

# APT SERIES

## Power Transducers

APT Series power transducers sense true, “active” power and are a cost-effective way to measure kW on 1Ø or 3Ø applications. up to 600VAC. Powered by 24V, 120V, or 220V supply, the APT provides a fully isolated 4–20mA proportional output making it compatible with most supervisory controllers, panel meters and data loggers. Housed in a compact, DIN-compatible enclosure, the APT accepts standard 5A or 0–333mV current transformer inputs.

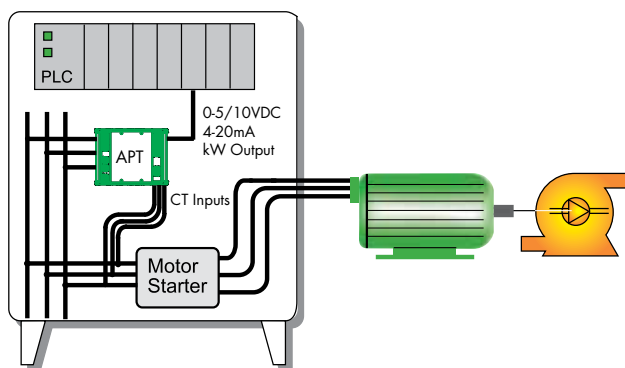


### Applications

#### True, Active Power Monitoring

- Measure motor power consumption when current alone provides insufficient resolution (e.g. voltage or PF variation).
- Monitor machine tool finishing operations such as deburring.
- Sense brush entanglements in carwash systems.
- Detect dry run or blockages on pumping systems.
- Monitor SCR fired electrical heaters.
- Monitor general power usage and tripping of electrical loads.

#### Pump Motor KW Monitoring



### Features

- 4–20mA proportional output to kW; compatible with PLC and datalogging equipment.
- Accepts 5A secondary CTs or 0–333mV ProteCT™ CTs.
- DIN-rail compatible package; finger-safe terminals\*.

\*For panel mounting see DIN Rail mounting kit accessory page.

### APT Output Values

The APT Power Transducer will produce the full range output when the current transformer is producing its maximum output and the voltage is also at the range maximum.

As an example, using the APT-48T-5A-024-420 with 400:5 current transformers, the transducer will produce an output of 20mA with voltage at 480, and with the load using 400 amps. When using one current transformer to monitor a single phase load this will represent 192,000 watts with unity power factor. The equation for single phase watt calculation is E (voltage) times I (amps) times power factor.

Continuing with the example, if the transducer is monitoring a three phase load, with voltage at 480 and three current transformers connected, the transducer will produce an output of 20mA when there is 400 amps in each phase, and again, unity power factor. This output signal will represent 332,544 watts. The equation for three phase watts is E (voltage) times I (amps) times  $\sqrt{3}$  (1.732) times power factor.

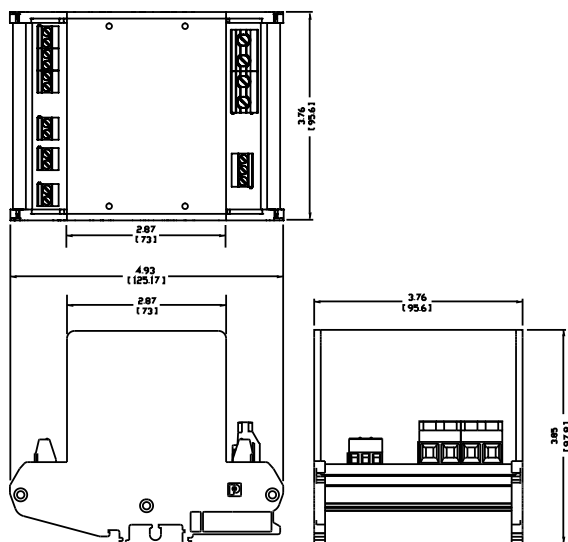
The transducer can also monitor a three phase load, using two current transformers. The transducer will produce an output of 14.67mA when there is 400 amps in two phases and unity power factor, and the monitored voltage is 480. This output signal will represent 2/3 of the actual wattage.



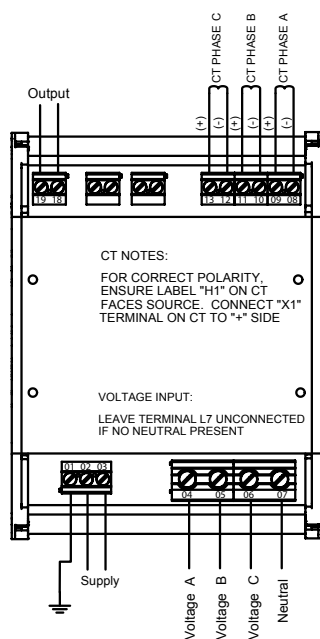
Free program expedites evaluation process. See page 1 for details.

In summary, the APT can be used to monitor single or three phase loads, and the output is scaled to represent the actual watts used by the load on a three phase circuit with three current transformers connected, 2/3 of the full scale output with two current transformers on a three phase circuit, and the actual watts used with one current transformer monitoring a single phase load. The transducer output depends on the current transformer ratio, the monitored voltage and how many current transformers are connected.

### Dimensions



### Connections

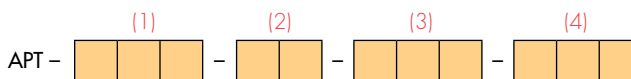


### Specifications

Power Supply	24, 120, or 220 VAC ( $\pm 10\%$ ), 2VA max
Output	0–5VDC, 0–10VDC or 4–20mA
Accuracy	0.5% Full Scale (True RMS KW)
Voltage Range	120–600VAC
Frequency Range	6–400Hz
Amperage Range	<ul style="list-style-type: none"> <li>• 5A–4,000A w/standard 5A secondary CTs</li> <li>• 5A–1,500A w/ProteCT™ 333mV CTs</li> </ul>
Indication	Power on LED
Mounting	DIN-rail Compatible
Power Consumption	<2.0VA
Isolated Voltage	1250VAC
EMC	EN50081-1, EN61000-6-2
Case	UL94 V0 Flammability Rated
Environmental	-4 to 122°F (-20 to 50°C), 0–95% RH non-condensing
Connections	CTs (3), Voltage Inputs (3), Output (two-wire)

### Ordering Information

Sample Model Number: APT-48T-5A-120-010



#### (1) Voltage

12T	120V
24T	240V
48T	480V
60T	600V

#### (2) CT Inputs

5A	XXX:5 5A Secondary
MV	XXX:333mV Secondary

#### (3) Supply Voltage

024	24VAC
120	120VAC
220	220VAC

#### (4) Full Scale Output

005	0–5VDC
010	0–10VDC
420	4–20mA

