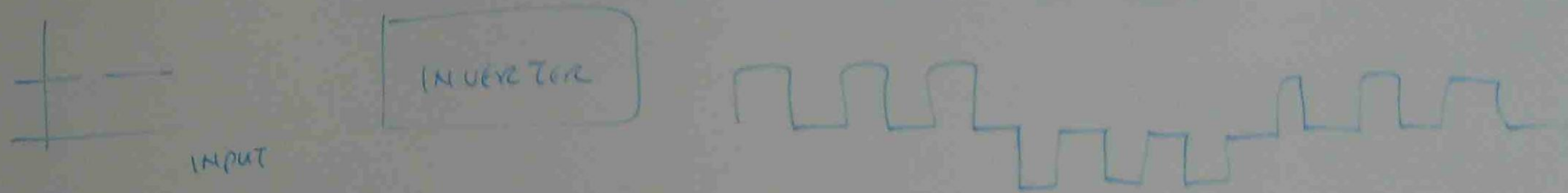
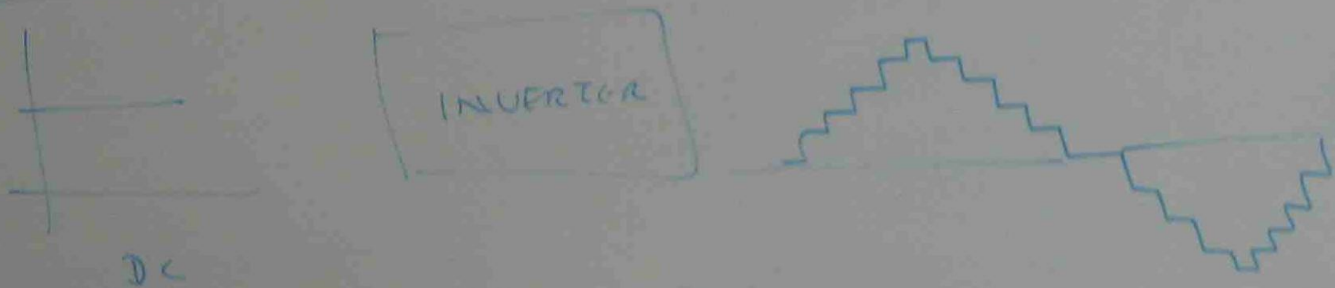


KO35 + (KO25) + DC power supply

(1) - DC  $\rightarrow$  PULSATING AC INVERTER



(2) MODIFIED SINE WAVE - STEPSINE WAVE

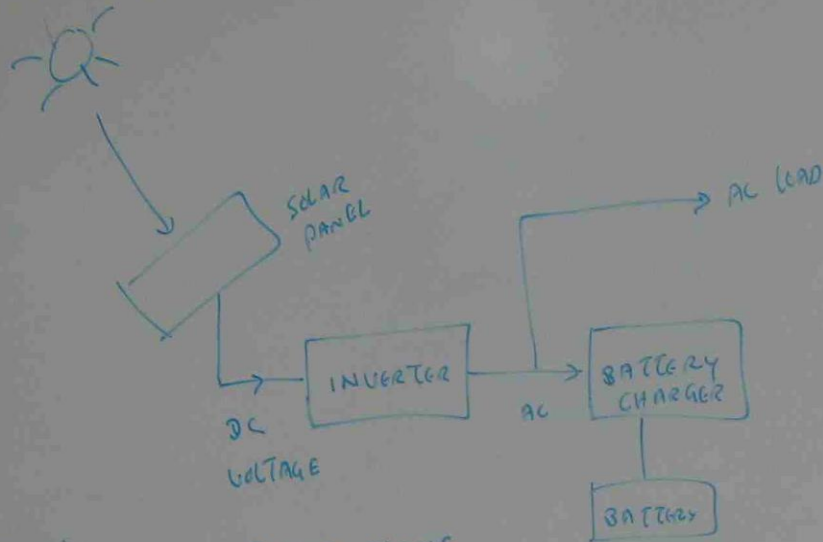


(3) PWM INVERTER

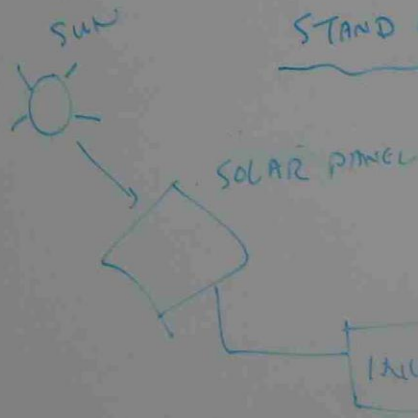
PULSE WIDTH MODULATED

INVERTER





STAND ALONE



GRID CONNECTED

INVERTER

LOAD

POWER GRID

www.power semester 4. zoom share .com

STAGE (4)

K035

K035 Inverter

K035 PV-Inverter

INVERTER  
DESIGN

STAGE (2)

K025+4291K

K025 Note 1

K025 Note 2

K025 RESOURCES

ELV Accessories

SPS components

PV System  
Installation overview  
PV power system  
PV Software.

## INVERTER

AN INVERTER IS AN ELECTRICAL DEVICE THAT CONVERTS DIRECT CURRENT (DC) TO ALTERNATING CURRENT (AC), THE RESULTING AC CAN BE AT ANY REQUIRED VOLTAGE AND FREQUENCY WITH THE USE OF APPROPRIATE TRANSFORMER, SWITCHING AND CONTROL CIRCUITS.

↕  
SYNCHRONIZING INVERTER OUTPUT  
WITH GRID VOLTAGE / FREQUENCY

↗  
VOLTAGE  
LEVEL

↕  
TO FORM  
SWITCHING  
MODE  
AC VOLTAGE

## MULTIMEDIA NOTES

[www.powersemester4.zoomshare.com](http://www.powersemester4.zoomshare.com)

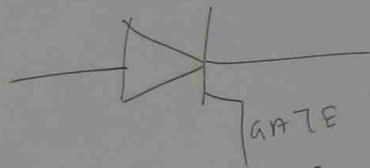
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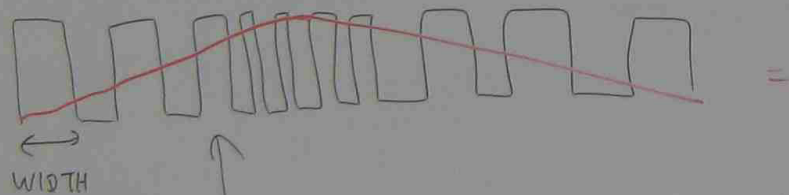
17788

TO ACCESS THE MULTIMEDIA CLASS LESSONS CLICK HERE

THE ELECTRICAL INVERTER IS A HIGH POWER  
ELECTRONIC OSCILLATOR



POWER SCR - (SILICON CONTROLLED RECTIFIER)



PULSE WIDTH  
MODULATED  
SWITCHING SYSTEM (PWM)

GATE FIRING SIGNAL DETERMINES THE  
SWITCHING RATE.

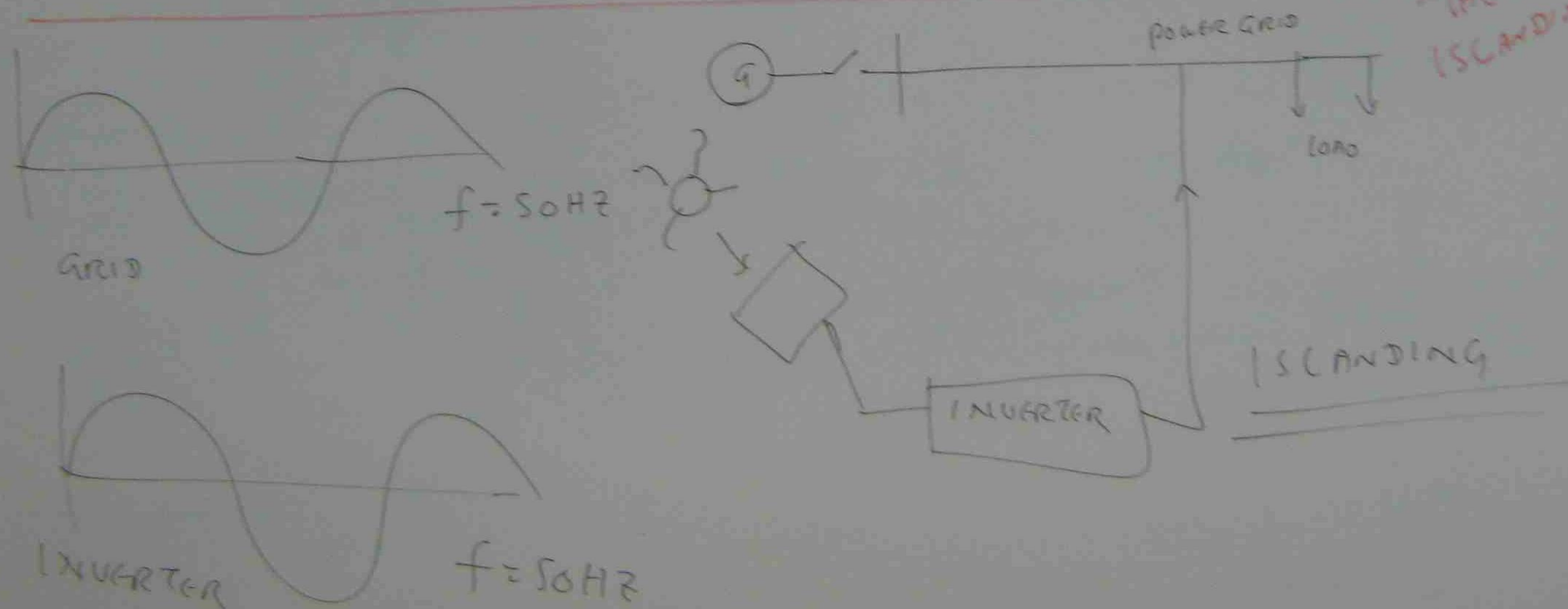
GATE FIRING SIGNAL IS PRODUCED BY  
OSCILLATOR.

AN INVERTER CONVERTS THE DC ELECTRICITY FROM SOURCES SUCH AS BATTERIES SOLAR PANELS (OR) FUEL CELLS TO AC ELECTRICITY.

### GRID TIE INVERTER

GRID TIE INVERTER CAN FEED ENERGY BACK INTO THE DISTRIBUTION NETWORK BECAUSE THEY PRODUCE ALTERNATING CURRENT WITH THE SAME WAVE SHAPE AND FREQUENCY AS SUPPLIED BY THE DISTRIBUTION SYSTEM. THEY CAN ALSO SWITCH OFF AUTOMATICALLY IN THE EVENT OF A BLACK OUT.

← PREVENT THE ISLANDING.



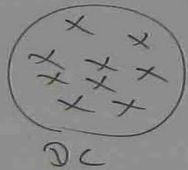


## APPLICATION OF INVERTER

- UNINTERRUPTIBLE POWER SUPPLIES  $\longleftrightarrow$  USE THE BATTERY AND INVERTER TO SUPPLY AC POWER WHEN MAIN POWER IS NOT AVAILABLE
- INDUCTION HEATING  $\longleftarrow$
- HV DC POWER TRANSMISSION  $\longleftarrow$
- VARIABLE FREQUENCY DRIVES  $\longleftarrow$
- ELECTRIC VEHICLE DRIVES  $\longleftarrow$

INVERTER CONVERTS LOW FREQUENCY AC POWER TO A HIGHER FREQUENCY FOR USE IN INDUCTION HEATING

AC POWER IS RECTIFIED AND HIGH VOLTAGE DC POWER IS TRANSMITTED TO ANOTHER LOCATION.



DC



AC

A VARIABLE FREQUENCY DRIVE CONTROLS THE OPERATION SPEED OF AN AC MOTOR BY CONTROLLING THE FREQUENCY AND VOLTAGE OF POWER SUPPLY TO MOTOR.

