

# FCL Components Thermal Printer FTP-63GUSL071 series (12V type printer)

FCL Components 3" 12V type (100mm/s) thermal printer unit with auto cutter

## Overview

The FTP-63GUSL071 series thermal printer (driven by 12VDC) provides high speed printing (100mm/s) for 3-inch wide paper.

The series is suitable for a variety of applications, such as POS/ECR, kiosk terminals, ticket machines, banking machines, measuring devices, medical equipment, etc.

## Features

- High-speed printing  
It can print at 100mm/s (800 dotlines/s) maximum by using FCL Components' unique head drive control
- FCL Components' unique platen release mechanism
- Auto Cutter  
Auto cutter that performs either a full cut or partial cut is a standard feature.  
FCL Components unique jam free mechanism allows easy maintenance when jam occurs
- Compact size  
Depth: 90mm, width: 111mm, height: 116mm
- High resolution  
8 dots/mm head provides clear print out
- OPOS driver support
- RoHS compliant



FTP-63GUSL071

## ■ Part numbers

Item	Part Number	
Printer unit	FTP-63GUSL071#01/ #02 (Japanese/Traditional Chinese font types)	
Interface cable	USB	FTP-62GY311#01
	RS-232C	FTP-62GY302
Power supply cable	Logic, head, motor	FTP-62GY603

## ■ Driver software

Item	Operating system
Driver	Windows <sup>1</sup> , Linux <sup>*1</sup>
SDK	OPOS

\*1: Linux drivers are available to our customers by request; please contact us for details.

## ■ Specifications

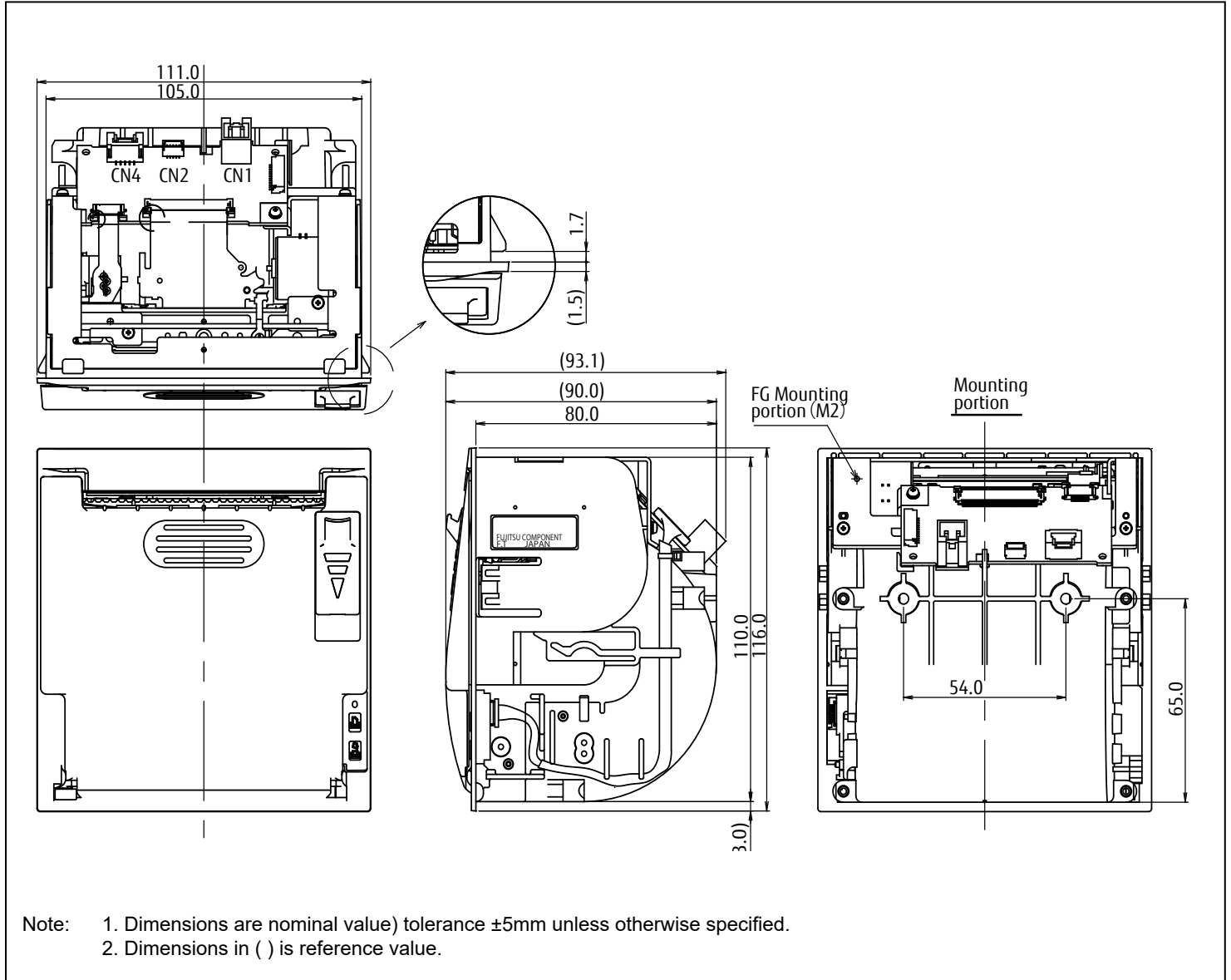
Item	Specifications	
Part number	FTP-63GUSL071#01/ #02	
Printing method	Thermal sensitive line dot method	
Dot structure	576 dots/lines	
Dot pitch (horizontal)	0.125mm (8 dots/mm) - Dot density	
Dot pitch (vertical)	0.125mm (8 dots/mm) - Line feed pitch	
Effective printing area	72mm	
Number of columns	ANK 48 columns/line (12 x 24 x dot font)	
Paper width	80mm +0/-1	
Paper thickness	60-100 $\mu$ m <sup>*1</sup>	
Paper roll diameter	Max. $\varnothing$ 83mm	
Cutting type	Full or partial	
Printing speed	100mm/s (800 dot lines/s)	
Paper feed	Forward / backward	
Print mode	Line / page	
Character types	Alphanumeric KANA	159 types
	International and special	195 types
	OCRI	103 types
	OCRIII	23 types
	OCRIV	103 types
	OCRIV	12 types
	Extended numeric	128 types
	Thai code 18	13, 503
Traditional Chinese		
Font	Japanese / Traditional Chinese	
Bar codes	1D	UPC-A, UPC-E, Jan(EAN)13, JAN(EAN)8, CODE39, ITF CODEBAR, CODE128, GS1 DataBar-14, GS1 DataBar-14 Truncated, GS1 DataBar Limited
	2D	QR Code, GS1 DataBar-14 stacked, GS1 DataBar-14 Omnidirectional, GS1 DataBar-14 Expanded, PDF417

\*1: there may be exceptions

Item		Specifications								
Part number		FTP-63GUSL071#01/ #02								
Bit images	Size	Horizontal: 8 to 576 dots, vertical: 1 to 1,023 dots								
	Modification	Black/white reversible								
Download images	Size	Horizontal: 8 to 576 dots, vertical: 1 to 255 dots (memory: 192KB)								
	Modification	Black/white reversible, horizontal x2, vertical x2, x4, upside down								
Download character		08x16 ANK, 12x24 ANK, 16x16 ANK, 24x24 ANK, 16x16 KANJI, 24x24 KANJI								
Detection functions		Black mark, no paper, thermal head temperature irregularity, power voltage irregularity, platen open, cutter irregularity, transmission data irregularity, blowout of fuse, hardware irregularity, MCU operation irregularity, thermal head's thermal runaway, thermal head cable drop, non volatile memory registration error, RAM irregularity								
Character modification		Horizontal tab, under line, black-white reversed, positional alignment, line spacing, character spacing, font type, font size, code table, 90° clockwise rotation								
Interface standard		RS-232C, USB Ver. 2.0 (full speed)								
Reset		Reset with software								
Character dimensions (W x H), number of characters		<table border="0"> <tr> <td>8 x 16 dots, 72 columns, ANK</td> <td>24 x 40 dots, 24 columns, OCRI</td> </tr> <tr> <td>12 x 24 dots, 48 columns, ANK</td> <td>24 x 48 dots, 24 columns, OCRII</td> </tr> <tr> <td>16 x 16 dots, 36 columns, ANK</td> <td>36 x 60 dots, 16 columns, OCRIV</td> </tr> <tr> <td>24 x 24 dots, 24 columns, ANK</td> <td>24 x 48 dots, 24 columns, large numeric</td> </tr> </table>	8 x 16 dots, 72 columns, ANK	24 x 40 dots, 24 columns, OCRI	12 x 24 dots, 48 columns, ANK	24 x 48 dots, 24 columns, OCRII	16 x 16 dots, 36 columns, ANK	36 x 60 dots, 16 columns, OCRIV	24 x 24 dots, 24 columns, ANK	24 x 48 dots, 24 columns, large numeric
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Power		10.8VDC to 16.0VDC								
Power current	Logic	0.5A max.								
	Thermal head	2.1A max. (at 12V, print ratio 12.5%)								
	Paper feed motor	1.5A max.								
	Cutter motor	1.5A max.								
Dimensions (Wx-DxH)		111.0 x 90.0 x 116.0mm (external), 105.0 x 80.0 x 110.0mm (internal) exclude CN edge								
Weight		315g								
Expected life	Head	Pulse durability: 100 million pulse/dot (using FCL Components' standard driving method) Wear resistance: 100km (at 12.5% print ratio)								
	Cutter	1,000,000 cuts min.								
Environmental conditions	Operating temperature	0°C to +50°C (guaranteed, print quality assurance: +5°C to +40°C)								
	Operating humidity	20 to 85% RH (no condensation)								
	Storage temperature	-20°C to +60°C (excluding paper)								
	Storage humidity	5 to 90% RH (no condensation)								
Detection functions	Head temperature	By thermistor								
	Motor temperature	By thermistor								
	Paper out/Mark detect	By photointerrupter								
	Head release	By slide switch								
Recommended thermal sensitive paper		PD150R (Oji paper)								
MTBF	Mechanism	3,000 hours								
	Control board	500,000 hours								

■ Dimensions

- 3-inch panel mount printer



■ Connector for power supply

- Connector for Logic, Head, Motor Power supply (CN1)  
Mating connector part number: VHR-2N (J.S.T.) or equivalent

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	Vp	I	+12V power	2	GND	-	Ground

■ RS-232C standard

- Connector (CN2)  
Mating connector part number: SHR-05V-S (J.S.T.) or equivalent

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	RXD	I	Receive data	2	TXD	O	Transmission data
3	RTS (DTR)	O	Request to send	4	GND	-	Signal ground
5	CTS (DSR)	I	Clear to send				

■ USB standard

- (1) Connector (CN4)  
Mating connector part number: GHR-05V-S (J.S.T.) or equivalent

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	Vbus	I	Bus power supply	2	D-	I/O	Differential data I/O D- terminal
3	D+	I/O	Differential data I/O D+ terminal	4	GND	-	Signal ground
5	FG	-	Frame ground				

Note: Symbol “-” in above tables mean a negative logic signal.  
“I” or “O” means a signal direction from the interface board side.

■ Host interface

- (1) Connector (CN4)  
Mating connector part number: ZHR-5 (J.S.T.) or equivalent

Item	Specifications	
Interface standard	RS-232C	9,600bps (460.800bps, 230,400bps, 115,200bps, 38,400bps, 19,200bps: selectable by command) Synchronization: Asynchronous, full-duplex transmission Flow control: RTS(DTR)/CTS(DSR) or XON/XOFF -selectable by command I/O level: RS-232C level
	USB Ver.2.0 (full speed)	Transmission speed: Full speed (max. 12Mbps) Data input/output format: Differential

## ■ Commands

Command	Content
HT	Horizontal tab
LF	Line feed
FF	Feeds forms (new page)
ESC FF	Data print in page mode *4
ESC EM+n	Auto loading amount setting
ESC RS	Black-white reverse printing specification
ESC US	Black-white reverse printing cancellation
ESC SP+n	Character spacing setting
ESC !+n	Sets print mode
ESC \$+n1+n2	Horizontal absolute position setting *4
ESC %+n	Downloaded character specification/cancellation
ESC &+y+c1+c2+x+d1 to dn	Downloaded character definition *1,3
ESC *+m+n1+n2+d1 to dk	Bit image print
ESC -+n	Undeline setting
ESC 2	Set default line spacing
ESC 3+n	Line pitch setting
ESC ?+n	Downloaded character deletion *1, 3
ESC @	Printer reset
ESC A+n	Line spacing setting
ESC C+n	Page length setting in line mode
ESC D+n1 to nk+NUL	Horizontal tab position setting
ESC E+n	Emphasis printing specification/cancellation
ESC J+n	Print and forward paper feed
ESC K+n	Print and reverse paper feed
ESC L	Page mode selection *4
ESC Q+n+l+j	Frame overlay function setting *1, 3
ESC R+n	International character specification
ESC S	Line mode selection *4
ESC T+n	Print direction setting in page mode *4
ESC V+n	90° clockwise rotation specification/cancellation
ESC W+x1+x2+y1+y2+dx1+dx2+dy1+dy2	Print area setting in page mode *4
ESC X+m+n	Motor excitation automatic cut time setting
ESC Y+SOH+ESC+x+a+FF+m+n+d~	Firmware download *1
ESC ¥+n1+n2	Horizontal relative position setting *4
ESC a+n	Position alignment
ESC c+1+n	Sets internal processing
ESC c+5+n	Panel switch valid/invalid setting
ESC d+n	Print and feed paper n-lines
ESC e+n	Prints and reverses feed paper n-lines
ESC j	Full cut
ESC m	Partial cut
ESC s+n	Sets printing speed
ESC t+n	Character code table selection
ESC {+n	Upside down printing specification/cancellation

## ■ Commands

ESC DEL +n	Nonvolatile memory deletion *1, 3
FS !+n	Kanji printing mode collective specification *2
FS &	Kanji printing mode specification *2
FS *+m+n1+n2+d1 to dk	High speed batch image print *4
FS -+n	Kanji underline specification/cancellation *2
FS .	Kanji printing mode cancellation *2
FS 2+c1+c2+d1 to dn	User defined character definition *1, 2, 3
FS 9+n	Sets the detection functions
FS C+n	Kanji code system selection *2
FS E+n	Standard energy setting
FS S+n1+n2	Kanji spacing setting *2
FS W+n	Kanji double height and width printing specification/cancellation *2
FS r+n	Relay parameter setting
GS !+n	Character size setting
GS \$ +n1+n2	Vertical absolute position setting in page mode *4
GS &+m+x+y1+y2+d1 to dn	Download image definition *1, 3
GS '+m+n	Download image print *3
GS (+E+L1+L2+fn+d1 to d9 (fn=67)	RS-232C communication setting *1, 3
GS (+E+L1+L2+fn+d1 to d9 (fn=68)	USB communication setting *1, 3
GS <	Mark detection execution
GS A+m+n	After mark detection head distance setting
GS B+n	Bar code angle setting *4
GS E+n	Sets print quality
GS H+n	HRI character printing position selection
GS L+n1+n2	Left margin setting
GS V+m+n	Cut paper
GS W+n1+n2	Print area width setting
GS ¥+n1+n2	Vertical relative position setting in page mode *4
GS a+n	Automatic status transmission setting
GS e+m+n	Sets bar code height
GS f+n	HRI character font selection *4
GS h+n	Barcode height setting
GS k+m+n+d1 to dn	Bar code print setting
GS k+m+k1+k2+k3+k4+{[p1][d(1, 1)] to [d(1, j)]} to {[pi][d(i, 1)] to [d(i, j)]}NUL	2D code (QR code) print
GS k+m+k1+k2+k3+k4+nL+nH+d1 to dn	PDF417 code print
GS k+m+n+k+pL+pH+d1 to dp	Bar code (GS1 DataBar) print
GS k+m+n+k1+k2+k3+k4	Bar code (GS1 DataBar) setting
GS w+n	Sets bar code width magnification

Notes: \*1: Makes write/erase to the nonvolatile memory.      3: Only the model equipped with the extended nonvolatile memory.  
 \*2: Only the model is equipped with Kanji character.      4: Only the model equipped with the extended volatile memory.

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