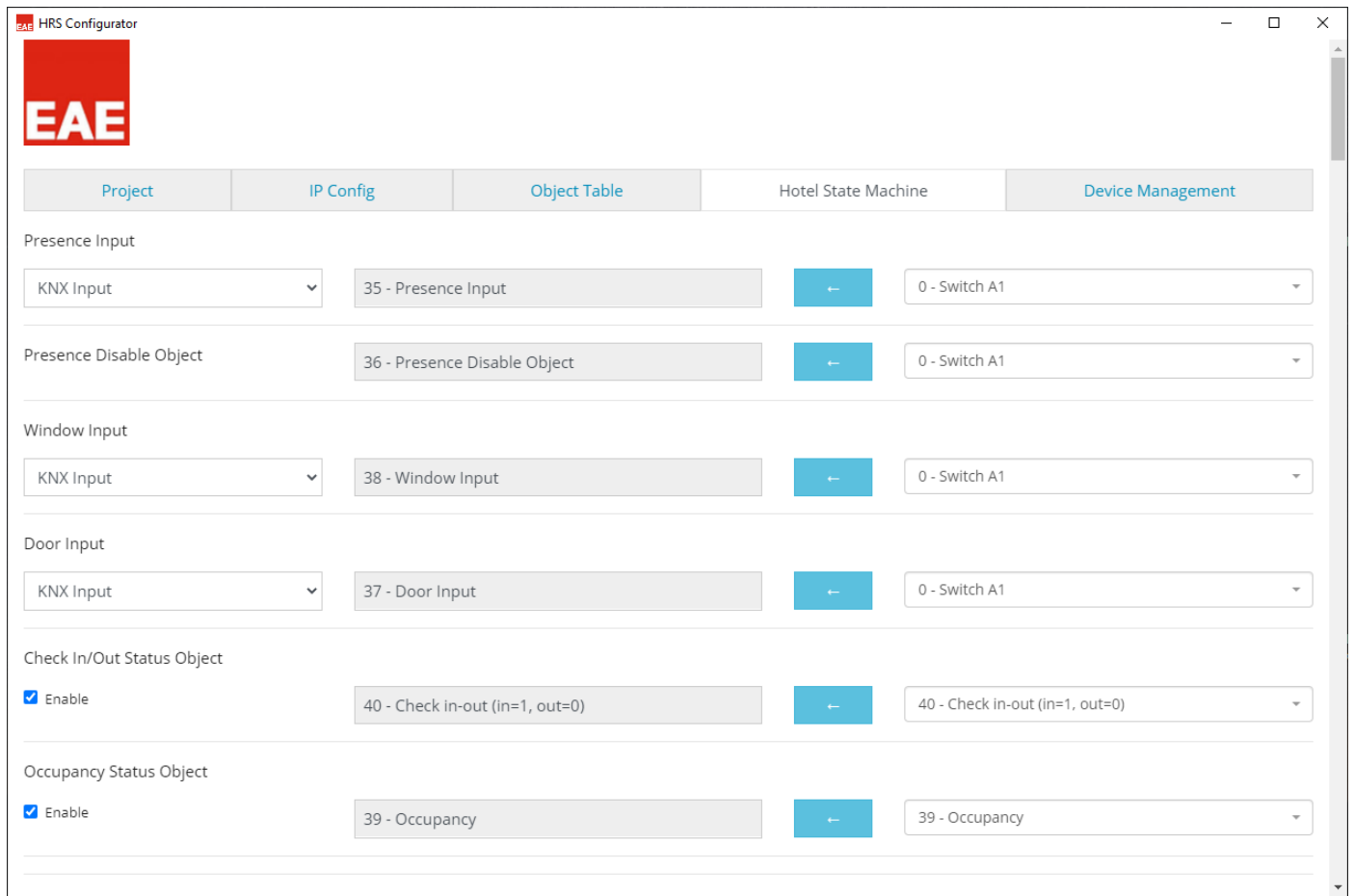
This object will be writable and readable through **40012** modbus address on ModBus.

Object Size: Selected size must be compatible with the Modbus Register and KNX Group Address. Please refer the table above.

KNX Group Address: Allowed range 0/0/1 to 31/7/255.

 **Button:** It is used to disappear the rows. Rows can be deleted one by one.

3.4. Hotel State Machine



This menu is used to set the parameters for hotel logic functions. Various scenes can be applied to KNX and ModBus depends on presence, window or door inputs.

Presence Input information can be received in one of three ways below.

1. Dry Contact Input*
2. AC Input*
3. KNX Input

Window and Door Input informations can be received in one of two ways above. (1 and 3)

Check IN/OUT states can be controlled and received via 1-bit object only. (ModBus and KNX)

Occupancy state can be received via 1-bit object only. (ModBus and KNX)

***NOTE:** Multiple sensors can be connected for each Dry Contact Input or AC Input.

3.4.1. Scenes

Scenes contain objects which it can be added by integrator. Each scenes can be triggered according to window, door and presence actions.

3.4.1.1. Pre-Welcome

This scene can be activated if the room is **not occupied** and **checked-in**. This scene will be executed if following actions are done below.

Door opened > Pre-Welcome Scene

3.4.1.2. Welcome

This scene can be activated if the room is **not occupied** and **checked-in**. This scene will be executed if following actions are done below.

This scene is used to execute if following actions are done below.

Door opened > Pre-Welcome Scene > Door closed > Presence waiting > Movement in 1 minute > Welcome Scene

3.4.1.3. Leave

This scene can be activated if the room is **occupied/not occupied** and **checked-in**. This scene will be executed if following actions are done below.

Not occupied:

Door opened > Pre-Welcome Scene > Door closed > Presence waiting > NO Movement in 1 minute > Leave Scene

Occupied:

Door opened > Door closed > Presence waiting > NO movement in 1 minute > Leave Scene

3.4.1.4. Window Open

This scene can be activated if the room is **occupied** and **checked-in**. This scene will be executed if following actions are done below.

Window opened > Save the last state before window open > Window Open Scene > Window closed > The last state before window open

3.4.1.5. Checkout

This scene can be activated if the checked-in room is **not occupied** and it has received “0” from checkin-out object or **occupied** and **checked-out**. This scene will be executed if following actions are done below.

NOT occupied: Checkin-out Object: 0 > Checkout Scene

Occupied: Checkin-out Object: 0 > Waiting for door open > Door opened > Door closed > Presence waiting > No movement in 1 minute > Checkout Scene

3.4.1.6. Service Entry

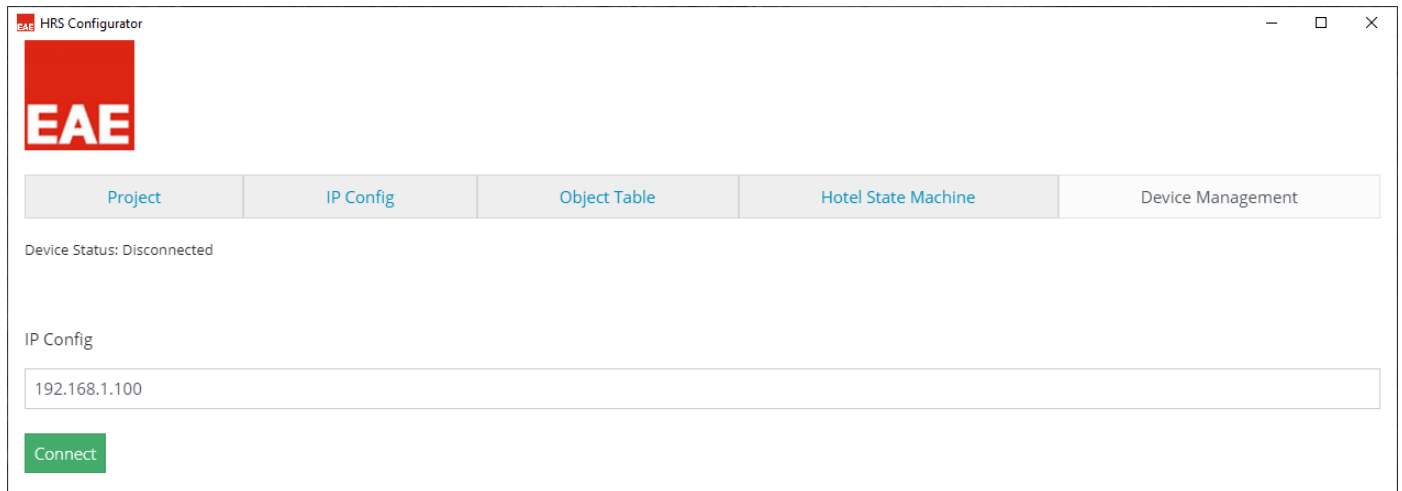
This scene can be activated if the room is **not occupied** and **checked-out**. This scene will be executed if following actions are done below.

- When door opened > Service Entry Scene > Door closed > Presence waiting > Movement in 1 minute > Stay on scene

- When door opened > Service Entry Scene > Door closed > Presence waiting > NO movement in 1 minute > Checkout Scene

3.5. Device Management

In this page, configuration file can be installed through this page.

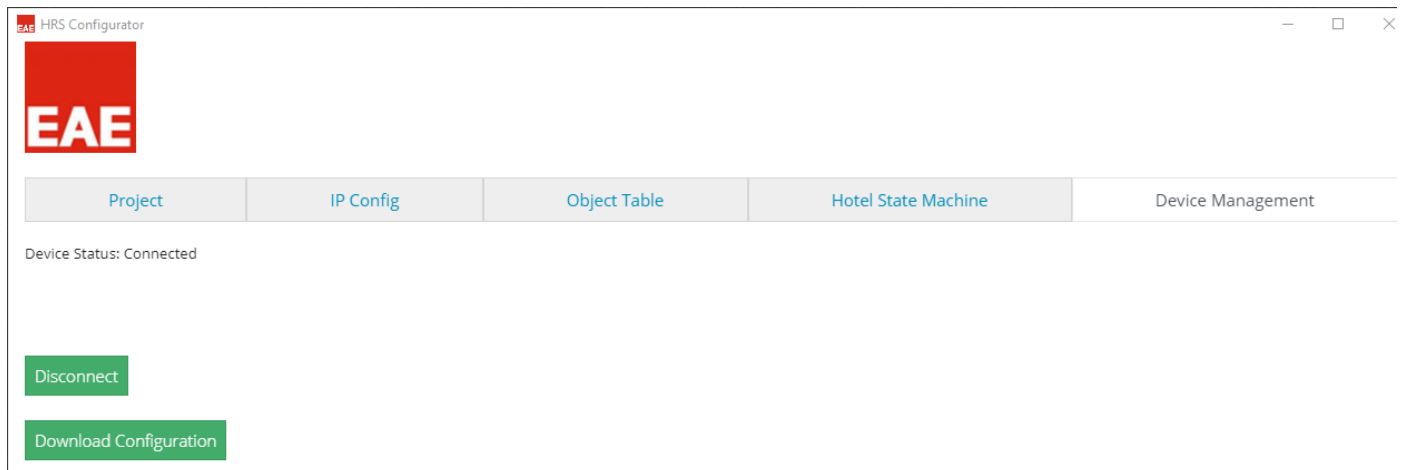


IP Config: Device local IP address should be entered here.

Connect: IP address should be written before press.

NOTE: If device IP address not known and not reachable through 192.168.1.100, please press and hold the programming button for 20 seconds aprox. Device will be rebooted with factory defaults.

Default IP address: 192.168.1.100



Disconnect: It is used to close connection between device and configurator.

Download Configuration: It is used to transmit configurations to device through configurator.