

**GANGING AND DERATING LIGHTING CONTROLS**

**Commercial Grade Lighting Controls**

**Ganging and Derating Box-Mounted Lighting Controls**

Ganging is an installation practice where two or more lighting controls are mounted side-by-side using the required number of connected wallboxes. Ganging may require the removal of part of the fins on Architectural Dimmers or part of the mounting strap on strap-mounted devices. In Architectural Dimmers, the metallic fins help dissipate heat from within the device. Strap mounted dimmers use the mounting strap for the same purpose. Therefore, removing a portion of the fins or strap for ganging purposes will require derating the dimmers to prevent them from overheating.

**Ganging and Derating Lighting Controls**

When ganging Mural, True Touch, TouchPoint, ToggleTouch and IllumaTech controls, the side sections of the mounting strap must be removed. Use pliers to carefully bend side sections back and forth until they break off. The side sections of the strap dissipate heat, so removing them requires derating the dimmer's capacity. See Chart 1.

Note that SureSlide and Trimatron lighting controls can be ganged without removing any sections of their mounting straps. However, SureSlide and Trimatron controls must also be derated when they're ganged.

**Maximum Load Per Dimmer for Multi-Ganging All Strap-Mounted Dimmers**

Chart 1			
Dimmer Rating	Single	2-Gang	More Than 2-Gang
500W	500W	400W	300W
600W	600W	500W	400W
1000W	1000W	800W	700W
400VA	400VA	350VA	250VA
600VA*	600VA	500VA	400VA
1000VA	1000VA	800VA	700VA

\*Except IPX06-7, which requires no derating

**Maximum Bulb Wattage for Magnetic Low-Voltage Lighting**

The capacity of a magnetic low-voltage dimmer is its VA rating. If a wattage rating is also listed (as in this book), it is merely an estimate of the lamp wattage that can be placed on a UL-approved magnetic low-voltage transformer without exceeding the dimmer's VA rating. (This is, in turn, based on an estimate of transformer efficiency.)

Chart 2		
Power To Transformer	Transformer Efficiency	Lamp Load
1000VA	X 80%	= 800W
600VA	X 75%	= 450W

**Ganging and Renoir® and Van Gogh® Architectural Lighting Controls**

When fins are broken off on wide and narrow controls for ganging purposes, the number of switch boxes required can be quickly determined by referring to the two charts below.

**Ganging**

Switch boxes required for ganging architectural controls when no fins are removed:

Number of Wide Controls	Number of Narrow Controls*				
	0	1	2	3	4
0	•	•	•	•	•
1	1	3	5	7	8
2	4	6	7	9	11
3	7	9	10	11	13
4	9	11	12	14	16

Switch boxes required for ganging architectural controls when all inside fins are removed:

Number of Wide Controls	Number of Narrow Controls						
	0	1	2	3	4	5	6
0	0	1	2	3	4	5	6
1	1	3	4	5	6	7	8
2	3	5	6	7	8	9	10
3	5	7	8	9	10	11	12
4	7	9	10	11	12	13	14
5	9	11	12	13	14	15	16
6	11	13	14	15	16	17	18

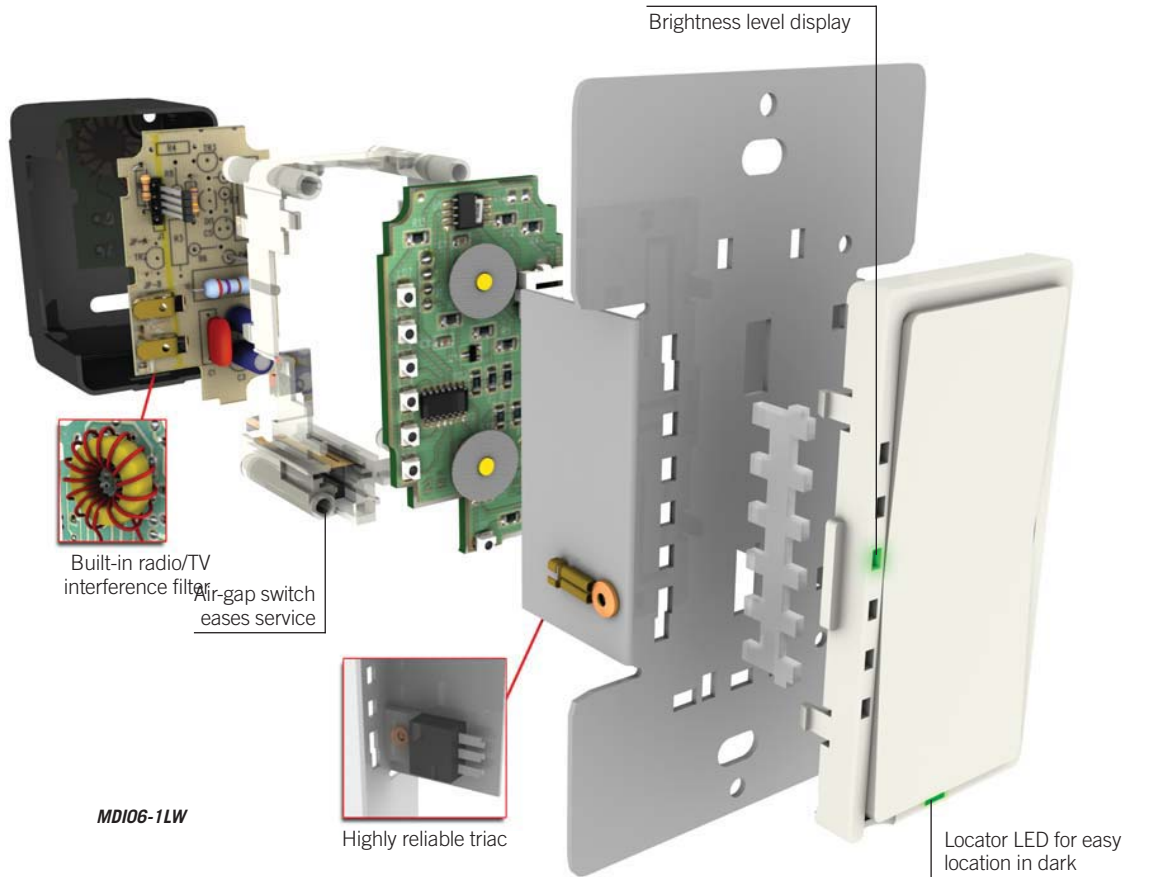
\*Narrow controls must have fins broken off to be ganged.

## MURAL® LIGHTING CONTROL FEATURES

### Commercial Grade Lighting Controls

#### Mural Lighting Controls

The Mural® line is a comprehensive collection of dimmers, fan speed controls, and scene-capable dimmers and enhancement products. These rocker style devices provide full-range digital dimming in a sleek, Decora body that will enhance any décor.



#### Features and Benefits

- Easy for people of all ages and abilities to operate
- Digital circuitry provides eye-pleasing soft-ON/fade-OFF that extends lamp life
- Compatible with Decora® screwless and Decora standard designer wallplates
- Wide range of colors available through convenient color change kits
- UL and CSA Listed
- Backed by a Limited Five-Year Warranty

### THE COMPREHENSIVE LINE OF MURAL DIMMING, SCENE AND FAN SPEED CONTROLS



**Mural L/S Preset Dimmer**  
Decora rocker style digital dimmer with LED brightness level indicators. With inner rocker for setting brightness when lights are off. Color-change kits available.  
**MLI06-1LW shown**



**Mural Preset Dimmer**  
Decora rocker-style digital dimmer with LED brightness level indicators. Convenient color-change kits available.  
**MDI06-1LW shown**



**Mural Remote Unit**  
Enables multi-location dimming when used in conjunction with Mural Dimmer.  
**MSOOR-10W shown**



**Mural 7-Scene Controller**  
Decora style controller sends commands for up to 7 distinct scenes to individual Mural Scene-Capable Controllers.  
**MN00C-1LW shown**

## MURAL® LIGHTING CONTROLS • 600–1000 WATTS • 120V AC 60Hz

### Commercial Grade Lighting Controls

#### Mural L/S (Level Set) Decora-Style Preset Digital Dimmer

All Mural L/S dimmers provide single-pole (1 location) and 3-way (multi-location) control when used with Multi-Remote unit.

#### Mural L/S Preset Digital Dimmer 120V AC 60Hz Only

DESCRIPTION	CAT. NO.	RATING	COLOR*
Mural L/S Incandescent LED Locator and Brightness Display	<b>MLI06-1L</b>	600W	I, W, A (G, E, B with Kit)
Mural L/S Incandescent LED Locator and Brightness Display	<b>MLI10-1L</b>	1000W	I, W, A (G, E, B with Kit)
Mural L/S Magnetic Low-Voltage LED Locator and Brightness Display	<b>MLM06-1L</b>	600VA (450W)	I, W, A (G, E, B with Kit)
Mural L/S Magnetic Low-Voltage LED locator and Brightness Display	<b>MLM10-1L</b>	1000VA (800W)	I, W, A (G, E, B with Kit)
Mural L/S Electronic Low-Voltage LED Locator and Brightness Display	<b>MLE03-1LW</b>	350VA (280W)	W (I, A, G, E, B with Kit)
Mural L/S Advance Mark 10™ Powerline Fluorescent Dimming Ballast LED Locator and Brightness Display	<b>MLX06-1L</b>	600VA	I, W, A (G, E, B with Kit)
Mural L/S Quiet Fan Speed Control LED Locator and Brightness Display	<b>MLF01-1L</b>	1.5A	I, W, A (G, E, B with Kit)
Mural L/S Incandescent LED Locator (no brightness display)	<b>MRI06-1L</b>	600W	I, W, A (G, E with Kit)
Mural L/S Incandescent LED Locator (no brightness display)	<b>MRI10-1L</b>	1000W	I, W, A (G, E with Kit)
Mural L/S Magnetic Low-Voltage LED Locator (no brightness display)	<b>MRM10-1L</b>	1000VA (800W)	I, W, A (G, E with Kit)
Multi-Remote Unit for Multi-Location Dimming (no LED locator or display)	<b>MSOOR-10</b>	No load rating	I, W, A (G, E, B with Kit)
Multi-Remote Unit for Electronic Low-Voltage Multi-Location Dimming (no LED locator or display)	<b>MSEOR-10W</b>	No load rating	W (I, A, G, E, B with Kit)
Color Change Kits for Mural L/S (ML versions)	<b>DLKDD-1L</b>	—	I, W, A, G, E, B
Color Change Kits for Multi-Remote Units (no LED locator or display)	<b>DRKOR-00</b>	—	I, W, A, G, E, B
Color Change Kit for Mural L/S (MR versions)	<b>MRKOD-OL</b>	—	I, W, A, G, E

See Page C8 for more information on Power Extenders

**Note: Sharing a neutral wire may cause flickering. Connect all dimmers to the same phase or run a separate neutral to each phase.**

**Digital Lighting and Fan Speed Controls are polarity sensitive devices. Always follow the wiring instructions included with each device. They can be used in conventional 3-way and 4-way wiring circuits only when the Control is properly connected to the load as indicated by the device's wiring instructions.**

**CAUTION ON RETROFITS:** When retrofitting Mark 10™ Powerline dimming ballasts into fixtures that originally had Instant Start ballasts, the sockets MUST be replaced with Rapid Start sockets to allow proper dimmer operation and prevent damage to the dimming ballast. Refer to the instructions provided with the ballast and the Mark 10™ dimmer.

#### SPECIFICATIONS AND FEATURES

- Smooth Decora rocker-action for Preset ON/OFF switching with built-in arrow-shaped rocker for DIM/BRIGHT control
- Arrow rocker allows user to set brightness level when lights are off
- Second tap on top half of rocker for full bright. Gently double tap bottom half of rocker for fast OFF
- Easy to operate for people of all ages and abilities
- Provides single-pole (one-location) and multi-location full range dimming when used with Multi-Remote units
- Streamlined, popular Decora styling enhances any interior and adds a "family look" when ganged with any Decora device
- Digital circuitry provides SOFT-ON/FADE-OFF operation for an eye-pleasing effect and prolonged lamp life
- Square green LED display alongside rocker indicates selected brightness level on ML models
- Locator LED illuminates when lights are OFF
- Color change kits available in a wide range of choices, making it easy and economical to change decorating schemes
- Color change kits simplify inventory for distributors and contractors who can offer a complete range of colors without stocking a different device for each one

- Minimum brightness adjustment sets comfortable minimum light level
- Power failure recovery assures retention of lighting levels during long-term power interruptions.
- Built-in radio/TV interference filter
- ON/OFF AC air-gap switch completely disconnects power to unit for bulb changing or removal from service

#### TESTING AND CODE COMPLIANCE

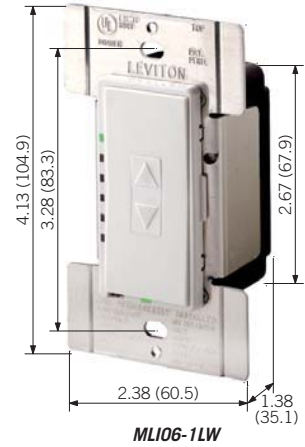
- UL Listed (File #E-31373)
- CSA Certified (File #LR-3413)
- Backed by a Limited Five-Year warranty

#### \*COLOR

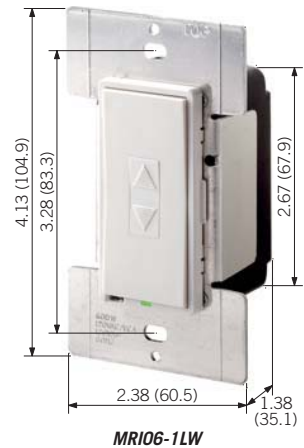
To order colors, add suffix to basic catalog number. Colors in parentheses must be ordered as Color Change Kits. Color suffixes are: Ivory (-I), White (-W), Almond (-A), Gray (-G), Black (-E) and Brown (-B).

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: 32°F to 130°F



MLI06-1LW

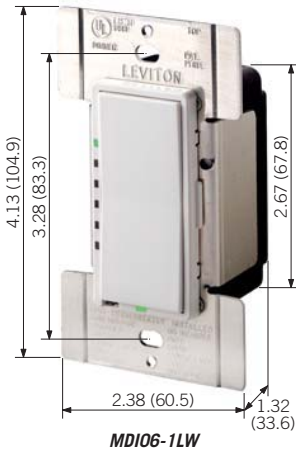


MRI06-1LW

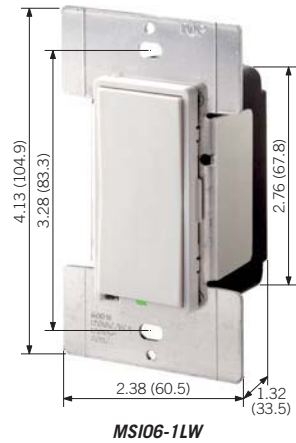
Use Power Extenders to extend the load capacity of box-mounted dimmers. Power Extenders are available for incandescent, magnetic low-voltage, electronic low-voltage, Advance Mark 10™ Powerline fluorescent dimming ballasts or equivalents, and 0–10 VDC dimmable fluorescent ballasts such as Advance Mark V7™, OSRAM Sylvania Quicktronic Helios or equivalent ballasts.

## MURAL® LIGHTING CONTROLS • 600–1000 WATTS • 120V AC 60Hz

### Commercial Grade Lighting Controls



MDI06-1LW



MSI06-1LW

### Mural Decora-Style Preset Digital Dimmer

All Mural dimmers provide single-pole (1 location) and 3-way (multi-location) control when used with Multi-Remote unit.

#### Mural Digital Dimmer 120V AC 60Hz Only

DESCRIPTION	CAT. NO.	RATING	COLOR*
Mural Incandescent LED Locator and Brightness Display	MDI06-1L	600W	I, W, A (G, E, B with Kit)
Mural Incandescent LED Locator and Brightness Display	MDI10-1L	1000W	I, W, A (G, E, B with Kit)
Mural Magnetic Low-Voltage LED Locator and Brightness Display	MDM06-1L	600VA (450W)	I, W, A (G, E, B with Kit)
Mural Magnetic Low-Voltage LED Locator and Brightness Display	MDM10-1L	1000VA (800W)	I, W, A (G, E, B with Kit)
Mural Electronic Low-Voltage LED Locator and Brightness Display	MDE03-1LW	350VA (280W)	W (I, A, G, E, B with Kit)
Mural Quiet Fan Speed Control LED Locator and Brightness Display	MDF01-1L	1.5A	I, W, A (G, E, B with Kit)
Mural Incandescent LED Locator (no Brightness Display)	MSI06-1L	600W	I, W, A (G, E with Kit)
Mural Incandescent LED Locator (no Brightness Display)	MSI10-1LW	1000W	W (I, A, G, E with Kit)
Mural Magnetic Low-Voltage LED Locator (no Brightness Display)	MSM10-1LW	1000VA (800W)	W (I, A, G, E with Kit)
Multi-Remote Unit for Multi-Location Dimming (no LED locator or display)	MSOOR-10	No load rating	I, W, A (G, E with Kit)
Multi-Remote Unit for Electronic Low-Voltage Multi-Location Dimming (no LED locator or display)	MSEOR-10W	No load rating	W (I, A, G, E with Kit)

#### Color Change Kits for Mural Dimmers

DESCRIPTION	CAT. NO.	COLOR*
Mural MD with LED Locator and Brightness Display	DRKDD-1L	I, W, A, G, E, B
Mural MS with LED Locator (no Brightness Display)	DRKOD-1L	I, W, A, G, E
Multi-Remote Units (no LED Locator or Display)	DRKOR-00	I, W, A, G, E

*Digital Lighting and Fan Speed Controls are polarity sensitive devices. Always follow the wiring instructions included with each device. They can be used in conventional 3-way and 4-way wiring circuits only when the Control is properly connected to the load as indicated by the device's wiring instructions.*

See Page C8 for more information on Power Extenders

#### SPECIFICATIONS AND FEATURES

- Provides single-pole (one-location) and multi-location full range dimming when used with MSOOR remote unit
- Streamlined popular Decora styling enhances any interior and adds a family look when ganged with other Decora devices
- Smooth ON/OFF and DIM/BRIGHT Decora rocker action provides ease of operation for people of all ages and abilities
- Digital circuitry provides Soft-ON/Fade-OFF switching for and eye-pleasing effect and extended lamp life
- Compatible with Decora screwless and Decora standard designer wallplates
- Locator LED illuminated when lights are OFF
- Color change kits available in a wide range of choices, making it easy and economical to change decorating schemes
- Color change kits simplify inventory for distributors and contractors who can offer a complete range of colors without stocking a different device for each one
- Protected memory and voltage compensation maintain light levels after short-term power outages and during minor power fluctuations

- Square green LED display alongside rocker indicates selected brightness level on MD models
- Built-in radio/TV interference filter
- ON/OFF AC air gap switch completely disconnects power to unit for bulb changing or removal from service

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-31373)
- CSA Certified (File #LR-3413)
- Backed by a Limited Five-Year Warranty

#### \*COLOR

To order colors, add suffix to basic catalog number. Colors in parentheses must be ordered as Color Change Kits. Color suffixes are: Ivory (-I), White (-W), Almond (-A), Gray (-G), Black (-E) and Brown (-B).

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: 32°F to 130°F

Use Power Extenders to extend the load capacity of box-mounted dimmers. Power Extenders are available for incandescent, magnetic low-voltage, electronic low-voltage, Advance Mark 10™ Powerline fluorescent dimming ballasts or equivalents, and 0–10 VDC dimmable fluorescent ballasts such as Advance Mark 7™ 0–10V, OSRAM Sylvania Quicktronic Helios or equivalent ballasts.

## MURAL® LIGHTING CONTROLS • 600–1000 WATTS • 120V AC 60Hz

### Commercial Grade Lighting Controls

#### Mural Scene Capable Decora-Style Digital Dimmer

Compatible with Scene Controller and Scene Enhancement Products — See page C22.

#### Mural Scene Capable Digital Dimmer 120V AC 60Hz Only

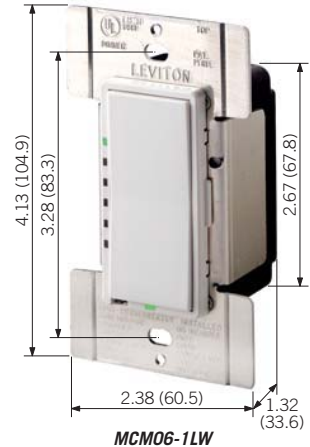
DESCRIPTION	CAT. NO.	RATING	COLOR*
Mural Scene Capable Incandescent/Magnetic Low-Voltage Dimmer with LED Locator and LED Brightness Display	<b>MCM06-1L</b>	600W/VA	I, W, A (G, E, B with Kit)
Mural Scene Capable Incandescent/Magnetic Low-Voltage Dimmer with LED Locator and LED Brightness Display	<b>MCM10-1L</b>	1000W/VA	I, W, A (G, E, B with Kit)
Mural Scene Capable Mark 10™ Preset Dimmer for 120V AC Advance Mark 10™ <i>Powerline</i> Fluorescent Dimming Ballast with LED Locator and LED Brightness Display	<b>MCX10-1LW</b>	1000VA (750W)	W (I, A, G, E, B with Kit)
Color Change Kits for Mural MC Scene Capable Dimmer	<b>DRKDD-1L</b>	—	I, W, A, G, E, B

See Page C8 for more information on Power Extenders

**Note:** Sharing a neutral wire may cause flickering. Connect all dimmers to the same phase or run a separate neutral to each phase.

Digital Lighting and Fan Speed Controls are polarity sensitive devices. Always follow the wiring instructions included with each device. They can be used in conventional 3-way and 4-way wiring circuits only when the Control is properly connected to the load as indicated by the device's wiring instructions.

**CAUTION ON RETROFITS:** When retrofitting Mark 10™ *Powerline* dimming ballasts into fixtures that originally had Instant Start ballasts, the sockets MUST be replaced with Rapid Start sockets to allow proper dimmer operation and prevent damage to the dimming ballast. Refer to the instructions provided with the ballast and the Mark 10™ dimmer.



#### SPECIFICATIONS AND FEATURES

- Responds to lighting level commands sent by the Cat. No. MNOOC-1LW Scene Controller. Users can program the desired lighting level for individual Mural Scene Dimmers in up to seven distinct lighting scenes, which are easily accessed by one or more Scene Controllers
- Smooth ON/OFF and Dim/Bright Decora rocker action provides ease of operation for people of all ages and abilities
- Scene Controller also provides an OFF button and two arrow-shaped buttons for group Dim and Bright control
- Local Dim/Bright adjustment on individual scene dimmers will not affect programmed scene lighting settings
- Compatible with Scene Enhancement Products including Contact Closure Interface, Infrared Hand-Held Remote and Infrared Receiver, and one-way and two-way Signal Repeater
- Streamlined, popular Decora styling enhances any interior and adds a "family look" when ganged with any Decora device
- Digital circuitry provides SOFT-ON/FADE-OFF operation for an eye-pleasing effect and prolonged lamp life
- Square green LED display alongside rocker indicates selected brightness level
- Locator LED illuminates when lights are OFF
- Color change kits available in a wide range of choices, making it easy and economical to change decorating schemes

- Color change kits simplify inventory for distributors and contractors who can offer a complete range of colors without stocking a different device for each one
- Minimum Brightness Adjustment sets comfortable minimum light level
- Protected memory and voltage compensation maintain light levels after power outages and during minor power fluctuations
- Built-in radio/TV interference filter
- ON/OFF AC air-gap switch completely disconnects power to unit for bulb changing or removal from service

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-31373)
- CSA Certified (File #LR-3413)
- Backed by a Limited Five-Year warranty

#### \*COLOR

To order colors, add suffix to basic catalog number. Colors in parentheses must be ordered as Color Change Kits. Color suffixes are: Ivory (-I), White (-W), Almond (-A), Gray (-G), Black (-E) and Brown (-B).

#### MATERIAL CHARACTERISTICS

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Operating Temperature: 32°F to 130°F

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