

FCL Components Thermal Printer FTP-62GDSL101/111/121 series Interface Boards

FCL Components interface boards for 24V FTP-6xGMCLxx3 series

Features

- USB (full speed) and RS-232C serial interface
- Various detection functions: Paper mark, platen open, thermal head temperature, power supply voltage
- Various alarm and protective functions: Thermal head temperature, power supply voltage, MCU operations, motor over current protection
- Print quality stabilization by the thermal head temperature and power supply voltage monitoring
- Supports both full cut and partial cut
- Two font types from 12 and 16 dots system character
- Support registration of characters and images

■ Part numbers

Part number	Status	Supply voltage	Interface type	Font	Mechanism part number
FTP-62GDSL101#01	To be discontinued	24V	USB/RS-232C	ANK, Thai, Kanji	FTP-62GMCL163
FTP-62GDSL101#02	To be discontinued			ANK, Thai, Traditional Chinese	FTP-62GMCL163#01 FTP-62GMCL463 FTP-63GMCL163 FTP-63GMCL463
FTP-62GDSL111#01	Active	24V	USB/RS-232C	ANK, Thai, Kanji	FTP-62GMCL163#10 FTP-62GMCL463#10
FTP-62GDSL111#02	Active			ANK, Thai, Traditional Chinese	FTP-62GMCL463#11 FTP-63GMCL463#10
FTP-62GDSL121#01	Active	12V	USB/RS-232C	ANK, Thai, Kanji	FTP-62GMCL473
FTP-62GDSL121#02	To be discontinued			ANK, Thai, Traditional Chinese	FTP-62GMCL473#01 FTP-63GMCL473

■ Drivers

Windows 7, 8, 10, Vista

■ Interface specification at host side

Item	Specifications
RS-232C	Data speed: 9.6k, 19.2k, 38.4k, 115.2k, 230.4k bps Synchronous method: Asynchronous Handshake: RTS (DTR) / CTS (DSR) control, XON/XOFF control Parity: Non, even, odd
USB V2.0	Transmission rate: Full speed 12Mbps max. Interface class: Printer device

■ Specifications

1.1 Base specifications

Item	Specifications
Dimensions	70 x 37mm
Weight	Approx. 15g
Communication interface *1	RS-232C USB full speed (max. 12Mbps)

1.2 Print/paper feed specifications

Item	Specifications		
Part number	FTP-62GMCL101#**	FTP-62GMCL111#**	FTP-62GMCL121#**
Dot pitch	0.125mm		
Number of dots	432 dots/line		
Max. printing width	54mm		
Max. printing height*1	240mm		
Line space*2	Approx. 1/8 inch (26 dots line)		
Print speed*3	200mm/s	250mm/s	120mm/s
Paper feed speed (/ATF)	Approx. 100mm/s		

*1: At high speed bit image printing

*2: Changeable by command.

*3: Conditions:

Paper: PD150R or equivalent

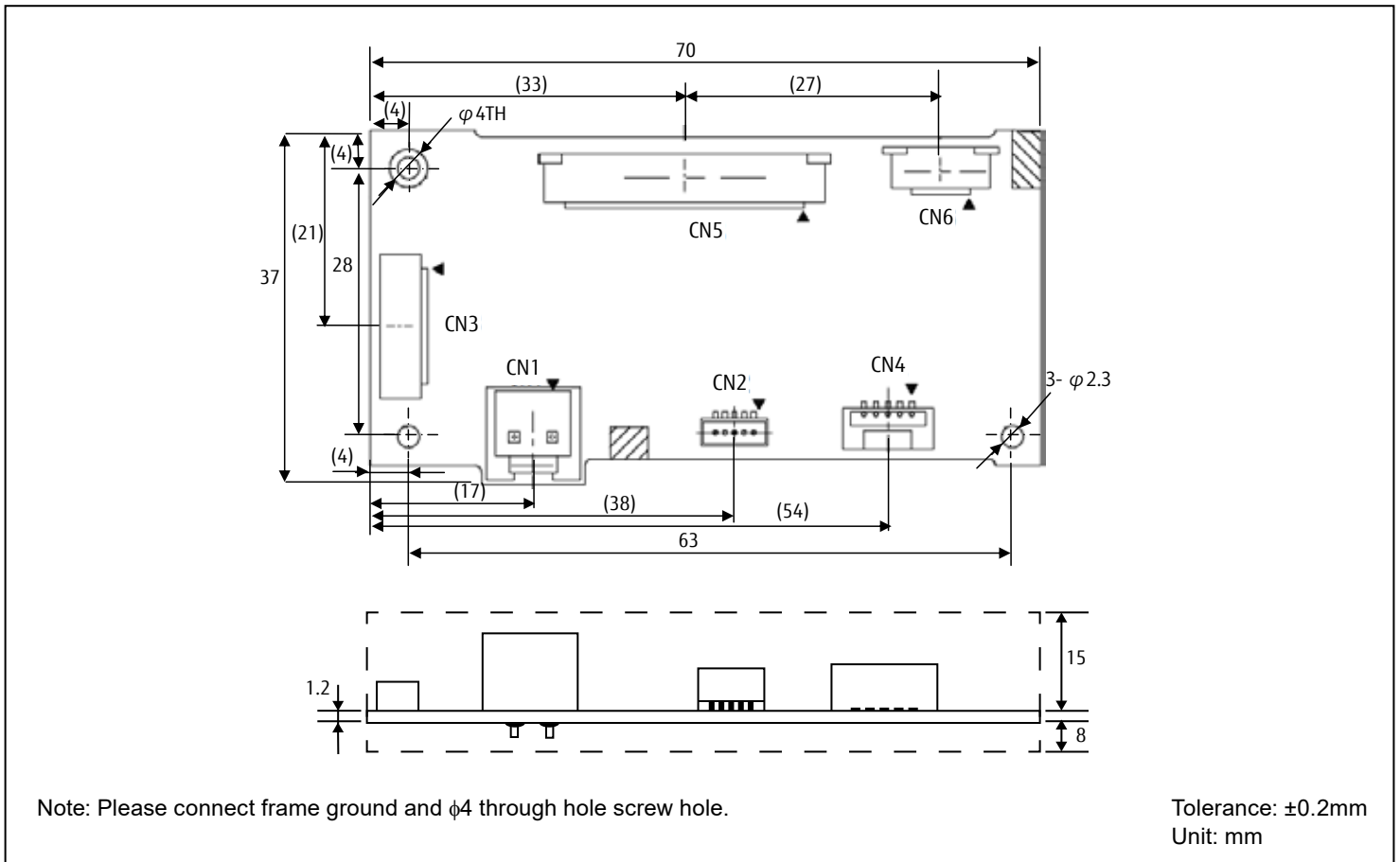
Voltage: 12V (12V drive model) / 24V (24V drive model)

Print ratio: Up to 12.5%

Operating temperature/humidity: 25°C, 60+/-15%

When printing at low speed, a white line may occur depending on printing pattern or division control. Therefore, please monitor the paper advancement when printing at low speeds.

■ Dimensions



■ Control circuit board and connector types

Symbol	Name	Function	Note
CN1	Power supply connector	To connect +12V/+24V power supply	-
CN2	RS-232C connector	To connect RS-232C interface	-
CN3	External I/O connector	I/O	-
CN4	USB connector	To connect USB	-
CN5	Head / motor connector	FPC connection	-
CN6	Motor / auto cutter connector	FPC connection	-

■ Connector Pin Assignment of interface board

Note: Symbol “-” means a negative logic signal.

“I” or “O” means a signal direction from the interface board side.

- Power supply connector (CN1)

Mating connector part number: VHR-2N (J.S.T.) or equivalent
 Recommended cable: AWG#16, cable length max. 300mm

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	Vp	I	Power input	2	GND	-	Ground

- RS-232C connector (CN2)

Mating connector part number: SHR-05V-S (J.S.T.) or equivalent
 Recommended cable: AWG#32 to 28, cable length max. 500mm

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

- External I/O Connector (CN3)

Mating connector part number: SHR-12V-S (J.S.T.) or equivalent
 Recommended cable: AWG#32 to 28, cable length max. 300mm

No.	Name	I/O	Description	No.	Name	I/O	Description
1	3.3V	O	Power to extend functionality	2	/INPRM	I	Initialization request signal
3	/ATF	I	Paper feed signal	4	/SLCTIN	I	Detection function setting signal
5	LED1	O	POWER LED signal	6	LED2	O	ERROR LED signal
7	/CUT	I	Paper cut signal (low active)	8	GND	-	Signal ground
9	GND	-	Signal ground	10	GND	-	Signal ground
11	/NES	I	Near end signal	12	POW_NES	O	Power for near end sensor

- USB Connector (CN4)

Mating connector part number: SSHL-002GA1-PO.2 (Au) or equivalent
 Recommended cable: AWG#32 to 26, cable length max. 1,000mm

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	Vbus	I	Vbus signal	2	D-	I/O	D- signal
3	D+	I/O	D+ signal	4	GND	-	Signal ground
5	FG	-	Frame ground				

■ Connector pin assignments of printer mechanism (2-inch)

Command	Content
HT	Moves print position to the next tab
LF	Line feed
FF	Feeds forms (new page)
ESC FF	Data print in page mode *4
ESC EM+n	Setting the amount of feeding at automatic paper feed
ESC RS	Black/white reverse printing specification
ESC SP+n	Character space setting
ESC US	Black/white reverse printing cancellation
ESC !+n	Sets print mode
ESC \$+n1+n2	Horizontal absolute position setting *4
ESC %+n	Download character specification/cancellation
ESC &+y+c1+c2+x+d1 to dn	Download character definition *1, 3
ESC *+m+n1+n2+d1 to dk	Bit image print
ESC -+n	Undeline setting
ESC 2	Sets default line spacing
ESC 3+n	Line pitch setting
ESC ?+n	Download character deletion *1, 3
ESC @	Printer reset
ESC A+n	Line spacing setting
ESC C+n	Sets the page length line mode
ESC D+n1 to nk+NUL	Sets horizontal tab position
ESC E+n	Emphasis printing specification/cancellation
ESC J+n	Feeds paper in forward direction and prints
ESC K+n	Reverse paper feed
ESC L	Page mode selection *4
ESC Q+n+!+j	Frame overlay function setting *1, 3
ESC R+n	Selects international character
ESC S	Line mode selection *4
ESC T+n	Print direction setting in page mode *4
ESC V+n	Right rotation 90° specification/cancellation
ESC W+x1+x2+y1+y2+dx1+dx2+dy1+dy2	Print area setting in page mode *4
ESC X+m+n	Setting the turning time of the motor excitation
ESC Y+SOH+ESC+x+a+FF+m+n+d~	Firmware download *1
ESC ¥ n1+n2	Horizontal relative position setting *4
ESC a+n	Positional alignment
ESC c+1+n	Sets internal processing
ESC c+5+n	Panel switch valid/invalid setting
ESC d+n	Printing and n-line feeding
ESC e+n	Prints and reverses feeds n-line
ESC j	Full cut
ESC m	Partial cut

Command	Content
ESC s+n	Sets printing speed
ESC t+n	Character code table selection
ESC {+n	Sets/resets upside down printing
ESC DEL +n	Flash memory erase *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	External character definition *1, 2, 3
FS 9+n	Sets the detection functions
FS C+n	Kanji code system selection *2
FS E+n	Correction of impressed energy
FS S+n1+n2	Kanji spacing setting *2
FS W+n	Kanji double height and width printing specification/cancellation *2
FS r+n	Parameter transmission (serial mode)
GS !+n	Character size setting
GS \$+n1+n2	Vertical absolute position setting in page mode *4
GS &+m+x+y1+y2+d1 to dn	Downloaded image definition
GS '+m+n	Registered bit image printing *3
GS (+E+L1+L2+fn+d1 to d9 (fn=67)	RS-232C communication setting *1, 3
GS <	Line feeds to the next mark
GS A+m+n	Sets the line feed length after mark detection
GS B+n	Bar code angle setting *4
GS E+n	Sets print quality
GS H+n	HRI character printing position selection *4
GS L+n1+n2	Left margin setting
GS V+m+n	Paper cutting (this command is only available for chip)
GS W+n1+n2	Sets print area width
GS ¥+n1+n2	Vertical relative position setting in page mode *4
GS a+n	Set auto status transmission
GS e+m+n	Sets bar code width
GS f+n	HRI character font selection *4
GS h+n	Barcode height setting
GS k+m+n+d1 to dn	Bar code print
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	QR code print *4
GS k+m+k1+k2+k3+k4+nL+nH+d1 to dn	PDF417 code print *4
GS k+m+n+k+pL+pH+d1 to dp	Bar code (GS1 DataBar) print *4
GS k+m+n+k1+k2+k3+k4	Bar code (GS1 DataBar) setting *4
GS w+n	Bar code width magnification setting

*1: Write to/erase the non-volatile memory

*2: Only model equipped with Kanji character corresponds

*3: Only model equipped with the extended nonvolatile memory

*4: Only model equipped with the extended volatile memory

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