

Remote Power Modules

HomeWorks® Remote Power Modules (RPMs) are used in both centralised and hybrid system designs 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 one of the Remote Power Panels.

DIMMING MODULE **(MODEL HW-RPM-4U-230-CE)**

The dimming module has 4 outputs that can dim or switch incandescent, magnetic low voltage or neon/cold cathode. Each of the four outputs can switch electronic low-voltage or fluorescent lighting. The total capacity of a dimming module is 13A @ 230V (3680W/VA)². The maximum capacity of any single zone is 10A.

DIMMING MODULE **(MODEL HW-RPM-4U-240 [NON-CE])**

This module has the same characteristics as the above model except this module has a total capacity of 16A @ 220-240VAC. The maximum capacity of any single output is also 16A.

MOTOR MODULE **(MODEL HW-RPM-4M-230)**

The motor module can control four 3-wire 230V AC motors for applications such as shades, draperies, and curtains. Each motor control uses two mechanically interlocked relays for directional control that prevents simultaneous operation of both outputs. Maximum relay contact rating is 1/2HP, 5A @ 230V for inductive loads, and 1.5A @ 230V for resistive loads.

POWER RELAY MODULE **(MODEL HW-RPM-4R)**

The power relay module has 4 outputs that can switch incandescent, neon/cold cathode, magnetic low voltage, electronic low voltage, fluorescent, or high intensity discharge (HID). The total capacity of a power relay module is 64A @ 220-240VAC. The total load capacity of any individual output is limited to 16A @ 220-240VAC, 1/3 HP.

ADAPTIVE DIMMING MODULE **(MODEL MODEL HW-RPM-4A-230)**

The adaptive dimming module has 4 outputs that can dim incandescent, magnetic low-voltage, electronic low-voltage or neon/cold cathode. The adaptive module uses our RTISS-TE technology to supply stable power to the lights even in harsh power line conditions. The total load capacity of the module is 13A @ 230V (2990W). The total load capacity of any individual output is 8A (1840V).

The adaptive dimming module is ideal for applications where power conditions are non-ideal such as yachts and ships. The adaptive dimming module may be used with any combination of other Remote Power Modules within a HomeWorks Remote Power Panel.

CONNECTION TO MODULE INTERFACE

All RPMs must be connected to a Module Interface located within the same Remote Power Panel. If a processor is located in the same panel as RPMs, a processor with an integral Module Interface must be used (either model H8P5-MI-CE and H8P5-MI-H48-CE). RPMs within an enclosure are connected to the Module Interface using a wire harness provided by Lutron.

Remote Power Modules

HW-RPM-4U-230-CE, HW-RPM-4U-240 • dimming module	
Load types	Incandescent, magnetic low voltage, electronic low voltage (requires Lutron® low-voltage transformers) neon/cold cathode, fluorescent non-dim. The outputs are compatible with <i>Lutron Power Boosters</i> and interfaces in <i>section 6</i> .
Maximum load	CE model: 13A total, 8A maximum per output. Non-CE model: 16A total, 16A maximum per output.
Wiring	Terminal blocks in the power panel will accept one 1.0-2.5mm ² (#18-10 AWG) wire or two 1.0-1.5mm ² (#18-16 AWG) wires. See <i>figure 1, page 5.6</i> .
Technology	Forward phase control using triac technology. Equipped with RTISS, Real Time Illumination Stability System.
Interference suppression	EMI/RFI suppression circuitry.
Air gap	Provided when all four circuits are off.

HW-RPM-4A-230 • adaptive dimming module	
Load types	Incandescent, magnetic low voltage, electronic low voltage, and neon/cold cathode. The outputs are compatible with <i>Lutron Power Boosters</i> and interfaces.
Maximum load	13A total, 8A maximum per per output.
Wiring	Terminal blocks in the power panel will accept one 1.0-2.5mm ² (#18-10 AWG) wire or two 1.0-1.5mm ² (#18-16 AWG) wires.
Technology	Forward and reverse phase control using FET technology. Equipped with RTISS-TE, Real Time Illumination Stability System enhanced for Trailing Edge dimming. Contains limited short-circuit and overload protection.
Interference suppression	EMI/RFI suppression circuitry.
Air gap	Provided when all four circuits are off.

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HW-RPM-4M-230 • motor module	
Load types	Bi-directional three-wire 120V motor loads, or incandescent non-dim. Outputs are not rated for switching electronic low-voltage or electronic ballasts.
Maximum load	1/2 HP per circuit. 5A maximum per circuit for motor loads, 1.5A maximum per circuit for tungsten loads.
Wiring	Terminal blocks will accept one 1.0-2.5mm ² (#18-10 AWG) wire or two 1.0-1.5mm ² (#18-16 AWG) wires. Requires that four additional terminal blocks be mounted onto the DIN rail assembly. See figure 2, page 5.6.
Technology	Relay switching, mechanical-interlocked relays guarantee motor protection.
Interference suppression	EMI/RFI suppression circuitry.
Air gap	Provided when all four circuits are off.

HW-RPM-4R • power relay module (120V-240V)	
Load types	Non-dim loads.
Maximum load	64A total, 16A, 1/3 hp maximum per output.
Wiring	Terminal blocks will accept one 1.0-2.5mm ² (#18-10 AWG) wire or two 1.0-1.5mm ² (#18-16 AWG) wires. Requires the installation of four additional gray terminal blocks and three additional black terminal blocks to be mounted on to the DIN rail assembly. Gray terminal blocks accept one 0.75-10mm ² (#18-8 AWG) wire or two 1.5-4.0mm ² (#16-12 AWG) wires. See figure 3, page 5.6.
Technology	Patented Softswitch™ triac arc suppression technology used to extend relay life.
Interference suppression	EMI/RFI suppression circuitry.
Air gap	Provided when all four circuits are off.

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All Remote Power Modules	
Model	HW-RPM-4U-230-CE: dimming module CE compliant. HW-RPM-4U-240: dimming module (non-CE). HW-RPM-4M-230: motor module. HW-RPM-4R: power relay module. HW-RPM-4A-230: adaptive dimming module.
Input voltage	RPM-4U, RPM-4M, RPM-4A: 220-240VAC, 50/60Hz RPM-4R: 108-264VAC, 50/60Hz
Number of outputs	4
Regulatory approvals	CE, C-TICK (except HW-RPM-4U-240)
Environment	Ambient temperature: 0-40°C, 32-104°F Ambient humidity: 0-90% humidity, non-condensing. Indoor use only.
Cooling method	Passive cooling.
Heat generated fully loaded	Dimming modules will generate up to 75 BTUs per hour when fully loaded.
Line-voltage connections	Separate line-voltage feeds at the DIN rail terminal blocks for each RPM. Terminal blocks should be tightened to .40-.57nM (3.5-5.0 inches-pounds).
Low-voltage communications	Communication harness provided by Lutron.
Addressing	Rotary switch. Counts as 1 of 8 RPM addresses per MI.
Diagnostics	LED provided to indicate proper communications with Module Interface.
ESD protection	Meets or exceeds the IEC 61000-4-2 standard.
Surge protection	Meets or exceeds ANSI/IEEE standard c62.41.
Fail-safe operation	Rotary switch on the RPM allows for manual operation of each load.
Dimensions	99mm (3-7/8 inches) wide x 178mm (7 inches) high
Mounting	HWI-PNL-8 and the HWBP-8D Remote Power Panels will hold up to 8 RPMs. HWI-PNL-5 Remote Power Panel will hold up to 5 RPMs. Note: RPMs may hum slightly and internal relays will click when in use. Mount where such noise is acceptable. Locate at least 1.8m (6 feet) away from sensitive electronic equipment.
Shipping weight	1.0kg (2.2 pounds)
Minimum load	25W/VA per output.

Remote Power Modules – Wiring Diagrams

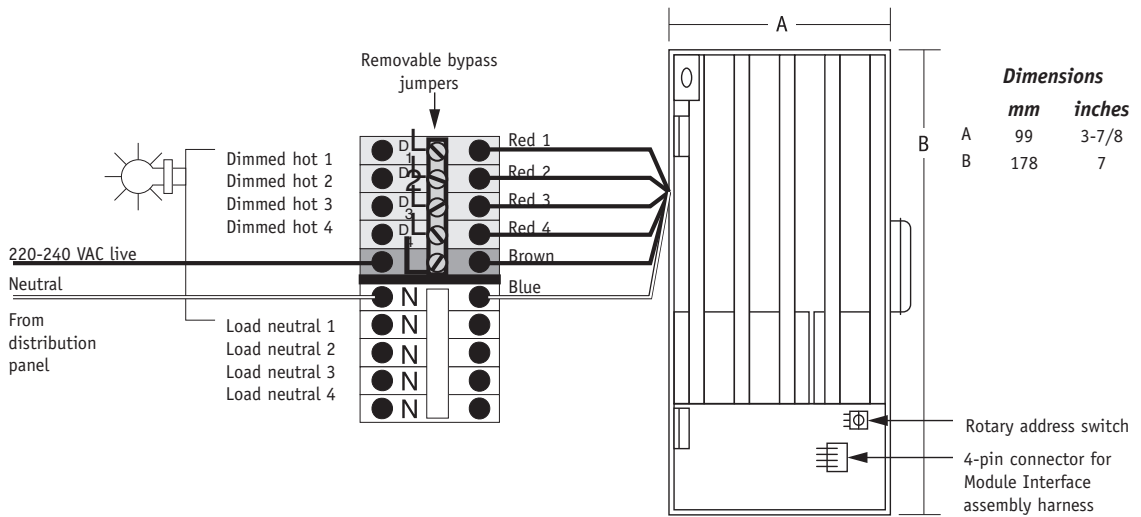


Figure 1 – HW-RPM-4U-230-CE, HW-RPM-4U-240, HW-RPM-4E-230-CE, and HW-RPM-4A-230

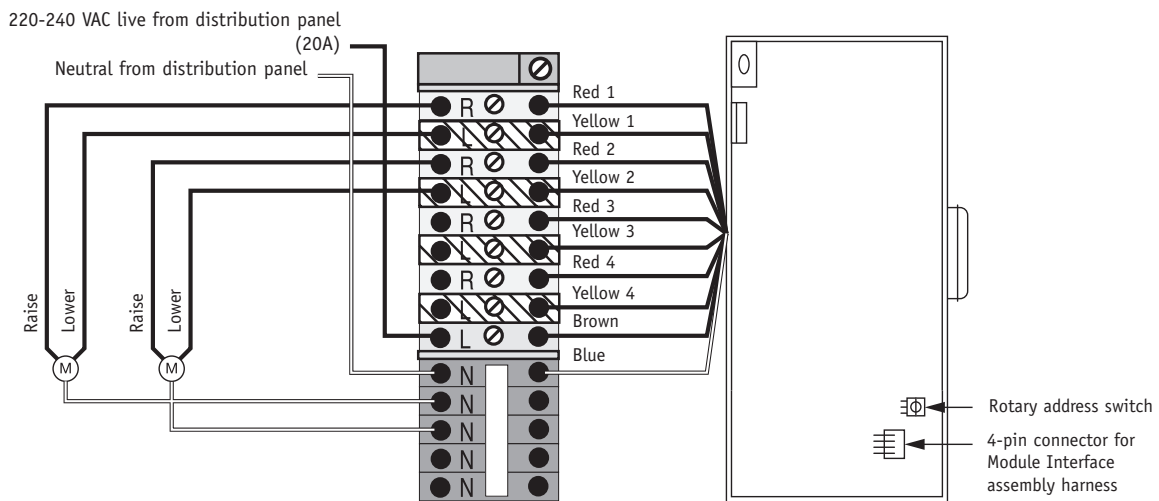


Figure 2 – HW-RPM-4M-230

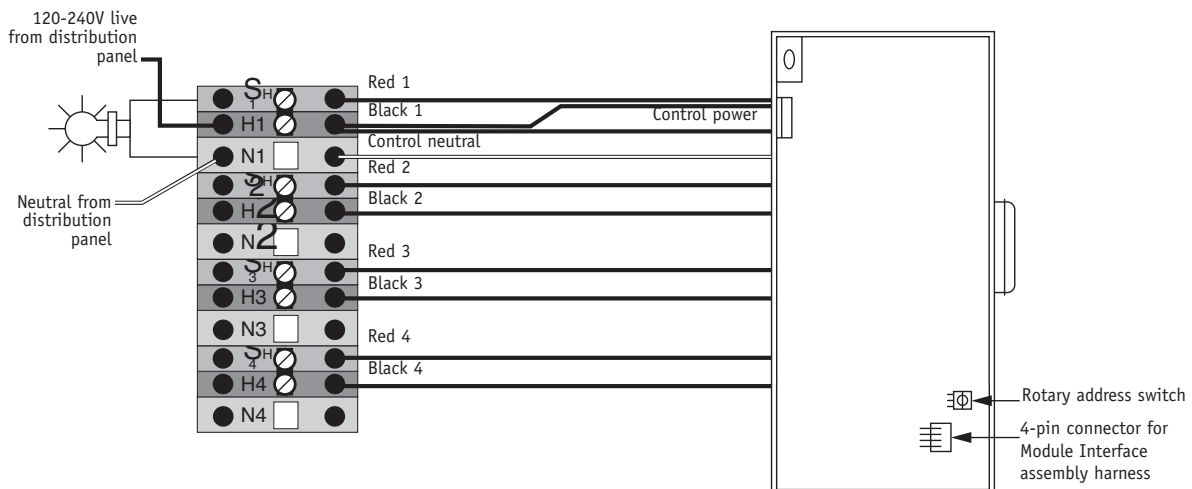
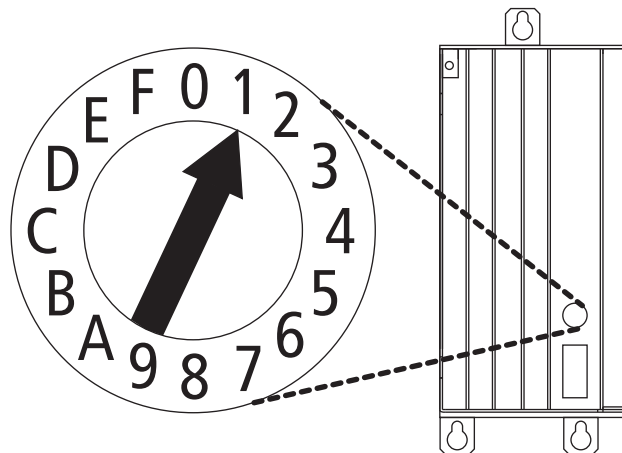


Figure 3 – HW-RPM-4R

Remote Power Modules – Rotary Address Switch



Enlarged view of rotary address switch

**ROTARY ADDRESS SWITCH POSITION
FOR HW-RPM-4U, 4E, 4R, 4A**

<i>Position</i>	<i>Module output/purpose</i>
0	All outputs OFF
1-8	Address for normal operation
9, A	Not used
B	Output 1 ON use for temporary lighting and/or zone testing
C	Output 2 ON use for temporary lighting and/or zone testing
D	Output 3 ON use for temporary lighting and/or zone testing
E	Output 4 ON use for temporary lighting and/or zone testing
F	All outputs ON use for temporary lighting and/or zone testing

**ROTARY ADDRESS SWITCH POSITION
FOR HW-RPM-4M**

<i>Position</i>	<i>Module output/purpose</i>
0	All relays OFF
1-8	Address for normal operation
9, A-D	Not used
E	All raise relays ON use for directional motor testing
F	All lower relays ON use for directional motor testing