FUZZYSCAN

FUZZYSCAN BARCODE SCANNER

FUZZYSCAN FAMILY
## Quick Start Guide

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.

In order to fulfill your various requirements, the options of **Vibrator**, **PDF Readability** and **Disinfectant-ready Housing** are available upon request. For more details, please visit our website 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.
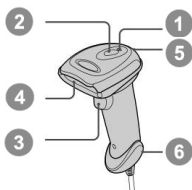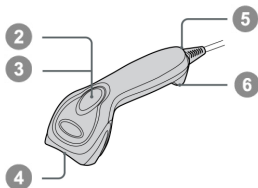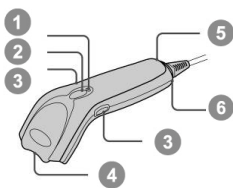
F700/L700 Series   F600/L600 Series
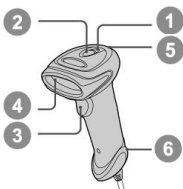
F500 Series   F400 Series

| 1	Power Indicator	4	Scan Window
2	Status Indicator	5	Beeper
3	Trigger	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 cable interface port of the scanner and connect it to the 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.
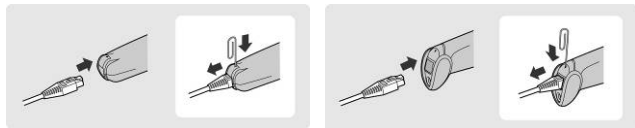
RS232 Serial

PS/2(DOS/V) 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 Accessories

You can enhance productivity of your workforce by using various accessories to fulfill a wide variety of application demand.

Universal Holder

The stylish Universal Holder is designed for storing your scanner when not in use. It serves to protect the scanner from lens-scratched or falling. Moreover, its artistic-design enhances the entire value of the scanner.

Hand-free 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. But please note that the SmartStand is not applicable for F400 series scanner.

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 feature is not available for F400 and F500 series scanners.

In presentation mode, the barcode 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 sensitivity.

Level 3

Level 1

Level 4

Level 6

Level 2

Level 5 ◆

Level 7
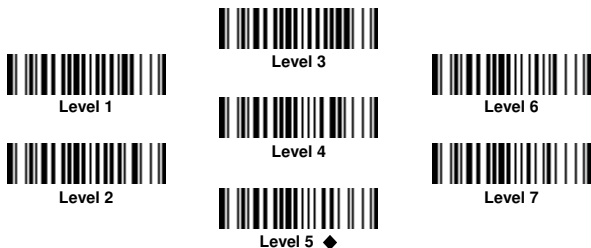
Operation Modes

Both **F** series Linear Imager and **L** series Laser Imager are available in FuzzyScan family. Both series support different operation mode which are listed below for reference.

The F series supports nine operation modes, including trigger, presentation, alternative, level, flash, force, toggle, diagnostic and low power modes. The L series supports five operation modes, including trigger, presentation, alternative, level and low power modes.

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 the scanner turns 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 frequently, it is very convenient 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.

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.

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.

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.

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.

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

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

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

||||||| ||| ||||||| |||
PROGRAM
(Enter Programming Mode)

||||| ||||| |||
END
(Exit Programming Mode)

Option Codes

||||||| |||
0

||||||| |||
1

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2

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3

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4

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5

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8

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9

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A

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B

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C

||||||| |||
D

||||||| |||
E

||||||| |||
F

||||| ||||| |||
FIN (Finish)

9

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 On, Caps Off" ◆ "Caps Lock On, Shift Off" 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.	2-3 digits	1 or 2 char.	Variable	1 or 2 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.	2-3 digits	1 or 2 char.	Variable	1 or 2 char.	1-15 char.	1 char.	1 char.

Operation and Output Control

Command	Parameter Selection	Option Code
Inverse Reading	Disable ◆ Enable	0 1
Redundancy	None Level 1 ◆ Level 2 Level 3 Level 4 Level 5 To prevent potential miss reading.	0 1 2 3 4 5
Dollar Sign Control	Dollar sign output as " $ " ◆ Dollar sign output as " ¥ " Dollar sign output as " € " Dollar sign output as " £ " Dollar sign output as " ¢ "	0 1 2 3 4
Presentation Control	Presentation mode ◆ Flash mode Force mode L series laser imaging scanner doesn't support this function.	0 1 2
Presentation Auto-sense	Disable Enable ◆	0 1
Presentation Sensitivity	Level 1 Level 2 Level 3 Level 4 Level 5 ◆ Level 6 Level 7	0 1 2 3 4 5 6
Power On Indicator	Disable (LED off) LED steady on ◆ LED flash	0 1 2
Good Read Indicator	Disable Enable ◆	0 1
Vibrator Control	Disable Enable ◆ Optional function, only available for vibrator model.	0 1
Buzzer Tone Adjust	Buzzer tone – mute Buzzer tone – low Buzzer tone – medium ◆ Buzzer tone – high Buzzer tone – extremely high Power–on beep ◆ No Power–on beep	0 1 2 3 4 5 6

Operation and Output Control

Command	Parameter Selection	Option Code
Trigger Control	Enable left trigger, disable right trigger	0
	Enable right trigger, disable left trigger	1
	Enable left and right triggers ◆	2
	Only available for FuzzyScan F460/F468.	
Scan Rate Control	Dynamic ◆	0
	Fixed	1
Good Read Delay	None ◆	0
	200 msec.	1
	500 msec.	2
	1 sec.	3
	1.5 sec.	4
	2 sec.	5
	3 sec.	6
Reread Delay	Disable	0
	Immediate time out ◆	1
	Short time out	2
	Medium time out	3
	Long time out	4
	Force verification	5
Good Read Duration	Short	0
	Medium ◆	1
	Long	2
	Extremely long	3
	Extremely short	4
Hand Free Time-out	Short ◆	0
	Medium	1
	Long	2
	Extremely long	3
	Disable	4
Light Source On Time	Short ◆	0
	Medium	1
	Long	2
	Extremely long	3
Time Delay to Low Power Mode	1 sec	0
	3 secs	1
	5 secs	2
	7 secs	3
	9 secs	4
	Immediate ◆	5
Flash Duty Cycle	1/2 duty cycle ◆	0
	2/3 duty cycle	1
	3/4 duty cycle	2
	4/5 duty cycle	3
	L series laser imaging scanner doesn't support this function.	
Laser Aiming Control	Disable	0
	Enable ◆	1
	Only available for L series laser imaging scanner PDF scanning.	

Keyboard Function Code Table

No.	ANSI	ASCII	Key Function	No.	ANSI	ASCII	Key Function
00	NUL	00H	RESERVED	16	DLE	10H	F7
01	SOH	01H	CTRL (Left)	17	DC1	11H	F8
02	STX	02H	ALT (Left)	18	DC2	12H	F9
03	ETX	03H	SHIFT	19	DC3	13H	F10
04	EOT	04H	CAPS LOCK	20	DC4	14H	F11
05	ENQ	05H	NUM LOCK	21	NAK	15H	F12
06	ACK	06H	ESC	22	SYN	16H	INS (Insert) (Edit)
07	BEL	07H	F1	23	ETB	17H	DEL (Delete) (Edit)
08	BS	08H	BACK SPACE	24	CAN	18H	HOME (Edit)
09	HT	09H	TAB	25	EM	19H	END (Edit)
10	LF	0AH	F2	26	SUB	1AH	PAGE UP (Edit)
11	VT	0BH	F3	27	ESC	1BH	PAGE DOWN (Edit)
12	FF	0CH	F4	28	FS	1CH	UP (Edit)
13	CR	0DH	ENTER (CR)	29	GS	1DH	DOWN (Edit)
14	SO	0EH	F5	30	RS	1EH	LEFT (Edit)
15	SI	0FH	F6	31	US	1FH	RIGHT (Edit)

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. B2

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Regulatory

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

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