

# **ABLE Pick Pick-to-light (AT705-23-3K-RF) User Manual**

**V 1.0**



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by

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## Introduction

ABLEPick is an advanced paperless picking system providing an innovative, streamlined and cost-effective Pick-to-light solution to simplify the order fulfillment process in warehouse or distribution center. ABLEPick use a state-of-the-art and light-directed technology to maximize the picking productivity, speed and accuracy in different picking operation.

## Products Features

- Ethernet architecture, follow up the standard TCP/IP communication protocol.
- CABLELESS pick tags.
- Versatility in different operating modes configuration.
- Easy to install, maintain and upgrade.
- Wide operating temperature range (from  $-25^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ ).

## Benefit

- Paperless picking process.
- Streamline the order fulfillment process.
- Increase picking productivity dramatically.
- Accuracy assured: virtually eliminate picking error, below 0.1%.
- Easy to use: picker can usually be trained in less than 1/2 hour.
- Strengthen management control: on-line picking data control, easy to prompt the material shortage.

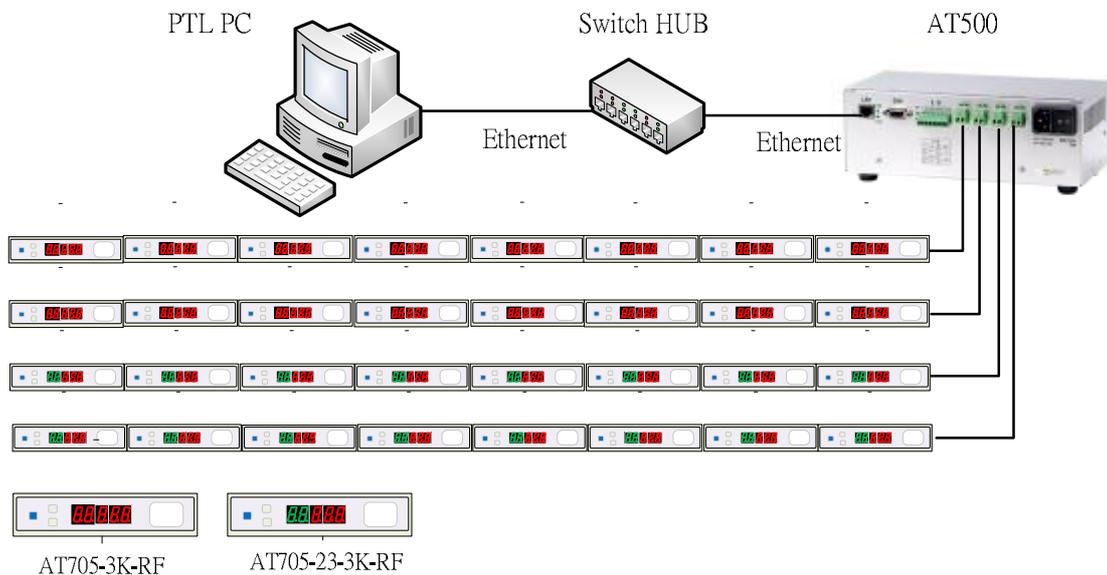


Figure ABLEPICK Architecture

## **. PICK-TO-LIGHT OPERATION**

**Work flow of pick-to-light system:** Below simply describe the basic operation

### **Data entry**

Picking list files can be downloaded to the LAN server or PC from WMS/MIS host. These files will be read and merged into pick-to-light picking list database.

### **Control and communication**

Pick-to-light software will monitor picking flow and offer real-time information on the screen.

### **Light up**

Different models of picking tags light up to indicate what order, which location and how many pieces to be picked.

### **Pick and confirm**

The picker picks the quantity as tag shows or modifies the quantity directly from tag, then push the button to confirm this action.

### **2 Complete**

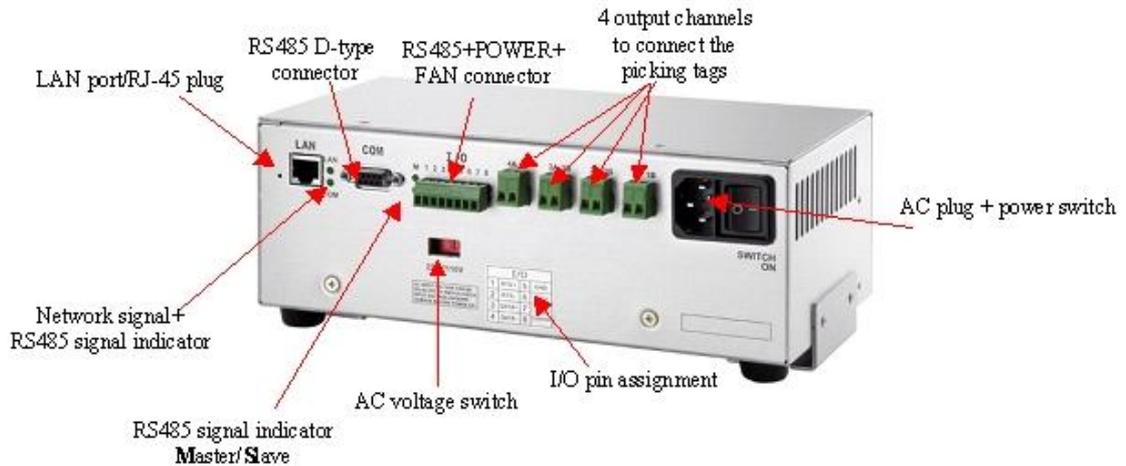
Completion indicator will light up and buzz after all jobs in a zone are done. Push the button to confirm this action and move this order to the next available zone.

## ABLEPick Hardware

### TCP/IP controller

#### AT500

TCP/IP controller is a data transmission medium between picking control PC and all the



#### Specifications:

- To host computer communication interface :  
IEEE 802.3 Base band (Ethernet)  
RJ-45 Phone-jack connector x 1  
Transmission speed: 10 / 100 Mbps  
Communication protocol : TCP/IP
- Input Voltage and current: AC 115/230 V, 50/60 Hz
- Power supply : Maximum 320 Watt
- Temperature : 0 °C to 50 °C operating, -20 °C to 70 °C storage
- Humidity: 90% non-condense
- Dimension: Aluminum case 250(L)\*130(W)\*100(H)mm

#### Pin assignment:

RS485 D-type 9 pin female connector

pin	Defin.
1	-
2	GND
3	DATA1-
4	RTS-
5	-
6	-
7	-
8	DATA+
9	RTS+

#### I/O port pin assignment

pin	Defin.
1	RTS+
2	RTS-
3	DATA+
4	DATA-
5	GND
6	+12V /3A
7	Fan switch, 45 C auto power on
8	

#### **AT500's IP configuration**

AT500's default IP address is "10.0.50.100" and sub-mask is "255.255.0.0". You can use ATOP's tool "MONITOR.exe" to know and re-configure each AT500's IP address.

#### **Connection to TCP/IP controller (AT500)**

Since AT500 has no DHCP function, so its host control PC/NB need to assign one IP address which have to be within the same domain as the AT500. Then you can create one TCP connection to connect it. AT500's TCP port is 4660.

## **Picking Tag : AT705-23-3K-RF**

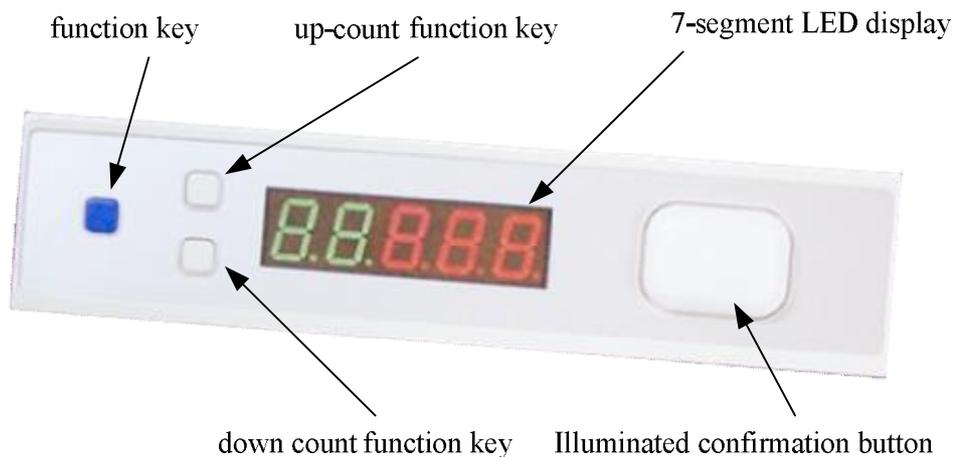
### **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



### Large illuminated confirmation button.

confirmation button has 6 colors LED design, which are RED, GREEN, AMBER, BLUE, PURPLE and INDIGO individually. The default color is RED. LED's color can be configured by software, which can be stored in the EEPROM.

### Power on procedure

- Step1: The 7-segment will show "8" from 1st digit to last digit sequentially(from right to left).
- Step2: The LED light will change color: RED, GREEN and AMBER sequentially.
- Step3: Show the F/W version of the tag. For example: "U1.2".
- Step4: Show the address ID of the tag. For example: "[001]" (this is a decimal number).
- Step5: Show the **function configuration** of the tag. The default function configuration value is 115. in decimal.

### Address configuration via the buttons directly.

In a field bus, each Picking Tag must be with unique address ID.

- Step1: Press the "up-count" and "down count" button at the same time, then push the "Confirmation Button". Then 7-segment LED display will show the address ID of the tag. For example: "[001]".
- Step2: The 1st changeable digit will be blinking. Using the "up-count" and "down count" button to adjust the digit to the adequate value. Or using the "Confirmation button" to switch to next changeable digit. There are 3 digits been able to be changed.
- Step3: Press the "Confirmation Button" many times to exit the address configuration. Once the display is off, it means the node address configuration is completed.

### **Self-test function enabled**

Step1: Press the “up-count” button, then “Confirmation Button” at the same time. 7-segment LED display will show the address ID of the tag. For example: “[001]”. However, there is no digit is blinking which is different from the address configured procedure.

Step2: Press the “Confirmation button”. The 7-segment LED display will show the baud rate of the tag. For example: “57600” is 57600 bps. The tag will detect the baud rate of the host and configure itself automatically.

Step3: Press the “Confirmation Button” to test the LED light and the 7-segment LED display. The display will show “-----“, “00000”, “11111”, “22222”.....”99999” sequentially. And the LED light also will change color: from RED, GREEN and AMBER sequentially.

Step4: Press the “Confirmation Button” to test both of the small buttons and the Confirmation button. To press the “Confirmation button” to add a “[” character on the 7-segment LED display”. To press the “up-count” and “down-count” button to decrease a “[” character on the display.

Step5: Press the “Confirmation Button” many times to exit the self-testing procedure

### **Specification**

- 1) 5-digits display ,2 color 7-segment display by 2 digits with Green , 3 digits with Red.
- 2) 3 function keys
- 3) 1 large illuminated confirmation button with 6-color LED.
- 4) RF reader.
- 5) Power requirements: DC12V ; 100mA
- 5) Operating temperature: 0 °C to 40 °C
- 6) Size : 200(L) \* 46 (W) \* 30(H) mm