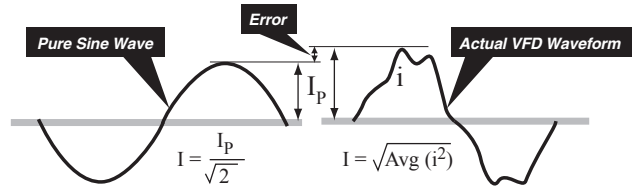


## Monitoring Distorted AC Current

Engineers designing switched mode power supplies work diligently on improving pulse width modulation so the controlled load will have the cleanest power applied, reducing harmonics. This reduces overheating of transformers and motors in addition to reducing zero-crossing noise. The current methods for reducing harmonics are expensive, so distortion in these types of power supplies will continue for the foreseeable future.

Variable speed drives, electronic ballasts, uninterruptible power supplies and other devices that use switched mode power supplies are sources of current sine wave distortion and require frequent monitoring.

Many building energy management controllers provide only 0–5 VDC inputs and many data loggers utilize 0–10 VDC inputs. The ATPR Series Current Transducers can be used in applications where the current wave is either distorted or where it is sinusoidal with equal accuracy. Even when the amount of distortion is not known, you can be certain the measurement will be accurate. With this sensor, the installer is able to use the industry standard for monitoring AC current without having to use an external resistor, which can add a degree of inaccuracy to the system.



### Monitoring AC Current

- Irrigation Pumps  
Detect loss of head pressure, cavitation, bearing wear
- Air Handling Fans  
Accurate on 6-pulse, 12-pulse or 24-pulse driven motors
- Submersible Pumps  
Perfect for tight spaces in control cabinets
- Lumber Processing  
Monitor bandmills, debarkers, chippers, planers
- Recycling Operations  
Crushers, grinders, sorting belts
- Material Processing  
Measure current use to detect jams or bearing wear

## The ATPR Series Provides True RMS 0 to 5 or 10 VDC Signal Output

NK Technologies has been manufacturing simple and cost effective current transducers to monitor these loads for many years, producing a 4–20mA loop powered signal proportional to the RMS current. The ATPR ‘E-Out’ Series provides the system designer with the option of a DC voltage output of their choice, 0–5 or 0–10 VDC. These sensors are available with current ranges as low as 0–2 amps up to 0–200 amps.

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