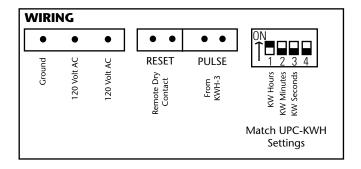# INSTALLATION – KWH-3 ENERGY METER

The KWH-3 takes the pulsed energy output from the Universal Power Cell model UPC-KWH. Energy units displayed can be KW hours, KW minutes, or KW seconds for maximum sensitivity. Reset with front keypad or remotley with dry contact.

- Ideal for monitoring accumulated power into batch mixing.
- Indicator of machine throughput.

TO INSTALL
1. Cut an opening in the panel 1-7/16" x 4-3/16" (36mm x 107mm).
2. Leave at least 5-1/2" (140mm) rear clearance.
3. Pass the control through the hole.
4. Insert the two holding ears into the "L" slots in the chassis.
5. Tighten the screw.

WIRING

Ground | 120 Volt AC | 120 Volt AC

RESET — Remote Dry Contact

PULSE — From KWH-3

ON 1 2 3 4 — KW Hours / KW Minutes / KW Seconds

Match UPC-KWH Settings

PULSE INPUT
Two wires from UPC-KWH "Relay" Output

ENERGY UNITS DIP SWITCH
Set the KW hours, KW minutes, KW seconds switch to match the setting you selected on the UPC-KWH.

KWH   Switch 1 On
KWM   Switch 2 On
KWS   Switch 3 On

RESET
The display can be reset with the front keypad. Hold the reset button down until the LED stops blinking. Display can also be reset instantaneously with a remote dry contact. Use low current switch

SPECIFICATIONS
- 1 13/16" x 4 1/2", 5 1/2" rear clearance (46mm x 114mm x 140mm)
- Cutout 1 7/16" x 4 3/16" (36.5mm x 106.5mm)

DISPLAY
- 6 digit LED. Jumper setable for KW hours, KW minutes, KW seconds to match input from UPC-KWH.

RESET
- Local or Remote

POWER
- 120 Volts AC

LOAD CONTROLS INCORPORATED

INSTALLATION – MODEL UPC-KWH

The Energy Measuring Universal Power Cell Model UPC-KWH measures true power (KW) and momentarily pulses a relay contact every KW hour, KW minute or KW seconds which is selectable. The pulse can signal the KWH-3 Energy Meter and/or a data collection system. It also has a 0-10 Volt analog output that shows the instantaneous load (KW) and can be sent to the DM-100 Digital Load Meter or to a data collection system.

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. (It is convenient to adjust the Full Scale before installing the unit.)

INPUT CONNECTIONS

Pass each of the phases through the L1, L2, L3 holes in the Cell. Be certain 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 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 Volts DC   Terminal 3
    Analog Common   Terminal 2

120 VOLT SUPPLY

Terminals 5 and 6

GROUND

Terminal 4

TO ADJUST FULL SCALE

The Full Scale can be adjusted to match your motor with the Coarse and Fine Pots located under the Access Cover.

Convenient Scaling

3K OHM = 3KW (This is the minimum setting)
10K OHM = 10KW
Etc.
100K OHM = 100KW (This is the maximum setting)

1. Turn off 120 Volt power and motor power
2. Remove access cover
3. Remove J6 jumper
4. Ohm meter leads on Test Points TP1 and TP2
5. Adjust Full Scale Coarse Pot then Fine 20 Turn Pot
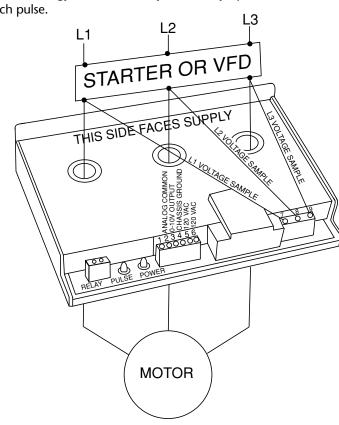6. Replace J6 jumper

PULSED OUTPUT

Move the SEC, MIN, HR Jumper to your desired setting
SEC   1 pulse = 1KW second (small loads, most sensitive)
MIN   1 pulse = 1KW minute
HR   1 pulse = 1KW hour
Connect 2 wire "RELAY" terminals to "PULSE" terminals on KWH-3 energy meter. The relay is normally open. Closes for each pulse.

SPECIFICATIONS

ACCURACY
    • .5% Full Scale
ANALOG OUTPUT
    • 0-10 Volt DC, 2000 Ohm minimum load

DIMENSIONS

RELAY
    • 30 Volts, 5 Milliamp max, 50 MS duration pulse
FREQUENCY
    • 3Hz to IKHz
TEMPERATURE
    • 60°C maximum
POWER CONSUMPTION
    • 6VA @ 120 Volts

Maximum Conductor 3/4" with grommets removed. Mounting (2) #10 screws, 7" on center.

8"
1 3/4"
5 3/8"