

# ICPDAS ZigBee Converter Application Note

## Warranty

All products manufactured by ICP DAS are warranted against defective materials for a period of one year from the date of delivery to the original purchaser.

## Warning

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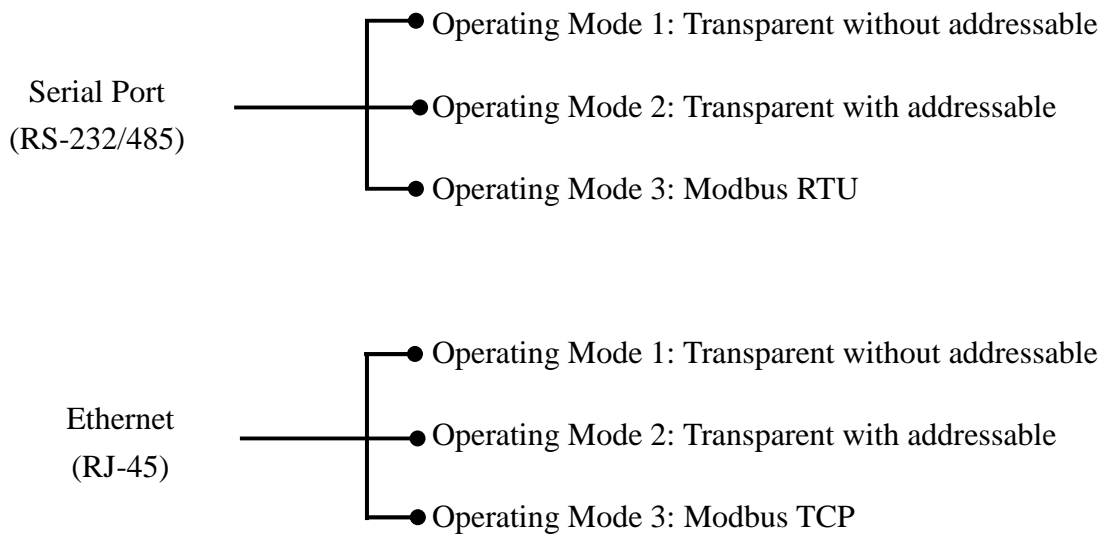
Date: 2008/09/22

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# Introduction

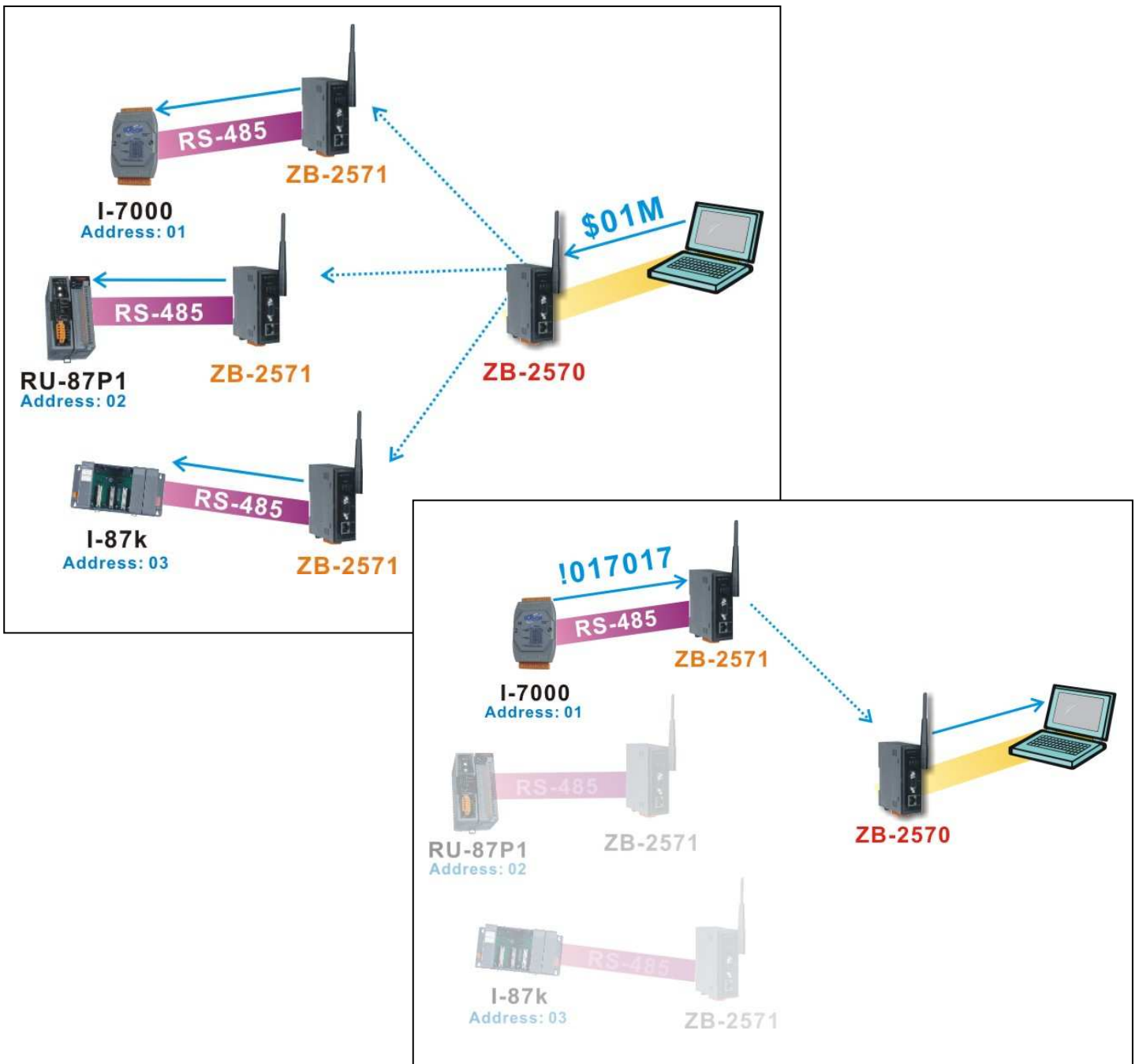
This document introduces the applications of the ICPDAS ZigBee converters ZB-2570 (host) and ZB-2571 (slave). The ZigBee (IEEE 802.15.4), a new wireless technology, supports more flexible and powerful functions such as mesh, repeater, automatic network organized and data encryptions etc. ICPDAS provides a new wireless converter ZB-2570 and ZG-2571 that is based on ZigBee technology. . The following figure shows the converter's classification of the operating modes by different interfaces:



- You can refer to the following web site for more information about ZigBee:  
[http://www.icpdas.com/products/GSM\\_GPRS/zigbee/zigbee\\_introductions.htm](http://www.icpdas.com/products/GSM_GPRS/zigbee/zigbee_introductions.htm)
- You can refer to the following web site for more information about ZigBee converters:  
[http://www.icpdas.com/products/GSM\\_GPRS/zigbee/zb-2570.htm](http://www.icpdas.com/products/GSM_GPRS/zigbee/zb-2570.htm)  
[http://www.icpdas.com/products/GSM\\_GPRS/zigbee/zb-2571.htm](http://www.icpdas.com/products/GSM_GPRS/zigbee/zb-2571.htm)
- You can refer to the following web site for more information about ZigBee repeater:  
[http://www.icpdas.com/products/GSM\\_GPRS/zigbee/zb-2510.htm](http://www.icpdas.com/products/GSM_GPRS/zigbee/zb-2510.htm)
- You can refer to the following web site for more information about ZigBee Utility software and how to configure the ZigBee converter:  
<http://ftp.icpdas.com/pub/cd/usbcd/napdos/zigbee/utility/>

## Serial Port Operating Mode 1:

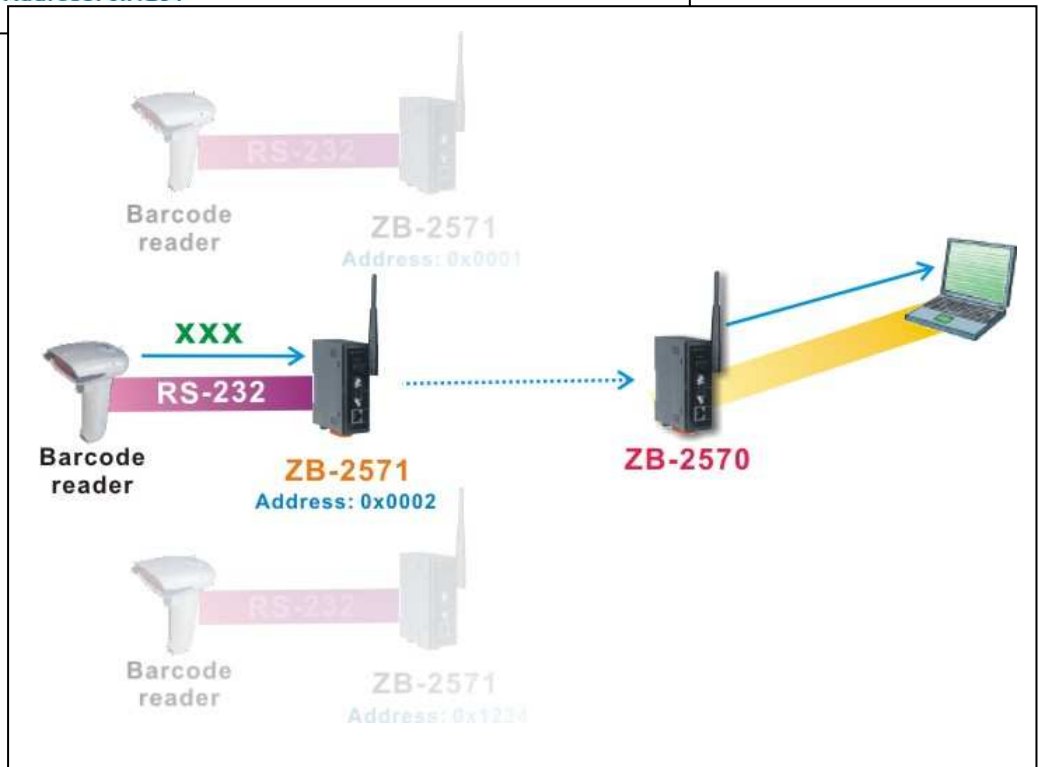
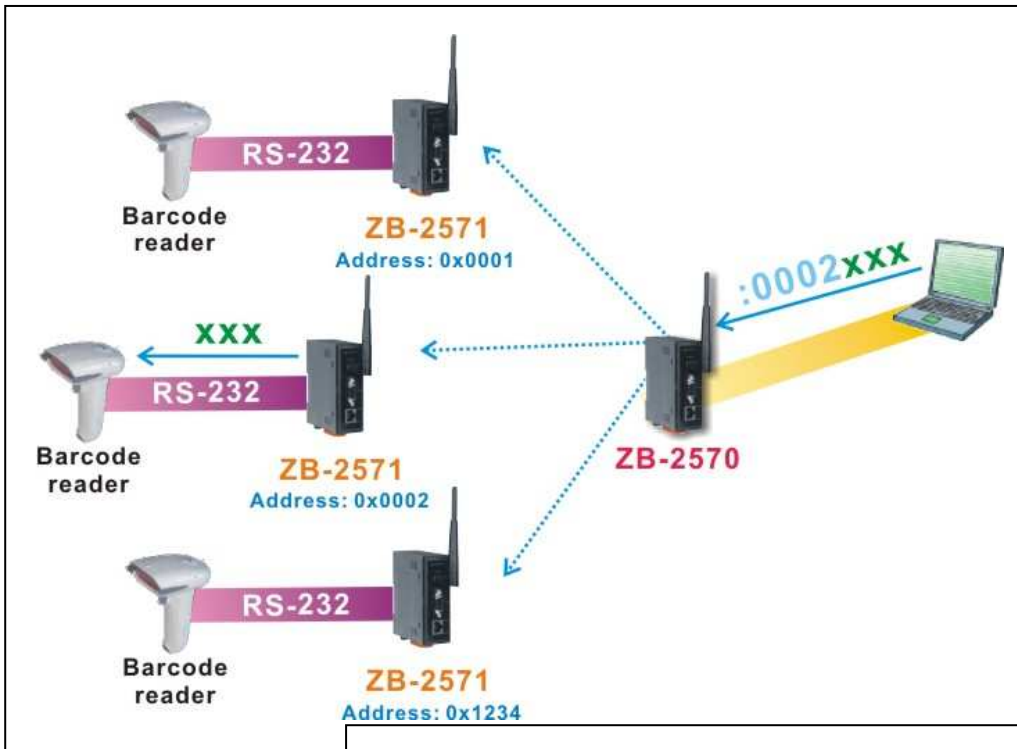
When you want to convert the RS-232/RS-485 interface into to ZigBee and the device is addressable such as ICPDAS I-7000/M-7000/I-87k remote I/O modules, you can use our ZB-2571 (slave) to connect to these I/O modules and use the ZB-2570 (host) to connect to your controller or PC.



In some applications that the host controller needs to broadcast the data to all RS-232/RS-485 devices and these devices receive data only (no response), you can also use this mode.

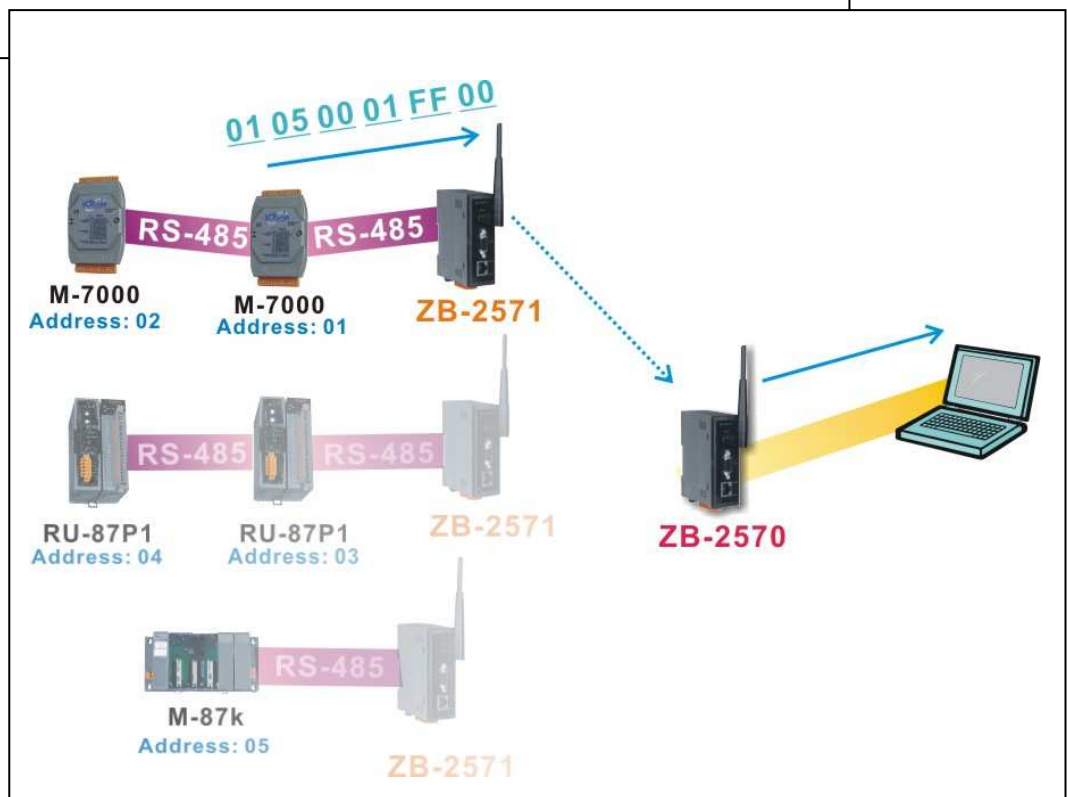
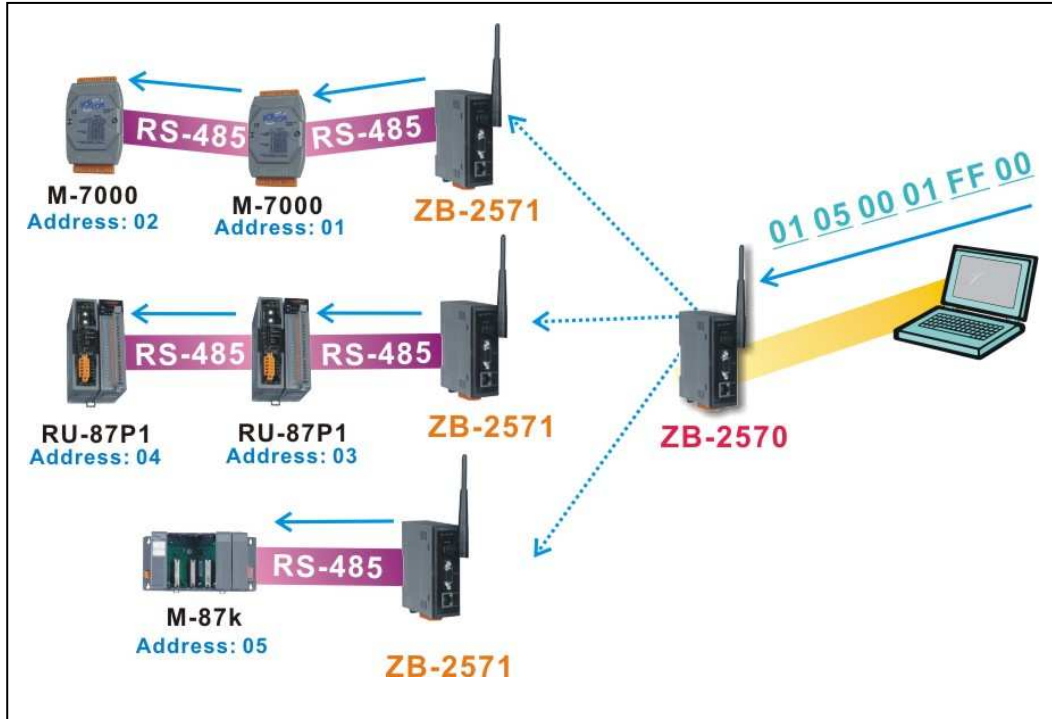
## Serial Port Operating Mode 2:

If the RS-232/RS-485 interface modules aren't addressable, you can use mode 2 to set an address to the ZB-2571 from 1~0xFFFF (ZB-2570 is always set as 0). Add 5 ASCII characters to the header of your controller's original request data, then the remote device that is the correct address will responses it. This mode is similar as ICPDAS I-752N products.



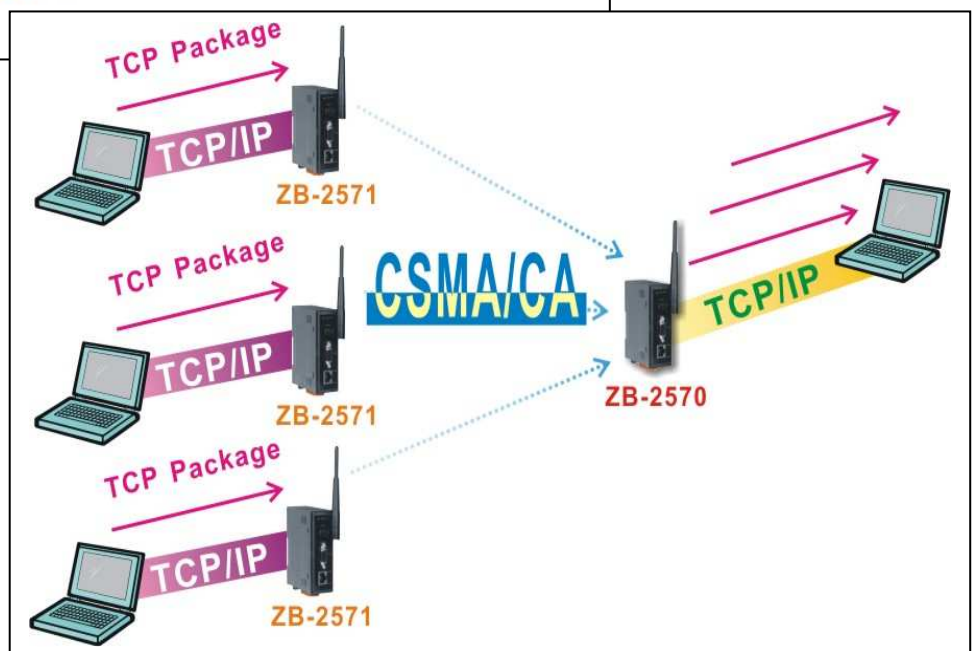
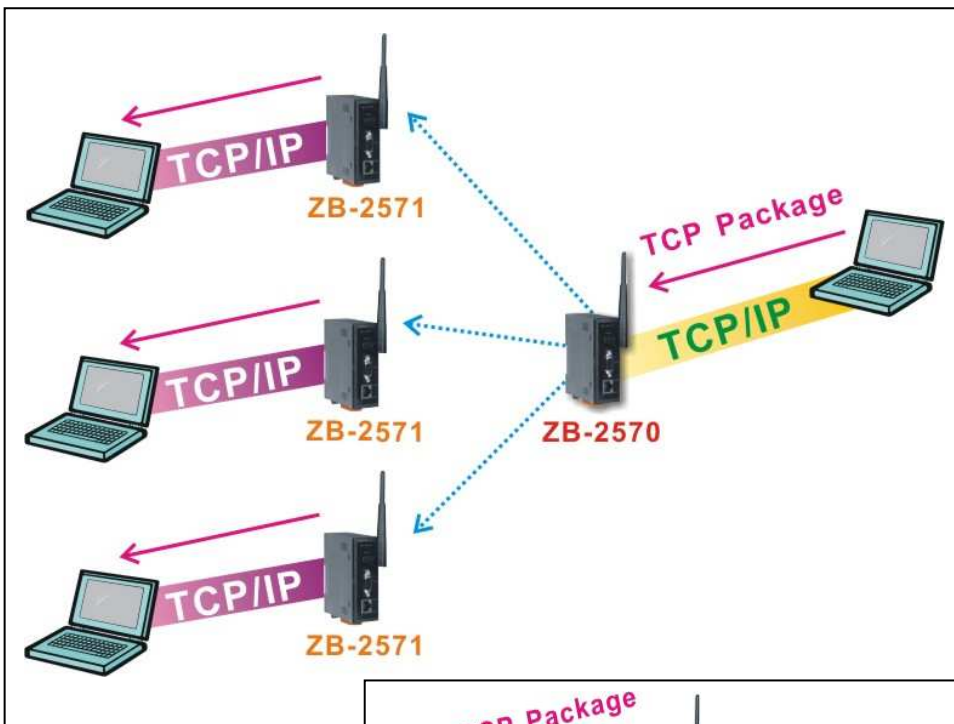
# Serial Port Operating Mode 3:

This is specific mode for Modbus RTU devices.



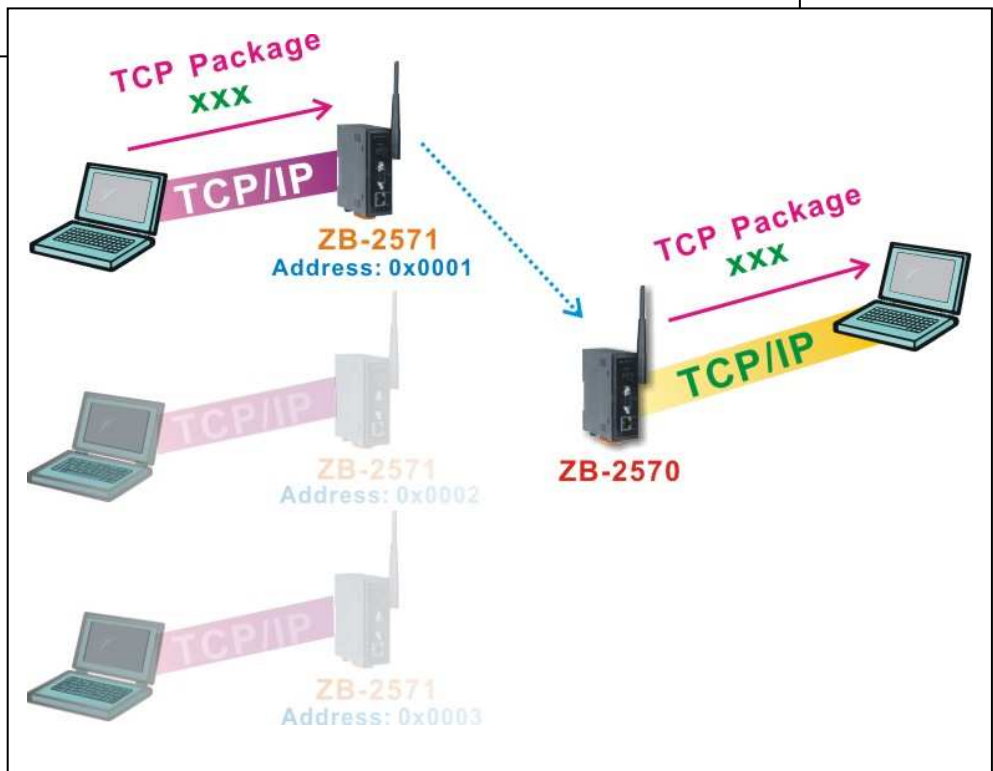
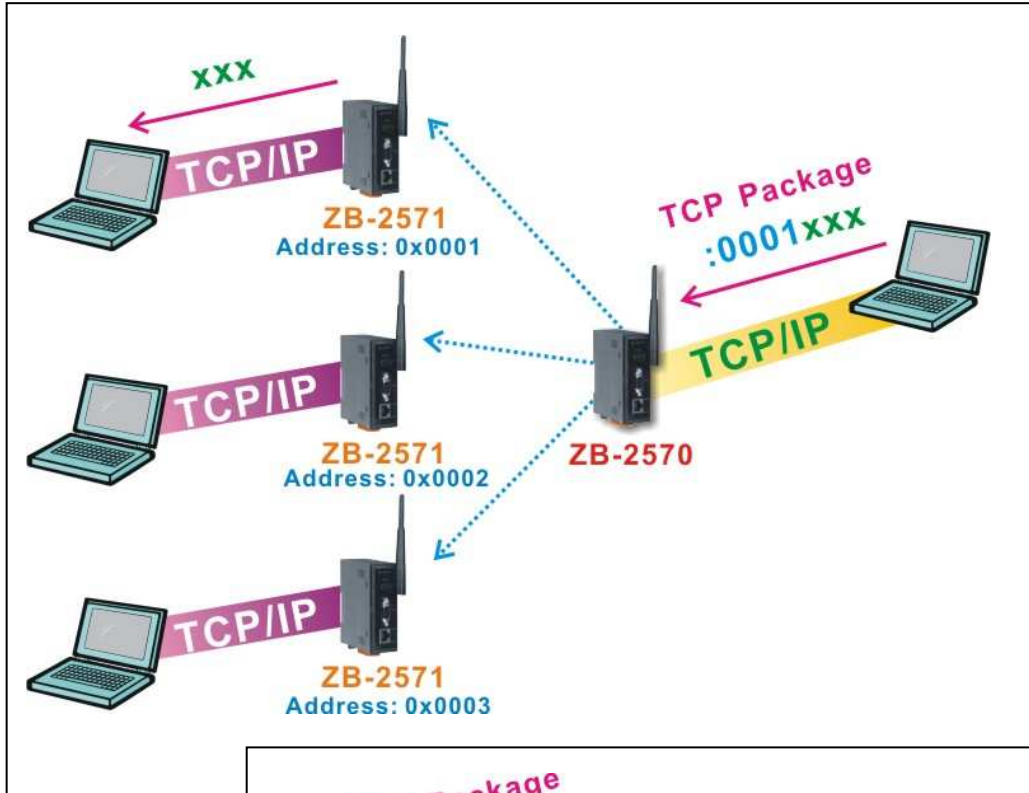
# Ethernet Operating Mode 1:

This mode is similar as serial port operating mode 1 but connect to the Ethernet devices. You should create a socket with ZB-2570 instead of remote device at controller side. The ZB-2071 will create a socket connection to the rear device (you should set the connection IP and port number via our utility software before you use it.). When the controller sends a TCP package to ZB-2570, the ZB-2570 will broadcast it. When the ZB-2571 receives the data from ZB-2570, it will forward it the rear device. If the device responses data, the ZB-2571 will only send the TCP package to the ZB-2570. Then your controller will receive the data that is forwarded from ZB-2570.



## Ethernet Operating Mode 2:

This mode is similar as serial port operating mode 2 but connect to the Ethernet devices.



## Ethernet Operating Mode 3:

This is specific mode for Modbus TCP devices. You should set a mapping address to the Modbus TCP device in the ZB-2571 via our utility software. Then you can send an Modbus TCP request command from your SCADA software or your own software via our ZB-2570, then the device that is correct address will response it.

For example, if your Modbus TCP device's default address is 1 and you set the mapping address of the ZB-2571 to address 2, then at your software you should send a Modbus TCP request command with the address filed is 02 to request the data.

