# Home Page for the UPC-E



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Ethernet enabled Universal Power Cell

IP, MAC & Info     UPC-E Setup     UDP Setup     UPC-E Self Test

| Location: | Enter Location |
|-----------|----------------|

**Present Output:**                    **Full Scale:**

**HP:**          0 0 0 . 0 2                1 0 0 . 0

**KW:**          0 0 . 0 1

**Counts:**      0                        4095

**UDP is**       Not Running

Refresh Browser to update display
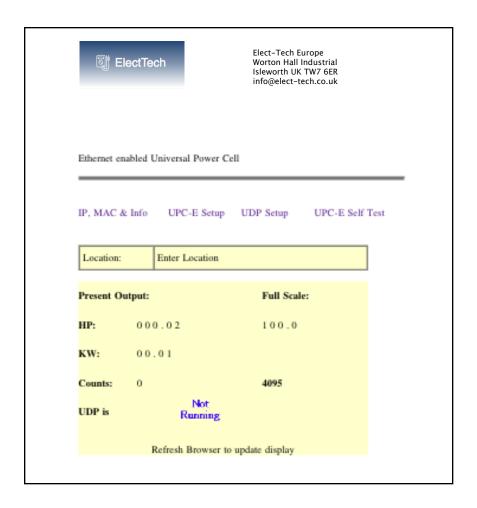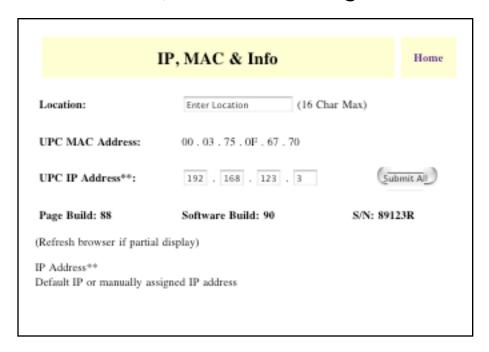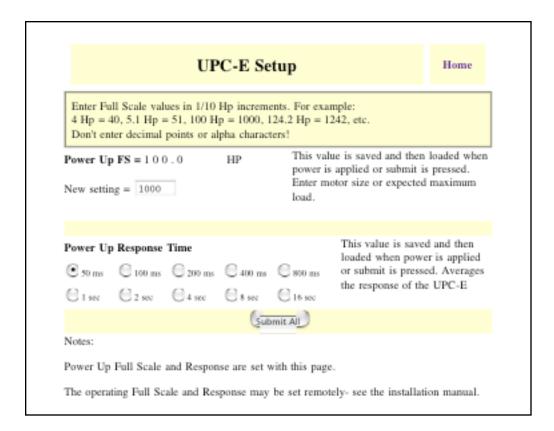
- Provides links to sub pages for setup.

- Displays UPC–E physical location– named by user.

- Indicates the operating full scale setting in Horsepower.

- Present output is shown for HP, KW, and Counts.

- Indicates status of UDP output, if used.

# IP, MAC & Info Page

**IP, MAC & Info**                                   Home

Location:                 Enter Location          (16 Char Max)

UPC MAC Address:          00 . 03 . 75 . 0F . 67 . 70

UPC IP Address**:         192 . 168 . 123 . 3              Submit All

Page Build: 88        Software Build: 90            S/N: 89123R

(Refresh browser if partial display)

IP Address**
Default IP or manually assigned IP address

- Enter physical location of the UPC–E for identification purposes.

- Shows UPC–E MAC address for network setup.

- Indicates <u>DEFAULT</u> IP address or manually assigned IP address.

- If DHCP assigns a different number it will not appear here. The default or assigned number will continue to appear.
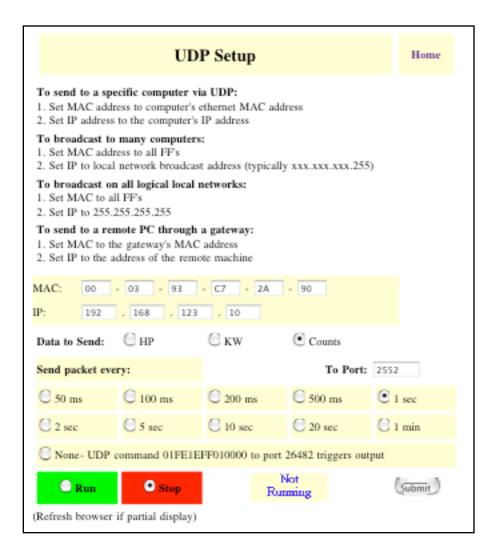
# UPC-E Setup



- Set the full scale value for the UPC-E in **Horsepower.** HP is actually entered in *tenths* of a horsepower with **no** decimal points. Examples: 4.5 HP = 45, 10 HP = 100, 95 HP = 950, 124.5 HP = 1245, etc. Incorrect entries will be flagged and set to either the low or high limit. Pressing **Submit** again will clear the error. The range may be set from 4.0 to 125.0 HP (40 to 1250).

- Response Time averages the load signal and may be set in the increments shown. It is a continuous running average.

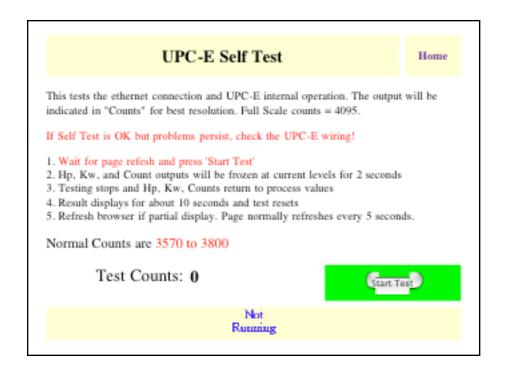- When done. press **Submit** to save the values.

Notes:

1. Values entered here are default values. They will be saved and loaded as *operating* values when power is applied or if the submit button is pressed.

2. The full scale range and response time may be externally set as operating values via http or UDP. See UDP and HTTP COMMANDS section.

# UDP Setup Page



## UDP Setup      Home

**To send to a specific computer via UDP:**
1. Set MAC address to computer's ethernet MAC address
2. Set IP address to the computer's IP address

**To broadcast to many computers:**
1. Set MAC address to all FF's
2. Set IP to local network broadcast address (typically xxx.xxx.xxx.255)

**To broadcast on all logical local networks:**
1. Set MAC to all FF's
2. Set IP to 255.255.255.255

**To send to a remote PC through a gateway:**
1. Set MAC to the gateway's MAC address
2. Set IP to the address of the remote machine

MAC: 00 - 03 - 93 - C7 - 2A - 90

IP: 192 . 168 . 123 . 10

**Data to Send:** ○ HP    ○ KW    ● Counts

**Send packet every:**      **To Port:** 2552

| ○ 50 ms | ○ 100 ms | ○ 200 ms | ○ 500 ms | ● 1 sec |
| ○ 2 sec | ○ 5 sec | ○ 10 sec | ○ 20 sec | ○ 1 min |

○ None- UDP command 01FE1EFF010000 to port 26482 triggers output

○ **Run**    ● **Stop**    Not Running    (Submit)

(Refresh browser if partial display)

- Set UDP destination MAC and IP address.

- Select type of data to send– HP, KW, or counts. HP and KW are sent as a 5 digit integer with implied 2 decimal point precision. For example, a HP output of '2881' is 28.81 HP; '12480' is 124.80 HP.

- Specify the UDP port.

- Select the interval to send a packet. If UDP is running, a hex command will cause the UPC–E to send a packet. See UDP COMMAND section.

- Check '**Run**' and then **Submit** to activate UDP. If '**Stop**' is checked and **Submit** pressed, values will be saved, but UDP will not be active.

# UPC–E Self Test Page



'Self Test' is used to verify correct network and UPC–E operation.

This page will automatically refresh every 5 seconds. It is important to wait until the page has just refreshed before pressing the '**Start Test**' button.

When activated, the HP, KW, and Count outputs will be frozen at their current values for two seconds, during which time the UPC–E will conduct an internal test.

At the end of two seconds. outputs will return to process values. A result value will be displayed as '**Test Counts**' when the browser refreshes. Any number between 3570 and 3800 is acceptable. At the end of approximately 10 seconds the test will cancel and 'Test Counts' will return to 0.

If Self Test is OK but problems persist, check the UPC–E **wiring**

# HTTP Commands

## To request an output value:

Count output ( 0 to 4095, or 12 bit resolution):
http://aaa.aaa.aaa.aaa/counts.htm

HP and KW will output up to a 5 digit whole number. It is up to the application to put in the decimal point (ie, divide by 100 for xxx.xx)

HP output
http://aaa.aaa.aaa.aaa/hp.htm

KW output:
http://aaa.aaa.aaa.aaa/kw.htm

Notes:
1. aaa.aaa.aaa.aaa is the IP address of the UPC
2. Do NOT use the 'html' suffix. It must be 'htm'


## To externally set an operating Full Scale or Response value:

To set Full Scale HP (FS HP):
http://aaa.aaa.aaa.aaa/user.spi?fshp=*value*

Where *value* is the FS HP value in tenths. NO DECIMAL POINT. e.g., 4 HP = 40, 120 HP = 1200, 124.5 HP = 1245. Out of range numbers will default to '40' on the low side, and '1250' on the high side.

To set the operating response time:
http://aaa.aaa.aaa.aaa/user.spi?cresponse=*value*

Where *value* is from table:

| 50 ms = 1 | 100 ms = 2 | 200 ms = 4 | 400 ms = 8 | 800 ms = 16 |
|---|---|---|---|---|
| 1 sec = 257 | 2 sec = 258 | 4 sec = 260 | 8 sec = 264 | 16 sec = 272 |

All other numbers default to '1', or 50 ms

## To see the operating Full Scale HP and Response time:

http://aaa.aaa.aaa.aaa/user.htm

The first number will be the FS HP setting; the second number will be the Response time. Refer to the above table.

# UDP Commands

Notes:
1. Entered values MUST be in Hex. Do NOT send ASCII characters.
2. Hex values have **no spaces or punctuation**
3. Hex values here are shown in byte blocks for clarity
4. **Commands must be sent to port 26482**
5. Configure MAC & IP destination settings on the "UDP Setup" page

## To trigger a UDP packet output:

1. On "UDP Setup" page, select "None" and submit
2. Send hex **01 FE 1E FF 01 00 00**  (7 bytes) on port 26482 to trigger packet

## To externally set an *operating* Full Scale value:

1. UDP must be running to receive data.
2. Send **02 FD 06 00 XX XX 00 00** ( 8 bytes)

Where '**xx xx** ' is the hex full scale value, **least significant byte first.**

Examples:
100 HP = 1000 decimal = 03 E8 hex
Send: **02 FD 06 00 E8 03 00 00**            ( 8 bytes, NO spaces)

22.5 HP = 225 decimal = 00 E1 hex
Send: **02 FD 06 00 E1 00 00 00**            ( 8 bytes, NO Spaces)

## To externally set an *operating* Response value:

1. UDP must be running to receive data.
2. Send:  **02 FD 08 00 XX XX 00 00** ( 8 bytes)

Where '**xx xx**' is the hex value from the table

| 50ms= 01 00 | 100ms= 02 00 | 200ms= 04 00 | 400ms= 08 00 | 800ms= 10 00 |
|---|---|---|---|---|
| 1 sec= 01 01 | 2 sec= 02 01 | 4 sec= 04 01 | 8 sec= 08 01 | 16 sec= 10 01 |

Example:
50 ms Response = 01 00
Send: **02 FD 08 00 01 00 00 00**            ( 8 bytes, NO spaces)

8 seconds Response = 08 01
Send: **02 FD 08 00 08 01 00 00**            ( 8 bytes, NO spaces )