ACCESSORIES MANUAL

UNICA

U29

E/N SERIES

TRIS-LED

Introduction

Please read this manual carefully before using the Product, so as to protect "**the Technical Service Personnel**" and "**the Operator**" from any injury.

Compliance

The manufacturer declares that this Product complies with Annex I (General Safety and Performance Requirements) of REGULATION (EU) 2017/745 as amended and integrated and certifies such conformity by affixing the CE marking.

Validity of manual

This accessories manual is an integral part of the "Installation Manual" and the "Operation and maintenance manual" and must be used and kept together with such manuals in order to acquire the correct definitions and the necessary obligations and cautions.
This manual is valid for the following models:

- UNICA 520 in ceiling, mobile versions;
- UNICA 520, in the ceiling version with double yoke;
- UNICA 860 in ceiling version;
- UNICA 860, in the ceiling version with double yoke;
- U29 in ceiling, mobile versions;
- U29, in the ceiling version with double yoke;
- PENTALED 30E in ceiling, mobile and wall versions;
- PENTALED 81 in ceiling version;
- PENTALED 30N in ceiling, mobile and wall versions;
- PENTALED 63N in ceiling version;
- TRIS-LED in ceiling, mobile and wall versions.

Accessories

The optional accessories referred to in the manual are:

- SPECIAL ARMS
- CAMERAS
- WALL CONTROLLERS
- IR REMOTE CONTROLS
- BATTERIES

Customer Service

The customer service is at your disposal in case of Product details, information concerning its use, identification of spare parts being required and for any other queries you might have concerning the appliance, for ordering spares and for matters relating to assistance and warranty.

- RIMSA P. LONGONI SRL
- Via Monterosa 18
- I-20831 Seregno MB
- Tel.: ++39 0362 325.709
- Fax: ++39 0362 328.559
- E-mail: info@rimsa.it

Copyright

Translations

The original language of this manual is ITALIAN. For all translations, reference must be made to the original manual language.

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BG	За да поискате наръчника на този език, изпратете имейл на адрес info@rimsa.it.
CS	Chcete-li si vyžádat příručku v tomto jazyce, zašlete e-mail na adresu info@rimsa.it.
DA	Hvis du ønsker at få manualen på dette sprog, bedes du sende en e-mail til info@rimsa.it.
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ES	Para solicitar el manual en este idioma, envíe un correo electrónico a info@rimsa.it.
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HU	A kézikönyv ezen a nyelven történő igényléséhez kérjük, küldjön e-mailt a info@rimsa.it címre.
LT	Norėdami prašyti vadovo šia kalba, siųskite el. laišką adresu info@rimsa.it.
LV	Lai pieprasītu rokasgrāmatu šajā valodā, lūdzu, sūtiet e-pastu uz adresi info@rimsa.it.
MT	Biex titlob il-manwal f'din il-lingwa, jekk jogħġbok ibgħat e-mail lil info@rimsa.it.
NL	Om de handleiding in deze taal aan te vragen, kunt u een e-mail sturen naar info@rimsa.it.
PL	Aby zamówić podręcznik w tym języku, należy wysłać wiadomość e-mail na adres info@rimsa.it.
PT	Para solicitar o manual nesta língua, envie por favor um e-mail para info@rimsa.it.
RO	Pentru a solicita manualul în această limbă, vă rugăm să trimiteți un e-mail la info@rimsa.it.
SK	Ak chcete požiadať o príručku v tomto jazyku, pošlite e-mail na adresu info@rimsa.it.
SL	Če želite zahtevati priročnik v tem jeziku, pošljite e-pošto na naslov info@rimsa.it.
SV	Om du vill ha handboken på detta språk skickar du ett e-postmeddelande till info@rimsa.it.

KEY

PRODUCT

The accessory to which this manual refers is an optional of the ME (Medical Electrical) EQUIPMENT **MINOR SURGICAL LUMINAIRE (TREATMENT LAMP)**. For ease of description, in this manual this accessory will be called "**Product**".

OPERATOR

Professional medical personnel (e.g., professional health personnel, expert person assisting the patient).

RESPONSIBLE ORGANIZATION

Entity accountable for the use and maintenance of an EM equipment or ME system (e.g., a hospital, an individual doctor or a non-expert person). Preparation and awareness are included in use.

TECHNICAL SERVICE PERSONNEL

The personnel (individuals or entity accountable to the responsible organization) that installs, assembles, maintains or repairs the equipment. Under certain circumstances, the safety of such persons depends on their knowledge and awareness and ability to take appropriate precautions when gaining access to hazardous parts partially. By way of example only, the following professional figures are deemed as SERVICE PERSONNEL:

- ⇨ Construction Engineer, Draughtsman, Building firm duly registered in the professional Register (for the masonry works)
- ⇨ Electrical Engineer Electro-technical expert qualified to work as an electrician (for the electrical works)

For the installation phase, as regards assembly operations only, a qualified person is deemed whosoever has attended a course organized by RIMSA or, alternatively, whosoever has carefully read the manual.

1 GENERAL SAFETY INFORMATION

This manual is an integral part of the Product as indicated by REGULATION (EU) 2017/745 and subsequent amendments and supplements. Read and keep this manual close to the Product.

- The Product is not suitable for use in explosion-risk areas.
- The Product is not suitable for use wherever there are inflammable mixes of anaesthetics with air, oxygen or N_2O (laughing gas).
- The Product is not suitable for use in environments rich in oxygen and use is not intended in the presence of inflammable agents.

RIMSA disclaims all liability for any injury to persons or damage to things caused by the Product having been installed by persons who are not **"TECHNICAL SERVICE PERSONNEL"**.

The RESPONSIBLE ORGANIZATION is entirely responsible for Product installation activities; no costs or responsibilities relating to the installation and/or commissioning of the Product may therefore be traced back and/or in any case attributed to RIMSA.

The ceiling masonry works and the electrical works shall be carried out in a workmanlike manner by TECHNICAL SERVICE PERSONNEL to ensure these are sturdy and safe.

Electric shock hazard.

The electrical system in the premises must conform to IEC 60364-7-710 standard and any national regulations. A master switch must be installed with fuse or thermal magnetic circuit breaker to be able to interrupt power to the Product.

2 General information

2.1 Operator qualifications

Qualification of personnel in charge of operating on the Product:

Installation	Installer and/or qualified technician.
Use	Professional medical personnel.
Cleaning	Properly trained medical and paramedical personnel.
Routine maintenance	Qualified technician with required technical-professional skills.
Special maintenance	RIMSA or technical service personnel, the latter only for the fuse change.
Assistance	RIMSA or authorized Dealer.
Demolition	Comply with applicable laws on waste disposal. This product must not be disposed of in standard waste disposal bins. To avoid risks for the environment and health deriving from the dispersion of polluting substances in the environment, separate the various internal component parts such as iron, aluminium, plastic and electrical material, and dispose of these through authorized channels so as to ensure correct recycling.

2.2 Packaging, transport, storage and characteristics of installation premises

Packing

Cardboard boxes containing Product. Dispose of these in compliance with national directives applicable for waste disposal.

Transport

Product transport is done by land, sea or air according to the following characteristics:
Temperature (°C): -15 / +60
Humidity: 10 / 95 %
Atmospheric pressure (h/Pa): 500 / 1060

Storage

The packaged Product must be stored (warehoused) in dry premises having the following characteristics:
Temperature (°C): -15 / +60
Humidity: 10 / 95 %
Atmospheric pressure (h/Pa): 500 / 1060

Installation premises

The premises where the Product is started up must have the following characteristics:
Temperature (°C): +10 / +40
Humidity: 30 / 75 %
Atmospheric pressure (h/Pa): 700 / 1060

2.3 Graphic signs and symbols used in this manual

The following safety measures must be put in place during Product installation, use and servicing.
To emphasize their importance, a number of safety precautions are repeated throughout the manual.
Follow the safety precautions before using or repairing the Product. Carefully abiding by the safety precautions improves the ability to use the Product safely and correctly and helps prevent incorrect maintenance which could be hazardous and cause damage. The safety measures are approximate and not exhaustive; the Operator, the Responsible Organization and the Technical Service Personnel must develop their capacities to upgrade and integrate them.

General warning signal

General mandatory code of conduct signal

General prohibition signal

2.4 Graphic symbols used on packaging

List of symbols on packaging boxes:

This side upwards

Fragile

Protect from rain

Do not stack packaging

Weight of packaging

Humidity to be complied with (max limit at top right and min limit at bottom left)

Pressure to be complied with (max limit at top right and min limit at bottom left)

Limit temperature (max limit at top right and min limit at bottom left)

2.5 Graphic symbols used on the Product

Below are the symbols to be found on the Product:

CE	CE marking indicating the Product complies with REGULATION (EU) 2017/745 and subsequent amendments and supplements
	Date of manufacture (month and year)
	Manufacturer's address
	Fuses used in the device
	Comply with the instructions for use
REF	Reference number
SN	Serial number
	Disposal
	Protection earth
'N'	Neutral lead connection point
'L'	Line lead connection point
'I'	ON
'O'	OFF
	Standby and switch-on

2.6 Warranty and liabilities

RIMSA disclaims all liability as regards unreliable Product operation in the following cases:

- Installation, authorized modifications and repairs have not been performed by TECHNICAL SERVICE PERSONNEL.
- The Product has not been used for its intended purpose and in conformity with the operating instructions (see operation manual).
- The premises have not been approved for healthcare activities.
- The premises are not built in conformity with the law and applicable regulations.
- The electrical system in the premises is not in compliance with appropriate requirements.

2.7 Structural changes or variations

CAUTION

No arbitrary structural changes or variations to the Product are admitted. Any modifications must have the prior written authorization of RIMSA. In case of the Product having been tampered with, the warranty shall be invalidated and the manufacturer disclaims all liability for any injuries or damage caused to the OPERATOR, the RESPONSIBLE ORGANIZATION and the TECHNICAL SERVICE PERSONNEL.

3 Special Arms (WAS1, WAS2, WAC)

Arms

On request, the lamp is available with special arms for fitting a monitor or a camera.
The request must be made at the time of order because such arms cannot be added subsequently.

Versions

Three special arm versions are available:

- WAS1 (single monitor support system);
- WAS2 (double monitor support system);
- WAC (camera support system).

Options

Unless specifically requested, RIMSA does not supply monitors, power cables and signal cables. They are responsibility of the installer.

3.1 Structure and swinging arm installation

For the installation instructions regarding the structure and the swinging arm, refer to the "Installation Manual" for Series UNICA and U29 or E/N SERIES and TRIS-LED attached to the ME EQUIPMENT.

3.1.1 Versions without cables

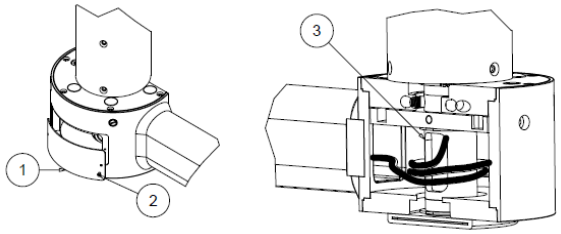
To make it easier to fit the signal and power supply cables, these are arranged inside the horizontal arm and the swinging arm of guide cables.

Cables lenght

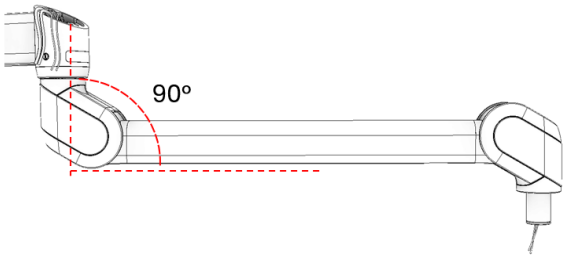
Prepare a 5-metre length of cables to be fitted.

⚠	**Risk of serious personal injury.**

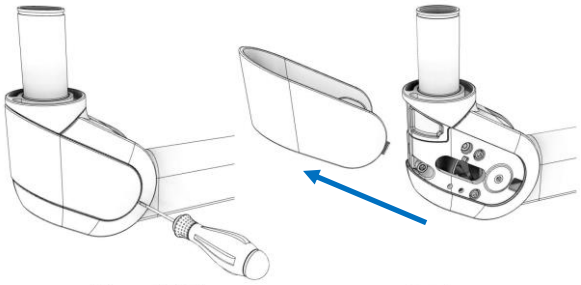
Position the monitor power supply unit at the switchboard, so that 24Vdc pass through the structure.



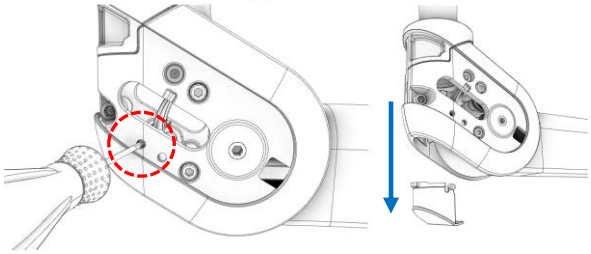
Route the signal and power cables inside the bar tube pin, following the guide cable.
Open the inspection plate on the central hub (1) by removing the screws (2).
Always following the guide cable, run the cables by the correct number of turns around the centre pin (3). Bring the cables as far as the exit of the horizontal arm.



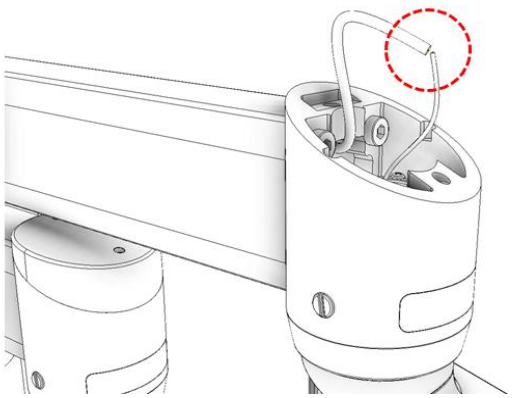
In order to allow the cables to run smoothly along the swinging arm, keep this in horizontal position (the arm is already supplied in this condition).



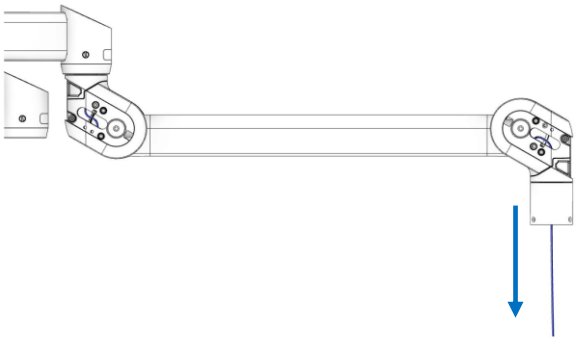
With the help of a flat-tip screwdriver, release the blue joint cover on both sides; then remove it.



On both sides of the joint, where the indicated hole is located, press the inner plastic pin with a tool in order to release the lower cover. This way, it will be possible to access the inside of the joint from below in case of having to intervene to assist cable transit.



Firmly connect the guide cable coming out of the swinging arm to the newly fitted cables.



Pull the guide cable from the end side of the swinging arm and fit the power and signal cables until they come out of the hub.
Then replace the plastic joint covers.

3.1.2 Versions with fitted cables

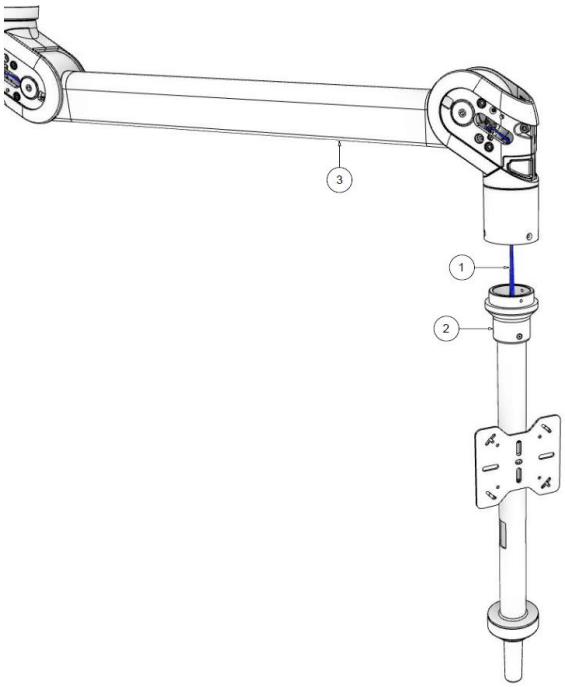
On request, RIMSA can prepare the structure with the cables chosen by the customer already fitted inside the horizontal arm.
Then it will be necessary to fit cables into the swinging arm using the guide cable as explained in paragraph 3.1.1.

Position the monitor power supply unit at the switchboard, so that 24Vdc pass through the structure. The cables fitted by RIMSA are for 24Vdc voltage only.

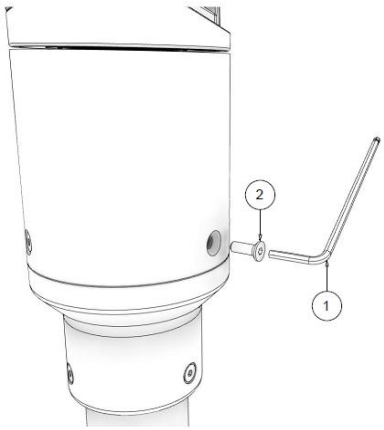
⚠	**Risk of serious personal injury.**

3.2 WAS1 and WAS2 monitor stand installation

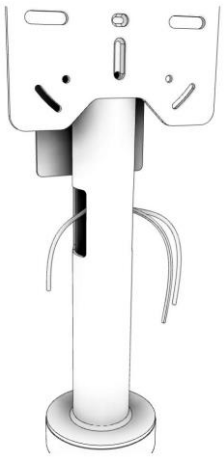
⚠	**Product falling hazard.**



Insert cables (1) coming from the swinging arm inside the monitor stand (2). Then insert the monitor stand (2) into the swinging arm (3) aliging the holes of the monitor stand with the ones of the swining arm hub.



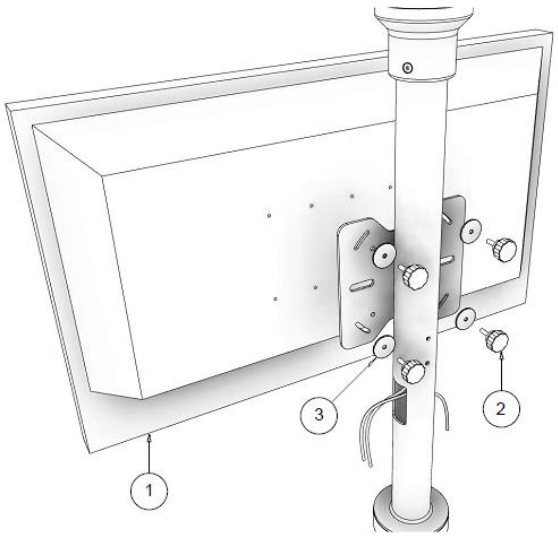
With the help of an allen key (1) fasten the 3 screws (2).



Take the cables out of the holes as shown on the drawing.

3.3 WAS1 and WAS2 monitor installation

Install the monitor (1) on the stand and tighten by means of the 4 knobs (2) and relative washers (3).
Connect it via power and signal cables that come out of the specific opening, previously inserted in the arm.

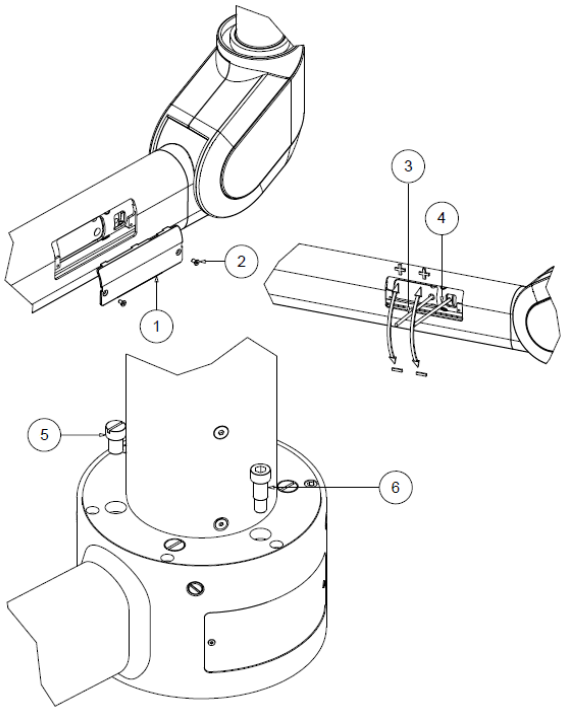


⚠	**The used monitor must have an external ground cable connected to the equipotential of the room.**

3.4 Calibration of swinging arm and horizontal arm stop (WAS1, WAS2, WAC)

If, after monitor installation, the arm is not stable in the set position, regulate compression.

⚠	**Always insert the stop screw. Failure to do so could damage and break the cable.**



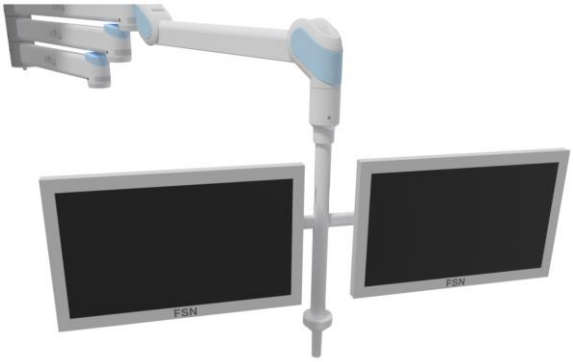
Loosen the screws (2) and remove the cover (1).
By means of the adjustment pin (3) rotate the lever upwards and load the spring, if the arm tends to drop, or downwards and unload the spring, if the arm tends to lift up.
The swinging movement of the arm can also be adjusted upwards. The Product is delivered without any swinging limits. To reduce upward swinging, fit the pin in the ring nut (4) and rotate it downwards until it is in the required position.
The swinging movement downwards cannot be changed.
After making adjustments, return the covering (1) to its original position.
The possibility also exists of selecting the stop position of the horizontal arm. To do this, select the stop position corresponding to one of the 5 slot screws and remove the screw (5). Remove the hexagon socket head retention screw (6) and insert it in the position of the previously-removed screw. Insert the slot screw (5) in the position of the removed retention screw. It is possible to choose between 6 different stop positions.

3.5 Monitor and maximum weight

WAS1 Arm

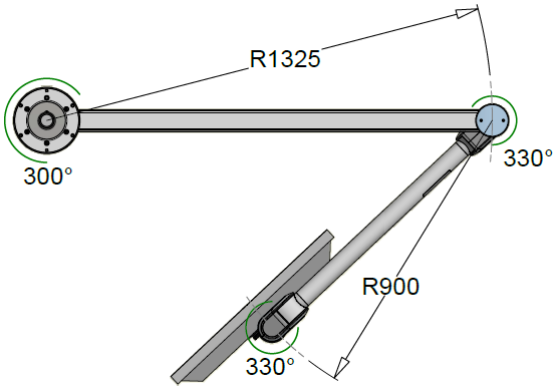
The WAS1 arm is designed to sustain a 24" to 32" monitor, with a weight that can vary between 7 kg and 29.5 kg.

WAS2 Arm

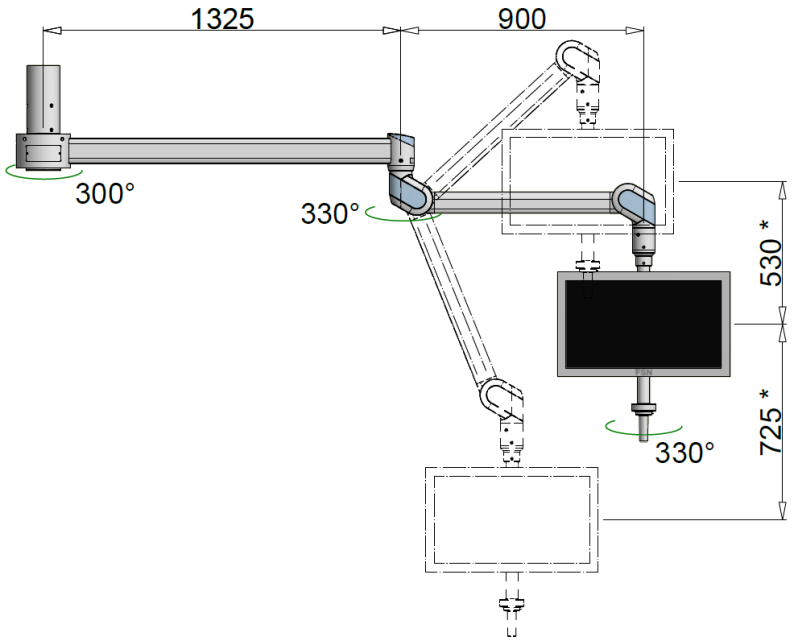


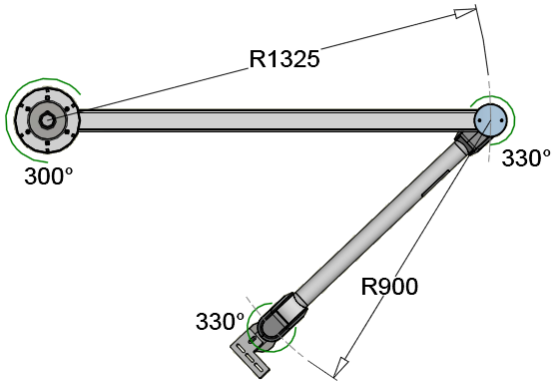
The WAS2 arm is designed to sustain two 24" to 32" monitors, with a total weight varying between 5.5 kg and 28 kg.

3.6 Movements

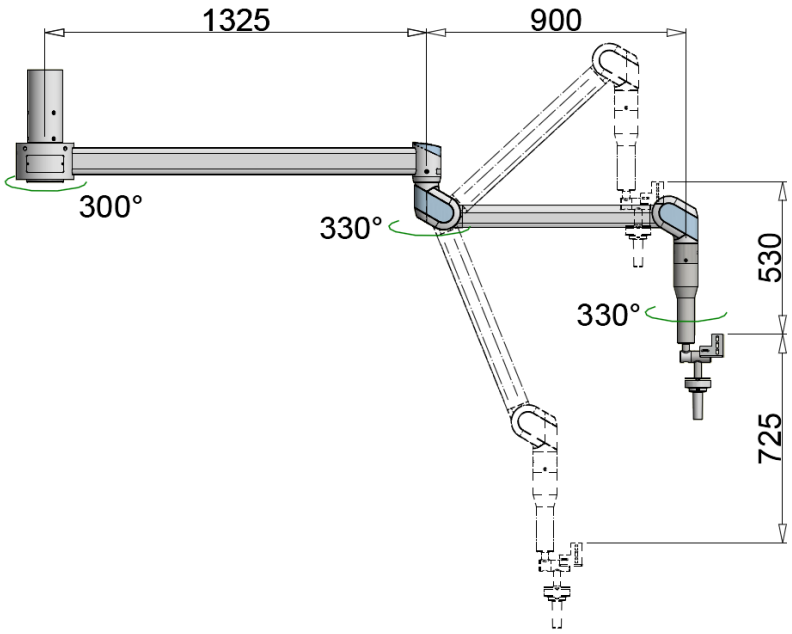


WAS1 & WAS2 ARM





WAC ARM



4 Cameras

Camera is not available for PENTALED 30N and TRIS-LED models.

4.1 Description

The system consists of removable camera fitted to the lamp cupola, remote controller to manage the functions and, on request, monitor to display the images.
This system offers the possibility of installing a FULL HD camera.
The camera body is of the Plug & Play type, as long as the lamp is ready to accept this.

Versions

The camera is available in two different versions:

- HDS (HDSDI signal);
- WI-FI (WI-FI signal).

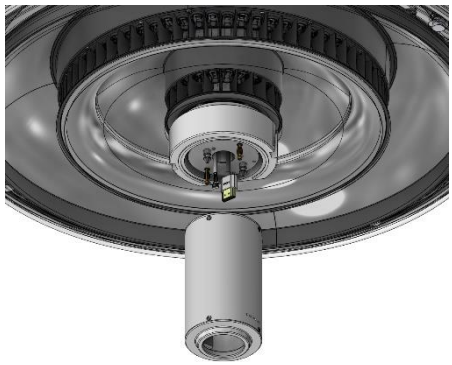
4.2 Grip and camera installation

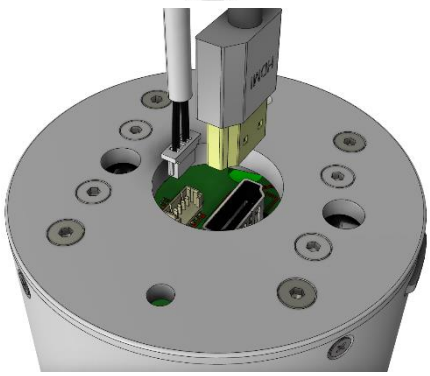
4.2.1 UNICA and U29 versions

⚠	**Risk of falling. Make sure the camera and grip are firmly fastened into position.**

WI-FI version

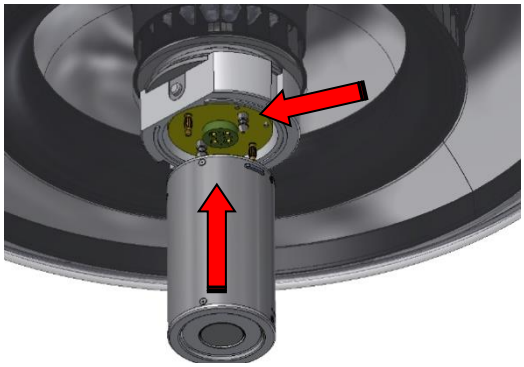
In WI-FI version, before proceeding with the camera installation it is necessary to connect the cables coming from the cupola.





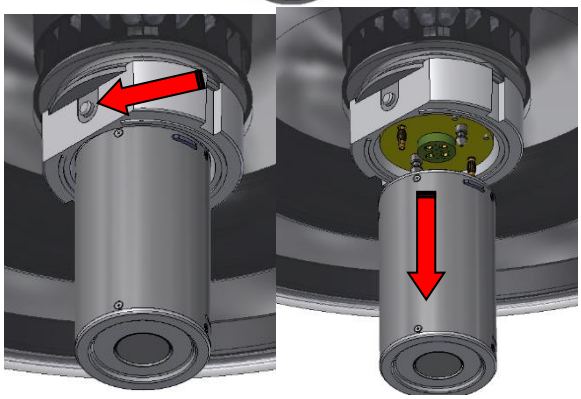
Connect the HDMI cable and the power/function control cable to the camera body.

Camera body installation



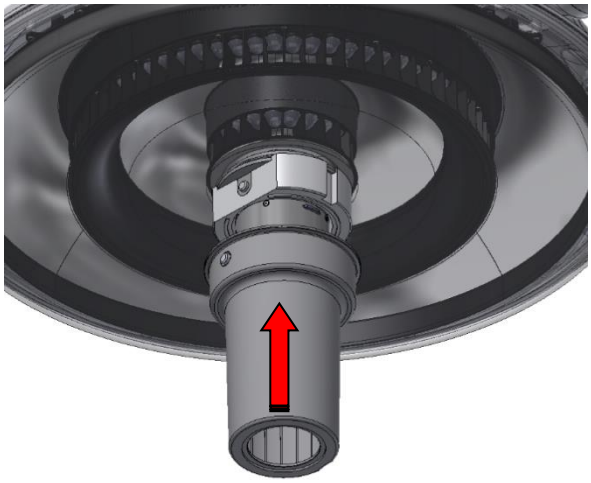
Align the camera with the support flange, in accordance with the shape of the connector and by matching the fixing pins with corresponding holes.

Press the lock lever, fit the camera up tight and release the lever.



To remove the camera body from the lamp, press the lock lever with your finger and remove the camera downwards.

Grip installation



To install the sterilisable handpiece, align it with the camera body, insert it in the support, following the guide provided until it is locked in position.

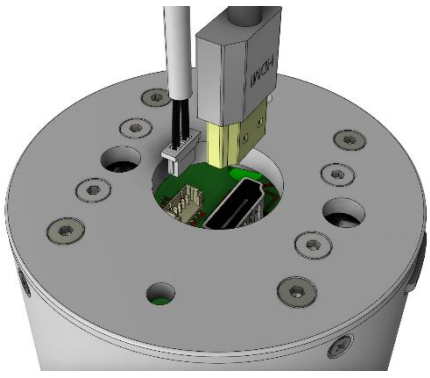
To remove the handpiece from the lamp, simply press the handpiece release and remove it.

4.2.2 E/N SERIES versions

⚠	**Risk of falling. Make sure the camera and grip are firmly fastened into position.**

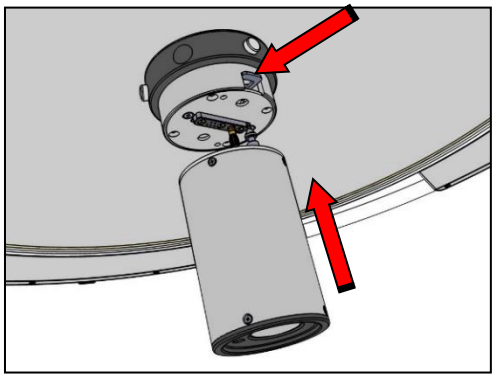
WI-FI version

In WI-FI version, before proceeding with the camera installation it is necessary to connect the cables coming from the cupola.

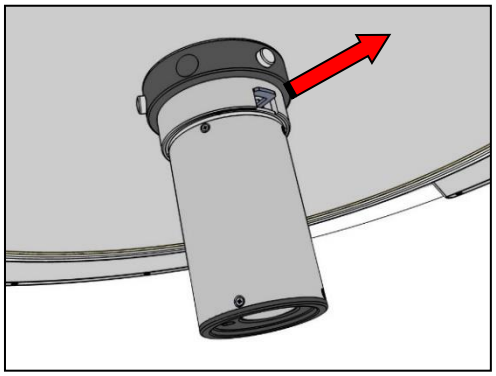


Connect the HDMI cable and the power/function control cable to the camera body.

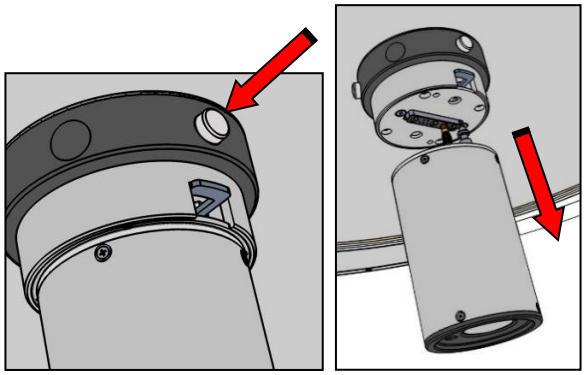
Camera body installation



Align the camera with the support flange, in accordance with the shape of the connector.

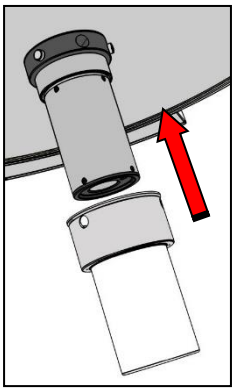


Press the lock lever, fit the camera up tight and release the lever.

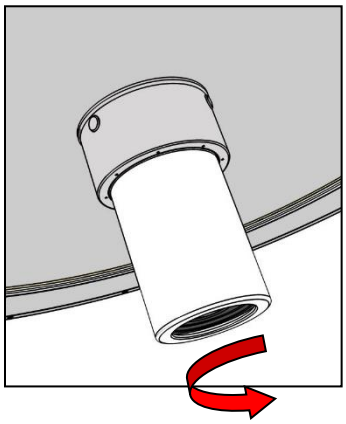


To remove the camera body from the lamp, press the lock lever with your finger and remove the camera downwards.
Release the lever.

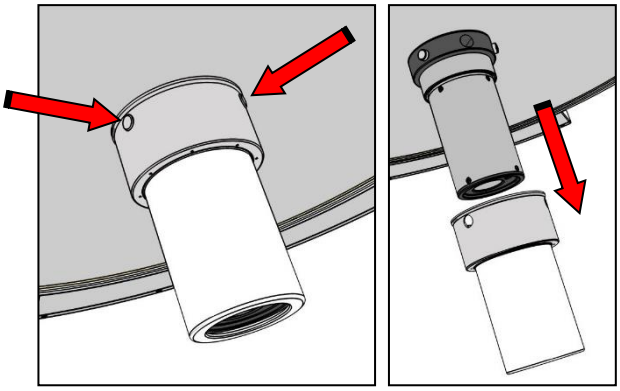
Grip installation



To install the sterilisable handpiece, align it with the camera body and push it upwards.



Turn the handpiece until the 3 stops are fastened in the respective holes.



To remove the handpiece from the lamp, simply press the 3 stops at the same time and pull the handpiece downwards.

4.3 Camera power connection

Monitor connection

The camera body is of the Plug & Play type, as long as the lamp is ready to accept this.
The monitor must be connected to the Video/Audio cables of the Product.
Depending on the type of camera, the cables to be connected are:

- HDSDI camera: - 'HDSDI' video signal cable.
- WI-FI camera: - 'HDMI'.

4.4 Technical specifications

FULL HD TVCC "SONY FCB EV-7520A"	
Image device	1/2.8 type CMOS
Actual image elements	Approx. 2.13 Megapixels
Horizontal resolution	Full HD 1080/60p (1920 x 1080)
Lens	30x optical zoom, f=4.3mm (wide) to 129mm (tele), F1.6 to F4.7
Digital zoom	12x (360x with optical zoom)
Visual angle (H)	67° (wide) to 2.3° (tele)
Minimum lens distance	10mm (wide), 1200mm (tele)
Minimum lighting	0.1 lux
White balance	Auto, Manual
AE control	Auto, Manual
Focusing	Full Auto, Manual
Video output	HD: HD-SDI
Supply voltage	6 to 12 Vdc
Power consumption	4 Watt

4.5 Troubleshooting

4.5.1 HDSDI version

Camera functions not active	- Check that the wall control connection is correct. Refer to the wiring diagram and the chapter on wall control installation.
No monitor image	- Switch the system off and on again from the wall control. - Check that the cables are correctly connected to the monitor. - Check monitor setting. - Check connections along the entire structure, from camera to monitor.
Distorted image	- Probably reversal of cable connection along the structure. Recheck correct connection at all points.

4.5.2 WI-FI version

Camera functions not active	- Check that the wall control connection is correct. Refer to the wiring diagram and the chapter on wall control installation.
No monitor image	- Check that the blue indicator lights on the emitter and receiver are all lit. These indicate the presence of voltage and signal. - Check monitor setting. - Make sure there are no metallic obstacles and that the distance between receiver and emitter is over 4 metres. If necessary, try changing the position of the receiver.

If the above indications are not enough to solve the problem, contact the after-sales service.

5 Wall Controls

Wall controller is not available for TRIS-LED model.

5.1 Description

Control panel

On request, the lamp can be supplied with remote function controller.

Parts supplied by RIMSA

The controller consist of a plastic panel (to be fastened to the wall) with electronic board and integrated keyboard, and connection wiring. RIMSA does not provide the screws for fastening the panel to the wall.

UNICA versions

The wall controller for UNICA models is available in thirteen different versions:

- WP_TV (with camera controls only);
- WP_1U (with lamp controls);
- WP_1U_TV (with camera and lamp controls);
- WP_1U_IR (with IR sensor and lamp controls);
- WP_1U_TV_IR (with IR sensor, camera and lamp controls);
- WP_2U (with two lamps controls);
- WP_2U_TV (with camera and two lamps controls);
- WP_2U_IR (with IR sensor and two lamps controls);
- WP_2U_TV_IR (with IR sensor, camera and two lamps controls);
- WP_3U (with three lamps controls);
- WP_3U_TV (with camera and three lamps controls);
- WP_3U_IR (with IR sensor and three lamps controls);
- WP_3U_TV_IR (with IR sensor, camera and three lamps controls).

U29 and E/N SERIES versions

The wall controller for U29 and E/N SERIES models is available in nine different versions:

- WP_TV (with camera controls only);
- WP_1E (with lamp controls);
- WP_1E_TV (with camera and lamp controls);
- WP_1E_IR (with IR sensor and lamp controls);
- WP_1E_TV_IR (with IR sensor, camera and lamp controls);
- WP_2E (with two lamps controls);
- WP_2E_TV (with camera and two lamps controls);
- WP_2E_IR (with IR sensor and two lamps controls);
- WP_2E_TV_IR (with IR sensor, camera and two lamps controls).

5.2 Installation

Preparation

Before installing the panel on the wall, the wall has to be prepared by creating a housing for the electronic board and keyboard flats.

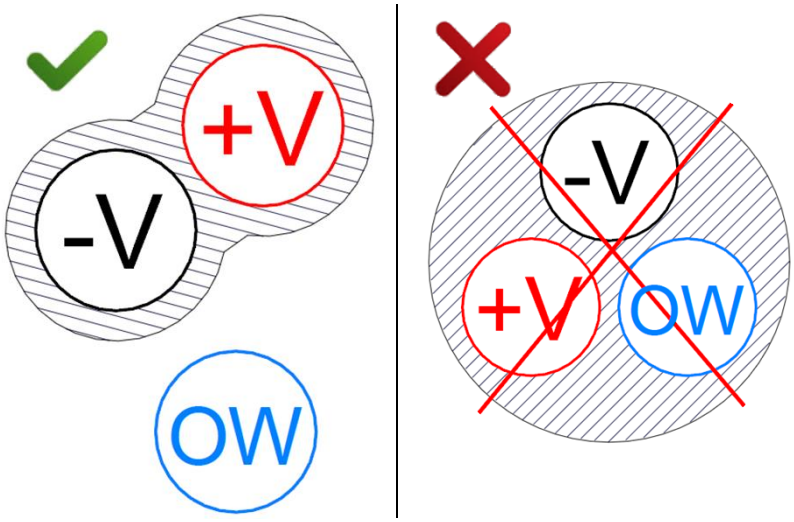
Fitting

Fasten the panel using 4 screws with max diameter 4mm (RIMSA does not supply these screws).

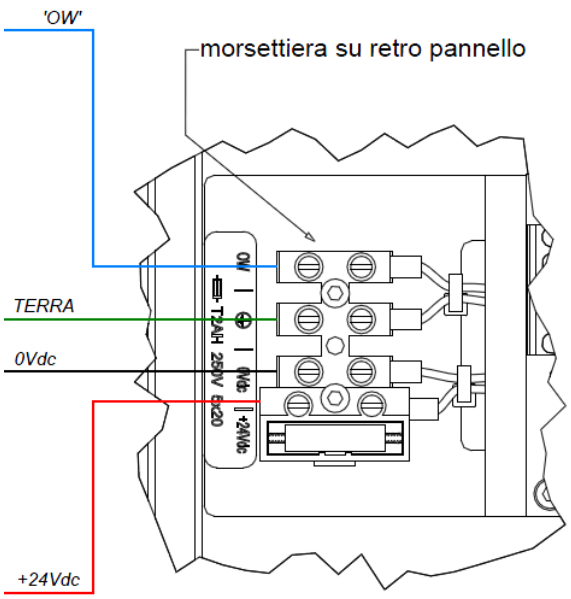
Power connection

RIMSA supplies all the cables required for installing the controller on the wall, pre-connected to the board.
To avoid interference or malfunctioning problems of components, power and communication cables must be separated.

⚠	**Risk of interference and malfunction.**



If the cables supplied by RIMSA are not used, they must have a cross-section of at least AWG 18 and the maximum length must not exceed 20m.



To make the connections, refer to the attached wiring diagram:

- 'OW': to be connected together with other 'OW' wires coming out from lamp structure.
- GROUND: to be connected to a GROUND terminal of lamp electrical panel.
- 0Vdc: to be connected to the '0Vdc' terminal of MAIN lamp, on electrical panel:
  - terminal n°4 in case of single lamp;
  - terminal n°6 in case of double lamp;
  - terminal n°8 in case of triple lamp.
- +24Vdc: to be connected to the '24Vdc' terminal of MAIN lamp, on electrical panel:
  - terminal n°3 in case of single lamp;
  - terminal n°5 in case of double lamp;
  - terminal n°7 in case of triple lamp.

Keyboards

The keyboards which can be fitted on the wall control are the lamp keyboard and the camera keyboard, with controls described in the following chapter.

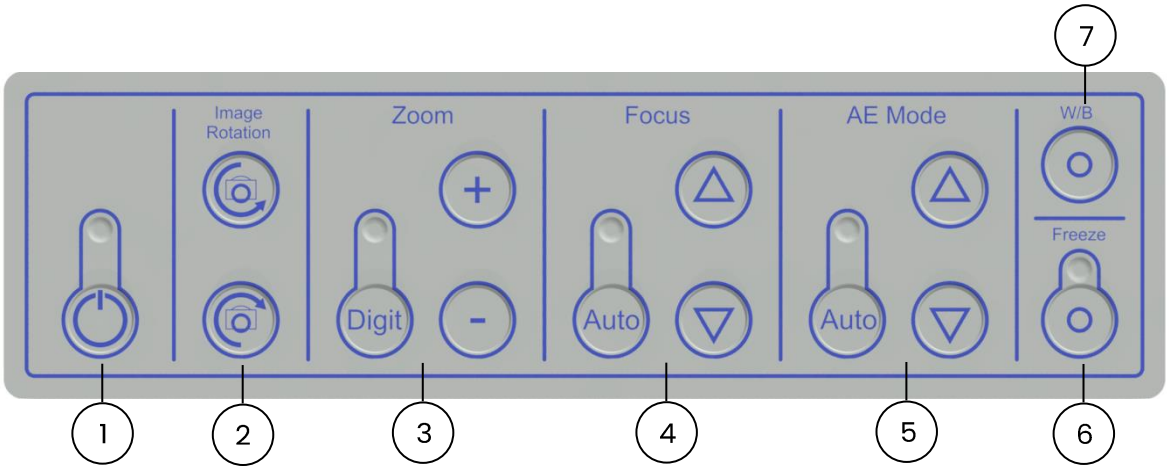
6 Keyboards

The keyboard is not available for TRIS-LED model.

6.1 Camera keyboard

Camera keyboard

The camera functions are managed by means of the membrane keyboard on the wall controller: I/O key (1), image rotation (2), Zoom adjustment (3), (automatic and manual) focus adjustment (4), (automatic and manual) exposure adjustment (5), freeze image (6), white balance (7).

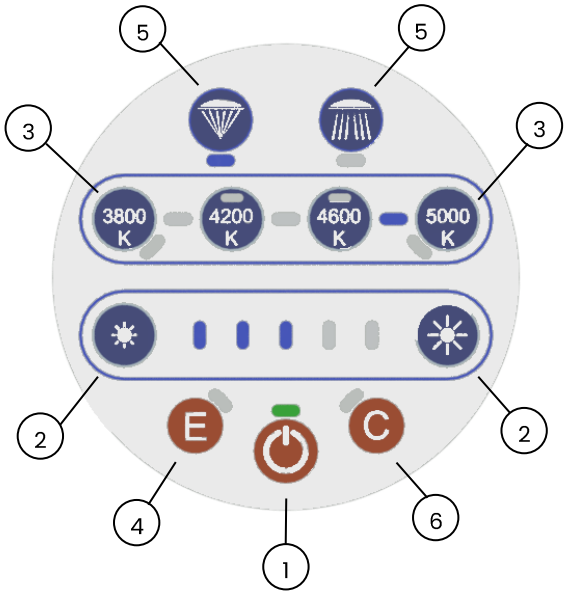


6.2 Wall keyboards

On request, the lamp can be fitted with a wall control for managing the functions by means of a supplementary keyboard.

6.2.1 UNICA wall keyboard

UNICA wall keyboard



The lamp functions are managed by means of the capacitive keyboard like that on the cupola.
By touching on the surface of the keyboard, the following functions can be activated:

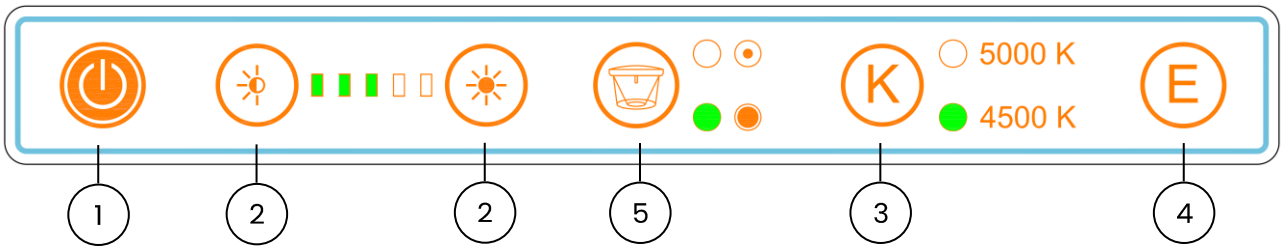
- lamp switch-on and switch-off by means of the "I/O" key (1). With the lamp off, the green LED indicates the presence of power voltage in the Product.
- adjustment of light intensity by dragging your finger over the bar or touching the sun symbol keys (2). The level of intensity achieved is indicated by means of 5 blue microleds.
- selection of colour temperature from among 7 values - 3800K, 4000K, 4200K, 4400K, 4600K, 4800K and 5000K by pressing the keys indicating the value (3). Press the key twice to select intermediate values.
- enabling the "Endoled" function, using the key with the letter E (4). This function is only available with lamp off;
- adjustment of light range (increase-decrease) by means of key (5) which increases or decreases the range.
- enabling of courtesy light by means of key C (6), to light up background.

U29 and E SERIES wall remote control panel

6.2.2 U29 and E SERIES wall keyboard

By touching on the surface of the keyboard, the following functions can be activated:

- ON and OFF I/O with green indicator LED (1).
- adjustment of light intensity by dragging your finger over the bar or touching the sun symbol keys (2). The display of the level of set intensity is indicated by 5 green LEDs.
- selection of colour temperature between 4500K and 5000K (3).
- start the "Endoled" function letter E (4). The display of the set function is indicated by the lighting up of the corresponding green LED. This function can only be used when the lamp is off.
- adjustment of the light range (5). The keys extend or reduce the lit diameter.

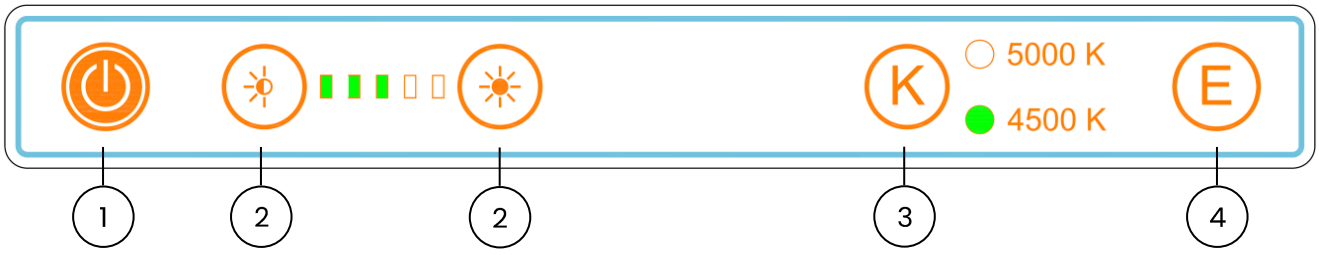


N SERIES wall remote control panel

6.2.3 N SERIES wall keyboard

By touching on the surface of the keyboard, the following functions can be activated:

- ON and OFF I/O with green indicator LED (1).
- adjustment of light intensity by dragging your finger over the bar or touching the sun symbol keys (2). The display of the level of set intensity is indicated by 5 green LEDs.
- selection of colour temperature between 4500K and 5000K (3).
- start the "Endoled" function letter E (4). The display of the set function is indicated by the lighting up of the corresponding green LED. This function can only be used when the lamp is off.

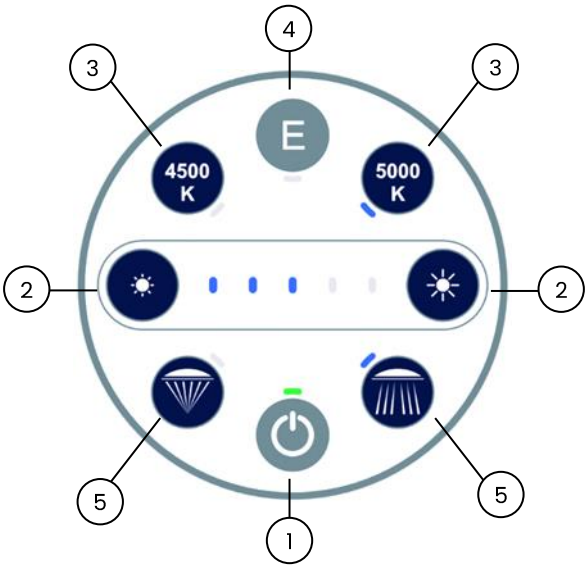


6.3 Capacitive (touch) keyboard

On request, a capacitive keyboard can be fitted on the Product, with touch technology.

6.3.1 U29 and E SERIES capacitive (touch) keyboard

U29 and E SERIES wall keyboard

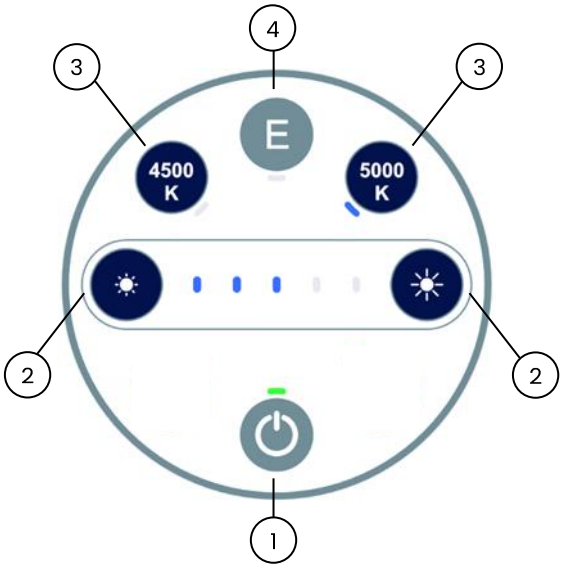


By touching on the surface of the keyboard, the following functions can be activated:

- ON and OFF I/O with green indicator LED (1).
- adjustment of light intensity by dragging your finger over the bar or touching the sun symbol keys (2). The display of the level of set intensity is indicated by 5 blue LEDs.
- selection of colour temperature between 4500K and 5000K (3). The display of the setting is indicated by the lighting up of the corresponding blue LED. With the lamp off, the 4500K LED indicates the presence of power voltage in the Product.
- start of the "Endoled" function letter E (4). The display of the set function is indicated by the lighting up of the corresponding green LED. This function can only be used when the lamp is off.
- adjustment of the light range (5). The keys extend or reduce the lit diameter. Display is by means of the lighting up of one of the 2 blue LEDs.

6.3.2 N SERIES capacitive (touch) keyboard

N SERIES wall keyboard



By touching on the surface of the keyboard, the following functions can be activated:

- ON and OFF I/O with green indicator LED (1).
- adjustment of light intensity by dragging your finger over the bar or touching the sun symbol keys (2). The display of the level of set intensity is indicated by 5 blue LEDs.
- selection of colour temperature between 4500K and 5000K (3). The display of the setting is indicated by the lighting up of the corresponding blue LED. With the lamp off, the 4500K LED indicates the presence of power voltage in the Product.
- start of the "Endoled" function letter E (4). The display of the set function is indicated by the lighting up of the corresponding green LED. This function can only be used when the lamp is off.

7 IR Remote Controls

The remote control is not available for TRIS-LED model.

7.1 Description

On request, the lamp can also be fitted with IR remote control. The sensor can be placed on the central hub, on the yoke hub or on the wall control, if provided.
The remote control can control the lamp functions only or else both the lamp and the camera functions.
By pointing the remote control in the direction of the IR receiver, the controls of the Product keyboard can be operated.

UNICA versions

The remote control UNICA models is available in two different versions:

- Z400260 (lamp controls);
- Z400260-1 (lamp and camera controls).

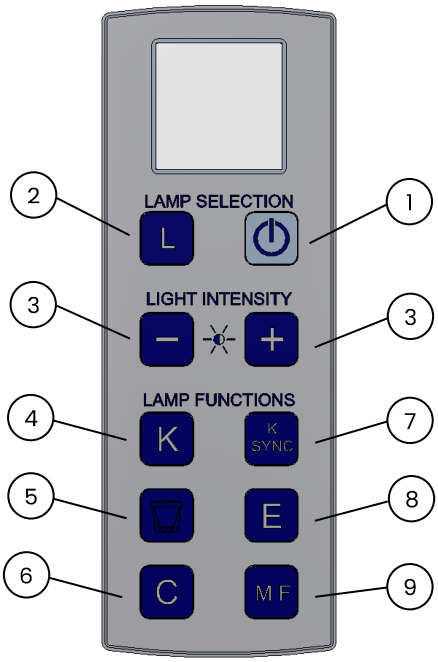
U29 and E/N SERIES versions

The remote control U29 and E/N SERIES models is available in two different versions:

- Z200953 (lamp controls);
- Z200992 (lamp and camera controls).

7.2 UNICA versions

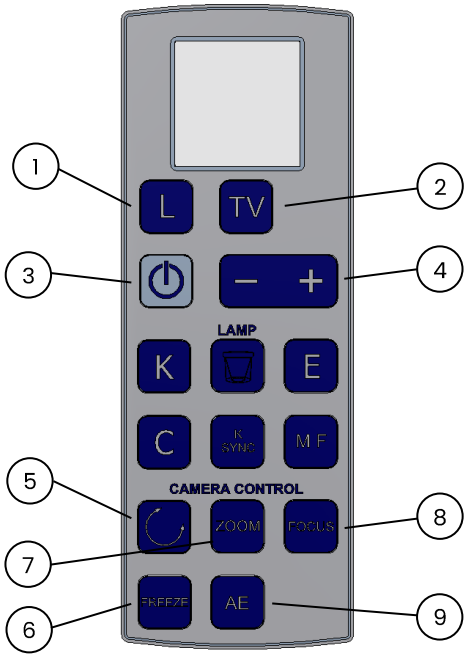
7.2.1 Lamp remote control (Z400260)



Remote control functions:

- lamp switch-on and switch-off by means of the I/O key (1).
- lamp selection, 1 to 3 lamps depending on model (2).
- light intensity adjustment (3).
- selection of 7 colour temperatures. Every time the key is pressed, the colour temperature increases by 200K starting from 3800K up to 5000K. If the key is pressed again, return is made to 3800K (4).
- light field adjustment – large or small (5).
- switch-on of courtesy light for subdued lighting (6).
- synchronization and de-synchronization of lamp K function. When pressed, the message KS ON or KS OFF appears in the remote control display to indicate whether the function is enabled or not. When in ON mode, this means the lamp sets on the same colour temperatures as the other selected lamps, including if the latter are in OFF mode (7).
- switch-on of "Endoled" function. This function is only available with lamp off (8).
- the purpose of the MF key is to recall stored functions. If this key is pressed for more than 3 seconds, the setting of the selected lamp is saved and the message S MF will be displayed. If, instead, the key is pressed for less than 1 second, the previously-saved light settings are recalled (9).

7.2.2 Lamp + camera remote control (Z400260-1)

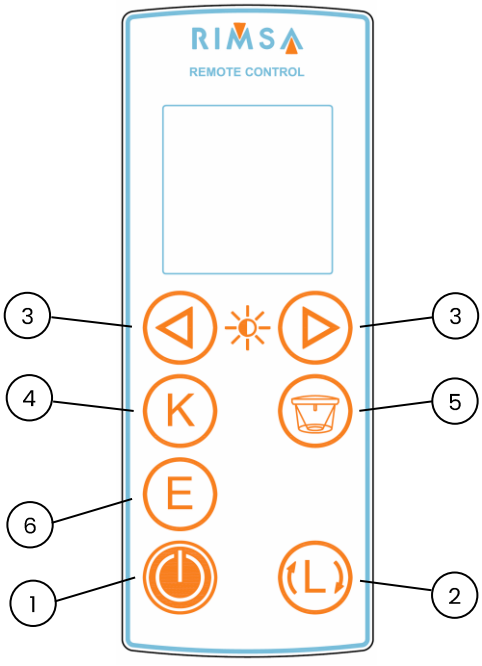


The remote control can select both the camera functions and the lamp adjustment functions.
To select the lamp mode, press the key 'L' (1); the lamp functions are the same as those explained in the previous paragraph.
To select the camera mode, press the key 'TV' (2).
Camera functions:

- camera switch-on and switch-off by means of the "I/O" key (3).
- camera rotation selection (5). Rotation direction (4).
- freeze-frame (6).
- selection of Zoom function and digital mode (7). Zoom adjustment and zoom in digital mode (4).
- selection of focus and automatic focus function (8). Manual focus adjustment (4).
- selection of automatic exposure (9). Manual adjustment (4).

7.3 U29 and E/N SERIES versions

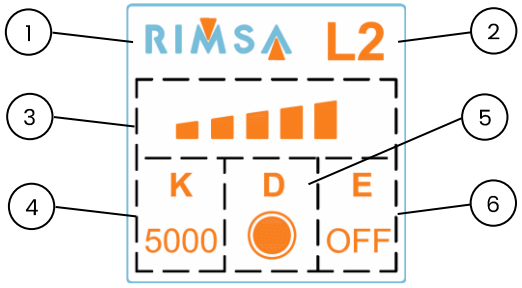
7.3.1 Lamp remote control (Z200953)



Remote control functions:

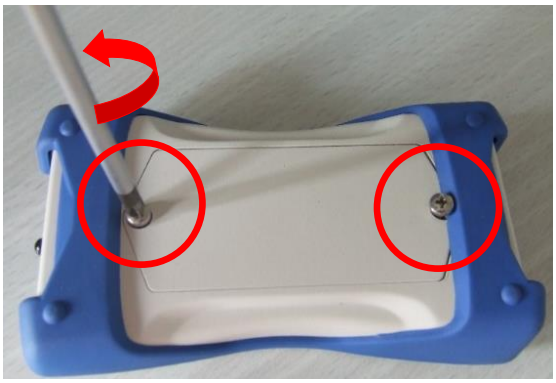
- lamp switch-on and switch-off by means of the "I/O" key (1).
- lamp selection, 1 to 3 lamps depending on model (2).
- light intensity adjustment (3).
- selection of 2 colour temperatures: 4500K and 5000K (4).
- light field adjustment – large or small (5).
- switch-on of "Endoled" function. This function is only available with lamp off (6).

Screen



The remote control features a 3.5" LCD screen.
At top left is the RIMSA logo (1) while on the right is the selected dome (2). The 5 levels (3) indicate the set light intensity.
In the lower part are indicated: the colour temperature (4), the selected diameter (5) the state of the Endoled function (6).

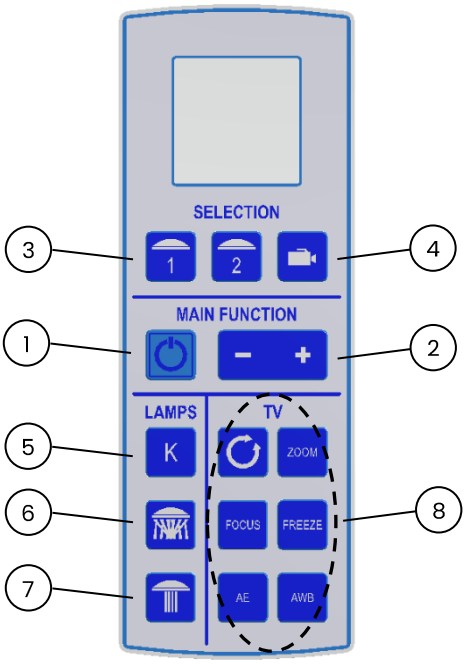
Maintenance



In the event of the Product not responding to the controls, make the following checks:

- make sure the remote control is pointing towards the IR receiver placed in the central hub of the structure.
- make sure the batteries are charged. To replace them, open the rear door by loosening the screws and replace them with new type AA ones.

7.3.2 Lamp + camera remote control (Z200992)



The remote control can select both the camera functions and the lamp adjustment functions.
The keys perform the following functions:

- lamp and camera switch-on and switch-off (1).
- +/- adjustment of the selected function (lamp or camera) (2).
- selection of unit to be adjusted: lamp (3) and camera (4).
- in camera mode (4), the relative functions can be adjusted (keys 8).
- cyclic change of colour temperature (5).
- cyclic change of the diameter of the lit field (6).
- Endoled function only available with lamp off (7).
- camera functions (rotation, zoom, focus freeze, autoexposure, white balance) (8).

8 Battery Systems

8.1 Description

On request, the lamp can be equipped with a battery system so the lamp operates even after a mains power outage.
The system consists in a power supply unit intended to use combined to surgical luminaries.
The system permits at the luminaire to function both network line (100-240V) and, when not available, with the 24V battery.
The switching from the electrical grid to battery is performed automatically when an electrical failure occurs.
In order to reactivate the network line functioning it is needed to reactivate the electrical grid. Then, the device will automatically reactivate network line.

Power

INPUT: 100-240 Vac
OUTPUT: 24 Vdc

Storage precautions

The battery groups are supplied with a series of two charged batteries.
Store the batteries at a temperature between -20°C and +40°C.
During storage, recharge the batteries at least once every 6 months.
A battery also ages during storage, so it is always best to use it as quickly as possible.

Battery specifications

- Nominal voltage 12 V;
- Capacity 12 Ah;
- Maximum charge current 3 A;
- Weight 3.75 kg;
- Dimensions 151x98x94 (mm);
- Operating range -20°C / 40°C.

8.2 Battery life

The estimate life for batteries is:

LAMP MODEL	LIFE [h]
UNICA 520	2
UNICA 860	1,5
PENTALED 81	
PENTALED 63N	
U29	4
PENTALED 30E	
PENTALED 30N	
TRIS-LED	

Batteries are subject to a number of charge and discharge cycles.

- If the batteries are completely discharged the number of theoretical life cycles is 250.
- If the batteries are discharged by 50% and subsequently recharged, the number of theoretical life cycles is 550.
- If the batteries are discharged by 30% and subsequently recharged, the number of theoretical life cycles is 1200.

8.3 First switch-on

There could be a slight electrical discharge on the faston.

Batteries are shipped already charged with its relative fuse (F3) unplugged and separate from the batteries.
The user first needs to plug the batteries using the faston and then to place the fuse. The user can plug the device to the main system and to the luminary as described in the electrical diagram.
Before connecting power to system, make sure that all the fuses are inserted.
Once switched on, verify that the system works properly both relative to the charging and discharging cycle.

8.4 Advices

Connect the battery group to network line to charge the batteries. Are necessary at least 4 hours for a completely recharge of the batteries.
We recommend performing a discharge/charge cycle of the batteries once a month:

- charge the batteries for at least 6 hours.
- leave the device turned on until the batteries run out.
- if the batteries operation time listed in the section “Battery life” isn’t fulfilled please replace them.

Batteries are naturally subject to discharge over time.

To ensure correct battery operation, replace them at least every 3 years.

8.5 Recharging cycle

The recharging battery cycle is indicated by a coloured LED, the colours can be red, yellow and green. Red means battery on charge, yellow means battery charged between 80% an 95%, green means battery fully charged.
The led is turned on when battery group is charging.
If the network line is interrupted, the led is turning off.

8.6 Operating precautions

It is best to perform a test every month to check the operation of the exchange relay and the battery charge.
To do this, disconnect the Product from the supply mains and make sure switchover to the battery occurs automatically (the lamp must not go off).
When disconnecting the Product from the power supply, the switch must be in off position (0) to prevent discharging the batteries.
When the Product is not used for more than one month, disconnect the batteries.

8.7 Maintenance

The battery group does not require any particular maintenance.
However, once a year, it is necessary to clean the interior of the device with compressed air in order to remove dust from the various components thus granting a correct functioning. It is also necessary to verify the tightening of the clamps.

8.8 Battery versions

UNICA 520 version

The battery group for UNICA 520 model is available in three different versions:

- QEU520SOB_24V, for single ceiling lamp;
- N°2 QEU520SOB_24V, for double ceiling lamp;
- QEU520PIB_24V, for mobile version.

UNICA 860 version

The battery group for UNICA 860 model is available in two different versions:

- QEU860SOB_24V, for single ceiling lamp;
- N°2 QEU860SOB_24V, for double ceiling lamp.

U29, E/N SERIES and TRIS-LED versions

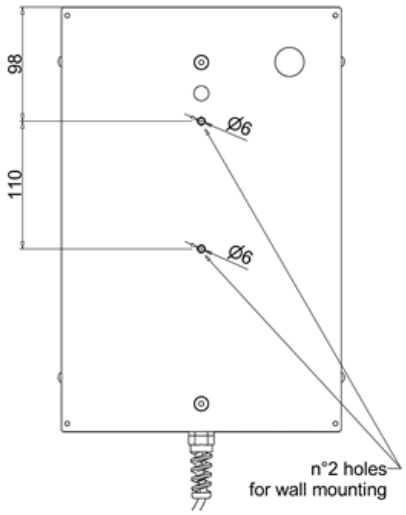
The battery group for U29, E/N SERIES and TRIS-LED models is available in three different versions:

- QEUSOB_24V, for single ceiling lamp;
- N°2 QEUSOB_24V, for double ceiling lamp;
- QEUPIB_24V, for U29 and PENTALED 30E/30N mobile versions;
- QETLPIB_24V, for TRIS-LED mobile version.

The previous sections are common for all versions.

8.8.1 Batteries for single ceiling lamp

The system consists of a power supply unit made up of one box which controls the lamp.
Each box contains two batteries.

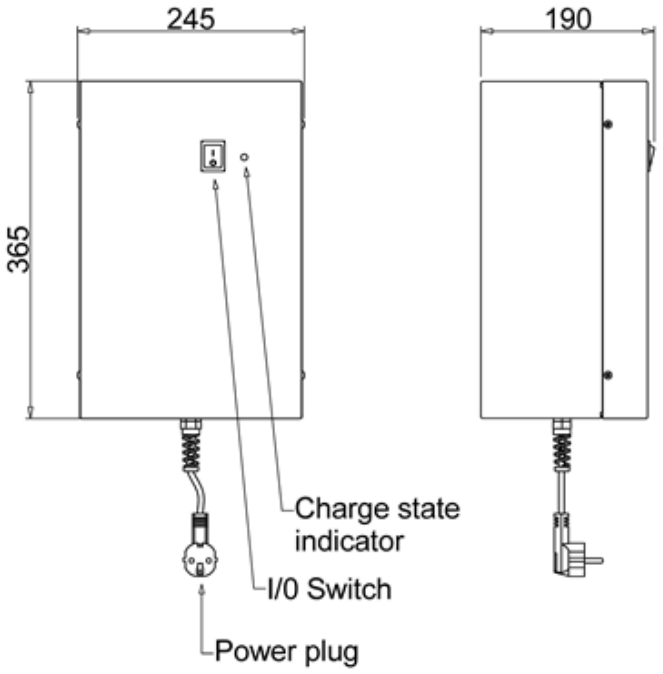


8.8.1.1 Mechanical installation

Fixing predisposition

The back-side plate of the box is provided with n° 2 holes, Ø6mm, suitable for the fixing of box itself to wall.
For the mounting procedure, open the box and fix it with n° 2 mechanical/chemical anchors (max. M6 dimension).
RIMSA do not supply the anchors.

Draws and dimensions



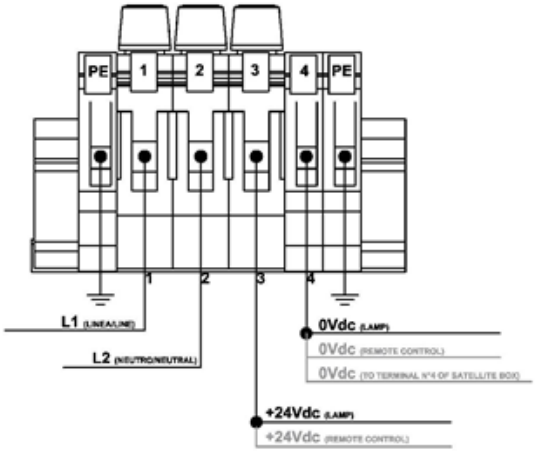
Orientation

The box can be positioned in every orientation. Be careful to leave the I/O reacheable.

8.8.1.2 Electrical installation

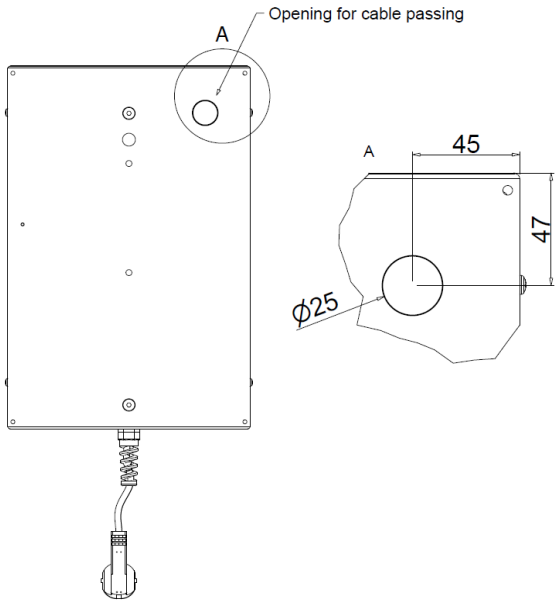
Manufacturer recommendation for wiring cross section

Connection wires



The wiring predisposition between batteries box and lamp structure has to be performed so that to grant the correct powering to lamp. In order to minimize the loss of power and voltage drop along these wires, this connection circuit must have a maximum length of 20m and wires section as listed below:

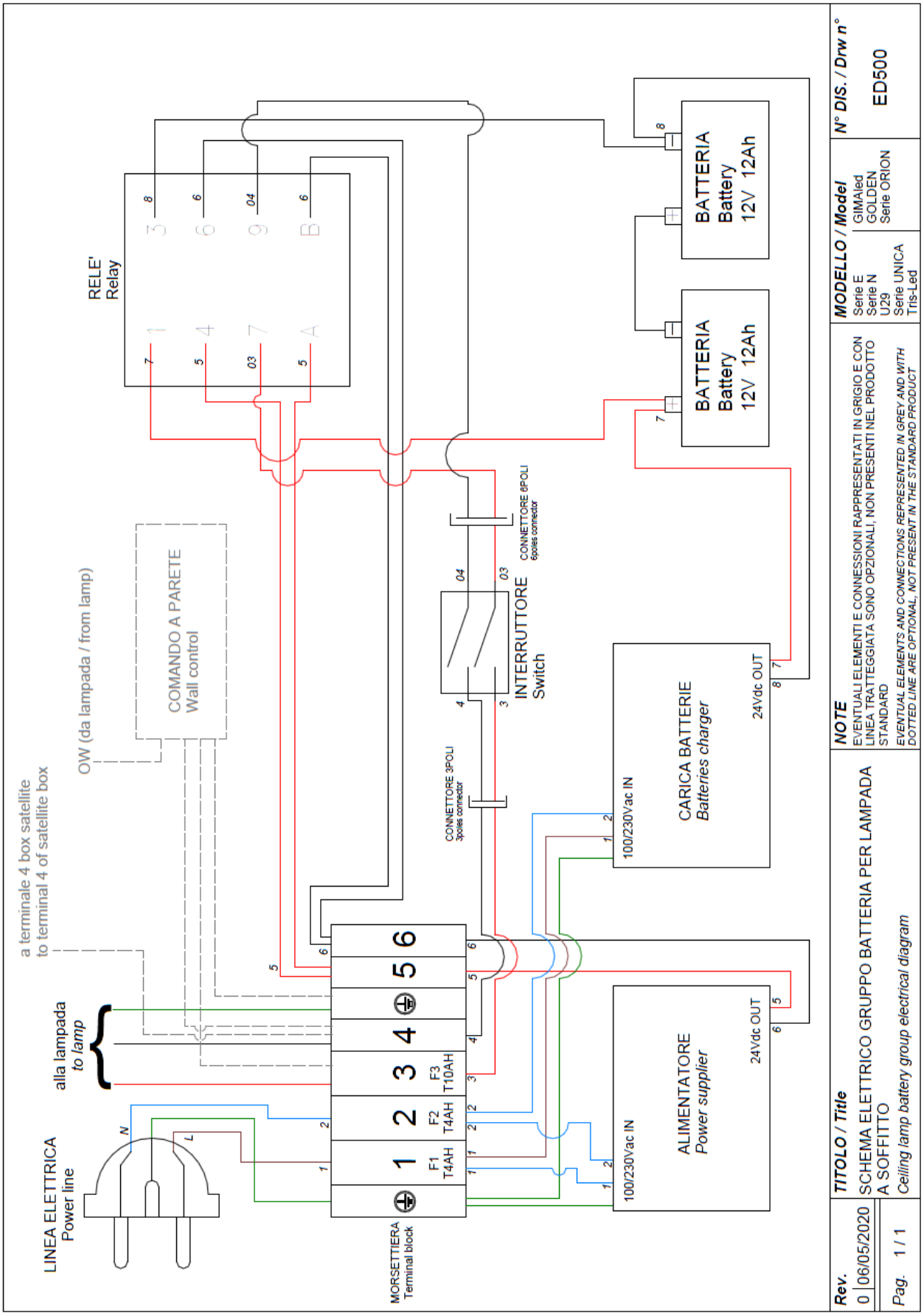
- wires length up to 10 m → wires section of 4 mm^2
- wires length up to 15 m → wires section of 6 mm^2
- wires length up to 20 m → wires section of 10 mm^2



Connection point

To access to terminals, open box removing first the n°4 screws which fix frontal cover.
On the backside of box, is present a circular opening suitable for the cable passing.

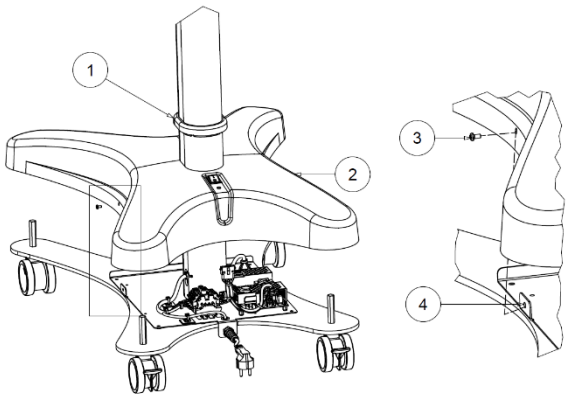
Electrical diagram ceiling battery group



8.8.2 Batteries for double ceiling lamp

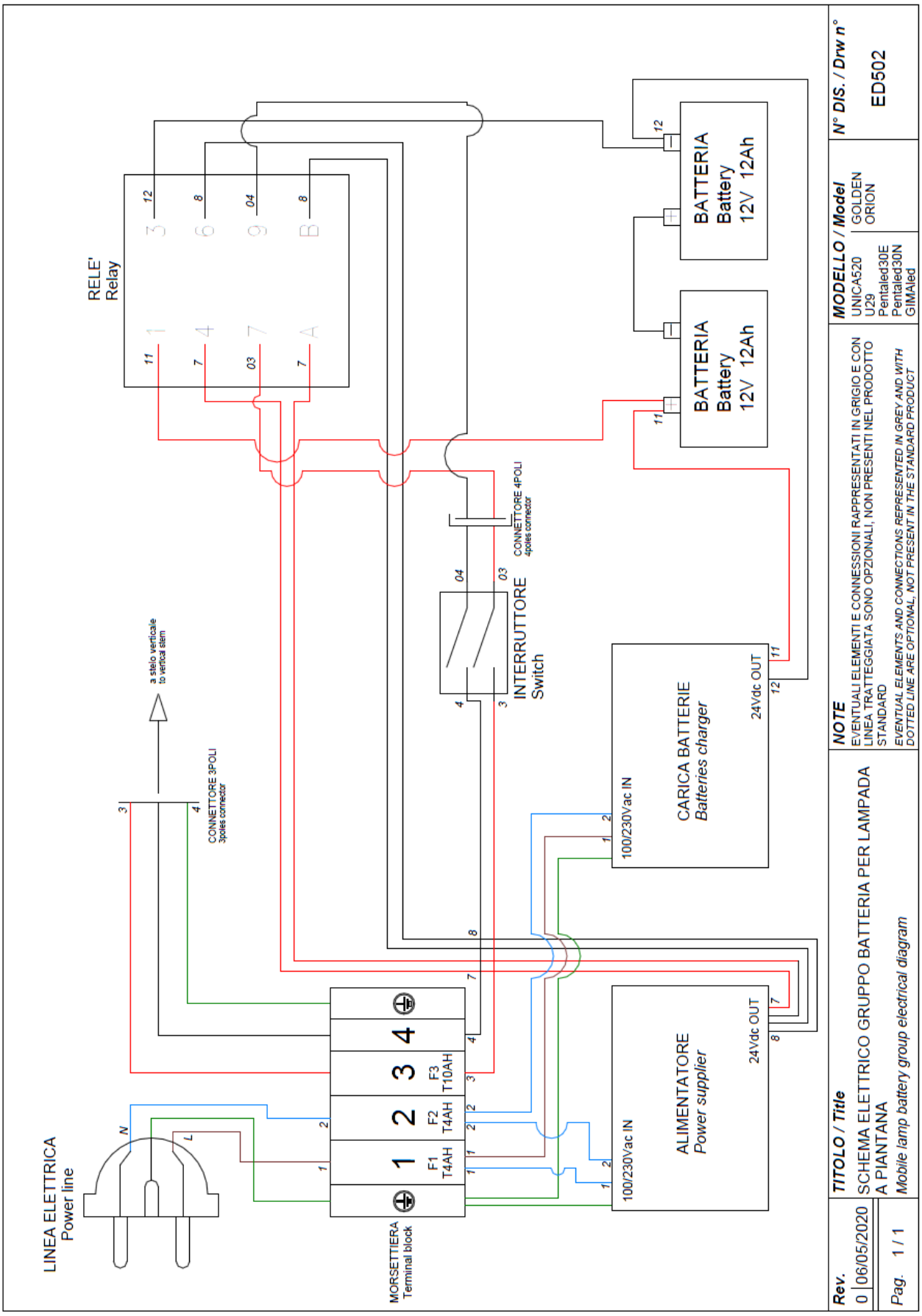
The system consists of a power supply unit made up of two separate boxes. Each box controls a lamp, placed in communication with each other by a common cable. This cable must be connected to the respective terminals (4) before commissioning in accordance with the numbering and electrical diagram. Each box contains two batteries.

8.8.3 Batteries for mobile lamp



The battery group is fixed on the casing under the stand cover.
Lift the closing ring (1) and the stand cover (2) by 30-40 cm in order to access the power section. Join the connectors coming from the stem and the switch; connect the battery faston that is disconnected.
After making the connection, engage the fuses.
Return the cover and seal to original position and faster the cover (2) by means of the screws (3) to be fastened to the threaded bush (4).

Electrical diagram mobile battery group



9 Warranty Certificate

1. The Product is covered by an 18-month warranty, including electrical parts.
2. The warranty begins on the date of Product shipment from the RIMSA warehouse to the buyer.
3. In case of disputes, the date indicated on the "transport document" attached to the goods shall be deemed valid.
4. The warranty only covers the sending of Product spare parts to the buyer or, in the event of RIMSA considering the replacement of spare parts not feasible, the replacement of the entire product, after fabrication faults have been properly ascertained at the undisputable judgement of RIMSA. The warranty does not therefore cover any other costs or expenses (including, by way of example but without limitation, labour costs, packaging costs and transport costs, etc.).
5. The guarantee does not include the components subject to normal wear, such as halogen bulbs, LEDs, fuses, relays, ball bearings, etc.)
6. The warranty does not cover:
   - malfunctions due to failure to comply with all instruction manuals;
   - malfunctions due to installation and/or maintenance errors;
   - malfunctions or faults caused by carelessness, negligence, incorrect use or other causes not attributable to RIMSA;
   - malfunctions or faults due to the fact that the electrical system of the premises where the device is installed is not in compliance with IEC 60364-7-710 standard (standard for electrical systems in premises used for medical purposes) and similar standards.
7. RIMSA shall repay direct damages suffered by the buyer and which are documented as attributable to its product, caused within the warranty period, for an amount not above 40% of the net value of the product as indicated on the buyer's invoice. RIMSA's liability is expressly ruled out for indirect damages or consequential damages (including cases of the Product not being used) deriving from the supply.
8. This warranty certificate replaces legal warranties for faults and non-conformities and rules out any other possible liability of RIMSA originating from the supplied products.
9. The payment of any damages to persons or things due to product malfunction or faults shall be limited to the maximum amount of RIMSA's insurance coverage for civil liability.
10. The warranty shall be automatically invalidated in the event of:
    - the Product having been tampered with or modified by the buyer or third parties;
    - the Product having been repaired by the buyer or third parties, without following the instructions in the instruction manuals;
    - the Product serial number having been cancelled, defaced or removed;
    - the buyer not being up to date with payments.
11. For jobs to be done under warranty, the buyer shall contact RIMSA only.
12. The component parts replaced under warranty must only be returned to RIMSA, if so requested by RIMSA, carriage free and suitably packed.
13. In case of failure to return a part requested by RIMSA, the cost of the component part will be charged.
14. RIMSA cannot accept returns from end users or in any case from parties other than the buyer.
15. Products returned to RIMSA must be complete with documentation authorising such return and another document describing the malfunction.
16. For everything not indicated on this warranty certificate, reference shall be made to the laws of Italy.
17. For all disputes deriving from or related to the orders to which this warranty certificate applies and which cannot be amicably settled between the parties, the only competent law court shall be that of Milan.