FUZZYSCAN FAMILY
Quick Start Guide

FUZZYSCAN

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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.

The FuzzyScan scanners family includes **A** series area imager**, F** series linear imager and **L** series laser imager. The **Antimicrobial** models are available for A780, L780 and F780 series scanners which are equipped with both Disinfectant-ready Housing and Vibrator. The option of **Vibrator** is available for all other series upon request.

This document provides an easy reference for installation and operation purpose. The complete documentation is available at www.cino.com.tw.
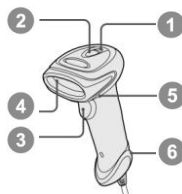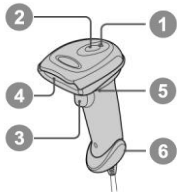
A780 Series

A680 Series

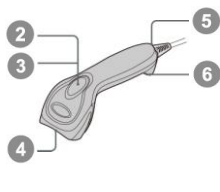### A660 Series

F680/L680 Series

F790/F780/L780 Series

F560 Series

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

Connecting to Your Host

The FuzzyScan scanners support USB and RS-232 Serial interfaces. Please choose your desired interface cable, plug it into the scanner's interface port and connect it to the desired port of your host. If you want to remove the cable, simply straighten one end of a paper clip, and insert it into the cable release hole to pull out the cable.
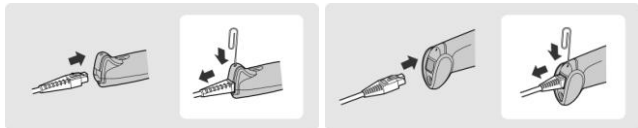

RS232 Serial

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 connecting the scanner.

Using SmartStand

The optional 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.
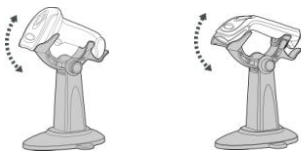
Thanks to the advanced **Auto-sense** design, the scanner is capable of switching between presentation scanning and hand-held scanning automatically while working with the optional SmartStand. (Note: Not available for F560 series scanners).

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

Level 3

Level 1

Level 4

Level 6

Level 2

Level 5 ◆

Level 7
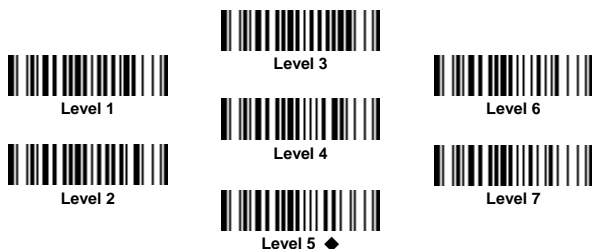
For **A series** area imager used in presentation mode, you can enable or disable the scanner's presentation background lighting according to the ambient light condition. When the ambient light is dim or dark, you can enable this function to turn on the scanner's LED illumination. This is helpful for scanner to detect the motion of scene.

**Presentation Background Lighting
On ◆**

**Presentation Background Lighting
Off**

Operation Modes **A** area imager

FuzzyScan family **A series** area 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 scanner's light source 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. This is very useful for multiple scanning.

A

Level Mode

When level mode is selected, the scanner continues to keep the light source on till a bar code is decoded, or the 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

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Force Mode

When force mode is selected, the light source of the scanner is forced on for a continuing operation without having to press the trigger switch. This mode is convenient for high speed scanning.

A

||||| |||||| ||||| |||
Toggle Mode

When toggle mode is selected, you must press the trigger switch to turn on the scanner's light source to start scanning. 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 scanner's light source 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 having scanned the bar code. You must press the trigger switch to wake up the scanner for further 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 can enable **Unique Bar Code Reporting** function to report for unique bar code when the scanner trigger is pressed. For the setting of Center Alignment and Unique Bar Code Reporing, please refer to the Programming Manual for details.

Operation Modes ▐F▐L 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.

▐F▐L

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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 scanner's light source before scanning the bar code.

▐F▐L

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Presentation Mode

When presentation mode is selected, the scanner will turn on the light source and start scanning 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 after the preset light source on time is up.

▐F▐L

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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.

▐F▐L

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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.

F L

| | || || ||| || ||| ||| ||
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 the light source on automatically and scans the bar code.

F L

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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 scanning.

F L

| || ||| || ||| ||| || ||
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.

F L

| || ||| ||| ||| ||| || ||
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.

F L

| || ||| ||| ||||| || ||
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 further operation.

Keyboard Interface Quick Set

- Record Suffix -

None

RETURN ◆

TAB

SPACE

ENTER

- Keyboard Layout -

USA ◆

France

Germany

United Kingdom-UK

Canadian French

Spain (Spanish)

Spain (Latin America)

Nertherlands

Japan

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

USB HID Standard Mode ◆

USB HID Turbo Mode

USB Com Port Emulation

System Commands

PROGRAM
(Enter Programming Mode)

END
(Exit Programming Mode)
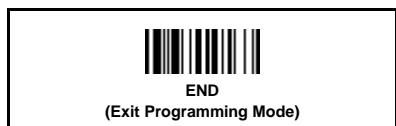
Option Codes

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

FIN (Finish)

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

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FuzzyScan Barcode Scanner Quick Start Guide
International Edition, Rev. D2

Disclaimer

Warranty

Cino warrants its products against defects in workmanship and materials from the date of shipment, provided that the product is operated under normal and proper conditions. The warranty provisions and durations are furnished by different warranty programs. The above warranty does not apply to any product which has been (i) misused; (ii) damaged by accident or negligence; (iii) modified or altered by the purchaser or other party; (iv) repaired or tampered by unauthorized representatives; (v) operated or stored beyond the specified operational and environmental parameters; (vi) applied software, accessories or parts are not supplied by Cino; (vii) damaged by circumstances out of Cino's control, such as, but not limited to, lightning or fluctuation in electrical power. Any defective product must follow the warranty program and RMA procedures to return Cino for inspection.

Regulatory

FC Part 15 Subpart B		CNS13438
CE EN55022, EN55024 EN61000-3-2, EN61000-3-3, EN60950-1 EN61000-6-3, EN61000-6-2		AS/NZS CISPR 22:2009 Class B
KC KN22, KN24 (KN61000-2,-3, -4,-5, -6,-8,-11)	**LED Eye Safety** IEC62471 Exempt group	
VCI Class B ITE	**Laser Eye Safety** IEC60825-1 Class 1	

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