ETHERNET UNIVERSAL POWER CELL
MODEL UPC-E

The versatility of the Universal Power Cell combined with Ethernet Control and Communication

Embedded Web Server

- View with your browser

With Your Browser

- Set full scale horsepower

- Set response time to average the load for a smooth signal

- Choose how often to receive data

- Or, respond to UDP or HTTP request

TCP/IP and UDP Protocol

10 Base T 10 Megabit Ethernet Connection

Plus - 10 Volt DC Analog Output

- Local display

- Troubleshooting

Change Setting On The Fly

- During a machine or process cycle
- Either UDP or HTTP

Ideal for Machine Tool Monitoring

LOAD CONTROLS INCORPORATED

Universal Power Cell Model UPC-E

The Universal Power Cell is a Motor Load Sensor that monitors power (HP or KW). It works on both Fixed and Variable Frequency Power and has an Ethernet Connection and an Analog Output. It also works on single phase, DC, and brushless DC. The Universal Power Cell has Three Balanced Hall Effect Sensors, each with a flux concentrator. Each phase passes through a window. A voltage sample for each phase is also taken. The Hall Effect Semiconductor does a vector multiplication of the current flow and voltage which also calculates the power factor. The output is proportional to power (HP or KW).

INSTALLATION

MOUNTING

The Universal Power Cell is direction sensitive. Locate the Power Cell so that the motor electrical supply lines can be passed through the Cell. The Terminal side of the Cell faces the Supply.

INPUT CONNECTIONS

Pass each of the phases through the L1, L2, L3 holes in the Cell. Be certain that direction is correct. The Terminal side of the Cell faces the supply. Provide a voltage sample for each phase with 20 gauge or larger wire. When a Variable Frequency Drive is being used, locate the Power Cell on the output side of the drive. Take the voltage samples on the output side also. It doesn't matter which phase goes through each hole. But, the Voltage sample from the wire that goes through the L1 hole must go to Terminal 7, L2 hole to Terminal 8, and L3 hole to Terminal 9.

> L1 Volts to Terminal 7
> L2 Volts to Terminal 8
> L3 Volts to Terminal 9

ANALOG OUTPUT

The 0-10 Volt Analog Output is powered by the Power Cell. Use shielded cable 20 gauge or larger for the analog output. Shield is ungrounded at Power Cell, grounded at device.

> 0-10 Volt DC   Terminal 3
> Analog Common   Terminal 2

120 VOLT SUPPLY

Terminals 5 and 6.

GROUND

Terminal 4.

FULL SCALE

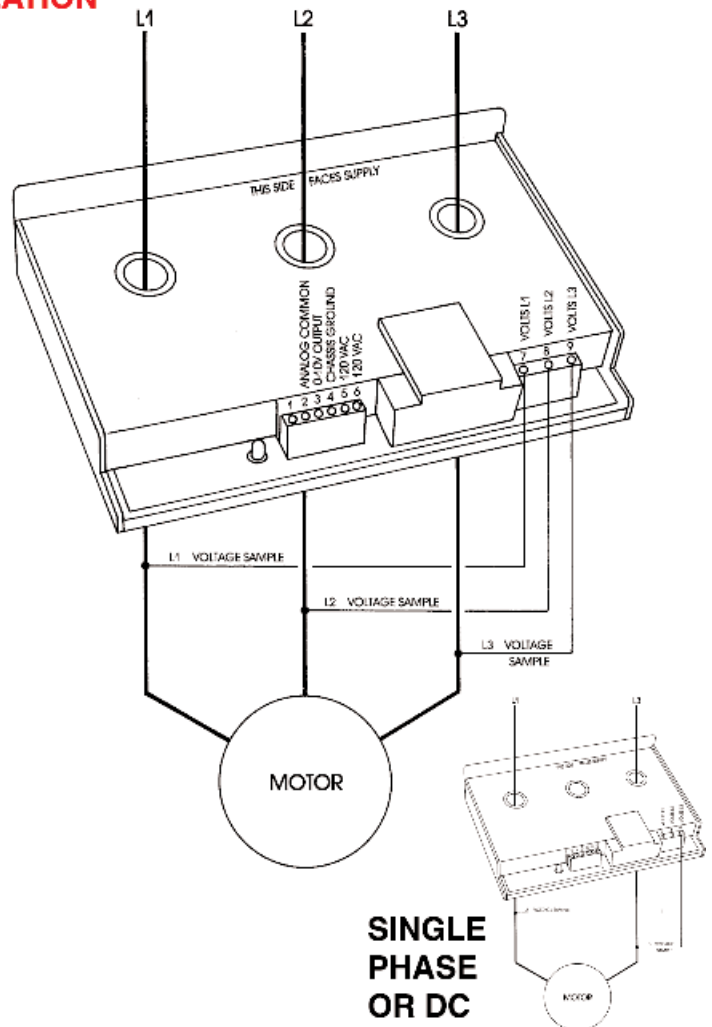The Full Scale is adjusted to match your 4HP to 125 HP motor load with the Ethernet Connection.

FOR SMALL MOTORS

Reduce the capacity by taking additional "Turns" through each hole for each phase (Mount the Power Cell on Standoffs).
Example: 5HP Full Scale is reduced to 1HP with 5 Turns.

RESPONSE ADJUSTMENT

In some cases, the average power signal may be more useful than instantaneous power. The Response Adjustment slows the response of the Universal Power Cell. Adjustment is made with the Ethernet Connection.

SINGLE PHASE OR DC

SPECIFICATIONS

ACCURACY
• .5% Full Scale
ANALOG OUTPUT
• 0-10 Volt DC, 2000 Ohm minimum load
FULL SCALE
• 4HP to 125HP

RESPONSE-ADJUSTABLE
• .050 Sec. to 16 sec.
FREQUENCY
• 3Hz to 1KHz
TEMPERATURE
• 60 C maximum

DIMENSIONS

Maximum Conductor ¾" with grommets removed.
Mounting; (2) #10 Screws, 7" on Center.