Static inverter systems can be split broadly into three types based on their mode of operation, these being Passive Standby, Active Standby and No-Break (On-Line) output.

**PASSIVE STANDBY**

**Advantages**
- Lower power consumption than an active standby or no-break system when the mains supply is healthy as the charger is used only for battery charging
- Lower heat output than an active standby or no-break system when the mains supply is healthy

**Disadvantages**
- The inverter is normally off and cannot be monitored
- The inverter must start into the load when the mains supply fails. This causes the greatest stress to power components
- On mains failure the break in supply to the load is greater than with an active standby system

**MAINS SUPPLY HEALTHY/FAILED**

**Mains Supply Healthy**
- Battery charged from Rectifier
- Load supplied from Bypass
- Inverter off

**Mains Supply Failed**
- Inverter starts up and supplies load from battery
### Types of Static Inverter System

#### Active Standby

**Advantages**
- Inverter runs continuously and therefore can be monitored when the mains supply is healthy
- When the mains supply fails, the inverter is already running resulting in less stress to the power components
- On mains failure the break in supply to the load is less than with a passive standby system

**Disadvantages**
- Higher power consumption and heat output than a passive system when the mains supply is healthy

#### No-Break

**Advantages**
- Inverter runs continuously and therefore can be monitored when the mains supply is healthy
- When the mains supply fails, the inverter is already running resulting in less stress to the power components
- On mains failure there is no break in supply to the load therefore suitable for use with discharge lighting

**Disadvantages**
- Higher power consumption and heat output than passive or active standby systems when the mains supply is healthy

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**Mains Supply Healthy**
- Battery charged from Rectifier
- Inverter runs off line supplied from Rectifier
- Load supplied from Bypass

**Mains Supply Failed**
- Inverter supplies load powered from battery

**Note:** The load is only supplied from the bypass in the event of a fault on either the load or the inverter