

OSC/INTELLIMETER®

PULSE OUTPUT OPTION BOARD

Model 21385

For use on models H & K serial numbers below 41396.

DESCRIPTION

The pulse output option for the Intellimeter provides a KYZ pulse output for watthours. These pulses can be used for load profile or demand side management. The output board provides a solid state, Form C, contact rated at 350 V peak and .120 A maximum.

The pulse option consists of one circuit board. To install the option board, disconnect power from the meter, locate the header on the main meter board, remove the metal jumper and plug on the option board. The three wire cable plugs into the serial port, on the Intellimeter. The 2 or 3 wires picking up the pulses are then connected to terminals K and Y, or K, Y and Z. See installation diagrams.

The pulse output will begin five minutes after resumption of potential to the Intellimeter. The pulse value of the pulse output is always 10 watthours per transition, regardless of the meter on which it is used. The pulse output should be multiplied by the same meter multiplier which is applicable to the meter in order to calculate primary values. The following is an explanation of the meter multiplier.

Meter multiplier for Intellimeter using standard issue current transformers:

| Meter Type | CT Ratio | Multiplier | New Value | Meter Type | CT Ratio | Multiplier | New Value |
|------------|----------|------------|-----------|------------|----------|------------|-----------|
| K2 & K3 | 100:0.1 | 1 | 10 WH | H3 | 100:0.1 | 1 | 10 WH |
| K2 & K3 | 200:0.1 | 1 * | 10 WH | H3 | 200:0.1 | 2 | 20 WH |
| K2 & K3 | 400:0.1 | 4 | 40 WH | H3 | 400:0.1 | 4 | 40 WH |

*assuming meter has been programmed for 200 amps.

Multiplier for meters using prewraps and 5 amp secondary current transformers:

$$\text{Multiplier } (K_r) = \text{CT}_{\text{ratio}} / \text{Turns}$$

CT_{ratio} = ratio of 5 amp secondary current transformer.

Turns = number of turns on prewrap transformer (usually 10).

Example:

1200:5 split-core current transformer and 10 turn prewrap.

$$K_r = 1200:5 / 10 = 240 / 10 = 24 \quad \text{Multiplier } (K_r) = 24$$

Multipliers for common CT ratios (10 turn prewraps):

| Ratio | Multiplier | New Value | Ratio | Multiplier | New Value |
|--------|------------|-----------|--------|------------|-----------|
| 600:5 | 12 | 120 WH | 1200:5 | 24 | 240 WH |
| 800:5 | 16 | 160 WH | 1600:5 | 32 | 320 WH |
| 1000:5 | 20 | 200 WH | 2000:5 | 40 | 400 WH |

Any additional potential transformer would also increase the multiplier by the value of the PT ratio.
 Full load pulse output is calculated as follows:

$$P_{\max} = V_n \times I_n \times \# \text{ of elements} / 10 \text{ WH/pulse.}$$

V_n = nominal phase voltage (excluding external PTs).
 I_n = nominal current (100 or 200 A).
 # of elements = 2 or 3 elements.

Example:

277/480V, 100 amp CT, 3-phase, 4-wire, using an H3 (3 element) meter.

$$P_{\max} = (277)(100)(3) / 10 \text{ WH/pulse} = 8310 \text{ pulses/hour}$$

| Meter | Current Rating | Max. Pulses | Meter | Current Rating | Max. Pulses | Meter | Current Rating | Max. Pulses |
|-------|----------------|-------------|-------|----------------|-------------|-------|----------------|-------------|
| K2 | 100 | 2400 | K3 | 100 | 3600 | H3 | 100 | 8310 |
| K2 | 200 | 4800 | K3 | 200 | 7200 | | | |

INSTALLATION PULSE OUTPUT OPTION BOARD

