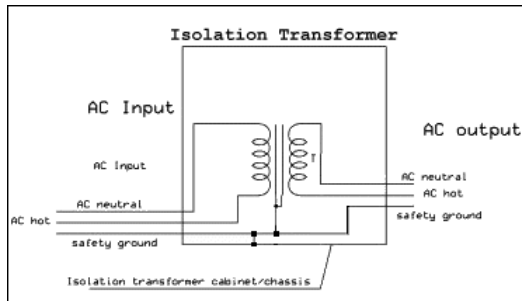


This month:

Isolation transformers and voltage stabilizers

An isolation transformer is a transformer used to transfer electrical power from a source of alternating current (AC) power to some equipment or device while isolating the powered device from the power source, usually for safety reasons. Isolation transformers provide **galvanic isolation** and are used to protect against electric shock, to suppress electrical noise in sensitive devices, or to transfer power between two circuits which must not be connected. A transformer sold for isolation is often built with special insulation between primary and secondary, and is specified to withstand a high voltage between windings. • Isolation transformers block transmission of the DC component in signals from one circuit to the other, but allow AC components in signals to pass. • Transformers that have a ratio of 1 to 1 between the primary and secondary windings are often used to protect secondary circuits and individuals from electrical shocks between energized conductors and earth ground. • In the Broadcast industry they are of crucial importance because of their characteristics: • They totally isolate the AC line from the transmitter • They offer galvanic isolation with protection against electric shocks • They suppress electrical noise that can interfere with the transmission.



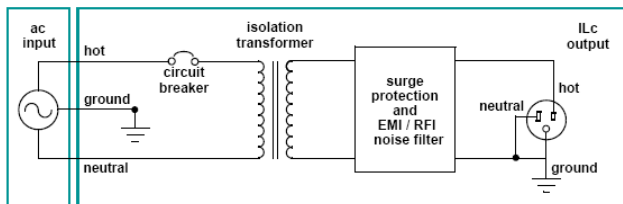
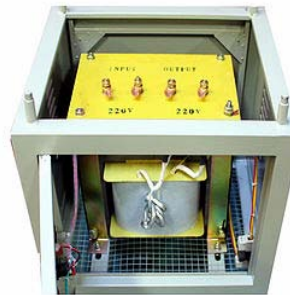
Nicom always recommend the use of isolation transformers in the sites. It is usually connected to the input of the AC and from there it will power all the site protecting all the equipment that are powered inside. We have started a production of Isolation transformers in two different versions: 10 KVA and 15 KVA. Here is the picture of our product complete with cabinet and metering.

The 10 KVA is listed @ 1990 USD

The 15 KVA is listed @ 2390 USD

TECHNICAL SPECIFICATIONS

Phase Single Output Voltage Rated Voltage $\pm 5\%$
 Load power factor 0.8
 Duty cycle 24-hrs continuous
 Nominal Input Supply 220V, 50-60Hz
 1-Phase Input voltage range
 Rated Voltage $\pm 10\%$
 Output Voltage 220V $\pm 2\%$
 Output adjustable range 210V-230V
 Isolation resistance $>5M$
 Ohm Efficiency $>95\%$
 Cooling Air Cooled
 Max Ambient Temperature 45 degrees Celsius
 Relative Humidity up to 90%
 Protections Over Load
 Dimensions: 55x42x62 cm
 Weight: 244 Lbs (111 Kg)



This is an example of how to connect an Isolation Transformer. Surge protector is also recommended to complete the setting. In our experience the use of this kind of devices has greatly reduced the failures of the equipment.

We invite you to recommend your customers the use of these devices that will also help you in your engineering assistance.



Voltage regulator / stabilizer

A **voltage regulator** is designed to automatically maintain a constant voltage level. In the Broadcast Industry this device is very useful to maintain a constant voltage to feed the transmitters.

In electromechanical regulators, voltage regulation is easily accomplished by coiling the sensing wire to make an electromagnet. The **magnetic field** produced by the current attracts a moving ferrous core held back under spring tension or gravitational pull. As voltage increases, so does the current, strengthening the magnetic field produced by the coil and pulling the core towards the field. The magnet is physically connected to a mechanical power switch, which opens as the magnet moves into the field. As voltage decreases, so does the current, releasing spring tension or the weight of the core and causing it to retract. This closes the switch and allows the power to flow once more.

Electromechanical regulators use a servomechanism to select the appropriate tap on an autotransformer with multiple taps, or by moving the wiper on a continuously variable auto transformer. If the output voltage is not in the acceptable range, the servomechanism switches the tap, changing the turns ratio of the transformer, to move the secondary voltage into the acceptable region. The controls provide a dead band wherein the controller will not act, preventing the controller from constantly adjusting the voltage ("hunting") as it varies by an acceptably small amount.

Nicom has started a production of Voltage Stabilizers/Regulators in 2 different versions: **15 KVA** and **25 KVA**
As usual we have done our best to keep costs the lowest possible to allow many customers to afford this very useful device.

15 KVA is listed @ 1490 USD

25 KVA is listed @ 1990 USD

Here is the picture of the Voltage regulator and the Technical specifications:



TECHNICAL SPECIFICATIONS

Phase : Single
Type of AVR :Servo Motor Control
Phase Control : Individual
Output Capacity : 15 KVA – 25 KVA
Load power factor : 0.8
Duty cycle : 24-hrs continuous
Nominal Input Supply: 220V, 50-60Hz single phase
Input voltage range : 140V-250V
Output Voltage : 220V +- 2%
Output adjustable range : 210V-230V
Correction Speed : 30-50 V/Sec
Withstand Voltage Test : 2500V/2 seconds
Wave from Distortion : None
Efficiency : Better than 98%
Cooling : Air Cooled
Max Ambient Temperature: 45 degrees Celsius
Relative Humidity : up to 98%
Protections : Over Voltage, Over current
Dimensions: 42x38x76 cm Weight: 144 Lbs (70 Kg)