

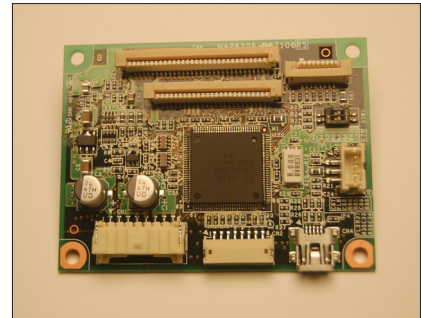
INTERFACE BOARDS

FOR 24V FTP-607 SERIES

FTP-6X7DSL350 SERIES

■ HIGHLIGHTS

- 24V FTP-607 I/F board for low profile mechanism and cutter
- Supports high-speed serial or USB (2.0) I/F
- Supports bar code and graphics
- Windows®2000/XP, Linux drivers
- UL File No. E171434
- RoHS compliant



■ PART NUMBERS

Part Number	Interface Type		Drivers	Mechanism Part Number
FTP-627DSL351	USB/RS-232C	Flash, SRAM	Windows® 2000/XP, Linux	FTP-6x7MCL401/601
FTP-627DSL354	USB			FTP-627MCL401
FTP-627DSL356	RS-232C			FTP-627MCL601
FTP-627DSL364	USB			FTP-637MCL401
FTP-627DSL366	RS-232C			FTP-637MCL601
FTP-637DSL374	USB			
FTP-637DSL376	RS-232C			
FTP-637DSL384	USB			
FTP-637DSL386	RS-232C			

■ INTERFACE SPECIFICATION AT HOST SIDE

Item	Specifications
RS-232C	Data speed: 9.6k, 19.2k, 38.4k, 115.2k, 230.4k, 460.8kbps Synchronous method: Full duplex Handshake: DTR/DSR, XON/XOFF control Parity: Non, even, odd
USB V2.0	Transmission route: Full speed 12Mbps Interface class: Printer device

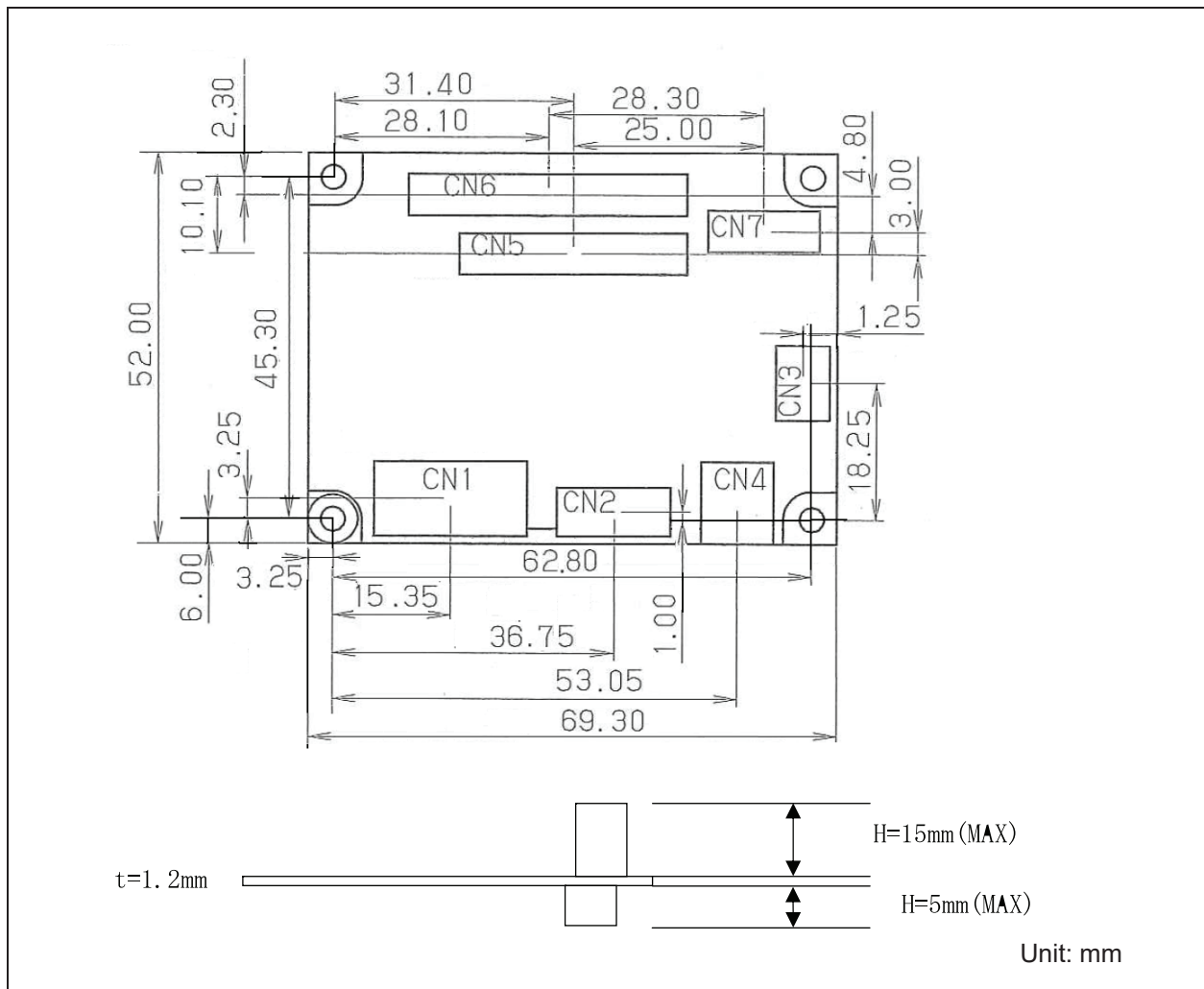
■ DIP SWITCH SETTING DSW1

Bit No.	Setting Function	Setting	Remarks
1	627 2-inch	OFF	Factory setting
	637 3-inch	ON	
2	MCL401	OFF	Factory setting
	MCL601	ON	

■ RS-232C SETTINGS

Function	Factory	Command
Baud data	19200 bps	(50)
Parity	Non	

■ DIMENSIONS



1.2 Control circuit board connector types

Symbol	Name	Function	FTP-6X7 DSL351	FTP-627 DSL3x4 / 3x6	FTP-637 DSL3x4 / 3x6
CN1	Power	5V, 24V connection	O	O / O	O / O
CN2	Serial I/F (RS232-C)	Serial (RS-232C) connection	O	X / O	X / O
CN3	Near end	NES switch connection	O	O / O	O / O
CN4	USB	USB connection	O	O / X	O / X
CN5	Head/motor	2-inch FPC connection	O	O / O	X / X
CN6	Head/motor	3-inch FPC connection	O	X / X	O / O
CN7	Cutter FPC	Cutter connection	O	O / O	O / O

■ CONNECTOR PIN ASSIGNMENT OF INTERFACE BOARD

1. Connector for Logic, Head, Motor Power supply (CN1)

Board side: SM08B-PASS-TBT (J.S.T) or equivalent

Other side: PAP-08VS or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	+5V	I	Power 5V	2	GND	-	5V ground
3	GND	-	Ground of 24V	8	+24V	I	+24V power

2. RS-232C

(1) Connector (CN2)

Connector part number : S8B-ZR-SM4A-TF (J.S.T.) or equivalent

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

(2) Connector pin assignment

No	Signal	I/O	Contents No.	No	Signal	I/O	Contents No.
1	RD	I	Receive data	2	TD	O	Transmission data
3	DTR	O	Data terminal ready	4	GND	-	Signal ground
5	DSR	I	Data set ready	6	SLCTN	I	Printer Select
7	INPRM	I	Reset	8	ATF	I	Paper feed request

Notes:

- Symbol “—” means a negative logic signal.
- “I” or “O” means a signal direction from the interface board side.

3. Connector for Paper Near-End Sensor (CN3)

Board side: B3B-PH-SM4-TBT (J.S.T) or equivalent (P.C.B. side)

Other side: PHR-3 (J.S.T.)

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	+3V	O	Power for logic	3	NC	-	Not used
2	NES	I	Paper near-end signal				

4. USB standard

(1) Connector (CN4)

Connector part number : UX60-MB-5ST (Hirose)

Mating connector part number : UX40-MB-5P (Hirose or equivalent)

(2) Connector pin assignment

No	Signal	I/O	Contents
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	N.C.	-	No connector
5	GND	-	Signal ground terminal

Notes:

- Symbol “—” means a negative logic signal.
- “I” or “O” means a signal direction from the interface board side.

■ CONNECTOR PIN ASSIGNMENT OF MECHANISM (FPC)

1. Thermal Head (CN 5)

Part number : 52610-2471 Molex or equivalent

FTP-627MCL401 PIN ASSIGNMENT

No	Signal	I/O	Contents
1	PHK		Cathode
2	VSEN	O	Logic power supply
3	PES		Paper out detection signal
4	+24 V	O	Power supply for thermal head
5	HDI	O	Print data in signal
6	STB2	O	Head energizing control signal
7	STB3	O	
8	+5V	O	Logic power supply
9	GND	—	Ground of power supply
10	GND	—	
11	GND	—	
12	TM	I	Thermistor
13	STB1	O	Head energizing signal
14	LAT	O	Print data latch signal
15	CLK	O	Datacomm clock signal
16	+24V	O	Power supply for thermal head
17	+24V	O	
18	GND	—	Ground
19	HUP		Head up
20	MT \bar{A}	—	Phase signal for motor
21	MT A	—	
22	MT \bar{B}	—	
23	MT B	—	
24	NC	—	Not connected

2. Cutter unit (CN 7)

Part number : 52610-0871 Molex or equivalent

FTP-627MCL401 PIN ASSIGNMENT

No	Signal	I/O	Contents
1	VSEN	O	Logic power supply
2	PHE	I	Home Position Signal
3	PHK		Cathode side of sensor
4	MT \bar{A}	-	Cutter drive signal
5	MT A	-	Cutter drive signal
6	MT \bar{B}	-	Cutter drive signal
7	MT B	-	Cutter drive signal
8	N.C.	-	Not connected

■ CONNECTOR PIN ASSIGNMENT OF MECHANISM (FPC)

1. Thermal Head (CN 6)

Part number : 52610-3071 Molex or equivalent

FTP-637MCL401/FTP-6x7MCL601 PIN ASSIGNMENT

No	Signal	I/O	Contents
1	PHK		Cathode
2	VSEN	O	Logic power supply
3	$\overline{\text{PES}}$		Paper out detection signal
4	+24 V	O	Power supply for thermal head
5	+24V	O	
6	+24V	O	
7	HDI	O	Print data in signal
8	$\overline{\text{STB3/2}}$	O	Head energizing signal
9	$\overline{\text{STB4/3}}$	O	
10	+5V	O	Logic power supply
11	GND	—	Ground for thermal head
12	GND	—	
13	GND	—	
14	GND	—	
15	GND	—	
16	GND	—	
17	TM		Thermistor
18	$\overline{\text{STB1/NC}}$	O	Head energizing signal 1/NC (3/2-inch)
19	$\overline{\text{STB2/1}}$	O	Head energizing signal 2/1 (3/2-inch)
20	$\overline{\text{LAT}}$	O	Print data latch signal
21	CLK	O	Datacomm clock signal
22	+24V	O	Power supply for thermal head
23	+24V	O	
24	+24V	O	
25	GND	—	Ground
26	HUP		Head up
27	$\overline{\text{MT A}}$	—	Phase signal for motor
28	MT A	—	
29	$\overline{\text{MT B}}$	—	
30	MT B	—	

2. Cutter unit (CN7)

Part number : 52610-0871 Molex or equivalent

FTP-637MCL401/601 PIN ASSIGNMENT

No	Signal	I/O	Contents
1	VSEN	O	Logic power supply
2	PHE		Home Position Signal
3	PHK		Cathode side of sensor
4	$\overline{\text{MT A}}$	-	Cutter drive signal
5	MT A	-	Cutter drive signal
6	$\overline{\text{MT B}}$	-	Cutter drive signal
7	MT B	-	Cutter drive signal
8	N.C.	-	Not connected

■ COMMANDS

Command	Contents
HT	Moves print position to the next tab
LF	Line feed
FF	Feeds forms (new page)
ESC EM+n	Setting the amount of the feeding at automatic paper feed
ECS RS	Sets reverse printing
ESC SP+n	Right side character spacing
ESC US	Resets reverse printing
ESC ! + n	Sets print mode
ESC % + n	External registration character specification/cancellation
ESC &+y+c ₁ +c ₂ +x+d ₁ ~d _N	Download character definition
ESC *+m+n ₁ +n ₂ +d ₁ ~d _N	Sets bit image mode
ESC - + n	Underline setting
ESC 2	Sets 1/6 inch line feed length
ESC 3+n	Sets the line feed length
ESC ? + n	External registration character deletion
ESC @	Printer initialization
ESC A+n	Sets the space between the line
ESC C+n	Sets the page length by character line
ESC D+d ₁ ~d _N +NUL	Sets the tab position
ESC J+n	Feeds paper in forward direction and prints
ESC K+n	Reverse paper feed
ESC R +n	International character specification
ESC V+n	Right rotation 90°
ESC X+m+n	Setting the turning time of the motor excitation
ESC c+1+n	Sets internal processing (including auto paper loading)
ESC c+5+n	Panel switch enable/disable setting
ESC d+n	Printing and n-line feeding
ESC e +n	Prints and reverse feeds n-lines
ESC i	Full cut
ESC m	Partial cut

Commands continued

Command	Contents
ECS s+n	Sets printing speed
ECS t+n	Character code table selection
ESC {+n	Sets/resets upside down printing
ESC DEL +n	Flash memory erase
FS !+n*	Kanji printing mode collective specification
FS &*	Kanji printing mode specification
FS *+m+n ₁ +n ₂ +d ₁ ~d _N	High speed collective image printing specified
FS -+n	Kanji underline specification/cancellation
FS .*	Kanji printing mode cancellation
FS 2+c ₁ +c ₂ +d ₁ to d _N	External character definition
FS 9+n	Detection function enable/disable setting
FS C+n*	Kanji code system selection
FS E+n	Correction of impressed energy
FS S+n ₁ +n ₂	Kanji spacing setting
FS W+n*	Kanji double height and width mode specification/cancellation
FS r+n	Parameter transmission. (Serial Mode only).
GS !+n	Character size specification
GS &+m+x+y ₁ +y ₂ +d ₁ ~d _N	Registration of image data
GS '+m+n	Prints registered image data
GS(E+L ₁ +2+fn+d ₁ ~d ₉) (fm-67)	RS-232C Communication setting
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 L+n ₁ +n ₂	Left margin position setting
GS V+m+n	Paper cutting (for pending cutter models only)
GS W+n ₁ +n ₂	Print area width setting
GS a+n	Setting and cancellation of auto status transmission (serial mode only).
GS e+n+m	Sets bar code width
GS h+n	Sets bar code height
GS k+m+n+d ₁ ~d _N	Selects bar code type and prints
GS w+n	Sets bar code width magnification

■ OPTIONS

1. Cables

Name		Part Number	Length (mm)
Interface Cable (between board and equipment)	For USB (CN4)	FTP-629Y301	500 (19.7 inches)
	For RS232C (CN2)	FTP-628Y302	500 (19.7 inches)
Power supply cable	Logic, Head/motor (CN1)	FTP-629Y602	300 (11.8 inches)

2. Driver LSI of Control Board

Name	Part Number	Quantity / Tray	Remarks
MCU	FTP-627CU351	90	On board Flash/SRAM

3. Paper holder

Name	Part number
Paper Flange	FTP-040HF
Paper Stand	FTP-040HS

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