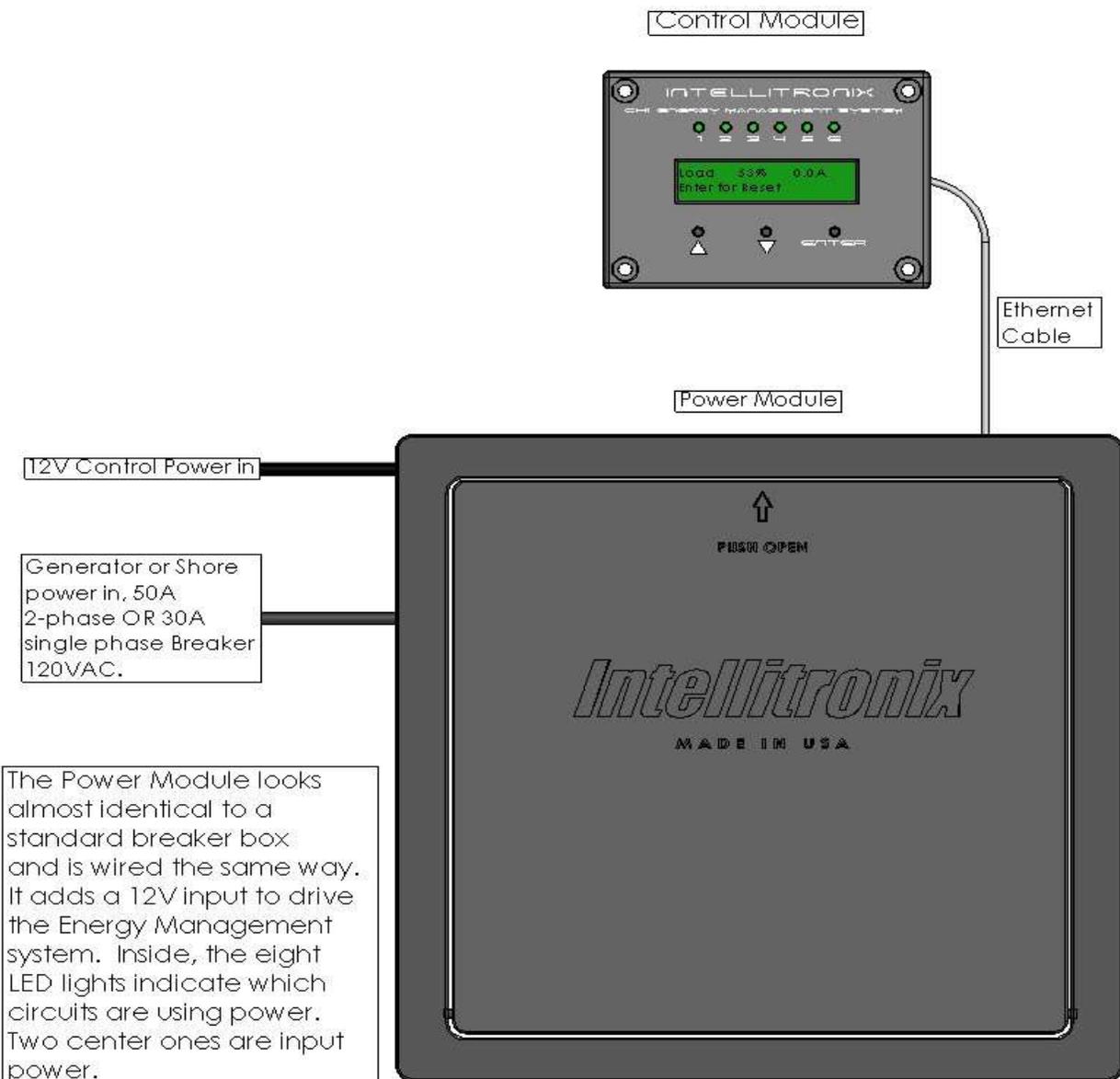# Intellitronix
Intelligent Electronics

CH1 Energy Management System User Manual

The Intellitronix Energy Management System combines a standard breaker box with automatic power management for use in a recreational vehicle. It automatically senses and shifts AC loads to best utilize the available power. It decides what AC circuits get power based on user priority settings.

For example, if someone is using a hair dryer and running a microwave oven and toaster, and the refrigerator starts running, that may temporarily be more power than is available, potentially causing a main circuit breaker to trip, or overloading a generator. The Intellitronix Energy Management System can temporarily shut down the refrigerator power. When enough appliances are turned off, and sufficient power is available, refrigerator power is automatically restored. It also functions as a standard breaker box using standard breakers and wiring.

Control Module

Ethernet Cable

Power Module

12V Control Power in

Generator or Shore power in, 50A 2-phase OR 30A single phase Breaker 120VAC.

The Power Module looks almost identical to a standard breaker box and is wired the same way. It adds a 12V input to drive the Energy Management system. Inside, the eight LED lights indicate which circuits are using power. Two center ones are input power.

PUSH OPEN

Intellitronix
MADE IN USA

*Modules and Cables are not shown to scale.

Power Module Specifications

- Max input power breaker 50 Amps 2-phase or 30 Amps single phase 120 VAC
- Digital Control System power input 12 VDC, 0.2 amps normally to 1 Amp max for all circuits opened
- Six circuits operated by 20 Amp circuits normally on relay
- Two positions for input breaker(s), 50 Amp 2-phase or 30A single phase
- Six 15 Amp or 20 Amp standard circuit breakers
- Breaker box style enclosure with rear wire entry strain reliefs, H 9" x W 9" x D 3.75", including 0.81" mounting flange.

Control Module Specifications

- Three button control with "**Up**", "**Down**", "**Enter**"

- Six green LED Power indicators, one for each circuit under control

- LCD Display

The **Control Module** uses a common ethernet cable (up to 300 feet) to connect to the **Power Module** for data and power.

Mount the rectangular control enclosure H 2.45" x W 3.72" x D 1.11" flush with the wall using a 0.50" mounting flange.

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Control Module Display

The green LEDs indicate which circuits are on. Circuits temporarily disconnected are indicated by the LED not being lit.

There are six main menu displays accessed by pressing the "**Up**" or "**Down**" buttons:

1) **Total Power Display**

```
Load    53%    0.0A

Enter for Reset
```

2) **History Menu**

```
Enter to show

Watt History
```

3) **Max Power Setting Display**

```
Max Gen Amps

50.0A
```

4) **Circuit Priority Display**

```
Circuit Priority

  1   2   3   4   5   6
```

5) **Present Wattage Display**

```
W   123      57       13

W    0       23        5
```

6) **Present Amperage Display**

```
2.0A     1.0A     4.1A

5.3A     0.3A     1.7A
```

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Pressing **Enter** at the **History Menu** shows past power consumption in **Watt hours** per circuit, the first display will show circuits 1 2 3, next display shows circuits 4 5 6, then previous hours as you press the "**Down**" button. Pressing the **Enter** button again returns you to the History Menu screen.

```
Ohrs  ago     1  2  3

0.0    0.0     12.0
```

```
Ohrs  ago     4  5  6

1.22   0.4     2.0
```
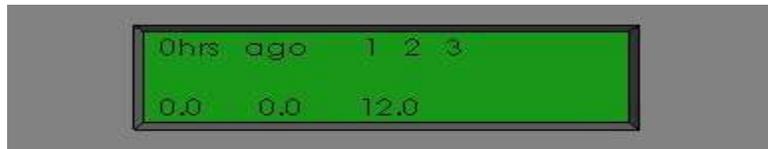
*Continue to press **Down** to display 0 hours up to 23 hours for circuits 1, 2, 3, 4, 5, 6*

```
23hrs  ago    1  2  3

1.03   2.56    0.00
```

```
23hrs  ago    4  5  6

0.00   3.22    1.01
```

Pressing **Enter** at the **Max Power Setting Display** allows editing of the maximum Amps allowed by the system. Press **Up** or **Down** to set Amps, then **Enter** to save.

Pressing **Enter** at the **Circuit Priority Display** allows editing of circuit priorities. An arrow appears beside each priority number as you continue to press the **Enter** button. Pressing the **Up** or **Down** buttons changes the priority pointed to by the arrow. A circuit at priority level "**1**" will be turned off last. Priority level "**6**" is turned off first when too much power is being used. The default setting is "**1 2 3 4 5 6**" and indicates the first circuit (far left) has the *most priority* and the sixth circuit (far right) has the *least priority*. A setting of "**6 2 3 4 5 1**" indicates the first circuit (far left) has the *least priority* and the sixth circuit (far right) has the *most priority*.

Pressing **Enter** at the **Total Power Display**, ("**Enter for Reset**") asks "**Reset? Y/N N**" press **Up** or **Down** buttons until "**Reset? Y/N Y**" appears. Then press the **Enter** button. It will show "**Resetting…** " for a few seconds. Any lines that were powered off are all powered on. This is like resetting a breaker. It assumes you have reduced the load that had previously turned off some lines.

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