megaIP

Hotel Management System

MEGA-IP is an innovative and extremely versatile system with high processing power, which introduces new standards to hotel management and domotics in general. Born from two decades of experience in the “building automation” sector, it uses the most up-to-date technologies currently available on the market. Control units connected to the Ethernet and TCP/IP protocol make the system simple to install and allows existing infrastructures to be used, thus preventing the need for new BUS connections.
Modularity and configurability, along with new monitoring and control devices, hugely broadening the fields of application for the MEGA-IP compared to previous systems: hotels, residences, villas, offices are just some of the places where it can be used. Specific modules for the management of air conditioning, lighting, electric shutters, etc., so that installations can be adapted to specific needs, ensuring maximum energy saving and guests comfort. The use of glass touch panels introduces a touch of design and originality to the system, giving it greater functionality and reducing mechanical wear and possibilities of breakdown.

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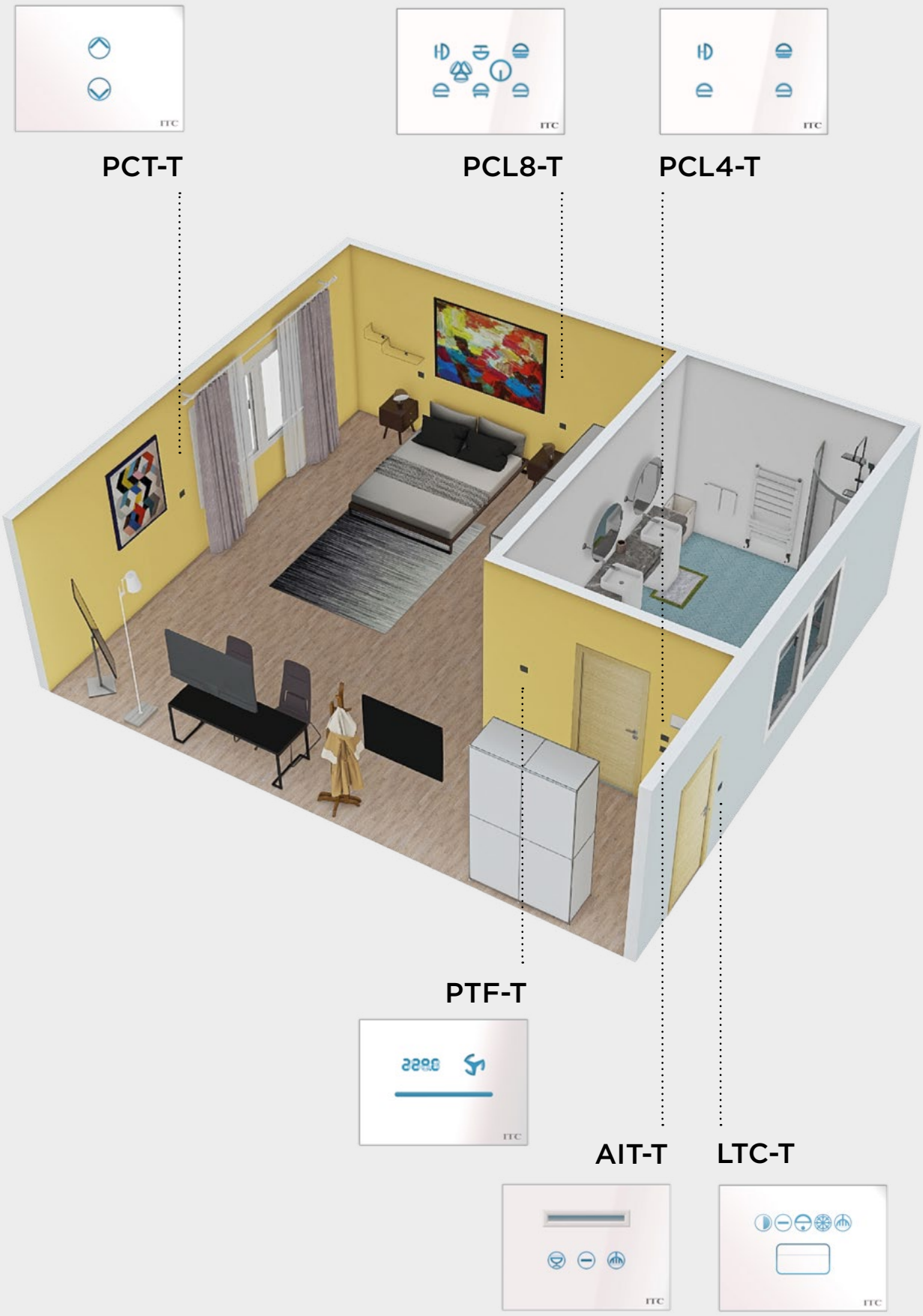
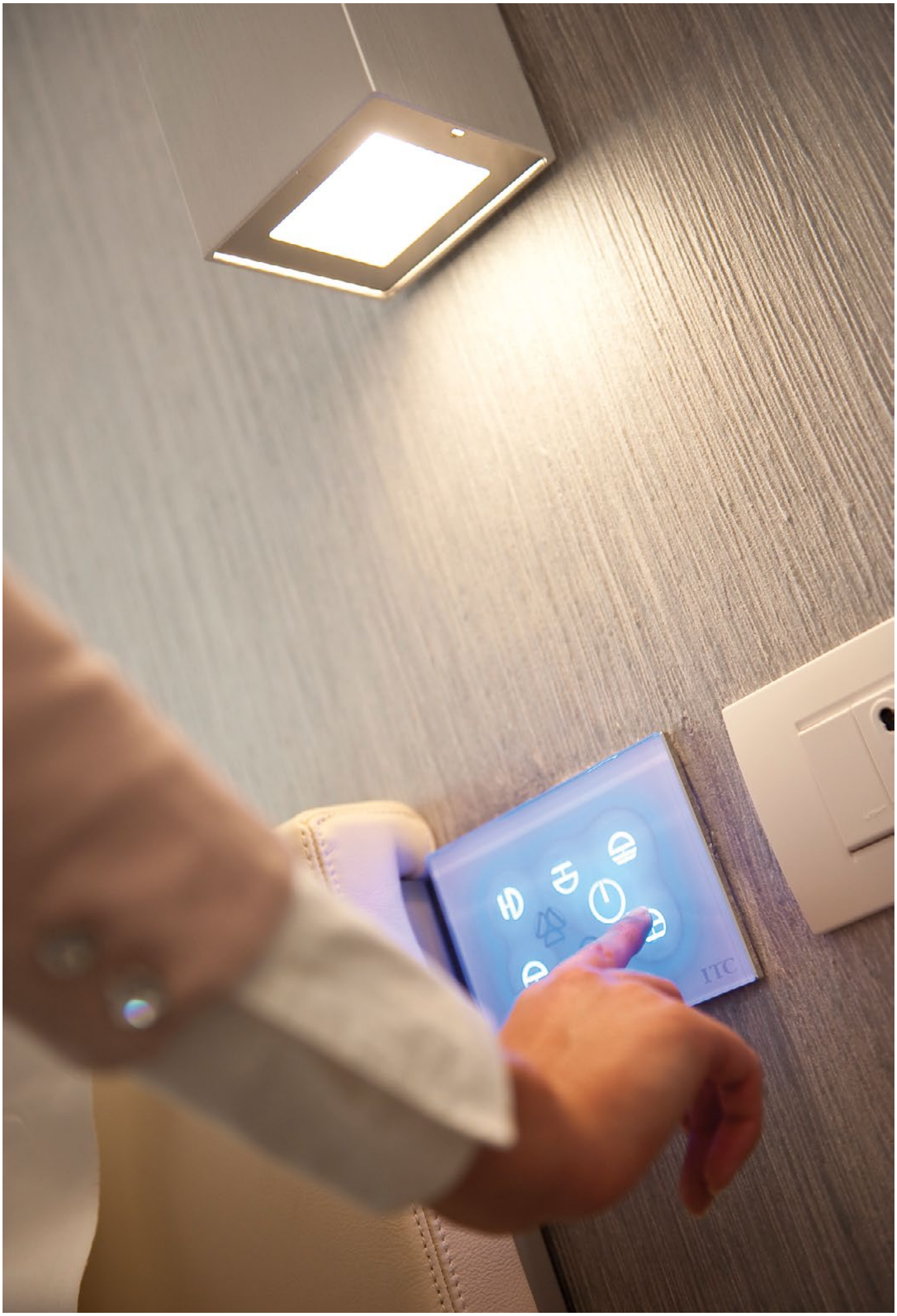

PCT-T
PCL8-T
PCL4-T
PTF-T
AIT-T
LTC-T


ITC

System **structure** and main **functions**

MEGA-IP is an on-line system which uses small peripheral units with their own intelligence and the possibility to save data, for installation in the room's electrical panel. The units are connected to a monitoring PC via Ethernet or traditional half-duplex RS485 bus. Various types of control panels and peripherals can be connected to them via local RS485 bus, enabling management of the following functions:

- Access to rooms and shared spaces using a 13.56MHz Mifare card.
- Activation of electricity and management of each single light source in a room, with possibility to regulate intensity and select specific lighting scenarios.
- Air conditioning in guest rooms, bathroom and shared spaces based on daily thermal profiles linked to bookings and occupancy, with the aim of achieving maximum energy savings without reducing guests' comfort.
- Control of electric shutters.
- Detection of bathroom alarms, overflow or break-ins.
- Monitoring of room status (free, occupied, to be cleaned).
- Facilities (housekeeping request, mini-bar status, room service, do not disturb, etc.).
- Supervision of technological installations (alarm detection and anomalies signalling, remote activation of lights and electrical equipment, monitoring of thermal plant, etc.).

The self-diagnostic function can detect and signal any malfunction in a peripheral unit, module or control panel, further increasing the system's level of safety and reliability. The archive stores all data relating to accesses, alarms and anomalies. Specific searches, printing and exporting of results, making it a fundamental tool for managing the unit on which the system is installed. Additional client monitoring computers may be networked with the main computer making the system suitable for installation in hotels of all sizes.

The interface to the most common air conditioning and front-office systems (PMS) meets the needs of modern reception facilities, ensuring efficiency and speed, making the system open and extremely powerful. Further and new types of interface can be implemented on request.
MEGA-IP is, without any doubt, a blend of design and technology which aims to increase guest safety and comfort, while ensuring high energy savings. Ease of use, efficiency and reliability make it an invaluable companion in the management of hotels and reception facilities where it is installed.

ROOM CONTROL UNIT

UGC-IP

cod. 6700-101010

The room control unit is housed in a 5-module box for DIN rail. It has the following inputs:

- balanced input (with line integrity control) connecting the bathroom pull cord and overflow sensor (with volt-free contact);
- analog input configurable for connection to one of the following devices: volumetric anti-break-in sensor, simple overflow sensor, alarm contact, Do Not Disturb button, Courtesy Light button, Housekeeping button, Room Service button, Open Door from Bedhead button, Reset Facilities button (alarm, cleaning, mini-bar and room service), timed button, switch, guest/staff presence contact;
- 3 digital inputs configurable for connection to the following devices: room window switch, bathroom window switch, door switch, mini-bar switch, volumetric anti-break-in sensor, simple overflow sensor, alarm contact, Do Not Disturb button, Courtesy Light button, Housekeeping button, Room Service button, Open Door from Bedhead button, Reset Facilities button (alarm, cleaning, mini-bar and room service), button, timed button, switch, guest/staff presence contact. Features the following relay outputs with volt-free contacts for 230Vac 4(2)A loads:
- courtesy light;
- room electricity contactor;
- configurable AUX output managing one of the following functions: bell, water valve, balcony light, electric shutters (opening or closing), ON/OFF thermostat, activation via button, activation via timed button, activation via switch.

There are also two 12Vdc outputs for indicator lights: “Do Not Disturb”, “Housekeeping” or “Room Service” and one 12Vdc, max 1.2A output for the door lock.
An RJ45 plug connects the unit to the Ethernet to exchange data with the monitoring computer via TCP/IP protocol. Alternatively, it is possible to connect to the traditional RS 485 bus via 2-pin connector. There is also a dual RJ12 connector to connect to expansion units and control panels.
Addressing via 12-way dip-switch, reprogrammable microcontroller via bus or network, non-volatile memory for archiving events even when there is no connection to the monitoring computer.
12Vdc, 3.5A power supply.
Dimensions 88x100x62 mm.
Weight 0.3 Kg.

TECHNOLOGICAL CONTROL UNIT

UGT-IP

cod. 6700-107010

The technological control unit is housed in a 5-module box for DIN rail.
It has three analogue and one digital configurable inputs which can be connected to the following devices:

- temperature sensors for common areas (analogue inputs only);
- alarm or anomaly contacts;
- switches;
- buttons;
- bathroom emergency pull cords;
- overflow sensors;
- energy meters.

It also has four relay outputs with voltage-free contacts for 230Vac, 4(2)A loads for managing devices connected to the relative inputs (thermostats, alarm repetition, etc.), for monitoring access (opening contact) and ON/OFF or timed activation via computer. An RJ45 connector connects the unit to the Ethernet to exchange data with the monitoring computer via TCP/IP protocol.
Alternatively, it is possible to connect to the traditional RS 485 bus via 2–pin connector. Dual RJ12 connector for connecting expansion units and control panels.
Addressing via 12-way dip-switch, reprogrammable microcontroller via bus or network, non-volatile memory for archiving events (alarms, access, etc.) even when there is no connection to the monitoring computer.
12Vdc, 3.5A power supply.
Dimensions 88x100x62 mm.
Weight 0.3 Kg.

FANCOIL CONTROL UNIT

UGF-IP

cod. 6700-103010

The fan-coil control unit is housed in a 4-module box for DIN rail. Features the following inputs:

- configurable input for bathroom or room window switch, button, timed button, switch;
- input for bathroom or room temperature sensor
- features the following relay outputs with voltage-free contacts for 230Vac, 4(2)A loads:
- Low-speed fan-coil relay;
- Medium-speed fan-coil relay. Alternatively, ON/OFF or timed activation via computer, shutter opening or shutter closing;
- High-speed fan-coil relay. Alternatively, ON/OFF or timed activation via computer, shutter opening or shutter closing;
- hot/cold water solenoid valve relay for 2-tube fan-coil or hot water solenoid valve for 4-tube fan-coil. Alternatively, ON/OFF or timed activation via computer, shutter opening or shutter closing;
- heated towel rail or cold water solenoid valve relay for 4-tube fan coil.

Alternatively, slaved activation, timed slaved activation, shutter opening, shutter closing, activation via button, timed button or switch.
Also features a 0-10Vdc output for controlling radiator modulating valve or fancoil.
Connection to UGC-IP or UGT-IP control unit and other units or panels via RJ12 connectors. 12Vdc power supply directly from UGC-IP or UGT-IP units via RJ12 connector or specific 12Vdc, 3.5A power supply unit.
Dimensions 70x100x62 mm.
Weight 0.2 Kg.

PROXIMITY CARD READER

LTC-T

B cod. 6700-113001
N cod. 6700-113002

13.56MHz Mifare proximity card reader, with capacitive glass touch panel. Enables differentiated access to room for guests, staff, managers, maintenance operators, etc. Features “bell” button and icons signally “guest in room”, “do not disturb”, “check mini-bar” and “room to be cleaned”. Also signals “valid card”, “invalid card” and “alarm in progress”. Housed in 3 modules flush mounting box. Connection to UGC-IP unit and other units or panels via RJ12 connector for transmission of data and for 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

PROXIMITY CARD READER FOR COMMON AREAS

LTZ-T

B cod. 6700-117001
N cod. 6700-117002

13.56MHz Mifare proximity card reader, with capacitive glass touch panel. Allows differentiated access to shared spaces for guests, staff, managers, maintenance operators, etc. Features “bell” button and relay output with volt-free contact for electronic ringtone or opening contact (max. 24V, 4(2) A). Housed in 3 modules flush mounting box. Connection to UGT-IP unit and other units or panels via RJ12 connector for transmission of data and for 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

SMART ROOM ACTIVATOR

AIT-T

B cod. 6700-125001
N cod. 6700-125002

Detects the presence in the room of guest or staff via proximity card in slot and activates the room's facilities only if the card has been enabled. Capacitive glass touch panel with illuminated slot for card. Features buttons for "room service", "do not disturb" and "housekeeping". Housed in 3 modules flush mounting box. Connection to UGC-IP unit and further units or panels via RJ12 connector for transmission of data and for 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

TEMPERATURE CONTROL PANEL

PTF-T

B cod. 6700-133001
N cod. 6700-133002

Capacitive glass touch panel for managing air conditioning, with integrated temperature sensor. Allows the guest to change temperature, speed, automatic or manual functioning mode and to shut down the air conditioning system. The display shows the set temperature, the actual temperature, speed, functioning mode, windows status and alarm messages (help request, overflow, breaking). The panel allows staff to reset alarms locally and set "room cleaned" and "mini-bar replenished" messages. Housed in 3 modules flush mounting box. Connected to UGC-IP, UGT-IP and UGF units via RJ12 connector for transmission of data and for 12Vdc power supply. Alternatively, may be supplied directly via specific 12Vdc, 3.5A power supply unit.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

ELECTRIC SHUTTERS CONTROL PANELS

PCT-T

B cod. 6700-162001
N cod. 6700-162002

Capacitive glass touch panel to control electric shutters. Features two backlit touch buttons for opening and closing electric shutters. Housed in 3 modules flush mounting box. Connection to UGC-IP and UGT-IP unit or other units or panels via RJ12 connector for transmission of data and for 12Vdc power supply.
Dimensions 127x95x9mm. (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

LIGHTS CONTROL UNIT

UGL-IP

cod. 6700-105010

The lights control unit is housed in a 4-module box for DIN rail and allows ON/OFF and regulation of intensity and colour of 9 different light points. Features 6x0-10Vdc outputs for controlling electronic dimmers and two relays for 230Vac, max 4(2)A loads. It is also provided with DALI and DMX outputs to control white and coloured lights. Activation of light sources may be via capacitive glass touch panel or traditional buttons connected to the four inputs available on the unit. Connection to UGC-IP or UGT-IP control unit and further expansion units and panels via RJ12 connectors. 12Vdc power supply directly from UGC-IP or UGT-IP units via RJ12 connector or specific 12Vdc, 3.5A power supply unit.
Dimensions 70x100x62 mm.
Weight 0.2 Kg.

8-COMMANDS LIGHTS CONTROL PANEL

PCL8-T

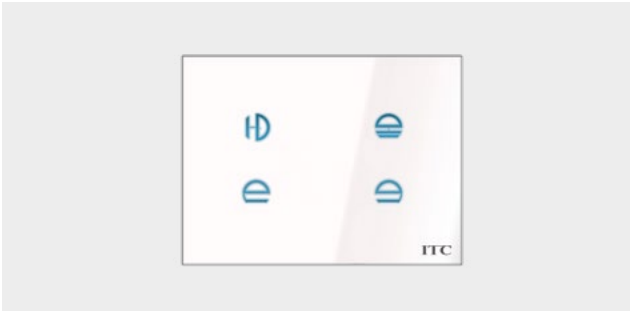
B cod. 6700-158001
N cod. 6700-158002

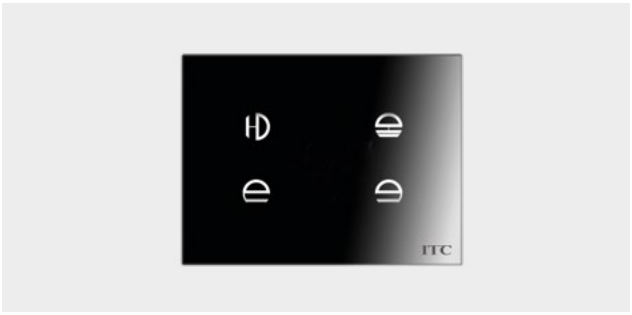
Capacitive glass touch panel to control lights. Features 8 buttons for ON/OFF and regulating intensity of 8 light sources, one button to select lighting scenarios and a general OFF button for lighting. Housed in 3 modules flush mounting box. Connection to UGL, UGC-IP, UGT-IP unit and further units or panels via RJ12 connector for transmission of data and for 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

4-COMMANDS LIGHTS CONTROL PANEL

PCL4-T

B cod. 6700-153001
N cod. 6700-153002





Capacitive glass touch panel for ON/OFF and regulating intensity of 4 light sources. Housed in 3 modules flush mounting box. Connection to UGL, UGC-IP, UGT-IP unit or other units and panels via RJ12 connector for transmission of data and 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

ROOM NUMBER PANEL

PNC-T

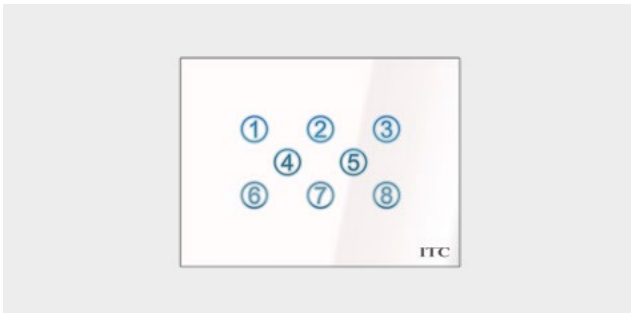
B cod. 6700-170001
N cod. 6700-170002

Capacitive glass backlit touch panel to indicate the number of the room. Same line and appearance of the other glass panels. Housed in 3 modules flush mounting box. Connection from any other panel via RJ12 connector for transmission of data and 12Vdc power supply. Possibility to choose among 3 different light levels, through internal jumper.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

ACCESS NUMERICAL KEYBOARD

TNA-T

B cod. 6700-118001
N cod. 6700-118002



Capacitive glass touch panel for room or common areas access. It has 8 backlit touch-buttons, from number 1 to number 8. It allows to enter through a numerical code. It can be installed in place of the proximity card reader or in addition to this. Housed in 3 modules flush mounting box. Connection to UGL, UGC-IP, UGT-IP unit or other units and panels via RJ12 connector for transmission of data and 12Vdc power supply.
Dimensions 127x95x9mm (+44mm internal).
Weight 0.2 Kg.
Colour: black, white

2IN-2OUT EXPANSION UNIT

UE2-IP

cod. 6700-109020

The 2IN-2OUT expansion unit is housed in a 3-module box for DIN rail. It has two configurable analog inputs which, when combined with the UGC-IP room control unit, can be connected to the following devices:

- bathroom temperature sensor;
- room temperature sensor;
- bathroom window switch;
- room window switch;
- open shutters button
- close shutters button.

If used with the UGT-IP technological control unit, may be connected to:

- temperature sensors for common areas;
- alarm or anomaly contacts;
- switches;
- buttons;
- bathroom emergency pull cords;
- overflow sensors;
- energy meters.

It also has four relay outputs with voltage-free contacts for 230Vac, 4(2)A loads for managing devices connected to the relative inputs (thermostats, shutters, etc.). and ON/OFF or timed activation via computer. Connection to UGC-IP or UGT-IP control unit and other expansion and monitoring units via RJ12 connectors also with necessary 12Vdc power supply. Dimensions 52x100x62 mm.
Weight 0.1 Kg.

4IN-4OUT EXPANSION UNIT

UE4-IP

cod. 6700-109040

The 4IN-4OUT expansion unit is housed in a 4-module box for DIN rail. It has four configurable analog inputs which can be connected to the following devices:

- temperature sensors for common areas;
- alarm or anomaly contacts;
- switches;
- buttons;
- bathroom emergency pull cords;
- overflow sensors;
- energy meters.

It also has four relay outputs with voltage-free contacts for 230Vac, 4(2)A loads for managing devices connected to the relative inputs (thermostats, etc.) and ON/OFF or timed activation via computer. Connection to the UGT-IP control unit and other expansion and monitoring units via RJ12 connectors also with necessary 12Vdc power supply. Alternatively, may be supplied directly by specific 12Vdc, 3.5A power supply unit.
Dimensions 70x100x62 mm.
Weight 0.3 Kg.

MONITORING AND CONTROL SOFTWARE

SWB-IP

cod. 6700-300010

MEGA-Ip system basic functions management software.

Power and ease of use are the main characteristics of this software with a clean and intuitive graphic interface which, with a few clicks, allows you to reach every section dedicated to monitoring the system's fundamental features: bookings, access control, temperature control, room status, staff management, technological functions, etc. Particular attention has been paid to the security section (such as the signalling of alarms and anomalies, self-diagnostics, consultation and printing of historical archive, etc.), with automatic backup option for all parameters and system recovery in the event of computer damage. Designed for small and large installations, it can handle additional monitoring workstations and interface modules with front-office systems, air conditioning systems, fire detection systems, etc.

MEGA-IP ROOM MANAGEMENT SOFTWARE

SWG-IP

SWG-IP25 cod. 6700-181025
Room management software from 1 to 25 rooms

SWG-IP50 cod. 6700-181050
Room management software from 26 to 50 rooms

SWG-IP75 cod. 6700-181075
Room management software from 51 to 75 rooms

SWG-IP100 cod. 6700-181100
Room management software from 76 to 100 rooms

SWG-IP150 cod. 6700-181150
Room management software from 101 to 150 rooms

SWG-IP200 cod. 6700-181200
Room management software from 151 to 200 rooms

SWG-IP250 cod. 6700-181250
Room management software from 201 to 250 rooms

SWG-IP500 cod. 6700-181500
Room management software from 251 to 500 rooms

SWG-IP1000 cod. 6700-181999
Room management software from 501 to 1000 rooms

TECHNOLOGICAL CONTROL UNIT SOFTWARE

SWGT-IP

SWGT-IP5 cod. 6700-183005
Technological control unit management software from 1 to 5 UGT-IP units.

SWGT-IP10 cod. 6700-183010
Technological control unit management software from 6 to 10 UGT-IP units.

SWGT-IP15 cod. 6700-183015
Technological control unit management software from 11 to 15 UGT-IP units.

SWGT-IP20 cod. 6700-183020
Technological control unit management software from 16 to 20 UGT-IP units.

SWGT-IP25 cod. 6700-183025
Technological control unit management software from 21 to 25 UGT-IP units.

SWGT-IP35 cod. 6700-183035
Technological control unit management software from 26 to 35 UGT-IP units

SWGT-IP50 cod. 6700-183050
Technological control unit management software from 36 to 50 UGT-IP units.

SWGT-IP75 cod. 6700-183075
Technological control unit management software from 51 to 75 UGT-IP units.

SWGT-IP100 cod. 6700-183100
Technological control unit management software from 76 to 100 UGT-IP units.

EXPANSION UNITS SOFTWARE

SWGE-IP

SWGE-IP25 cod. 6700-190025
Expansion unit management software from 1 to 25 units.

SWGE-IP50 cod. 6700-190050
Expansion unit management software from 26 to 50 units.

SWGE-IP75 cod. 6700-190075
Expansion unit management software from 51 to 75 units.

SWGE-IP100 cod. 6700-190100
Expansion unit management software from 76 to 100 units.

SWGE-IP150 cod. 6700-190150
Expansion unit management software from 101 to 150 units.

SWGE-IP200 cod. 6700-190200
Expansion unit management software from 151 to 200 units.

SWGE-IP250 cod. 6700-190250
Expansion unit management software from 201 to 250 units.

SWGE-IP500 cod. 6700-190500
Expansion unit management software from 251 to 500 units.

SWGE-IP750 cod. 6700-190750
Expansion unit management software from 501 to 750 units.

SWGE-IP1000 cod. 6700-191000
Expansion unit management software from 751 to 1000 units.

SWGE-IP1500 cod. 6700-191500
Expansion unit management software from 1001 to 1500 units.

SWGE-IP2000 cod. 6700-192000
Expansion unit management software from 1501 to 2000 units.

SWGE-IP3000 cod. 6700-193000
Expansion unit management software from 2001 to 3000 units.

SOFTWARE

SWPA-IP

cod. 6700-311310

Monitoring and control software for additional workstation, which allows system management and control also from client PC, connected to the main computer through Ethernet.

SWA-IP

cod. 6700-310010

Software upgrade for new implementations or needs.


ITC

IMPORTANT NOTICE

UGC-IP and UGT-IP control units are mounted in DIN bar and they take 5 modules. They must be powered at 12Vac with a switching power supply, to size based on the number of panels and extension units connected. An independent power supply must be used for each control unit, located near them, and connected to a dedicated electrical line with on-line double-conversion UPS.

Always disconnect power supply before making electrical connections.

In order to get a correct temperature measurment, temperature panel PTF-T must be installed at about 1.5 m from the floor, in a place protected from sunlight and away from air draughts or heat sources (such as doors, windows, perimeter walls, etc.).

Similarly, temperature sensors STI must be installed in dedicated boxes, at about 1.5 m from the floor, in a place protected from sunlight and away from air draughts or heat sources (such as doors, windows, perimeter walls, etc.). Do not install them above the thermostat panel, since it generates heat.

Connection cables of the input devices (such as temperature sensors, magnetic contacts, buttons, etc.) must not exceed 20 m in length.

Fan-coil and towel warmer valves can only be of ON/OFF type (electrothermal or motorised open/close valves). It is recommended to use valve controls at 220Vac voltage. The electrothermal model must be of NC type, i.e. with control mounted on the valve and not powered, the water flow must be blocked.

The room teleruptor must be at 220VAc. An additional transformer must be installed for components with different voltage.

We recommend to crimp RJ12 connectors with a good quality metal claw and to verify through the specific cable tester. The total cable length must not exceed 25m, summing up the lengths of the single parts connecting the control unit and the various panels and expansion units to the same RJ12 socket. In case of strong inductive loads or led lights, use auxiliary relays to control them. Do not connect these loads directly to ITC units relays.

In the other cases, we recommend installing a 1.6A delayed fuse between relay output contact and load to protect the board in case of actuator failure.

Auxiliary relays must be used to close electrical shutters, possibly in combination with suitably dimensioned protection fuses. The shutter motor must not be connected directly to the relay of the control units or expansion units.

We recommend keeping signal lines (data bus, inputs, etc.) separate from power lines.

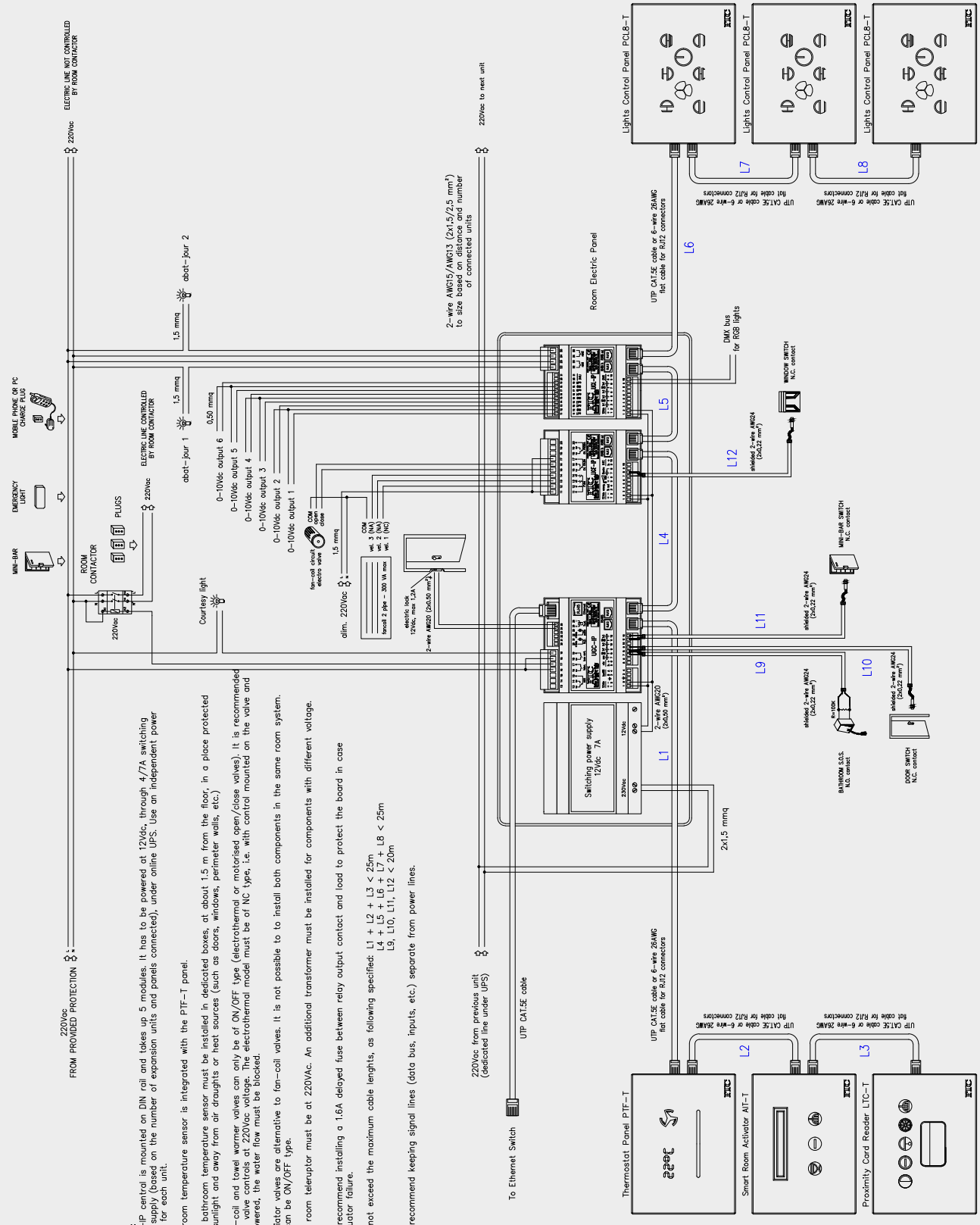
The minimum requirements of the PC used to control the installation are as follows:

- Intel Core i5 CPU
- 250/500GB hard disk
- 4 GB Ram
- TFT colour monitor with minimum resolution 1366x768 points (recommended 1600x1900 points)
- 2 USB ports, dedicated to MEGA-IP system
- 1 or 2 Fast Ethernet 10/100 Mbps network board, based on the activated functions
- Mouse and keyboard
- Audio board and speakers
- Operating system: Windows 7 professional or Windows 10 Pro.

If the PTF-T panel is not installed, alarms and services local reset will not be possible and they will have to be reset from the PC. If units and servers will be connected by Ethernet, it is necessary to arrange a separated network or a dedicated VLAN to the domotics. If there is a VLAN on many switches, it is necessary to arrange a dedicated VLAN Ethernet cable for the connection among them. The switches have to be of the typology: managed. If present, PoE mode on units ports will have to be disabled. Recommended switches: ZyXEL GS series, HP 1820 series.

For the correct functioning of the system, the computer needs to be always turned on and it needs to be dedicated only to MEGA-IP system management.

MEGA-IP
WIRING DIAGRAM



NOTES:
–UGC-IP central is mounted on DIN rail and takes up 5 modules. It has to be powered at 12Vdc, through 4/7A switching power supply (based on the number of expansion units and panels connected), under online UPS. Use an independent power supply for each unit.

–The room temperature sensor is integrated with the PTF-T panel.

– The bathroom temperature sensor must be installed in dedicated boxes, at about 1.5 m from the floor, in a place protected from sunlight and away from air draughts or heat sources (such as doors, windows, perimeter walls, etc.)

– Fan-coil and towel warmer valves can only be of ON/OFF type (electrothermal or motorised open/close valves). It is recommended to use valve controls at 220Vac voltage. The electrothermal model must be of NC type, i.e. with control mounted on the valve and not powered, the water flow must be blocked.

– Radiator valves are alternative to fan-coil valves. It is not possible to to install both components in the same room system. They can be ON/OFF type.

– The room teleruptor must be at 220VAc. An additional transformer must be installed for components with different voltage.

– We recommend installing a 1.6A delayed fuse between relay output contact and load to protect the board in case of actuator failure.

– Do not exceed the maximum cable lenghts, as following specified: L1 + L2 + L3 < 25m
L4 + L5 + L6 + L7 + L8 < 25m
L9, L10, L11, L12 < 20m

– We recommend keeping signal lines (data bus, inputs, etc.) separate from power lines.