SMARTHOME

MAKEL®

INTELLIGENT BUILDING AUTOMATION SYSTEMS

Makel Smarthome Knx System for Business Spaces 8/9
Makel Smarthome Knx System in Residential Spaces 10/11
Remote Access 12
Security 13
Energy Efficiency 14/15
Lighting Applications 16/17
Security and Air Conditioning 18/19

SMARTHOME

INTELLIGENT BUILDING AUTOMATION SYSTEMS

KNX Diagram 20 /21
22 /25 GTS Sense Black - White
26 /27 PBS Metal
28 /29 PBS Glass
30 /31 PBS Wood
32 /33 PBS Cellia Modular
34 /35 PBS Square Modular Metal
36 /37 PBS Square Modular
38 /91 Smarthome Products
92 /106 References

Everyday a new electronic device enters our lives. From home theatre systems to media players, from ventilation systems to car park lighting, many devices provide us conveniences while increasing energy consumption.

In offices, plazas, apartments, villas, hotels and all other living spaces it has become much easier to both use technology at the most superior level and keep energy costs under control.

MAKEL®

While energy efficiency is very important for a more livable world it is also the best solution in terms of your budget.

We at Makel produce solutions in which intelligence and appeal are provided together.

at the point where aesthetic meets with intelligence...

Gathering separately used functions and with optimized energy usage, Makel Smart Building Technology gets high on global standards KNX Norms.

You Have the Control with Makel SmartHome System!

Now it so easy to control and manage illumination, heating, ventilation, security, measurement, timing, audio and video aquipments in your building. The system can be adjusted and modified at will. All system's functions can be managed remotely from the console, via internet and mobile phone. Everything is Possible with the Makel Smart Home System...

PROVIDES FLEXIBILITY IN THE MANAGEMENT OF PREMISES.

You can have a system with maximum flexibility that can have to be adapted to alterations because of moving, change in objective, expansion or sectioning off. You can access and configure the system via PDAr PC or a touchSense.

You can monitor windows-doors with sensors, you can control underground parking areas and obtain problem notifications

Provided instant warnings in risky situations and you can adjust to turn off the system and you can also display performance curves and temperatures.

You can display error signals and you can also provide these signals automatically forwarded to technical teams or building manager.

MAKEL®

globalize

KNX... let this global standard adopted by more than 250 manufacturers worldwide make your life easier, too.

no compliance issues

All KNX products are certified by the KNX Association and assured to be in compliance with its standards regardless of the manufacturer.

reduce costs

Energy is used efficiently with KNX based systems. This leads to lower energy consumptions and flexible budgets. Spend less, get more.

SMARTHOME

and most importantly maximum flexibility

Own a system that can easily adapt to ever changing demands. Now or in the future, easily add limitless functions and scenarios according to your custom preferences with operational flexibility and without the need to change your infrastructure.

the comfort you deserve

You deserve more comfort and convenience both at office and home. Intelligently controllable scenarios offer you a more comfortable working and living environment.

security cannot be compromised

As the buildings use more and more technology the existing classical electrical fixtures will become insufficient to meet developing and expanding demands. Therefore building technologies with fast and smart reflexes are safer now whether there are any inhabitants or not.

work comfortably. . .

MAKEL SMARTHOME KNX SYSTEM FOR BUSINESS SPACES

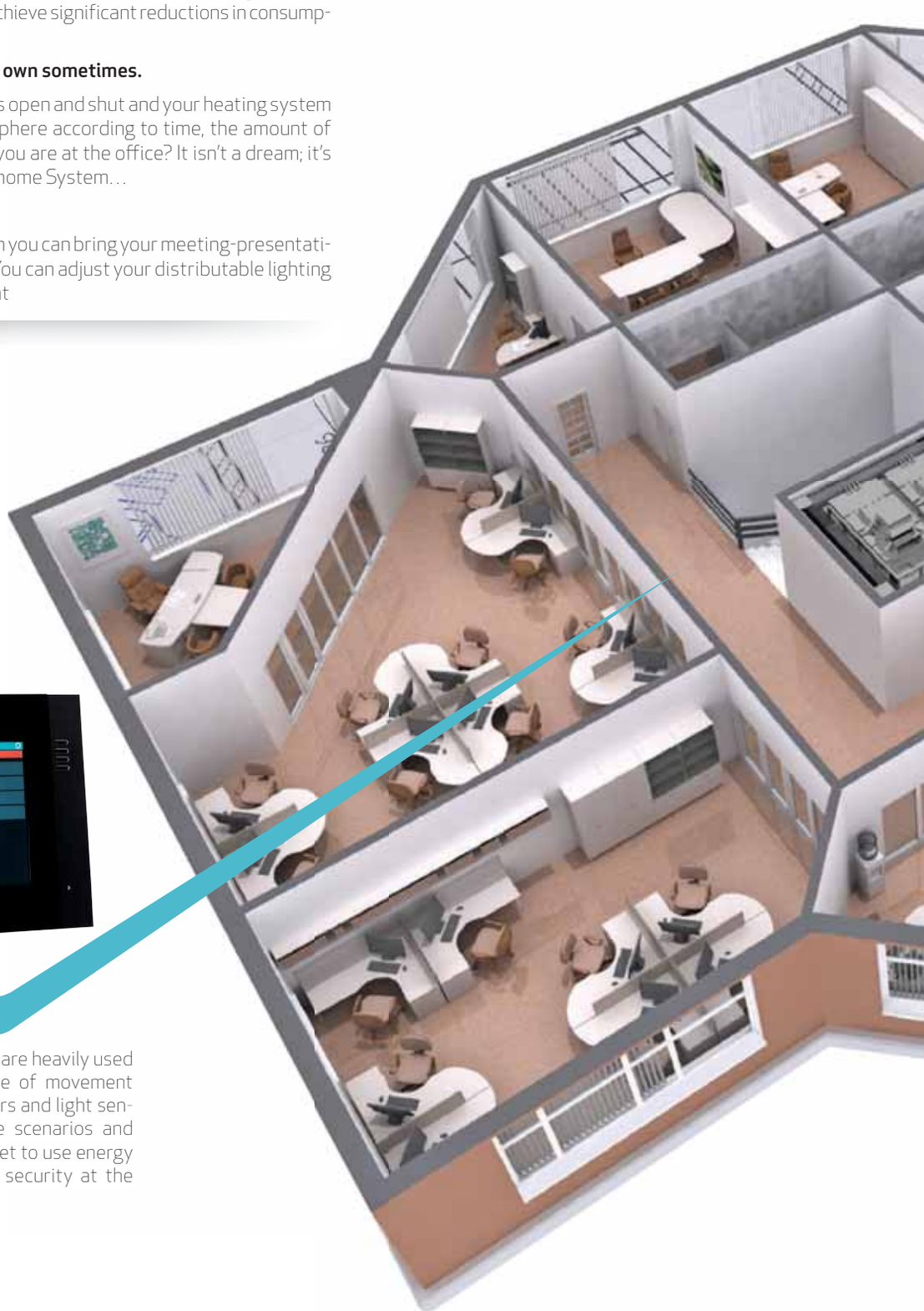
One of the highest priority requirements of our times is to use energy efficiently during business hours. Flexibility and efficient energy use are especially important in business buildings. By using the KNX smart building management systems, enable the efficient management of heat, lighting and energy to achieve significant reductions in consumption and therefore costs.

Let your office decide on its own sometimes.

Wouldn't be nice if your blinds open and shut and your heating system created the optimum atmosphere according to time, the amount of outdoor light and the hours you are at the office? It isn't a dream; it's reality with the Makel Smarthome System. . .

Is that all?

With only the push of a button you can bring your meeting-presentation rooms to a preset mode. You can adjust your distributable lighting according to the outdoor light



> Halls

Halls in the offices. They are heavily used spaces. Through the use of movement sensors, presence sensors and light sensors a variety of usage scenarios and alarm scenarios can be set to use energy efficiently and increase security at the same time.

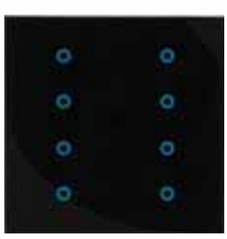
Archives Room <

There is a great potential for savings in terms of energy efficiency in rooms like archives rooms, which are not frequently used and where people often forget to turn off the lights. Simply by controlling lights with a motion detector you can save on energy.

Meeting Rooms <

Don't worry about the technical side of things when preparing for a presentation. In a smart meeting room you will not need to turn the necessary functions on and off. You can easily control each function from a central unit. With the push of a single button the projector Sense will come down to the desired position, the blinds will close, the devices will operate and the lighting will come to the desired level.

Offices <



The thermostat unit will create a suitable room climate with its multifunctional command button. The unit is actually the combination of 2 devices. Not just a suitable room climate but also the lights, scenarios and blinds can all be controlled individually with the multifunctional button. The motion sensor enables the lighting and temperature to be adjusted based on whether or not anyone is in the room.

live comfortably. . .

THE MAKEL SMARTHOME KNX SYSTEM IN RESIDENTIAL SPACES

You have worked hard enough at the office so when you come home, let the Makel Smart System do the work. Turning the lights on one by one and adjusting the room temperature is now the Makel Smart Home System's job. With only the touch of a button you can achieve the lighting, temperature and security you desire. If you wish the lights will turn off completely, the electrical blinds will come down, the temperature will go down to the minimum and the alarm will switch on when you leave your home. When you come home everything will return to the setting you want. The scenarios you can set easily enable you to live in your home with maximum comfort. Using the Touch-Sense Makel Smart Home Central Control Panel you can control your whole home from one point. In fact, if you wish, you can also do this using your mobile phone or the internet. Now your home is smart as well as beautiful...

> Bedroom

You can sleep comfortably thanks to KNX. Lights and blinds can easily be controlled by the use of the buttons. Through the use of different scenarios like "panic", all of the lights in the house can go on at once to increase security.

> Kitchen

Does a large portion of your day go by in the kitchen? You can take control of the whole house from a single point with the KNX compatible touch-Sense panel you can have installed in your kitchen.

Is that all?

For example, if you choose the "Someone is at Home Simulation" function while leaving the house, your home will appear occupied to deter burglars.

> Entry and Hall

Do you usually come home in the evenings with your hands full?

If you want the lights to turn on automatically without putting down your load the internal space motion detector is just for you!

Also in the motion detector scenarios set according to daylight the lights will not go on when there is sufficient daylight.

Dining Room <

You have prepared all day for a dinner, your guests are about to arrive and you are still bustling around. With the press of a button turn on the lights, music and heat for each room at scenarios you have preset …

While the lights and music are operating in the dining room you can set the room where the children are watching TV to have dimmer light and no music to provide a warm atmosphere.

Living Room <

Whether you use a central control unit, a table pc or a smart phone you can easily control the lighting, blind and room temperature settings in your living room.

There is no need for you to worry about the weather. You can control the heat automatically with a weather control unit added to the system. For example, if a storm is approaching the shutters close automatically and prevent possible damage.

remote access

YOU CONTROL YOUR BUILDING NO MATTER WHERE YOU ARE...

Thanks to remote access you can control the systems in your house even before you get home. Thus you can create the ambience of your home being occupied even when you are out.

If you want to be greeted with a warm house when you come home you can use your mobile phone to connect with the system to operate your heat at whatever temperature you wish and control the other climate settings (humidity, fan speed control, under floor heating, etc.) and later integrate these into your system.

You can connect to the system in your home via pc or iPad and activate any scenarios you wish.

No matter where you are you can control your building, due to the remote access via internet...

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security

SMARTHOME

THE SECURITY OF YOUR HOME IS RIGHT AT YOUR FINGER TIPS

Are the precautions you have taken for the security of your home sufficient? Did you hear a concerning sound at night?

You can turn all the lights on at once by pressing a single button at your bedside. The more secure your building is the safer you will feel.

Motion detectors may determine uninvited guests and deter them before they enter your home, the doors and windows can be equipped to sound off a warning and send an SMS if tampered with.

- Smoke detectors, heat detectors, flood detectors and gas leakage detectors can provide protection. Strategically placed cameras can enable you to watch your home or record images over the internet or your mobile phone.
- You can protect your home against burglary with motion detectors that are integrated with the building's automation system.
- Smarthome is a system that can warn you with water detectors in the event of water leakages when you are not home and any gas leakage, smoke and fire events and can activate a variety of scenarios to deal with these situations.
- Also the presence detectors that are integrated into the system will allow you to monitor presence activity in various parts of your home or office.

energy efficiency

USE ENERGY EFFICIENTLY WITH SMARTHOME TO ACHIEVE A MORE LIVABLE WORLD AND HIGHER STANDARDS FOR LIFE

Presence Detector
By detecting even the smallest motions in a setting, the presence detector can activate the desired scenarios and controls. By these means the system can set into motion any lighting, curtain, shutter, climate or multimedia controls as you wish when leaving or entering your home or office to provide a comfortable setting. Even if you don't move the presence detector knows you are there.

Daylight Detector
By detecting the level of light in an area this detector will convey information to the lighting system to make sure there is enough light. Thus the light level you wish to have in your home or office will be maintained at all times.

ENERGY EFFICIENCY PERFORMANCE

Dimming
Scenario Manual Use
Energy Use 90% | 10%

Automatic Control
Control connected to time and motion
Energy Use 85% | 15%

Light Control
Level 1: manual control connected to lighting level
Energy Use 80% | 20%

Level 2: lighting level setting
Energy Use 70% | 30%

The Ability to Set Room Temperatures Individually Will Help Save On Your Budget

Every family and every home has their own special heating needs. With Smarthome you can find the solution that best suits you.

Since this way of setting is carried out closer to real conditions it provides more energy efficiency than other radiator control systems (when you reduce the average heat by just 1C you will get a savings of up to 6% on your heating costs. It is possible to achieve a savings of up to 30% in your heating costs this way).

Feel Much More Peaceful

You won't ever have to return from your holidays to a cold house again thanks to Smarthome. You can turn your heat on with your mobile phone when you're only on your way home. On the other hand if you have left your heat on by mistake you can turn it off with a simple phone call while you are on holiday. Trust the ability of Smarthome to command and let your mind be at peace.

How Well Does Your Heating System Know Your Home?

You can create an individual temperature profile for each room. You can determine how hot or how cold a room should be. A cooler bedroom, a warmer kid's room, a fixed temperature bathroom. At the same time you can determine the days and times when the temperature settings are to change. Spread the smartness throughout every corner of your home.

Presence and Light control

Level 1: Scenario Manual use

Energy use 90% 10%

Level 2: manual control connected to presence and daylight level

Energy use 75% 25%

Level 3: light level connected to light conditions

Energy use 60% 40%

lighting applications

AUTOMATIC LIGHTING CONTROL BY MOTION AND LIGHT LEVEL

You can set your lighting automatically according to motion and the level of light in the room. For example on sunny days the light can be turned down and then turned up again to full capacity on cloudy days.
In areas where no motion is detected the lights will not stay on unnecessarily providing energy efficiency.

AUTOMATIC LIGHTING CONTROL BY PRESENCE AND LIGHT LEVEL

With automatic lighting control by presence and light level create productive settings in areas like offices, workplaces, corridors, schools, restrooms, etc.

security and air conditioning

PRESENCE DETECTION FOR THE SECURITY SYSTEM

Take your security system to the highest level with presence detectors. A signal will automatically be sent to the system when someone enters the space so that you can be aware of all entries.

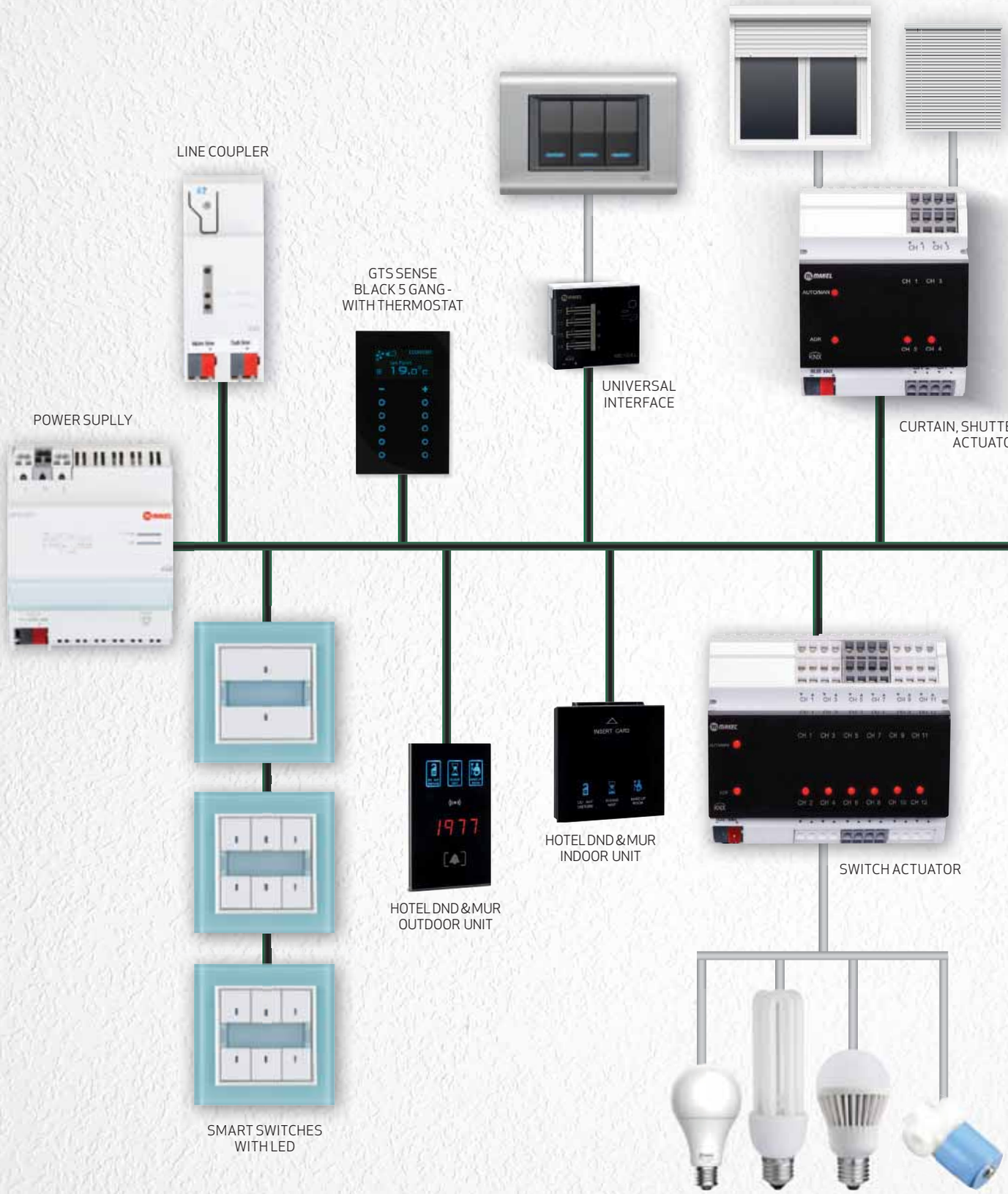
AIR CONDITIONING

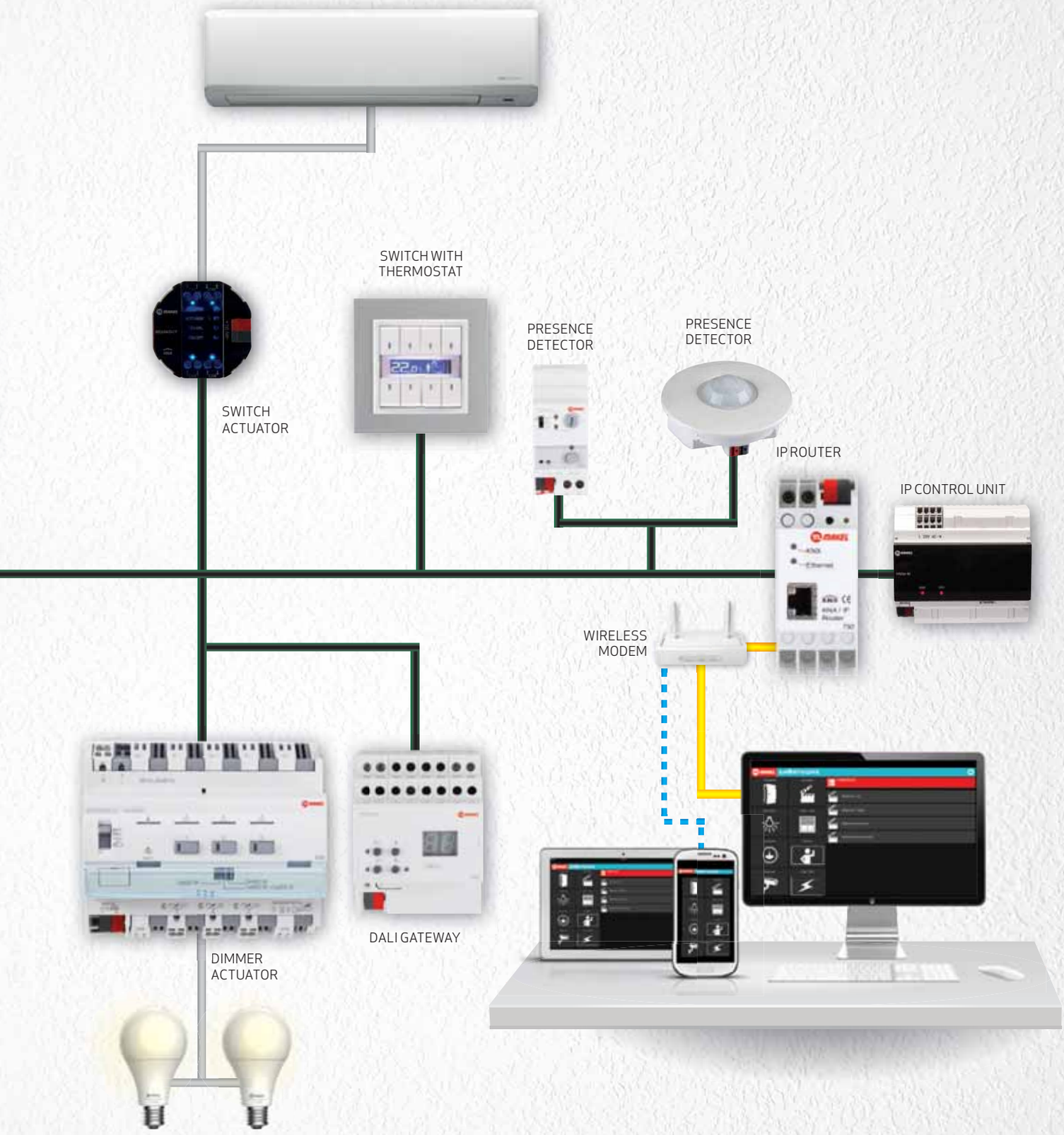
A very simple and productive solution to use air conditioning systems efficiently. When someone is working in the room the air conditioning operates and once they have left it turns off.

ENERGY EFFICIENCY SOLUTIONS

Curtain-light and air conditioning controls that are programmed with a switch and connected to a scenario are available.
The lighting, curtain and air conditioning controls can be adjusted automatically according to detector and thermostat data.

knx diagram


LINE COUPLER
GTS SENSE
BLACK 5 GANG -
WITH THERMOSTAT
UNIVERSAL
INTERFACE
CURTAIN, SHUTTER
ACTUATOR
POWER SUPLLY
HOTEL DND & MUR
OUTDOOR UNIT
HOTEL DND & MUR
INDOOR UNIT
SWITCH ACTUATOR
SMART SWITCHES
WITH LED



ETHERNET CAT 6

2x2x0,8 KNX/EIB

2x0,75 LIYCY

Wi-Fi / Cellular

GTS Sense Black 5 Gang - with thermostat

GTS Sense Black 3 Gang - with thermostat

GTS Sense Black 1 Gang

GTS Sense Black 2 Gang

GTS Sense Black 3 Gang

GTS Sense Black 4 Gang

GTS Sense Black 5 Gang - with thermostat

GTS Sense Black 3 Gang - with thermostat

GTS Sense Black 1 Gang

GTS Sense Black 2 Gang

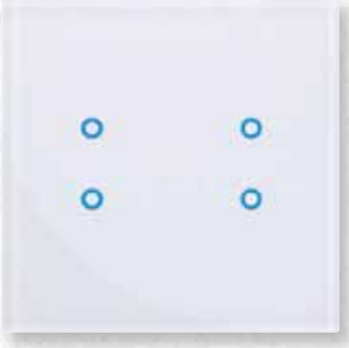
GTS Sense Black 3 Gang

GTS Sense Black 4 Gang

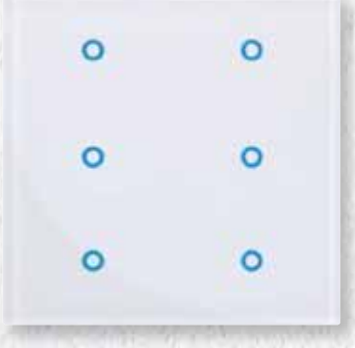
GTS Sense White 5 Gang - with thermostat

GTS Sense White 3 Gang - with thermostat

GTS Sense White 1 Gang



GTS Sense White 2 Gang



GTS Sense White 3 Gang

GTS Sense White 4 Gang

GTS Sense White 5 Gang - with thermostat

GTS Sense White 3 Gang - with thermostat

GTS Sense White 1 Gang

GTS Sense White 2 Gang

GTS Sense White 3 Gang

GTS Sense White 4 Gang

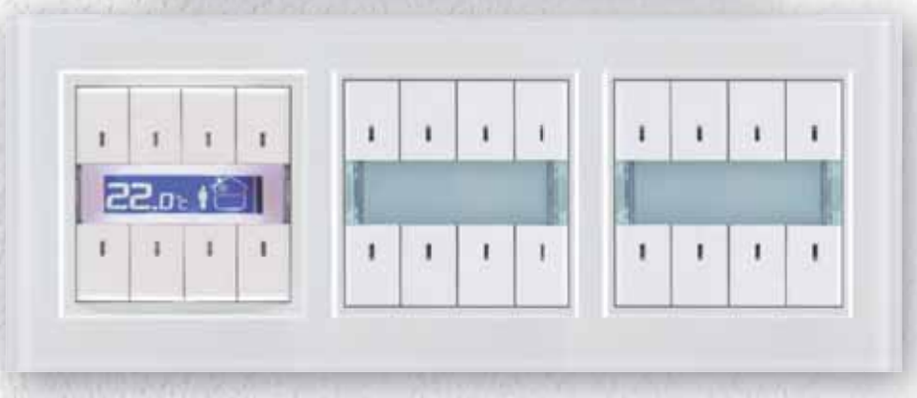
Push Button Switch Metal

FRAME OPTIONS

New frames with classical elegance have arrived in the Metal Series to compliment your decor. Metal frames combined with the Smarthome products simultaneously provide beauty and intelligence throughout every corner of your home. For a durable, refined and select appearance there is definitely a Metal Series frame that is right for you.
By providing impressive designs Makel Smarthome creates stylish alternatives with brand new materials, colors and key programs.

22.0°C

22.0°C

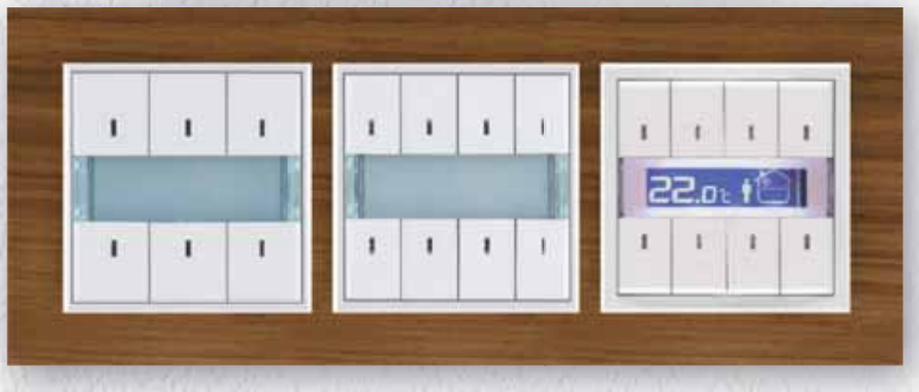

22.0°C

FRAME OPTIONS

Nature stands before you in its purest and plainest form. The Smarthome products combined with Glass frames which accentuate light and the graceful colors of nature in your living spaces simultaneously provide beauty and intelligence throughout every corner of your home. It is easy to find the Glass frame option that best reflects you in your living spaces.
By providing impressive designs Makel Smarthome creates stylish alternatives with brand new materials, colors and switch options.

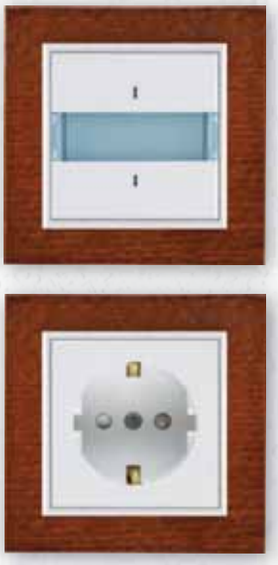
22.0°C

22.0°C


22.0°C

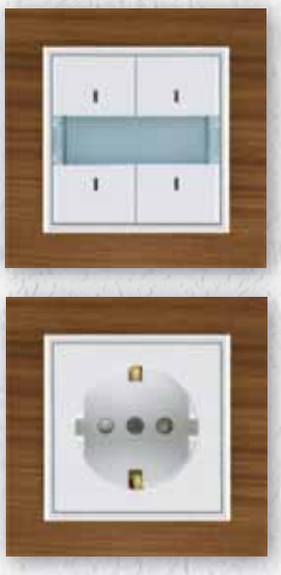
FRAME OPTIONS

WALNUT



VENGE

ANTIQUE OAK



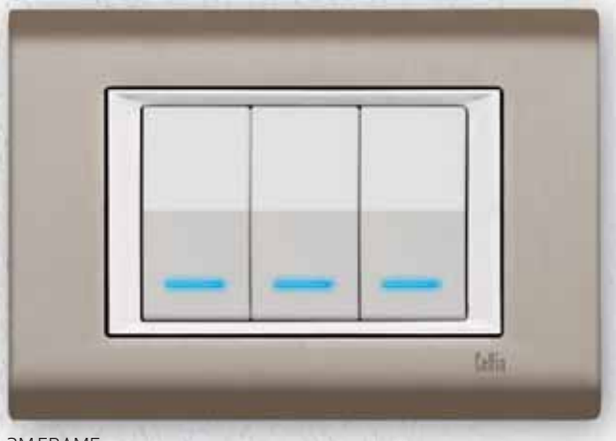
BEECH

DARK CHERRY

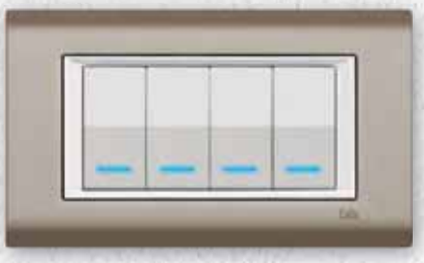
If touching nature gives you comfort... The Wood Series, with its natural, minimalist and distinctive approach is ready for your touch to compliment your decor.

Wood frames combined with the Smarthome products simultaneously provide beauty and intelligence throughout every corner of your home. With the serenity and complimenting texture of wood the Wood Series presents naturalness and technology together.

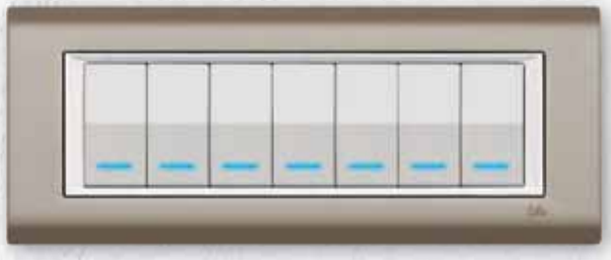
By providing impressive designs, Makel Smarthome creates stylish alternatives with brand new materials,colors and switch programs.



3M FRAME



4M FRAME



7M FRAME

FRAME OPTIONS

CHROME / BLACK

CHROME / SMOKE

MATT CHROME / BLACK

MATT CHROME / WHITE

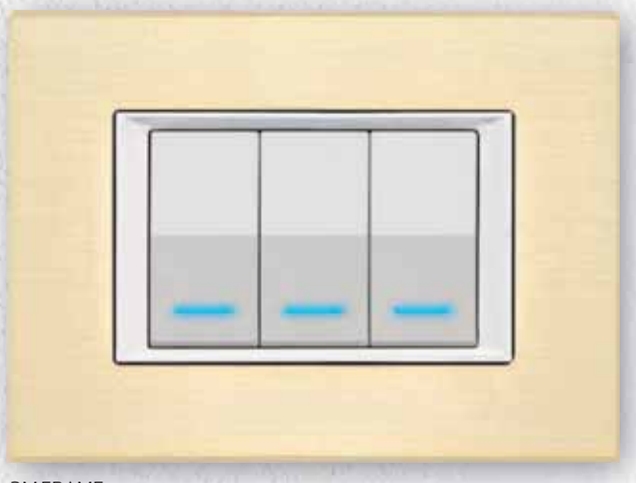
SATIN / WHITE

SATIN / SMOKE

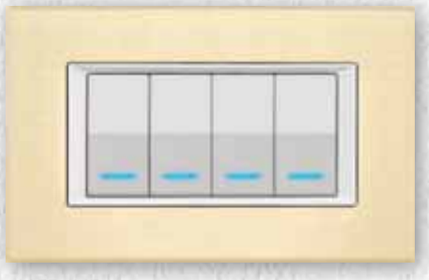
MATT GOLD / BLACK

GOLD / BLACK

SMOKE / SMOKE



3M FRAME



4M FRAME

7M FRAME

FRAME OPTIONS

METAL SILVER / BLACK

METAL SILVER / WHITE

DORE / BLACK

DORE / SMOKE

DORE / WHITE

BLACK/BLACK

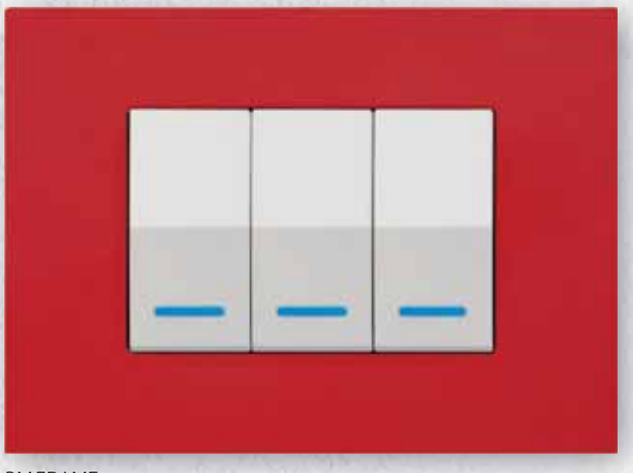
BLACK/SMOKE

BLACK / WHITE

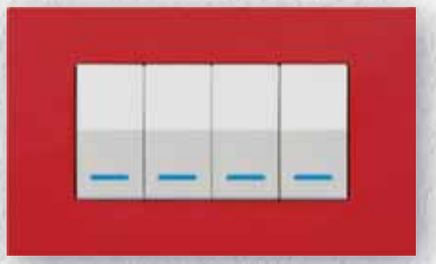
SATEN / BLACK

SATEN / FÜME

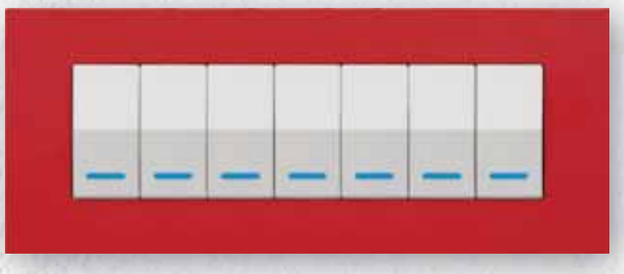
SATEN / WHITE



3M FRAME

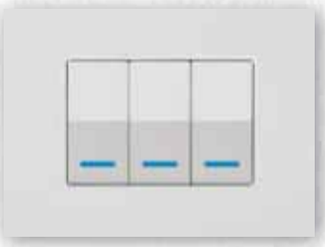


4M FRAME



7M FRAME

FRAME OPTIONS



WHITE / WHITE

WHITE / BLACK

SILVER / SMOKE

SILVER / BLACK

P. BLACK / BLACK

P. BLACK / WHITE

A. MAROON / BLACK

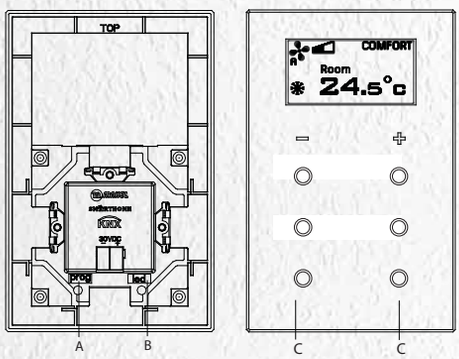
A.MAROON / CREAM

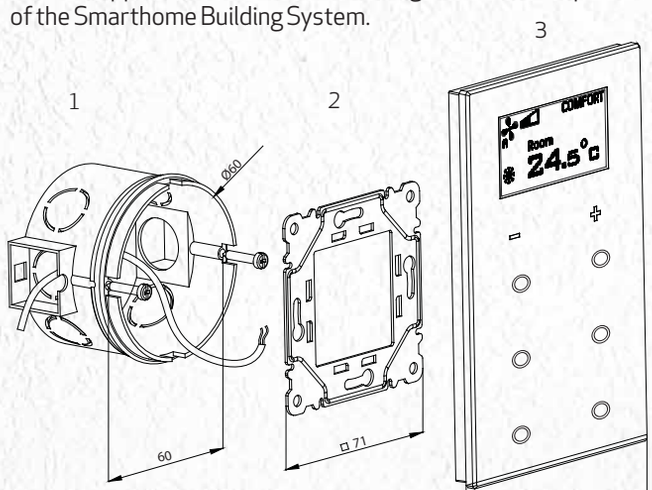
Glass Touch Thermostat with 6 Channel Switch, Square Black MTH1006-TL-KS

The MAKEL KNX OLED Touch Sense with Thermostat, 6 Channel Switch, Multifunctional Sense MTH1006-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.

A- Programming button, B- Addressing display

C- Touch Sense buttons 1 and 8

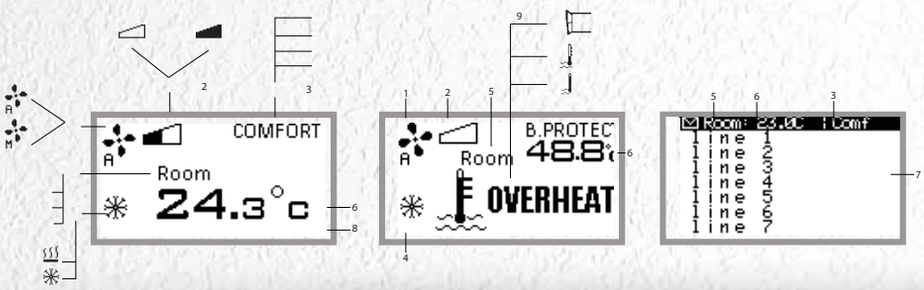




1- Flush mounted assembly boxa

2- Chassis

3- Touch Sense Switch



1-Fan mode A(Auto), M (Manual)

2-Fan Speed

3-Thermostat mode (Comfort, Standby, Protection)

4-Heating/Cooling Display

5-Set/indoor setting/outside display

6-Heat display

7-Message Field

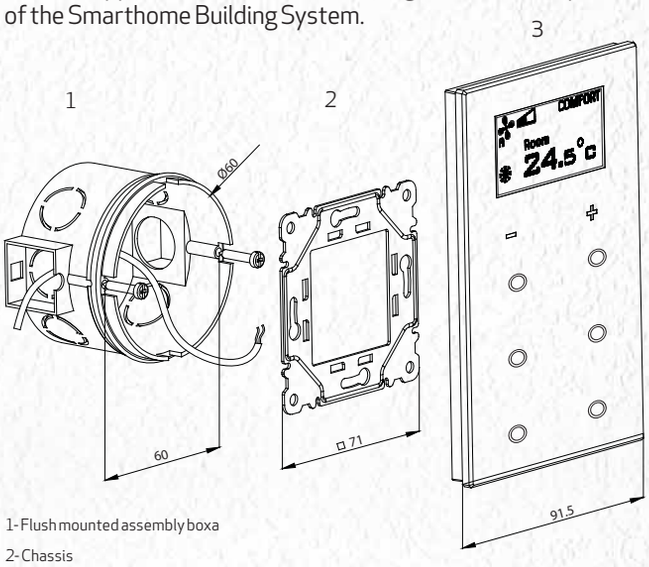
8-Communication events field

9-Warning field

Technical Features	
Number of Inlets	6
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

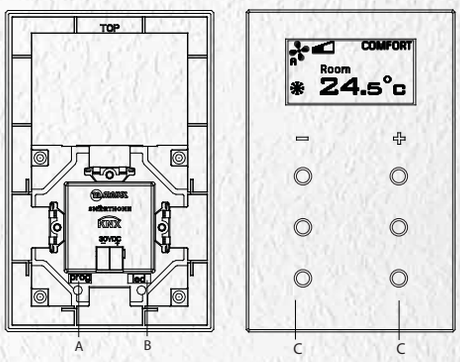
Glass Touch Thermostat with 6 Channel Switch, Square White MTH1006-TL-KB

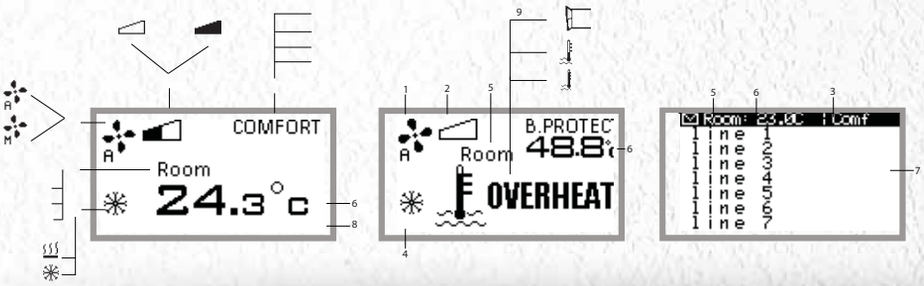
The MAKEL KNX OLED Touch Sense with Thermostat, 6 Channel Switch, Multifunctional Sense MTH1006-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.



1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

A- Programming button, B- Addressing display
C- Touch Sense buttons 1 and 8





1-Fan mode A(Auto), M (Manual)
2-Fan Speed
3-Thermostat mode (Comfort, Standby, Protection)
4-Heating/Cooling Display
5-Set/indoor setting/outside display
6-Heat display
7-Message Field
8-Communication events field
9-Warning field

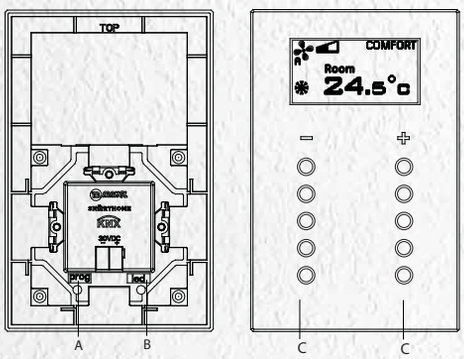
Technical Features	
Number of Inlets	6
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

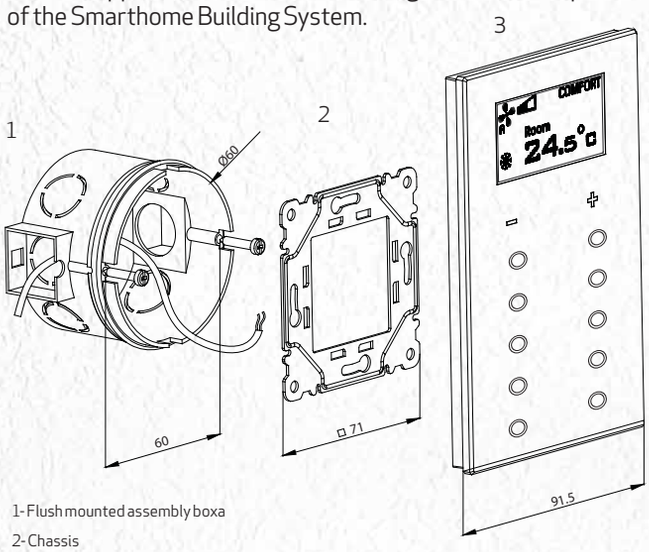
Glass Touch Thermostat with 10 Channel Switch, Square Black MTH1010-TL-KS

The MAKEL KNX OLED Touch Sense with Thermostat, 10 Channel Switch, Multifunctional Sense MTH1010-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.

A- Programming button, B- Addressing display

C- Touch Sense buttons 1 and 8

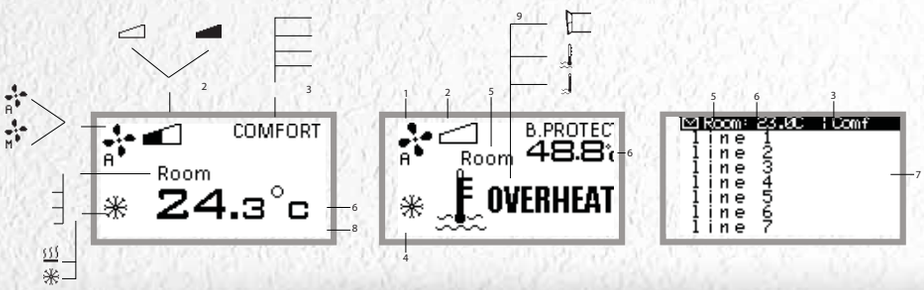




1- Flush mounted assembly boxa

2- Chassis

3- Touch Sense Switch



1-Fan mode A(Auto), M (Manual)

2-Fan Speed

3-Thermostat mode (Comfort, Standby, Protection)

4-Heating/Cooling Display

5-Set/indoor setting/outside display

6-Heat display

7-Message Field

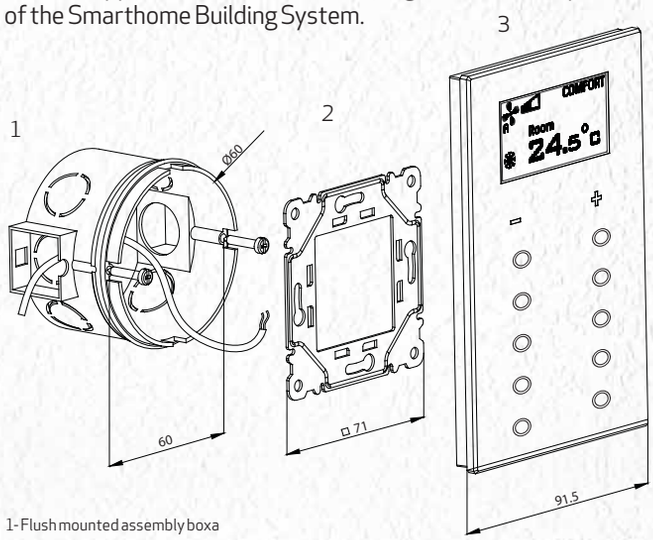
8-Communication events field

9-Warning field

Technical Features	
Number of Inlets	10
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

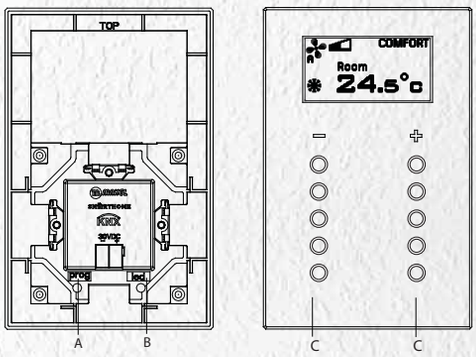
Glass Touch Thermostat with 10 Channel Switch, Square White MTH1010-TL-KB

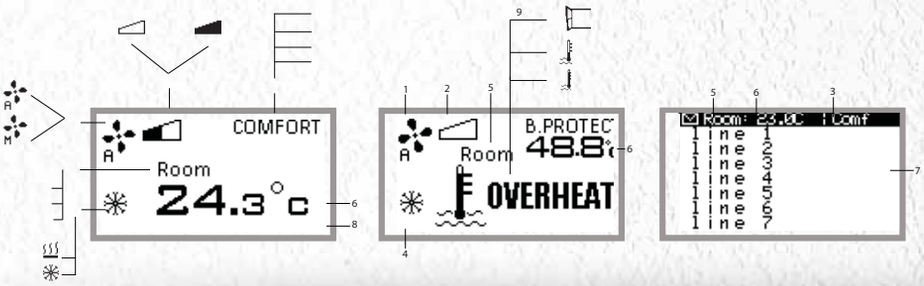
The MAKEL KNX OLED Touch Sense with Thermostat, 10 Channel Switch, Multifunctional Sense MTH1010-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.



1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

A- Programming button, B- Addressing display
C- Touch Sense buttons 1 and 8





1-Fan mode A(Auto), M (Manual)
2-Fan Speed
3-Thermostat mode (Comfort, Standby, Protection)
4-Heating/Cooling Display
5-Set/indoor setting/outside display
6-Heat display
7-Message Field
8-Communication events field
9-Warning field

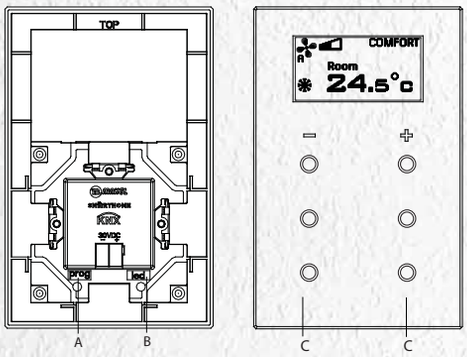
Technical Features	
Number of Inlets	10
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

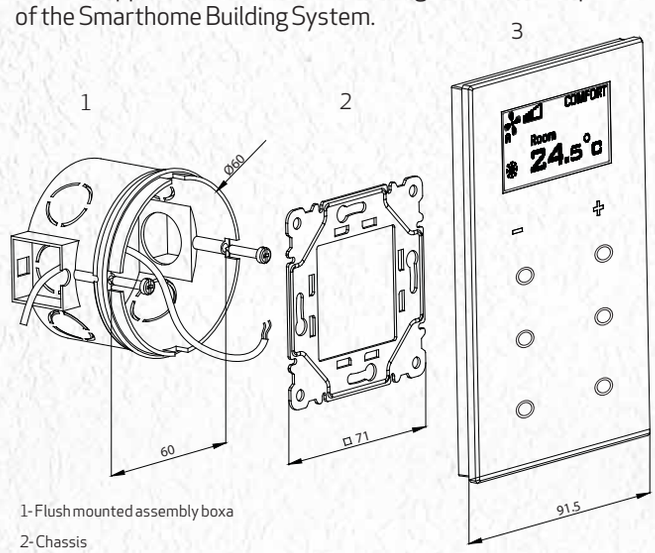
Glass Touch Thermostat with 6 Channel Switch, Oval Black MTH1006-TL-OS

The MAKEL KNX OLED Touch Sense with Thermostat, 6 Channel Switch, Multifunctional Sense MTH1006-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.

A- Programming button, B- Addressing display

C- Touch Sense buttons 1 and 8

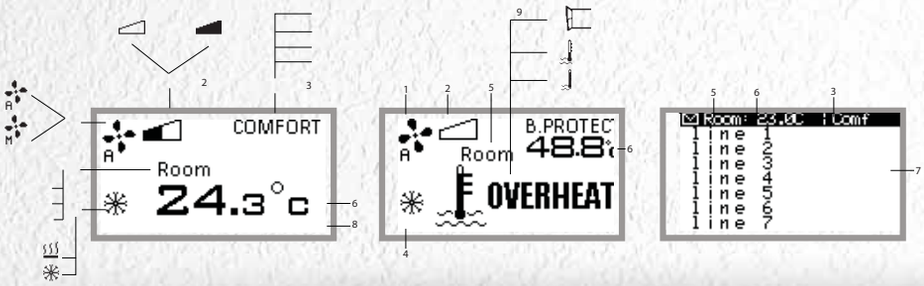




1- Flush mounted assembly boxa

2- Chassis

3- Touch Sense Switch



1-Fan mode A(Auto), M (Manual)

2-Fan Speed

3-Thermostat mode (Comfort, Standby, Protection)

4-Heating/Cooling Display

5-Set/indoor setting/outside display

6-Heat display

7-Message Field

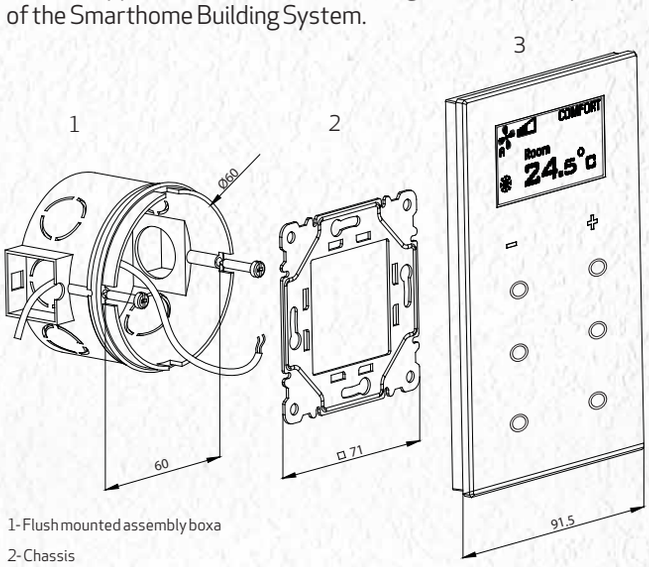
8-Communication events field

9-Warning field

Technical Features	
Number of Inlets	6
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

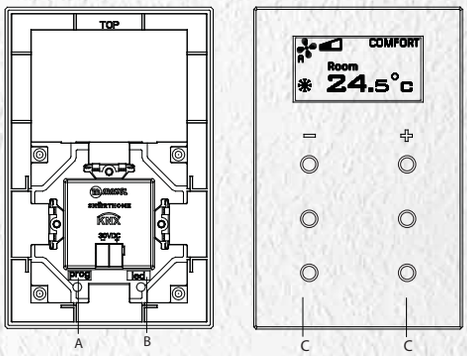
Glass Touch Thermostat with 6 Channel Switch, Oval White MTH1006-TL-OB

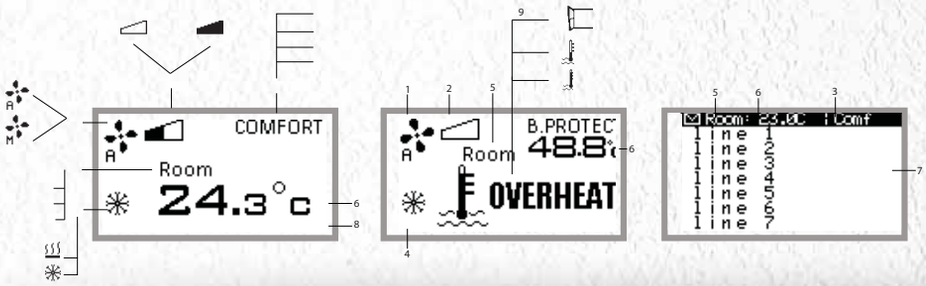
The MAKEL KNX OLED Touch Sense with Thermostat, 6 Channel Switch, Multifunctional Sense MTH1006-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.



1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

A- Programming button, B- Addressing display
C- Touch Sense buttons 1 and 8





1-Fan mode A(Auto), M (Manual)
2-Fan Speed
3-Thermostat mode (Comfort, Standby, Protection)
4-Heating/Cooling Display
5-Set/indoor setting/outside display
6-Heat display
7-Message Field
8-Communication events field
9-Warning field

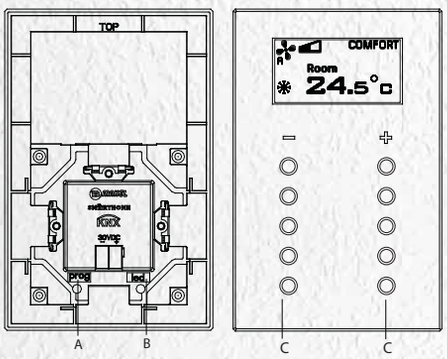
Technical Features	
Number of Inlets	6
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

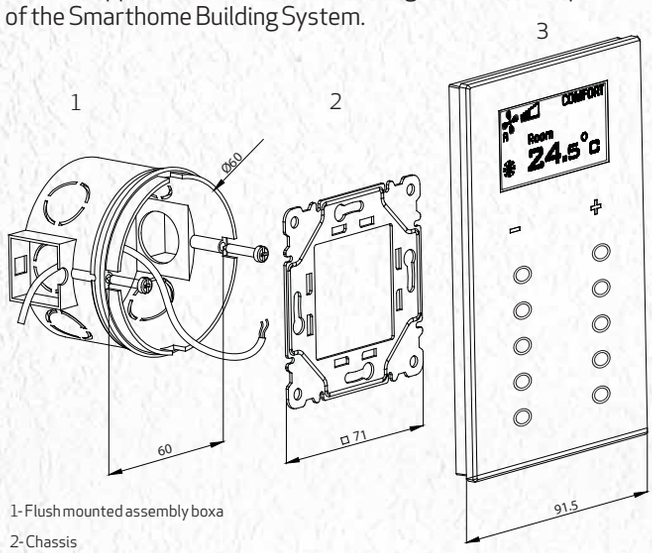
Glass Touch Thermostat with 10 Channel Switch, Oval Black MTH1010-TL-OS

The MAKEL KNX OLED Touch Sense with Thermostat, 10 Channel Switch, Multifunctional Sense MTH1010-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.

A- Programming button, B- Addressing display

C- Touch Sense buttons 1 and 8

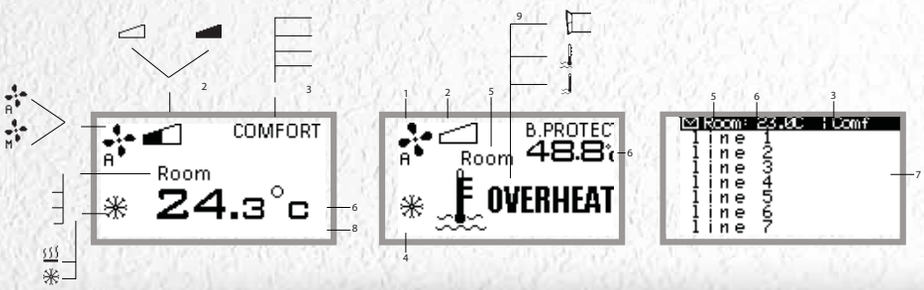




1- Flush mounted assembly boxa

2- Chassis

3- Touch Sense Switch



1-Fan mode A(Auto), M (Manual)

2-Fan Speed

3-Thermostat mode (Comfort, Standby, Protection)

4-Heating/Cooling Display

5-Set/indoor setting/outside display

6-Heat display

7-Message Field

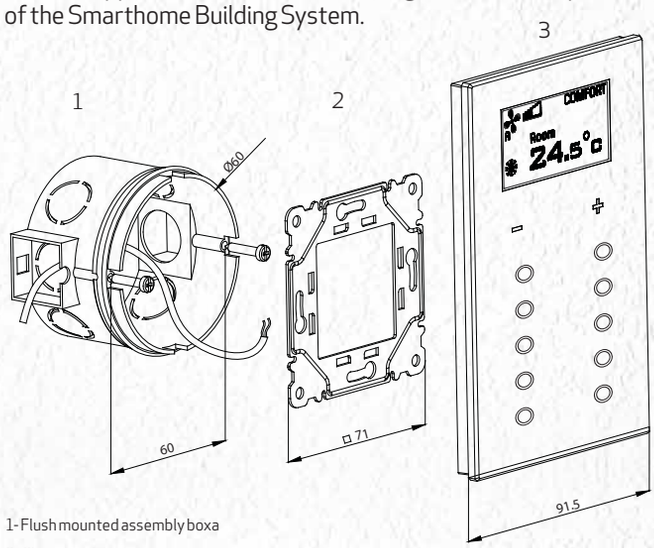
8-Communication events field

9-Warning field

Technical Features	
Number of Inlets	10
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

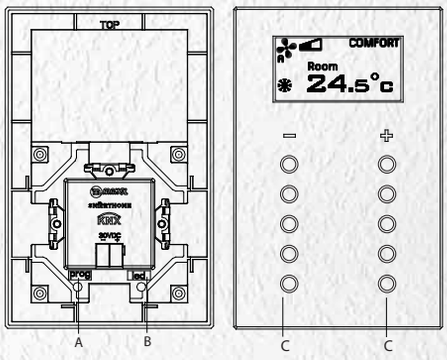
Glass Touch Thermostat with 10 Channel Switch, Oval White MTH1010-TL-OB

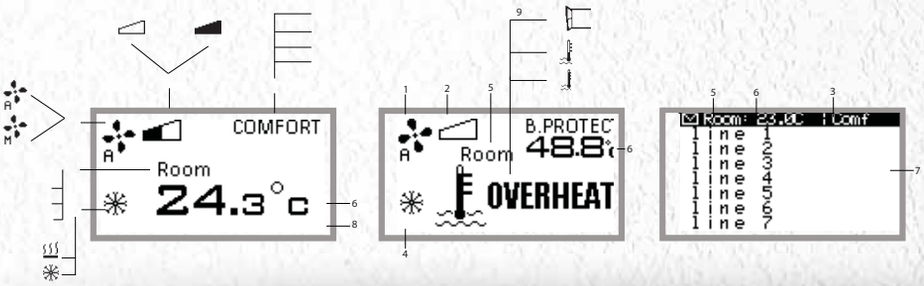
The MAKEL KNX OLED Touch Sense with Thermostat, 10 Channel Switch, Multifunctional Sense MTH1010-TL thermostat regulates indoor temperature and provides control of other applications in different settings. This is a component of the Smarthome Building System.



1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

A- Programming button, B- Addressing display
C- Touch Sense buttons 1 and 8



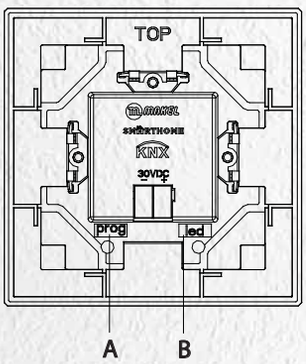


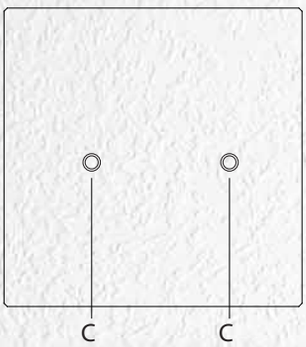
1-Fan mode A(Auto), M (Manual)
2-Fan Speed
3-Thermostat mode (Comfort, Standby, Protection)
4-Heating/Cooling Display
5-Set/indoor setting/outside display
6-Heat display
7-Message Field
8-Communication events field
9-Warning field

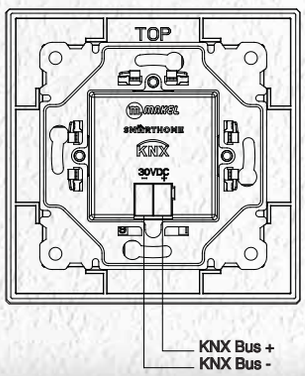
Technical Features	
Number of Inlets	10
Supply voltage	21…30V DC KNX Bus
Dimensions E x B x Y	91.5x141x28.8mm
Protection type	IP 21
Operation temperature	-20°C to +55°C
Storage Temperature	-20°C to +55°C
Connection	KNX bus connector
Connection voltage consumption	<10 mA
Standards	CENELEC EN 50090 and CEN EN 1332-1
Heating setting point adjustment range	-10→30°C
Cooling setting point adjustment range	10→55°C
Internal sensor point measurement range	0→50°C
Temperature display range	-99.9→99.9°C

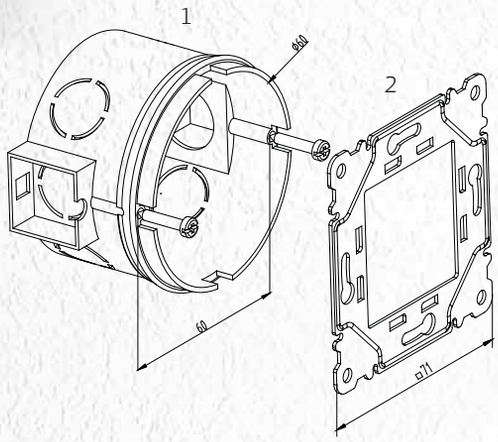
Glass Touch Switch 2 Channels, Square Black
MSW1002-TL-KS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









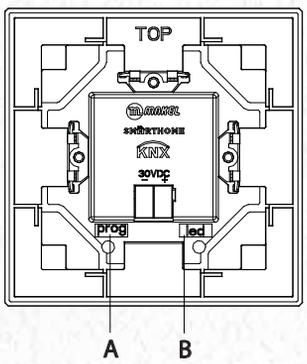
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

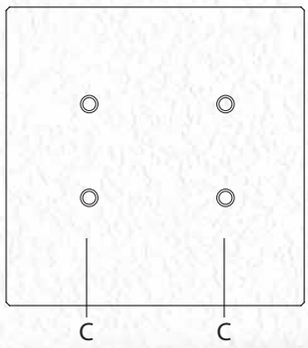
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

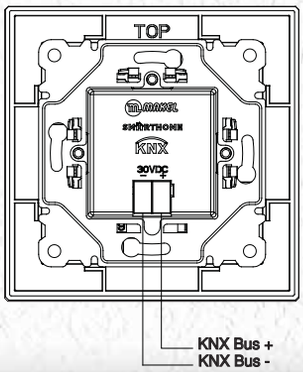
Technical Features	
Number of Inlets	2
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

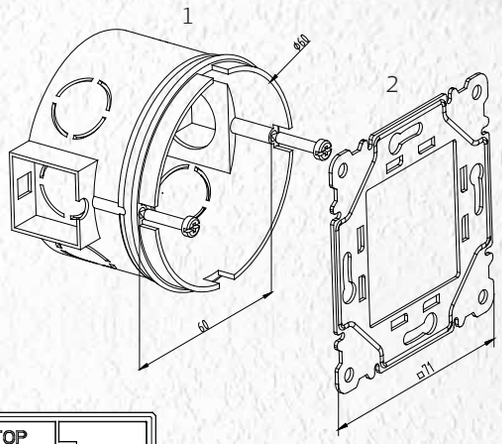
Glass Touch Switch 4 Channels, Square Black
MSW1002-TL-KS

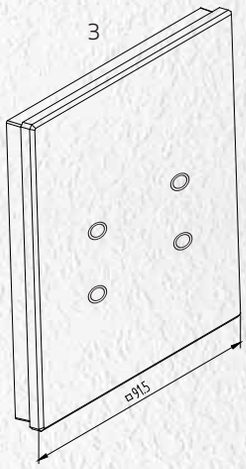
The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







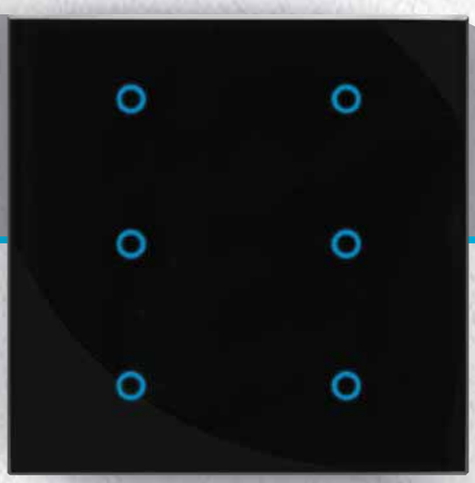




A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

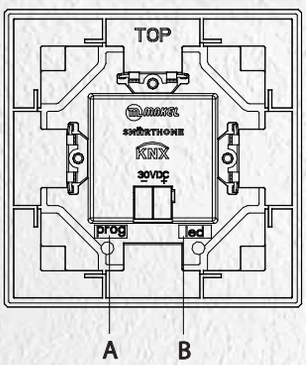
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

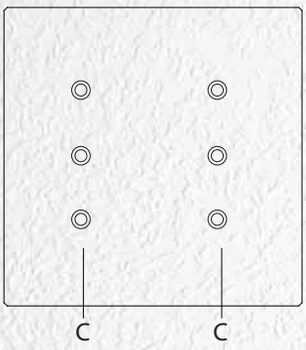
Technical Features	
Number of Inlets	4
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

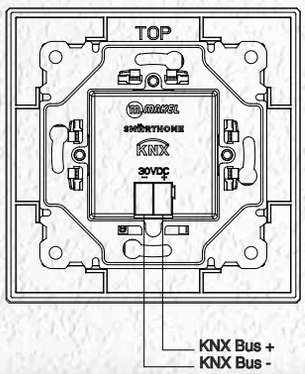


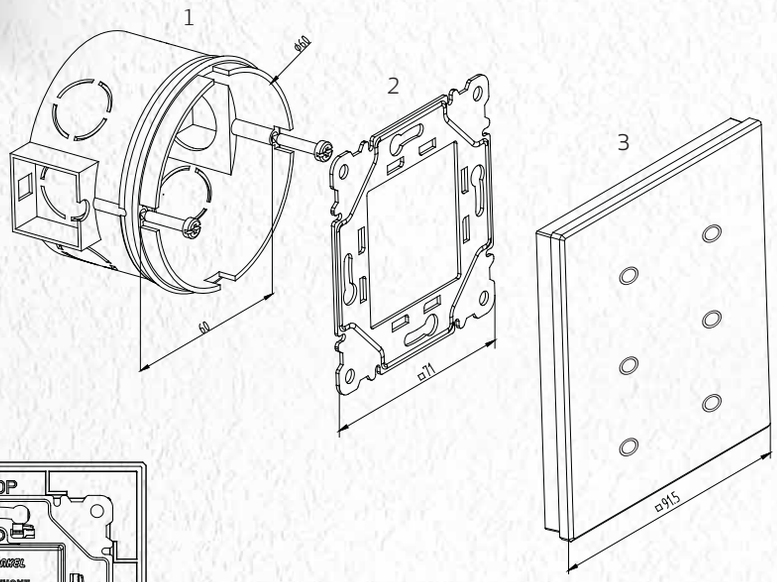
Glass Touch Switch 6 Channels, Square Black
MSW1006-TL-KS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







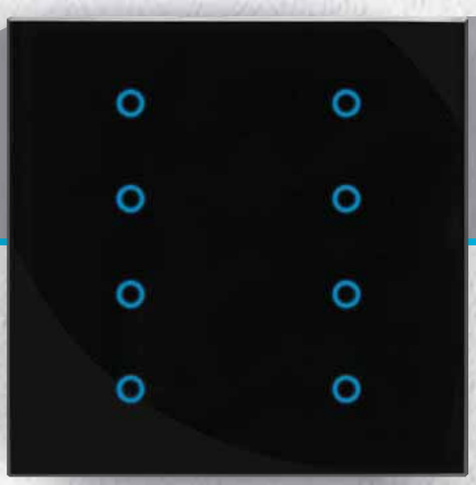


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

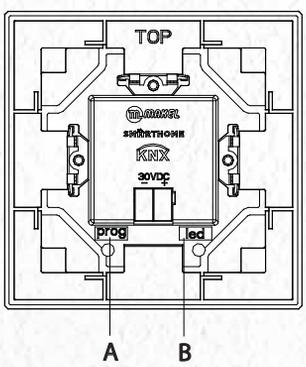
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

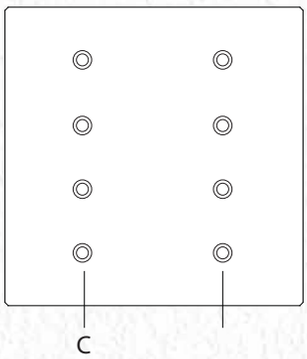
Technical Features	
Number of Inlets	6
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

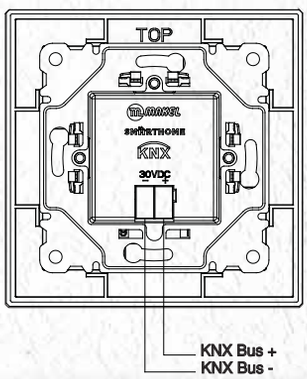
Glass Touch Switch 8 Channels, Square Black
MSW1008-TL-KS

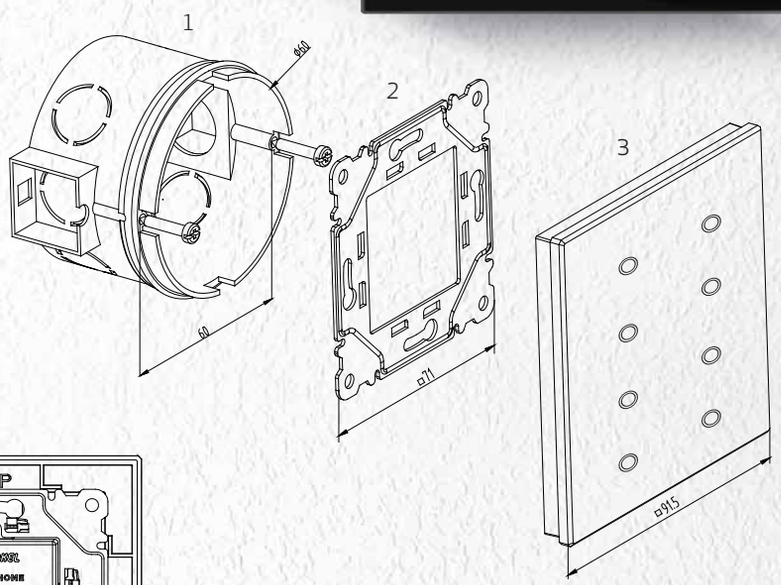


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









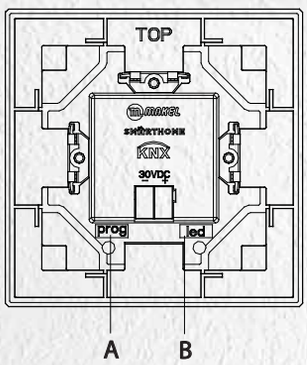
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

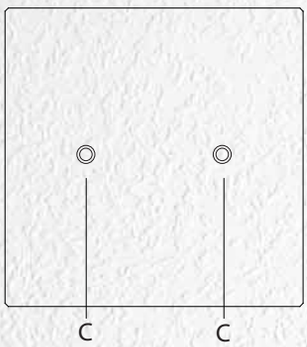
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

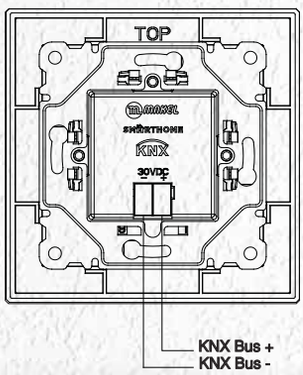
Technical Features	
Number of Inlets	8
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

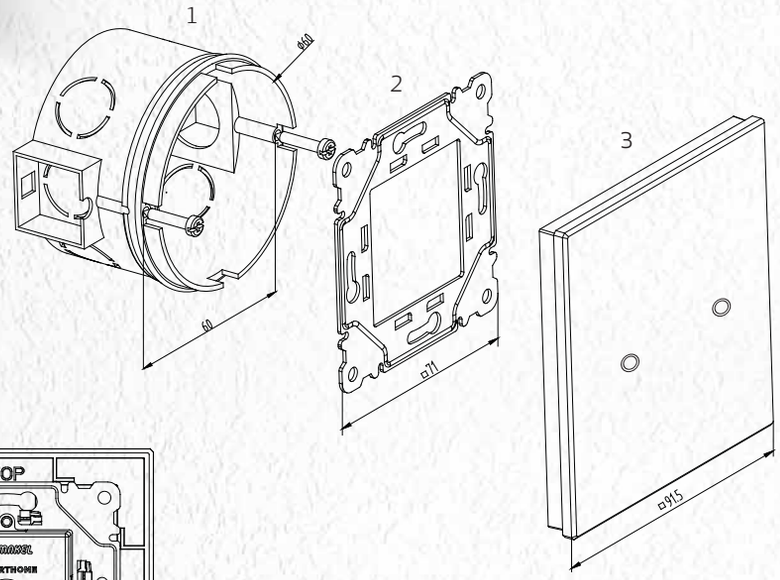
Glass Touch Switch 2 Channels, Oval Black
MSW1002-TL-OS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









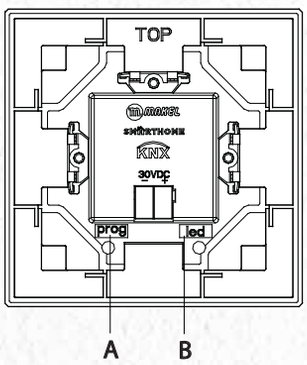
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

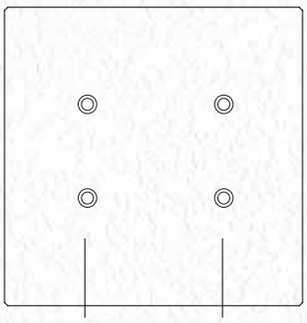
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

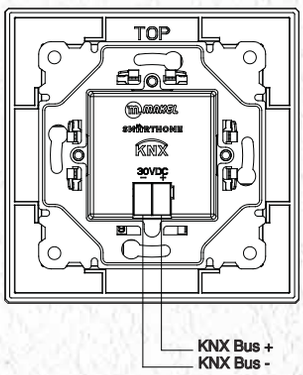
Technical Features	
Number of Inlets	2
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

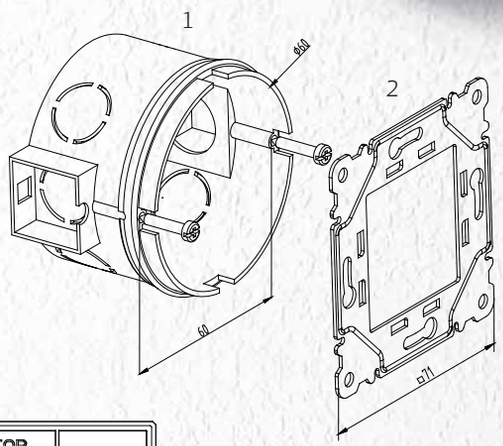
Glass Touch Switch 4 Channels, Oval Black
MSW1004-TL-OS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









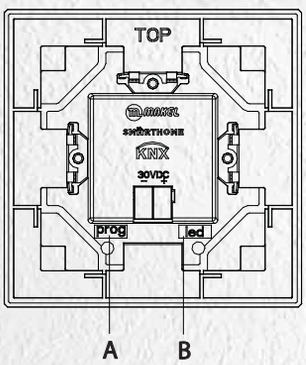
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

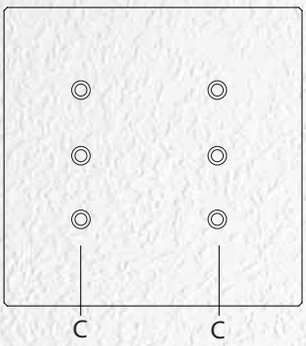
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

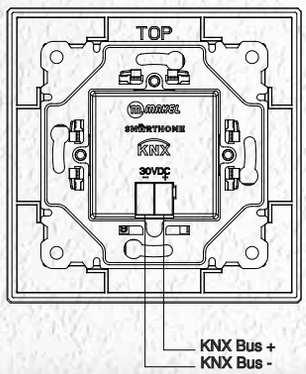
Technical Features	
Number of Inlets	4
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

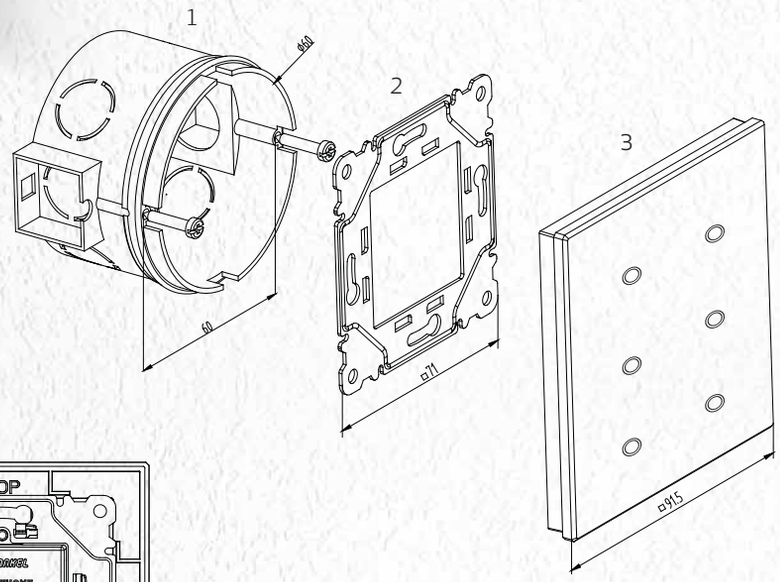
Glass Touch Switch 6 Channels, Oval Black
MSW1006-TL-OS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









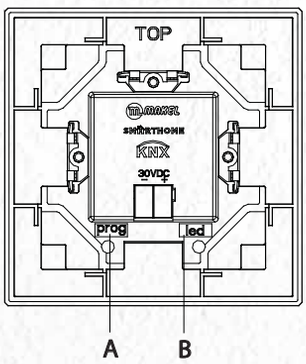
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

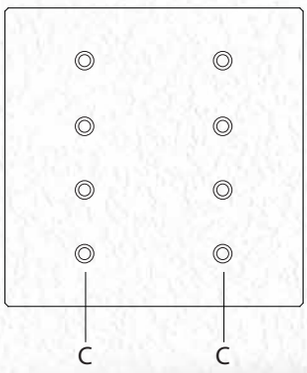
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

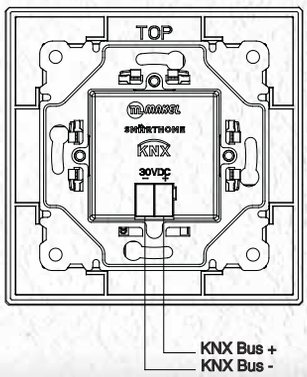
Technical Features	
Number of Inlets	6
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

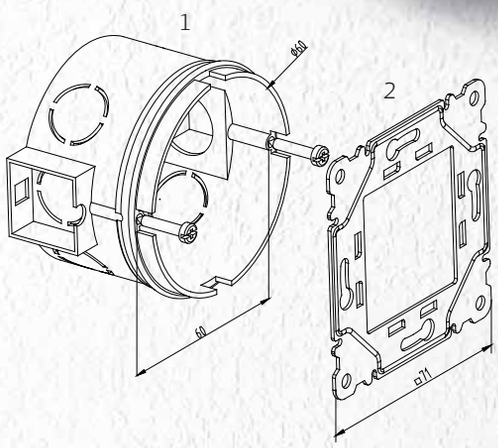
Glass Touch Switch 8 Channels, Oval Black
MSW1008-TL-OS

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









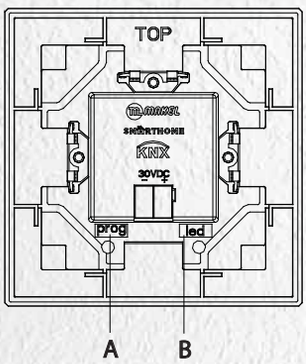
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

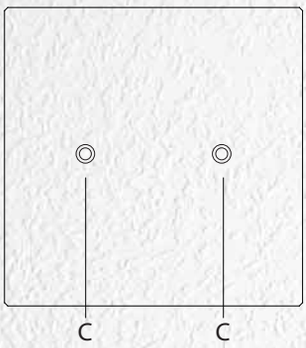
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

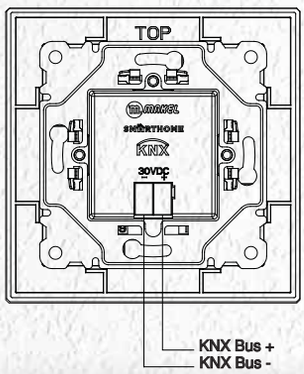
Technical Features	
Number of Inlets	8
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

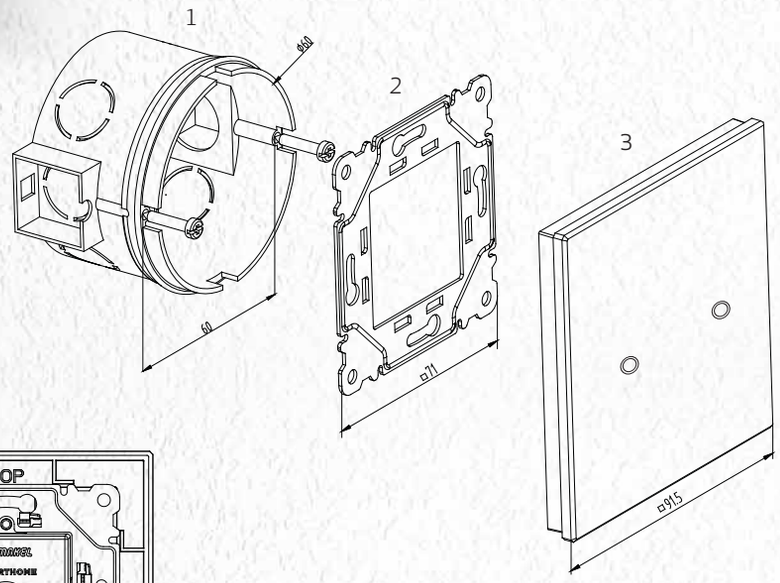
Glass Touch Switch 2 Channels, Square White
MSW1002-TL-KB

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







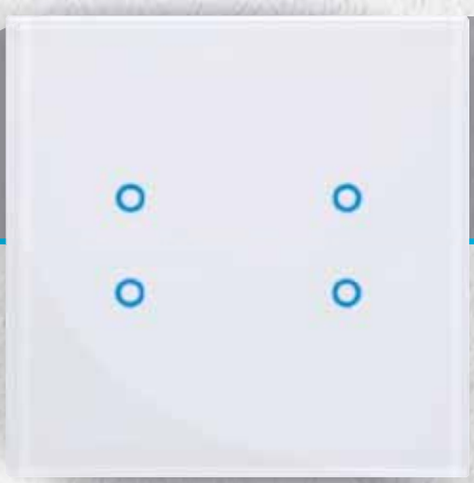


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

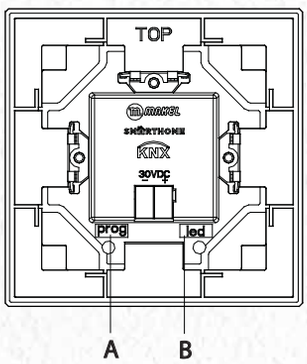
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

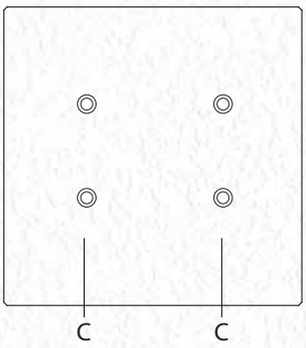
Technical Features	
Number of Inlets	2
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

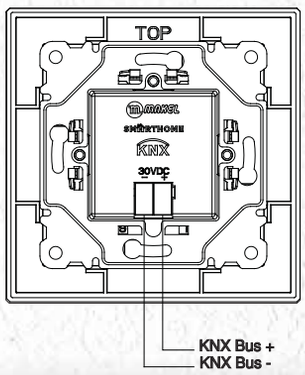
Glass Touch Switch 4 Channels, Square White
MSW1004-TL-KB

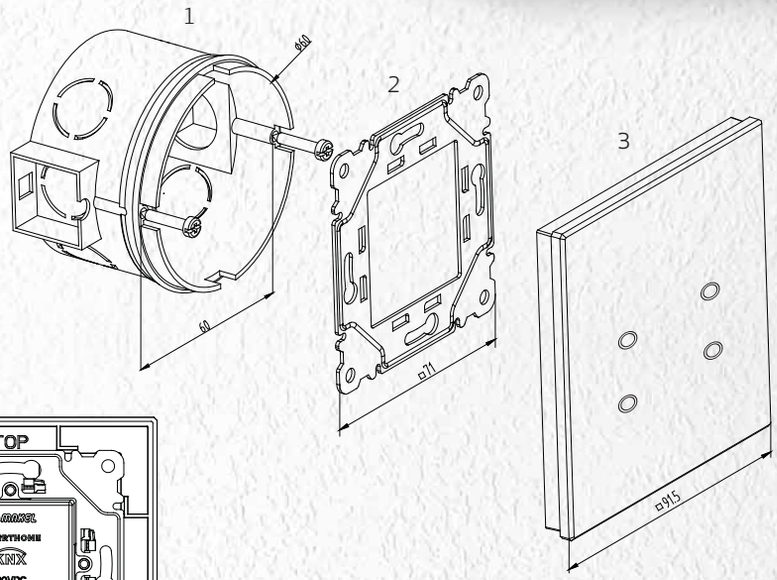


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







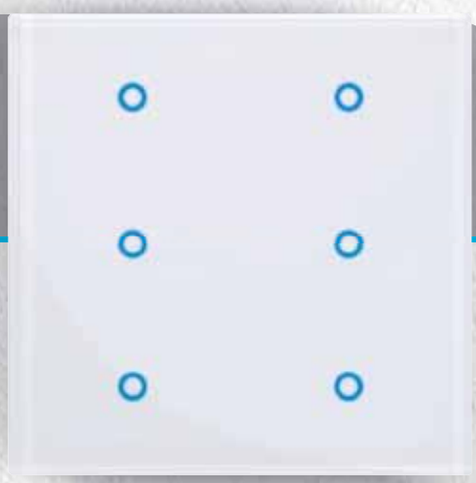


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

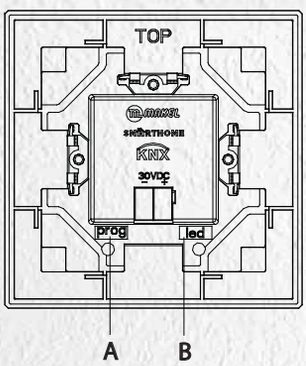
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

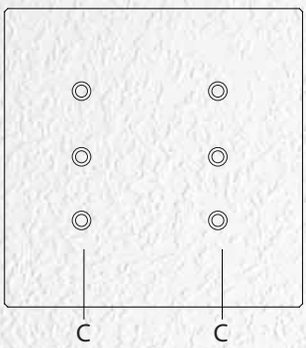
Technical Features	
Number of Inlets	4
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

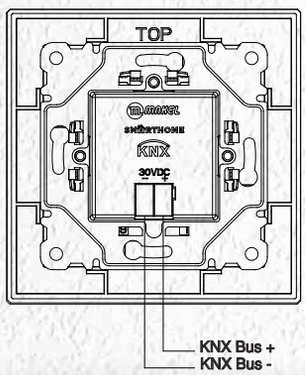
Glass Touch Switch 6 Channels, Square White
MSW1006 - TL - KB

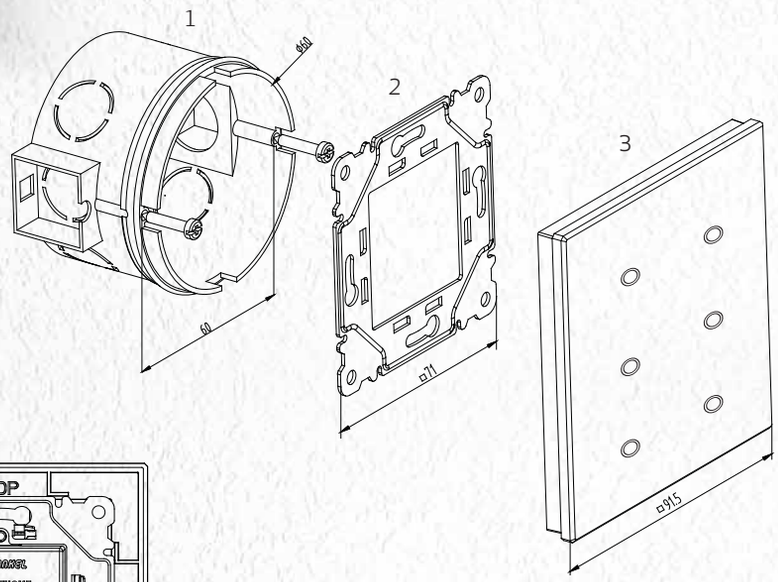


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







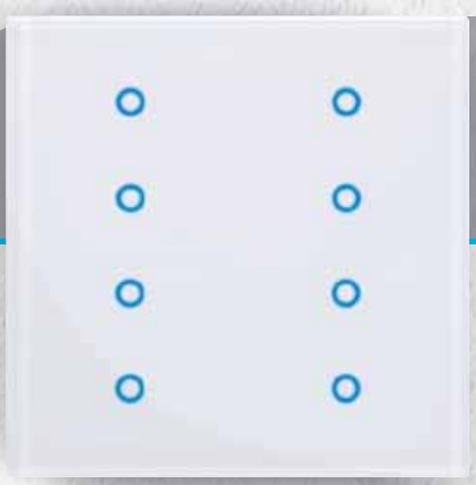


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

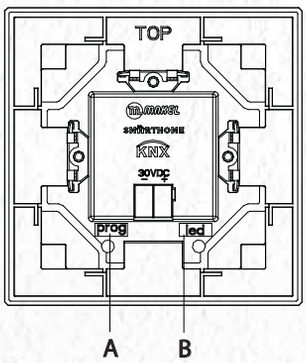
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

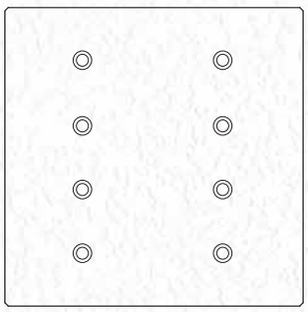
Technical Features	
Number of Inlets	6
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

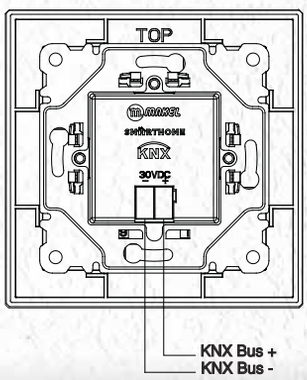
Glass Touch Switch 8 Channels, Square White
MSW1008-TL-KB

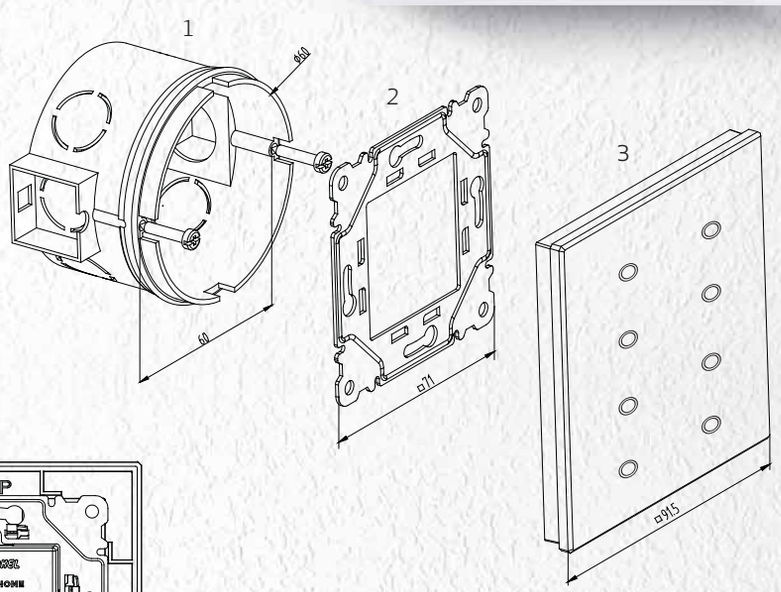


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







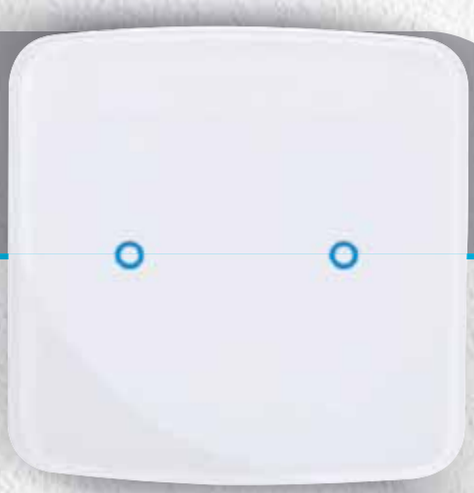


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

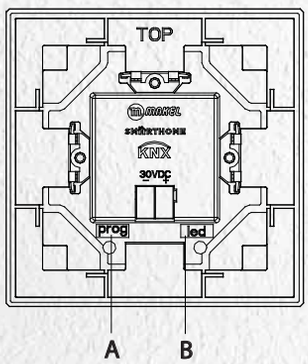
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

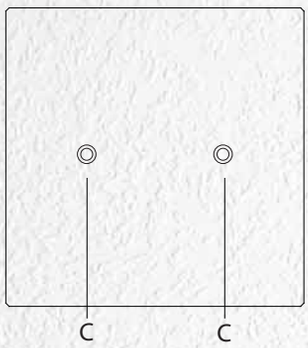
Technical Features	
Number of Inlets	8
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

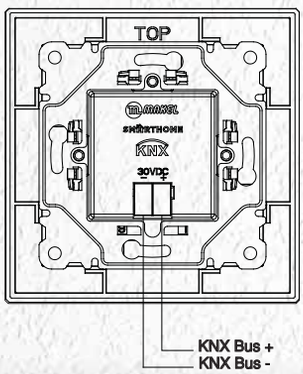
Glass Touch Switch
2 Channels, Oval White
MSW1002-TL-OB

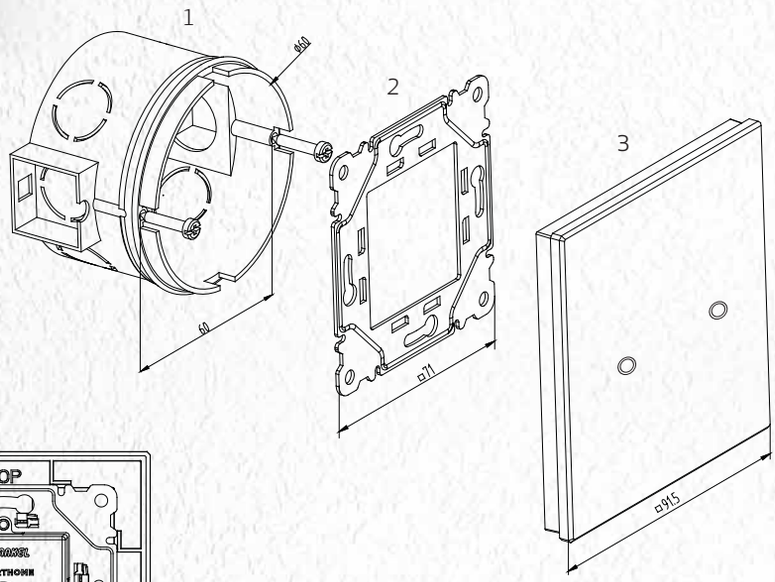


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









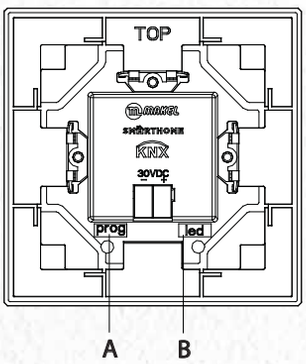
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

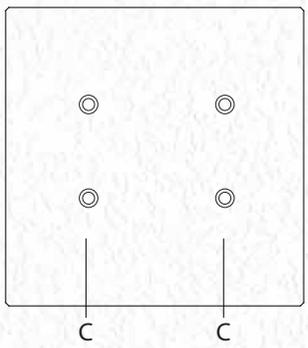
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

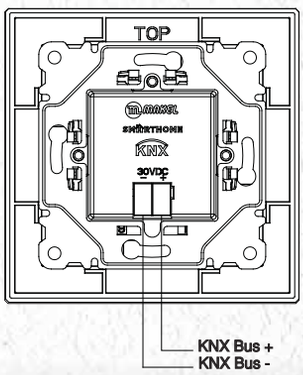
Technical Features	
Number of Inlets	2
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

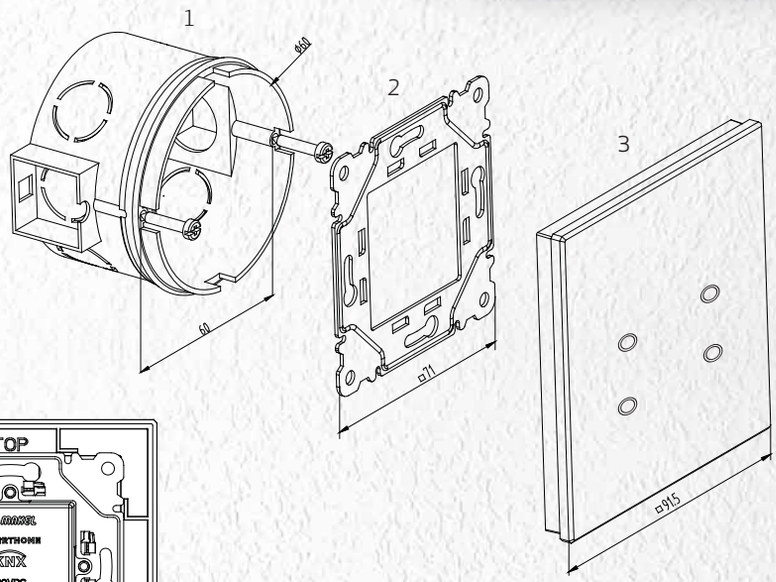
Glass Touch Switch
4 Channels, Oval White
MSW1004-TL-OB

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.







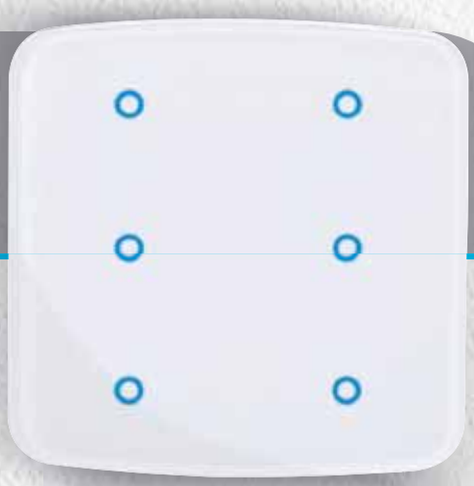


A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

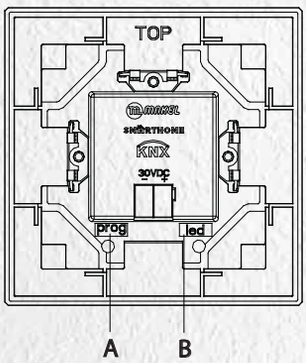
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

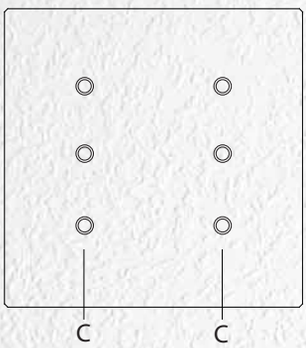
Technical Features	
Number of Inlets	4
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

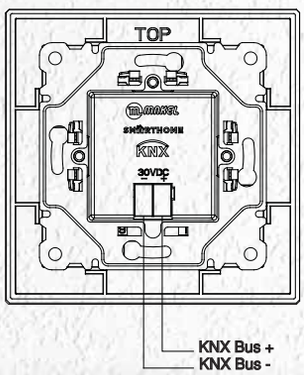
Glass Touch Switch
6 Channels, Oval White
MSW1006-TL-OB

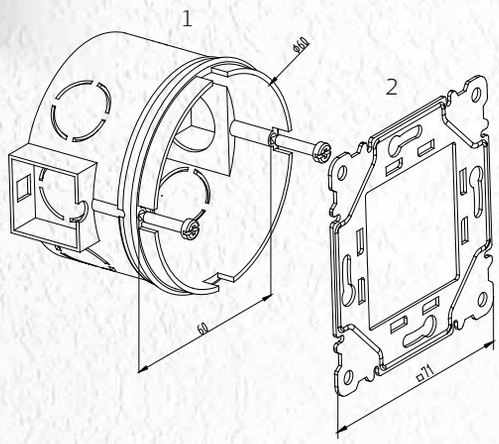


The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









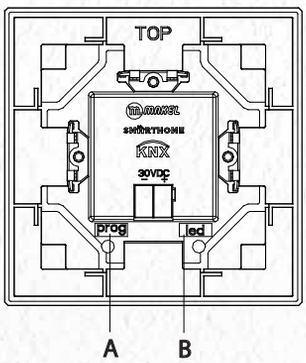
A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

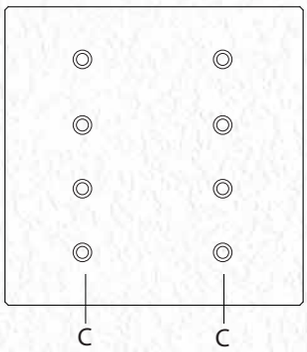
1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

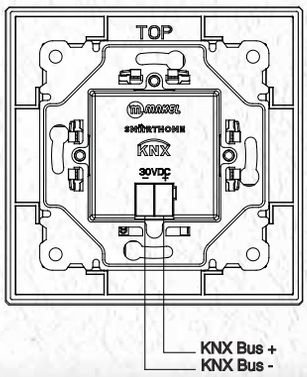
Technical Features	
Number of Inlets	6
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

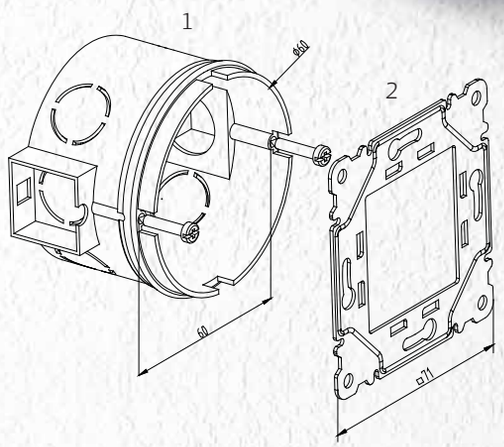
Glass Touch Switch
8 Channels, Oval White
MSW1008-TL-OB

The MAKEL KNX Touch Sense Switches have been designed to control KNX outlet modules. The device provides lighting, scenario, heating and blind/shutter control. It also includes 4 more logic channels that can be used for automatic processes.









A- Programming button,
B- Addressing display
C- Touch Sense buttons 1 and 8

1- Flush mounted assembly boxa
2- Chassis
3- Touch Sense Switch

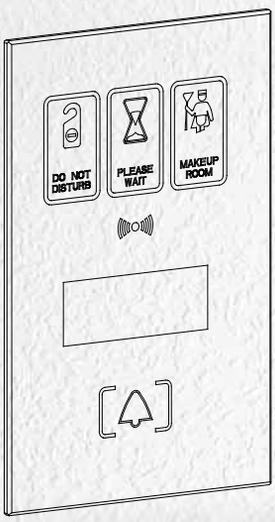
Technical Features	
Number of Inlets	8
Supply voltage	30V DC KNX Bus
Dimensions E x B x Y	91.5x91.5x 28.8mm
Protection type	IP 30
Operation temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Connection	KNX bus connector
Connection voltage consumption	<4mA
Standards	0,2mm²→2,5mm²

Hotel DND & MUR Outdoor Unit MDU0001-My

DU0001- My family devices provide room control for the hotel. It is designed to work with Mifare Classic contactless cards that are compliant with the international standard ISO / IEC 14443. The relay included in MDU0001-My can be used to control the electrical lock of the room. At the same time, the hotel may show its customers' requests, such as Clean, Wait and Do not Disturb *, through the symbols on them. The display with the product can show the room number. Room number can be set with ETS parameter and communication object. In addition, one KNX touch button can trigger the room.

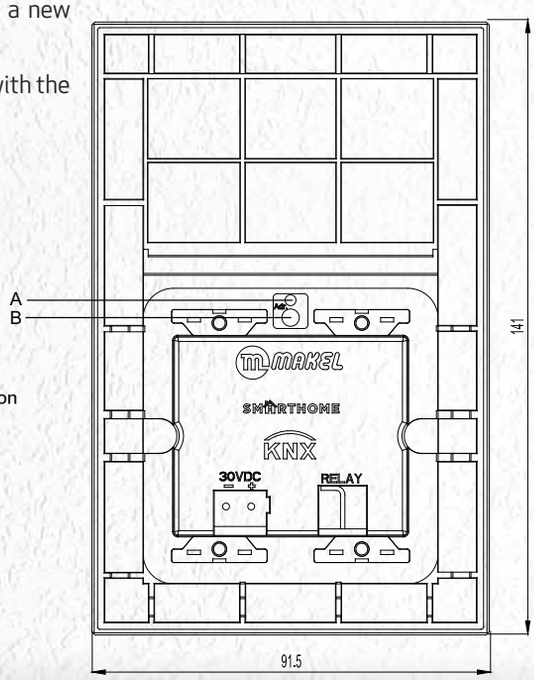
The permission to enter the room can be set by the communication object on the KNX line during product operation. In this way, it is possible to create a new room authorization for each new customer.

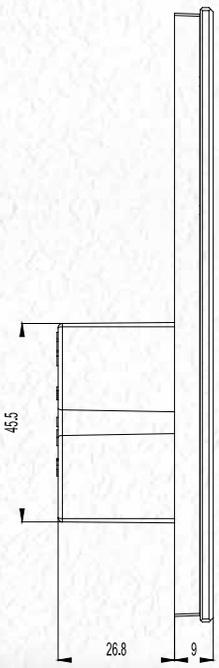
The DU0001-My product is designed to work with the MES0001-My product.



A- Programming led

B- Programming button





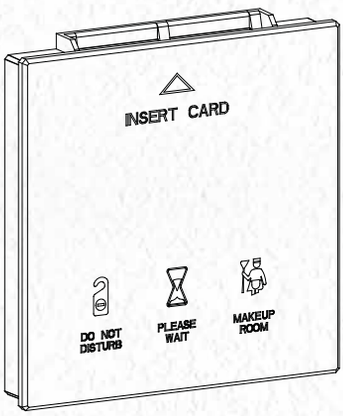
Technical Specifications	
Electrical Specifications	
Supply Voltage	30V DC
Current Consumption	10mA (max)
Functional Properties	
Card Type	Mifare Classic 1K/2K/4K
Relay Type	Semi Conductor
Max Relay Contact Voltage	20V (typical 12V)
Max Relay Current	2A
Number of Character on the Sense	4
Minimum Card reading interval	100ms
Environment	
Operating Temperature	-10 °C ... +45 °C
Storage Temperature	-20 °C ... +50 °C
Electrical Protection Class	II
Mechanical Protection Class	IP20

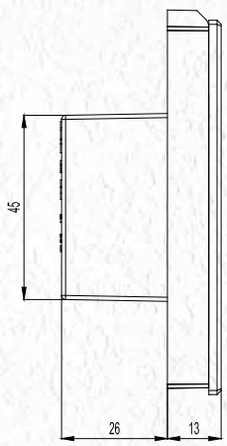
Hotel DND & MUR Indoor Unit MES0001-My

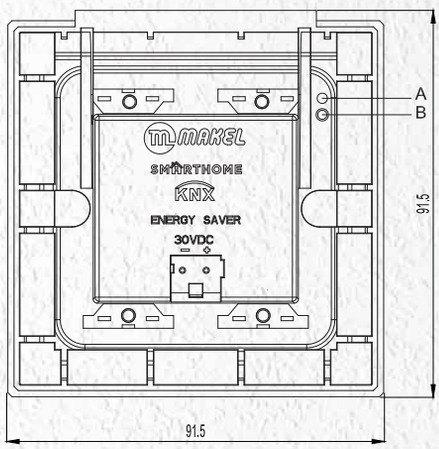
MES0001-My family devices provide room control for hotels. It is designed to work with Mifare Classic contactless cards that are compliant with the international standard ISO / IEC 14443. My MES0001-; can be used to trigger scenarios that will work according to customer, staff and administrator card types. With the 3 touch buttons on it, it allows the hotel customer to make requests such as "clean, wait and not disturb". In addition, the product contains a ringer. The ringer melody can be set with the ETS parameter and communication object, the sound can be turned off completely if desired.

The permission to enter the room can be set by the communication object on the KNX line during product operation. In this way, it is possible to create a new room authorization for each new customer.

MES0001-My product is designed to work with MDU0001-My product







A- Programming led

B- Programming button

Technical Specifications	
Electrical Specifications	
Supply Voltage	30V DC
Current Consumption	10mA (max)
Functional Properties	
Card Type	Mifare Classic 1K/2K/4K
Ringer Type	Piezo Buzzer (Mono)
Loudness of Ringer (Max)	90dB
Number of Melodies	6
Minimum Card Reading Period	100ms
Ortam	
Operating Temperature	-10 °C ... +45 °C
Storage Temperature	-20 °C ... +50 °C
Electrical Protection Class	II
Mechanical Protection Class	IP20

Push Button Switch 2 Channels MSW1002-PL

With the Makel Smarthome switches, you can experience the-comfort of a smart home. Makel KNX switches have a wealth of application features like classic switching, dimming, blind and curtain control, HVAC, alarm features, stage and priority selections and jamming. The system is available with selection of 2 to 8 channels, status indicators with led and label lighting.

Transmitters designed tocontrol MSW0002-PL Smarthome output modules. This product transmits orders for lighting, heating, curtains and other various scenarios via the KNX/EIB data path.

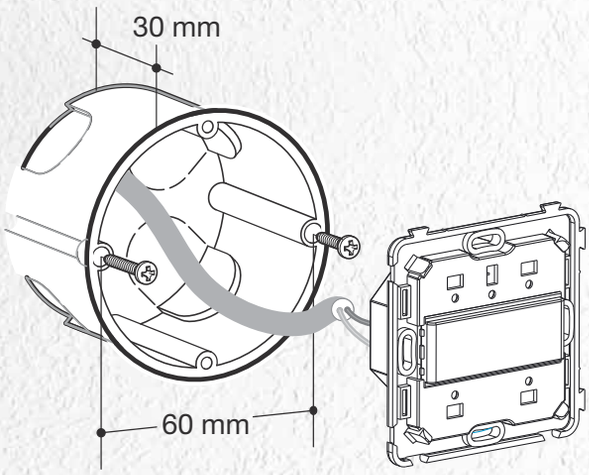
They are equipped with LEDs to show the status of circuits connected to the data path. They can be used with MTT001-XX buttons and Smarthome frames.

• 2 independent inlets

• 2 display lights

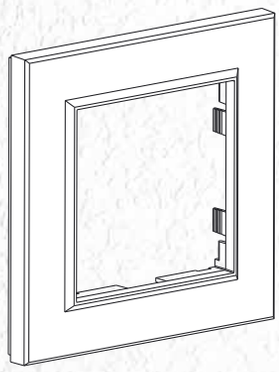
• Label holder lit from behind to mark the circuits and send signals to the light (provided with button)

The full functions of these products vary according to structure and installation.



Flush mounted assembly box

Power Unit



Decorative Frame

Button

Technical Features	
Supply Voltage	30 V DC
Number of Inlets	2
Dimensions	73x73x20 mm
Protection Degree	IP 30
Operation Temperature	0 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Data Path Consumption	10,5 mA
Data Path Connection	TG 08
Standards	NF EN 60669-2-1 NF EN 60699-1

Note: The frame is not included in the specified codes.

Push Button Switch
4 Channels
MSW1004-PL

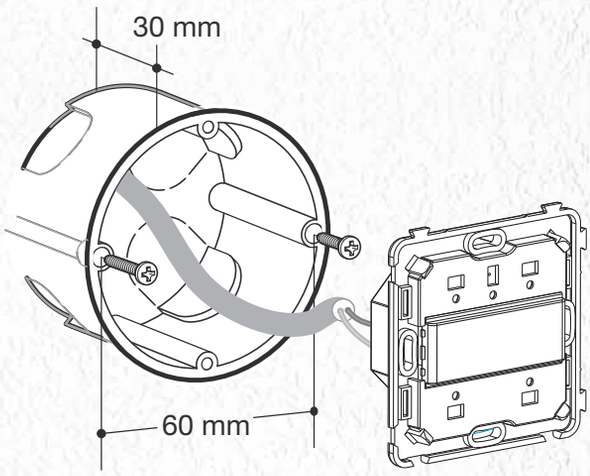
With the Makel Smarthome switches, you can experience the-comfort of a smart home. Makel KNX switches have a wealth of application features like classic switching, dimming, blind and curtain control, HVAC, alarm features, stage and priority selections and jamming. The system is available with selection of 2 to 8 channels, status indicators with led and label lighting.

Transmitters designed to control MSW0004-PL Smarthome outlet modules. This product transmits orders for lighting, heating, curtains and other various scenarios via the KNX/EIB data path.

They are equipped with LEDs to show the status of circuits connected to the data path. They can be used with MTT001-XX buttons and Smarthome frames.

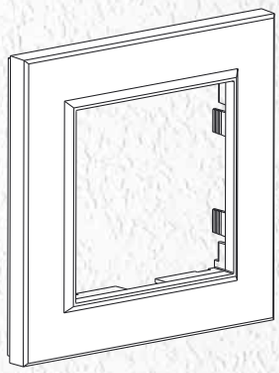
- 4 independent inlets
- 4 display lights
- Label holder lit from behind to mark the circuits and send signals to the light (provided with button)

The full functions of these products vary according to structure and installation.

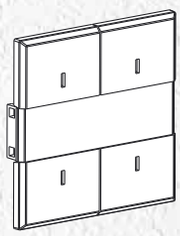


Flush mounted assembly box

Power Unit



Decorative Frame



Button

Technical Features	
Supply Voltage	30 V DC
Number of Inlets	4
Dimensions	73x73x20 mm
Protection Degree	IP 30
Operation Temperature	0 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Data Path Consumption	12,5 mA
Data Path Connection	TG 08
Standards	NF EN 60669-2-1 NF EN 60699-1

Note: The frame is not included in the specified codes.

Push Button Switch 6 Channels MSW1006-PL

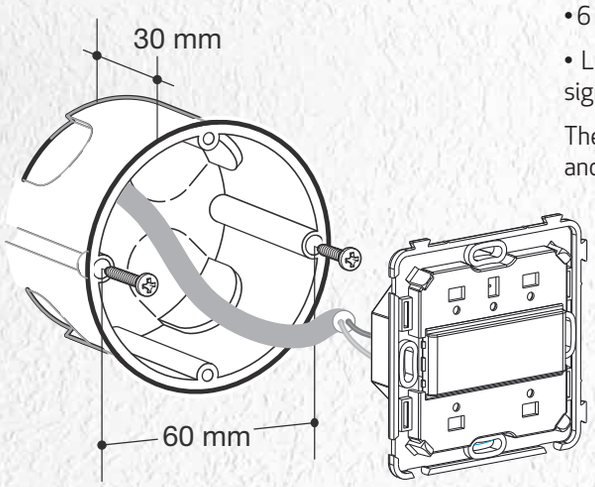
With the Makel Smarthome switches, you can experience the-comfort of a smart home. Makel KNX switches have a wealth of application features like classic switching, dimming, blind and curtain control, HVAC, alarm features, stage and priority selections and jamming. The system is available with selection of 2 to 8 channels, status indicators with led and label lighting.

Transmitters designed tocontrol MSW0002-PL Smarthome output modules. This product transmits orders for lighting, heating, curtains and other various scenarios via the KNX/EIB data path.

They are equipped with LEDs to show the status of circuits connected to the data path. They can be used with MTT001-XX buttons and Smarthome frames.

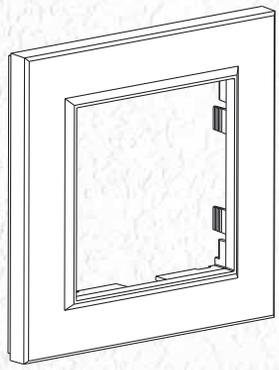
- 6 independent inlets
- 6 display lights
- Label holder lit from behind to mark the circuits and send signals to the light (provided with button)

The full functions of these products vary according to structure and installation.

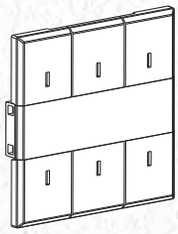


Flush mounted assembly box

Power Unit



Decorative Frame



Button

Technical Features	
Besleme Voltajı	30 V DC
Giriş Sayısı	6
Boyutlar	73x73x20 mm
Koruma Derecesi	IP 30
Çalışma Sıcaklığı	0°C → + 45°C
Depolama Sıcaklığı	- 20 °C → + 70 °C
Veri Yolu Tüketimi	14,5 mA
Veri Yolu Bağlantısı	TG 08
Standartlar	NF EN 60669-2-1 NF EN 60699-1

Note: The frame is not included in the specified codes.

Push Button Switch 8 Channels MSW1008-PL

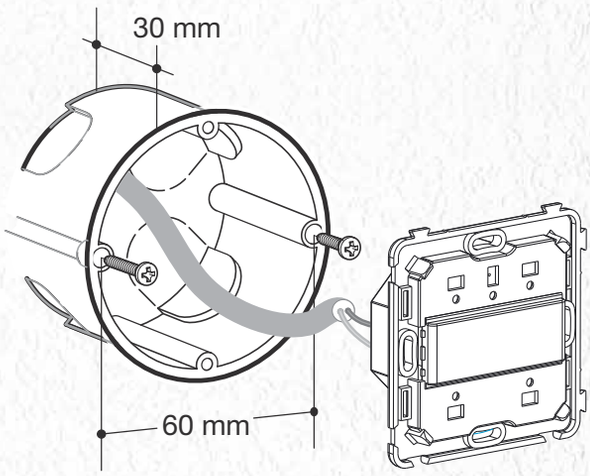
With the Makel Smarthome switches, you can experience the-comfort of a smart home. Makel KNX switches have a wealth of application features like classic switching, dimming, blind and curtain control, HVAC, alarm features, stage and priority selections and jamming. The system is available with selection of 2 to 8 channels, status indicators with led and label lighting.

Transmitters designed to control MSW0004-PL Smarthome outlet modules. This product transmits orders for lighting, heating, curtains and other various scenarios via the KNX/EIB data path.

They are equipped with LEDs to show the status of circuits connected to the data path. They can be used with MTT001-XX buttons and Smarthome frames.

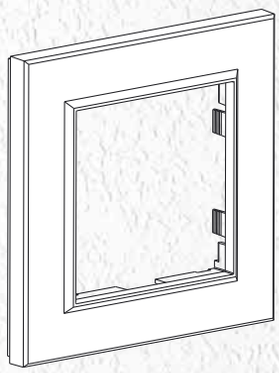
- 8 independent inlets
- 8 display lights
- Label holder lit from behind to mark the circuits and send signals to the light (provided with button)

The full functions of these products vary according to structure and installation.

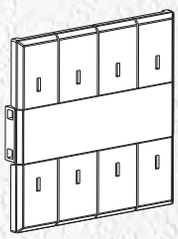


Flush mounted assembly box

Power Unit



Decorative Frame



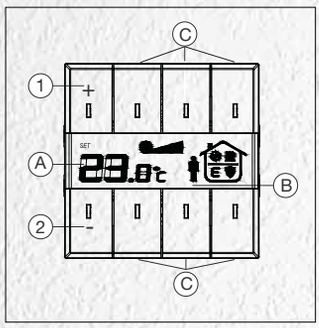
Button

Technical Features	
Besleme Voltajı	30 V DC
Giriş Sayısı	8
Boyutlar	73x73x20 mm
Koruma Derecesi	IP 30
Çalışma Sıcaklığı	0°C → + 45°C
Depolama Sıcaklığı	- 20 °C → + 70 °C
Veri Yolu Tüketimi	16,5 mA
Veri Yolu Bağlantısı	TG 08
Standartlar	NF EN 60669-2-1 NF EN 60699-1

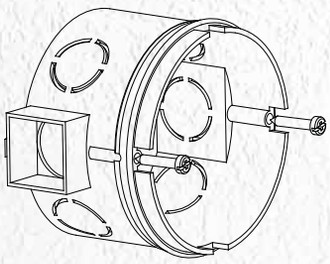
Note: The frame is not included in the specified codes.

Push Button Thermostat with 6 Channels MTH1006-PL

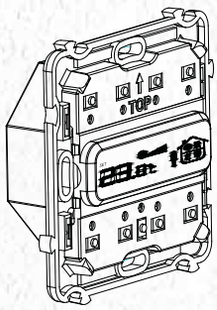
The multifunctional Sense MTH1008-PL thermostat regulates indoor temperature and enables other applications to be controlled in different settings. This is a component of the Smarthome Building System.



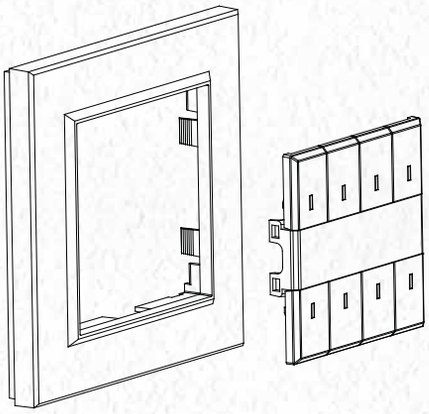
Flush mounted casing



MTH1008-PL



Frame



A) Sense

1 - 2 + Setting buttons

B) "Present/Not Present" Sense

C) 3,4,5,6 Buttons (Vary by Use)

Functions

•Room Thermostat for heating and cooling

• PID Regulation.

•LCD Sense lighted from behind

• Room temperature, present mode and setting Sense

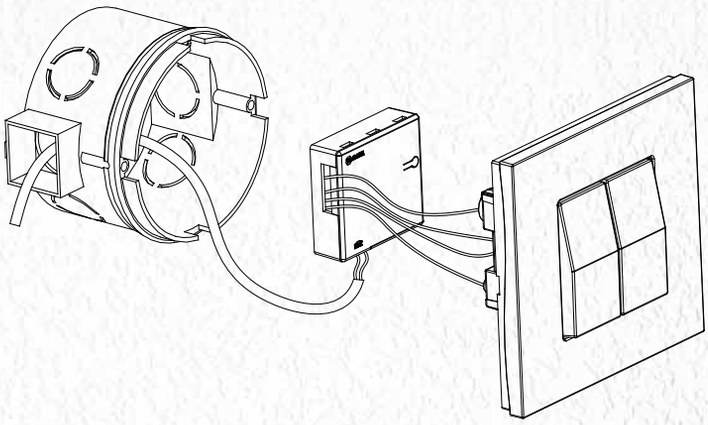
• 4 or 6 buttons and 6 display lights (varies by use) used for controlling lighting circuits, shutters and scenarios

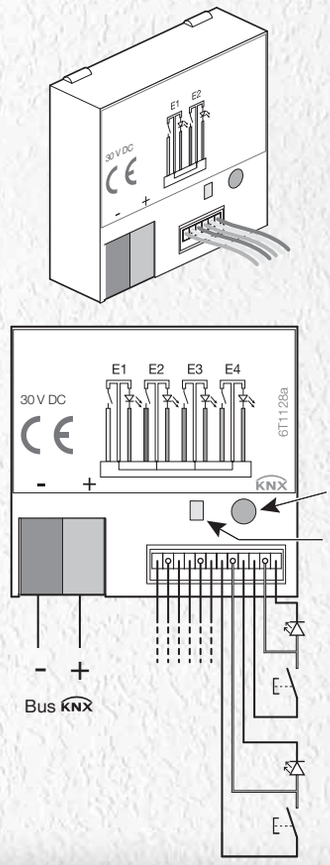
Technical Features	
Setting range for heating adjustment point	5°C → 30°C
Setting range for cooling adjustment range	10°C→ 40°C
Room T Sense range	0°C→+45°C
Supply voltage	30 V DC
Data path consumption	9,5 mA
Operation temperature	-20°C→+70°C
Storage temperature	-20°C→+70°C
Protection temperature	IP20
Standards	EN 60730-1,EN 60730-2-9

Binary Input with LED Output 4 Channels MIN1004-L

By using the KNX universal entry devices, you can adapt devices with dry contact outlets or your classic switches to the KNX System. It is possible to carry out special functions such as HVAC control, stages and timers with these devices. The small design enables them to be easily placed behind your products. Used to interface contacts independent from potential with KNX data path to transform devices like universal inlet modules, buttons, switches or classic automatisms to communication devices.

- 4 independent channels
- Power source provided via data path



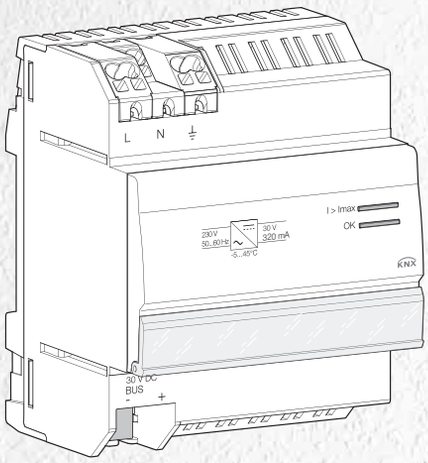


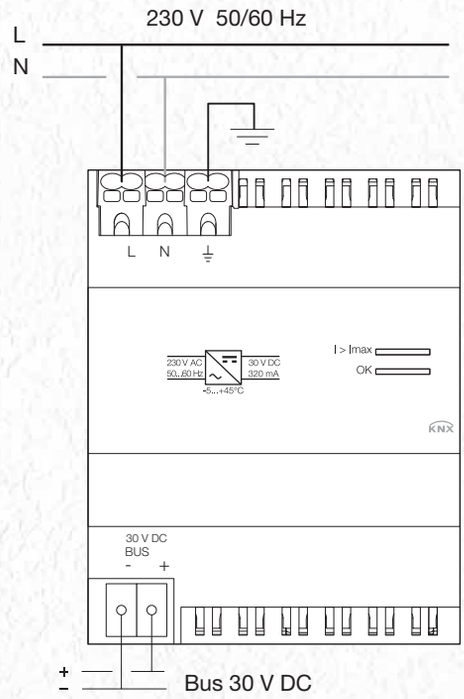
Technical Features	
Existing Contact	0,5 mA
Supply Voltage	30 V DC (TBTS, SELV, ZLVS)
Dimensions	38x35x12 mm
Protection Degree	IP 30
Operation Temperature	0°C → + 45°C
Storage Temperature	- 20 °C → + 70 °C
Standards	NF EN 60669-2-1 EN 50428

Power Supply, 320mA MPS0320

The KNX power supply provides the power for each device connected to the automation line insulated.

MPS0320 power supply generates the system voltage required for Smarthome appliances to be powered. The system voltage and the protection measures generated by MPS0320, is compatible with the voltage requirements of SELV (Separated Extra Low Voltage).

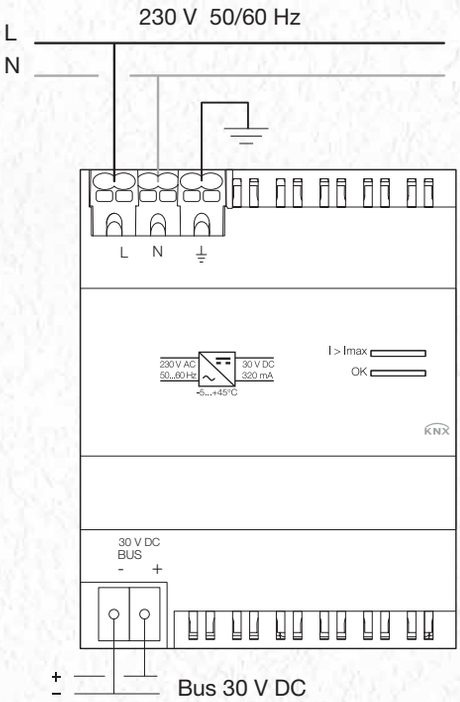


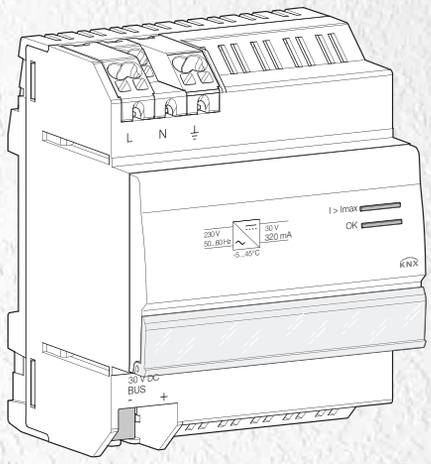


Supply Voltage	230 V ~ 50/60 Hz
Outlet Voltage	30 V DC 320 mA TBTS / SELV / ZLVS
Outlet Voltage	15 VA
Dimensions	4x17,5 mm
Operation Temperature	-5 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²

Power Supply, 640mA
MPS0640

MPS0640 power supply generates the system voltage required for Smarthome appliances to be powered. The system voltage and the protection measures generated by MPS0640, is compatible with the voltage requirements of SELV (Separated Extra Low Voltage).





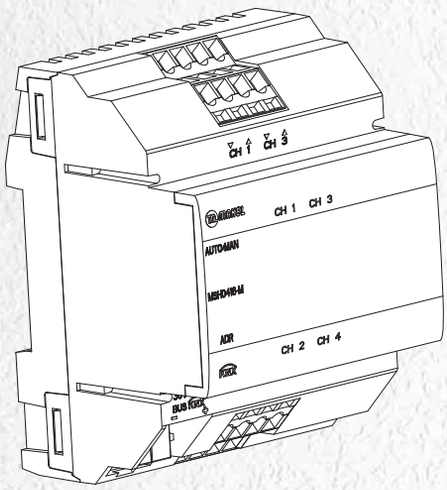
Supply Voltage	230 V ~ 50/60 Hz
Outlet Voltage	30 V DC 640 mA TBTS / SELV / ZLVS
Outlet Voltage	24 VA
Dimensions	4x17,5 mm
Operation Temperature	-5 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²

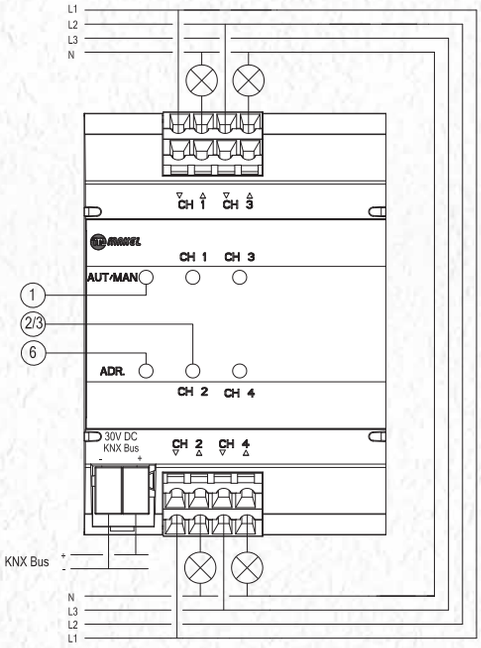
Touch Sense Switch Actuator, 4 Channel 16 A MSA0416-CM

The 4 channel MSA0416CM outlet drivers are relays designed to supply power with the KNX system in on/off form. These relays are a component of the Smarthome building system.

Can be used in lighting, shutters, sun curtains, shuttered curtains or in controlling all charges controlled with volt-free contact.

4 products are available varying according to the type and power of connected charges.





Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12VDC 24VDC	Iron-core transformer	Max 277 V 16A
	12VDC 24VDC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
		Led Bulbs	3680 W

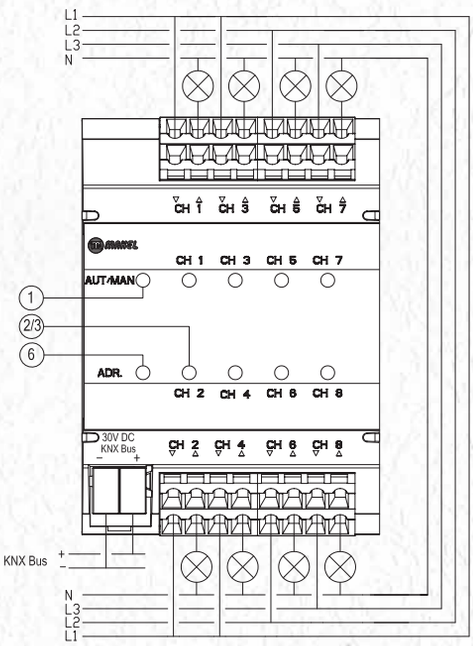
Technical Features	
Supply Voltage	30 V DC
Min. Time	50ms
Dimensions	4 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

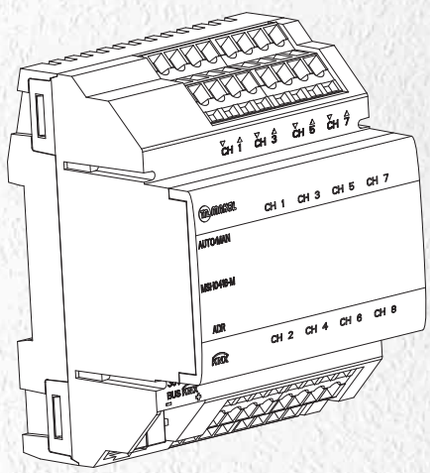
Touch Sense Switch Actuator, 8 Channel 16 A MSA0816-CM

The 8 channel MSA0416CM outlet drivers are relays designed to supply power with the KNX system in on/off form. These relays are a component of the Smarthome building system.

Can be used in lighting, shutters, sun curtains, shuttered curtains or in controlling all charges controlled with volt-free contact.

4 products are available varying according to the type and power of connected charges.





Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12V DC 24V DC	Iron-core transformer	Max 277 V 16A
	12V DC 24V DC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
		Led Bulbs	3680 W

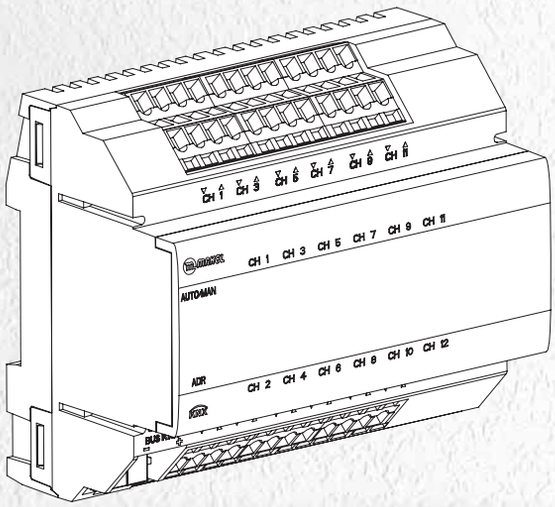
Technical Features	
Supply Voltage	30 V DC
Min. Time	50ms
Dimensions	4 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

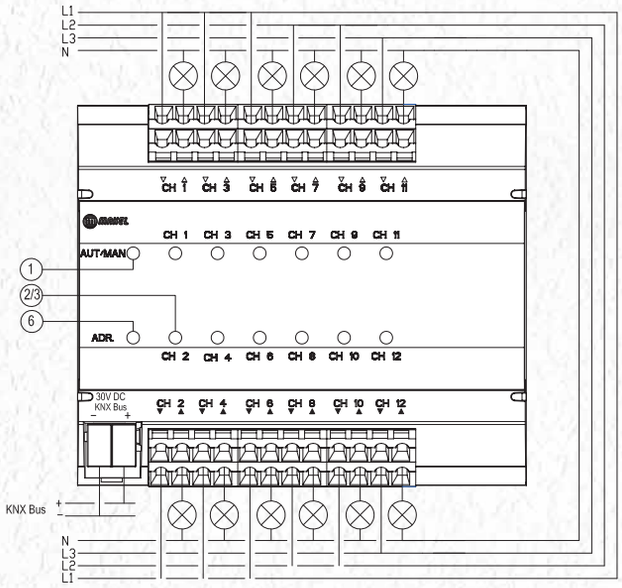
Touch Sense Switch Actuator, 12 Channel 16 A MSA1216-CM

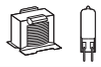
The 4 channel MSA0416CM outlet drivers are relays designed to supply power with the KNX system in on/off form. These relays are a component of the Smarthome building system.

Can be used in lighting, shutters, sun curtains, shuttered curtains or in controlling all charges controlled with volt-free contact.

4 products are available varying according to the type and power of connected charges.

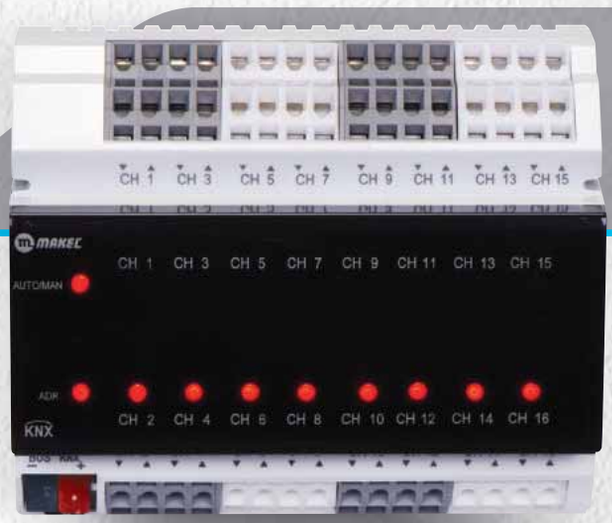




Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12VDC 24VDC	Iron-core transformer	Max 277 V 16A
	12VDC 24VDC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
		Led Bulbs	3680 W

Technical Features	
Supply Voltage	30 V DC
Min. Time	50ms
Dimensions	6 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

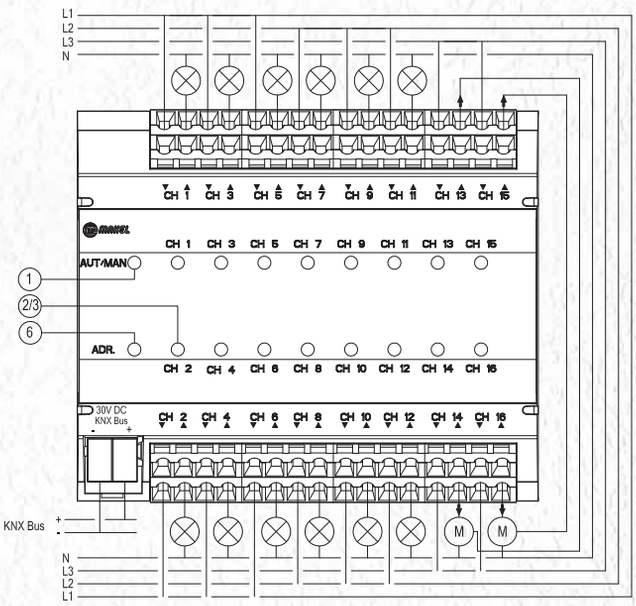
Touch Sense Switch Actuator, 16 Channel 16 A MSA1616-CM

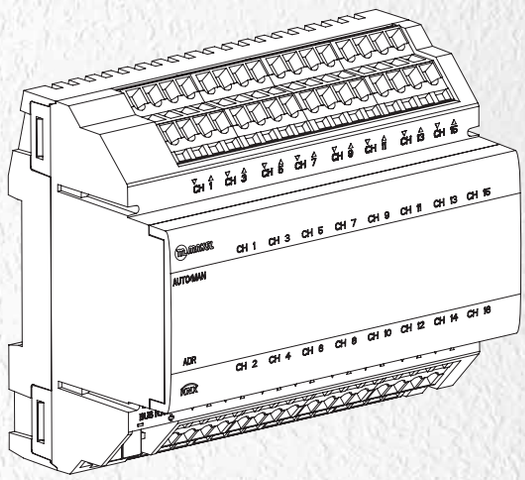


The 8 channel MSA0416CM outlet drivers are relays designed to supply power with the KNX system in on/off form. These relays are a component of the Smarthome building system.

Can be used in lighting, shutters, sun curtains, shuttered curtains or in controlling all charges controlled with volt-free contact.

4 products are available varying according to the type and power of connected charges.



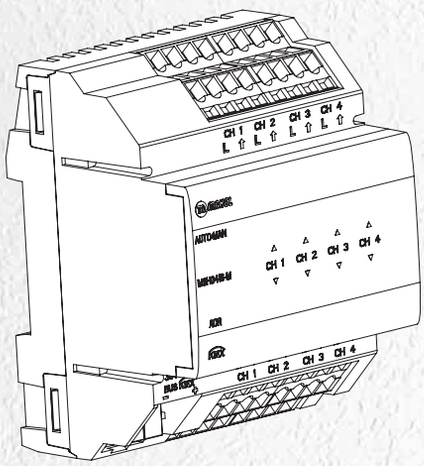


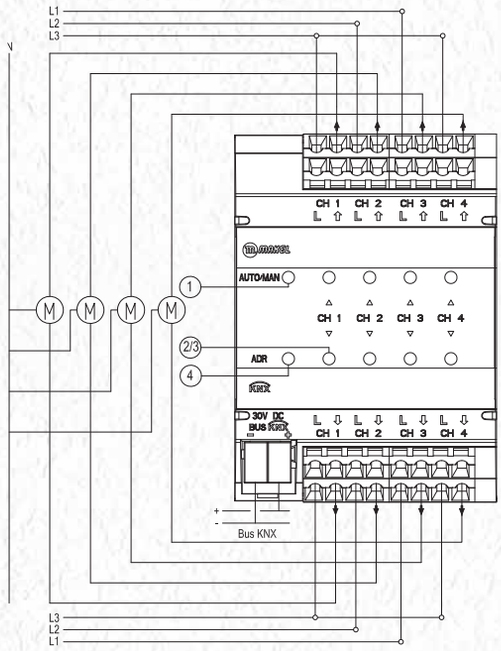
Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12V DC 24V DC	Iron-core transformer	Max 277 V 16A
	12V DC 24V DC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
		Led Bulbs	3680 W

Technical Features	
Supply Voltage	30 V DC
Min. Time	50ms
Dimensions	6 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

Touch Sense Blind Actuator 4 Channel 16 A MSH0416-M

The 8 outlet MSH0416-M drivers are actuators designed to control two way open close devices with the KNX system. These are a component of the Smarthome building system and have been designed to control devices like shades, sun curtains, shuttered curtains, etc.





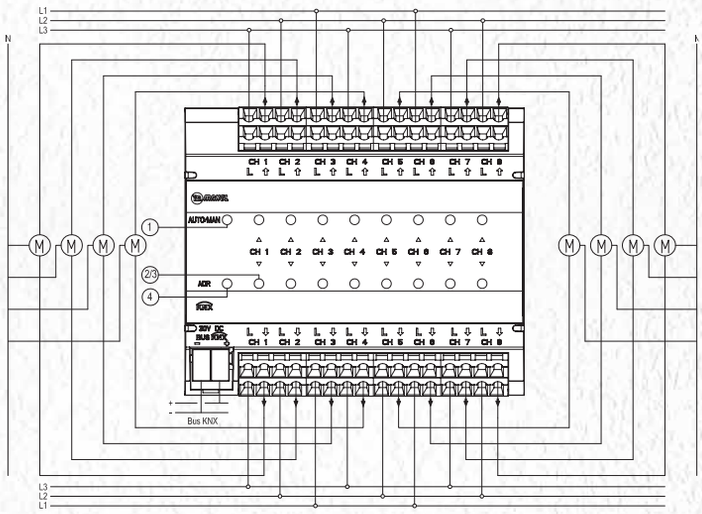
Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12VDC 24VDC	Iron-core transformer	Max 277 V 16A
	12VDC 24VDC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
	230 V~	Led Bulbs	3680 W

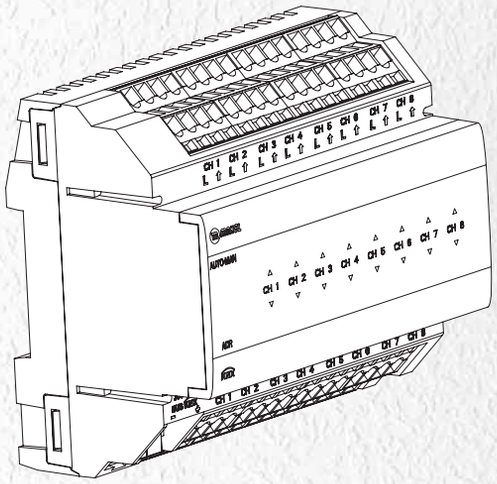
Technical Features	
Supply Voltage	30 V DC KNX Bus
Min. Time	50ms
Dimensions	4 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

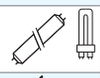
Touch Sense
Blind Actuator
8 Channel 16 A
MSH0816-M

8-output MSH0816-M drivers are actuators enabling control of two-way opening-closing devices with Knx system.

It is designed to control the devices such as roller blinds, sunshades, louvered curtains etc.



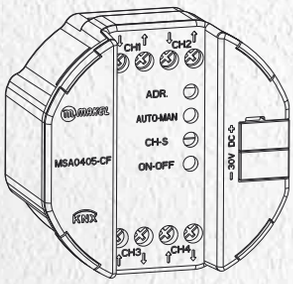


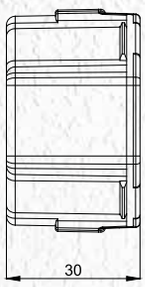
Load Types			For each channel
	230 V~	Incandescent Lights	3680 W
	230 V~	Halogen Lights	3680 W
	12V DC 24V DC	Iron-core transformer	Max 277 V 16A
	12V DC 24V DC	Electronic Transformer	Max 277 V 16A
	230 V~	Florescent Lights	Max 277 V 16A
	230 V~	Led Bulbs	3680 W

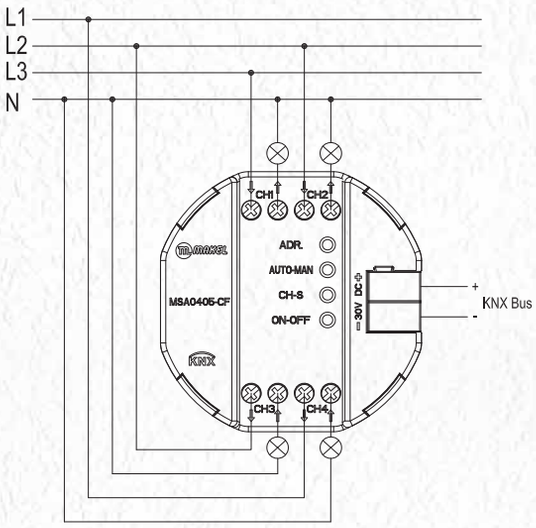
Technical Features	
Supply Voltage	30 V DC
Min. Time	50ms
Dimensions	6 x 17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 55 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

2-4 Channel Flush Mounted Switch/Shade/Suncurtain Actuator MSA0405-CF/ MSA0408-CF

4 MSA0405-CF outlet drives are relays designed to drive electric load through open/close method with KNX system.

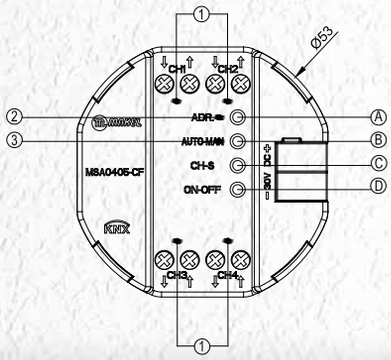






A- Adressing button
B- Otomatic manuel mode selection button
C- Channel selection button
D- Kanal açma / kapama butonu

1- Channel indicator LED
2- Addressing LED
3- Automatic / Manuel mode indicator LED



Load Types			For each channel
	230 V~	Incandescent lamps	800 W
	230 V~	Halogene Lamps	800 W
	12V DC 24V DC	Conventional Transformer	800 W
	12V DC 24V DC	Electronic Transformer	800 W
	230 V~	Fluorescent Tubes are uncompensated	800 W
		Fluorescent Tubes for ballats	12x36 W
	230 V~	Compact Fluorescent	6x23 W

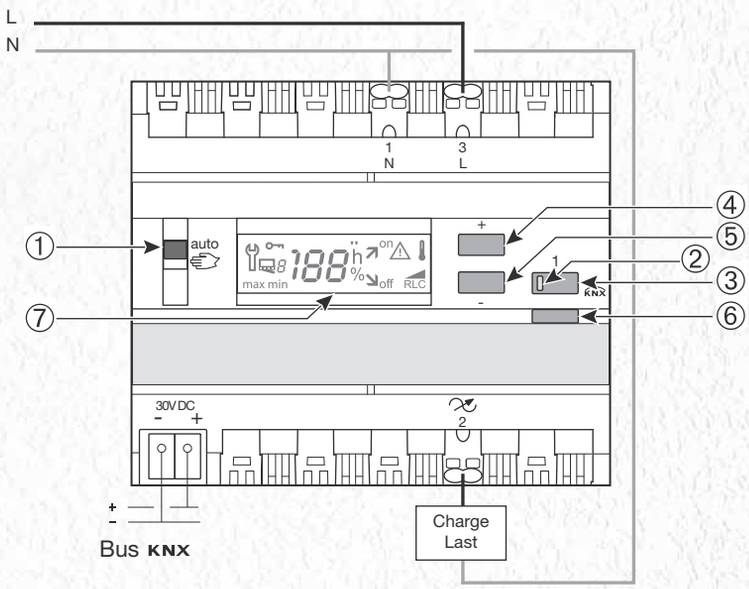
Technical Specifications	
Supply Voltage	30 V DC
Power Consumption	2w(5A)
Dimensions	Ø53 Depth: 30
Protection Class	IP 20
Operating Temperature	-0°C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Electric Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	EN 60669-1 EN 60669-2-1 EN 50090-2-2
Connection	0,2mm²→2,5mm²

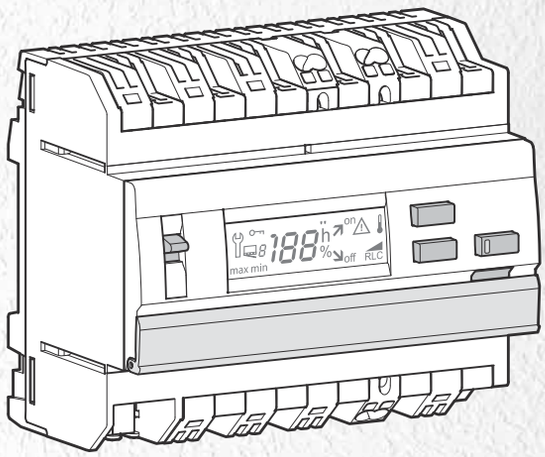
Dimmer Actuator
1 Channel 1000 W
MSA1000

KNX curtain actuators enable you to control your shutters, curtains, awnings and blinds from inside the KNX automation system.

A modular component of the KNX automation system.

- 8 independent channels controlled with KNX protocol
- Shows the state of outlets and the existence of a data path and/or grid source (230V-)
- Outlets can be activated with or without data path and/or grid source (230v-).





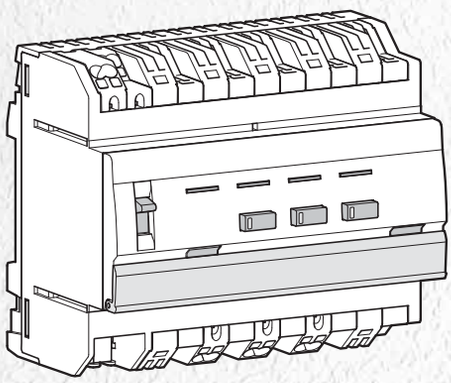
Load types			
		Incandescent, Halogen 230 V ~	20 W ----> 1000 W
		Halogen ELV (12 or 24V) with ferromagnetic transformer suitable for defraction. Transformer should be used with at least 75% of nominal load.	20 VA ----> 1000 VA
		Halogen ELV (12 or 24V) with electronic transformer	20 VA ----> 1000 VA

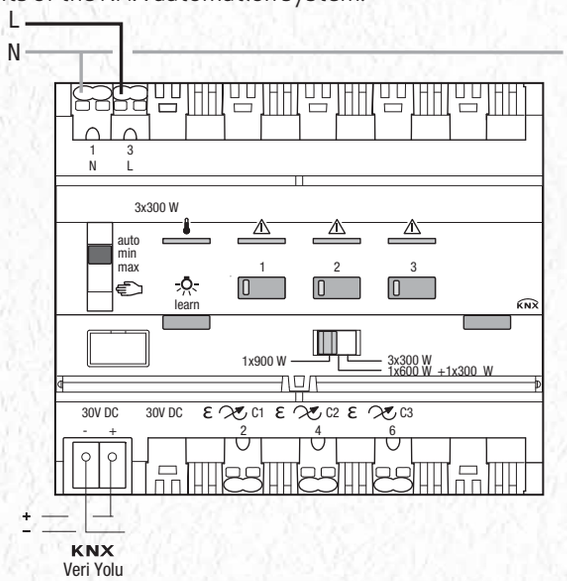
Technical Features	
Supply Voltage	30V DC, 230V 50/60 Hz
Busline Consumption	2,3 mA
Power Loss	10 W
Load free consumption	3 W
Dimensions	6x17,5 mm
Protection Class	IP 30
Operation Temperature	0 °C → + 45 °C
Storage Temperature	- 20 °C → + 60 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	NF EN 60669-1 NF EN 60669-2-1 EN 50090-2-2

Dimmer Actuator
3 Channel, 3 x 300 W
MDA3300-N

The KNX with 3 channels dimmer devices can be used to dim halogen, 220V led , fluorescent, incandescent and cfl lamps using the smart system. With a total capacity that reaches 900 Watts, lamps can be maintained at 300 Watts for each of three channels, 300W and 600W for two channels and 900W for a single channel.

MSA 3300-N Modules with KNX 3 channel dimmers can dim 220V led, flourescent, incandescent and cfl lights using the smart system. These products are ideal for efficiently controlling compact fllourescents and 220V LED lights with automatic load detection or manual setting. They are components of the KNX automation system.





Load Type				
Incandescent, halogen 230V	C1 C2 C3	1x 900 W - -	1x 600 W 1x 300 W -	1x 300 W 1x 300 W 1x 300 W
Transformer should be used with at least 75% of nominal power. Electronic transformer with halogen ELV (12 or 24V).	C1 C2 C3	1x 900 W - -	1x 600 W 1x 300 W -	1x 300 W 1x 300 W 1x 300 W
Electronic transformer with halogen ELV (12 or 24V).	C1 C2 C3	1x 900 W - -	1x 600 W 1x 300 W -	1x 300 W 1x 300 W 1x 300 W
Dimmable fluo compact lights	C1 C2 C3	1x 210 W - -	1x 120 W 1x 60 W -	1x 60 W 1x 60 W 1x 60 W
Dimmable LED lights.	C1 C2 C3	210 W - -	1x 120 W 1x 60 W -	1x 60 W 1x 60 W 1x 60 W

Technical Features	
Supply Voltage	30V DC, 230V 50/60 Hz
Busline Consumption	2,3 mA
Power Loss	5 W
Load free consumption	8,9 W
Dimensions	6x17,5 mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 45 °C
Storage Temperature	- 25 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²
Standards	NF EN 60669-2-1 EN 50491-3 EN 50428

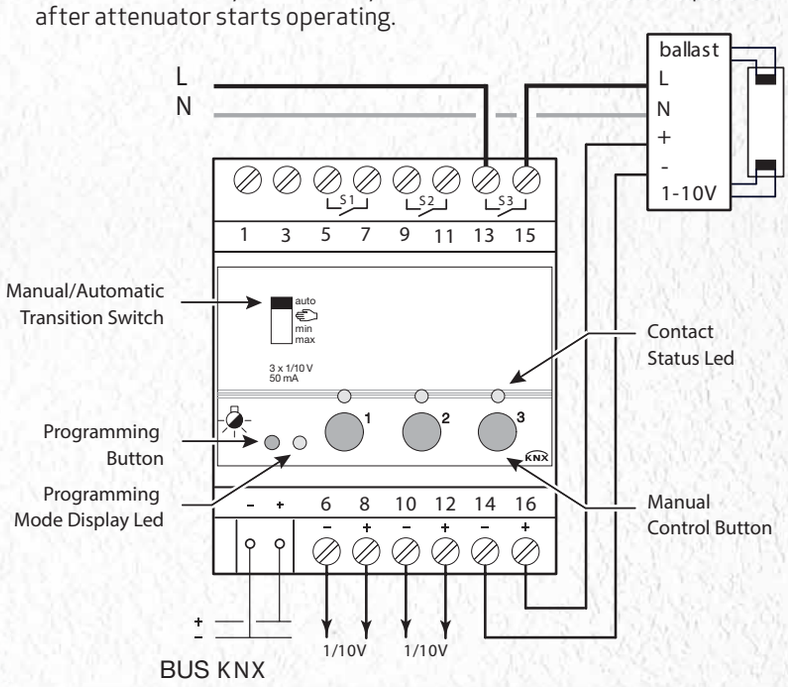
The efficiency of transformers must be considered to calculate the maximum number of lamps being controlled. Fluo compact and LED lights that are not dimmable are not suitable for this product.

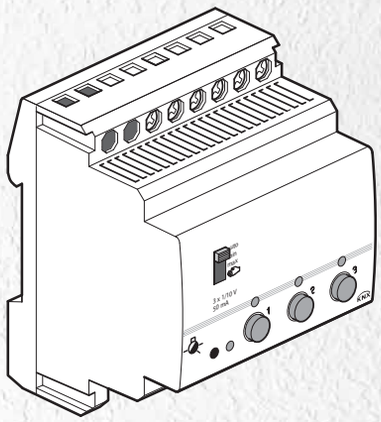
Dimmer Actuator 3 Channel, 1-10V MDA3010-A

MSA3010-A; with the KNX 3 channel 1-10V dimmer devices it is possible to dim led and flourescent lights with a smart system.

3 separate lines can be dimmed as 1-10V

- 3 dimmer channels controlled with KNX protocol
- The state of the channel is displayed on the product
- The channels can be checked locally on the product manually
- The existing functions depend on the unique structure and set up of the product
- A 20 second delay is necessary to advance to the first check process after attenuator starts operating.





Load Type			
	230 V~	Incandescent Lights	2300 W
	230 V~	Halogen Lights	2300 W
	12 V DC 24 V DC	Conventional Transformator	1500 VA
	12 V DC 24 V DC	Electronic Transformer	1500 W
	230 V~	Electronic Ballast	1000 W 50 mA max.
		Reducing	30 max.

Technical Features	
Supply Voltage	29 V DC
Power Loss	9 W
Dimensions	4x17,5 mm
Protection Class	IP 30
Operation Temperature	0 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	1mm² → 10mm² 1mm² → 6mm²
Standards	NF EN 60669-1 NF EN 60669-2-1 EN 50090-2-2

Dimmer Actuator, 1 Channel 300W MSA1300-N

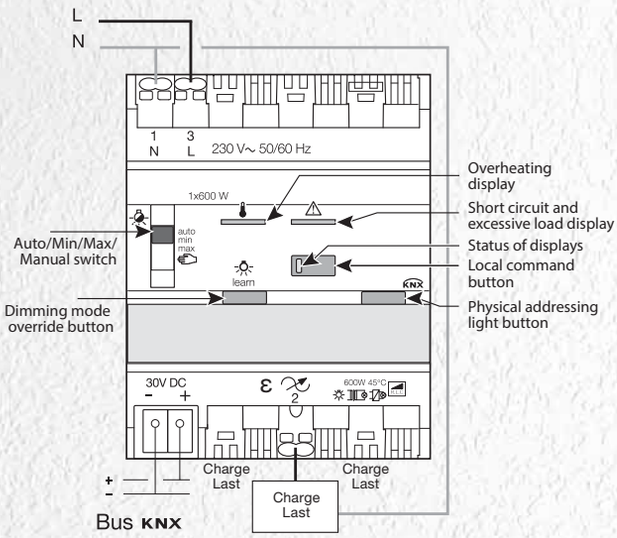
MSA 1600-N Modules; with the KNX 1 channel dimmer can dim 220V led, flourescent, incandescent and cfl lights using the smart system. They can drive 1000 W lights on 1 channel. These products are ideal for efficiently controlling compact fl-lourescents and 220V LED lights with automatic load detection or manual setting. They are components of the KNX automation system. To ensure proper operation it is recommended that two different types of lights not be combined on the same outlet.

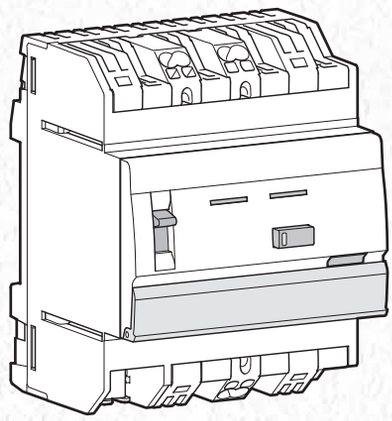
• 1 dimming channel controlled by KNX data path

• Display of channel status on product

• The product provides manual control of channel (with or without connected data path)

• Automatic detection of load type





- The special functions provided by these products vary according to structure and set up. MSA 1600-N Modules; with the KNX 1 channel dimmer can dim 220V led, flourescent, incandescent and cfl lights using the smart system. They can drive 1000 W lights on 1 channel. These products are ideal for efficiently controlling compact fllourescents and 220V LED lights with automatic load detection or manual setting. They are components of the KNX automation system. To ensure proper operation it is recommended that two different types of lights not be combined on the same outlet.
- 1 dimmer channel controlled by KNX data path.
- Display of channel status on product.
- Manual control of channel provided by product (with or without a connected data path).
- Automatic detection of load type.

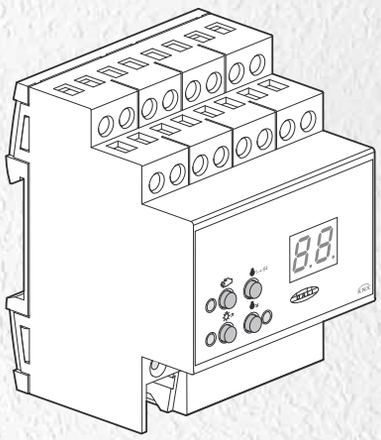
Technical Features	
Supply Voltage	30V DC, 230V 50/60 Hz
Busline Consumption	2,3 mA
Power Loss	2,3 W
Load free consumption	3 W
Dimensions	4X17,5mm
Protection Class	IP 30
Operation Temperature	-5 °C → + 45 °C
Storage Temperature	- 25 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² (solid) 0,75mm² → 2,5mm² (stranded)
Standards	NF EN 60669-1 / NF EN 60669-2-1 EN 50090-2-2

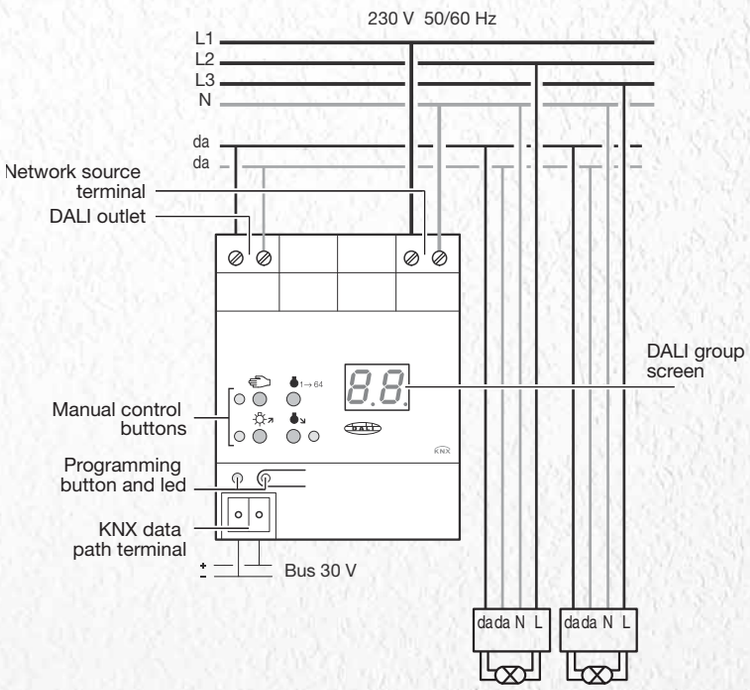
KNX / DALI Gateway MDG0001

With the KNX DALI Gateway device it is possible to dim DALI ballast lights with a smart system. Up to 64 ballast can be controlled with a single device.

The KNX-DALI gateway MDG0001 enables DALI lighting systems to be interfaced with the KNX system.

- Control of 64 DALI device in maximum 32 groups
- DALI device status output (ie. brightness malfunction) with KNX
- Manual control of DALI groups
- Mandatory control
- Switching status and brightness level review in data path and manual control mode
- Central switching function
- Inactivation of function for all groups
- Separate ON and OFF delays
- Lighting application with early warning function
- Activating DALI with ETS entry
- Short Circuit Protection
- Excessive Load Protection
- Excessive Voltage Protection
- Possible to change a single operating DALI device without software
- Delivery status: it is possible to control DALI groups and partially operate with keypad
- All DAL devices are controlled jointly.





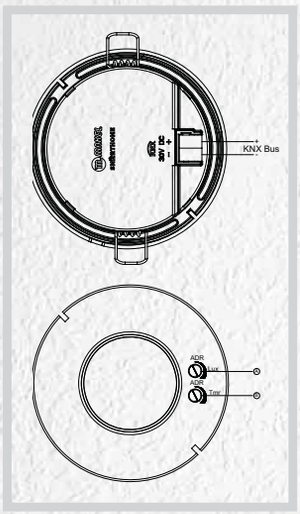
Flush Mounted Ceiling Type Presence Detector MPR1102-F

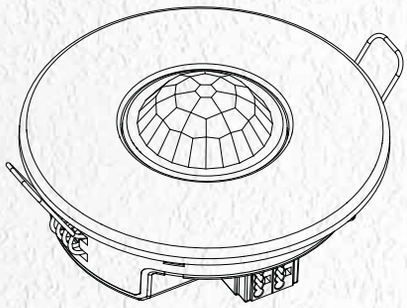
MPR11x product family is a device providing light control and regulation. MPR110x provides presence/absence information, light control according to presence status, light regulation enabling different lighting levels and controlling of HVAC systems as well as detecting slightest movements in the environment.

The sensor, which is used for evaluation of presence/absence status, differs according to models of MPR110x

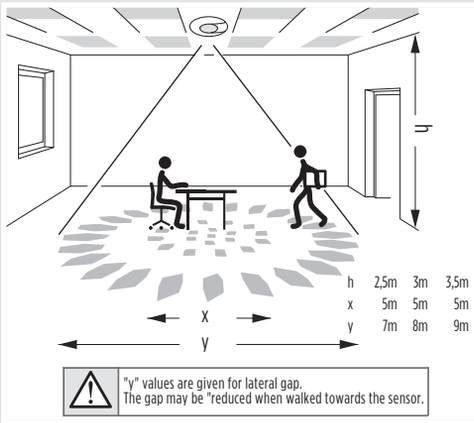
Light measurement is made constantly and it can be used for reaching the targeted light level (set point) in the closest way by adjusting the artificial light sources. Regulation can be made by dimming or switching on/off multiple light sources.

Connection Scheme

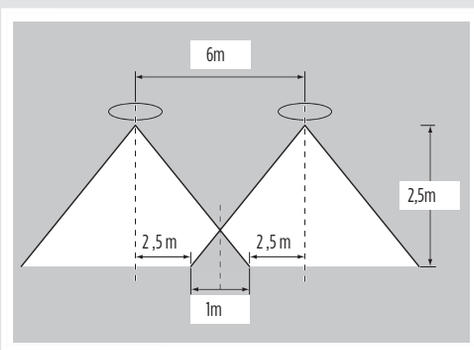




Detection Areas



Overlap



Technical Features	
Electrical Specifications	
Supply Voltage	30V DC
Current Consumption	8mA (max)
Functional Properties	
Timing interval	1s ... 18h
Light intensity adjustment interval	0 ... 65000 lux
Detection range	9m*
Ceiling height recommended for assembly	2,5m ... 3,5m
Hole diameter required for assembly	Ø 80mm
Environment	
Operating Temperature	-10 °C ... +45 °C
Storage Temperature	-20 °C ... +60 °C
Electrical Protection Class	II
Mechanical Protection Class	IP20

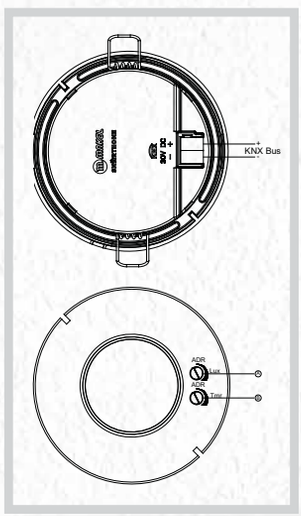
Surface Mounted Ceiling Type Presence Detector MPR1102

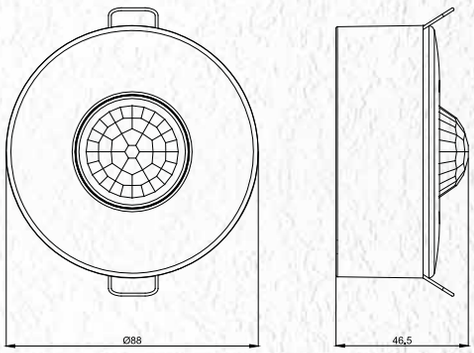
MPR11x product family is a device providing light control and regulation. MPR110x provides presence/absence information, light control according to presence status, light regulation enabling different lighting levels and controlling of HVAC systems as well as detecting slightest movements in the environment.

The sensor, which is used for evaluation of presence/absence status, differs according to models of MPR110x

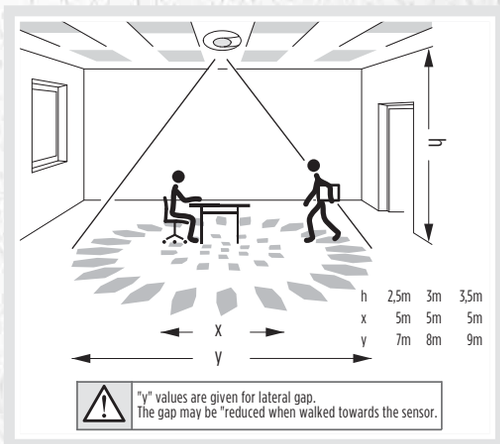
Light measurement is made constantly and it can be used for reaching the targeted light level (set point) in the closest way by adjusting the artificial light sources. Regulation can be made by dimming or switching on/off multiple light sources.

Connection Scheme

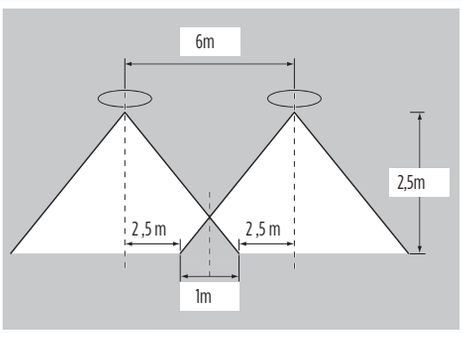




Detection Areas



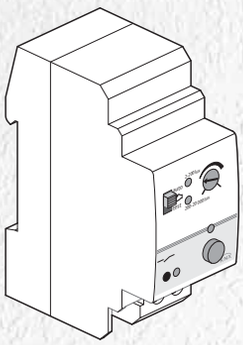
Overlap

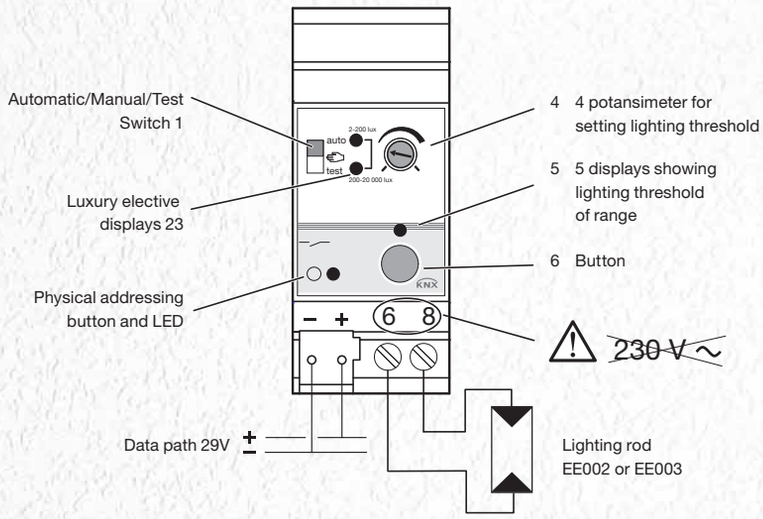


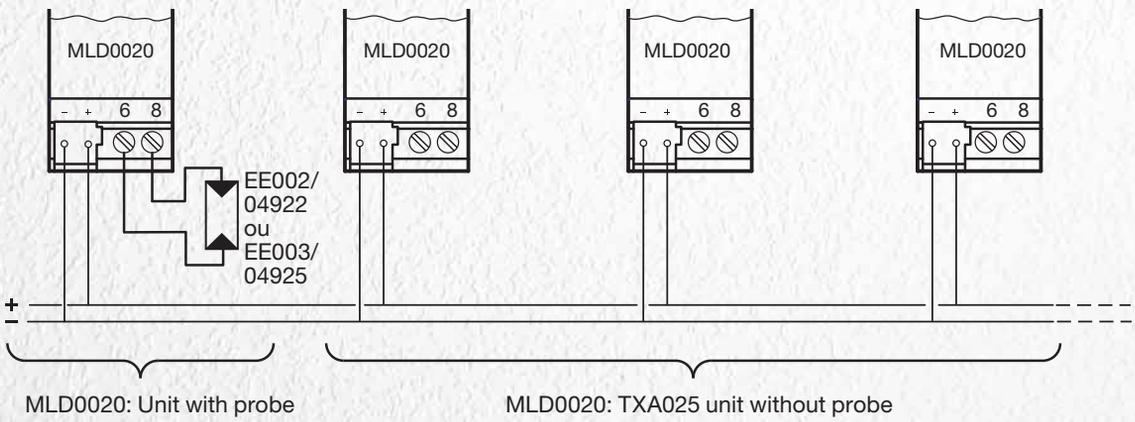
Technical Features	
Electrical Specifications	
Supply Voltage	30V DC
Current Consumption	8mA (max)
Electrical Specifications	
Timing interval	1s ... 18h
Light intensity adjustment interval	0 ... 65000 lux
Detection range	9m *
Ceiling height recommended for assembly	2,5m ... 3,5m
Hole diameter required for assembly	Ø 80mm
Environment	
Operating Temperature	-10 °C ... +45 °C
Storage Temperature	-20 °C ... +60 °C
Electrical Protection Class	II
Mechanical Protection Class	IP20

Daylight Sensor 20kLux MLD0020

With the KNX daylight sensor, you can provide the optimum level of light to your spaces by measuring the brightness with the help of a prop that can be used outdoors. This product has been designed for the automatci control of indoor/outdoor lighting circuits (ON/OFF and decreasing controls) and curtains or shades. This light sensitive switch, which is connected with an external rod, measures natural light and controls circuits according to a threshold range set between 2 and 2000. To increase the number of channels a series of light sensitive switches can be lined up. In this case only a single rod is connected to one of the light sensitive switches.

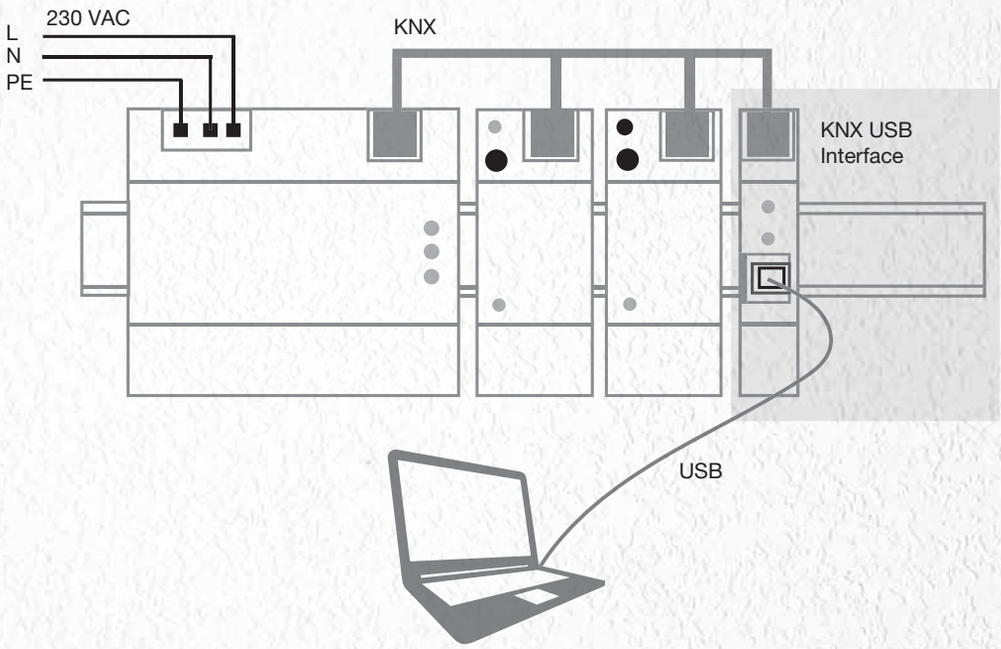






USB Interface
MUS0100

It is possible to program the KNX devices via the ETS program and to monitor line traffic with the USB interface. Easily installed with the attach-use feature without requiring a driver.

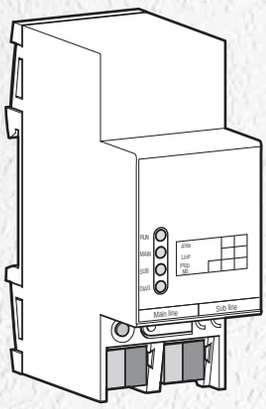


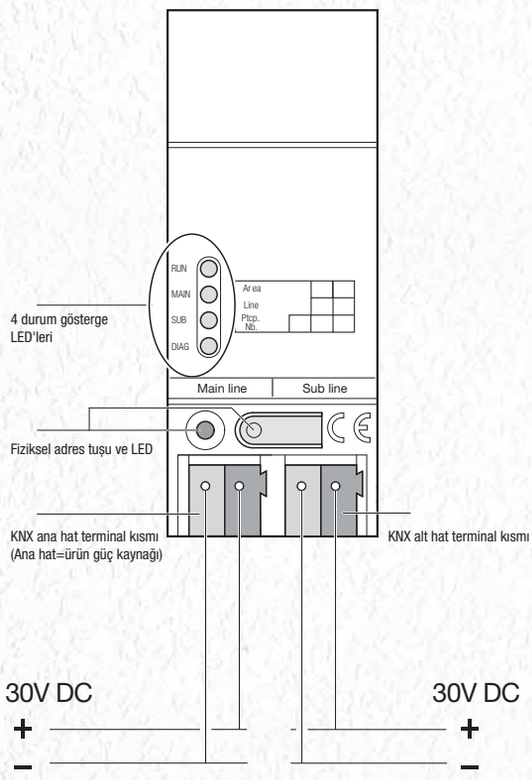
This interface is used to make a two way connection from the PC and KNX installation line. There is a galvanized separator to separate the USB connector from the KNX line.

Supports ETS3 or more advanced software

Line Coupler
MLC0001

Line coupler devices are one of the basic elements of the KNX system. By using these devices lines to which up to 63 devices can be connected on each KNX connection can be created. Line coupler can create smart home systems comprised of up to 65,000 devices in total. Line coupler devices can also be used as repeaters on the same line when necessary. Line coupler devices filter traffic and prevent messages from going to unnecessary lines.



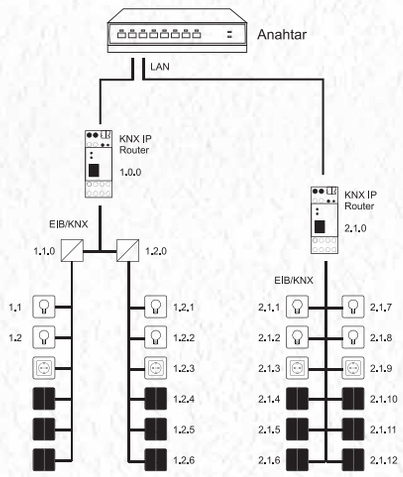


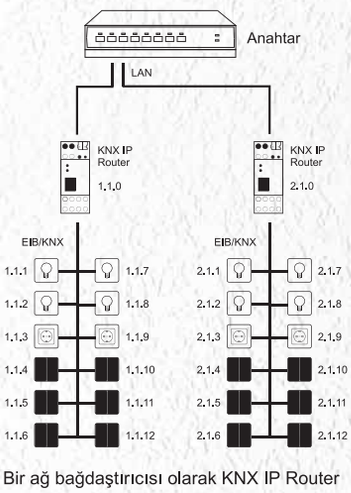
Supply Voltage	21-32 V DC
Main line current	6 mA
Sub line current	8 mA
IP	IP 20
All Measurements (2)	2x17,5 mm
Operation Temperature	- 25 °C → + 45 °C
Storage Temperature	- 25 °C → + 70 °C

IP Router
MIP1000

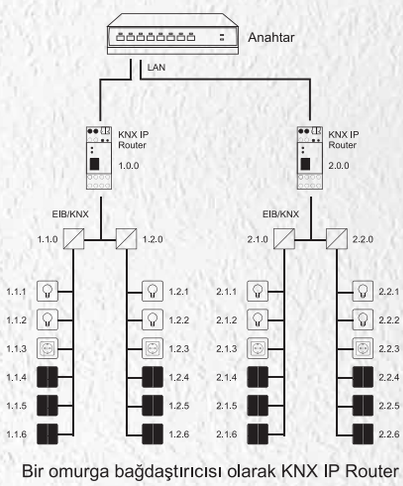
The IP router allows you to open your smart buildings and homes to managing over the internet. Also tablets, touch panels and smart mobile devices enable access to the KNX system.

The IP Router transmits telegraphs between various lines over a fast LAN (IP) backbone. The KNX IP Router can also take the place of and RS232 or USB interface and be used as an interface to access the data path over IP. It has an external power source of between 12V and 24V or instead can be supplied over Power-over-Ethernet (IEEE 802.3af)





Bir ağ bağdaştırıcısı olarak KNX IP Router



Bir omurga bağdaştırıcısı olarak KNX IP Router

Supply Voltage	24 V DC
Output Voltage	30 V DC 640 mA TBTS / SELV / ZLVS
Power Draw	24 VA
Dimensions	2x17,5 mm
Operation Temperature	-5 °C → + 45 °C
Storage Temperature	- 20 °C → + 70 °C
Electrical Connection	0,75mm² → 2,5mm² 0,75mm² → 2,5mm²

IP Control Unit
KNXer

Knx mini home server is a gateway device that provides access to the Knx line over the internet/intranet. It is not a simple gateway, it is a mini server that contains modules like the SIP server and Web server that are necessary for home automation.

The server works compatibly with the Makel Smart Home Android application and allows IP based multiple connections. This enables knx access to android telephones and tablets.

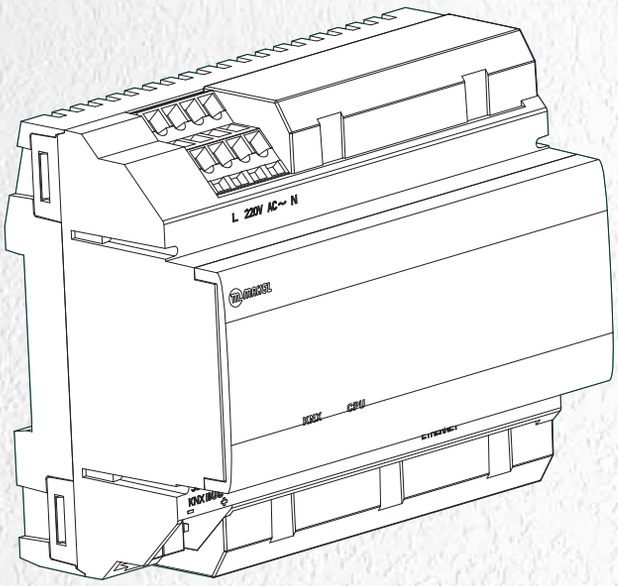
It supports SSL protocol for IP communication and provides increased security by allowing users to assign an access password.

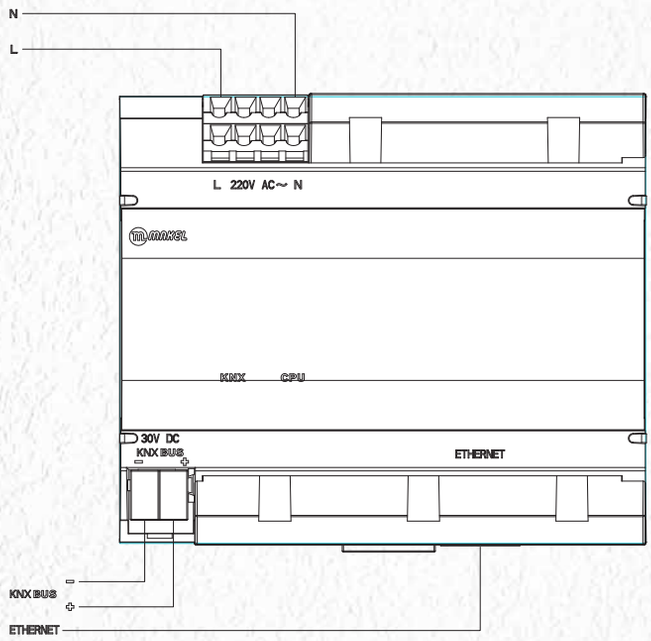
The Web server inside providesaccess to the Makel Smart Home Web interface.

This interface that is accessible over an internet browser can also access the smart home system with other non-android devices.

Technical Features

- Knx access over IP
- Secure communication with SSL
- Asterisk SIP server
- Smart home system web interface access
- Configuration web interface





Supply Voltage	220V AC
Ethernet port	1 x
Knx port	1 x
Led (Knx and CPU activity)	2 x
Operation Temperature	0 °C → 75 °C

10" Android Touch Sense Panel

You can greet people at the door and have video calls through the IP based Sense and video intercom in front of your building. When needed you can obtain services like taxi, daily cleaning and vale by communicating with reception over your touch Sense panel.

All of the scenarios you have set for exiting or entering your home can be started with a single touch. You can start the scenarios you choose at set times.

You can set the active time for the cooling-heating processes in your home with air conditioning solutions.

You can check the vrv, split air conditioning, floor heating, radiator, combi., etc. in your home and see the status information.

With the alarm system and security detectors that are integrated in your touch Sense panel you can maintain your flat's security.

You can adjust your lighting by controlling all of the lighting products in your home with a single touch Sense panel.

You can see a graphic report of your power expenditures.

You can integrate the multimedia products in your home with the system and control them over the panel.

NETWORK	Technology	No cellular connectivity
LAUNCH	Announced	2014, June
	Status	Available Released 2014, June
BODY	Dimensions	257.5 x 178.4 x 9.9 mm (10.14 x 7.02 x 0.39 in)
	Weight	550 g (1.21 lb)
	SIM	No - Optional mobile dock with standard QWERTY keyboard and trackpad
DISPLAY	Type	IPS LCD capacitive touchscreen, 16M colors
	Size	10.1 inches (~64.4% screen-to-body ratio)
	Resolution	800 x 1280 pixels (~149 ppi pixel density)
	Multitouch	Yes, up to 10 fingers
PLATFORM	OS	Android OS, v4.4.2 (KitKat)
	Chipset	Intel Atom Z3745
	CPU	Quad-core 1.86 GHz
	GPU	Intel Gen 7 (Ivy Bridge)
MEMORY	Card slot	microSD, up to 64 GB
	Internal	8/16 GB, 1 GB RAM
CAMERA	Primary	2 MP, 1600 x 1200 pixels
	Features	Geo-tagging
	Video	Yes
	Secondary	VGA

SOUND	Alert tvpes	Vibration: MP3, WAV ringtones
	Loudspeaker	Yes, with stereo speakers
	3.5mm jack	Yes
COMMS	WLAN	Wi-Fi 802,11 a/b/g/n, dual-band
	Bluetooth	v4.0
	GPS	Yes, with GLONASS
	Radio	No
	USB	microUSB v2.0, USB Host
FEATURES	Sensors	Accelerometer, compass
	Messaging	Email, Push Mail, IM
	Browser	HTML
	Java	"No • MP3/WAV/WMA/AAC player • MP4/H.264 player • Document viewer • Photo viewer/editor • Voice memo"
BATTERY		Non-removable Li-Po battery (19 Wh)
	Stand-by	
	Talk time	Up to 9h 30min (multimedia)
MISC	Colors	Black, White

MAKEL

SMARTHOME

INTELLIGENT BUILDING AUTOMATION SYSTEMS

REFERENCES

KARTAL REGIONAL COURTS OF JUSTICE - ISTANBUL

BEYOGLU MUNICIPALITY - ISTANBUL

SARIYER PUBLIC HOSPITAL - ISTANBUL

TEKIRDAG PALACE OF JUSTICE - TEKIRDAG

KÖY ZEKERIYAKOY - ISTANBUL

CANAKKALE JUSTICE PALACE - CANAKKALE

ELYSIUM SOUL BEYOĞLU - ISTANBUL

OFTON BOMONTI ELYSIUM ART - ISTANBUL

PRIME ISTANBUL RESIDENCE - MERCURE OTEL - ISTANBUL

PULLMAN HOTEL CONGRESS CENTER - ISTANBUL

PRESSIDENCY OF REPUBLIC OF TURKEY HUBER MANSION - ISTANBUL

TÜYAP PALACE 2.nd STAGE - ISTANBUL

MADAM KATRIN MANSIONS CESME DALYAN - IZMIR

AKSARAY PUBLIC HOSPITAL - AKSARAY

EGE HOUSES - MUGLA

FLOWER HOUSES MAVI YAKA - IZMIR

OZPINARLAR OFFICE BUILDING - ANTALYA

EMTAN PRESTIGE - KIBRIS

PERA GUMUSLUK HOUSES - BODRUM

MIDTOWN AVM - MUGLA

CEZERI YESIL TECHNOLOGY VOCATIONAL AND TECHNICAL ANATOLIAN HIGH SCHOOL - ANKARA

SEDEF SHIPYARD TUZLA - ISTANBUL

LATA SUNSET - DENIZLI

BOLU COURTHOUSE - BOLU

DEMIRCIOGLUPARK HOTEL - MUGLA

ERDEMLI PALACE OF JUSTICE - MERSIN

GUNCUOGLU CONSTRUCTION - DENIZLI

HAS CONSTRUCTION - MUGLA

MERCEDES MENGERLER ETILER - ISTANBUL

NIGDE COURT HOUSE - NIGDE

ORANIO HOMES - MUGLA

UINTERNATIONAL STRATEGICAL RESEARCHES INSTITUTION - ISTANBUL

OPTIMAR CADDE - MUGLA

BASARAN CONSTRUCTION - ISTANBUL

UNALLAR CONSTRUCTIONT - ANTALYA

KELES CONSTRUCTION - DEFNE APARTMENT BUILDING - ISTANBUL

FERSAH CONSTRUCTION - HORIZONTAL TOWER PROJECT - IZMIR

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