Transformer

A transformer is generally a four-terminal device that is capable of transforming an alternating current (AC) input voltage into a relatively higher or lower AC output voltage.

Transformer Rectifier Units

A transformer rectifier unit (TRU) is used to convert AC into relatively smooth DC. An example of a simple TRU circuit is that which is used in a car battery charger, as shown below:

Rectifier transformers are used for industrial processes which require a significant direct current (DC) supply. Typical processes would include DC traction, electrolysis, smelting operations, large variable speed drive trains.

The most common type of power supply used for impressed current cathodic protection (CP) is a transformer/rectifier, commonly referred to simply as a rectifier. The most common source of DC power for an impressed current CP system is a transformer-rectifier, often called a rectifier. A rectifier converts the AC power supply voltage to the required output voltage and then converts it to DC. Where AC power is economically available, rectifiers have clear economic and operating advantages over other power sources.