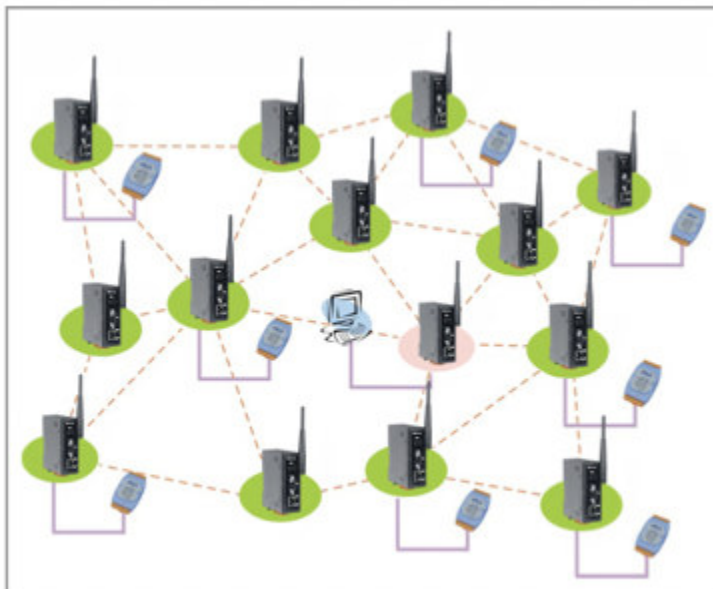


# ZigBee----free as a bee!



ZigBee is the perfect wireless solution for industrial control, medical purposes, alarm systems, building automation, and so many others. You just name it!

ICP DAS releases the ZigBee converters in this summer; one is a master "ZB-2570", and the other is a slave "ZB-2571". These two converters are fully compliant with the IEEE 802.15.4 standard for wireless personal area networks (WPANs). With the nature of ZigBee, you can easily set up a network like star, cluster tree or mesh by ZB-2570 & ZB-2571. And any network allows up to 65535 nodes to exist at the same time.



**Use ZB-2570 & ZB-2571 to set a Mesh Network.**

By ZB-2570 & ZB-2571, you can quickly get your Ethernet / RS-485 / RS-232 devices into the wireless world. The maximum transmission range is about 100 meters.

Using ZB-2570 & ZB-2571 would be a nice shot if you are now looking for the wireless solution for your projects.

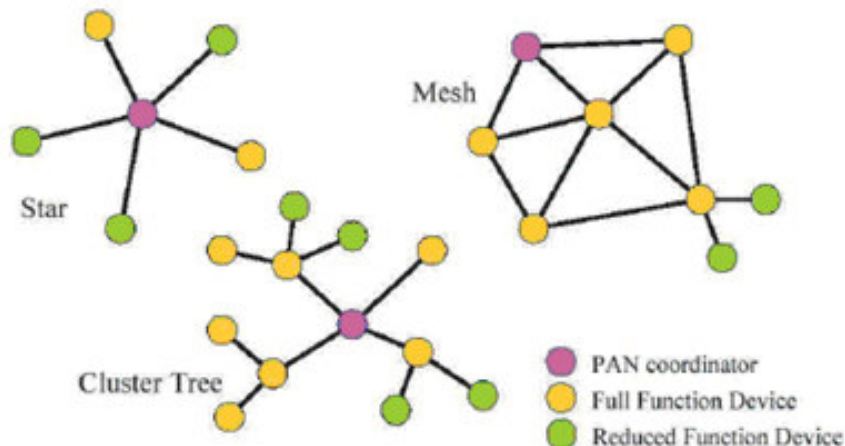
For more information about ZB-2570 & ZB-2571, please visit the following website.

## What is ZigBee?

ZigBee is a specification based on the IEEE 802.15.4 standard for wireless personal area networks (WPANs). ZigBee operates in the ISM radio bands and its focus is to define a general-purpose, inexpensive, self-organizing, mesh network that can be used for industrial control, embedded sensing, medical data collection, smoke and intruder warning, building automation, home automation, and domotics, etc. There are three different types of ZigBee devices in a ZigBee network:

- Coordinator (Master): Only one coordinator exists in each ZigBee network. Its function is to store information about the network and determine the optimum transmission path between each point.
- Full function device (Router, Repeater): Routers act as an intermediate repeater that passes data from other devices.
- Reduced Function Device (End Device): This device contains a minimal amount of functionality to enable it to talk to its parent node (either the coordinator or a router); it cannot relay data from other devices.

There are three topologies defined in the IEEE 802.15.4: standard, Star, Cluster Tree and Mesh.



ZigBee uses a basic master-slave configuration that is suited to the static star networks of many infrequently used devices that talk via small data packets. Up to 254 nodes are allowed.

## ZigBee VS Bluetooth

While ZigBee is focused on control and automation, Bluetooth is focused on connectivity between laptops, PDA's, and the like, as well as more general cable replacement. ZigBee uses low data rate and a low power consumption, and works with small packet devices; Bluetooth uses a higher data rate and a higher power consumption, and works with large packet devices. Compared to Bluetooth, ZigBee networks can support a larger number of devices and allows a longer range between devices.

## ZigBee VS SST-2450

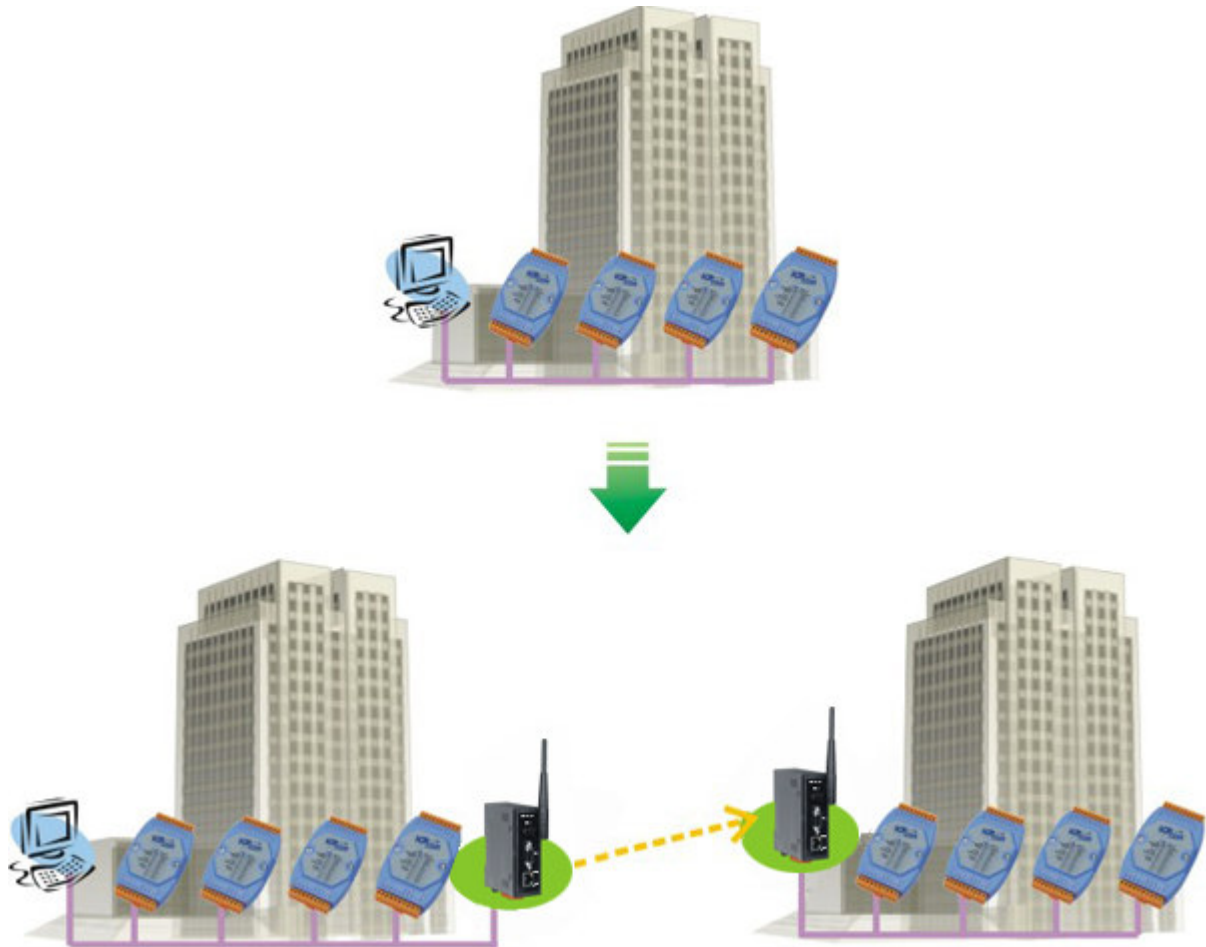
SST-2450 is used for long distance wireless applications (the maximum is 20Km), and is suitable for simple half-duplex networks. ZigBee supports various network topologies, such as star, cluster tree and mesh. It also supports repeater functionality in redundancy systems.

## About ZB-2570 / ZB-2571

ZB-2570 / ZB-2571 is a Ethernet / RS-485 / RS-232 to ZigBee Network converter. It enables RS-232/RS-485 devices to be wirelessly and easily connected to a new or existing system.

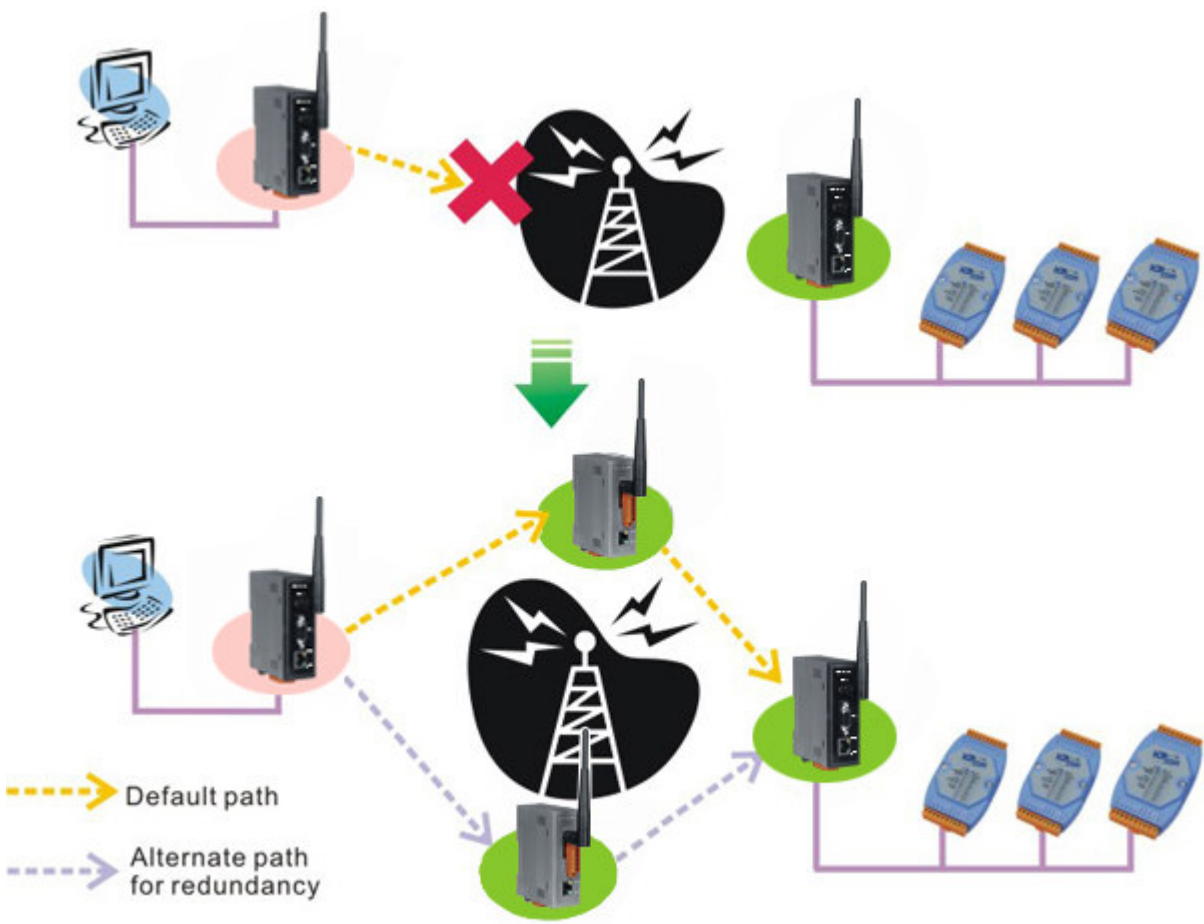
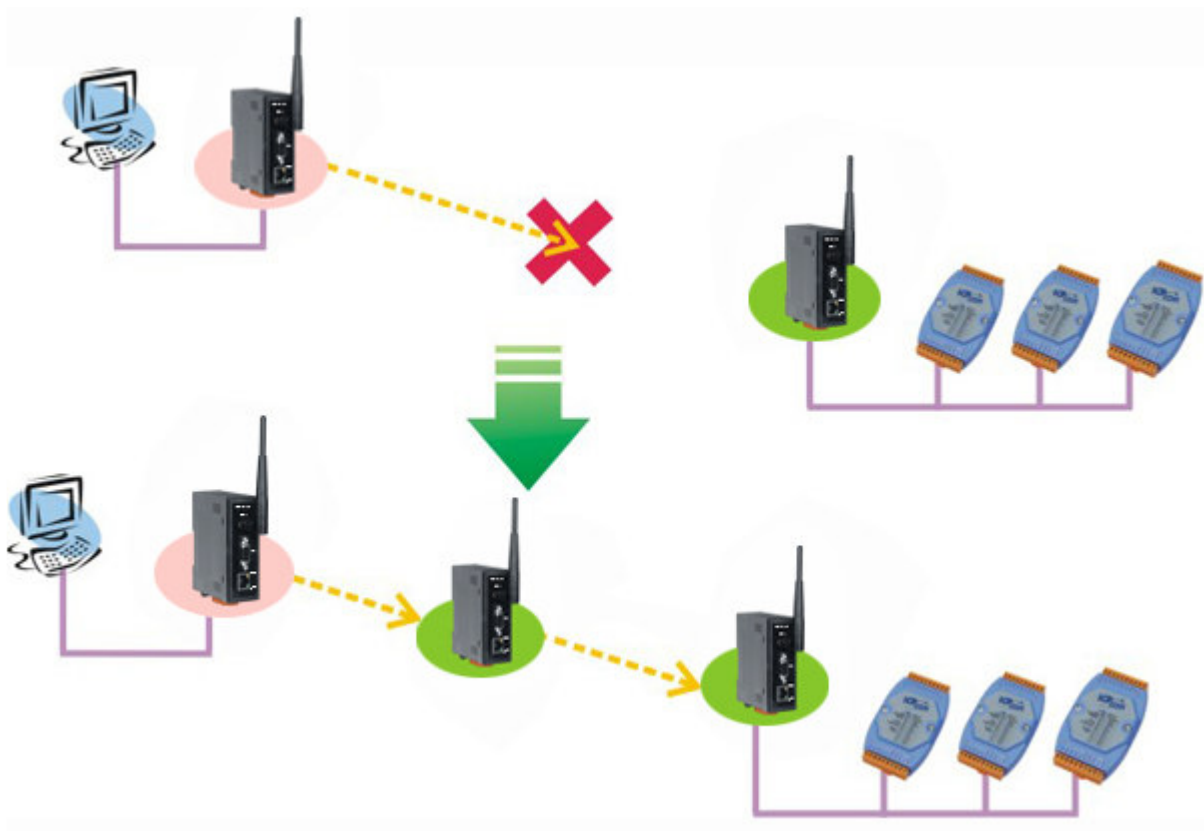
ZB-2570 is net Host and ZB-2571 is net Slave. It also supports various data formats and Baud Rates that can be configured via a Windows-based GUI utility. The ZB-2570 /ZB-2571 can implement an ad-hoc, star or mesh network topology.

In some existing systems that use an Ethernet / RS-485 / RS-232 network, it is sometimes difficult to extend the new devices due to building structure issues, wiring problems or other reasons. The ZB-2570 /ZB-2571 can be easily added to an existing system in order to extend your network.



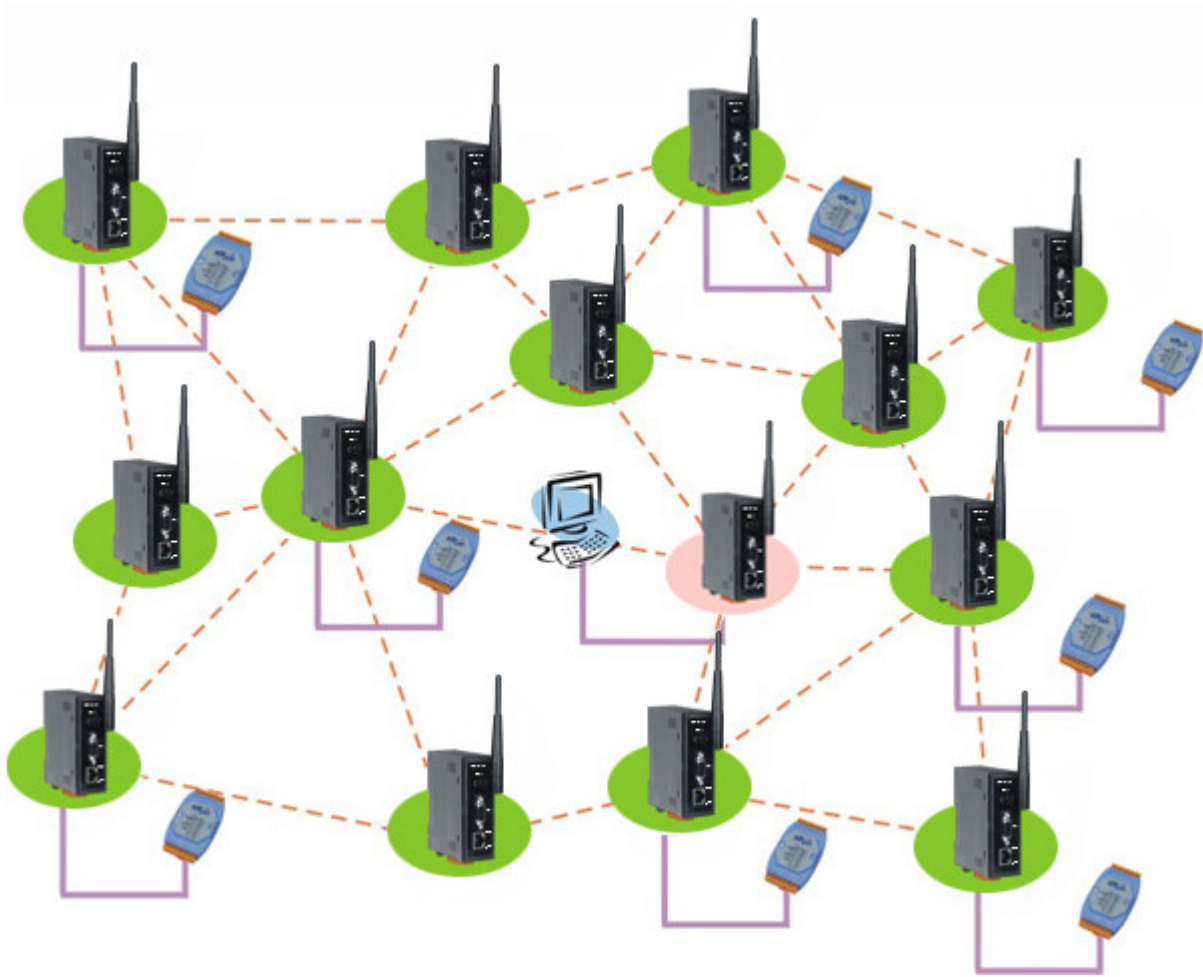
## Using ZB-2571 as a Repeater

For advanced wireless applications, repeaters and a mesh are required in order to build a more flexible and reliable network. The repeater function can be used to avoid an obstacle that may be located between two wireless devices or to extend the wireless transmission range.

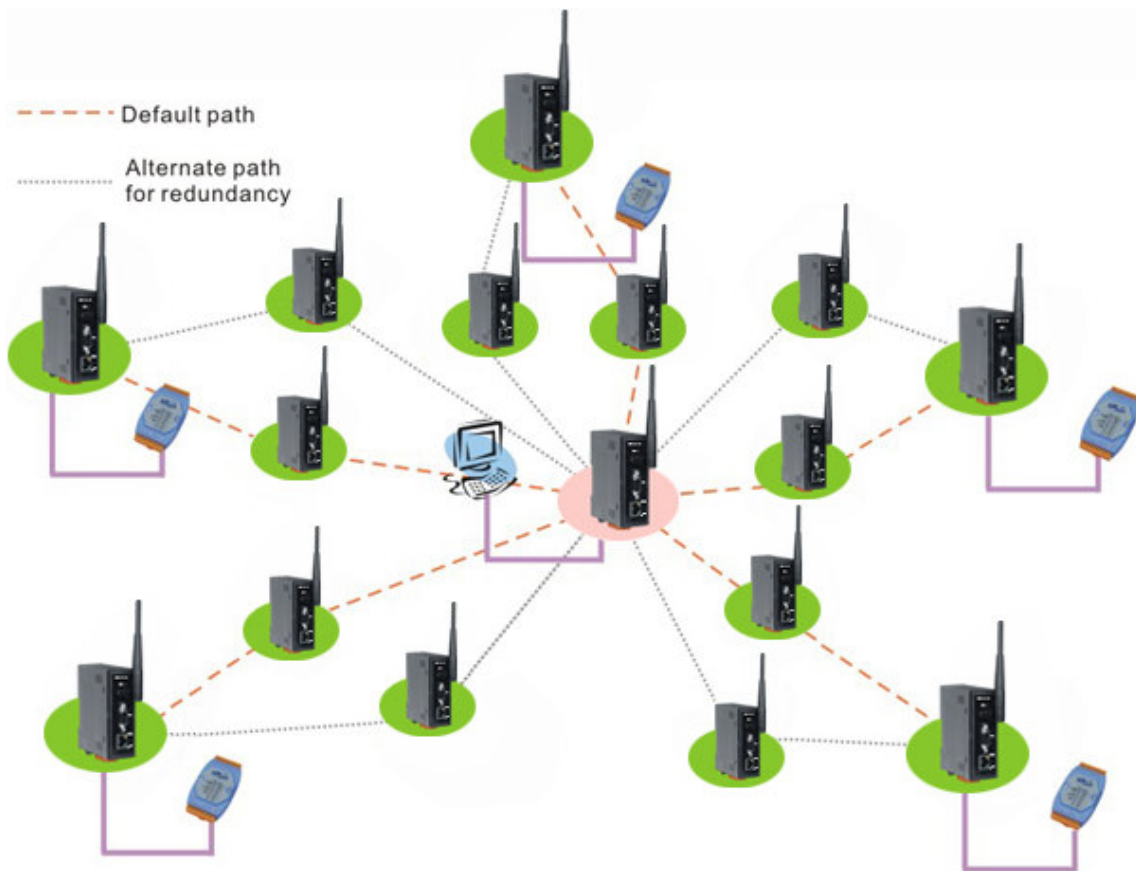
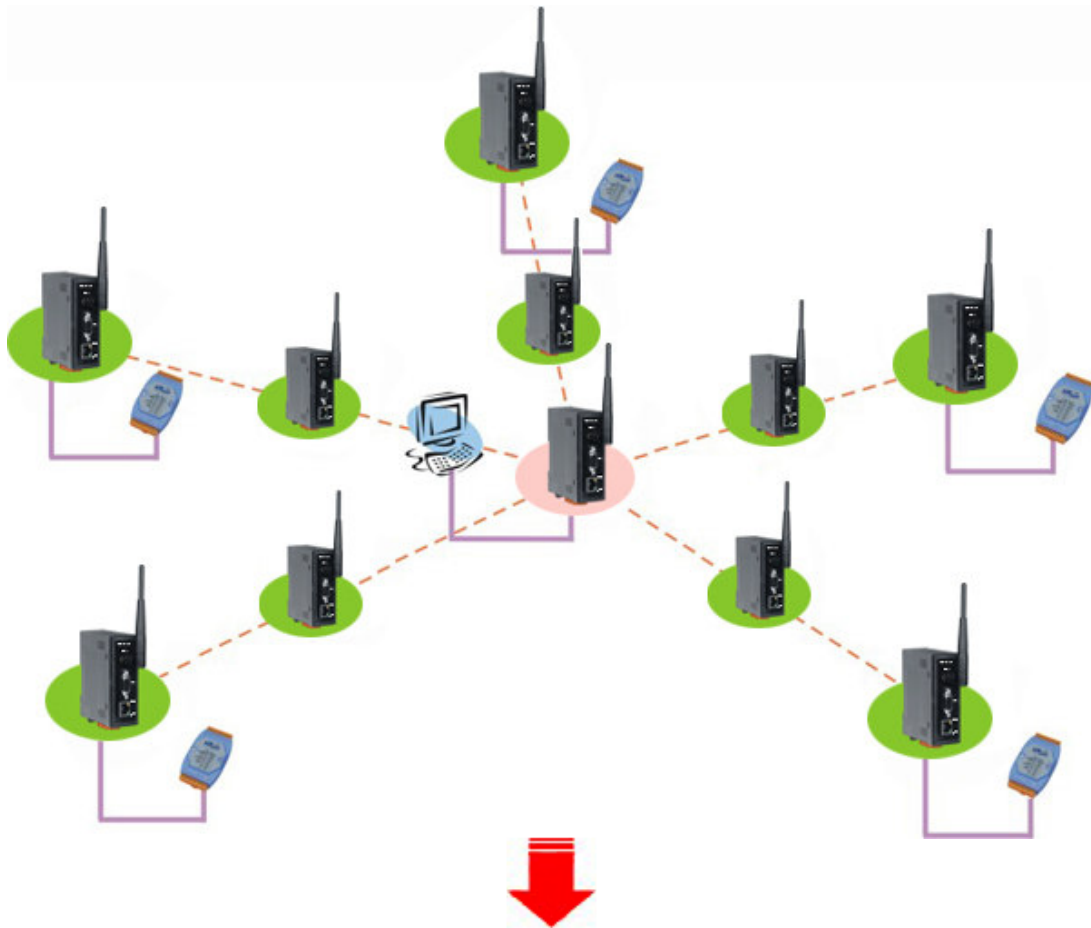


## Using ZB-2570 & ZB-2571 to implement a Mesh Network

The mesh feature is the most important function for wireless transmission. Wireless transmission is greatly affected by humidity, temperature, weather, and obstacles, etc. A mesh network topology is needed to overcome such interference, especially in an industrial environment. The benefits of using a mesh topology are shown below:

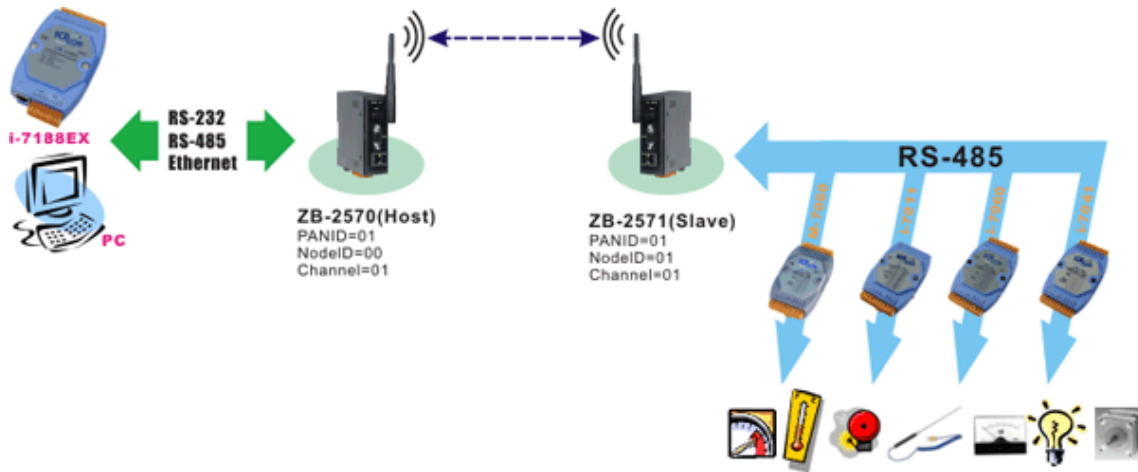


- When mesh network discovers a new node, it will automatically incorporate it into the current network.
- If a node malfunctions, the mesh network will route the data through an alternate path using another node.
- Adding additional repeater nodes to your network enables each node to have more than two possible paths for transmission. It also allows a redundancy to be incorporated into the system in a much simpler way than with other types of system.



## ZB-2570 & ZB-2571 with ICP DAS 7000 Series

- P2P:peer to peer



- P2M:peer to multi

