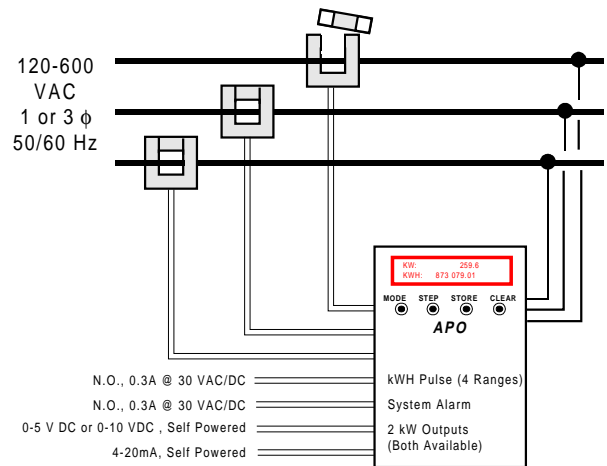


# APO Series

## Power Transducers



## Features

- Meter Grade Digital accuracy for reliable measurement.
- Advanced microprocessor running at 5 MIPS (faster than many PCs!) provides high speed sampling, accuracy and flexibility impossible with traditional kW/kWH transducers
- Accepts ProteCT Current Transformers with 0.333 V safe output... Eliminates need for costly shorting blocks
- Accepts traditional current output (5 Amp) CTs... reuse your existing CTs.
- Available as a bare circuit board (OEM Applications), Transducer Module for mounting in your panel or pre-mounted in a NEMA-1 panel. Get exactly what you need.

## Specifications

Power Required	None... Self powered
Accuracy	0.5% FS, True RMS Power
Voltage Range	120-600 VAC, Auto Range Select, Up to 12 KV with optional Potential Transformers
Amperage Range	5-1500 Amps with ProteCTs 50-4000 Amps with Current Output CTs
Isolation Voltage	3,700 VAC
Built In Fuse rating	600 VAC, 0.5A (No External fuses required)
Connections	Voltage: 12" Leads, # 18 AWG, pre-tinned Current Inputs & All Outputs: Captive screw terminal accept # 14-22 AWG wire
Analog Outputs	Both available at all times
kW	0-5 VDC or 0-10 VDC (User Selectable) Self Powered, Opto Isolated, 10 KW Minimum Load impedance
kW	4-20 mA, Self Powered 24VDC loop, Opto Isolated, 500W Maximum Burden
Discrete Outputs	Both available at all times
System Alarm	Solid State N.O. Contact, 100mA @ 30 V AC/DC (75, 80, 85 & 95% Undervoltage Setpoints)
kWH	Solid State Contact, 100mA @ 30 V AC/DC, Ranges 0.01, 0.1, 1.0 & 10 kWH per pulse
LCD Display	Two Line, 16 Character
Environmental	-18 to 50 C (0 to 122 F), 0-95% RH, NC
Dimensions	Module: 9"Hx6.5"Wx2.6"D (23x16.5x6.5CM) NEMA1: 10"Hx10"Wx4"D(26x24x10CM)

## Applications

- **Cost Allocation** : Measures and display power QUANTITY. With both Demand (KW) and Consumption (KWH) information available, managers can control costs better.
- **Improve Plant Performance**: Low Power Factor causes erratic machine operation, overheats motors, shortens equipment life and increases utility bills. Measure and correct this vital Power Quality factor with a APN
- **Machine Control** KW monitoring provides a good picture of machine tool operation.
- **Generator Performance**: Back up generators are vital to the operation of many businesses. The KW-N2000 provides a cost effective way to monitor the power output and insure it meets "Information Age" standards.

## AutoPhase Advantage <sup>tm</sup>

AutoPhase makes power transducer installation simple.

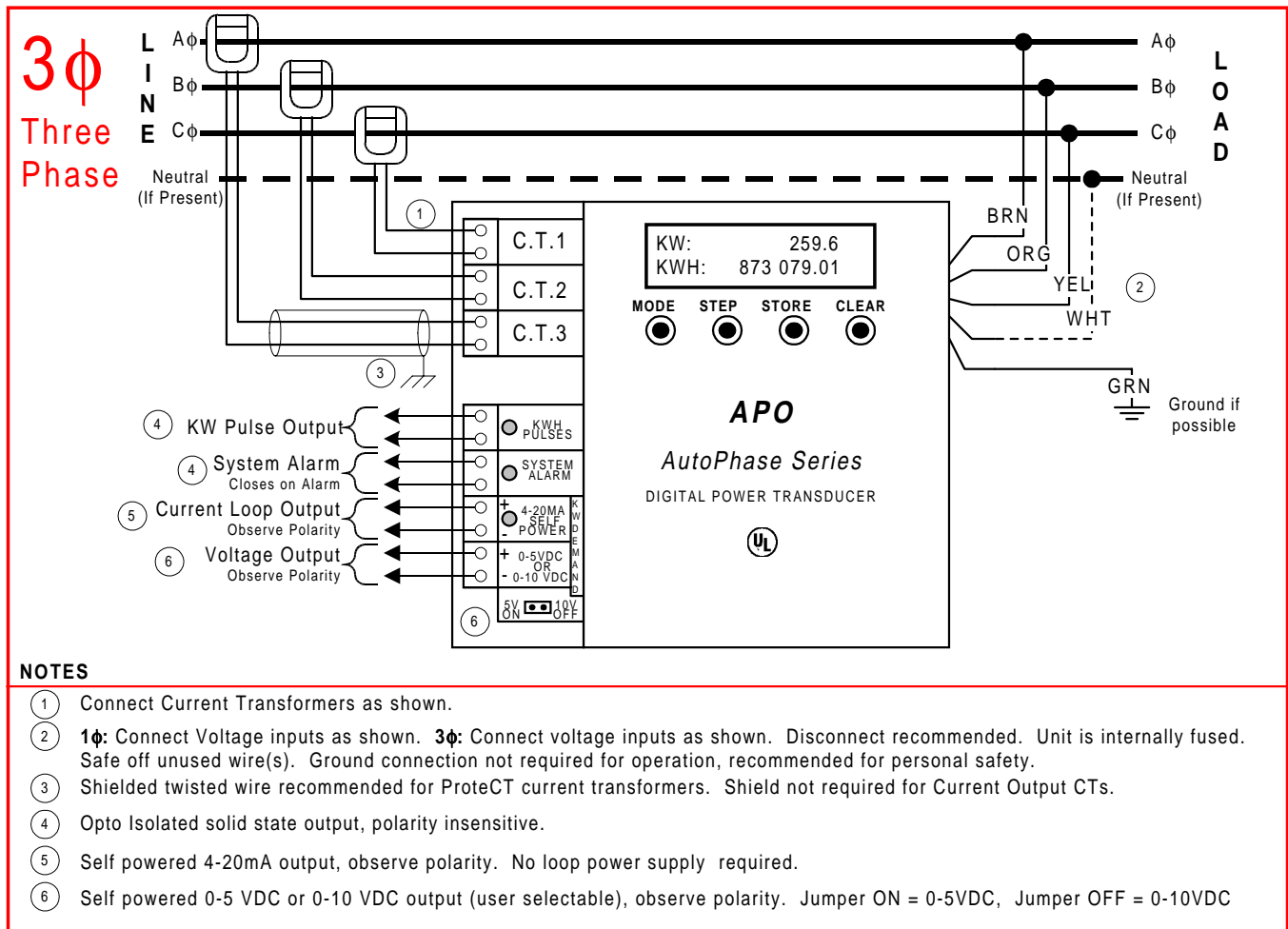
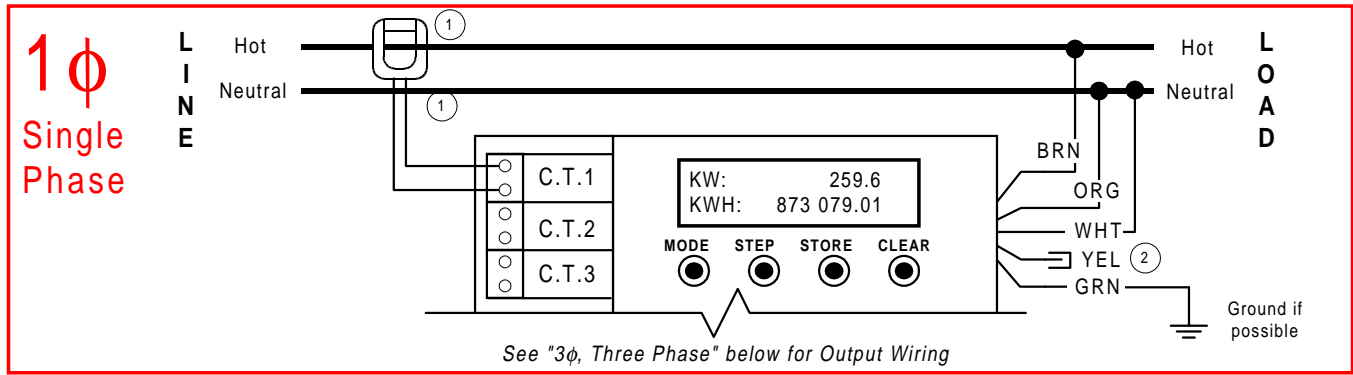
There are over 40 ways to wire up a 3 phase, 4 wire kW transducer. For example, reversing the orientation of a CT flips the output waveform, tricking ordinary watt transducers into thinking there is a 180 degree phase shift. Or if CT and voltage inputs are mismatched, the transducer thinks there is a 120 degree phase shift. Either way, you have a problem.

AutoPhase identifies the phases and polarity automatically and corrects for the error in software. This eliminates flashing "ERROR" lights, tedious and dangerous reconnecting of inputs. AutoPhase even tells you which CTs are reversed and which phases are mismatched!

AutoPhase is protected by US Patent 5,652,505.



# Connections



## Ordering Information

Example: APO-KWKH-5A-MX-LM

AC Power Transducer with KW & KWH output, module for mounting inside a panel or switchgear with an LCD display

APO            

### Output

KWKH KW (4-20mA & 0-10 VDC) & KWH (Pulse)

### CT Input

5A 5 Amp CTs (Ratio:5)  
PC ProteCT low voltage output CTs

### Case Style

MX Module (Aluminum)  
MN Module in NEMA 1 encl.  
M4 Module in NEMA 4 encl.  
BX Board Level  
D DIN Rail (Plastic)

### Display

LM LCD on Module  
LC LCD on enclosure (MN Case only)  
LR LCD shipped loose, remote mount by others