

FUJITSU Component Thermal Printer FTP-637DSL430 series Interface Boards

Fujitsu interface boards for 24V FTP-637MCL4x1 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 operation, motor over current protection
- Print quality stabilization by the thermal head temperature and power supply voltage monitoring
- Can be printed in portions to optimize the thermal head energizing (Automatic Division Printing)
- Supports full and partial cuts
- Two font types from 12 and 16 dots system character
- Support registration of characters and images
- RoHS compliant

■ Part numbers

Part number	Supply voltage	Interface type	Font	Mechanism part number
FTP-637DSL430#01	24V	USB/RS-232C	ANK, Thai, Kanji	FTP-637MCL401
FTP-637DSL430#02	24V	USB/RS-232C	ANK, Thai, Traditional Chinese	FTP-637MCL411 FTP-637MCL421

■ 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 40mm
Weight	Approx. 20g
Communication interface *1	RS-232C USB full speed (max. 12Mbps)

1.2 Print/paper feed specifications

Item	Specifications
Part number	FTP-637MCL430#**
Dot pitch	0.125mm
Number of dots	576 dots/line
Max. printing width	72mm
Max. printing height*1	240mm
Line space*2	Approx. 1/8 inch (26 dots line)
Print speed*3	170mm/s with FTP-637MCL411 100mm/s with FTP-637MCL401/421
Paper feed speed (/ATF)	Approx. 30mm/s

*1: At high speed bit image printing

*2: Changeable by command

*3: Conditions:

Paper: PD150R or equivalent

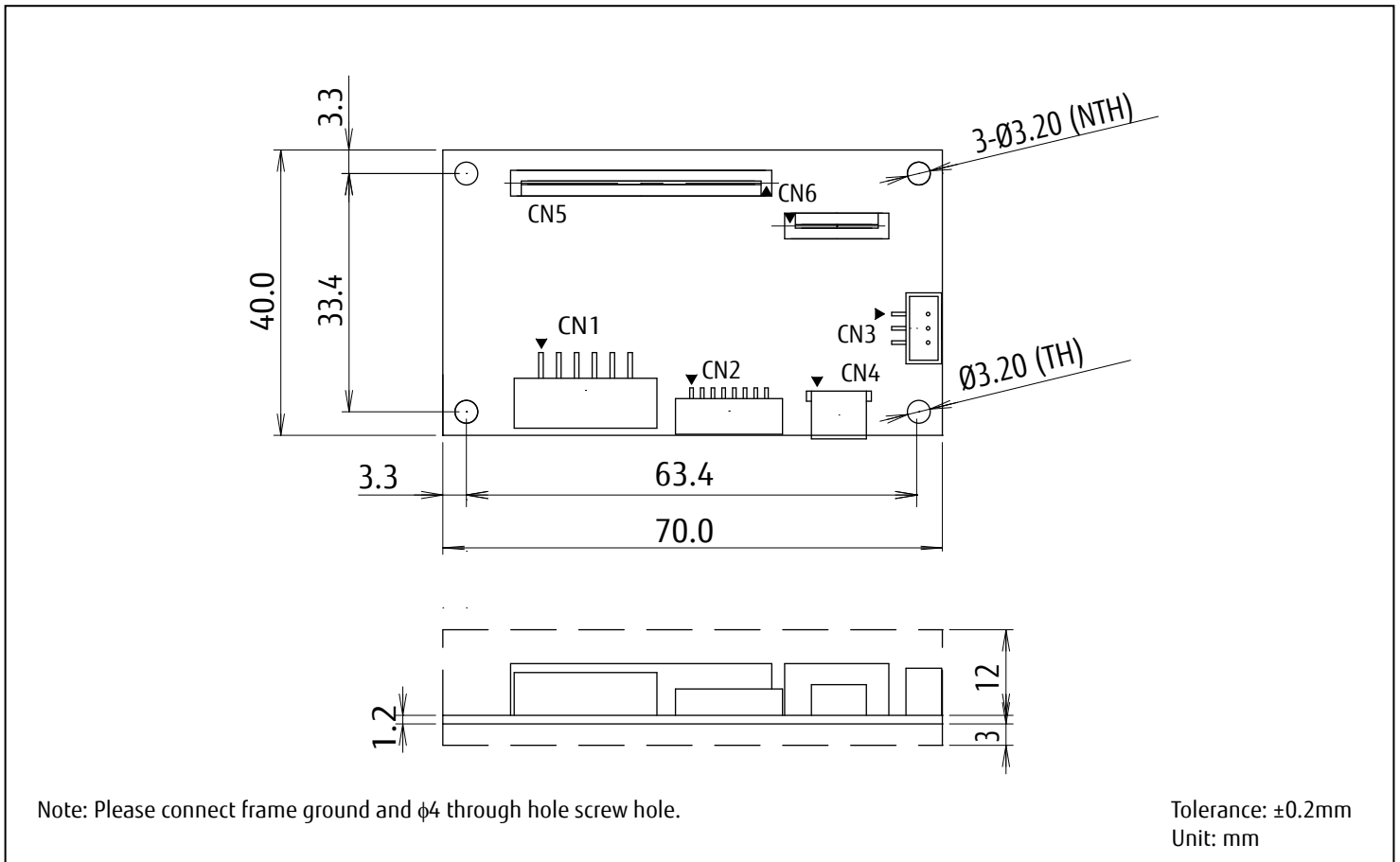
Voltage: 24V

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	Near end 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: XHP-6 (J.S.T.) or equivalent

Recommended cable: AWG#30 to 22, cable length max. 300mm

No.	Signal	I/O	Content	No.	Signal	I/O	Content
1	Vp	I	Power input	2	Vp	I	Power input
3	Vp	I	Power input	4	GND	-	Ground
5	GND	-	Ground	6	GND	-	Ground

• RS-232C connector (CN2)

Mating connector part number: ZHR-8 (J.S.T.) or equivalent

Recommended cable: AWG#32 to 28, cable length max. 300mm

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	6	/ATF	I	Detection function setting signal
7	/INPRM	I	Initialization request signal	8	/SLCTIN	I	Paper feed signal

• External I/O Connector (CN3)

Mating connector part number: PHR-3 (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 for near end sensor	2	NES	I	Near end signal
3	GND	-	Signal ground				

• USB Connector (CN4)

Mating connector part number: USB mini-B type

Recommended cable: USB standard (V2.0 full speed)

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	NC	-	Not connected
5	GND	-	Signal ground	6	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 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 printing image *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 positin setting in page mode *4
GS &+m+y1+y2+d1 to dn	Download 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 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+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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