# ASSISTED LIVING SOLUTIONS FOR THE HEALTHCARE SECTOR





### INSTALLATION AND USER GUIDE



## **Topics**

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#### DESIGN/DEFINITION

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#### TRAINING

Standalone solution: p. 21 System solution: refer to the instruction sheet for the actimetry software Cat. No. 0 783 80 Standard training possible at our accredited Innoval centres. Project training possible at our accredited Innoval centres or on site.

#### ACCEPTANCE TESTING

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System solution: refer to the instruction sheet for the actimetry software Cat. No. 0 783 80

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## Installation principle: assisted independent living

#### **EXAMPLE OF A ROOM INSTALLATION**

The installation of sensors close to the bed enables the room's low-level lighting to be switched on as soon as the resident gets out of bed. This solution, which helps people to maintain their independence, reduces energy consumption associated with lighting.



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#### EXAMPLE OF A DEPARTMENT INSTALLATION





## **Device presentation and installation**



#### AUTOMATIC SWITCH CAT. NO. 0 784 54

The automatic switch switches on the illuminated signs and pilot lighting as soon as the resident gets out of bed. To be installed in the room, 0.3 m from the floor, on each side of the bed and at the foot of the bed. Requires special configuration using the mobile configuration tool Cat. No. 0 882 30

#### **Technical characteristics**

- Power supply: 100-240 V
- Consumption: in standby mode: 0.2 W
- Operating temperature: -5 to +45 °C
- Protection index: IP20
- Dimensions (H x W x D): 45 x 45 x 33.6 mm
- Installation:
- Flush-mounted in 2-module box, depth 40 mm min., to be used with plate Cat. No. 0 788 02 and support Cat. No. 0 802 51
- Surface-mounted with support frame
- 180° infrared detection
- Light level threshold: 5 to 1275 lux
- Time delay adjustable from 5 s to 30 min
- Controls the following bulbs:
- 2000 W incandescent or halogen 230 V  $\sim$
- 1000 VA, ELV halogen with ferromagnetic or electronic transformer
- 500 VA compact fluorescent
- 10 x (2 x 36) W for fluorescent tubes - 500 VA for LEDs

Dimensions



Pushbutton: Pilot and low-level lighting control

Note: to ensure the safety of residents when the power is restored following a power cut, the device automatically switches on the low-level lighting circuit for the period of the time delay.

#### AUTOMATIC SWITCH CAT. NO. 0 784 54 (CONTINUED)

#### **Detection area**



Flush-mounted wall installation with flush-mounting box





Wall installation with surface-mounting frame



## **Device presentation and installation (continued)**



Luminous flux: 3.4 lumens

This can be customised using labels available from the online catalogue in the "Find out more" tab

#### **ILLUMINATED SIGNS**

#### White LED sign Cat. No. 0 785 20

Bulkhead sign with low-level light, switched on automatically when the resident gets up, so that they can get their bearings and move around without assistance during the night. Conforms to EN 62 094-1.

#### **Technical characteristics**

- Power supply: 230 V
- Consumption:
- In standby mode: 0.2 W
- Max.: 1 W
- Operating temperature: -5 to +50°C
- Protection index: IP 41
- Dimensions (H x W x D): 45 x 45 x 32.7 mm
- Installation:

- Flush-mounted in 2-module box, depth 40 mm min., with plate Cat. No. 0788 02 and support Cat. No. 0802 51

- Surface-mounted with support frame
- Luminous flux: 3.4 lumens



#### Connection



## Flush-mounted wall installation with flush-mounting box



#### Surface-mounted wall installation with support frame





#### ILLUMINATED SIGNS (CONTINUED)

#### Pilot light Cat. No. 0 785 10

Bulkhead light to be installed in the bedhead strip for pilot lighting, to make it easier and safer for the resident to move around during the night. Conforms to EN 62 094-1.

#### **Technical characteristics**

- Power supply: 230 V
- Consumption:
  - Min.: 0.2 W
  - Max.: 1 W
- Operating temperature: -5 to +50 °C
- Protection index: IP 41
- Dimensions (H x W x D): 45 x 45 x 32.7 mm
- Installation: in special support for bedhead strip
- Luminous flux (for 1 W): 2.8 lumens





#### Installation in the bedhead strip



## **Device presentation and installation (continued)**



Luminous flux: 5.2 lumens

This can be customised using labels available from the online catalogue in the "Find out more" tab

Supplied without label

#### ABOVE DOOR ILLUMINATED SIGN CAT. NO. 0 785 22

White LED illuminated bulkhead sign to be installed above the bathroom door. It is switched on automatically when the resident gets up, so that he/she can get his/ her bearings and go to the bathroom without assistance during the night. Customisable labels can be affixed to the hinged window. Conforms to EN 62 094-1.

#### **Technical characteristics**

- Power supply: 230 V
- Max. consumption: 1 W
- Operating temperature: -5 to +50 °C
- Protection index: IP 41
- Dimensions (H x W x D): 45 x 112.5 x 20 mm
- Installation:
- Flush-mounted in 5-module box, depth 40 mm min.
- Surface-mounted with support frame
- Luminous flux: 5.2 lumens

Dimensions



#### Surface-mounted wall installation with support frame Flush-mounted wall installation with flush-mounting box CLICK CLICK CLICK CLICK 40 mm min. 0 2 0 8 8

## **Device presentation and installation (continued)**



#### CEILING MOUNT SWITCH SENSOR FOR BATHROOM CAT. NO. 0 488 06

This 360° infrared and ultrasonic sensor provides very sensitive presence detection and picks up the slightest movement. It controls the light source in the bathroom. It can operate automatically and/or manually. Requires special configuration using the mobile configuration tool Cat. No. 0 882 30

#### **Technical characteristics**

- Power supply: 100 240 V $\sim$
- Standby consumption: 0.8 W
- Operating temperature: -5 to +45 °C
- Protection index: IP 20
- Dimensions: diameter 122 mm
- Installation:
- Directly in suspended ceiling with mounting claws (supplied)
- In Batibox box depth 50 mm Cat. No. 0 800 31
- Surface mounted on ceiling using accessory Cat. No. 0 488 75
- For controlling light sources:
- 2000 W max. with halogen 230 V
- 1000 VA max. with ELV halogen, fluorescent and fluorescent bulbs with ballast
- 500 W max. with compact fluorescent and LED
- 10 x (2 x 36) W for fluorescent tubes
- 360° infrared and ultrasonic detection
- Light level threshold adjustable from 5 to 1275 lux
- Time delay adjustable from 5 s to 30 min

#### **Dimensions**





Note: to ensure the safety of residents when the power is restored following a power cut, the device automatically switches on the low-level lighting circuit for the period of the time delay.



#### **PIR detection**

		Sensitivity Low (25%)	Sensitivity Medium (50%)	Sensitivity High (75%)	Sensitivity Verv high (100%)
		Ø (m)	Ø (m)	Ø (m)	Ø (m)
Heigh	2.5	4	6	6.5	8
(m)	3	5.5	6.5	8.5	11.5

#### **US** detection

		Sensitivity Low (25%)	Sensitivity Medium (50%)	Sensitivity High (75%)	Sensitivity Very high (100%)	
		Ø (m)	Ø (m)	Ø (m)	Ø (m)	
Height	ight 2.5 4		4	6	11	
(m)	3	6	6	8	13	

## **Device presentation and installation (continued)**



#### PUSHBUTTON CAT. NO. 0 787 15

For manual switch on/off of automatic switches (Cat. No. 0 488 06).

#### **Technical characteristics**

- Characteristic: 6A 250 V $\sim$
- Operating temperature: -5 to +50 °C
- Antimicrobial
- Protection index: IP 20
- Dimensions: 45 x 45 x 22.6 mm
- Installation:
- Flush-mounted in 2-module box, depth 40 mm
- Surface-mounted with support frame

## Flush-mounted wall installation with flush-mounting box







#### Surface-mounted wall installation with support frame





#### CONFIGURATION TOOL CAT. NO. 0 882 30

For configuring sensors.

- Digital programming to one decimal place on the digital screen
- Immediate programming control
- Option of storing a setting and applying it to other sensors (preset standard configurations for rooms (office, corridor, bedroom, bathroom, etc.) in accordance with EN 12 464)
- Lux light levels, infrared or ultrasonic technology priority, etc.
- Ideal for sites with numerous rooms which require specific settings for each room (bedroom, bathroom, etc.)

#### **Technical characteristics**

- Infrared communication technology (4 m max.)
- Operating temperature: -5 to +45 °C
- Impact resistance: IK 04
- Charging: with USB mini-USB cable (not supplied)





\* USB/mini-USB cable not supplied with tool Cat. No. 0 882 30

## Room and bathroom wiring for separate switch-on

The room sensors switch on the illuminated signs when the resident gets out of bed, making it easier for them to move around.

The room sensors only operate at night as they are configured to activate at low light level thresholds only.



The installation must be carried out in accordance with the rules in standard NF C 15-100

- ▲ To ensure the safety of residents when the power is restored following a power cut, the device automatically switches on the low-level lighting circuit for the period of the time delay.
  - It is therefore necessary to be connected to a UPS (generator or inverter) to ensure continuity of operation.

# Room and bathroom wiring for simultaneous switch-on (at night)

The sensors switch on the room and bathroom lights simultaneously. With this solution the bathroom door frame lights up, giving the resident horizontal and vertical reference points to help them get up and get their bearings. The resident can then go to the bathroom safely (with the pilot and low-level lighting on).



🧕 25 A power contactor Cat. No. 4 125 44

The installation must be carried out in accordance with the rules in standard NF C 15-100

▲ To ensure the safety of residents when the power is restored following a power cut, the device automatically switches on the low-level lighting circuit for the period of the time delay. It is therefore necessary to be connected to a UPS (generator or inverter) to ensure continuity of operation.

## Configuration

#### **CONFIGURING THE SENSORS**



## Commissioning

#### **COMMISSIONING ONE OR MORE ROOMS**

- Use remote control Cat. No. 0 882 30
- Switch on the configuration tool (press and hold OK until the screen comes on)
- Interrogate the room sensor to be configured by pressing the \* button
- Adjust the settings in accordance with the tables on the previous page
- Save the following settings in the configuration tool in 3 files:
- Bedside (for Cat. No. 0 784 54): "detect\_bedside"
- Facing the bed (for Cat. No. 0 784 54): "detect\_facing\_bed"
- Bathroom (for Cat. No. 0 488 06): "toilet\_brm"

#### Configuration

- Carry out a function test:
- Check that the correct lights are controlled
- Check the time delay settings
- Check the light level (blinds open and closed)

If the test achieves the required settings, repeat the same configuration in each of the other rooms using the mobile configuration tool Cat. No. 0 882 30
If the test does not achieve the required settings, adjust

• If the test does not achieve the required settings, adjust the time delay settings and, if necessary, the light level settings.

## Installation principle: actimetry

The installation enables care staff to view the activity of residents mainly during the night and during rest periods. It can also be used for remote control of the roller blinds in a room. All this data can be viewed remotely (from the PC at the nurses' station or on tablets). The actimetry software processes the information and draws up a classification of the rooms according to various criteria, including frequency of activity, thus providing care staff with useful information for monitoring residents.

#### ACTIMETRY SYSTEM SOLUTION

Basic rules to be followed when installing the BUS assisted living lighting system with a supervisor equipped with actimetry software.

The actimetry and assisted living system products must be installed by a qualified electrician.

To ensure continuity of operation when there is a mains failure, the system should preferably be connected to an uninterruptible power supply (generator, inverter, etc.).

A The BUS and network cables must be placed in the low voltage cable tray (see NF C 15-100)

#### INSTALLATION EXAMPLE WITH CEILING MOUNT CONTROLLER

#### **Room installation**



#### INSTALLATION EXAMPLE



It is recommended that one IP interface is installed for 30 rooms maximum on an independent BUS.

## Installation principle: actimetry (continued)

#### INSTALLATION OF DATA NETWORKS

#### OUTLINE ARCHITECTURE

Installation for one or more buildings



(\*) The server PC must have the actimetry software and the licences required for the various web access points.

The actimetry software centralises information on the activity of the residents in each department during the night and rest periods on a server PC, and classifies the rooms according to the frequency of activity in each one. It can also be used to supervise the status of the lighting (on or off) and the blinds (open or closed), and to control them remotely. This data can be viewed by the care staff at any time from the nurses' station, or from outside the establishment, via a web link.

#### **SPECIFICATIONS**

The system will be made up of:

- A server PC management terminal with supervision software
- For each of the previously defined zones:
  - Energy supply for the system
    - A zone controller
    - Room controllers
    - Motion sensors
    - · Control interfaces for the roller blinds

#### MANAGEMENT TERMINAL

The supervision unit will be a PC with Windows XP Professional or Windows 7 Professional, and will have a licence for viewing networked data. The supervision unit will be specifically for this use of the software.

- A licence with server function is provided (for the server PC)
- A customer licence is provided for each remote access point (PC not supplied)

#### Supervision software:

The software will be used to manage the entire installation via the site's Ethernet network. It will use a specific network infrastructure for which the building owner is responsible.

It will provide the following functions:

- Operation and maintenance of the installation
- · Editing of menus for the attention of the medical staff:
  - · Recording of activity in the rooms and bathrooms
  - Selection of time periods for calculating activity (eg: night, nap, etc.)
  - Display and classification of rooms over 24 hours
- · Editing of centralised commands for:
  - Opening and closing room roller blinds by unit or by unit wall

#### SERVER PC

It is advisable to locate the server PC in the computer room

The server PC must be managed by the establishment's IT department. The following is recommended for this PC:

- An uninterruptible power supply
- A secure, air-conditioned room
- An archiving system
- Daily backup

• A range of fixed IP addresses for the IP interfaces (Cat. No. 0 026 45) and the server PC

The actimetry system is generally networked on a dedicated network, for which the network administrator is responsible.

The Legrand actimetry offer does not include the IP links between zones or between buildings, or the active products. These items must therefore be included in the VDI or IT work package for the building.

## Installation principle: actimetry (continued)

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#### WIRING EXAMPLE IN RELATION TO MAXIMUM BUS LENGTHS

The installation examples given in this guide are standard configurations.

It is essential to carry out a power calculation for each installation in order to determine the power supplies required. The number of devices which can be connected to the BUS depends on the total power they consume. Once the installation has been completed, it is also necessary to check that the installation functions correctly and that the power supplies are correctly sized in relation to the borderline case established during the study phase. As well as power consumption requirements, the BUS wiring must always comply with the following rules:

• The length of the connection between the power supply and the furthest device must not exceed 250 metres.

• The total length of the connections within one department must not exceed 500 metres for BUS power supply Cat. No. 0 035 60 or E46ADCN.

If the distances or power consumption on the BUS are exceeded, it is possible to extend the installation using a BUS extension Cat. No. 0 035 62 or F422 or an IP interface Cat. No. 0 026 45 (zone controller) which enables connection to the IP infrastructure.



## **Device presentation and installation**



#### **BUS/SCS AUTOMATIC SENSOR CAT. NO. 0 784 90**

The sensor switches on the illuminated signs and pilot light as soon as the resident gets out of bed. Used with the lighting actimetry software, it also enables staff to monitor residents' activity remotely.

It is installed in the room, 30 cm from the floor. The ID number is given on a detachable label on the side of the sensor so that it can be removed and positioned on the plan. This number also appears on a fixed label on the side.



#### **Technical characteristics**

- Power supply: 27 V...
- Consumption: 15 mA
- Operating temperature: -5 to +45 °C
- Antimicrobial
- Protection index: IP 41
- Dimensions (H x W x D): 82 x 82 x 36
- Installation: in 2-module flush-mounting box, depth 40 mm min.
- 180° infrared detection
- Light level threshold adjustable from 5 to 1275 lux
- Time delay adjustable from 30 s to 30 min
- Detection range adjustable from 3 to 6 m









## **Device presentation and installation (continued)**

#### BUS/SCS AUTOMATIC SENSOR CAT. NO. 0 784 90 (CONTINUED)

### Flush-mounted wall installation with flush-



#### Surface-mounted wall installation with support frame





#### **ILLUMINATED SIGNS**

#### White LED sign Cat. No. 0 785 20

Illuminated sign with low-level light, switched on automatically when the resident gets up, so that they can get their bearings and move around without assistance during the night.

#### **Technical characteristics**

- Power supply: 230 V
- Consumption:
- In standby mode: 0.2 W
- Max.: 1 W
- Operating temperature: -5 to +50 °C
- Protection index: IP 20
- Dimensions (H x W x D): 45 x 45 x 32.7 mm
- Installation:
- Flush-mounted in 2-module box, depth 40 mm min., with plate Cat. No. 0 788 02 and support Cat. No. 0 802 51
- Surface-mounted with support frame
- Luminous flux: 3.4 lumens



# Connection

#### Flush-mounted wall installation with flushmounting box



#### Surface-mounted wall installation with support frame



SYSTEM

## Device presentation and installation (continued)



#### ILLUMINATED SIGNS (CONTINUED)

#### Pilot light Cat. No. 0 785 10

Bulkhead light to be installed in the bedhead strip for pilot lighting, to make it easier and safer for the resident to move around during the night.

#### **Technical characteristics**

- Power supply: 230 V
- Consumption:
  - Min.: 0.2 W
    - Max.: 1 W
- Operating temperature: -5 to +50 °C
- Protection index: IP 20
- Dimensions (H x W x D): 45 x 45 x 32.7 mm
- Installation: in special support for bedhead strip
- Luminous flux (for 1 W): 2.8 lumens



#### Connection



#### Installation in the bedhead strip





Luminous flux: 5.2 lumens

This can be customised using labels available from the online catalogue in the "Find out more" tab

Supplied without label

#### ABOVE DOOR ILLUMINATED SIGN CAT. NO. 0 785 22

White LED illuminated bulkhead sign to be installed above the bathroom door. It is switched on automatically when the resident gets up, so that they can get their bearings and go to the bathroom without assistance during the night. Customisable labels can be affixed to the hinged window.

# Connection

#### **Technical characteristics**

- Power supply: 230 V
- Max. consumption: 1 W
- Operating temperature: -5 to +50 °C
- Protection index: IP 20
- Dimensions (H x W x D): 45 x 112.5 x 20 mm
- Installation:
  - Flush-mounted in 5-module box, depth 40 mm min.
- Surface-mounted with support frame
- Luminous flux: 5.2 lumens

#### **Dimensions**



Flush-mounted wall installation with flushmounting box



#### Surface-mounted wall installation with support frame



## **Device presentation and installation (continued)**



#### **BUS/SCS CEILING MOUNT AUTOMATIC SENSOR CAT. NO. 0 488 22**

This 360° infrared and ultrasonic sensor enables a light source to be controlled automatically, as soon as movement has been detected. It can operate automatically and/or manually.

The ID number is given on a detachable label under the cover so that it can be removed and positioned on the plan. This number also appears on a fixed label.

The sensor supplied via the SELV (safety extra low voltage) BUS/SCS can be installed in volume 2 with IP 20 protection (see NF C 15-100)

#### **Technical characteristics**

- Power supply: 27 V=
- Consumption: 17 mA
- Operating temperature: -5 to +45 °C
- Protection index: IP 20
- Dimensions: diameter 122 mm
- Terminal type: RJ 45
- Installation:
- Directly in suspended ceiling with mounting claws (supplied)
- In a Batibox box, depth 50 mm
- Surface mounted on ceiling using accessory Cat. No. 0 488 75
- · 360° infrared and ultrasonic detection
- Light level threshold adjustable from 5 to 1275 lux
- Time delay adjustable from 30 s to 30 min











#### **PIR detection**

		Sensitivity	Sensitivity	Sensitivity	Sensitivity
		Low (25%)	Medium (50%)	High (75%)	Very high (100%)
		Ø (m)	Ø (m)	Ø (m)	Ø (m)
Height	2.5	4	6	6.5	8
(m)	3	5.5	6.5	8.5	11.5

#### **US** detection

			Sensitivity	Sensitivity	Sensitivity	Sensitivity
			Low (25%)	Medium (50%)	High (75%)	Very high (100%)
			Ø (m)	Ø (m)	Ø (m)	Ø (m)
	Height	2.5	4	4	6	11
	(m)	3	6	6	8	13



#### BUS/SCS MULTI-APPLICATION MODULAR CONTROLLER CAT. NO. 0 038 42 OR F411/2

To be installed inside modular panels. This device controls lighting, blinds and motors.

Each output is independent and can be linked to a control or to sensors Cat. Nos. 0 784 90 or 0 488 22. Configuration via software Cat. No. 0 488 80 (download free from www.legrand.fr).

The ID number is given on a detachable label on the rear of the controller so that it can be removed and positioned on the plan. This number is also engraved on the front.

#### **Technical characteristics**

- Power supply: 18 27 V $_{=}$
- Consumption:
  - Single loads: 28 mA
    - Interlocking: 15.5 mA
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
- Size: 2 DIN modules
- It is recommended that modular controller 0 038 42 or F411/2 is installed in the technical cabinet between the rooms.



- 1 Jumper housing
- **2** LED
- 3 Pushbutton
- 4 BUS

## **Device presentation and installation (continued)**



#### **ON/OFF LIGHTING CONTROL CAT. NO. 0 784 75**

Pushbutton control for manual control of automatic switches.

The ID number is given on a detachable label on the side of the control so that it can be removed and positioned on the plan. This number also appears on a fixed label on the side.

#### **Technical characteristics**

- Power supply: 27 V-
- Consumption: 10 mA
- Operating temperature: -5 to +45 °C
- Protection index: IP 20
- Dimensions: 45 x 45 x 347 mm
- Installation (supplied with BUS/SCS connector Cat. no. 0 492 22):
- Flush-mounted in 2-module box
- Surface-mounted with support frame

To be fitted with Mosaic cover plates and Batibox support frames.



#### Flush-mounted wall installation with flushmounting box



Surface-mounted wall installation with support frame





#### **BUS/SCS LIGHTING CONTROLLER CAT. NO. 0 488 41**

This controller is a power unit. When connected to automatic sensors it enables:

- On output 1, switch-on of the room's low-level lighting and pilot light

- On output 2, switch-on of the bathroom lighting. In factory configuration input 1 controls output 1 and input 2 controls output 2.

This controller has an integral BUS/SCS power supply which means it can power all the SCS sensors connected to inputs 1 and 2 (max. power: 200 mA). It has a dedicated BUS/SCS input (vertical) which enables units to be interconnected. This input must be supplied via a dedicated BUS power supply (vertical BUS) and will be connected to an SCS/IP zone interface Cat. No. 0 026 45.

The ID number is given on a detachable label under the terminal block cover so that it can be removed and positioned on the plan. This number also appears on a fixed label on the back of the product.

#### **Technical characteristics**

- Power supply: 100 240 V  $\sim$
- Consumption:
  - No-load: 1.8 W
  - Max.: depending on the load
- Operating temperature: -5 to +45 °C
- Protection index: IP 20
- Dimensions (H x W): 70.5 x 207 mm
- It is recommended that controller 0 488 41 is installed in the technical cabinet between the rooms.



#### Connection

All the wiring must be carried out with the mains power off. RJ 45 BUS/SCS connection



## **Device presentation and installation (continued)**





#### **BUS/SCS MULTIFUNCTION CONTROLLER CAT. NO. 0 488 47**

This controller is a power unit. It is used to control the low-level lighting, the pilot lighting, the bathroom lighting and the roller blinds in a room.

In factory configuration input 1 controls output 1, input 3 controls output 3 and input 4 controls output 4. This controller has an integral BUS/SCS power supply which means it can power all the SCS sensors and control peripherals connected to inputs 1, 3 and 4 (max. power: 200 mA). It has a dedicated BUS/ SCS input (vertical) which enables units to be interconnected. This input must be supplied via a dedicated BUS power supply (vertical BUS) and will be connected to an SCS/IP zone interface Cat. No. 0 026 45.

The ID number is given on a detachable label under the terminal block cover so that it can be removed and positioned on the plan. This number also appears on a fixed label on the back of the product.

#### **Technical characteristics**

- Power supply: 100 240 V $\sim$
- Consumption:
  - No-load: 3 W
  - Max.: depending on the load
- Operating temperature: -5 to +45 °C
- Protection index: IP 20
- Dimensions (H x W): 275 x 147 mm
- It is recommended that controller 0 488 47 is installed in the technical cabinet between the rooms.



Do not use

#### Connection



\* Ventilation output



#### **REMOTE CONTROL MODULE CAT. NO. 0 783 78**

This module is used to control the lighting or other SELV functions via hand-held remote control units. It can control 2 lighting outputs (room and reading lights) as well as roller blinds (raise, lower) and one 10 A output for any function.

To be fitted in wall strips or suspended ceilings. Compatible with hand-held remote control unit Cat. No. 0 782 44.

#### **Technical characteristics**

- Power supply: 100 240 V
- Operating temperature: 0 to 35 °C
- Dimensions: 230 x 71 x 44 mm
- It is recommended that the remote control module is installed in the technical cabinet between the rooms.
- Connection via screw terminals

#### **Dimensions**



#### Remote control module for wall strips for controlling two lighting outputs and roller blinds Cat. No. 0 783 78

Compatible with hand-held remote control unit Cat. No. 0 782 44.



SYSTEM

## **Device presentation and installation (continued)**



#### HAND-HELD REMOTE CONTROL UNIT

For calling a nurse (using an N/C pushbutton) via door unit Cat. No. 0 766 06/07.

Magnetic connection between hand-held remote control units and sockets:

can be ejected in any direction with pull-out torque designed to avoid any damage to the equipment.

## Hand-held remote control unit for call and control Cat. No. 0 782 44

To be used with socket Cat. No. 0 782 45 or 0 782 47.



- 1 LED backlit nurse call button
- 2 Reading light control (N/O pushbutton)
- 3 Room lighting control (N/O pushbutton)
- 4 Red indicator for call confirmation
- 5 and 6 Roller blind control (N/O pushbutton)
- **7** Free function button (N/O pushbutton)

#### **Technical characteristics**

- Power supply: via sockets for hand-held remote control units
- Operating temperature: 5 to 40 °C
- Antimicrobial
- Protection index: IP 67
- Length of lead: 2.5 m
- Can be fixed or held in place with clamp Cat. No. 0 782 43
- Standby consumption: 2 mA



#### 2-MODULE CONTACT INTERFACE CAT. NO. 0 035 53 OR F428

The 0 035 53 or F428 DIN contact interface enables two different types of switch or contact to be connected to the BUS/SCS, in order to obtain the largest possible number of advanced functions from a normal SCS control.

The ID number is given on a detachable label on the side of the interface so that it can be removed and positioned on the plan. This number is also engraved on the front.

#### **Technical characteristics**

- Power supply: 18 27 V\_
- Consumption: Standby: 9 mA
  - With max. load: 0.2 W
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
  Size: 2 DIN modules
- Size: 2 DIN modules
- It is recommended that interface 0 035 53 or F428 is installed in the technical cabinet between the rooms.



- 1 Jumper housing
- 2 LED
- 3 Terminals for connecting conventional devices
- 4 BUS
- 5 Button



#### BUS/SCS CONTACT INTERFACE CAT. NO. 5 739 96 OR 3477

Contact interface Cat. No. 5 739 96 or 3477 enables two different types of switch or contact to be connected to the BUS/SCS, in order to obtain the largest possible number of advanced functions from a normal SCS control.

The ID number is given on a detachable label on the back of the interface so that it can be removed and positioned on the plan. This number also appears on a fixed label on the back of the product.

#### **Technical characteristics**

- Power supply: 18 27 V $_{=}$
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
- Dimensions: 45 x 45 x 15 mm
- Installation: in suspended ceiling, in a Plexo box, in a modular distribution box or in a bedhead strip
- It is recommended that interface 5 739 96 or 3477 is installed in the technical cabinet between the rooms.

#### Connection



- 1 Jumper housing
- 2 LED
- 3 Terminals for connecting conventional devices
- **4** BUS

## Device presentation and installation (continued)



#### SCS/IP ZONE INTERFACE CAT. NO. 0 026 45

6-module SCS IP interface which has 2 functions: management of time programming and/or IP interface.

For use with power supply Cat. No. 0 634 42 or 346020

#### **Technical characteristics**

- Power supply: 27 V ....
- Consumption: standby: 1.5 W
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
- Size: 6 DIN modules





#### BUS/SCS POWER SUPPLY CAT. NO. 0 035 60 OR E46ADCN

The power supply must be used to power the system's communication bus (BUS/SCS). Double-insulated SELV safety device.

#### **Technical characteristics**

- Supply voltage: 230 V $\sim$  ± 10% 50/60 Hz
- BUS output voltage: 27 V=
- Max. BUS current: 1.2 A
- Max. dissipated power: 11 W
- Max. consumption: 43.4 W
- Operating temperature: 5 to 40 °C
- Protection index: IP 30
- Size: 8 DIN modules



1 Connection terminals (1-2); DC output 2 Terminals (BUS) to connect the BUS/SCS

3 L + N power supply terminals



#### SCS/IP ZONE INTERFACE POWER SUPPLY CAT. NO. 0 634 42 OR 346020

2-module modular power supply for zone controller Cat. No. 0 026 45.

#### **Technical characteristics**

- Power supply: 220 -240 V
- Output 1-2: 27 V= 600 mA
- Consumption:
  - Standby: less than 1 W
  - Max.: 20 W
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
- Size: 2 DIN modules



## **Device presentation and installation (continued)**



#### SCS-SCS EXTENSION CAT. NO. 0 035 62 OR F422

For extending a BUS/SCS line over cable distances greater than 500 m.

This interface ensures communication between the BUS systems using SCS technology. For use with modular controllers Cat. No. 0 384 42 and 0 038 44, and interfaces Cat. Nos. 0 035 53 or F428 and 5 739 96 or 3477.

A power supply Cat. No. 0 035 60 or E46ADCN must be installed after each interface Cat. No. 0 035 62 or F422.

The ID number is given on a detachable label on the side of the extension so that it can be removed and positioned on the plan. This number is also engraved on the front.

#### **Technical characteristics**

- Power supply: 18 27 V $_{=}$
- Consumption:
  - Of the input card: 25 mA
  - Of the output card: 5 mA
  - With max. load: 1 W
- Operating temperature: 5 to 40 °C
- Protection index: IP 20
- Size: 2 DIN modules



- 1 Output terminal (OUT)
- 2 Jumper housing
- 3 Input terminal (IN)
- 4 LED indicator
- 5 Virtual configuration pushbutton

## **L**legrand





#### BUS/SCS CABLE CAT. NO. 0 492 33

Zero halogen cable for connecting BUS/SCS products.

#### **Technical characteristics**

- Sheath colour: white
- Outer diameter: max. 5 mm
- Number of wires: 2 flexible twisted wires (white, blue)
- Wire cross-section: 0.5 mm<sup>2</sup>
- Electrical resistance: less than 72  $\Omega/km$
- Operating temperature: -15 to +70 °C
- Length: 200 m

#### ACTIMETRY SOFTWARE AND SERVER PC (IN PROJECT MODE)

Integrated in an assisted living system installation, this software is used to display and archive resident activity in the rooms. It records sensor activation and the switching on/off of lighting.

For more information, please contact your Legrand sales contact.

## Minimum technical characteristics of the server PC

- Intel Pentium 4 3 GHz processor
- 1 GB of RAM
- 120 GB hard drive
- Ethernet 10/100 Base T network card
- · Graphics card
- Screen resolution: 1280 x 1024
- Keyboard, mouse
- Windows XP Professional, Windows 7 Professional
- 19" LCD screen

## Wiring



## L<sup>1</sup> legrand



## Wiring (continued)





#### NETWORK ARCHITECTURE





The Legrand actimetry offer does not include the IP links between zones or between buildings, or the network products. These items must therefore be included in the VDI or IT work package for the building.

A The VDI wiring must be installed in accordance with standard EN 50 173-1 & 2

## Commissioning

#### COMMISSIONING ONE OR MORE ROOMS (INSTALLER)

Stick the ID labels for all the BUS products (surface-mounting, flush-mounting, ceiling mount and modular wiring accessories) onto a plan, taking care to comply with the physical positions of the products.



#### EXAMPLE OF POSITIONING THE LABELS ON THE PLAN (INSTALLER)



## **Commissioning (continued)**

#### ASSIGNING ADDRESSES ON THE PLAN (INTEGRATOR)

1) Give each product an A;PL SCS address, according to the IDs on the plans.

A: 0 to 10

PL: 0 to 15

Note: A: 0, PL: 0 = invalid address.

2) Define groups of controls (sensors, hand-held remote control units) and actuators

Example:



#### **DEVICE CONFIGURATION**

#### **Department installation**

#### **Principle**

Virtual configuration of the system enables you to:

#### · Configure all the products

- · Have a saved record of the project
- · Scan all the products in an installation

The actimetry system products are configured in virtual mode using a PC. This PC must be equipped with the Virtual Configurator (or My Home Suite) software, which can be downloaded from www.legrand.fr. It is compatible with Windows XP SP2 (32-bit).

Configure the addresses on the products using the Virtual Configurator (or My Home Suite) software and the PC connected to the 0 026 45 in the floor technical cabinet. Repeat this step in each department (IP interface).



(45 rooms)

## **Commissioning (continued)**

#### SENSOR CONFIGURATION



#### PRODUCT ADDRESSING

#### Commissioning

- Use remote control Cat. No. 0 882 30
- Switch on the configuration tool (press and hold OK until the screen comes on)
- Interrogate the room sensor to be configured by pressing the 😓 button
- Adjust the settings in accordance with the tables on the previous page
- Save the following settings in the configuration tool in 3 files:
- Bedside (for Cat. No. 0 784 90): "detect\_bedside"
- Facing the bed (for Cat. No. 0 784 90): "detect\_facing\_bed"
- Bathroom (for Cat. No. 0 488 22): "toilet\_brm"

#### Configuration

- Carry out a function test:
- Check that the correct lights are controlled
- Check the time delay settings
- Check the light level (blinds open and closed)

• If the test achieves the required settings, repeat the same configuration in each of the other rooms using the mobile configuration tool Cat. No. 0 882 30

• If the test does not achieve the required settings, adjust the time delay settings and, if necessary, the light level settings.

#### Configuration of the actimetry supervisor

Send the virtual programming (.MHZ backup files) and the AutoCAD drawings to Legrand for programming the supervisor.

These items must be sent to Legrand at least 1 month before the actimetry supervisor commissioning date.

## **Operating principle of the actimetry software**



Actimetry software user guide at www.legrandoc.com

#### ACTIMETRY SOFTWARE

#### Using the software on a nurse's PC



#### Click on the above icon to start the application



## Access to some data can be limited according to the profile used:

- Care staff (nurses, nursing assistants)
- Management (healthcare supervisors, doctors, managers of the establishment)
- Administrators (technical department, computer network)

Fill in the fields on the login page.

#### Home page

Display of the various departments and associated rooms \_\_\_\_\_\_ according to the user's profile

Access to actimetry data \_\_\_\_\_ (classification of the rooms according to activity, etc.)

You can click on Accueil at any time to return to the home page



#### **ACTIMETRY SOFTWARE (CONTINUED)**



Communication fault

Click on a room to display the details.



Status of the communication between the server PC and the room

- Communication OK between the server PC and the room
- Communication not OK

# Operating principle of the actimetry software (continued)

#### **ACTIMETRY SOFTWARE (CONTINUED)**

#### Classement de l'actimétrie

The data in the table refers to activity the previous night.

<u>Nb</u> Chambre	Number of switch-ons in room
Nb SDB	Number of switch-ons in bathroom
<u>Nb</u> Total	Total number of switch-ons in room + bathroom
(min) Chambre	Total switch-on time in room
(min) SDB	Total switch-on time in bathroom
<u>(min)</u> <u>Total</u>	Total switch-on time in room + bathroom

Click on one of the column titles to classify the rooms according to the required lighting criterion (decreasing order).

#### Classement de l'actimétrie

Chambre	<u>Nb</u> Chambre	Nb SDB	<u>Nb</u> Total	(min) Chambre	(min) SDB	(min) Total
CH_064	9	6	15	154	177	331
CH_048	17	8	25	151	125	276
CH_058	11	7	18	127	137	264
CH_051	11	4	15	104	61	165
CH_052	11	4	15	70	85	155
CH_057	10	4	14	78	65	143
CH_059	9	6	15	77	64	141
CH_061	8	3	9	78	57	135
CH_042	5	5	10	50	81	131
CH_049	6	5	11	60	66	126
CH_053	4	5	9	33	64	97
CH_067	7	4	11	48	51	97
CH_045	4	1	5	48	38	88
CH_060	8	1	7	43	25	68
CH_055	3	1	4	33	25	58
CH_044	4	1	5	35	18	53
CH_065	5	1	6	36	11	47
CH_056	5	1	8	33	12	45
CH_043	4	1	5	27	11	38
CH_046	3	1	4	18	20	38
		H	+ +	+		1/3
•					_	

#### **ACTIMETRY SOFTWARE (CONTINUED)**



: communication fault

# Operating principle of the actimetry software (continued)

#### ACTIMETRY SOFTWARE (CONTINUED)

#### Examples of switch-on types:

Usual activity

![](_page_57_Figure_5.jpeg)

## Usual activity with resident getting up to go the bathroom at 2 a.m.

![](_page_57_Figure_7.jpeg)

#### Usual activity with nurses' round at 5 a.m.

![](_page_57_Figure_9.jpeg)

## Irregular activity over 7 days, including 2 very active days

![](_page_57_Figure_11.jpeg)

#### ACTIMETRY SOFTWARE (CONTINUED)

Irregular activity over 4 weeks

![](_page_58_Figure_4.jpeg)

Changes in a resident's behaviour can be identified by comparing several consecutive monitoring screens.

# Operating principle of the actimetry software (continued)

#### **ACTIMETRY SOFTWARE (CONTINUED)**

#### **Room/Equipment details**

This part cannot be accessed by the nurses

The Equipements part displays the status of the room and bathroom lights and can be used to control their switching ON/OFF It can also be used to display the status of the blinds and to control their opening (UP)/closing (DOWN)

Click on to return to the view of all the rooms in the department

Any operation on the luminaires affects the actimetry monitoring (maintenance staff only)

Chambre précédente	CH_073	Chambre suivarke 🗼		Plan Chambre	
Occupée par : Untel gille	Arrivée le 15/07/2	909		Equipements	
	Suivi Actimétrie		Lumières Chambre SDB	ON OFF 📚 OFF	
			Autres		
[07/10/2013	Lumière Chambre Lumière SDB		Actionneur S [	STOP UP DOWN * STOP	
210/2013		1			
x10/2013	1				
410/2013 810/2013	t.				
10/2213	1	1			
7/18/2013					
		K) ResetZoom			
				2	

UP Blind opening DOWN Blind closing STOP Blind stopped Communication OK Communication fault

Lamp on OFF Lamp off

#### Plan

In this part the rooms are located on the building plan and the blinds can be controlled one wall at a time or all together. Example:

- Close the south-facing blinds in the summer
- Close the north-facing blinds in the winter
- Close all blinds at the start of the night
- Partial or complete opening at the start of the morning

Operating these controls does not prevent individual control by residents, who can take over control at any time.

![](_page_59_Figure_17.jpeg)

#### **ACTIMETRY SOFTWARE (CONTINUED)**

#### Accueil

Actimétrie

The Actimetry part is used to access the classification of the rooms in an order set up in accordance with the resident's activity. You can zoom in for details of a particular time period (click and drag to symbolise the area to zoom in on)

D A					1	ADMIN	1	07/10/13 10	54,23	
Accueil	Services		S Act	limétrie						
étrie										
Actimétrie		Accueil	SuM	Classement	Outla				2. ADMIN	
Classement Actim	netrie		S	Suivi du jour						
CH_200 CH_200-SLD	32	=	4	1	14	1 11	1	11	1 LT	
CH_222 CH_222-SLD	32	1			11			1		
CH_164 CH_164 - Ehpad 2 - E5	31	111	- 2	1.21.	1 2					
CH_172 CH_172 · Ehpad 2 · E5	21			=		1	1		1 1 11	
CH_039 CH_039 - Ehpad 1 - E1	30	1.1		-	1.11	1				
CH_045 CH_045 - Ehpad 1 - E2	30		1 1		: =	•				
CH_221 CH_221-SLD	30			11	11.11.			1	<b># 1.</b>	
CH_125 CH_125 - Ehpad 2 - E4	29		1		11	11	1 1	1	-	
CH_219 CH_219-SLD	29	-	111	1.4		1.1				
CH_030 CH_030 - Ehpad 1 - E1	28									
		- 3613*	1011 .000	Lumière Char	mbre	Lumière SDB	2710/07031 251	iord is all administration and	Reset Zoom	191

#### Suivi

The 'Suivi' (Monitoring) tab provides access to the monitoring of a single room since a selected date and over the 6 days prior to the selected date.

![](_page_60_Figure_8.jpeg)

# Operating principle of the actimetry software (continued)

#### **ACTIMETRY SOFTWARE (CONTINUED)**

![](_page_61_Picture_2.jpeg)

#### Classement

Used to access the classification of the most active rooms in the selected department, on a particular date or over a given period of time. The table includes information on the duration and frequency of light switch-ons for each room (bedroom and/or bathroom).

Can be used to classify the most active rooms from a start date to an end date (according to selected dates). The software will then find the information required to draw up the classification (this may take a few minutes).

Accueil Se	arvices	S Actimétr	ie				
Mrie							
Actimétrie	Accueil	SuM Clas	sement	Outis			<b>1.</b> ADMIN
Choix Service	Service E	hpad 1 - E1 -	Classeme	nt entre le l	06/10/2013 et le 07/10/2	2013	_
Ehpad 1 - E1	<ul> <li>Chambre</li> </ul>	Nb.Chambre	ND SDB	ND Total	Durée Chambre (min)	Durée SDB (min)	Durée Total (min)
	CH_041	11	5	16	138	123	261
	CH_039	6	2	0	18	33	51
	CH_035	5	5	10	52	63	115
	CH_038	5	4	9	77	50	136
	CH_038	5	11	16	95	133	228
	CH_034	4	1	5	27	11	38
	CH_031	3	2	5	19	21	40
Choix Date	CH_032	3	10	13	31	. 58	09
	CH_033	3	2	5	69	48	117
début 06/10/2013	CH_040	3	7	10	49	110	159
In Internet	CH_030	2	6	8	15	62	77
III.  0//10/2013	CH_037	1	0	1	15	0	15
	CH_016	0	0	0	0	0	0
	CH_017	0	0	0	0	0	0
	CH_018	O	0	0	0	0	0
	CH_019	0	0	0	0	0	0
	CH_020	0	0	0	0	0	0
					H + + +		1/2
C. Untide to all other	NI I						
ks valuer to selection							

Outils

In the 'Outils' (Tools) tab certain settings in the software can be modified for each department, such as:

- The classification criteria
- The calculation of the classification
- The start and end times of the record of activity

Click on Sauvegarder to confirm the modifications

A This part can only be accessed by the nurses

![](_page_61_Picture_14.jpeg)

FAULT TYPE	DIAGNOSIS
In the actimetry software, if the room icon looks like	1- Check the lamps
this.	2- Check the power supply
CH_094	2 Check the actuator
Untel Charles 08/06/13	4. Check the there is no communication foulth
🫜 ON 🗎	4- Check that there is no communication fault:
but there are no lighte on in the room or the bethroom	

## **C**legrand

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