
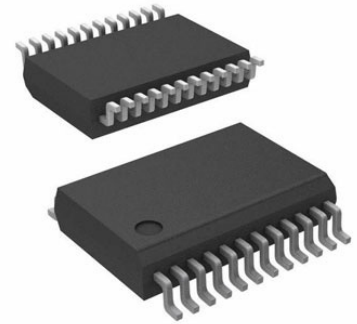


## Energy Measurement 24-Pin SOIC WT/R

<b>Manufacturer:</b>	<a href="#">Analog Devices, Inc</a>
<b>Package/Case:</b>	SOP24
<b>Product Type:</b>	Discrete Semiconductor Modules
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active



Images are for reference only

[Inquiry](#)

## General Description

The ADE7758 is a high accuracy, 3-phase electrical energy measurement IC with a serial interface and two pulse outputs. The ADE7758 incorporates second-order  $\Sigma$ - $\Delta$  ADCs, a digital integrator, reference circuitry, a temperature sensor, and all the signal processing required to perform active, reactive, and apparent energy measurement and rms calculations.

The ADE7758 is suitable to measure active, reactive, and apparent energy in various 3-phase configurations, such as WYE or DELTA services, with both three and four wires. The ADE7758 provides system calibration features for each phase, that is, rms offset correction, phase calibration, and power calibration. The APCF logic output gives active power information, and the VARCF logic output provides instantaneous reactive or apparent power information.

The ADE7758 has a waveform sample register that allows access to the ADC outputs. The part also incorporates a detection circuit for short duration low or high voltage variations. The voltage threshold levels and the duration (number of half-line cycles) of the variation are user programmable. A zero-crossing detection is synchronized with the zero-crossing point of the line voltage of any of the three phases. This information can be used to measure the period of any one of the three voltage inputs. The zero-crossing detection is used inside the chip for the line cycle energy accumulation mode. This mode permits faster and more accurate calibration by synchronizing the energy accumulation with an integer number of line cycles.

Data is read from the ADE7758 via the SPI serial interface. The interrupt request output (IRQ) is an open-drain, active low logic output. The IRQ output goes active low when one or more interrupt events have occurred in the ADE7758. A status register indicates the nature of the interrupt. The ADE7758 is available in a 24-lead SOIC package.

## Key Features

Highly accurate; supports IEC 60687, IEC 61036, IEC 61268, IEC 62053-21, IEC 62053-22, and IEC 62053-23

Compatible with 3-phase/3-wire, 3-phase/4-wire, and other 3-phase services

Less than 0.1% active energy error over a dynamic range of 1000 to 1 at 25°C

Supplies active/reactive/apparent energy, voltage rms, current rms, and sampled waveform data

Two pulse outputs, one for active power and the other selectable between reactive and apparent power with programmable frequency

Digital power, phase, and rms offset calibration

On-chip, user-programmable thresholds for line voltage SAG and overvoltage detections

See Data Sheet for Additional Information

## Recommended For You

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### AD7305BRZ

Analog Devices, Inc

SOP20

### AD9910BSVZ

Analog Devices, Inc

TQFP100

### AD9831ASTZ

Analog Devices, Inc

QFP

### AD5447YRUZ

Analog Devices, Inc

TSSOP

### AD5302BRMZ

Analog Devices, Inc

MSOP10

### AD5531BRUZ

Analog Devices, Inc

TSSOP16

### AD537JH

Analog Devices, Inc

CAN10

### AD652AQ

Analog Devices, Inc

DIP

### AD654JN

Analog Devices, Inc

DIP8

### AD7740YRMZ

Analog Devices, Inc

MSOP8

### AD9914BCPZ

Analog Devices, Inc

LFCSP

### AD73311ARSZ

Analog Devices, Inc

SSOP20

### AD7291BCPZ

Analog Devices, Inc

LFCSP20

### AD9954YSVZ

Analog Devices, Inc

QFP

### AD2S1205YSTZ

Analog Devices, Inc

LQFP44