

FUZZYSCAN FAMILY

Quick Start Guide II

FUZZYSCAN
BARCODE SCANNER

cino

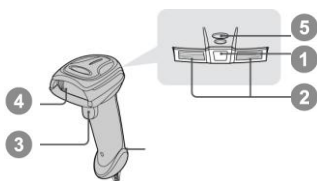
Getting Familiar with Your FuzzyScan

Thank you for choosing Cino FuzzyScan Bar Code Scanner. All FuzzyScan scanners deliver world-class performance for a broad range of applications to unleash your productivity with ease.

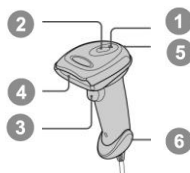
FuzzyScan family includes **A** series area imager, **F** series linear imager and **L** series laser imager. The **Antimicrobial** models are available for A770, L780 and F780 series scanners which are equipped with Disinfectant-ready Housing and Vibrator. More over, the option of **Vibrator** is available for all other series upon request. For more details, please visit our web site or contact your supplier.

This document provides an easy reference for installation and operation purpose. The complete documentation is available at www.cino.com.tw.

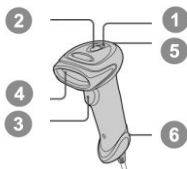
A770 Series



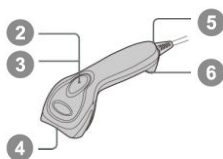
F790/F780/L780 Series



A670, F680/L680 Series



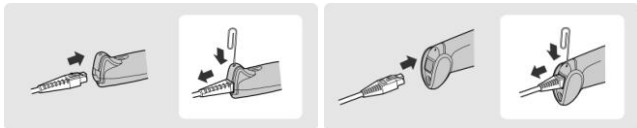
F560 Series



- | | |
|--------------------|----------------------|
| 1 Power Indicator | 4 Scan Window |
| 2 Status Indicator | 5 Beeper Hole |
| 3 Trigger Switch | 6 Cable Release Hole |

Connecting to Your Host

FuzzyScan scanners support USB, PS/2(DOS/V) Keyboard Wedge and RS-232 Serial interfaces. Please choose your desired interface cable, then plug it into the interface port of scanner and connect it to the desired port of your host. If you would like to remove the cable, please straighten one end of a paper clip then insert it into the cable release hole to pull out the cable.



RS232 Serial



PS/2 Keyboard Wedge



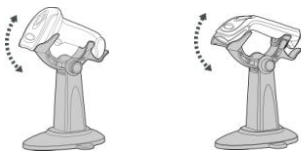
USB HID & USB COM



- **USB HID (Human Interface Device)**
The scanner works as a generic USB keyboard.
- **USB COM Port Emulation**
The scanner works as a legacy RS232 serial device. Please note that you have to install the USB Virtual COM software driver before using.

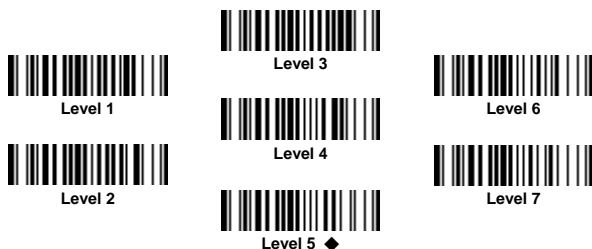
Using SmartStand

SmartStand is specifically designed for **hand-free** applications to maximize user's comfort and productivity. You can adjust the scanner holder to desired position for optimized scanning.



Thanks to the **Auto-sense** design, the scanner is capable of switching between presentation scanning and hand-held scanning automatically while working with SmartStand. But please note that this function is not available for **F560** series scanners.

In presentation mode, the bar code may not be detected by the scanner in an environment with very dim ambient lighting. You can select higher sensitivity level through the setting of **Presentation Sensitivity** to increase scanner's detection sensitivity.



For **A series** area imager, you can enable or disable the presentation background lighting of scanner according to the ambient light condition in presentation mode. When the ambient light is dim or dark, you can enable this function to turn on the scanner's LED illumination at a dim level. This is helpful for scanner to detect the motion of scene.



Operation Modes **A** area imager

FuzzyScan family **A series** array imager supports various operation modes, including trigger, presentation, alternative, level, force, toggle, diagnostic, low power and multiple read modes. The details of each operation mode are listed below for reference.

A



Trigger Mode

When trigger mode is selected, the scanner goes into standby state after scanning the bar code. You must press the trigger switch to turn on the light source of the scanner before scanning the bar code.

A



Presentation Mode

When presentation mode is selected, the scanner is preset to turn on the background lighting to detect the bar codes. Once the scanner detects an image similar to a bar code, it will try to decode the bar code immediately.

A



Alternative Mode

When alternative mode is selected, the scanner keeps the light source on till the preset "**light source on time**" is up. After turning off the light source, you must press the trigger switch to turn on the light source again. After each good read, the timer counter of light source on time is reset. You do not have to press the trigger switch frequently. It is very useful for multiple scanning.

A



Level Mode

When level mode is selected, the scanner continues to turn on the light source till a bar code is decoded or preset "**light source on time**" is up. When a bar code is decoded successfully, the scanner turns off the light source immediately. After the scanner turns off the light source, you have to press the trigger switch to turn on the light source again. If there is no scanning operation performed during the preset "light source on time", the scanner will turn off the light source after the preset light source on time is up.

A**Force Mode**

When force mode is selected, the light source of the scanner is forced on for continued operation without having to press the trigger switch. This mode is convenient for high speed bar code reading.

A**Toggle Mode**

When toggle mode is selected, you must press the trigger switch to turn on the light source of the scanner to start scanning operation. The scanner keeps the light source on until you press the trigger switch again. This mode is very similar to alternative mode but without the preset light source on time concern.

A**Diagnostic Mode**

When diagnostic mode is selected, the light source of the scanner is forced on without regard for other programmable parameters, such as reread delay, redundancy, and so on.

A**Low Power Mode**

When low power mode is selected, the scanner goes into idle state after scanning the bar code. You must press the trigger switch to wake up the scanner for operation.

A**Multiple Read Mode**

When multiple read mode is selected, the scanner is allowed to decode multiple bar codes with a single pull of the trigger. When you press and hold the trigger to aim at a series of bar codes, the scanner will decode each bar code and beep for each good read. For more precise bar code decoding, you are recommended to enable **Center Alignment** function while multiple read mode is selected. You also can enable **Unique Bar Code Reporting** function to report only unique bar code when the scanner trigger is pressed. For the setting of Center Alignment and Unique Bar Code Reporting, please refer to Programming Manual for details.

Operation Modes **FL** linear & laser imager

Both **F series** linear imager and **L series** laser imager of FuzzyScan family support various operation modes, including trigger, presentation, alternative, level, flash, force, toggle, diagnostic and low power modes. But please note that the **laser aiming line** of L series is not performed under force, flash, toggle or diagnostic mode to ensure the longer working life of laser imager.

FL



Trigger Mode

When trigger mode is selected, the scanner goes into standby state after scanning the bar code. You must press the trigger switch to turn on the light source of the scanner before scanning the bar code.

FL



Presentation Mode

When presentation mode is selected, the scanner will turn on the light source and start scanning operation automatically if it detects an image similar to a bar code. In case the scanner can't detect a bar code, it will turn off the light source when the preset light source on time is up.

FL



Alternative Mode

When alternative mode is selected, the scanner keeps the light source on till the preset "**light source on time**" is up. After turning off the light source, you must press the trigger switch to turn on the light source again. After each good read, the timer counter of light source on time is reset. You do not have to press the trigger switch frequently. It is very useful for multiple scanning.

FL



Level Mode

When level mode is selected, the scanner continues to turn on the light source till a bar code is decoded or preset "**light source on time**" is up. When a bar code is decoded successfully, the scanner turns off the light source immediately. After the scanner turns off the light source, you must press the trigger switch to turn on the light source again. If there is no scanning operation performed during the preset "light source on time", the scanner will turn off the light source after the preset light source on time is up.

FL**Flash Mode**

When flash mode is selected, the scanner flashes the light source without having to press the trigger switch. If the scanner detects an image which is similar to a bar code, it forces on the light source automatically and scans the bar code.

FL**Force Mode**

When force mode is selected, the light source of the scanner is forced on for continued operation without having to press the trigger switch. This mode is convenient for high speed bar code reading.

FL**Toggle Mode**

When toggle mode is selected, you must press the trigger switch to turn on the light source of the scanner to start scanning operation. The scanner keeps the light source on until you press the trigger switch again. This mode is very similar to alternative mode but without the preset light source on time concern.

FL**Diagnostic Mode**

When diagnostic mode is selected, the light source of the scanner is forced on without regard for other programmable parameters, such as reread delay, redundancy, and so on.

FL**Low Power Mode**

When low power mode is selected, the scanner goes into idle state after scanning the bar code. You must press the trigger switch to wake up the scanner for operation.

Keyboard Interface Quick Set

- Record Suffix -



None



TAB



ENTER



RETURN ◆



SPACE

- Keyboard Layout -



USA ◆



Germany



Canadian French



Spain (Latin America)



Japan



France



United Kingdom-UK



Spain (Spanish)



Netherlands



Sweden/Finland

Serial Interface Quick Set

- Record Suffix -



None



CR ◆



LF



CRLF



TAB



SPACE

- Baud Rate -



115.2K BPS



57.6K BPS



38.4 BPS



19.2K BPS



9600 BPS ◆



4800 BPS



2400 BPS



1200 BPS

- Data Frame -



8, None, 1 ◆



8, Odd, 1



8, Even, 1



8, Space, 1



8, Mark, 1



8, None, 2



7, Odd, 1



7, Even, 1



7, Space, 1



7, Mark, 1



7, None, 2



7, Odd, 2



7, Even, 2



7, Space, 2



7, Mark, 2

System Commands



System Information



PowerTool Host Link



Factory Default



Master Default



User Default



Save User Default

Host Interface Quick Set



RS232 Serial



PS/2 (DOS/V) KBW Standard Mode



USB HID Standard Mode ◆



USB Com Port Emulation



Keyboard Replacement



PS/2 (DOS/V) KBW Turbo Mode



USB HID Turbo Mode

System Commands



Option Codes



0



1



2



3



4



5



6



7



8



9



A



B



C



D















E












F



Keyboard Interface Control

| Command | Parameter Selection | | Option Code | |
|---|---|---|--|--|
| Keyboard Layout  | USA ◆ France Germany United Kingdom-UK Canadian French Spain Sweden/Finland Portugal Norway | Latin America Italy Netherlands Denmark Belgium Switzerland-Germany Iceland Japan Czech | 00 01 02 03 04 05 06 07 08 | 09 10 11 12 13 14 15 16 17 |
| Record Suffix  | None RETURN ◆ TAB SPACE | ENTER User define character | 0 1 2 3 | 4 5 |
| Preamble  | None ◆ 1-15 characters | | FIN [00-7F], [FIN] | |
| Postamble  | None ◆ 1-15 characters | | FIN [00-7F], [FIN] | |
| Intermessage Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Intercharacter Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Interfunction Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Caps Lock Control  | "Caps Lock Off" State ◆ "Caps Lock On" State Auto Detect | | 0 1 2 | |
| Caps Lock Release Control  | "Caps Lock On, Caps Off" ◆ "Caps Lock On, Shift Off" | | 0 1 | |
| Function Key Emulation  | Enable ASCII 00-31 as KB function code output ◆ Enable ASCII 00-31 as Ctrl-xx output | | 0 1 | |
| Key Pad Emulation  | Disable key pad emulation ◆ Enable numeric output as key pad output | | 0 1 | |
| Upper/Lower Case  | Normal case ◆ Inverse case Upper case Lower case | | 0 1 2 3 | |

Serial Interface Control

| Command | Parameter Selection | | Option Code | |
|--|---|--|----------------------------|----------------------------|
| STX/ETX Control  | Disable STX/ETX transmission ◆ Enable STX/ETX transmission | | 0 | 1 |
| Record Suffix  | None ◆ CR ◆ LF CRLF | TAB SPACE User define character | 0 1 2 3 | 4 5 6 |
| Preamble  | None ◆ 1-15 characters | | FIN [00-7F], [FIN] | |
| Postamble  | None ◆ 1-15 characters | | FIN [00-7F], [FIN] | |
| Handshaking Protocol  | None ◆ RTS/CTS ACK/ NAK Xon/Xoff | | 0 1 2 3 | |
| Intermessage Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Intercharacter Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Interfunction Delay  | None ◆ 1-99 (x5) msec. | | FIN (2 digits) | |
| Serial Response Time-out  | None 200 msec. 500 msec. ◆ 800 msec. 1 sec. 2 sec. | 3 sec. 4 sec. 5 sec. 8 sec. 10 sec. 15 sec. | 0 1 2 3 4 5 | 6 7 8 9 A B |
| NAK Retry Count  | 3 times ◆ 0-255 times | | FIN (3 digits) | |

Message String Breakdown

Keyboard interface output (PS/2, DOS/V, USB HID)


| Preamble | Data Length | Prefix ID | Scanned Data | Suffix ID | Postamble | Record Suffix |
|------------|-------------|--------------|--------------|--------------|------------|---------------|
| 1-15 char. | 2-4 digits | 1 or 3 char. | Variable | 1 or 3 char. | 1-15 char. | 1 char. |

Serial interface output (RS-232, USB COM Port Emulation)

| STX | Preamble | Data Length | Prefix ID | Scanned Data | Suffix ID | Postamble | ETX | Record Suffix |
|---------|------------|-------------|--------------|--------------|--------------|------------|---------|---------------|
| 1 char. | 1-15 char. | 2-4 digits | 1 or 3 char. | Variable | 1 or 3 char. | 1-15 char. | 1 char. | 1 char. |


Keyboard Function Code Table

| No. | ANSI | ASCII | Key Function | Ctrl Output | No. | ANSI | ASCII | Key Function | Ctrl Output |
|-----|------|-------|--------------|-------------|-----|------|-------|---------------------|-------------|
| 00 | NUL | 00H | RESERVED | Ctrl + @ | 16 | DLE | 10H | F7 | Ctrl + P |
| 01 | SOH | 01H | CTRL (Left) | Ctrl + A | 17 | DC1 | 11H | F8 | Ctrl + Q |
| 02 | STX | 02H | ALT (Left) | Ctrl + B | 18 | DC2 | 12H | F9 | Ctrl + R |
| 03 | ETX | 03H | SHIFT | Ctrl + C | 19 | DC3 | 13H | F10 | Ctrl + S |
| 04 | EOT | 04H | CAPS LOCK | Ctrl + D | 20 | DC4 | 14H | F11 | Ctrl + T |
| 05 | ENQ | 05H | NUM LOCK | Ctrl + E | 21 | NAK | 15H | F12 | Ctrl + U |
| 06 | ACK | 06H | ESC | Ctrl + F | 22 | SYN | 16H | INS (Insert) (Edit) | Ctrl + V |
| 07 | BEL | 07H | F1 | Ctrl + G | 23 | ETB | 17H | DEL (Delete) (Edit) | Ctrl + W |
| 08 | BS | 08H | BACK SPACE | Ctrl + H | 24 | CAN | 18H | HOME (Edit) | Ctrl + X |
| 09 | HT | 09H | TAB | Ctrl + I | 25 | EM | 19H | END (Edit) | Ctrl + Y |
| 10 | LF | 0AH | F2 | Ctrl + J | 26 | SUB | 1AH | PAGE UP (Edit) | Ctrl + Z |
| 11 | VT | 0BH | F3 | Ctrl + K | 27 | ESC | 1BH | PAGE DOWN (Edit) | Ctrl + [|
| 12 | FF | 0CH | F4 | Ctrl + L | 28 | FS | 1CH | UP (Edit) | Ctrl + \ |
| 13 | CR | 0DH | ENTER (CR) | Ctrl + M | 29 | GS | 1DH | DOWN (Edit) | Ctrl +] |
| 14 | SO | 0EH | F5 | Ctrl + N | 30 | RS | 1EH | LEFT (Edit) | Ctrl + 6 |
| 15 | SI | 0FH | F6 | Ctrl + O | 31 | US | 1FH | RIGHT (Edit) | * see note |

 The last character in the Ctrl Output column is varied for different countries.

HEX/ASCII Reference Table

| H \ L | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------|-----|-----|-------|---|---|---|---|-----|
| 0 | NUL | DLE | SPACE | 0 | @ | P | ` | p |
| 1 | SOH | DC1 | ! | 1 | A | Q | a | q |
| 2 | STX | DC2 | " | 2 | B | R | b | r |
| 3 | ETX | DC3 | # | 3 | C | S | c | s |
| 4 | EOT | DC4 | \$ | 4 | D | T | d | t |
| 5 | ENQ | NAK | % | 5 | E | U | e | u |
| 6 | ACK | SYN | & | 6 | F | V | f | v |
| 7 | BEL | ETB | ' | 7 | G | W | g | w |
| 8 | BS | CAN | (| 8 | H | X | h | x |
| 9 | HT | EM |) | 9 | I | Y | i | y |
| A | LF | SUB | * | : | J | Z | j | z |
| B | VT | ESC | + | ; | K | [| k | { |
| C | FF | FS | , | < | L | \ | l | |
| D | CR | GS | - | = | M |] | m | } |
| E | SO | RS | . | > | N | ^ | n | ~ |
| F | SI | US | / | ? | O | _ | o | DEL |

 Example: ASCII "A" → HEX "41"; ASCII "a" → "61"

■ : High Byte of HEX Value □ : Low Byte of HEX Value

FuzzyScan Barcode Scanner Quick Start Guide
International Edition, Rev. C2



P/N: YMAUB00010050R0

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Regulatory



Part 15 Subpart B



CNS13438



EN55022, EN55024
EN61000-3-2, EN61000-3-3, EN60950-1
EN61000-6-3, EN61000-6-2



AS/NZS CISPR 22:2009 Class B



KN22, KN24 (KN61000-2,-3, -4,-5, -6,-8,-11)

LED Eye Safety

IEC62471 Exempt group

Laser Eye Safety

IEC60825-1 Class 1



Class B ITE