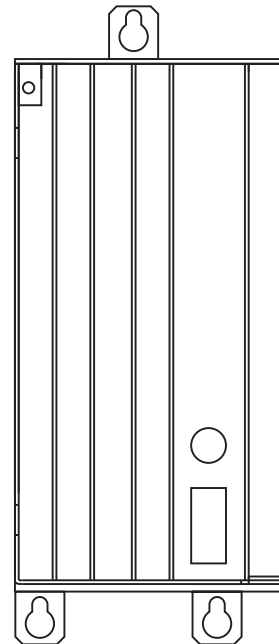


## Remote Power Modules

Remote Power Modules (RPMs) are used to control lighting, motor, and fan loads. There are several different models of RPMs. Each model controls specific load types. The RPMs are mounted in remote power panels.

All RPMs must be connected to a module interface housed within the same panel enclosure. RPMs within an enclosure are connected to the module interface using a Lutron-provided harness. To minimize the effects of single power supply failure, each RPM is powered by its own internal power supply.



## Model Numbers

Model	Voltage	Description
HW-RPM-4A-120	120 V~	Adaptive Dimming Module
HW-RPM-4A-230	220–240 V~	Adaptive Dimming Module
HW-RPM-4E-230-CE	220–240 V~	ELV Dimming Module
HW-RPM-4FSQ-120	120 V~	Quiet Fan Speed Control Module
HW-RPM-4J-120	120 V~	Adaptive Dimming Module
HW-RPM-4M-120	120 V~	Motor Control Module
HW-RPM-4M-230	220–240 V~	Motor Control Module
HW-RPM-4R	100–277 V~	Power Relay Module
HW-RPM-4U-120	120 V~	Dimming Module
HW-RPM-4U-230-CE	220–240 V~	Dimming Module
HW-RPM-4U-240	240 V~	Dimming Module

# Remote Power Modules

## Specifications

<b>Model Numbers</b>	HW-RPM-4A-120, HW-RPM-4A-230, HW-RPM-4E-230-CE, HW-RPM-4FSQ-120, HW-RPM-4J-120, HW-RPM-4M-120, HW-RPM-4M-230, HW-RPM-4R, HW-RPM-4U-120, HW-RPM-4U-230-CE, HW-RPM-4U-240
<b>Power</b>	<ul style="list-style-type: none"> <li>• HW-RPM-4A-120, HW-RPM-4FSQ-120, HW-RPM-4J-120, HW-RPM-4M-120, HW-RPM-4U-120: 120 V~ 50/60 Hz</li> <li>• HW-RPM-4A-230, HW-RPM-4M-230, HW-RPM-4U-230-CE, HW-RPM-4U-240: 220–240 V~ 50/60 Hz</li> <li>• HW-RPM-4R: 100–277 V~ 50/60 Hz</li> </ul>
<b>Number of Outputs</b>	4
<b>Regulatory Approvals</b>	UL®, CSA, NOM
<b>Environment</b>	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0 to 90% humidity, non-condensing. Indoor use only.
<b>Cooling</b>	Passive cooling.
<b>Heat Generated Fully Loaded</b>	<ul style="list-style-type: none"> <li>• HW-RPM-4A-120, HW-RPM-4A-230, HW-RPM-4E-230-CE, HW-RPM-4J-120: 90 BTUs per hour.</li> <li>• HW-RPM-4FSQ-120, HW-RPM-4M-120, HW-RPM-4M-230, HW-RPM-4R: 18 BTUs per hour.</li> <li>• HW-RPM-4U-120, HW-RPM-4U-230-CE, HW-RPM-4U-240: 70 BTUs per hour.</li> </ul>
<b>Line-Voltage Connections</b>	Separate line-voltage feeds at the DIN rail terminal blocks for each RPM. Terminal blocks should be tightened to 3.5 in-lb to 5.0 in-lb (0.40 N•m to 0.57 N•m).
<b>Low-Voltage Communications</b>	Communication harness (included).
<b>Wiring</b>	<p>Terminal blocks will accept one 18 AWG to 10 AWG (1.0 mm<sup>2</sup> to 6.0 mm<sup>2</sup>) wire or two 18 AWG to 16 AWG (1.0 mm<sup>2</sup> to 1.5 mm<sup>2</sup>) wires.</p> <ul style="list-style-type: none"> <li>• HW-RPM-4M-120, HW-RPM-4M-230, HW-RPM-4R: Require the installation of four additional gray terminal blocks (included) and three additional black terminal blocks (included) to be mounted on to the DIN rail assembly.</li> <li>• HW-RPM-4R gray terminal blocks accept one 18 AWG to 8 AWG (1.0 mm<sup>2</sup> to 10 mm<sup>2</sup>) wire or two 16 AWG to 12 AWG (1.5 mm<sup>2</sup> to 4.0 mm<sup>2</sup>) wires.</li> </ul>
<b>Addressing</b>	Manual rotary switch. Counts as 1 of 8 RPM addresses per module interface.
<b>Diagnostics</b>	LED provided to indicate proper communications with module interface.
<b>ESD Protection</b>	Meets or exceeds the IEC 61000-4-2 standard.
<b>Surge Protection</b>	Meets or exceeds ANSI/IEEE standard c62.41.
<b>Air Gap</b>	<ul style="list-style-type: none"> <li>• HW-RPM-4U-120, HW-RPM-4U-230-CE HW-RPM-4A-120, HW-RPM-4A-230, HW-RPM-4J-120, HW-4FSQ-120, HW-RPM-4M-230: Provided when all four circuits are off.</li> <li>• HW-RPM-4R: Individual output airgap provided when each circuit is off.</li> </ul>
<b>Fail-Safe Operation</b>	Rotary switch on the RPM allows for manual operation of each load.
<b>Dimensions</b>	3 <sup>7</sup> / <sub>8</sub> in (99 mm) wide × 7 in (178 mm) high
<b>Lamp Buzz</b>	Lamp debuzzing coils (Lutron® model HW-HIFC-10-2, LDC-10-TCP, LDC-16-TCP) are available from Lutron to reduce lamp filament buzzing.
<b>Interface Suppression</b>	EMI/RFI suppression circuitry
<b>Warranty</b>	<a href="http://www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf">www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf</a> <a href="http://www.lutron.com/TechnicalDocumentLibrary/Intl_Warranty.pdf">www.lutron.com/TechnicalDocumentLibrary/Intl_Warranty.pdf</a>

# Remote Power Modules

## Load Type, Rating, and Capacity

Model	Voltage/ Frequency	Load Types <sup>1</sup>	Minimum Load	Maximum Load Per:		Maximum BTUs/Hour	Technology
				Output	Module		
HW-RPM-4A-120	120 V~ 50/60 Hz	INC, MLV, ELV, NCC, F2W	10 W	10 A	16 A	90	RTISS-TE™ <sup>6</sup>
		LED <sup>2</sup>	See note 2				
HW-RPM-4A-230	220–240 V~ 50/60 Hz	INC, MLV, ELV, NCC	10 W	8 A	13 A		
		LED <sup>2</sup>	See note 2				
HW-RPM-4E-230-CE	220–240 V~ 50/60 Hz	INC, ELV <sup>3</sup>	10 W	10 A	16 A		
HW-RPM-4J-120	120 V~ 50/60 Hz	INC, MLV, ELV, NCC, F2W	10 W	6 A	16 A		
		LED <sup>2</sup>	See note 2				
HW-RPM-4FSQ-120	120 V~ 50/60 Hz	Fan Motor <sup>4</sup>	0.25 A	2 A	8 A		
HW-RPM-4M-120	120 V~ 50/60 Hz	INC	0 A	3 A	16 A	Mechanical interlocked relays	
		Motor (Bi-directional)		5 A (1/4 HP)			
HW-RPM-4M-230	220–240 V~ 50/60 Hz	INC	0 A	1.5 A	16 A		
		Motor (Bi-directional)		5 A (1/4 HP)			
HW-RPM-4R	100–277 V~ 50/60 Hz	Lighting	0 A	16 A	64 A	Softswitch <sup>7</sup>	
		Motor		(1/3 HP)			
HW-RPM-4U-120	120 V~ 50/60 Hz	INC <sup>5</sup> , MLV <sup>5</sup> , NCC, F2W, SFL	25 W	16 A	16 A	70	RTISS Equipped <sup>8</sup>
		LED <sup>2</sup>	See note 2				
HW-RPM-4U-230-CE	220–240 V~ 50/60 Hz	INC, MLV, NCC, SFL	40 W	10 A	13 A		
		LED <sup>2</sup>	See note 2				
HW-RPM-4U-240	220–240 V~ 50/60 Hz	INC, MLV, NCC, SFL	40 W	16 A	16 A		
		LED <sup>2</sup>	See note 2				

<sup>1</sup> For higher wattages or for load types other than those listed, a power booster or interface is required. For more details, refer to the HomeWorks® software.

<sup>2</sup> **NOTICE:** To avoid the risk of equipment damage and for specific LED lamp/fixture compatibility, refer to the LED Product Selection tool at [www.lutron.com/ledtool](http://www.lutron.com/ledtool). For general information about minimum/maximum load requirements and LED loads refer to **Application Note #487 - Minimum and Maximum loads for LED and CFL lamps / fixtures**. Please note that LED is not currently a supported load type of UL® 508. As a result, this UL® listing does not guarantee compatibility between the remote power module and connected LED loads.

<sup>3</sup> Only use with ELV transformers. If used with MLV transformers, the module may be damaged and the warranty will be void.

<sup>4</sup> Control up to 4 ceiling fans (1 per circuit). Do not use to control fans that have integrated fan speed controls (i.e., fan with a remote control). This module may hum or buzz when at medium-high fan setting. Do not connect to lighting loads. Damage to the module could result.

<sup>5</sup> In rare cases, incandescent lamps and MLV transformers will “buzz” or “hum”. The HW-HIFC-10-2 filter choke assembly reduces this hum. The filter choke assembly can be installed in place of module 8 in an HWI-PNL-8 remote power panel.

<sup>6</sup> RTISS-TE™: (Real-Time Illumination Stability System-Trailing Edge). Same as RTISS®, but operates on the trailing edge of the A/C sine wave. This allows for true instantaneous voltage compensation.

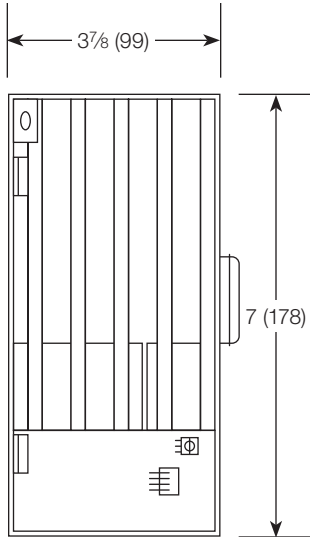
<sup>7</sup> Softswitch®: Lutron® Softswitch® circuitry prevents the relay contacts from arcing. Even when fully loaded, the arc reduction extends a relay's average rated life to more than 1,000,000 on/off cycles.

<sup>8</sup> RTISS Equipped® (Real-Time Illumination Stability System). This Lutron® filter circuit technology compensates for incoming line-voltage variations, such as changes in Root Mean Square (RMS) voltage, frequency shifts, harmonics, and line noise.

# Remote Power Modules

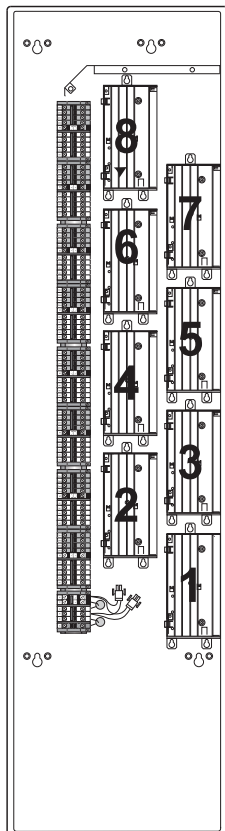
## Dimensions

Measurements shown as: in (mm)

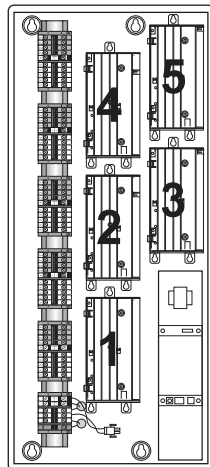


For information on mounting an RPM within an existing LiteTouch® panel, please refer to the installation guide of the **Dimming & Switching Ready Retrofit Subplate** at [www.lutron.com](http://www.lutron.com)

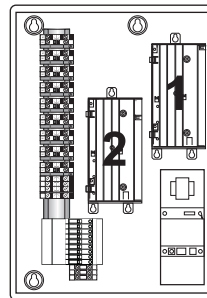
## Mounting



HWI-PNL-8 (shown), HWAP-8D, HWBP-8D



HWI-PNL-5



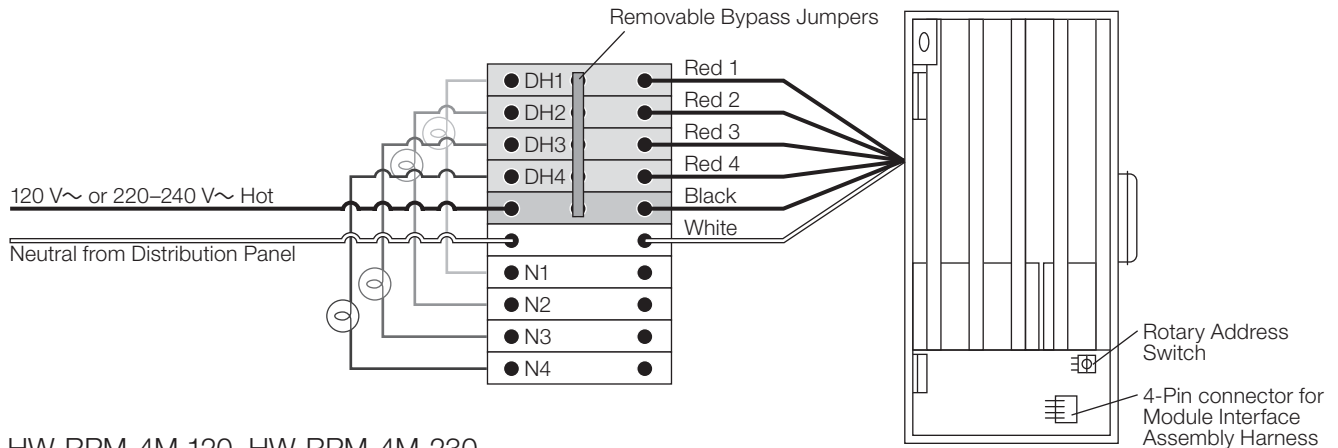
HWAP-2S, HWBP-2S

LiteTouch is a registered trademark of Savant.

# Remote Power Modules

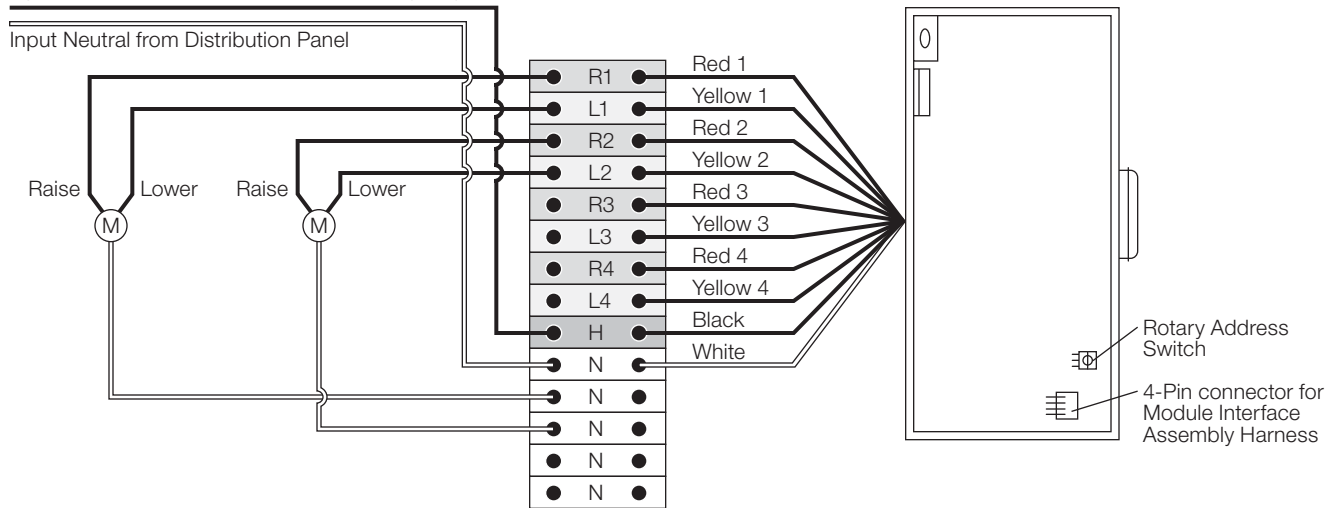
## Wiring

HW-RPM-4A-120, HW-RPM-4A-230, HW-RPM-4E-230-CE, HW-RPM-4FSQ-120, HW-RPM-4J-120, HW-RPM-4U-120, HW-RPM-4U-230-CE, HW-RPM-4U-240



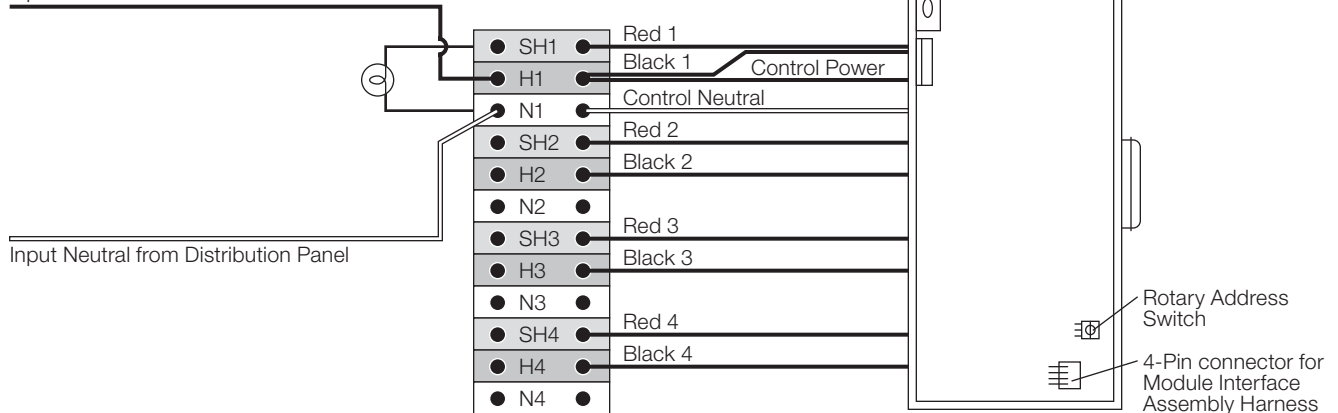
HW-RPM-4M-120, HW-RPM-4M-230

Input 120-240 V~ from Distribution Panel (20 A)



HW-RPM-4R

Input 100-277 V~ from Distribution Panel



## Remote Power Modules

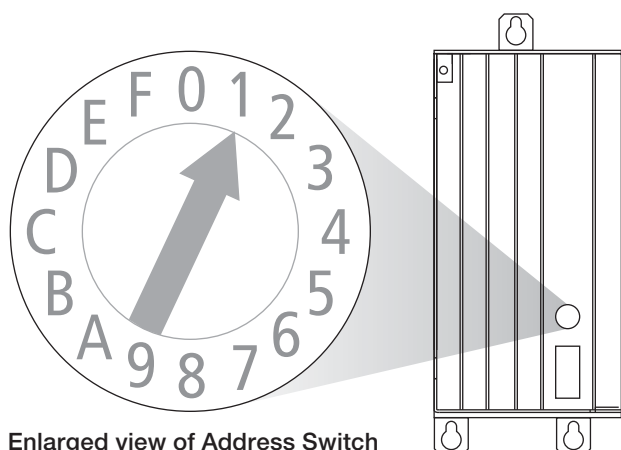
### Address Switch Position

HW-RPM-4A-120, HW-RPM-4A-230,  
HW-RPM-4E-230-CE, HW-RPM-4FSQ-120,  
HW-RPM-4J-120, HW-RPM-4R,  
HW-RPM-4U-120, HW-RPM-4U-230-CE,  
HW-RPM-4U-240:

Position	Module Output/Purpose
0	All outputs OFF
1-8	Address for normal operation
9 A	Not used
9 B	Output 1 ON; Use for temporary lighting and zone testing
9 C	Output 2 ON; Use for temporary lighting and zone testing
9 D	Output 3 ON; Use for temporary lighting and zone testing
9 E	Output 4 ON; Use for temporary lighting and zone testing
9 F	All outputs ON; Use for temporary lighting and zone testing

HW-RPM-4M, HW-RPM-4M-230:

Position	Module Output/Purpose
0	All relays OFF
1-8	Address for normal operation
9 A-D	Not used: All outputs OFF
9 E	All raise relays ON; Use for directional motor testing
9 F	All lower relays ON; Use for directional motor testing



Enlarged view of Address Switch

### Diagnostic LED Status

HW-RPM-4A-120, HW-RPM-4A-230,  
HW-RPM-4E-230-CE, HW-RPM-4FSQ-120,  
HW-RPM-4J-120, HW-RPM-4R,  
HW-RPM-4U-120, HW-RPM-4U-230-CE,  
HW-RPM-4U-240:

LED Status	Possible Cause
Off	No power or defective module
1 blink per second ("Heartbeat")	Normal operation
1 blink per 7 seconds ("Lighthouse")	Not communicating with processor: <ul style="list-style-type: none"> <li>• Open control harness</li> <li>• Module set on invalid or diagnostic address</li> <li>• System not properly configured or addressed in HomeWorks® software</li> </ul>
4 blinks; pause; repeat	Module in manual override
10 blinks per second	Zone error on one or more outputs

### Zone Diagnostic LED Status

HW-RPM-4E-230-CE, HW-RPM-4A-120,  
HW-RPM-4J-120, HW-RPM-4A-230 only:

Zone LED Status	Load Status	Description
Off	OFF	Normal; Load Off
Continuously on	ON	Incandescent/electronic dimming
1 blink per second	ON	Magnetic dimming

### Error Codes

1 blink; pause; repeat	OFF	Load short circuit <sup>1</sup>
2 blinks; pause; repeat	OFF	Inductive load <sup>2</sup>
3 blinks; pause; repeat	ON Full	Shorted component <sup>3</sup>
4 blinks; pause; repeat	OFF	Overload <sup>1</sup>
10 blinks per second	All outputs OFF	Multiple errors <sup>4</sup>

<sup>1</sup> Locate and repair fault. Cycle power to RPM.

<sup>2</sup> Check software configuration. MLV load detected with ELV software setting.

<sup>3</sup> Replace RPM. Internal device (FET) shorted.

<sup>4</sup> Multiple errors exist on this output. The relay has opened to protect the modules and all 4 outputs will be off.