

Universal Electronic Dimmer

RNSU-452 (Dimmer): 220–240 V~ 50 Hz 50–450 W/VA
 RISU-452 (Dimmer with IR Receiver): 220–240 V~ 50 Hz 50–450 W/VA

Compatible load types:

Incandescent, Magnetic and Electronic Low-Voltage   

Incandescent Electronic Dimmer

RNSI-452 (Dimmer): 220–240 V~ 50 Hz 50–450 W
 RISI-452 (Dimmer with IR Receiver): 220–240 V~ 50 Hz 50–450 W

Compatible load types: Incandescent 

Accessory Dimmer (Extension Unit)

RDSU-452: 220–240 V~ 50/60 Hz 450 W/VA max.

Compatible with all Rania™ Dimmers and Controls.

Infrared Wireless Transmitter with One-Touch Button

RIS-REMOTH-AW / MIR-ITFS: 3 V⁻⁻⁻ 150 mW

Important Notes

Please read before installing.

- Caution:** To avoid overheating and possible damage to other equipment, do not use to control receptacles, fluorescent lighting fixtures, motor-operated or transformer-supplied appliances.
- Turn power OFF at MCB (circuit breaker) before performing any routine maintenance or servicing of lighting circuit.
- Install in accordance with all national and local electrical codes.
- This Dimmer complies with IEC and EN 60669-2-1.
- Do not paint Dimmer or Accessory Dimmers.
- This Dimmer is compatible with standard 2-way switches. Contact Lutron for details. For two location applications use only one Dimmer with either 1 Accessory Dimmer or 1 standard 2-way switch.
- This Dimmer is not compatible with standard 3-way switches. For three or more location applications use only one Dimmer with up to 9 Accessory Dimmers.
- Accessory Dimmer can not be used individually but must be used in conjunction with a Dimmer in a 2-way/3-way application.
- Dimmer requires a minimum total lamp wattage of 50 W/VA. Do not exceed the maximum rating of 450 W/VA.
- This Dimmer is overload protected. If the rated wattage is exceeded, power to the circuit will shut off until the Dimmer cools. If this occurs, reduce the wattage connected to the Dimmer.
- Operate between 0 °C and 40 °C. For indoor use only.
- It is normal for the Dimmer to feel warm to the touch during operation.
- Recommended backbox depth is 35 mm.**
- Maximum wire length between the Dimmer and the furthest Accessory Dimmer is 50 m.
- To ensure the best performance, the mains shall be free of noise; in particular, peak voltages exceeding 425 V, and other high frequency noises.
- A separate neutral connection from the load directly back to the breaker panel is required for best performance.
- Clean with a *soft damp cloth only*. **DO NOT** use any chemical cleaners.
- Use fully loaded electronic or magnetic low-voltage transformers for best performance.
- Do not mix electronic and magnetic low-voltage transformers on the same Dimmer.
- Dimmer may not work with dioded lamps.
- Use only magnetic low voltage transformers with built-in thermal protection.**
- For use with compatible electronic low-voltage loads. For an up to date list of compatible transformers, see our web site at www.lutron.com/rania/elv.

Limited Warranty

Lutron EA Ltd. ("Lutron EA") warrants each unit to be free from defects in material and workmanship and to perform under normal use and service. To the extent permitted by law, Lutron EA and Lutron Electronics Co. Inc. ("Lutron") make no warranties or representations as to the units except as set forth herein. This warranty shall run for a period of one year from the date of purchase and Lutron's obligations under this warranty are limited to repairing any defect, replacing any defective part or replacement (at Lutron EA's sole option) and shall be effective only if the defective unit is shipped to Lutron EA postage prepaid within 12 months after purchase of the unit. Repair or replacement of the unit does not affect the expiry date of the warranty. This warranty does not cover damage or deficiencies due to abuse, misuse, inadequate wiring or insulation or use or installation other than in accordance with instructions accompanying the unit.

To the extent permitted by law, neither Lutron EA nor Lutron shall be liable for any other loss or damage including consequential or special loss or damages, loss of profits, loss of income, or loss of contracts arising out of or relating to the supply of the unit or the use of the unit and the purchaser assumes and will hold harmless Lutron EA and Lutron in respect of all such loss or damage. Nothing in this warranty shall have the effect of limiting or excluding Lutron EA's or Lutron's liability for fraud or for death or personal injury resulting from its own negligence, or any other liability, if and to the extent that the same may not be limited or excluded as a matter of law.

This warranty does not affect the statutory rights of consumer purchasers of this product. Although every attempt is made to ensure that catalogue information is accurate and up-to-date, please check with Lutron EA before specifying or purchasing this equipment to confirm availability, exact specifications, and suitability for your application.

Domestic and International patent(s) pending.

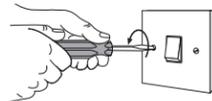
Lutron is a registered trademark in the United Kingdom and the Community Trademark System and Rania is a trademark of Lutron Electronics Co., Inc. © 2005 Lutron Electronics Co., Inc.

Installation

- WARNING:** Turn power OFF at MCB (circuit breaker) or remove fuse.

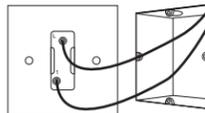
- Remove switch mounting screws. Remove switch from wall.
Note: DO NOT disconnect wires from the switch.

 **Caution:** Verify power to each switch is OFF before proceeding.



- Tag the wire(s):

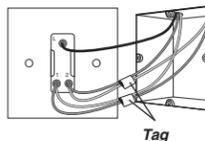
Single-Location control



One switch controlling a light fixture.
 No tagging is needed. This switch will be a 1-way. The switch will have insulated wires connected to two terminals.

See Step 6a when wiring.

Two-Location control



Two switches controlling a light fixture.
 Both switches will be 2-way. One switch will have five insulated wires connected to three terminals and the other switch will have three insulated wires connected to three terminals.

On the 5 wire switch, **TAPE** the two wires connected to the terminal labeled 1 together for identification during wiring. **TAPE** the two wires connected to the terminal labeled 2 together.

On the 3 wire switch, **TAG** the wire connected to the terminal labeled L or LINE for identification during wiring.

If both switches are connected to three wires, see instructions on reverse.

See Step 6b when wiring.

Three-Location control or more

Three or more switches controlling a light fixture.
 Two switches will be 2-way and the rest will be 3-way. The 3-way switch(es) will have insulated wires connected to four terminals.

Call Lutron Technical Assistance for three-location wiring information.

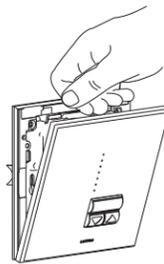
Note: Terminal placement may be different on your switch.

Important Note:

Your wall switch may have two wires attached to the same screw. Tape these two wires together before disconnecting.

- Disconnect switch wires.

- Prepare Dimmer for installation.



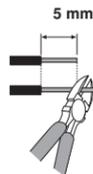
Snap off Front Plate

Important Wiring Information



WARNING: Permanent damage can be caused by overtightening the terminal screws.

Trim or strip backbox wires to 5 mm. Insert wires fully into the terminals and tighten screws.

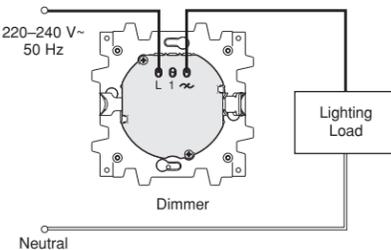


- Wiring the controls.

Notes: Dimmer does not require an earth wire. Follow your local and national wiring codes to terminate the earth wire in your backbox. If two wires were taped together, connect both wires to the terminal.

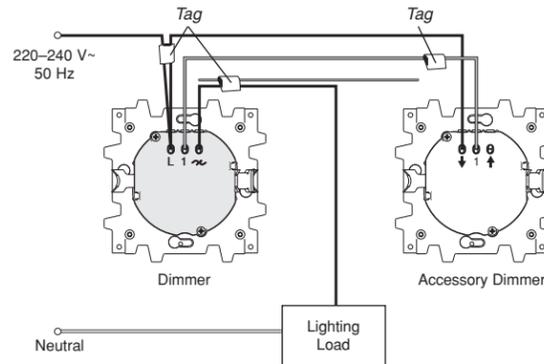
6a - Single-Location Wiring

- Connect one of the insulated wires removed from the switch to terminal L.
- Connect the other insulated wire removed from the switch to the ∞ terminal.



6b - Two-Location Wiring

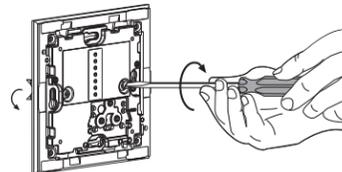
- Wire the Accessory Dimmer (RDSU):**
 - Connect the Tagged wire removed from the switch to terminal 1.
 - Connect one of the remaining wires removed from the switch to the \downarrow terminal.
 - Insulate end of the remaining wire removed from the switch (**note wire colour**).
- Wire the Dimmer:**
 - Locate the cable containing three wires. Insulate the end of the same colour wire noted in Step A (it will be in a pair of Taped wires).
 - Connect the other wire from that pair of Taped wires to the ∞ terminal.
 - Connect the the remaining pair of Taped wires removed from the switch to terminal L.
 - Connect the remaining wire removed from the switch to terminal 1.



Note: In a 5 wire application, Dimmer cannot replace the 2-way switch on the accessory side. Dimmer must replace the 2-way switch on the line/load side.

- Mount and align Dimmer.

7a - Using the Mounting Claw

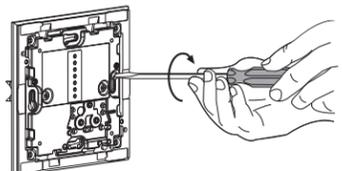


• Rotate each screw 1-2 turns to secure Dimmer to backbox.

Caution - Do not pinch wires.

OR

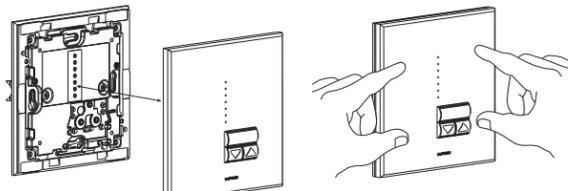
7b - Using Backbox Screws



• Claw may be removed.
 • Secure Dimmer to the backbox.

Caution - Do not pinch wires. Do not overtighten mounting screws.

- Snap on Front Plate.



Align the Front Plate and the Dimmer.

Press corners to ensure four snaps engaged.

- Turn power ON at MCB (circuit breaker) or replace fuse.

Problems

If your Dimmer does not work, check that the light bulb has not burned out before contacting Lutron Technical Assistance.

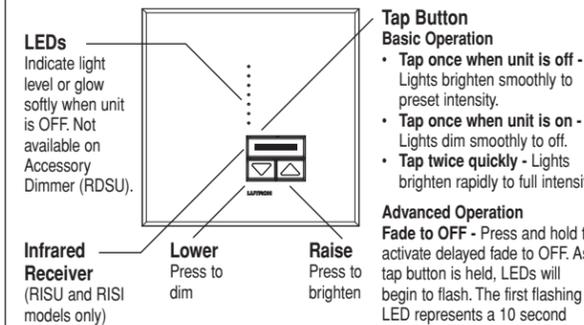
Technical Assistance

If you have questions concerning the installation or operation of this product, call **Lutron's European Headquarters**. Please provide exact model number when calling.
Lutron EA LTD
 FREEPHONE: 0800 282107 (U.K.)
 Monday thru Friday 08:00 – 20:00 CET
 Saturday and Sunday 10:00 – 20:00 CET
 Tel: +44 (0) 207 702 0657
 Fax: +44 (0) 207 480 6899
www.lutron.com/europe

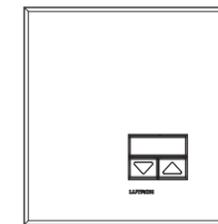
Operation

Models: RNSU-452, RISU-452, RNSI-452, RISI-452

For the RISU and RISI model Dimmers, use Lutron infrared hand-held remote controls for programming and recalling lighting scenes, remote dimming, and switching from the palm of your hand.

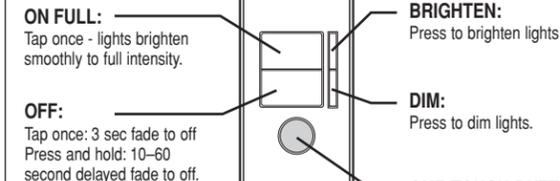


Model: RDSU-452 (Accessory Dimmer)
 Same functions as Dimmer.



Models: RIS-REMOTH-AW, MIR-ITFS

For use with RISU and RISI model Dimmers. Point the transmitter at the Rania Dimmer(s), then use the buttons as outlined below.



This transmitter is compatible with most learning remote controls. Please see the learning remote control manufacturer's instructions for programming information.

Advanced Programming

The Rania Dimmer allows a number of advanced features to be accessed. These include:

- Locked-in Preset** - Sets the level that the lights always turn on to.
- Fade to ON time** - Set the rate at which the dimmer switched on.
- Fade to Off time** - Set the rate at which the dimmer switched off.

For details on the Advanced Programming options, visit www.lutron.com/europe or call +44 (0) 207 702 0657.

Universal Electronic Dimmer

RNSU-452 (Dimmer): 220–240 V~ 50 Hz 50–450 W/VA
 RISU-452 (Dimmer with IR Receiver): 220–240 V~ 50 Hz 50–450 W/VA

Compatible load types:

Incandescent, Magnetic and Electronic Low-Voltage   

Incandescent Electronic Dimmer

RNSI-452 (Dimmer): 220–240 V~ 50 Hz 50–450 W
 RISI-452 (Dimmer with IR Receiver): 220–240 V~ 50 Hz 50–450 W

Compatible load types: Incandescent 

Accessory Dimmer (Extension Unit)

RDSU-452: 220–240 V~ 50/60 Hz 450 W/VA max.
 Compatible with all Rania™ Dimmers and Controls.

Infrared Wireless Transmitter with One-Touch Button

RIS-REMOTH-AW / MIR-ITFS: 3 V⁻⁻⁻ 150 mW

Important Notes

Please read before installing.

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- Turn power OFF at MCB (circuit breaker) before performing any routine maintenance or servicing of lighting circuit.
- Install in accordance with all national and local electrical codes.
- This Dimmer complies with IEC and EN 60669-2-1.
- Do not paint Dimmer or Accessory Dimmers.
- This Dimmer is compatible with standard 2-way switches. Contact Lutron for details. For two location applications use only one Dimmer with either 1 Accessory Dimmer or 1 standard 2-way switch.
- This Dimmer is not compatible with standard 3-way switches. For three or more location applications use only one Dimmer with up to 9 Accessory Dimmers.
- Accessory Dimmer can not be used individually but must be used in conjunction with a Dimmer in a 2-way/3-way application.
- Dimmer requires a minimum total lamp wattage of 50 W/VA. Do not exceed the maximum rating of 450 W/VA.
- This Dimmer is overload protected. If the rated wattage is exceeded, power to the circuit will shut off until the Dimmer cools. If this occurs, reduce the wattage connected to the Dimmer.
- Operate between 0 °C and 40 °C. For indoor use only.
- It is normal for the Dimmer to feel warm to the touch during operation.
- Recommended backbox depth is 35 mm.**
- Maximum wire length between the Dimmer and the furthest Accessory Dimmer is 50 m.
- To ensure the best performance, the mains shall be free of noise; in particular, peak voltages exceeding 425 V, and other high frequency noises.
- A separate neutral connection from the load directly back to the breaker panel is required for best performance.
- Clean with a *soft damp cloth only*. DO NOT use any chemical cleaners.
- Use fully loaded electronic or magnetic low-voltage transformers for best performance.
- Do not mix electronic and magnetic low-voltage transformers on the same Dimmer.
- Dimmer may not work with dioded lamps.
- Use only magnetic low voltage transformers with built-in thermal protection.**
- For use with compatible electronic low-voltage loads. For an up to date list of compatible transformers, see our web site at www.lutron.com/rania/elv.

Limited Warranty

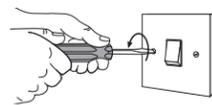
For a period of one year from the date of purchase, Lutron warrants each new standard wallbox unit to be free from manufacturing defects. Lutron will, at its option, repair or provide a replacement for any defective unit that, in Lutron's opinion, has been installed and operated pursuant to Lutron's product specifications and the applicable provisions of the Electricity Ordinance (Chapter 406 of the Laws of Hong Kong) and any subsidiary legislation and of the Safety Standards of Underwriters Laboratories. Lutron's obligations under this warranty are limited to repairing or providing a replacement for any defective unit that, within one year after purchase, is returned to the place of purchase or mailed, postage pre-paid, to the Lutron Technical Support Center, 7200 Suter Rd., Coopersburg, PA 18036-1299. This warranty is in lieu of all other express warranties. All implied warranties, including implied warranties of merchantability and of fitness for a particular purpose, are limited to one year from date of purchase. This warranty does not cover: the cost of installation, removal or reinstallation; damage resulting from misuse, abuse, or improper or incorrect repair; damage from improper wiring or installation; or incidental or consequential damages. Lutron's liability on any claim for damages arising out of or relating to the manufacture, sale, installation, delivery, or use of the wallbox unit is limited to the purchase price of the unit. Except in respect of loss or damage caused by the fraud of Lutron or personal injury or death resulting from Lutron's negligence, in no event will Lutron or any other seller be liable or responsible for any (i) consequential or special damages, (ii) repair work undertaken without Lutron's prior consent, (iii) ancillary equipment not furnished by Lutron which is attached to or used in connection with the wallbox unit, all such equipment being expressly excluded from this warranty, or (iv) any damage to the wallbox unit resulting from the use of ancillary equipment not furnished by Lutron for use with the wallbox unit. This warranty provides specific legal rights and this warranty and limitations on liability apply to the maximum extent permitted by law. Contact the Lutron Technical Support Center at the numbers provided below with questions concerning the installation or operation of this product or this Warranty. Please provide the exact model number when calling. Although every attempt is made to ensure that catalogue information is accurate and up-to-date, please check with Lutron before specifying or purchasing this equipment to confirm availability, exact specifications, and suitability for your application. Domestic and International patent(s) pending. Lutron is a registered trademark in the United Kingdom and the Community Trademark System and Rania is a trademark of Lutron Electronics Co., Inc. © 2005 Lutron Electronics Co., Inc.

Installation

1 **WARNING:** Turn power OFF at MCB (circuit breaker) or remove fuse.

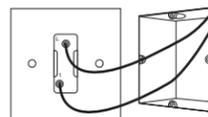
2 Remove switch mounting screws. Remove switch from wall.
Note: DO NOT disconnect wires from the switch.

Caution: Verify power to each switch is OFF before proceeding.



3 Tag the wire(s):

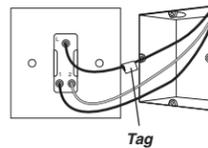
Single-Location control



One switch controlling a light fixture. No tagging is needed. This switch will be a 1-way. The switch will have insulated wires connected to two terminals.

See Step 6a when wiring.

Two-Location control

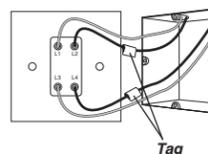


Two switches controlling a light fixture. TAG the wire connected to the terminal labeled L or LINE on both switches for identification during wiring. Both switches will be 2-way. Each switch will have insulated wires connected to three terminals.

To replace a switch connected to five wires, see instructions on reverse.

See Step 6b when wiring.

Three-Location control or more



Three or more switches controlling a light fixture.

Two switches will be 2-way and the rest will be 3-way. The 3-way switch(es) will have insulated wires connected to four terminals. TAG the two 2-way switches as in the Two-Location diagram above. TAG the two same colour insulated wires which are connected to opposite sides of the 3-way switch. Follow this procedure for each 3-way switch.

See Step 6c when wiring.

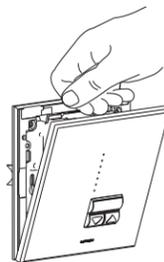
Note: Terminal placement may be different on your switch.

Important Note:

Your wall switch may have two wires attached to the same screw. Tape these two wires together before disconnecting.

4 Disconnect switch wires.

5 Prepare Dimmer for installation.



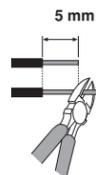
Snap off Front Plate

Important Wiring Information



WARNING: Permanent damage can be caused by overtightening the terminal screws.

Trim or strip backbox wires to 5 mm. Insert wires fully into the terminals and tighten screws.

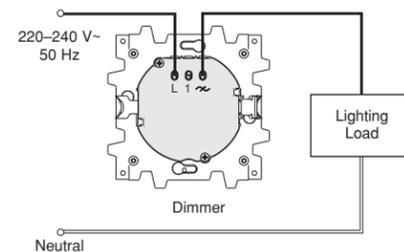


6 Wiring the controls.

Notes: Dimmer does not require an earth wire. Follow your local and national wiring codes to terminate the earth wire in your backbox. If two wires were taped together, connect both wires to the terminal.

6a - Single-Location Wiring

- Connect one of the insulated wires removed from the switch to terminal L.
- Connect the other insulated wire removed from the switch to the \sim terminal.



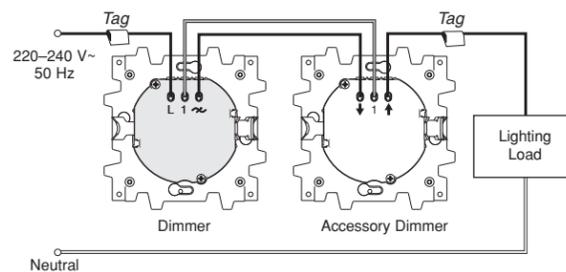
6b - Two-Location Wiring

A. Wire the Dimmer:

- Connect the Tagged wire removed from the switch to terminal L.
- Connect one of the remaining wires removed from the switch to the terminal (note wire colour).
- Connect the remaining wire removed from the switch to terminal 1.

B. Wire the Accessory Dimmer (RDSU):

- Connect the Tagged wire removed from the switch to the \uparrow terminal.
- Connect the same colour wire noted in Step A, to the \downarrow terminal.
- Connect the remaining wire removed from the switch to terminal 1.



Note: Dimmer can replace a 2-way switch from the line or load side.

6c - Three-Location or more Wiring

A. Replace the 3-way intermediate switch(es)

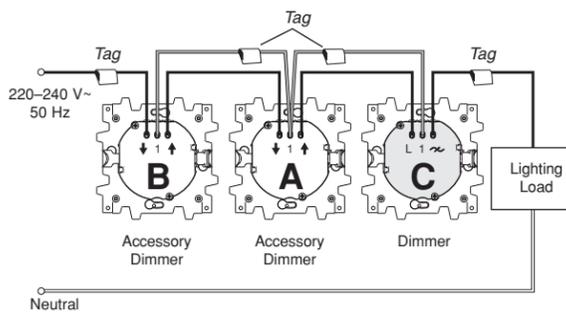
- Connect both of the Tagged wires removed from the 3-way switch to terminal 1 (note wire colour).
- Connect one of the remaining wires removed from the switch to the \downarrow or L terminal.
- Connect the remaining wire removed from the switch to the \uparrow or \sim terminal.

B. Replace the first 2-way switch

- Connect the Tagged wire removed from the switch to the \downarrow or L terminal.
- Connect the same colour wire as the terminal 1 wire from Step A, to terminal 1.
- Connect the remaining wire removed from the switch to the \uparrow or \sim terminal.

C. Wiring to replace the second 2-way switch

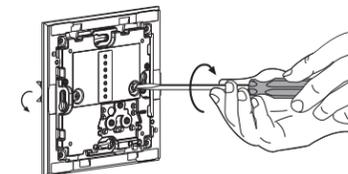
- Connect the Tagged wire removed from the switch to the \uparrow or \sim terminal.
- Connect the same colour wire as the terminal 1 wire from Step A, to terminal 1.
- Connect the remaining wire removed from the switch to the \downarrow or L terminal.



Notes: Dimmer can replace any switch in the circuit. Connect up to a total of 9 Accessory Dimmers.

7 Mount and align Dimmer.

7a - Using the Mounting Claw

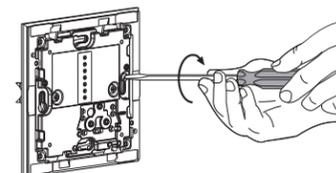


- Rotate each screw 1-2 turns to secure Dimmer to backbox.

Caution - Do not pinch wires.

OR

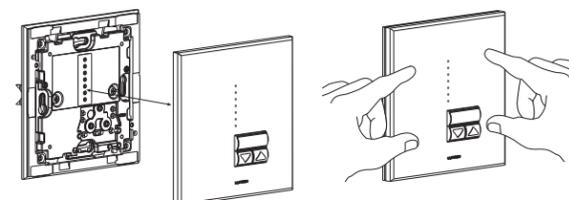
7b - Using Backbox Screws



- Claw may be removed.
- Secure Dimmer to the backbox.

Caution - Do not pinch wires. Do not overtighten mounting screws.

8 Snap on Front Plate.



Align the Front Plate and the Dimmer.

Press corners to ensure four snaps engaged.

9 Turn power ON at MCB (circuit breaker) or replace fuse.

Problems

If your Dimmer does not work, check that the light bulb has not burned out before contacting Lutron Technical Assistance.

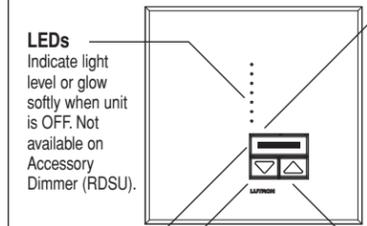
Technical Assistance

If you have questions concerning the installation or operation of this product, call the **Lutron Technical Support Center**. Please provide exact model number when calling.
Lutron GL LTD
 Monday thru Friday 08:00 – 20:00 CET
 Saturday and Sunday 10:00 – 20:00 CET
 Tel: +852-2104-7733
 Fax: +852-2104-7633
www.lutron.com/europe

Operation

Models: RNSU-452, RISU-452, RNSI-452, RISI-452

For the RISU and RISI model Dimmers, use Lutron infrared hand-held remote controls for programming and recalling lighting scenes, remote dimming, and switching from the palm of your hand.



LEDs
 Indicate light level or glow softly when unit is OFF. Not available on Accessory Dimmer (RDSU).

Tap Button

- Basic Operation**
- Tap once when unit is off** - Lights brighten smoothly to preset intensity.
 - Tap once when unit is on** - Lights dim smoothly to off.
 - Tap twice quickly** - Lights brighten rapidly to full intensity.

Advanced Operation

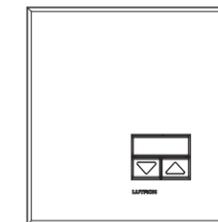
Fade to OFF - Press and hold to activate delayed fade to OFF. As tap button is held, LEDs will begin to flash. The first flashing LED represents a 10 second fade to OFF. Each additional flashing LED represents an additional 10 seconds of delay before lights fade to OFF (up to 60 seconds).

Infrared Receiver
 (RISU and RISI models only)

Lower
 Press to dim

Raise
 Press to brighten

Model: RDSU-452 (Accessory Dimmer)
 Same functions as Dimmer.



Models: RIS-REMOTH-AW, MIR-ITFS

For use with RISU and RISI model Dimmers. Point the transmitter at the Rania Dimmer(s), then use the buttons as outlined below.

ON FULL:
 Tap once - lights brighten smoothly to full intensity.

OFF:
 Tap once: 3 sec fade to off
 Press and hold: 10–60 second delayed fade to off.

BRIGHTEN:
 Press to brighten lights

DIM:
 Press to dim lights.

ONE-TOUCH BUTTON:
 Tap once to recall your favorite light level. To store your favorite level, press and hold for about 3 seconds until the dimmer LED begins to flash. ("Off" is a valid preset level.)

This transmitter is compatible with most learning remote controls. Please see the learning remote control manufacturer's instructions for programming information.

Advanced Programming

The Rania Dimmer allows a number of advanced features to be accessed. These include:

- Locked-in Preset** - Sets the level that the lights always turn on to.
- Fade to ON time** - Set the rate at which the dimmer switched on.
- Fade to Off time** - Set the rate at which the dimmer switched off.

For details on the Advanced Programming options, visit www.lutron.com/europe or call +44 (0) 207 702 0657.