e-controls®
electronic intelligent controls, s.l.

INTERNATIONAL EDITION

PRODUCTS AND SOLUTIONS

Hotel and office building automation solutions to save energy in the facilities

Nr. 8

Table of Contents

e-controls®
electronic intelligent controls, s.l.

Dear customer,

New challenges in the information technology world make them every day more evident in all sectors around it. It is not unnoticed that in the hotel and building automation market, the need to innovate and adapt the installations to the market demands is a reality, connecting each day more and more elements in the buildings to internet, to get a complete connected installation.

E-Controls has also been able to adapt the company to these changes and has continued investing in new product developments, creating new patents and innovative solutions that will help grow the company, adding new products to the catalog, helping companies to reduce the energy costs of the climate and lighting facilities, among other subsystems, in the building.

In this new catalog edition that you have in your hands, you will find the new motion and light sensors **e-Multisensor Bus DALI** for installations with the new V2 EN62386 standard protocol, more known as DALI 2, already installed in several buildings around the world. But also the new wide detection range multisensor **e-Multisensor DALI Mains Wide**, which is powered directly from mains to avoid consuming current from the DALI communication bus, optimizing the installation. To complete the product range in this well accepted protocol, the **Multilux DALI** model for high bay industrial applications, all together with the LDALI gateways, provide a wide range of solutions for the lighting control market.

It is also important to remark a novelty in the climate control section of this catalog, the new fan-coil controllers with 0-10V output family product, that allow to comply with the new regulations of the European energy management commission. In this area we present the new **e-Room ECO LonWorks** fan-coil controller, a flush mounted device including all the inputs and outputs required to manage a climate control area, to get an optimal energy saving through a proportional and integral control of the fan-coil speed and valve actuators. We also present the new room controller **e-Room Plus ECO Modbus**, which is also including a 0-10V output for fan-coil speed, and proportional outputs for thermal valve actuators, with a communication bus like Modbus that allows to install the device almost in any installation and with any standard tool.

Wishing that our novelties could be of your interest, do not hesitate to contact us to ask for any additional information that might be of your interest and we look forward to meet you to develop any project that you may be envisaging.

Yours faithfully,

Román Francesch
Director General

Open Protocol Solutions:

LONMARK® BACnet KNX DALI Modbus M-Bus enocean EPC FOUNDATION MEMBER

Most Relevant Projects

Hotel Royalton Negril

Room automation

Location: Negril, Jamaica

Climate and lighting control in 573 rooms

Room occupancy with motion sensors
BMS for room monitoring

Products: e-Display,
e-Room Controller 4I/5O Modbus,
e-Detector Noiseless
BMS: LINX-202 for scada room monitoring

Hotel

Sunscape Dominican Beach Punta Cana Resort

Climate control

Location: Punta Cana, Dominican Republic

Fan-Coil control with BMS remote management

890 units e-Display
890 units e-Room Controller Modbus 3I/5O

Hotel

Royalton Santa Lucía

Climate control

Location: Cap Estate, Santa Lucía

Climate and lighting control in 550 rooms

Room occupancy with motion sensors
Products: e-Display, e-Room Controller 4I/5O Modbus, e-Detector Noiseless

Hotel

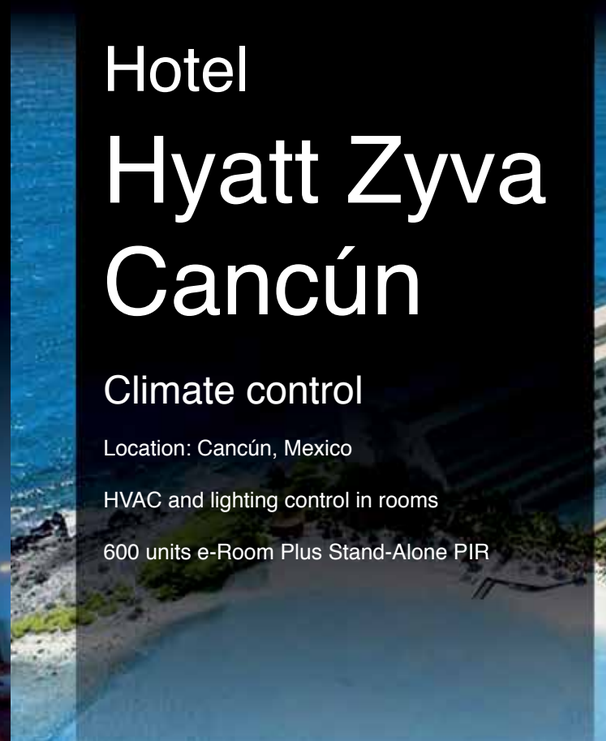
Seen Abidjan

Room automation

Location: Abidjan, Ivory Coast

Climate and lighting control in 149 rooms

Products: e-Room Plus Stand-Alone PRO



Hotel

Hyatt Zyva Cancún

Climate control

Location: Cancún, Mexico

HVAC and lighting control in rooms

600 units e-Room Plus Stand-Alone PIR

Hotel

Barceló Royal Headaway El Embajador

Room automation

Location: Santo Domingo, Dominican Republic

Climate and lighting control in rooms

130 units e-Display
130 units e-Room Controller 3I/5O Stand-Alone

Hotel

Noom Conakry

Climate control

Location: Conakry, Africa

Fan-Coil control in rooms

191 units e-Thermo 2 Pipes

Parlament de Catalunya

Climate control

Location: Barcelona, Spain

Fan-Coil control with BMS remote management

135 uds e-Room Modbus 4I/5O

Aparthotel

Midtown Barcelona

Building automation

Location: Barcelona, Spain

Global building automation control: Lighting, Climate control, Water valves, Energy monitoring, Security system integration, BMS remote control

LINX-151, LINX-102, LIOB-151, LDALI, e-Multisensor

Aparthotel Porto Montenegro

VRV Climate control

Location: Tivat, Montenegro

Climate control with VRV system
in 164 apartments

Products: e-Room Panasonic Modbus
BMS: LINX-202 for integration with 3rd party BMS

Aeródromo de Rozas

Lighting control

Location: Lugo, Spain

Lighting control with DALI system

LDALI gatways, DALI Motion sensors, DALI Buttons

Diputació de Barcelona

Lighting control

Location: Barcelona, Spain

Lighting control with DALI system

19 units LDALI Gateways
10 units LINX-102 / LINX-112
485 units e-Multisensor Bus DALI
2500 LED luminaries

Infant Jesús School

Lighting control

Location: Barcelona, Spain

Lighting multisensors in classrooms and corridors
Climate control and CO2 air renovation
Switching on/off, dimming and scene lighting control

e-Multisensor AutoOnOff, e-Multisensor AutoDim 1-10V
LIOB-551, LIOB-582 and LWEB-900 SCADA application

Hospital Sant Joan de Déu

Monitoring

Location: Barcelona, Spain

Climate control in urgency boxes

Products: e-Display Modbus

Ford Almussafes automotive factory

Lighting control

Location: Valencia, Spain

Lighting control with DALI and LonWorks systems

15 units LDALI gateway with 2 and 4 DALI ports

36 units Multilux LonWorks high bay multisensor

Pharmaceutical Industry Cinfa

Monitoring

Location: Navarra, Spain

Production plant control with touchpanels

40 units LVIS 7” touchpanel

Office solutions

e-controls® electronic intelligent controls, s.l.

The right product for any space in your office and commercial building

One product to fit any space to obtain the maximum performance of the building in climate and lighting applications

Working areas

Room controllers with VRF interface for Indoor Units
Page 22

Meeting rooms

Climate control based on occupied zones
Pages 38 to 43

Lighting

DALI gateways and multisensors for lighting
Pages 64 to 70

Energy report

Graphical report to improve energy management

Control automation

Alarming, trending and schedule management

Remote control

SCADA applications for BMS control

Internet access, alarming, scheduling, trending and e-mail reporting for high efficient control

Our products communcates using the most important Open Standard protocols for building automation

LONMARK® BACnet KNX Modbus DALI M-Bus enocean OPC FOUNDATION MEMBER

Hotel solutions

e-controls® electronic intelligent controls, s.l.

Reliable solutions to satisfy the guest comfort and the hotelier confidence

A complete portfolio of products for hotel automation to achieve an optimal comfort, save energy, provide better maintenance and deliver a global remote monitoring to offer higher benefits of the facilities

Rooms

Room controllers for climate and lighting control
Pages 18 to 43

Corridors

Motion and light sensors for energy saving in lighting
Pages 58 to 73

Meeting rooms

Pushbuttons, dimmers and blinds automation for scene control
Pages 48 to 55

Looby

Displays and Touchpannels for monitoring and control

Kitchen

Energy monitoring and load management

Climate control

Programmable I/O devices for production plant

Clima

e-controls® electronic intelligent controls, s.l.

HVAC controllers reference guide for room automation

	Stand-Alone devices							Bus system devices								
																
Product name	e-Thermo Stand-Alone	e-Room Stand-Alone	e-Room Plus Stand-Alone e-Room Plus Stand-Alone PRO	e-Room Plus Stand-Alone PIR e-Room Plus Stand-Alone PIR PRO	e-Room Panasonic Stand-Alone	e-Room Controller Stand-Alone	e-Display e-Display Plus	e-Thermo Modbus	e-Room Classic e-Room ECO	e-Room Modbus	e-Room Plus e-Room Plus PowerLine	e-Room Plus ECO Modbus	e-Room Panasonic Modbus e-Room Panasonic LonWorks	e-Room Controller 3I/5O Modbus	e-Room Controller 4I/5O Modbus	e-Display Modbus e-Display Plus Modbus
Ordering number	ET.600401-001 ET.600501-001	RC.604505-000	RP.502501-000 RP.502502-000	RP.504501-000 RP.504502-000	RV.004401-000	RN.503501-000	RD.970000-000 RP.970000-000	ET.670501-001	RC.624501-000 RC.624421-000	RC.674501-000	RP.626601-000 RP.514501-000	RP.574422-000	RV.074401-000 RV.024401-000	RN.573501-000	RN.574501-000	RD.670001-000 RL.670001-000
Frame	Bticino	Bticino	Simon	Simon	Bticino	-	Bticino Simon	Bticino	Bticino	Bticino	Simon	Simon	Bticino	-	-	Bticino Simon
Mounting	Flush mount	Flush mount	Flush mount	Flush mount	Flush mount	DIN rail	Flush/Surface	Flush mount	Flush mount	Flush mount	Flush mount	Flush mount	Flush mount	DIN rail	DIN rail	Flush/Surface
Enclosure	504E	504E	Universal x 2	Universal x 2	504E	6TE	504E Universal x 2	504E	504E	504E	Universal x 2	Universal x 2	504E	6TE	6TE	504E Universal x 2
Supply Power	24 Vac/Vdc	24 Vac/Vdc	95-250Vac 50/60Hz	95-250Vac 50/60Hz	R1 R2	95-250Vac 50/60Hz	12 Vdc	24 Vac/Vdc	24 Vac/Vdc	24 Vac/Vdc	24 Vac/Vdc	95-250Vac 50/60Hz	R1 R2	95-250Vac 50/60Hz	95-250Vac 50/60Hz	24 Vac/Vdc
Technology	Stand-Alone	Stand-Alone	Stand-Alone Upgradeable	Stand-Alone Upgradeable	Stand-Alone	Stand-Alone	-	Modbus RTU	LonWorks	Modbus RTU	LonWorks	Modbus	Modbus RTU LonWorks	Modbus RTU	Modbus RTU	Modbus RTU
Channel	-	-	- PowerLine	- PowerLine	-	-	RS-485	RS-485	TP/FT-10	RS-485	TP/FT-10 PowerLine	RS-485	RS-485 TP/FT-10	RS-485	RS-485	RS-485
VRF Indoor Unit					x								x			
Digital Inputs	0	2	2	3	2	2	0	0	2	2	3	2	2	2	2	0
Analog Inputs	0	2	0	0	2	1	0	0	2	2	2	2	2	1	2	0
Relay Outputs	4 / 5	5	5	5	4	5	0	5	5 (Classic) / 3 (ECO)	5	6	3	4	5	5	0
Inputs features																
Keycard contact		x	x		x	x			x	x	x	x	x	x	x	
Window contact		x	x	x	x	x			x	x	x	x	x	x	x	
Motion sensor		x		x	x	x			x	x	x	x	x	x	x	
Water sensor		x				x			x	x	x	x		x	x	
Door contact		x		x	x	x			x	x	x	x	x	x	x	
Ext. Temp. sensor		x			x				x	x	x	x	x		x	
Lighting pushbutton		x			x				x	x	x	x	x	x	x	
Blinds pushbuttons					x						x		x			
Outputs features																
3 Fan-Coil speeds	x	x	x	x		x		x	x (Classic)	x	x			x	x	
Fan-Coil 0-10V									x (ECO)			x				
Cool valve actuator	x	x	x	x		x		x	x	x	x	x		x	x	
Heat valve actuator	x	x	x	x		x		x	x	x	x	x		x	x	
Zone 2 valve actuator					x								x			
Lighting output		x	x	x	x	x			x	x	x	x	x	x	x	
Blinds outputs					x						x		x			
General features																
IR receiver																
Front PIR sensor				x			Optional									Optional
Front Temp. sensor	x	x	x	x	x		x	x	x	x	x	x	x			x
Humidity sensor							Optional									Optional
CO2 sensor																Optional
Backlight color	White	Blue	Blue	Blue	White	-	Blue	White	Blue	White	Blue	White	White		-	Blue
Dimensions	142x85x42 mm	142x85x42 mm	158x89x39 mm	158x89x39 mm	142x85x42 mm	106x90x58 mm	142x85X42 mm 158x89x39 mm	142x85x42 mm	142x85x42 mm	142x85x42 mm	158x89x39 mm	158x89x39 mm	142x85x42 mm	106x90x58 mm	106x90x58 mm	142x85x42 mm 158x89x39 mm
Weight	130 g	235 g	270 g	270 g	250 g	140 g	90 g	140 g	235 g	235 g	270 g	270 g	250 g	145 g	150 g	90 g
Page	18	20	38	38	22	42	44	18	27	26	30	40	22	42	42	44

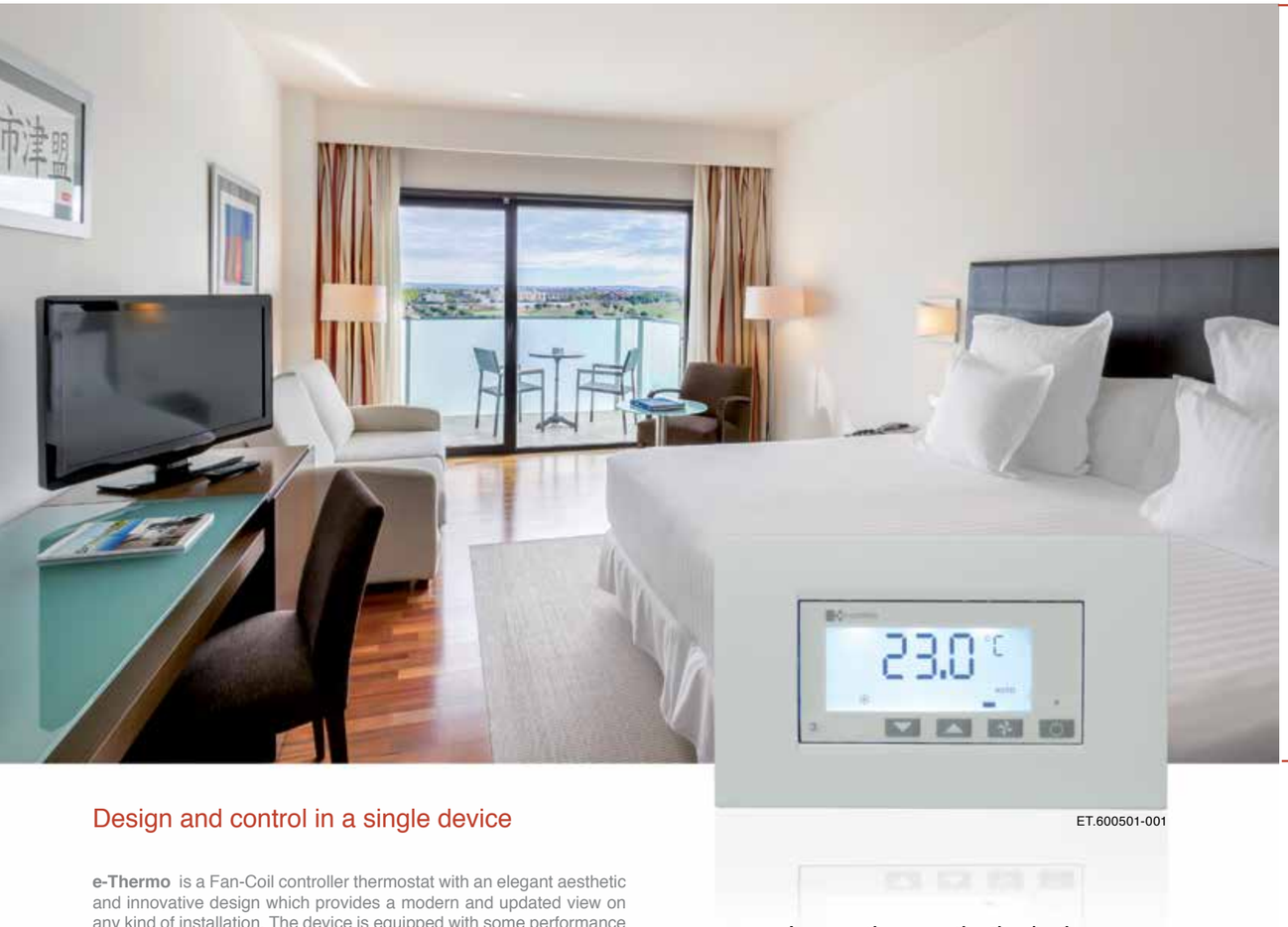
Clima e-Thermo

Climate Thermostat for Fan-Coil rooms

Optional remote control with Modbus protocol

DATASHEET

e-controls® electronic intelligent controls, s.l.



ET.600501-001

Design and control in a single device

e-Thermo is a Fan-Coil controller thermostat with an elegant aesthetic and innovative design which provides a modern and updated view on any kind of installation. The device is equipped with some performance and operating features which makes it particularly indicated for hotels, office buildings and retail installations since it includes different configuration parameters that make it flexible and adaptive to any requirement.

A white backlit LCD display allows an easy-to-read screen and different icons view. By means of four easy to understand pushbuttons, the user can control the device according to the requirements at any time.

Maximum and minimum temperature user setpoints can be configured on the device, among the maximum and minimum operating temperature setpoints to improve on the installation energy savings. It also has a parameter to set a maximum release temperature which allows to automatically activate the device and climates a zone when it raises a preconfigured value.

The device is available in two different models for two pipes or four pipes installations and in addition it is available with Modbus RTU communication to monitor and remote control the device and easy integrate it in a global control building network.

Innovative aesthetic design

Stand-alone operation

Configurable 2 pipes / 4 pipes

Max/min configurable setpoints

Modbus RTU optional

Energy Saving

- Max/min user setpoints
- Max/min real setpoints
- Three fan-coil speeds to adapt to each temperature
- Remote BMS control to switch off at programmed times

Device Configuration

- Celsius/Fahrenheit display
- 1 or 3 Fan-coil speeds selection
- Fan-coil state on no demand
- Temperature/setpoint visualization
- Max/min user setpoints
- Max/Min real setpoints
- Auto On for Temperature
- Device state after reset
- Heat/Cool mode switching
- NO/NC valves
- Brightness display level
- Modbus baud rate and parity (bus model)

Installation

- A single device per zone
- Less installation time
- Improved maintenance

Features

- Supply voltage: 24Vac/Vdc
- Stand-alone operation
- Bus BMS: Modbus RTU (RS-485) (model ET.670501-001)
- Ambient temperature sensor on front panel
- White backlight LCD display
- 4 pushbuttons
- Relay outputs (5Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Heat-Cool valve actuator / Cool valve actuator (2P/4P)
  - Heat valve actuator (4P)
- Flush mounting
- BTicino Light / LightTech frame
- Dimensions: 142x85x42mm
- Weight: 130gr.

Ordering number

ET.600401-001
e-Thermo Stand-Alone 2 Pipes
Outputs: 3 Fan-Coil Speeds, Heat/Cool valve actuator

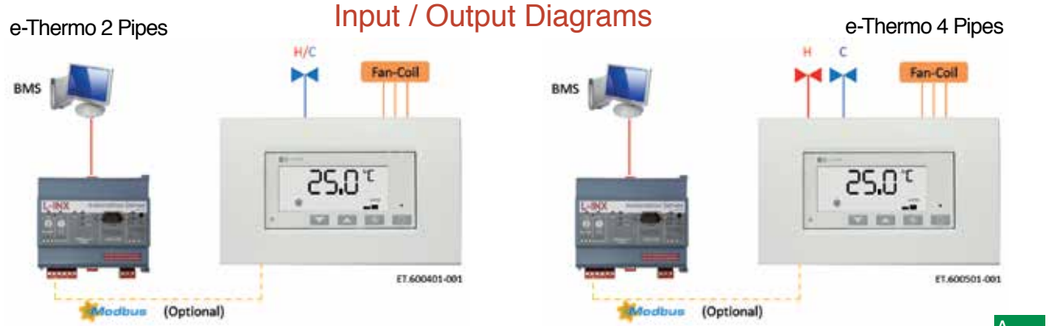
ET.600501-001
e-Thermo Stand-Alone 4 Pipes
Outputs: 3 Fan-Coil Speeds, Heat valve actuator, Cool valve actuator

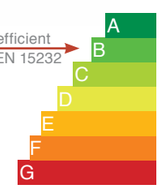
ET.670501-001
eThermo Modbus 4 Pipes
Outputs: 3 Fan-Coil speeds, Heat valve actuator, Cool valve actuator
Bus BMS: Modbus RTU (RS-485)

CE Modbus

e-Thermo

Input / Output Diagrams





DDS0014518000-0, ET.600501-001 - e-Thermo 4T DDSEN

Clima | e-Room® Stand-Alone

Stand-alone room climate control for fan-coil applications

Temperature Setpoint Control Based on Zone Occupancy

DATASHEET

e-controls® electronic intelligent controls, s.l.

Application:

1 Hotel 2 Pipes / 4 Pipes lighting contact

RC.604505-000

Climate control at an optimal cost

The e-Room® Stand-Alone device is a stand-alone fan coil controller designed to cover the demands of hotels and offices where a sophisticated remote control system for room management is not required. The device includes a set of inputs and outputs that provide zone climate control based on occupancy and window position, thus allowing significant energy savings that dramatically reduce electricity costs in buildings.

e-Room® Stand-Alone includes a temperature sensor on its front panel that provides room temperature measurement and Heat/Cool valve actuation as appropriate; fan coil speed is controlled to cover the energy demand. An analog input is also included to connect an external temperature sensor, used in installations where temperature is measured at the return point.

The device includes a large blue backlit display screen that provides the user with an optimal visualization, in addition to user-friendly pushbuttons for simple and effective control. Device configuration is accomplished through the pushbuttons and the display screen; up to 24 different parameters may be adjusted in order to set the device as required.

Stand-alone control for low-cost installations

Occupancy based climate control

Designed for 2 pipe and 4 pipe systems

A single control device for each zone

Auxiliary lighting output

Energy Savings

- Up to 20% zone energy savings
- Occupancy based temperature setpoint change
- Window contact stops operation
- Configurable Max/Min setpoints
- Dual ON/ECO setpoint
- ECO mode on unoccupied zone

Device Configuration

- Celsius/Fahrenheit display
- 1 or 3 fan coil speeds selection
- Fan coil state on no demand
- Device on OFF or ECO on unoccupied zone
- Heat/Cool mode switching
- 2 pipe / 4 pipe system
- Keycard switch contact or lighting input
- Heat/Cool deadband
- Occupied/ECO state setpoints
- Device state after reset
- Heat/Cool device startup
- NO/NC valves

Patented product
Registered design

Installation

- A single device per zone
- Less installation time
- Improved maintenance
- No communication bus required

Features

- Stand-alone climate control
- Room temperature sensor on front panel
- Blue backlit LCD screen
- 4/5 pushbuttons
- Digital inputs (dry contact):
  - Keycard switch contact / lighting contact
  - Window contact
- Analog inputs (NTC10K):
  - Water temperature sensor
  - External temperature sensor
- Relay outputs (5 Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Cool valve (4 pipes) / H-C (2 pipes)
  - Heat valve (4 pipes) / Lighting
- Supply voltage: 24 Vac / 24 Vdc
- BTicino Light / Light Tech frame (different colors available)

Ordering numbers

RC.604505-000
e.Room® Stand-Alone
4 pushbuttons

RC.604505-100
e.Room® Stand-Alone
5 pushbuttons (Heat / Cool)

CE

e-Room® Stand-Alone

Input / Output Diagrams

2 pipe system + keycard occupancy control

4 pipe system + motion sensor occupancy control

DDS000650304O-0, RC.604505-X00 - e-Room® Stand-Alone DDSEN

Clima | e-Room® Panasonic

Room climate control for VRF applications

Indoor unit control for optimized installation management

DATASHEET

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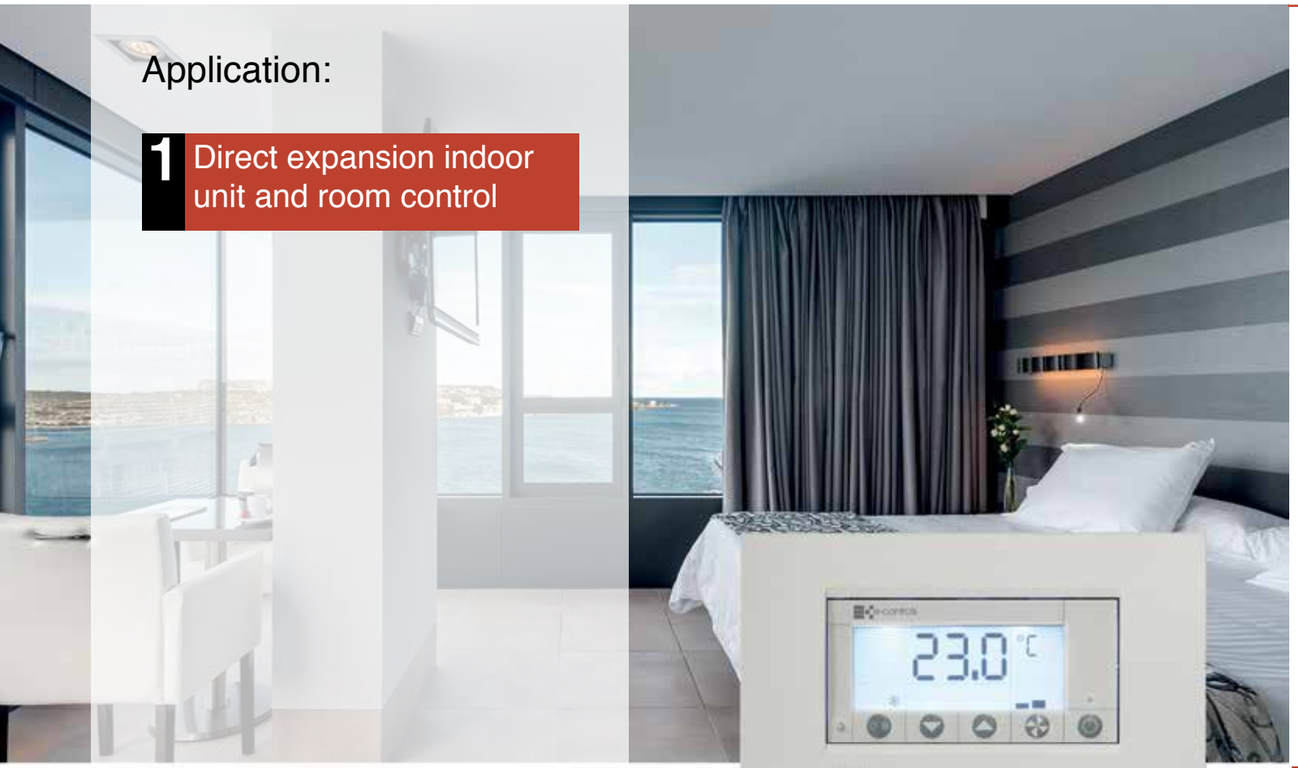


Application:

1 Direct expansion indoor unit and room control

RV.004401-000

Direct expansion system control and room management in a single device

The e-Room® Panasonic room climate controller, specially designed for hotel installations, provides direct control of a direct expansion indoor unit without the need for gateways. The device includes inputs and outputs to optimize room energy consumption by operating climate, lighting and motorized blind or curtain controls based on room occupancy.

Four operating modes are available to adapt device inputs and outputs to the requirements of each installation. Depending on the selected option, room occupancy may be monitored through a keycard switch contact or a motion detector in order to drive climate control, lighting or curtains based on room occupation. The device includes also a window contact input that will temporarily stop climate control operation, in addition to a temperature sensor that will control a secondary climate zone through a valve actuator output.

e-Room® Panasonic is available in two product models: one model for stand-alone operation with no communication bus, and another model with a Modbus or LonWorks communication bus that allows integration into a building management installation for remote climate control.

Direct indoor unit control

Climate, lighting and curtain management

Comprehensive control for maximum savings

Remote climate control activation

May be integrated into a BMS

Energy Savings

- Climate and lighting control OFF when room is unoccupied
- Climate control ON/OFF through window contact
- Occupancy based temperature setpoint
- Dual Comfort/ECO setpoint for Heat/Cool
- Dual configurable user and operating setpoints
- Temperature sensor for secondary zone

Indoor Unit Control

- Direct e-Room® control
- Available functions: ON/OFF, Setpoint modification, Fan-Coil speed (I-II-III-AUTO), Heat/Cool

Device Configuration

- Celsius/Fahrenheit display
- Fan coil position on no demand
- Device on OFF or ECO on no occupation
- Heat/Cool mode change
- Occupancy detection through keycard switch or motion detector
- Setpoint for Occupied/ECO
- Secondary zone setpoint offset

Features

- Indoor unit control
- No bus or remote control bus options
- Ambient temperature sensor
- Blue backlit LCD screen
- Four installation based operating modes
- Three digital inputs (dry contact):
  - Keycard switch/Motion detector/ Lighting contact
  - Window contact
  - Blind raise-up pushbutton/Door contact
- One analogue input (NTC10K):
  - Blind lower pushbutton/External temperature sensor
- Four output relays (5 Amp):
  - Courtesy light
  - Lighting breaker
  - Blind raise-up motor
  - Blind lower motor/Secondary zone valve
- Alarm indication on display screen
- Alarm reporting via bus
- Supply from indoor unit bus
- BTicino Light / Light Tech frame

Installation

- Single device per zone
- Reduced installation time
- Improved maintenance

Ordering numbers

RV.004401-000
e.Room® Panasonic Stand-Alone

RV.074401-000
e.Room® Panasonic Modbus RTU

RV.024401-000
e.Room® Panasonic Lon TP/FT-10

Available I/O configurations for different operating modes

	Input 1	Input 2	Input 3	Input 4
Option 1	Keycard	Window	Lighting	Temperature
Option 2	Keycard	Window	Blinds Up	Blinds Down
Option 3	Motion S.	Window	Door Contact	Temperature
Option 4	Lighting	Window	Blinds Up	Blinds Down

	Output 1	Output 2	Output 3	Output 4
Option 1	Courtesy	Lighting	Not Used	Valve actuator
Option 2	Courtesy	Lighting	Blinds Up	Blinds Down
Option 3	Courtesy	Lighting	Not Used	Valve actuator
Option 4	Not used	Lighting	Blinds Up	Blinds Down

CE Patented product

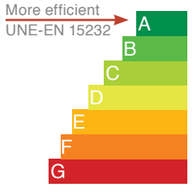
e-Room® Panasonic

Input / Output Diagrams

Operating mode no. 2

Operating mode no. 3

More efficient
UNE-EN 15232



DDS0014501000-0, RV.0X4401-000 - e-Room® Panasonic

Clima e-Room® Stand-Alone

Stand-alone room climate control for fan-coil applications

1 Application Hotel 2 Pipes / 4 Pipes lighting contact

RC.604505-000

Climate control at an optimal cost

On the e-Room Stand-Alone model, the device is enabled when the card is inserted, allowing the guest to connect the HVAC system and change the setpoint as desired. In two pipes system, the device can be configured to operate also over the room lighting system, switching it on and off when the room becomes occupied or unoccupied, but also over the courtesy light, working as above but automatically switching the lights off after a configurable timeout.

The product is including up to 24 different parameters to configure the device according to the specifications of the installation, like two or four pipes system and some other options. As the product operates in stand-alone mode, the device can be configured to start-up after a power reset, in heating or cooling mode. The device can automatically start the HVAC system if the guest is in the room, even a power loss has been done at night. Some other parameters like change to ECO mode or switch off the HVAC system when the guest leaves the room can be defined, among the possibility to configure the maximum and minimum setpoints defined by the guest.

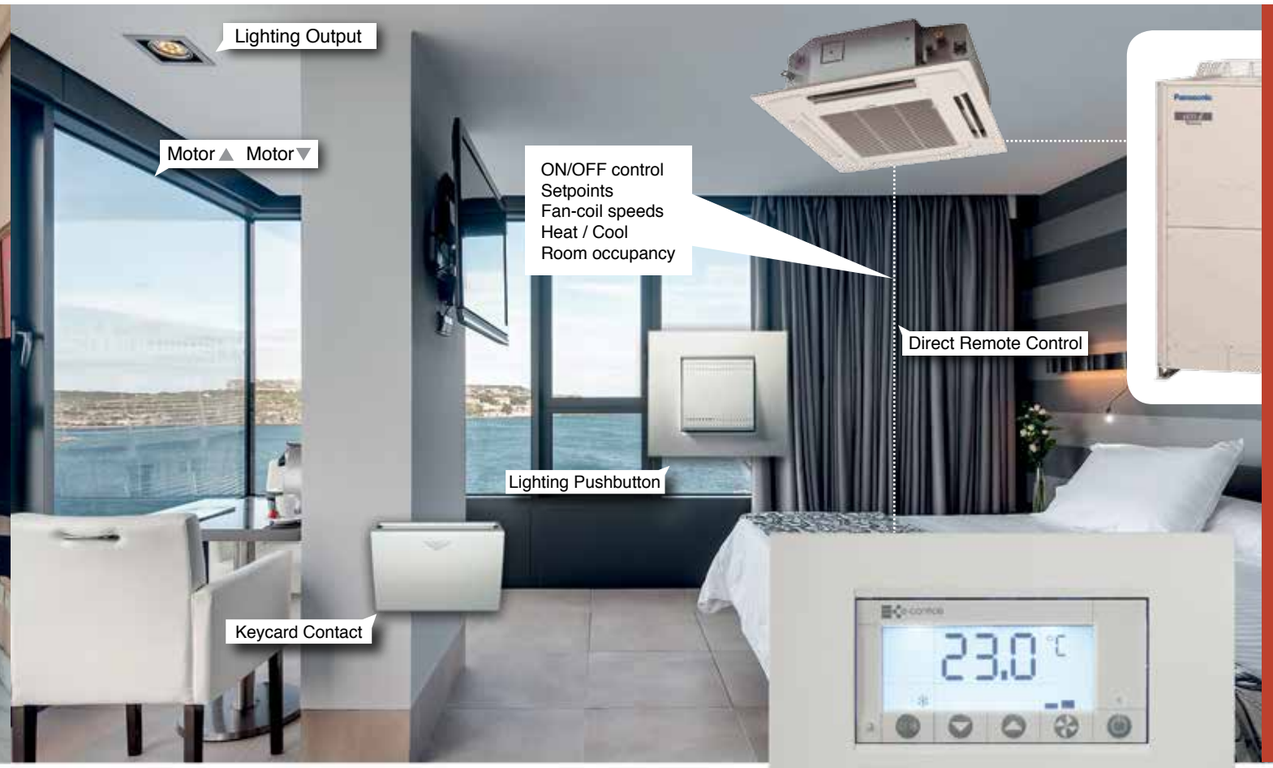
e-Room Stand-Alone is a fully configurable device for low cost applications which becomes a flexible and powerful product for any kind of installation like hotel rooms or offices.

- Stand-alone HVAC and lighting
- Occupancy based climate control
- 2 Pipes / 4 Pipes systems
- A single control device for each zone
- Auxiliary lighting input / output
- Up to 24 configurable parameters

Clima e-Room® Panasonic

Room climate control for VRF applications

1 Application direct expansion indoor unit and room control



RV.004401-000

Direct expansion system control and room management in a single device

The e-Room® Panasonic device is an innovative product to directly operate over the Panasonic VRF Indoor Unit system. The device includes a set of functions to operate over the HVAC system, the lighting system and the blinds using only a single device in a hotel room, providing also some functions to operate over a second heating/cooling zone like a bathroom.

The device is including up to four different pre-defined input/output configurations to operate over different hotel room specifications. A Keycard switch contact can be used to enable the HVAC system, among to automatically switch on the lighting system or the entrance courtesy light when the guest enters in the room. The device automatically switches the HVAC system off or changes into ECO mode when the guest leaves the room, switching also the lights off. A window contact can be used to temporary switch off the HVAC system when opening it, activating it again when it is closed. The device can operate over a motorized blinds, changing the position with some pushbuttons accordingly to the guest.

Using the e-Room® Panasonic bus system model, a standardized communication protocol solution can be used to operate over the room with a remote monitoring and control BMS system.

- Direct Panasonic indoor unit control
- Room control and VRF control in a single device
- Four configurations for different room applications
- User and real adjustable setpoints
- Occupancy and window contact energy saving functions
- Stand-alone or bus systems

Clima e-Room®

Room Climate Control for Fan Coil applications

Open Systems integrable HVAC control

DATASHEET

e-controls®
electronic intelligent controls, s.l.

Applications:

1 Hotel 2P / 4P keycard switch contact

2 HVAC control with occupancy sensor

RC.624501-000

Energy consumption optimization

Designed for 2 pipe and 4 pipe systems

On/Off valve control

3 fan-coil speed or 0-10V

Stand-alone operation

LonWorks® or Modbus RTU

Energy Efficiency in HVAC

e-Room® is a device designed to provide overall room climate control on fan coil based systems. The device operates over the HVAC system depending on the occupancy status of the room and the window status, managing the fan coil and valves according to the temperature and the setpoint defined. Its operation provides a user friendly control and allows remote facility management through an standard ISO/IEC 14908 (LonWorks®) or Modbus RTU (RS-485) communication bus depending on model. Originally designed for use in hotels, its versatility has made it present nevertheless in offices, small rural hotels and homes, amongst others.

e-Room® Classic is a solution comprising a single device that includes on its front panel a large display screen, pushbuttons and a temperature sensor, in addition to card reader contact and window contact inputs that provide energy efficiency optimization in installations. It further includes analog inputs for water temperature measurement (changeover function), and external temperature sensor measurement. The device also includes output relays for Heat/Cool valve actuator On/off control and three outputs to manage fan coil speed or also one model with 0-10V analog output for Fan-coil EC. All these features are included in a single device to support a simple, easy and fast installation and to optimize startup times and facility maintenance. In case of two pipes installation, the additional output can be used also for lighting control purposes. Thanks to its versatility, the device can be configured to control the occupancy status of the room using a keycard contact or a motion sensor and a door contact.

Three different models comprise the product reference: **e-Room® Classic and e-Room ECO** for **LonWorks®** installation based systems and **e-Room Modbus** for **Modbus RTU installations**.

Energy Efficiency

- Up to 20% energy savings
- Zone occupancy detection based on keycard switch contact or motion detector upon model
- Window contact stops operation
- Configurable Max/Min setpoints
- Dual ON/ECO setpoint
- ECO mode on unoccupied zone

Remote Management

- Remote manual or programmable On/Off control
- Adjustable setpoints
- Pushbutton locking feature

Integration

- ISO/IEC 14908-2 TP/FT-10 LonWorks® bus
- LonMark® compatible
- Modbus RTU (RS-485)

- Low cost model 2I/4O Modbus RTU

Patented product

Installation

- One single device per zone
- Reduced installation time
- Improved maintenance

Features

- Supply Voltage 24Vac/24Vdc
- Stand-alone operation
- Front panel ambient temperature sensor
- Blue backlighted LCD display
- Digital inputs (contact type):
  - Keycard switch contact / Motion detector
  - Window contact
- Analog inputs (NTC10K):
  - Water temp. Heat-Cool / Door contact
  - External temperature sensor
- Relay outputs (5Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Heat-Cool valve actuator / Cool valve actuator (2P / 4P)
  - Auxiliary / Cool valve actuator (2P / 4P)
- 0-10V Fan-coil output (ECO model)
- TP/FT-10 twisted pair (Lon model)
- RS-485 twisted pair (Modbus model)
- BTicino Light frame (colors available)

Ordering numbers

RC.624501-000
e-Room® Classic

RC.624421-000
e-Room® ECO

RC.672401-000
e-Room® Modbus 2I/4O

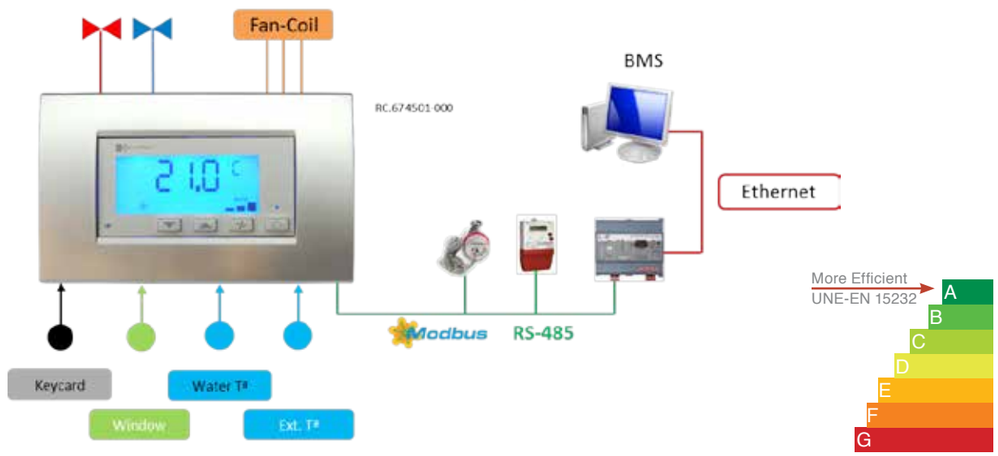
RC.674501-000
e-Room® Modbus 4I/5O

Modbus LONMARK® CE

e-Room® Modbus application for keycard switch contact 4 pipes installation

e-Room® Modbus 4I/5O

Input / Output Diagrams



DDS0014509000-0 RC.624501-000 - e-Room Classic DDSEN

Clima e-Room® Classic

Room Climate Control for Fan Coil applications

1 Application Hotel 2 Pipes / 4 Pipes keycard switch contact

RC.624501-000

Integrated control in a single device

On the **e-Room Classic** model, the device is enabled when the card is inserted, allowing the user to connect the HVAC system and change the setpoint as desired. In 2 Pipes systems it's possible to use the auxiliary output for a lighting point which will be switched on automatically when the card is inserted. The HVAC control is done in stand-alone mode, controlling the valve actuator and fan-speed outputs on demand. Opening the window stops the HVAC system temporarily, activating it again when it is closed. The auxiliary output is switched on temporarily when the card is removed (in 2 Pipes system configuration) and stops the HVAC system or changes it to low consumption mode depending on the configuration. Remote monitoring and control of the device can be done by means of its communication bus for BMS global control system integration.

On **e-Room Detector** model, occupancy detection in the room can be achieved by a combination of door contact and movement sensor installed in the room, enabling in this case the HVAC system for its use at any time. The combination of door closed and the absence of people automatically stops the HVAC system.

- 2 Pipes / 4 Pipes systems
- On/Off valve control
- Device locking card contact
- Window contact stops operation
- Additional Lighting output (2 pipes)
- Stand-alone operation

Clima e-Room® Modbus

Room Climate Control for Fan Coil applications

2 HVAC control with occupancy sensor

RC.674501-000

Energy saving occupancy detection based control

e-Room Modbus device has some embedded configurations available to manage different input and output arrangements for room automation in hotels and offices. In this application note the device has been configured to manage the HVAC control of the zone depending on the occupancy detection provided by means of a motion sensor. The device is installed on the zone and wired with a sensor which carries out the occupancy detection signal. The purpose of the application note is to automatically switch on and off the climate control, or change it into economy mode when the room turns to occupied and unoccupied.

In order to control the occupancy of the room, one or more motion sensors can be installed on the zone and wired to a digital input of the device. Some door contacts are also installed to automatically switch the system off when the door is opened and all the people has left the zone. With this concept, anytime the door opens, the system reads the motion sensors in order to switch off the HVAC system if the sensors does not monitor any activity in the room.

The RS-485 channel and the Modbus protocol provides the possibility to monitor and control the room from remote at any time. Any activity detected by the motion sensors are translated into the e-Room® and can be monitored through the network, but also the temperature and some other functions.

- HVAC control interface
- Easy and intuitive visualization
- Local control pushbuttons
- Front panel integrated temperature sensor
- Easy installation
- Remote control through Modbus RTU (RS-485)

Clima | e-Room® Plus

Climate and Lighting Control from a Single Unit

Climate and Lighting Control from a Single Unit

e-controls® electronic intelligent controls, s.l.

DATASHEET

Applications:

1. Sunblinds Office
2. 2P / 4P Office
3. Hotel 2P / 4P keycard switch contact
4. Hotel 2P / 4P Detector
5. Hospitals
6. VRV Integration

RP.626601-000

Climate and lighting energy efficiency

Hotel/Office/Hospital operating modes

On/Off valve control

Key card contact or detector based occupancy monitoring

LonWorks® TP/FT-10 or PowerLine

Overall Zone Energy Efficiency

e-Room® Plus is a device that provides room climate and lighting energy management control. It is designed to optimize energy savings in room or zone climate and lighting services. The unit includes various operating profiles to cover every possible requirement for offices, hotels, hospitals and old people's homes.

e-Room® Plus is designed to be integrated into a network to perform remote control through the standard ISO/IEC 14908 (LonWorks®) communication bus using the TP/FT-10 twisted pair cable or through mains using the PowerLine media for retrofit installations. The device includes key card reader contact and window contact inputs for climate energy savings, in addition to a digital input and a relay output to control a lighting system. It further includes analog inputs for water temperature measurement, and external temperature sensor. Two relay outputs are used for Heat and Cool valve actuator On/Off control and three more ones for the fan coil speed.

The TP/FT-10 version model includes several pre-programmed applications for hotel, office and hospital room automation. The PowerLine model is the ideal solution for retrofit applications where bus cable installation difficult. The robust and reliable communication through mains is possible using the LonWorks communication and can be integrated in any LonMark® system. Two different models are available, one of each with integrated PIR sensor for motion detection.

Energy Efficiency

- Up to 25% energy savings
- Climate + lighting control in a single device
- Occupancy monitoring based on key card contact or presence detector
- Window contact stops operation
- Configurable Max/Min setpoints
- ECO mode for climate and lighting control

Remote Management

- Remote or programmable On/Off control
- Adjustable setpoints
- Pushbutton locking feature

Integration

- ISO/IEC 14908-2 TP/FT-10 network
- ISO/IEC 14908-3 PowerLine network
- LonMark® compatible

Installation

- Single device
- Reduced installation time
- Improved maintenance

Patented product

Features

- 24 Vac/24 Vdc supply voltage (TP/FT-10)
- 95-250Vac supply voltage (PowerLine)
- Ambient Temperature on front panel
- Blue backlighted LCD display
- Digital inputs (contact type):
  - Keycard contact / Motion detector
  - Window contact
  - Lighting pushbutton
- Analog inputs (NTC10K):
  - Water temp. Heat-Cool / Door contact
  - External temperature sensor
- Relay outputs (5Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Heat-Cool valve actuator /Cool valve actuator (2P / 4P)
  - Courtesy Lamp / Heat valve actuator (2P / 4P)
  - Auxiliary output
- TP/FT-10 twisted pair or PowerLine
- IR receiver for remote operation
- Integrated PIR motion sensor (PowerLine PIR model)
- Simon 82 or Nature series frame
- Flush mounting in two 65x65 universal enclosure

Ordering numbers

RP.626601-000
e-Room® Plus TP/FT-10, 4 Keys

RP.626601-100
e-Room® Plus TP/FT-10, 5 Keys (H/C)

RP.514501-000
e-Room® Plus PowerLine, 4 Keys

RP.515501-010
e-Room® Plus PowerLine PIR 4 Keys

LONMARK®

CE

e-Room® Plus application for keycard switch contact Hotel 4 Pipes Installation

e-Room® Plus

Input / Output Diagrams

DDS0008504000-2 - e-Room Plus DDSEN

Clima e-Room® Plus

Sunblinds automation management and HVAC control

1 Application Office with Sunblinds

RP.626601-000

Clima and sunblinds/curtains automation from a single unit

In this application note the e-Room Plus device is configured in Office Sunblinds mode and provides a 2 pipes system HVAC control and an automated curtains / sunblinds management. The HVAC system is directly controlled through the device pushbuttons, or it can also be remotely controlled through its standard communication bus. The HVAC system is done in stand-alone mode on the device, managing its outputs automatically for the valve actuator control and the fan-coil speed on demand. Opening the window stops the HVAC system temporarily, activating it again when it is closed. The raise and lower curtain pushbuttons are directly connected to the device, like the two relays output that control both motor directions. The device includes timeout raise/lower limit switch configuration variables that can be changed through the bus depending on each installation.

Any HVAC control function and curtain/sunblinds automated position control function are available through the communication bus for a global Building Management System remote control.

- 2 Pipes installation
- On/Off valve control
- Pushbuttons and relay outputs for curtains automation
- Window contact stops operation
- Stand-alone operation
- Remote control with LonWorks® network

Clima e-Room® Plus

Occupancy dependent HVAC and lighting control

2 Application Office 2 Pipes / 4 Pipes

RP.626601-000

HVAC and Lighting from a single unit

In office installations the zone HVAC and lighting systems is controlled by the device depending on the occupancy status. When the motion detector is detecting occupancy, the device turns to enable mode, allowing the user to connect the HVAC system and change the setpoint as desired. When the zone is occupied the lighging output turns to on and turns it again off after some time from the last movement detection.

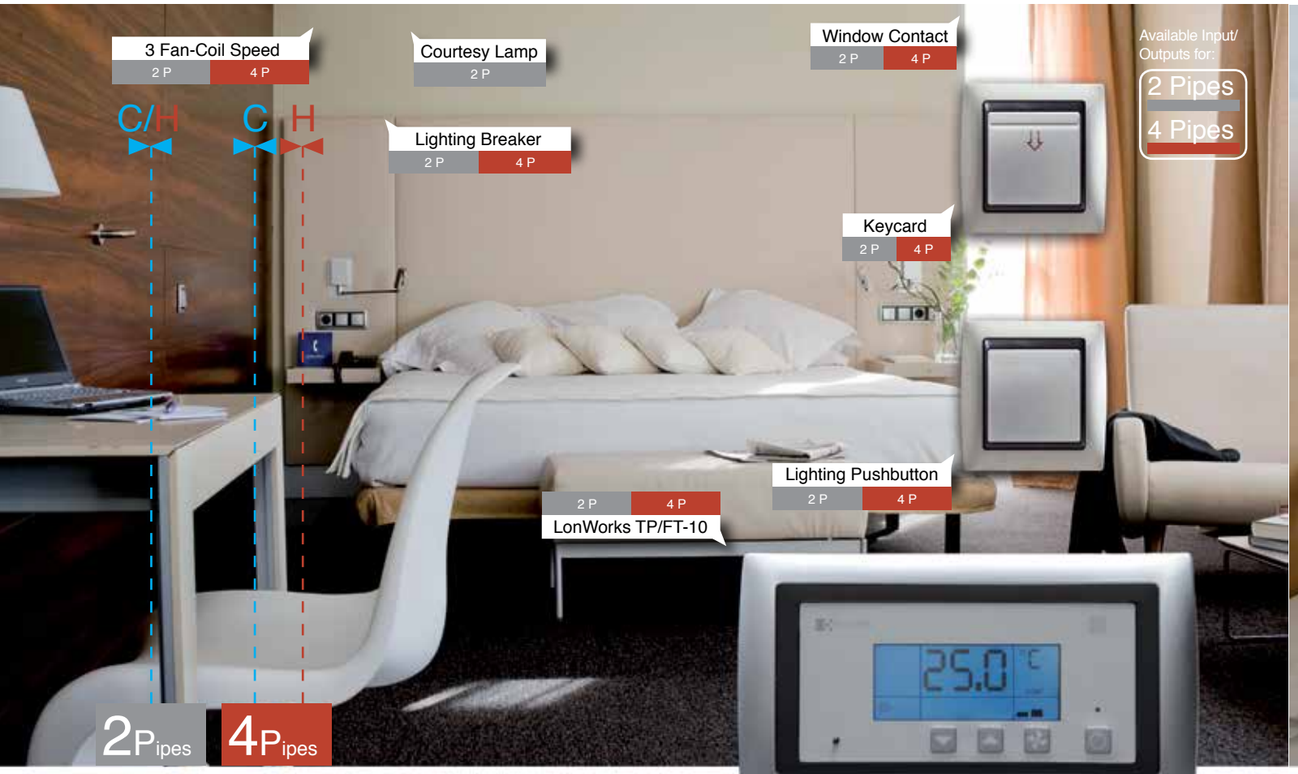
The user can also manually turn on permanently the light using a wall switch actuator. When the zone changes to unoccupied, the HVAC system turns to off or to low consumption mode, depending on the configuration previously downloaded. Opening the window stops the HVAC system temporarily, activating it again when it is closed. The device can be configured for 2 pipes or 4 pipes system. In 2 pipes system the Occupied Zone Indicator output shows the zone occupancy status. The HVAC system is directly controlled through the device pushbuttons, or it can also be remotely controlled through its standard communication bus and do automatic switch on/off programming functions, change operation mode or setpoint through an external real time clock event. The device includes remote control mechanism that enables the keypad blocking to avoid the user manipulate the operating through it.

- 2 Pipes / 4 Pipes systems
- Motion detector HVAC and lighting control
- Window contact stops operation
- Pushbutton and lighting control output
- Occupied zone indicator
- Remote control through LonWorks® network

Clima e-Room® Plus

Card contact HVAC and lighting control

3 Application Hotel 2 Pipes / 4 Pipes keycard Contact



Keycard contact occupancy control

In keycard contact Hotel 2 Pipes / 4 Pipes operating mode, the HVAC and lighting systems are controlled by the device depending on the occupancy status. When the card is inserted, the device turns to enable mode, allowing the user to connect the HVAC system, activating the circuit breaker lighting output and switching on the lights automatically. A manual pushbutton for bedroom lighting control is provided to the user. The HVAC system is done in stand-alone mode on the device, managing its outputs automatically for the valve actuator control and the fan-coil speed. Opening the window stops the HVAC system temporarily, activating it again when it is closed.

When the card is removed the HVAC systems turns to off or changes to low consumption mode depending on the configuration, and the lighting is switched off. In 2 pipes systems the device includes an extra output for the courtesy lighting room control, switching it on when the card is inserted and switching it automatically off after a configurable expiration timeout. When the card is removed the same operation is done by the device.

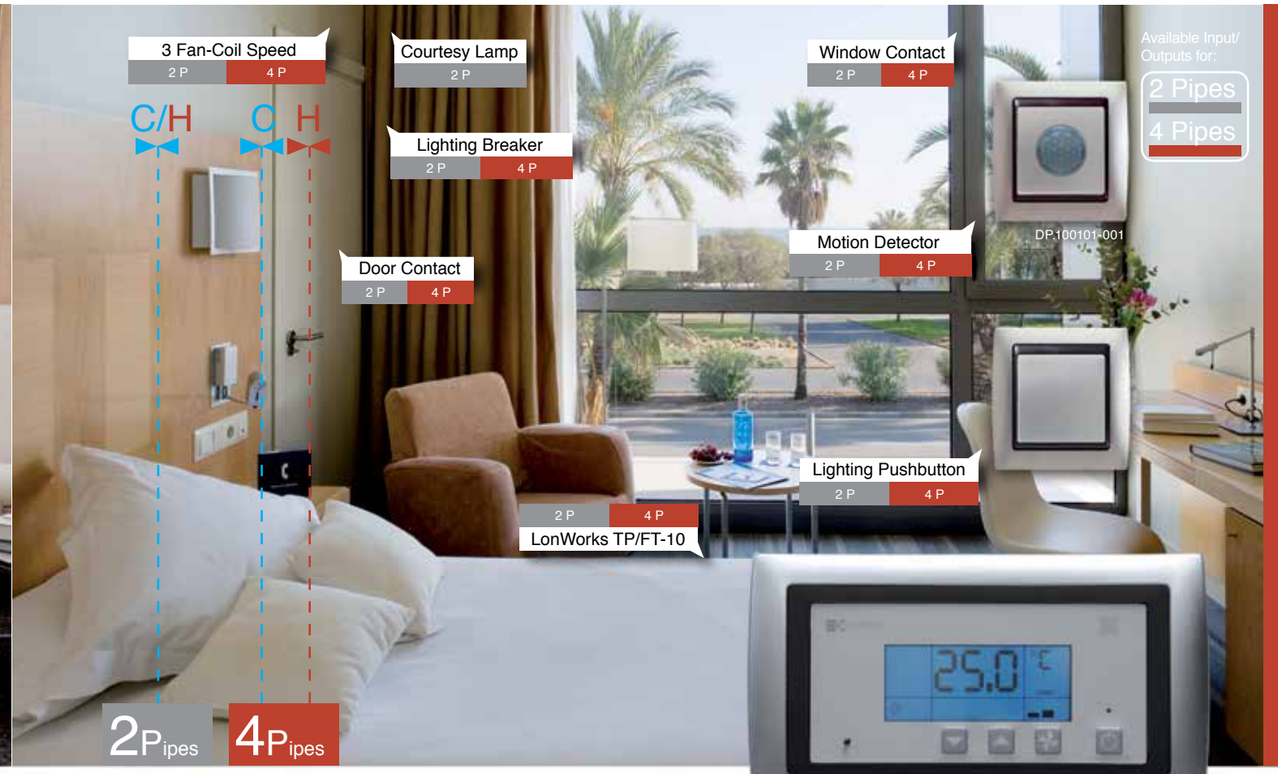
All the HVAC and lighting control functions are available through compatible LonMark® functional blocks that are accessible from the global Building Management remote control System.

- 2 Pipes / 4 Pipes systems
- On / Off valve control
- Device blocking card contact
- Window contact stops operation
- Lighting control output and pushbutton
- Remote control through LonWorks® network

Clima e-Room® Plus

Motion detector HVAC and lighting control

4 Application Hotel 2 Pipes / 4 Pipes Motion Detector



Motion detector occupancy control

In Hotel 2 Pipes / 4 Pipes Detector operating mode, the HVAC and lighting control is controlled by means of the occupancy defined between the combination of a door contact and a motion detector. When the door is opened and movement is detected in the room, the device turns to enable mode, allowing the user to connect the HVAC system, activating the lighting output and switching on the lights automatically. A manual pushbutton for bedroom lighting control is provided to the user. The HVAC system is done in stand-alone mode on the device, managing its outputs automatically for the valve actuator control and the fan-coil speed on demand. Opening the window stops the HVAC system temporarily, activating it again when it is closed.

The combination of a door closing and an absence of motion detection stops the HVAC system or changes it to low consumption mode and switches the output lighting to off. In 2 pipes systems the device provides an additional output for room courtesy lighting control, activating it when the door is opened and turns to off automatically after a preconfigured timeout.

All the HVAC and lighting control functions are available through compatible LonMark® functional blocks that are accessible from the global Building Management remote control System.

- 2 Pipes / 4 Pipes systems
- On / Off valve control
- Occupancy control by motion detector and door contact
- Window contact stops operation
- Lighting control output and pushbutton
- Remote control through LonWorks® network

Clima e-Room® Plus

Room alarm management and HVAC control

5 Application Hospitals

RP.626601-000

HVAC and alarm management from a single unit

In hospital operating mode, HVAC control and room alarm management are provided by the device, as well as alarm lighting indicators to show if the the room is in alarm status. The HVAC system is directly controlled through the device pushbuttons, or it can also be remotely controlled through its standard communication bus. The HVAC system is done in stand-alone mode on the device, managing its outputs automatically for the valve actuator control and the fan-coil speed on demand. Opening the window stops the HVAC system temporarily, activating it again when it is closed.

The device is provided with inputs for occupied bed sensor, doctor call and panic alarm, as well as a digital input to reset the panic alarm through a safety key from the room. The alarms are shown through a room alarm indicator output and doctor call indicator. The alarms are sent using the standard communication bus to show the status by a Building Management System and displays on the reception of each floor. All the HVAC parameters can be remotely controlled through the communication bus.

- 4 Pipes system
- On / Off valve control
- Window contact stops operation
- Control center alarm information
- Room identification alarm indicator
- Remote control through LonWorks® network

Clima e-Room® Plus

Open systems VRV integration

6 Application Integration with VRV

RP.626601-000

HVAC and Lighting integration with VRV System

The VRV system integration application mode allows to use the HVAC and lighting device functions for HVAC control depending on zone occupancy status.

The e-Room Plus device manages the on/off functions, temperature setpoint, fan-coil speed and heat/cool mode VRV indoor unit through the standard communication bus up to the VRV system gateway. In addition it is also used to show the room temperature provided by the indoor unit, fan-coil speed and actual operating mode.

The motion detector turns the device to enable mode when movement is detected, and the lighting circuit breaker is also activated. A manual pushbutton for bedroom lighting control is provided to the user. Opening the window stops the HVAC system temporarily sending a message through the bus to stop the indoor unit, activating it again when it is closed.

All the HVAC and lighting control functions are available through compatible LonMark® functional blocks that are accessible from the global Building Management remote control System.

- VRV clima control
- e-Room® Plus zone control
- Keycard contact or detector based occupancy monitoring
- Window contact stops operation
- Lighting control output and pushbutton
- LonMark-IP and BACnet BMS integration

Clima | e-Room® Plus Stand-Alone

Stand-Alone HVAC room controller for rooms

Stand-Alone controller expandable to remote communication

DATASHEET

e-controls
electronic intelligent controls, s.l.

RP.504501-010

Energy efficiency in HVAC with automatic occupancy detection

e-Room Plus Stand-Alone is an stand-alone climate controller for water pipes installations with fan coil, designed to fully optimize the energy consumption of installations because of its ability to switch the climate off or change to economy mode, when the room or zone becomes unoccupied.

The device is directly supplied from mains and has different inputs and outputs for carrying out the climate control depending on the zone occupancy and the window state. Occupancy zone detection is carried out through a key card contact or a motion sensor built in the front panel which, along with a room door contact, detect the guest entrance and activates, stops or changes the climate to economy mode automatically or disconnects it depending on the configuration. On 2 pipes installations it is possible to use the auxiliary output for lighting controls purposes, automatically operating the courtesy lighting or general lighting when someone enters or leaves the room.

Throughout a simple setting menu it is possible to modify multiple configuration parameters to adapt the product to the need of any installation. In the different product references, there is one autonomous version expandable to BMS systems communication through electrical mains.

Energy saving for unoccupied room

Integrated motion sensor

Stand-alone operation

Mains electrical supply

Expandable to BMS communication

Energy Savings

- Climate control for occupancy detection
- Occupancy detection based on key card or integrated sensor
- Window contact stops operating
- Changes to OFF/ECO mode if unoccupied room

Device configurations

- Centigrade/Fahrenheit displayed
- 1 or 3 fan-Coil speeds selection
- Fan-Coil state without demand
- Device OFF or ECO by changing to unoccupied
- HEAT/COOL mode operation
- 2 Pipes / 4 Pipes installation
- Temperature/set-point displayed
- Max/Min set-point
- Set-point in occupied/ECO states
- Device state after a reset
- Auto-switch on device HEAT/COOL
- Valve actuators NO/NC type
- Window contact NO/NC type
- Lighting courtesy/contactor output
- Display backlight level
- Motion sensor sensibility
- Motion sensor detection test

Features

- Supply Voltage: 95 to 250Vac - 50/60Hz
- Stand-alone operation
- Front panel ambient temperature sensor
- Blue backlight LCD display
- Integrated motion sensor (optional)
- Maximum detection distance 8 meters
- Motion sensor detection angle 98º
- Detection diameter 16mts (at 7mts)
- Digitally adjustable detection sensibility
- Digital inputs (Contact type):
  - Keycard contact/Door contact
  - Window contact
  - Auxiliary motion sensor
- Relay outputs (5Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Heat-Cool valve actuator / Cool valve actuator (2P/4P)
  - Courtesy Lighting / Heat valve actuator (2P/4P)
- Expandable to PowerLine communication
- Simon S82 or Nature frame
- Flush mounting
- Dimensions: 158x89x33 mm
- Weight: 250 g

CE

Ordering numbers

RP.504501-000
e-Room Plus Stand-Alone
Inputs: Keycard, Window, Water, Ext Temp.
Outputs: 3 Fan-Coil speeds, Cool VA, AUX

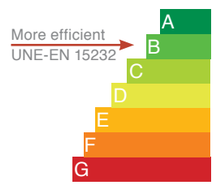
RP.502502-000
e-Room Plus Stand-Alone PRO
Inputs: Keycard, Window
Outputs: 3 Fan-Coil speeds, Cool VA, AUX
Expandable to PowerLine communication

RP.504501-010
e-Room Plus Stand-Alone PIR
Inputs: Door, Window, Motion sensor
Outputs: 3 Fan-Coil speeds, Cool VA, AUX
Integrated motion sensor in front panel

RP.504502-010
e-Room Plus Stand-Alone PIR PRO
Inputs: Door, Window, Motion sensor
Outputs: 3 Fan-Coil speeds, Cool VA, AUX
Integrated motion sensor in front panel
Expandable to PowerLine communication

e-Room® Plus Stand-Alone

Input / Output Diagrams



DDS0014512000-0 – e-Room Plus Stand-Alone DDSEN

Clima | e-Room® Plus ECO

Climate room controller for fan-coil 0-10V

Proportional control for fan-coil and valve actuators

DATASHEET

e-controls
electronic intelligent controls, s.l.

RP.574422-000

Proportional control to maximize the energy saving

e-Room Plus ECO is a fan-coil controller for the design of efficient installations, that provides a very precisely fan-coil speed proportional control to optimize the climate temperature in a room, to get the desired temperature in the shortest time and with the maximum energy saving as possible. The device provides an optimal comfort in the installation thanks to a fine fan-coil speed tuning, through a proportional and integral control algorithm that efficiently manages a 0-10V voltage type analogue output.

Through different configurations, it is possible to choose different operating valve actuator modes, being possible to select between an on/off control or a proportional control for thermal valve actuators.

The device is directly supplied from mains and has different inputs to manage the climate control depending on the zone occupancy and the window state. Occupancy zone detection is carried out through a key card contact or motion sensors. An auxiliary output provides a potential free contact relay to manage the lighting control.

Throughout a simple setting menu it is possible to modify multiple configuration parameters to adapt the product to the need of any installation. In the different product references, there is one stand-alone version and a model with Modbus RTU communication.

Proportional fan-coil control

0-10V analog control output

Energy saving for unoccupied room

Mains electrical supply

Modbus RTU for BMS communication

Energy Savings

- Fan-coil speed proportional control
- Valve actuator proportional control
- Climate control for occupancy detection
- Occupancy detection based on key card or motion sensor
- Window contact stops operating
- Changes to OFF/ECO mode if unoccupied room

Device configurations

- Centigrade/Fahrenheit displayed
- Switch-off fan-coil state with no demand
- Device OFF or ECO by changing to unoccupied
- HEAT/COOL mode operation
- 2 Pipes / 4 Pipes installation
- Temperature/set-point displayed
- Configurable Max/Min set-point
- Set-point in occupied/ECO states
- Device state after a reset
- Auto-switch on device HEAT/COOL
- Valve actuators NO/NC type
- Window contact NO/NC type
- Lighting courtesy/contactor output
- Display backlight level

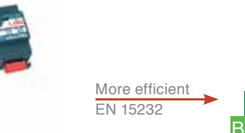
Features

- Supply Voltage: 95 to 250Vac - 50/60Hz
- Stand-alone operation
- Front panel ambient temperature sensor
- White backlight LCD display
- Digital inputs (Contact type):
  - Keycard / Door
  - Window
  - Motion sensor
- Analog input for external temp. sensor
- Triac outputs (0,5A, 24 to 230V):
  - Cool valve actuator
  - Heat valve actuator
- Relay output for lighting (5A)
- Fan-coil 0-10V analog output
- Modbus Rs-485 remote control (optional)
- Simon S82 or Nature frame
- Flush mounting
- Dimensions: 143x63x39mm
- Weight: 250gr.

Ordering numbers

RP.504422-000
e-Room Plus ECO Stand-Alone
Inputs: Keycard, Window, Motion sensor, Temp. Sensor
Outputs: Fan-Coil 0-10V, Cool VA, Heat VA, Lights

RP.574422-000
e-Room Plus ECO Modbus
Inputs: Keycard, Window, Motion sensor, Temp. Sensor
Outputs: Fan-Coil 0-10V, Cool VA, Heat VA, Lights



Modbus CE

Control diagram

Inputs / Outputs Diagram

DDS1018505000-0 – e-Room Plus ECO DDSEN

Clima | e-Room® Controller

Climate room controller for fan coil rooms

Remote controller with optional Modbus protocol

DATASHEET

RN.573501-000

Multi-configurable fan-coil controller for any installation

e-Room Controller is an stand-alone fan coil controller for hotel rooms, offices and zones, designed to satisfy the most demanding requirements in climate control and energy saving, thanks to its configuration possibilities and integrated functions on the device. It can operate in two or four pipes water installations and provides occupancy zone detection throughout a key card contact or a motion sensor, which allows switching off the climate when zone changes to unoccupied state. The device includes a function to stop the climate when the window is opened, avoiding unnecessary energy consumption.

The product is installed with the **e-Display** or **e-Display Plus** devices which has a keyboard, temperature sensor, and visualization display, and provides it the supply and a bus connection for the communication. It has configurable digital inputs for key card contact/motion sensor, window contact and an analogue input to connect to an external temperature sensor or for door open detection purposes. The controller includes three relay outputs to control the fan coil speed and one or two outputs for cool valve actuator and heating/lighting depending on the device model. The device is directly supplied from mains and is designed to be installed in a DIN rail enclosure.

The product is available to operate in stand-alone mode or with Modbus RTU communication bus to monitor and remote control of the installation, including the necessary registers to configure and manage throughout an SCADA application.

Energy saving for unoccupied room

Stand-alone / Modbus remote control

Operates with 0, 1 or 2 displays

Mains electrical supply

DIN rail mounting + Display

Energy Savings

- Climate control for occupancy detection
- Occupancy detection based on key card or motion sensor
- Window contact stops HVAC
- Max/min configurable setpoint
- Changes to OFF/ECO mode if room unoccupied

Device configurations

- 9 different pre-defined operating modes
- Centigrade/Fahrenheit displayed
- 1 or 3 fan-coil speed selection
- Fan-Coil state without demand
- Device OFF or ECO by changing to unoccupied
- HEAT/COOL mode operation
- 2 Pipes / 4 Pipes installation
- Temperature/setpoint displayed
- Max/Min setpoint
- Setpoint in Occupied/ECO state
- Device state after reset
- Auto-switch On device HEAT/COOL
- Valve actuators NO/NC type
- Window contact NO/NC type
- Lighting courtesy/contactor output
- 0, 1 or 2 displays available
- Display backlight level
- Speed and parity Modbus (bus model)

Features

- Supply Voltage: 95 to 250Vac - 50/60Hz
- Stand-alone operation
- BMS Bus: Modbus RTU (RS-485) (model MS.57XX01-000)
- Room Bus:
  - RS-485
  - Supply output 12Vdc, max. 100mA
- Digital inputs (Contact type):
  - Keycard / Motion sensor
  - Window
- Analog / Digital input:
  - Water sensor / Door
  - Temp sensor / Lighting pushbutton
- Relay outputs (5Amp):
  - Three Fan-Coil speeds (3 outputs)
  - Heat-Cool valve actuator / Cool valve actuator (2P/4P)
- Flush mounting
- DIN rail, 6TE
- Dimensions: 147x90x58mm
- Weight: 140gr.

Modbus CE

Ordering numbers

RN.502401-000
e-Room Controller Stand-Alone 2I/4O
Inputs: Keycard, Window
Outputs: 3 Fan-Coil speeds, Cool VA

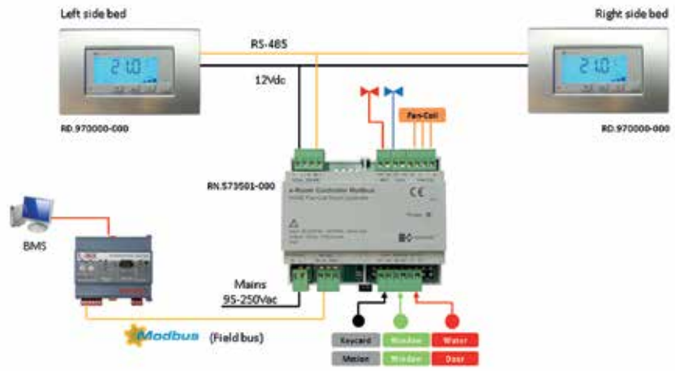
RN.503501-000
e-Room Controller Stand-Alone 3I/5O
Inputs: Keycard/Motion sensor, Window, Water/Door
Outputs: 3 Fan-Coil speeds, Cool VA, Heat VA/Lighting

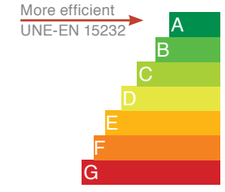
RN.573501-000
e-Room Controller Modbus 3I/5O
Inputs: Keycard/Motion sensor, Window, Water/Door
Outputs: 3 Fan-Coil speeds, Cool VA, Heat VA/Lighting
BMS Bus: Modbus RTU

RN.574501-000
e-Room Controller Modbus 4I/5O
Inputs: Keycard/Motion sensor, Window, Water/Door, Temp sensor/Lighting
Outputs: 3 Fan-Coil speeds, Cool VA, Heat VA/Lighting
BMS Bus: Modbus RTU

e-Room® Controller Modbus 3I/5O

Inputs / Outputs Diagram





DDS0014514000-0, RN.5X3500-000 - e-Room Controller DDSEN

Clima

e-Display, e-Display Plus

Display for fan-coil control

Temperature, humidity, CO2 and motion sensor in a single device

DATASHEET

RD.970000-000

Display with multiple sensors for room climate control

e-Display and **e-Display Plus** are a family of visualization displays used for climate and fan-coil control in hotel rooms and offices. A wide variety of models with different sensors can be used by the system integrator in any installation to get the maximum energy saving as possible. The products are available with different frames to select the one that best fits any room space.

For room climate control the device is including a temperature sensor in the front panel and optionally an humidity sensor to control at any time the room temperature. In order to achieve a correct air renovation, the product is available with a CO2 sensor used to control the position of the air flow dampers. If an occupancy control is requested for the room, one model is available with a motion sensor in the front panel, that provides the possibility to detect the room unoccupied and change the climate to low power consumption and switch off the lights.

Two product models are available depending on the application: the **e-Display** to communicate directly with the **e-Room Controller**, and the **e-Display Modbus** to communicate with any Modbus device of the market. The products communicate with any fan-coil controller or room controller using an standard RS-485 interface

Display for fan-coil controller

Temperature, humidity, CO2 and motion sensor

Remote monitoring of climate control and sensors

Modbus protocol over RS-485

Different frames and colors available

Remote control

- Climate ON/OFF control
- Ambient temperature and setpoint to show on display
- Different icons available to modify over the network: Window, alarm, heat/cool/auto mode, Fan-coil speed, CONF/ECO/ANTI mode, %HR, ppm

Monitoring with BMS

- Room temperature sensor for climate control
- Room humidity sensor for climate control
- CO2 sensor for air flow renewal
- Motion sensor for occupancy control
- Setpoint temperature, heat/cool mode, fan-coil speed

Device configuration

- Modbus address, speed and parity
- Celsius/Fahrenheit measuring units
- Fan-coil speeds
- Default setpoint
- Maximum/minimum user setpoint limits
- Setpoint/temperature to show on the display
- Different pushbutton lock options

Features

e-Display and **e-Display Plus**
- Supply Voltage: 12Vdc
- Interface: RS-485
- Protocol: e-Room Controller
- Network terminator included

e-Display Modbus and **e-Display Plus Modbus**
- Supply Voltage: 24Vdc
- Interface: RS-485
- Protocol: Modbus RTU

All models
- Ambient temp. sensor: +5 to +45ºC
- Humidity sensor (optional): 10 to 95% RH
- CO2 sensor (optional): 0 to 2000 ppm
- Motion sensor (optional):
  - Maximum detection distance 8 m
  - Detection angle: 98º
  - Detection diameter 18 m (at 7 m)
  - Digitally adjustable sensitivity
- Flush mounting
- Surface mounting enclosure available
- Different frames and colors available
- Dimensions:
  - e-Display: 142x85x42 mm
  - e-Display Plus: 158x88x33 mm
  - e-Display Plus FF: 148x90x33 mm
- Weight (frame not included): 120 g

Ordering numbers

RD.970000-000
e-Display
Display for e-Room Controller with temp. sensor

RD.671002-000
e-Display HR Modbus
Display with temperature, humidity sensor and Modbus RTU

RL.672001-000
e-Display Plus HRCO2 Modbus
Display with temperature, humidity and CO2 sensor with Modbus RTU

DF.671001-013
e-Display Plus FF PIR Modbus
Display with temperature and motion sensor with Modbus RTU

CE

e-Display and e-Display Modbus in a BMS system

DDS0014513010-0, RD.970000-000 – e-Display DDSEN

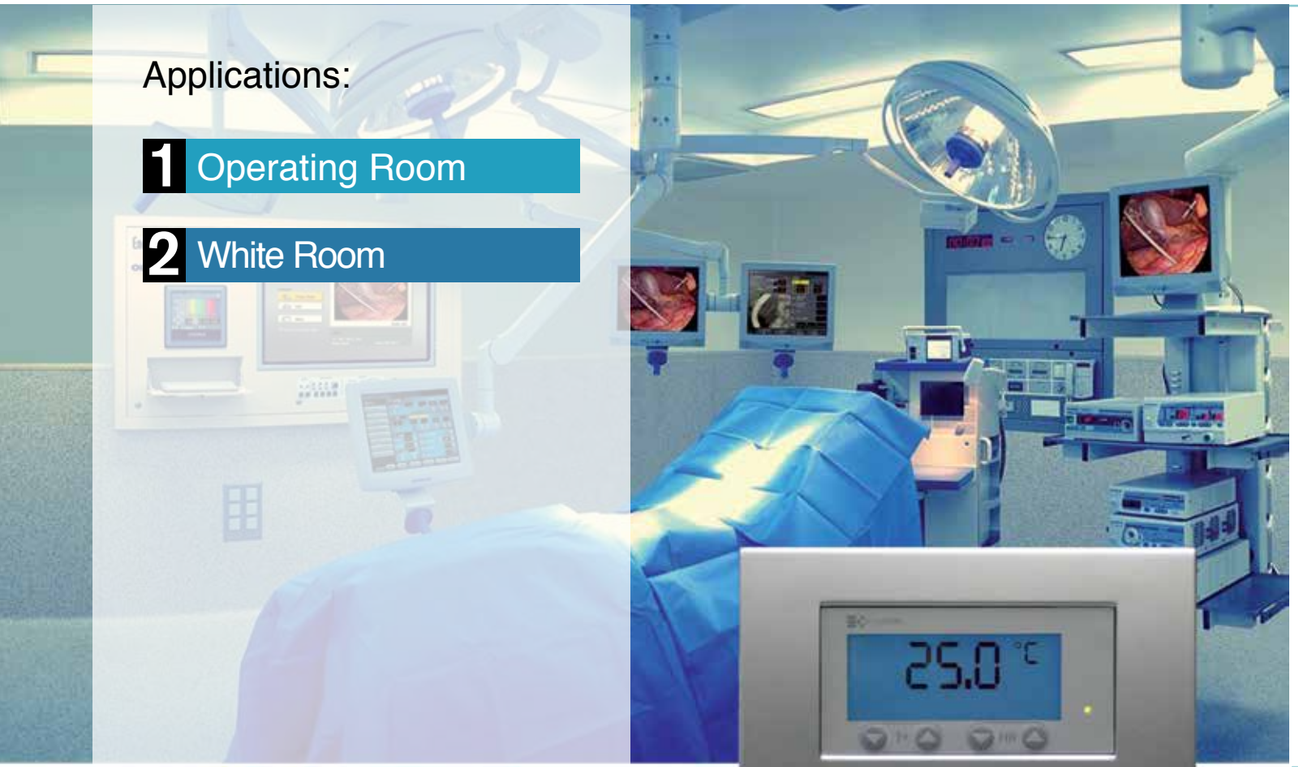
Visualization | e-Clima

Temperature, humidity and pressure display

Display parameters sequential reading

DATASHEET

e-controls®
electronic intelligent controls, s.l.



DC.621001-000

Weather parameters under control

e-Clima is a device that provides temperature, relative humidity and pressure values supplied by different sensors located in a room. It includes an EN 14908 LonWorks® communication bus through which values supplied by the various remote sensors are received; these are in turn displayed on the screen for simple and intuitive reading. An analogue input is provided for direct connection of an NTC temperature sensor where a temperature sensor is not to be connected to the bus.

e-Clima allows the sequential display of sensor supplied temperature, humidity and pressure values. Two versions are available, one without local setpoint control and another with local control that allows temperature and relative humidity setpoint adjustment through a 4 button keypad, to have the values sent through the Lon network to a remote climate control device.

This unit is particularly suited for applications such as hospital operating rooms, clean rooms, laboratories, refrigeration chambers, cinemas, maintenance departments, etc.

- Intuitive display
- Easy and fast reading
- Temperature, Humidity and Pressure
- External sensors
- Keypad for setpoint adjustment
- LonWorks® network

Display

- Temperature, Humidity and Pressure
- Sequential reading
- Adjustable display times
- Configurable display backlighting
- Configurable auto power on

Remote Management

- Remote On/Off
- Keypad adjustable setpoints
- LonWorks® network based parameter transmission

Integration

- ISO/IEC 14908 LonWorks® bus
- LonMark® compatible

Installation

- Single display unit
- Optional external temperature sensor

Features

- Supply Voltage 24Vac/24Vdc
- TP/FT-10 twisted pair
- ISO/IEC 14908 LonWorks network
- BTicino Light frame (different colors available)
- Independent external sensors
- External temperature sensor (optional)
- Temperature range: –199.9 to +199.9 (ºC/ºF) @ 0.1 ºC/1 ºC
- Humidity range: 0% to 99% @ 1%
- Pressure range: –99 to +99 Pa @ 1 Pa

Ordering numbers

DC.621000-000 – e-Clima

DC.621001-000
e-Clima Setpoints

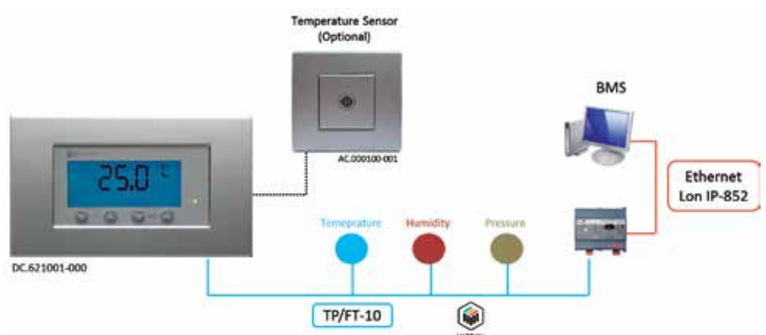
Patented product

LONMARK®

CE

e-Clima

Input / Output Diagrams

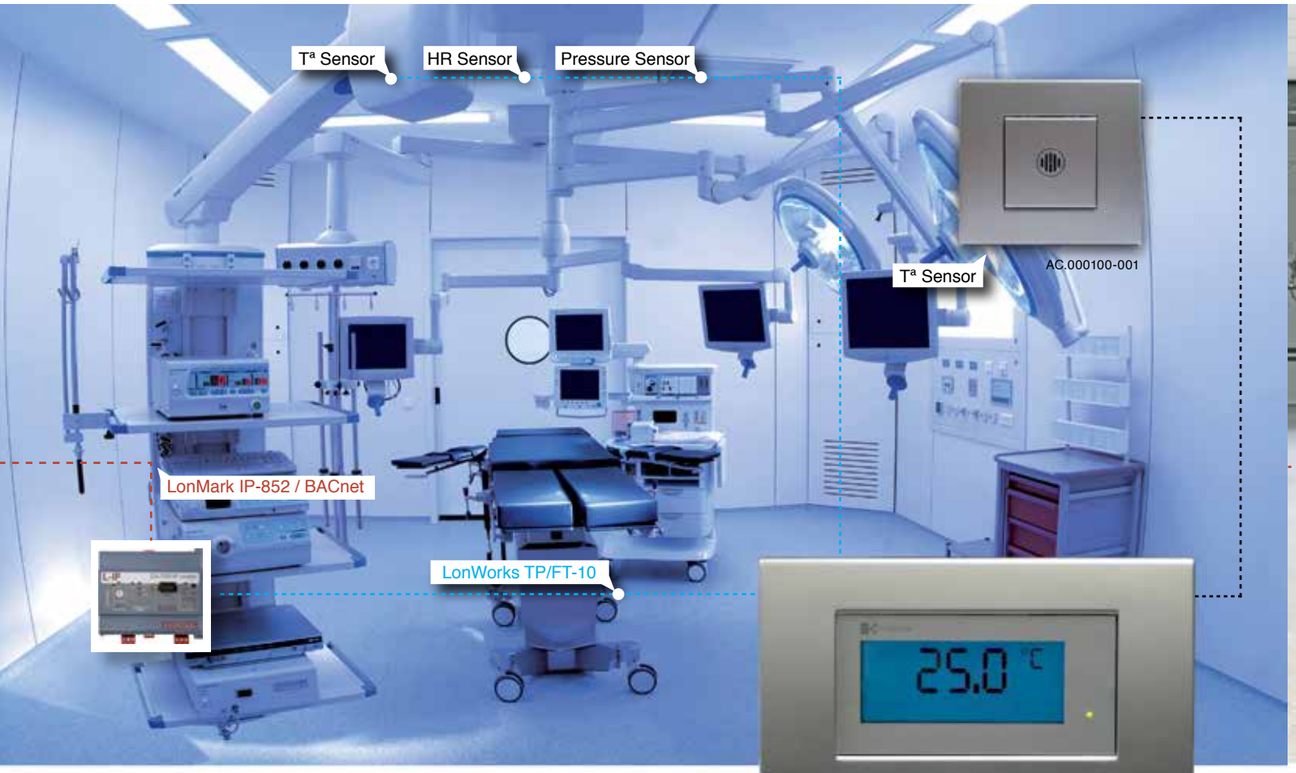


DDS0109505000-0, DC.621000-000 - e-Clima DDSEN

Visualization | e-Clima

Temperature, humidity and pressure visualization

1 Application Operating Room



DC.621000-000

Meteorological parameters under control

Ambient temperature, humidity and pressure in operating rooms must be displayed in a physical visualization system as defined in the actual standards for hospital installations. With e-Clima it is possible to show this information on the screen using different sensors that provide the ambient parameters through the standard communication bus to the display. Ambient temperature can also be measured using an NTC10K sensor with an analog input also available on the device. In this case the device must be configured to show the value of this input instead of the value received from the bus.

Network variables with bindings to the external sensors are automatically detected by the device and showing the values sequentially on the screen when more than one parameter should be displayed. The visualization time can be configured through a network variable.

Some output network variables are also available to send the values to other devices on the network.

- Intuitive display
- Easy and fast reading
- Temperature, Humidity and Pressure
- External sensors
- Optional external temperature sensor
- LonMark-IP and BACnet BMS integration

Visualization | e-Clima Setpoints

Temperature, humidity and pressure visualization

2 Application White Room

DC.621001-000

Display visualization with setpoint pushbuttons

The **e-Clima Setpoints** device includes four buttons keypad on its front panel for temperature and relative humidity setpoint adjustment. Last fixed setpoint is shown when pressing a key and subsequent pressings modify the value accordingly. Some output network variables are also available to send the values to the zone HVAC control system.

The same as e-Clima, ambient temperature, relative humidity and pressure are shown on the display from different sensors of the installation transmitting information through the standard communication bus to the device. Ambient temperature can also be measured using an NTC10K sensor with an analog input also available on the device. In this case the device must be configured to show the value of this input instead of the value received from the bus.

- Kaypad for Tª and RH setpoint adjustment
- Sequential parameters display
- Optional backlit switched on
- LonMark-IP and BACnet BMS integration

Lighting

e-Scene

Lighting Control and Energy Saving

Light dimming and curtains automation

DATASHEET

Curtains and lighting scenes control

e-Scene® is an innovative pushbutton pad for lighting control of areas such as offices, meeting rooms, auditoriums, etc. This unit can control up to five lighting areas independently with on, off and dimming functions for each area, optimizing power consumption levels in real time. It includes five memory locations to configure and apply different lighting scenarios; it can also control blind or curtain motors to meet user requirements at all times. This unit is designed to be installed in conjunction with any e-Controller series product.

System installation does not require additional wiring, dramatically reducing installation time and cost and providing an optimal solution for building refurbishment or rehabilitation. No computer or special software is necessary to configure the unit, rendering this solution even more versatile and easy to install.

Based on the ISO/IEC (LonWorks®) communication standard, this device may be integrated into any LonMark® system in the market.

BT.51G000-000

Five independent lighting zones

Five programmable scenarios

No additional wiring required for installation

No computer required for commissioning

Robust and reliable technology

LonWorks® network

Energy Savings

- Light dimming for each zone
- Five memory locations for scenario application
- Integration of blinds and curtains

Integration

- ISO/IEC 14908 LonWorks® bus
- LonMark® compatible

Installation

- No additional wiring required
- 4 step commissioning; no computer required
- Installation with 1-10 V electronic ballasts
- Ideal solution for refurbishment and rehabilitation

Features

- Five channels for lighting and blind control
- Five memories for lighting scenarios
- User programmable memories
- Blue LED backlit touch keys
- Infrared receiver for remote operation
- Supply Voltage 95-250Vac 50/60Hz
- PowerLine mains data transmission
- ISO/IEC 14908 LonWorks® network
- BTicino Light frame
- May integrate in LonMark® open systems

Ordering numbers

Powerline Tactile Pushbutton
BT.51G000-000 e-Scene

Infrared remote control
IR.70G000-000 e-Scene IR

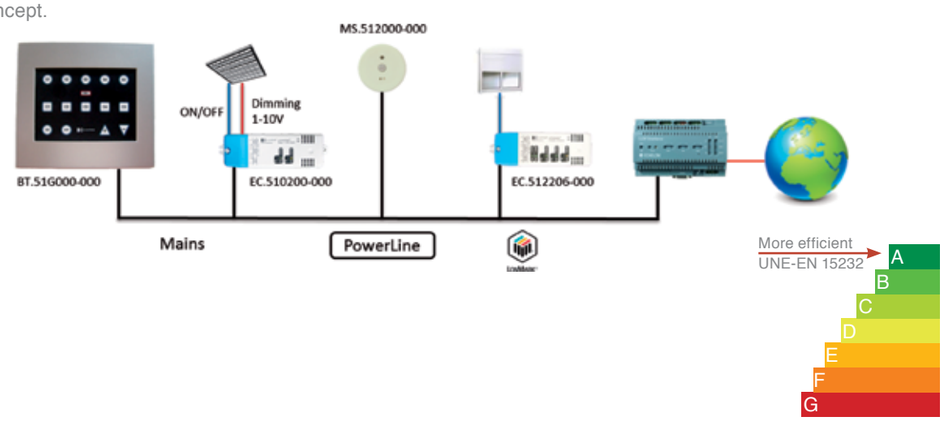
LONMARK®

CE

PowerLine communication using the mains electrical wire to communicate with other devices on the installation.
Tactile sensation keys innovative concept.

e-Scene®

Input / Output Diagrams



DDS0006013000-0, BT.51G000-000-e-Scene DDSEN

Lighting

e-Controller 1-10V

Indoor building light dimming

EC.510200-000

Energy saving of lighting spaces

The e-Controller 1-10V is a device used for light dimming at an optimum level every hour of the day on different spaces in a building. Designed to maximize sites energy consumption and save energy without reducing the comfort level, the device can also be used with multisensors for automatic light dimming like the e-Multisensor Bus PowerLine or the e-Scene pushbuttons used for light manual dimming and scene lighting control, to adapt any space to the user needs.

The mains electrical network is used by the device for data transmission with other devices.
A data transmission system is included on the device which takes the advantage of the mains wiring as a means to transmit data with other devices, without the need to plan ahead for new wiring on the installation, making it particularly suitable for facility refurbishment. Along with its easiest installation, an auto-installation mechanism is included on the device to avoid commissioning with a laptop.

Other e-Controller products are available with the following functions:
e-Controller 1 Relay Output, including one high power relay output (10Amp) for switching up to 2000W loads.
e-Controller 2 Input / 2 Output ON/OFF, including two inputs for local or remote outputs switching and two 5Amp small loads relay outputs with local or remote switching.

- Lighting energy saving
- Integration with multisensors
- On, Off and light dimming
- Remote control without new wires
- BMS integration
- LonWorks® networks

Light dimming and curtains automation

e-controls® electronic intelligent controls, s.l.

DATASHEET

Energy Saving

- Light level control as needed
- Individual integration with multisensors
- Switching on/off and light dimming
- Efficient dimming with 1-10V analog output

Remote Control

- Mains data transmission
- Dimming from multisensors, keypads and controllers

Integration

- LonWorks® ISO/IEC 14908 bus
- LonMark® compatible

Installation

- No new wires needed
- Multiple luminaries control with a single device

Features

- Supply Voltage 95-250Vac 50/60Hz
- Two phase contact digital inputs (2In/2Out model)
- One phase contact 15Amp relay output (1-10V and 1 Relay models)
- Two phase contact 5Amp relay outputs (2In/2Out model)
- 1-10V active analog output for ballast dimming and LED driver (1-10V model)
- 10 programmable memory scenes
- Inputs status LED indicators (2In/2Out model)
- Outputs test pushbuttons and outputs status LED indicators
- e-Scene keypad and e-Multisensor auto-commissioning
- Mains data transmission (PowerLine)
- ISO/IEC 14908 LonWorks network
- External BTicino Light frame
- Integrable with LonMark® Open Systems

LONMARK®

CE

Ordering numbers

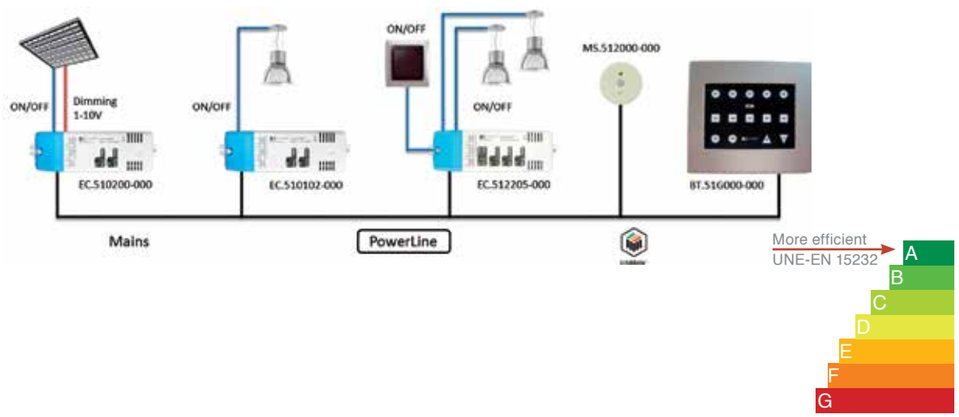
EC.510200-000
e-Controller Dimming 1-10V

EC.510102-000
e-Controller 1 Relay Output PC

EC.512205-000
e-Controller 2In2Out ON/OFF

e-Controller Dimming 1-10V

Input / Output Diagrams



DDS0013501000-0, EC.510200-000 e-Controller 1-10V DDSEN

Sunblinds

e-Controller 2In2Out Sunblinds

Curtains and sunblinds automation with e-Scene

Light dimming and curtains automation

DATASHEET

EC.512206-000

Comfort and energy saving with different ambient definition

The **e-Controller 2 Inputs / 2 Outputs Sunblinds** is a device used for easy and comfortable raise/lower control automation functions on sunblinds or curtains. Two digital inputs for conventional pushbuttons are included on the device for direct control of two relay outputs for motor position management.

The main advantage of the device is the ability of being remotely controlled through keypads like e-Scene or other e-Controller devices, for position motor control functions at any percentage level and the possibility to manage up to ten scenes. For this purpose the system takes the advantage of using the existing mains electrical wiring for data transmission between devices and no additional wirings are required for the installation, making it particularly suitable for facility refurbishment of existing buildings where new wires are difficult to install.

Some pushbuttons and LED indicators are disposed on the front panel of the device for outputs testing and inputs state monitoring, and an auto-installation system is included for automatic installation with the s-Scene keypad to avoid commissioning with a computer.

- Integration with keypads
- Opening percentage control
- Ten memories for scene control
- No computer need for set-up
- Remote control with no new wires
- LonWorks® network

Confort

- Possibility to define any opening percentage level
- Pre-programmed scenes for ambient definition
- Infrared remote control command

Energy Saving

- Astronomical time position control
- Multisensors integration option

Remote Control

- Mains network® control wire
- Schedulers and keypads management

Integration

- ISO/IEC 14908 LonWorks® network
- LonMark® compatible

Installation

- No additional bus wires
- No computer needed for commissioning

Features

- Supply Voltage 95-250Vac 50/60Hz
- Two phase contact digital inputs
- Two phase contact 5Amp relay outputs
- 10 programmable memory scenes
- Inputs status LED indicators
- Outputs test pushbuttons and outputs status LED indicators
- e-Scene keypad auto-commissioning
- Configurable raise/lower timeouts
- Mains electrical network (PowerLine) for data transmission
- ISO/IEC 14908 LonWorks network
- Integrable with LonMark® Open Systems

Ordering number

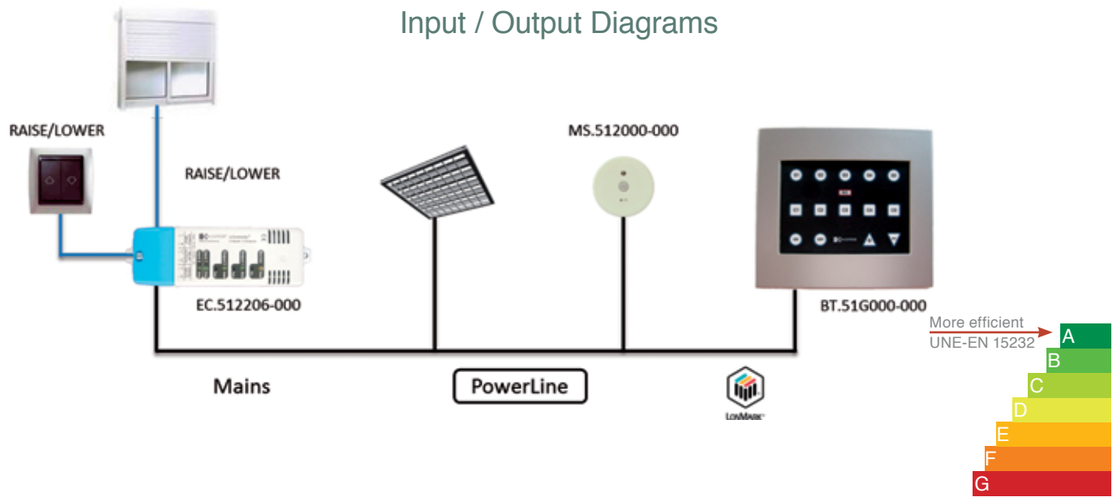
EC.512206-000
e-Controller 2In2Out Sunblinds

LONMARK®

CE

e-Controller 2 Inputs / 2 Outputs Sunblinds

Input / Output Diagrams



DDS00007511000-0, EC512206-000 e-Controller 2E2S Persianas DDSEN

Lighting

e-Scene®

Lighting control in meeting rooms

1 Auditorium lighting control

BT.51G000-000

Auditorium lighting control application

The e-Scene keypad is used for 4 zone lighting control and a projection screen control in a room like this auditorium, switching on, off and dimming or positioning each individual zone of the facility according to the needs at any given time. The combination between lighting and motors for curtains, blinds or screens control is providing a global control on the installation and its application on any environment. Five scene keys S1 to S5 are used to save different light levels or motor position of every one of each channel at the same time, for further recall with a simple scene key touch. The solution is comprising by the **e-Scene** keypad and different **e-Controller 1-10V** light dimming receivers or an **e-Controller 2In2Out Sunblinds** motor control receiver. One channel can control more than one e-Controller at the same time, thus making all of them the same function.

The system takes the advantage of using the existing mains electrical wiring for data transmission between devices and no additional wirings are required for the installation, making it particularly suitable for facility refurbishment of existing buildings where new wires are difficult to install.

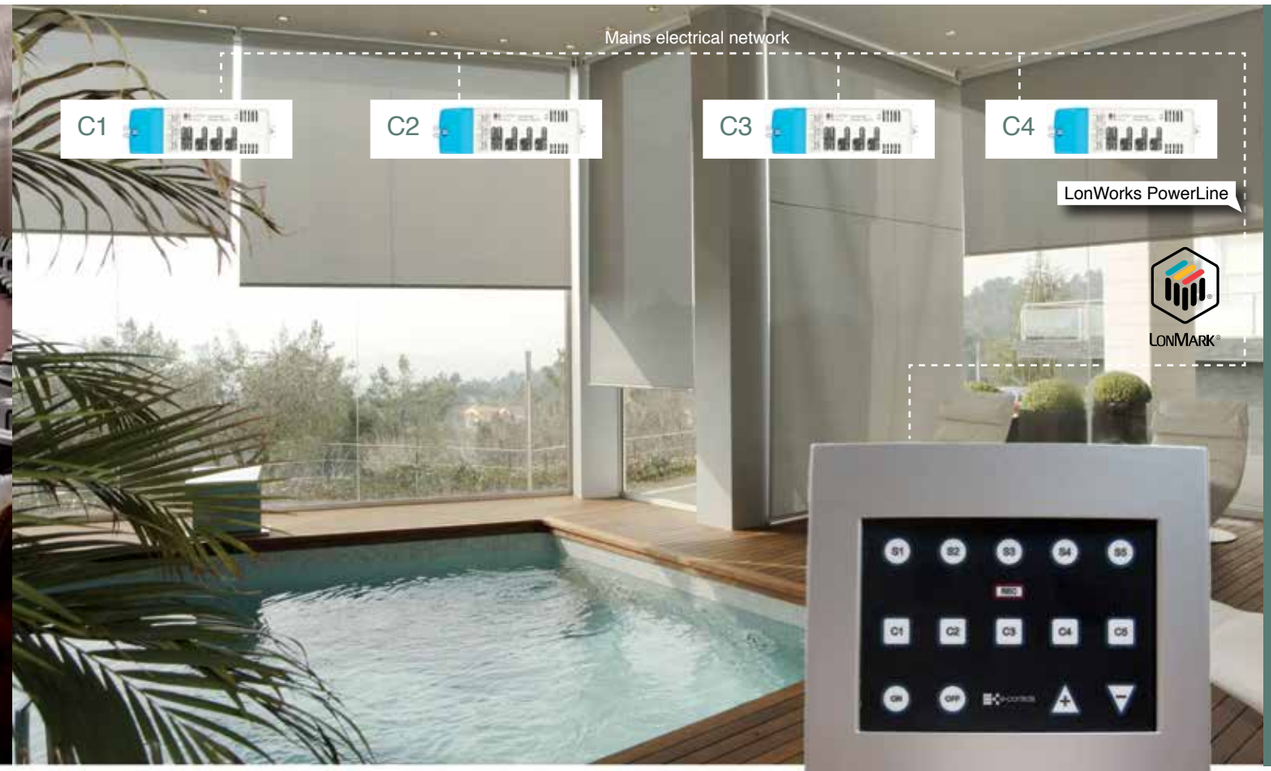
- Five independent lighting zones
- Five programmable scenarios
- No additional wiring required for installation
- No computer required for commissioning
- Robust and reliable technology
- LonWorks® network

Sunblinds

e-Controller 2In2Out Sunblinds

e-Scene curtains and blinds automation

2 Spa sunblinds control



BT.51G000-000

Total comfort with integrated curtains and lighting

The curtains, blinds and screens automation **e-Controller 2In2Out Sunblinds** receiver, takes care of the position control on each of the curtains on the facility. Every receiver can be configured on one channel of the e-Scene keypad for remote control, but also many receivers can be configured on a same channel when the user wants to do the same control on all of them at the same time.

Two digital inputs for conventional pushbuttons installation are included on the device so that the user could do a direct control from the wall pushbuttons. Every device can be remotely controlled using its communication bus using the mains electrical network to communicate with the e-Scene keypad or any other device on the network.

The Scene position control allows you to have different preconfigured blinds positions and do an automatic adjustment with an easy desired scene key press. A control system is included on the device to do an specific position control on values between 0 to 100%.

- Individual motor position control
- Scenes for global channel position
- No additional wiring required for installation
- All signals are sent through the mains network
- Designed for existing installations

Sensors

e-controls
electronic intelligent controls, s.l.

Motion and light sensors reference guide for lighting applications and room automation

	Stand-Alone devices				Control system devices			Bus system devices							
														
Product name	e-Detector AutoOnOff	e-Multisensor AutoOnOff	e-Multisensor AutoDim 1-10V	e-Multisensor AutoDim DALI	e-Sensor Noiseless e-Sensor Noiseless Mains	e-Detector Noiseless e-Detector Noiseless Mains	e-Multisensor 0-10V	e-Multisensor Lon TP/FT-10	e-Multisensor DALI	e-Multisensor DALI Mains Wide	Multilux 360 DALI	Multilux 360 Lon TP/FT-10 Multilux 360 Lon PowerLine	Multilux 180 DALI	Multilux 180 Lon TP/FT-10 Multilux 180 Lon PowerLine
Ordering number	DP.501100-010	MS.503201-000	MS.503200-000	MS.583000-000	DP.801110-00X DP.501110-00X	DP.801110-010 DP.501110-010	MS.602000-000	MS.623000-000	MS.082002-000	MS.582002-010	ML.082001-000	ML.62X000-000 ML.51X000-000	ML.082001-001	ML.62X000-001 ML.51X000-001
Mounting	Suspended ceiling	Suspended ceiling	Suspended ceiling	Suspended ceiling	Flush mounting	Suspended ceiling	Suspended ceiling	Suspended ceiling	Suspended ceiling	Suspended ceiling	Surface mounting	Surface mounting	Surface mounting	Surface mounting
Enclosure	Ceiling	Ceiling	Ceiling	Ceiling	Universal	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	IP65	IP65	IP65	IP65
Supply Power	95-250Vac 50/60Hz	95-250Vac 50/60Hz	95-250Vac 50/60Hz	95-250Vac 50/60Hz	12-24 Vac/Vdc 95-250Vac	12-24 Vac/Vdc 95-250Vac	24 Vac/Vdc	24 Vac/Vdc	DALI Bus	DALI Bus	DALI Bus	24 Vac/Vdc 95-250Vac 50/60Hz	DALI Bus	24 Vac/Vdc 95-250Vac 50/60Hz
Technology	-	-	-	DALI	-	-	-	LonWorks	DALI	DALI Bus	DALI	LonWorks	DALI	LonWorks
Channel	-	-	-	D1-D2	-	-	-	TP/FT-10	D1-D2	D1-D2	D1-D2	TP/FT-10 / PowerLine	D1-D2	TP/FT-10 / PowerLine
Motion sensor	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Light sensor	x	x	x	x			x	x	x	x	x*	x*	x*	x*
Temperature sensor	-	-	-	-	-	-	-	x			x*	x*	x*	x*
On/Off by Threshold	-	x						x			x*	x*	x*	x*
Constant Light Controller	-	-	x	x				x	x	x	x*	x*	x*	x*
Motion sensor area (*2)	6x6 mts	6x6 mts	6x6 mts	6x6 mts	6x6 mts	6x6 mts	6x6 mts	6x6 mts	6x6 mts	9x9 mts	13x13 mts	13x13 mts	18x0,5 mts	18x0,5 mts
Max. detection distance	10 mts	10 mts	10 mts	10 mts	9 mts	10 mts	8 mts	10 mts	10 mts	10 mts	18 mts	18 mts	20 mts	20 mts
Light sensor range	-	0 .. 2000 Lux	0 .. 1000 Lux	0 .. 1000 Lux			0 .. 1000 Lux	0 .. 1000 Lux	0 .. 1000 Lux	0 .. 1000 Lux	0 .. 500 Lux	0 .. 500 Lux	0 .. 500 Lux	0 .. 500 Lux
Temp. sensor range								5 .. 45 ºC				5 .. 45 ºC		5 .. 45 ºC
Digital Inputs	-	1	1	1	0	0	0	0	0	0	0	0	0	0
Outputs 0-10V / 1-10V	-	0	1	0	0	0	1	0	0	0	0	0	0	0
Relay Outputs	1	1	1	0	0	0	1	0	0	0	0	0	0	0
Max. Relay current	10 Amp.	10 Amp.	10 Amp.				5 Amp.							
Transistor Outputs	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Inputs features														
Switch-on by pushbutton	-	x												
Switch-on by switch	-	x												
Scene switch function	-		x	x										
Dimming pushbutton	-		x	x										
Outputs features														
Switch-off timout	5 s to 30 min	5 s to 30 min	5 s to 30 min	5 s to 30 min	Fixed at 5 s	Fixed at 5 s	1 s to 50 min	Configurable	Configurable	Configurable	Configurable	Configurable	Configurable	Configurable
General features														
Color	White	White	White	White	White / Aluminum	White	White	White	White	White	Grey	Grey	Grey	Grey
Dimensions	80x50 mm (DxH)	80x50 mm (DxH)	80x50 mm (DxH)	80x50 mm (DxH)	87x79x32 mm	80x50 mm (DxH)	80x50 mm (DxH)	80x50 mm (DxH)	80x50 mm (DxH)	80x50 mm (DxH)	80x82x55 mm	80x82x55 mm	80x82x55 mm	80x82x55 mm
Weight	80 g	80 g	80 g	80 g	90 g	80 g	80 g	70 g	70 g	70 g	250 g	250 g	295 g	295 g
Page	60	60	60	60	62	62	64	66	66	66	72	72	72	72

NOTE: (*1) e-Sensor Noiseless product family ordering numbers: X = 1: White color
X = 3: Aluminum color

(*2) Read detailed information in datasheets

NOTE: Multilux product family ordering numbers: X = 1: Motion sensor
X = 3: Motion, light, temperature sensors

x*: Only avilable on Multilux models with light and temperature sensors

Sensors

e-Multisensor Auto

Stand-alone light dimming and switching

Automatic light dimming and switching

DATASHEET

MS.583000-000
MS.503200-000
MS.503201-000

Stand-alone light dimming

Up to 75% energy saving

Detection area 36m^2

High detection sensibility

Auxiliary multifunction external input

Flush mounting in suspended ceiling

Lighting energy saving in offices

e-Multisensor Auto is a powerful digitally controlled multisensor range of products, designed to provide an stand-alone lighting control solution in buildings, in order to obtain an energy saving at the lowest installation and equipment cost. Including a motion sensor and a light sensor, both components combined provide multiple control applications in any building area. Three different models are available:

e-Multisensor AutoDim DALI and **e-Multisensor AutoDim 1-10V** are two innovative multisensors for automatic light dimming level on occupied zones. The ambient light level is measured by the light sensor to keep the luminaries at a constant value throughout the day according to a pre-defined light setpoint. This allows reducing the energy consumption of the installation at a minimum level. An auxiliary external input can be used for scene control (switch mode) or dimming control (pushbutton mode). The light level can be adjusted using the DALI protocol or the 1-10V output value depending on the device.

e-Multisensor AutoOnOff is a device for automatic lighting switching on control when movement is detected and the ambient light level is below a minimum pre-defined value. If the light level is over the pre-defined value, the device will keep the lights off even a movement is detected. An automatic light switching off is done in two ways: when the amount of natural light in the zone becomes over the pre-defined value even the zone is occupied or by timeout since the last detection. An auxiliary external input can be used for keeping the lights on (switch mode) or to temporarily trigger the lights on (pushbutton mode).

Energy Saving

- Constant Light Controller (AutoDim model)
- Light level setpoint setting
- Motion detector to switch off unoccupied areas
- Timeout setting for switching off occupancy relay
- External input for switch and trigger in AutoOnOff model or Scene and Manual dim in AutoDim model.
- Up to 75% energy saving

Models

- ON/OFF: May fix the light level from which the output relay is switched on when the area is occupied.
- AUTODIM: May regulate the light level of occupied zones to a pre-defined setpoint value.

Features

- Supply Voltage 95-250Vac 50/60Hz
- Relay output 10A/250V for motion sensor (models 1-10V and OnOff)
- Timeout switching off: 5 s to 30 min, ON position to keep light switched on
- Detection area 6x6 m (installed at 3 m high)
- Max detection distance 8 meters
- 88 motion sensor detection zones
- Motion sensor coverage area 360º
- Isolated analog 1-10V output (AutoDim)
- Lux range 0 to 1000 lux (AutoDim), 0 to 2000 lux (AutoOnOff)
- Light sensor measurement angle +/- 50º
- Light setpoint setting for automatic dimming
- Light sensor with visible color correction radiation filter
- Flush mounting in suspended ceiling
- Dimensions 80x50 (ØxH, mm)

Installation

- Direct connection from sensor to luminaire (see diagram)
- Flush mounting in suspended ceiling
- Adjustable timeout for output relay automatic switching off
- Minimum light level setting adjustment for automatic light switching on
- Lighting setpoint adjustable for automatic light dimming control

CE

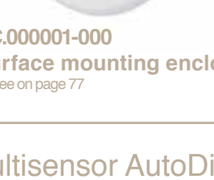
Ordering numbers

DP. 501100-010
e-Detector AutoOnOff

MS.583000-000
e-Multisensor AutoDim DALI

MS.503200-000
e-Multisensor AutoDim 1-10V

MS.503201-000
e-Multisensor AutoOnOff



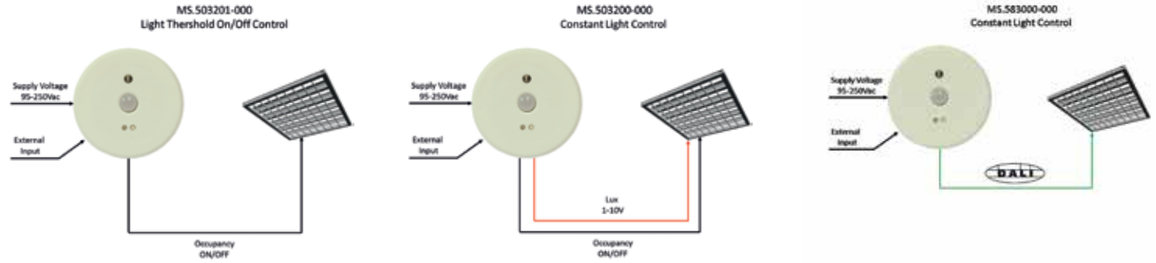
AC.000001-000
Surface mounting enclosure
(*) See on page 77

e-Multisensor AutoOnOff

e-Multisensor AutoDim 1-10V

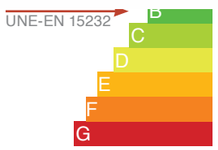
e-Multisensor AutoDim DALI

Input / Output Diagrams



DDS0013508000-0, MS.50320X-000 e-Multisensor Auto DDSEN

UNE-EN 15232



Sensors

e-Sensor Noiseless
e-Detector Noiseless

Motion sensors for noiseless ambients

Wall mount and ceiling mount motion sensors for hotel rooms and offices

DATASHEET

e-controls®
electronic intelligent controls, s.l.

DP.801110-000

Motion detection for room occupancy control

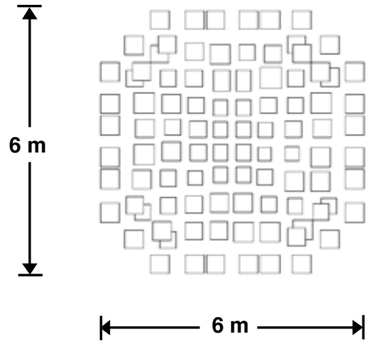
e-Sensor Noiseless and **e-Detector Noiseless** are two devices designed to detect persons in motion and used to switch off the climate and lighting systems to save energy when zones become unoccupied. The products are intended to be installed in zones like hotel rooms and offices, where it wants to avoid any mechanical noise of other conventional sensors, providing a high level of comfort for the guest.

Through an output signal of transistor type, the device offers a noiseless contact that closes the circuit any time the device detects motion, generating a short pulse to the control system that manages the climate and lighting of the zone. A potentiometer to adjust the motion sensitivity to any environment is included on the devices and allows installing the device in any place.

e-Sensor Noiseless is a flush wall mounting motion sensor with different finishing colors and **e-Detector Noiseless** is a ceiling mounting device for flush or surface mounting. Both models are available for operating voltages of 12-24Vac/Vdc and for mains electrical network at 95-250Vac.

- Noiseless output transistor type
- High detection sensitivity
- Detection area 36m^2
- Adjustable detection sensitivity
- Wall or ceiling mounting

Detection diagram



Coverage area

Altura Height (m)	Diámetro Diameter (m)	Area Area (m^2)
2,5	6	28
3,0	6,8	37
5,0	11	104
7,0	16	204
10,0	23	416

(*) At optimal sensitivity conditions

Features

- Supply Voltage:
  - Noiseless: 12-24Vac/Vdc
  - Noiseless Mains: 95-250Vac, 50/60Hz
- Detection area 6x6 m (ceiling model installed at 3 m high)
- Max. detection distance 8 meters
- Adjustable detection sensitivity
- Motion output:
  - Optotransistor type
  - Maximum voltage: +60V
  - Maximum current: 15mA
  - Activation time: Pulse fixed at 5 s.
- e-Sensor:
  - Wall flush mounting
  - Dimensions: 87x79x32 mm
  - Weight: 90 g
- e-Detector:
  - Ceiling mounting (flush or with surface enclosure)
  - Dimensions: 80x50 mm (DxH)
  - Weight: 70 g

CE

Ordering numbers

DP.801110-00X
e-Sensor Noiseless
Motion sensor for wall mounting, 12-24Vac/Vdc
X=0: White finished, X=1: Aluminum finished

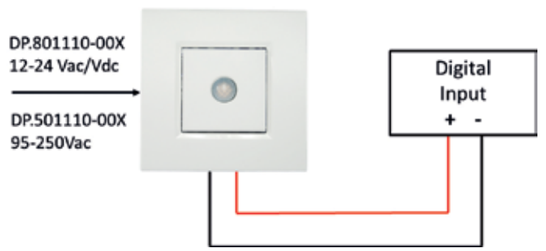
DP.501110-00X
e-Sensor Noiseless Mains
Motion sensor for wall mounting, 95-250Vac, 50/60Hz
X=0: White finished, X=1: Aluminum finished

DP.801110-010
e-Detector Noiseless
Motion sensor for ceiling mounting, 12-24Vac/Vdc

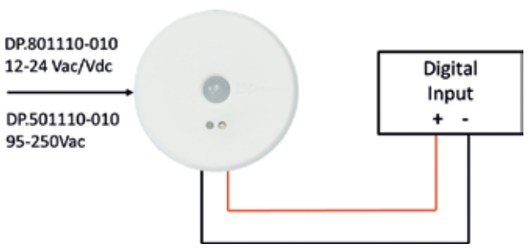
DP.501110-010
e-Detector Noiseless Mains
Motion sensor for ceiling mounting, 95-250Vac, 50/60Hz

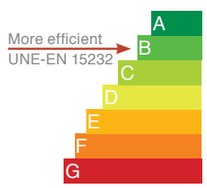
AC.000001-000
Surface mouting enclosure

e-Sensor Noiseless



e-Detector Noiseless





DDS0014525010-0, DP.801110-000 - e-Sensor Noiseless DDSEN

Sensors

e-Multisensor 0-10V

Light and motion sensor for control systems

Motion and light sensors for energy saving in buildings

DATASHEET

MS.602000-000

Detection area 36m^2

High sensitivity

0 to 1000 lux range

Flush mounting in suspended ceiling

Relay output and 0-10V analog

Adaptable to any control system

Energy saving in buildings

e-Multisensor 0-10V is an innovative multisensor including a motion detector and a light sensor for occupancy control and light level monitoring in a zone of a building. The data is sent to a control system for further processing of the light and HVAC management, in order to ensure an optimum energy saving of the facility. The light level is measured by the device and provided to the control system for later processing. The motion sensor can be used for automatic light and HVAC on-off switching depending on the zone occupancy state, switching it off and saving energy when the zone is in unoccupied mode.

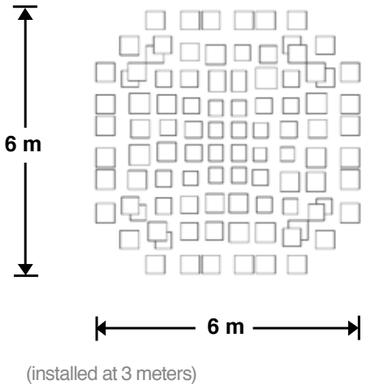
The device is designed for flush mounting on a suspended ceiling providing a wide coverage area of 36m2, making it an ideal solution for loft offices, with a high sensibility level to detect the smaller movements and optimizing its operating. Finished with an ultra slim case design and an innovative aesthetic design, the product is the perfect solution for engineers, architects and indoor designers that are looking an innovative and elegant design product.

A relay output for the motion detector signal with adjustable 1 second to 50 minutes timeout for automatic off switching is included on the device. The light sensor signal is provided by means of a 0-10V analog output.

Energy Saving

- Light sensor for light dimming
- Motion detector for occupancy management
- Adjustable relay output timeout 1 second to 50 minutes
- Automatic switching off lights when zone unoccupied
- Occupancy control HVAC management
- May integrate in any control system

Detection diagram



(installed at 3 meters)

Features

- Supply Voltage 24 Vac / 24 Vdc
- Relay output for motion sensor
- Timeout switching off relay 1 s to 50 min
- Detection area 6x6mts (installed at 3 m high)
- Max detection distance 8 meters
- 88 motion sensor detection zones
- Motion sensor coverage area 360º
- Light sensor 0-10V analog output
- Lux range 0 to 1000 lux
- Light sensor measurement angle +/- 50º
- Light sensor with visible color correction radiation filter
- Flush mounting in suspended ceiling
- Dimensions 80x50 (ØxH, mm)

Ordering numbers

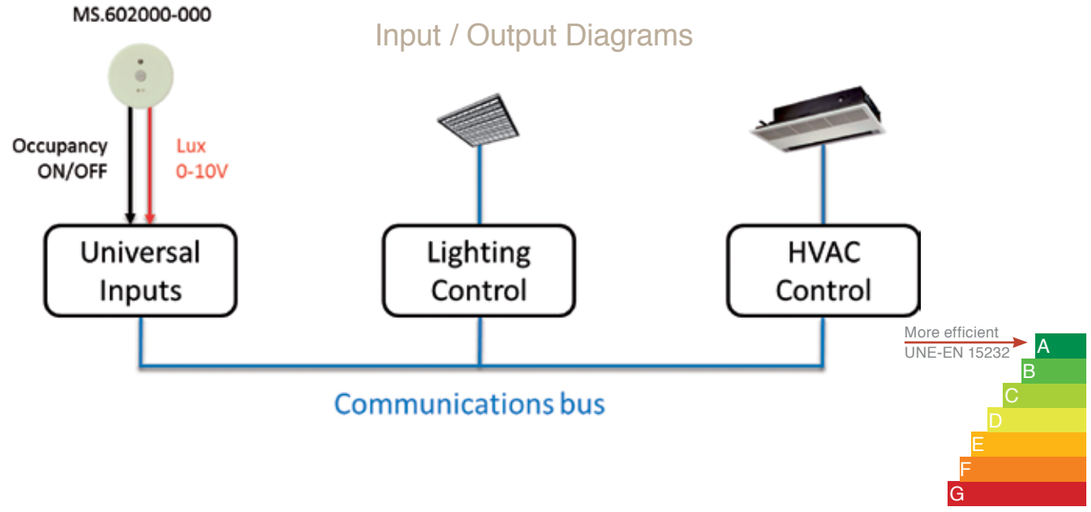
MS.602000-000
e-Multisensor 0-10V

AC.000001-000
Surface mouting enclosure

DDS00011508000-0, MS.602000-000 - e-Multisensor 0-10V DDSEN

e-Multisensor 0-10V

Input / Output Diagrams



Sensors

e-Multisensor DALI

Motion and light sensors
for BMS applications

Automatic light dimming and switching

DATASHEET

e-controls®
electronic intelligent controls, s.l.

Lighting controls in buildings

e-Multisensor DALI is a family of multisensors for lighting control in DALI systems, based on one device for bus systems to operate with a gateway for bus management, and an stand-alone device for direct management of luminaries, with no need of additional gateways or external devices.

The device is including a high sensitivity motion sensor, designed to automate the switching on and off function of the luminaries in a zone, depending of the occupancy status, and a light sensor to measure light levels and do a constant light control based, taking the advantage of the natural light inside the building, managing the light level of the luminaries to save as much energy as possible.

A patented mechanism based in two flanges fitted around the motion sensor lens, allows to adjust the covering area of the motion sensor depending on the device position, obtaining a better motion detection over the areas of interest and avoiding false detections in neighbouring areas. It can also be possible to adjust every flange separately, obtaining better results when the device is installed in zones like corridors, loft offices, etc…

The products are designed for flush mounting on a suspended ceiling providing a wide detection area of up to 9x9m (installed at 3 m high), making it an ideal solution for open space offices.

Automatic on/off switching and light dimming

Motion detection area adjustable

Detection area up to 13x13 m

Up to 75% energy saving

Ultra Slim design for suspended ceiling facility

Motion sensitivity adjustable by potentiometer

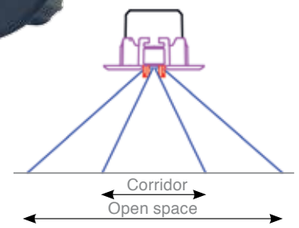
Ordering numbers

MS.082002-000
e-Multisensor Bus DALI

MS.082002-001
e-Multisensor Bus DALI Anthracite

Features Bus DALI model

- Supply Voltage:
  - DALI Bus: DALI supply (16Vdc)
  - DALI consumption: 4,5mA
- Detection area 6x6mts (at 3 m high)
- Max. detection distance 8 meters
- 88 motion sensor detection zones
- Motion sensor coverage area 360º
- Lux range 0 to 1000 lux
- Light sensor measurement angle +/- 50º
- Light sensor with visible color correction radiation filter
- Flush mounting in suspended ceiling
- Dimensions 80x50 (ØxH, mm)
- Motion sensitivity adjustable by potentiometer



Installation height	Detection diameter	Detection width corridors
2,0	5,0	3,6
2,5	5,5	3,8
3,0	6,0	3,9
3,5	7,0	4,0
4,0	7,5	5,5
5,0	8,0	6,5

NOTE: Dimensions in meters

MS.582002-010
e-Multisensor DALI Mains Wide

Installation height	Detection diameter
2,0	6,0
2,5	7,5
3,0	9,0
3,5	10,5
4,0	12,0
5,0	13,5

NOTE: Dimensions in meters

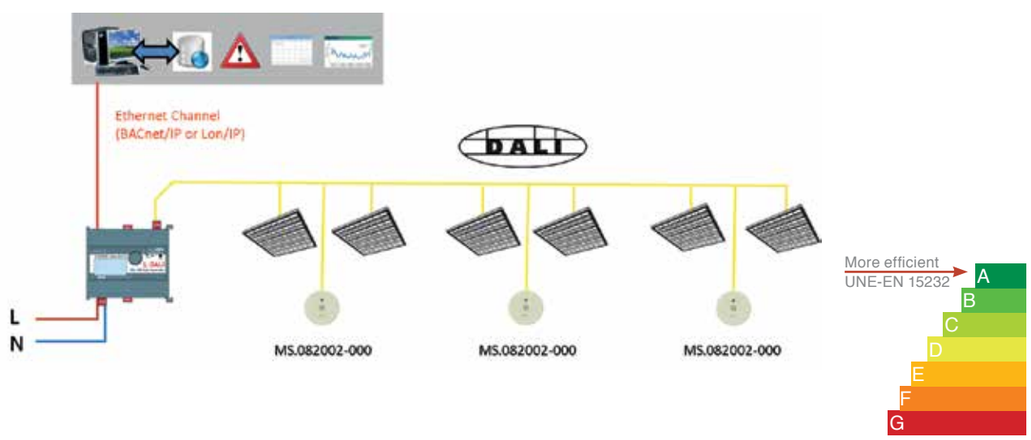
Features Mains Wide model

- Supply Voltage: 95-250Vac, 50/60 Hz
- Detection area 9x9mts (at 3 m high)
- Max detection distance 8 meters
- 111 motion sensor detection zones
- Motion sensor coverage area 360º
- Lux range 0 to 1000 lux
- Motion sensitivity adjustable by potentiometer
- In field sensor calibration with luxometer

e-Multisensor Bus DALI

Input / Output Diagrams

DDS001551200-0, MS.082001-000 e-Multisensor Bus DALI DDSEN



Energy saving in buildings

e-Multisensor Bus is an innovative multisensor including a high sensitivity motion detector, a light sensor and a temperature sensor for occupancy control, light level and temperature monitoring in a zone. A communication bus on the device allows transmitting the information to other devices on the network that actuate over the lighting components switching them on, off or dimming. A constant light controller is included on the device which is used to adjust light level according to the light setpoint configured and the combination of natural and artificial lighting. The motion sensor is used to automatically switch on and off the lights depending on the zone occupancy status, switching them off and saving energy when the zone is unoccupied.

Two different products are available with different communication media: LonWorks® twisted pair TP/FT-10 and LonWorks® PowerLine. Model for Lon TP/FT-10 networks is used with 1-10V output devices or DALI controller/gateways that are used to control the light dimming. The powerline model is using the mains electrical network as a transmission channel and is specially indicated for building refurbishment where no special cables are needed to install on the facility.

The products are designed for flush mounting on a suspended ceiling providing a wide coverage area of 36m2 (installed at 3 m high), making it an ideal solution for loft offices.

- Automatic light dimming and motion detection
- Detection area 36m^2
- Up to 75% energy saving
- Ultra Slim design for suspended ceiling facility
- Motion sensitivity adjustable by network
- LonWorks communication

Energy Saving

- Light sensor for light dimming
- Motion sensor for automatic on/off switching
- Automatic light level control
- Up to 75% energy saving
- Constant light controller with two outputs for window and corridor lighting areas at the same time.
- Neighbor lighting control output.
- Minimum lighting value configurable.

Integration

- Providing EN15232 Class A
- ISO/IEC 14908 LonWorks® network
- LonMark® compatible
- Motion sensitivity adjustable by network
- In field sensor calibration with luxometer or by reflection index

LonMark Profiles

- 1 x Light Sensor
- 1 x Presence Detector
- 1 x Constant Light Controller
- 1 x Occupancy Controller
- 1 x Temperature Sensor

Installation

- TP/FT-10 with twisted pair bus
- PowerLine over mains electrical network

Features

- Supply Voltage:
  - TP/FT-10: 24 Vac/24 Vdc
  - PowerLine: 95-250Vac 50/60Hz
- TP/FT-10, PowerLine channel
- ISO/IEC 14908 LonWorks® network
- Detection area 6x6mts (installed at 3 m high)
- Max detection distance 8 meters
- 88 motion sensor detection zones
- Motion sensor coverage area 360º
- Lux range 0 to 1000 lux
- Light sensor measurement angle +/- 50º
- Light setpoint setting for automatic dimming
- Light sensor with visible color correction radiation filter
- Flush mounting in suspended ceiling
- Dimensions 80x50 (ØxH, mm)

Ordering numbers

MS.623000-000
e-Multisensor Bus Lon TP/FT-10

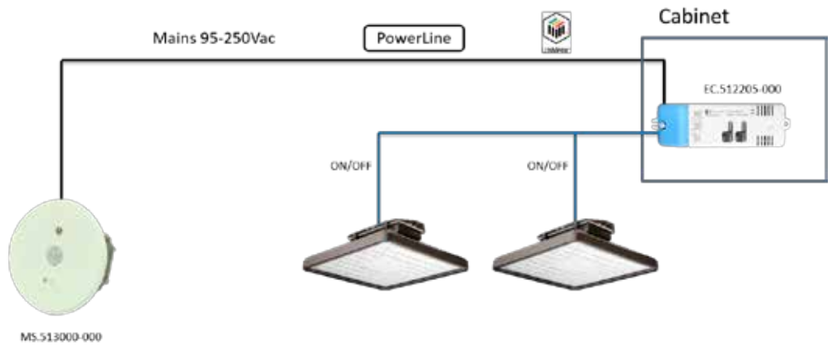
MS.513000-000
e-Multisensor Bus Lon PowerLine

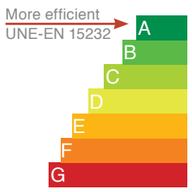
AC.000001-000
Surface mounting enclosure
(*) See on page 79

e-Multisensor Bus Lon PowerLine

Input / Output Diagrams

DDS00105010000-I, MS.XX2000-000 e-Multisensor Bus Lon X DDSEN





Sensors

e-Multisensor 0-10V

Motion detection and light sensor in facilities

MS.602000-000

Energy saving with control systems

The device is including a high sensitivity motion sensor used to detect smallest movements like hanging up the phone, picking up a pen, etc. to allow detect an occupied zone. It is designed to cover an area of 36m2, enough to fit a 4 to 6 people working place. A free contact relay output for the motion sensor is used to inform about the occupancy status of the zone to a digital input of the control system. When a movement is detected the relay output goes to the on state, actuating over the digital input of the system which will automatically switch on the lighting and the HVAC systems. After a period of inactivity on the zone, the relay will automatically turn to off and the control system will switch off the lighting and the HVAC systems for energy saving purposes. The switching off time can be configured by means of a potentiometer on the back side of the product.

A light sensor is also included on the device, sending the light level through a 0-10V analog output which will be sued for the control system for light dimming purposes, depending on the natural light level incident in the building. This control solution is providing an optimum light level on the building, saving the maximum energy as possible.

- Energy saving when zone is unoccupied
- Light dimming depending on natural lighting
- Adaptable to any control system
- May control the HVAC system

Sensors

e-Multisensor AutoDim 1-10V

Automatic light dimming in buildings

MS.503200-000

Stand-alone light dimming in buildings

e-Multisensor AutoDim 1-10V is a device that connects to a luminaire or group of luminaires for direct control. The device is powered at the mains electrical network voltage and a phase contact output relay is available for automatic light switching on and off depending on the zone occupancy state, providing an energy saving due to an automatic light switching off when the zone turns to unoccupied. A 1-10V output is available on the device for an automatic light dimming control, which is directly connected to the ballast or led driver of the luminaire.

Operating mode:

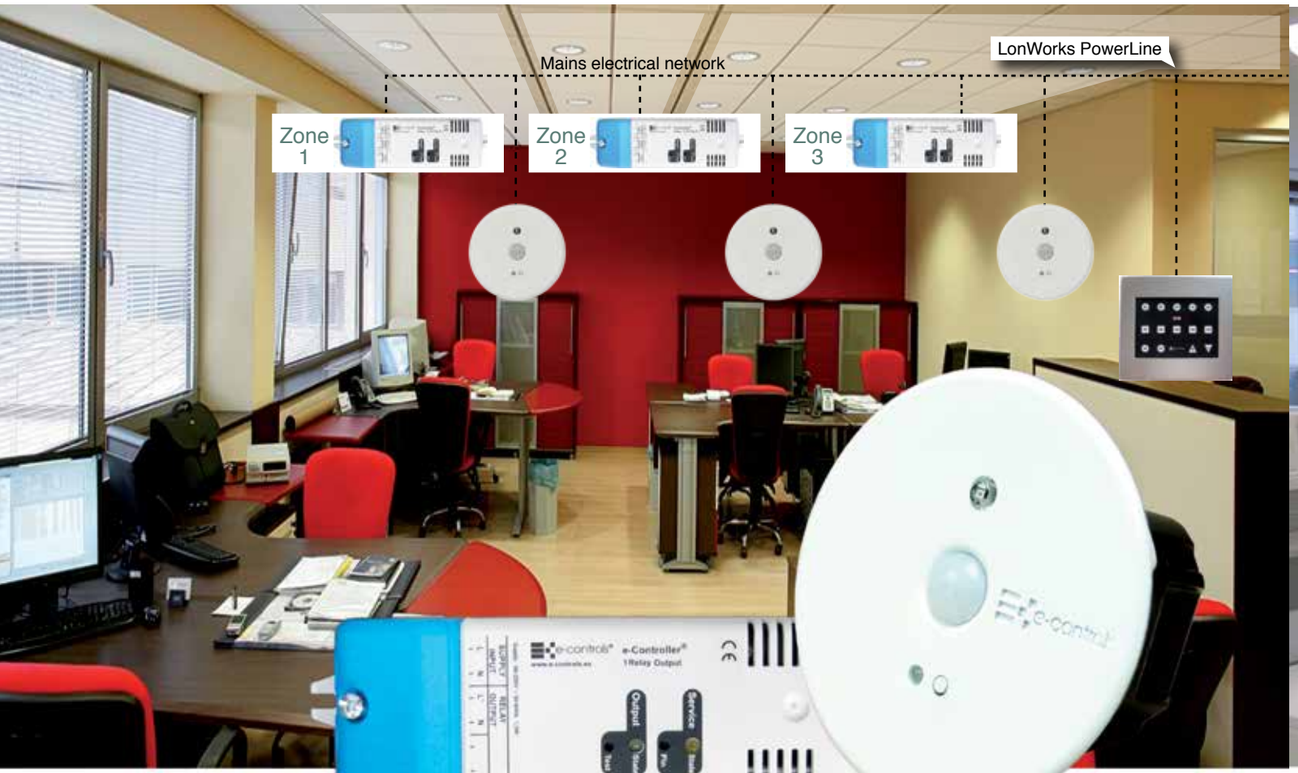
The lights automatically turns on when a movement is detected. At that moment the device dims the lights to a pre-defined setpoint value, ensuring the maximum energy saving as possible thanks to the digital control mechanism built in the device. When the zone goes to unoccupied, the lights turns to off after a pre-defined timeout has been expired.

An auxiliary external input can be configured for Scene control or manual lighting setpoint modification. When the input is configured for Scene control, the user can use an external switch button to bypass the sensors and fix a pre-defined light value on the zone i.e. for powerpoint presentations. When the input is configured in setpoint modification, the user can temporarily change the lighting setpoint using an external pushbutton, to increase or decrease the light level on the zone. The original setpoint will be again used after the lights will switch off and on again.

- Automatic light dimming
- Auto switching unoccuppied zones to off
- Adjustable switching off time
- Stand-alone control
- ON/OFF and AutoDim operating modes

Sensors | e-SaveLux

Automatic light dimming in buildings



EC.510200-000

MS.512000-000

Maximum savings, minimum installation

e-SaveLux is an innovative solution for automatic light dimming in buildings that provides up to 75% lighting energy savings and reduces installation costs by 25% with respect to traditional wired systems, as no additional wiring is required.

e-SaveLux consists of a multisensor network that incorporates presence and luminosity sensors to detect zone occupancy and measure room lighting levels and send the data to receivers that control luminaire light levels and provide the dimming function in order to achieve maximum energy saving at all times.

This system provides automatic lighting control by switching on and off the lights in different building zones depending on their occupancy and by dimming lighting to its optimum level as required in each situation. Particularly designed for rehabilitation and refurbishment of installations, this system is conceived for small to medium buildings, with no additional wiring requirements since it uses the electric mains to transmit data between the various devices in the installation.

- Automatic light dimming
- 75% lighting energy savings
- 25% savings on installation costs
- Meets building standards on energy saving
- No additional wiring to install
- No computer required for commissioning

Sensors | e-Multisensor Bus Lon TP/FT-10

Automatic light dimming in buildings

MS.623000-000

Integrated Lighting/Clima energy efficiency solution

There is a growing need for lighting and HVAC control in office building environments to get accurate energy savings, properly managing the services depending on the occupancy state and the natural lighting striking inside the building, to get the maximum energy saving as possible. There is a twofold objective: switching off the services on unoccupied zones and do an automatic light dimming to adjust the lighting at a predefined setpoint value.

In this application note, the e-Multisensor Bus TP/FT-10 device is measuring the light level of the zone and compares it with the predefined setpoint value, obtaining as a result the level at which the luminaires must be set. This result together with the zone occupancy status provided by the motion sensor is sent to the lighting control system for the dimming process. When people in a zone moves to other zone on the building, the motion sensor changes to unoccupancy mode and stops the HVAC system or turns it to ECO mode, switching off the lighting system or dimming it to a low level value.

The communication bus ensures the device integration with the building global management control system to allow the occupancy status and light level values monitoring through an SCADA application for a further analysis.

- Occupancy detection and Light sensor
- Maximum savings with constant light controller
- Automatic switch-off in unoccupied zones
- Integrable LonMark Open System
- LonWorks® TP/FT-10 network

Sensors

Multilux Bus

Multisensor for high-bay applications

Automatic light dimming and switching for industrial applications

e-controls® electronic intelligent controls, s.l.

DATASHEET

ML.623000-000 ML.623000-001

Lighting energy saving in large areas

Multilux Bus is an innovative multisensor designed to be installed in large areas like industrial buildings, freezing areas, airports, outdoor lighting, etc., providing a lighting control based on motion detection and lighting dimming, giving a high energy saving switching lights off in unoccupied zones and dimming lights depending on the setpoint configured.

A very accurate motion sensor allows installing the device up to 18 metres high, being an ideal product for logistic areas and other buildings where there are few people and would be able to switch lights off. Two kinds of lens, one with 360º detection area and another with 180º detection for aisles, which allows selecting the correct product depending on the installation.
An integrated lighting sensor on the device measures the light level on the zone and adjusts it depending on the daylight level inside the building and setpoint configured.

There are three product references: DALI, TP/FT-10 LonWorks twisted pair and PowerLine to communicate through electrical mains. The LonWorks models include all needed functions for automatically lighting control. The DALI one is used with a DALI gateway in a system.

The device can operate down to -25ºC and is mounted in an IP65 surface mounting enclosure, designed to be installed in hostile environments like freezing warehouses and outdoor lighting.

Height detection up to 18 metres

Motion sensitivity adjustable by network

Lighting range 0 to 500 lux

Operating range -25ºC a +50ºC

IP65 surface mounting enclosure

Energy Saving

- Motion sensor to switch off unoccupied zones
- Light sensor for automatic light dimming
- Light threshold to switch off non-dimming luminaries
- Temperature sensor for climate control

Models

- DALI: For DALI networks
- Lon TP/FT-10: LonWorks twisted pair to connect to DALI gateways or 1-10V outputs
- Lon PowerLine: Power line Communication up to 1-10V output modules
- Lens 360º: Omni directional detection
- Lens 180º: Linear coverage for aisles

Detection coverage area

Product	Height	Diameter
	3	6
	4	8
	6	11
	8	13
	10	13
	>12	9

Product	Height	Length	Width
	3	6	1,4
	4	8	1,2
	6	11	1,0
	8	12	1,0
	10	15	0,5
	>12	18	0,5

Features

- Supply Voltage:
  PowerLine: 95 to 250Vac - 50/60Hz
  TP/FT-10: 24Vac/Vdc
  DALI: 16Vdc DALI supply, 4,5mA
- Motion pyroelectric sensor of 4 elements
- Maximum detection distance 18 meters
- Coverage detection angle 180º or 360º
- Light sensor range: 0 to 500 lux
- Light sensor resolution: 12 bits
- Light sensor measurement area +/- 50º
- Detection sensibility adjustable by bus
- Light level setpoint setting by bus
- Light sensor with visible colour correction radiant filter
- Surface mounting
- Protection level IP65
- Dimensions and weight
  Model 360: 80x82x55mm, 250 gr.
  Model 180: 80x82x85mm, 295 gr.

Ordering numbers

ML.082001-000
Multilux 360 DALI

ML.62X000-000
Multilux 360 Lon TP/FT-10

ML.51X000-000
Multilux 360 Lon PowerLine

OPTIONS:
X=1 → Motion
X=2 → Motion Light
X=3 → Motion Light Temperature

ML.082001-001
Multilux 180 DALI

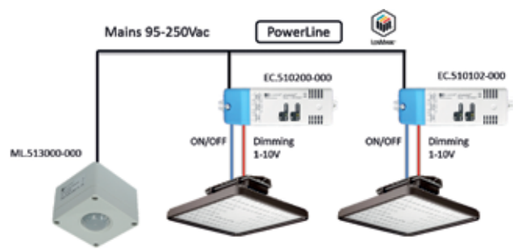
ML.62X000-001
Multilux 180 Lon TP/FT-10

ML.51X000-001
Multilux 180 Lon PowerLine

OPTIONS:
X=1 → Motion
X=2 → Motion Light
X=3 → Motion Light Temperature

CE

Multilux Bus
Inputs / Outputs Diagram



PowerLine communication solution

DALI communication solution

LonMark Functional Profiles

Light Sensor, Presence Detector, Occupancy Controller, Constant Light Controller, Temperature Sensor

DDS00145160000-0 – Multilux Bus

Industry

e-Controller 2In2Out Autoinstall

Switching contacts remote control through the mains electrical network

Remote sensors control and relay outputs with no new wires

DATASHEET

e-controls® electronic intelligent controls, s.l.

EC.512207-000

Inputs and outputs remotely controllable with no new wires

The **e-Controller 2In2Out Autoinstall** is a device designed to do a remote control of its outputs relays from the input contacts of an equivalent remote e-Controller. With this system it is possible to monitor the input status of the remote device watching at the values on the outputs of the near device.

A data transmission system that takes the advantage of using the mains electrical network as a transmission channel is used on the device to communicate with other devices, making it particularly interesting on places where additional wires are difficult or impossible to install for cost reasons.

The digital inputs of the device can be configured to work as pushbuttons or switch contacts. Some pushbuttons and led indicators are included on the front panel of the device to test the outputs and monitor the inputs status. An auto-installation mechanism is included on the device for input and output logical connections up to 26 devices, with no computer required for commissioning.

The system has multiple applications both in industry and buildings: water level status monitoring in pump wells, motor on-off remote control, machinery switching on and off, etc.

Input contacts remote monitoring

Relay outputs remote switching

No computer required for commisioning

No additional wiring required for data transmission

Robust and reliable transmission

LonWorks® network

Remote Control

- Input contacts status monitoring
- Remote outputs direct control
- Data transmission reliable

BMS monitoring and control

- Inputs status monitoring in SCADA application
- Output relay status control

Integration

- ISO/IEC 14908 LonWorks® network
- LonMark® compatible

Installation

- Data transmission using the mains electrical network
- No computer required for commisioning

Features

- Supply Voltage 95-250Vac 50/60Hz
- Two phase contact digital inputs
- Digital inputs configurable as pushbutton or contact
- Two phase contact 5Amp relay outputs
- Input status LED indicators
- Outputs test pushbuttons and outputs status LED indicators
- Auto-intallation mechanism between e-Controllers
- Mains electrical network for data transmission (PowerLine)
- ISO/IEC 14908 LonWorks® network
- LonMark® Open Systems integrable

Ordering number

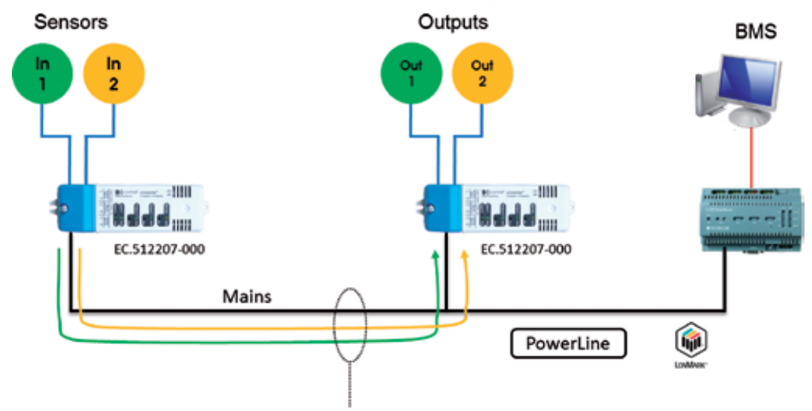
EC.512207-000
e-Controller 2In2Out Autoinstall

LONMARK®

CE

e-Controller 2In2Out Autoinstall

Input / Output Diagrams



Transmission of multiple signals through the mains

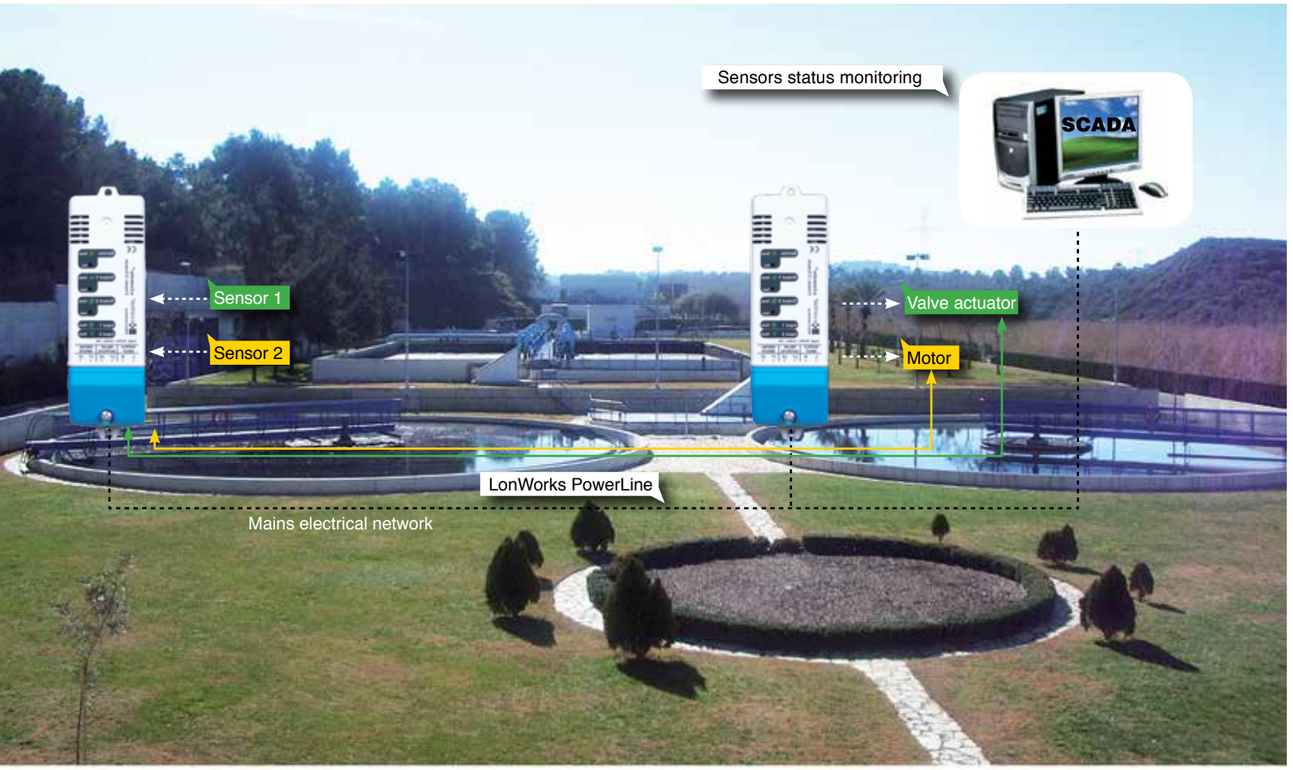
DDS00135010000-0, EC.512207-000 e-Controller 2E2S Autoinstall DDSEN

Industry

e-Controller 2In2Out Autoinstall

Remote sensors control through the mains electrical network

1 Application Water Treatment Plant



Control signals transmission using the mains electrical network

The aim of this application note is to transmit the sensors status signals connected to an e-Controller device to another remote e-Controller device that will show on its relay outputs the inputs status connected on the first device. The main advantage of this application note is the control transmission system between the e-Controller devices which are using the mains electrical network, preventing to install new wires for the communication, which in most cases are not possible.

Two digital inputs are available on the **e-Controller 2In2Out Autoinstall** device to which different sensors are connected for the plant control, with the aim to transmit the inputs status to another e-Controller with two relay outputs available to monitor the inputs status of the remote e-Controller. No computer is required for commissioning since an advanced algorithm is included on the e-Controller devices to automatically configure the logical addresses between the digital inputs of one e-Controller transmitter and the output or outputs of one or more e-Controllers receivers. This mechanism is done using the mains electrical network and can be extended with up to 26 different devices with the auto-installation system.

- Multilple signals through the mains electrical network
- Robust and reliable transmission
- No computer required for commisioning
- Robust and reliable transmission
- SCADA application for signal monitoring

ACCESSORIES

e-controls® electronic intelligent controls, s.l.

Surface mounting enclosure for **e-Display**

Description: Use this surface mounting enclosure for the e-Display when not possible to install in flush mounting.

Dimensions: e-Display: 137x81x33 mm, e-Display Plus: 152x87x27 mm

Ordering numbers: e-Display AC.000010-000
e-Display Plus..... AC.000011-000

Surface mounting enclosure for **e-Multisensor**

Description: Use this surface mounting enclosure for the e-Multisensor product family when no suspended ceiling is available to install the device.

Dimensions: 83x68 mm (ØxH)

Ordering number: AC.000010-000

e-Temp: Flush mounting temperature sensor

Description: One NTC 10K output compatible with e-Room and e-Room Plus HVAC room controllers analog input.

Ordering numbers:

Pure white front panel - Bticino Light AC.000100-000
Mat aluminium front panel - Bticino Light AC.000100-001
Pure white front panel - Simon S.82 ..... AC.000101-000
Mat aluminium front panel - Simon S.82 ..... AC.000101-001

e-Temp Surface: Surface mounting temperature sensor

Description: One NTC 10K output compatible with e-Room and e-Room Plus HVAC room controllers analog input.

Ordering number: AC.000102-002

Electromagnetic transformer for suplying devices

Ordering numbers:

Input Voltage: 230 Vac / Output Voltage: 24 Vac / Power: 20VA — AC.300000-000

Input Voltage: 110 Vac / Output Voltage: 24 Vac / Power: 10VA — AC.400000-000

Three phase coupler for LonWorks Powerline networks 95-230Vac, DIN rail mounting

Device for communications signal retransmission transmitted by other PowerLine device to other mains electrical phase.

Ordering numbers: AF.511300-000 Three phase coupler, non isolated version, R-S-T-N / L1-N1
AF.511301-000 Three phase coupler, isolated version, R-S-T-N / L1-N1

PowerLine Band elimination filter 115KHz-132KHz, 250Vac, 63Amp, single phase, DIN rail mounting

Electromagnetic noise filtering device caused by other devices on the mains network using the same frequency than the PowerLine band.

Ordering number: 10-0000304

PowerLine Line filter 115KHz-132KHz, DIN rail mounting

Supression of high frequency interfering signals for high noise level installations.

Ordering number: 10-0000302

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