

INTERFACE BOARDS FOR 24V FTP-609 SERIES FTP-629DSL300 SERIES

■ HIGHLIGHTS

- 24V FTP-609 series I/F board for 2- and 3-inch mechanisms
- Supports USB (V 2.0) and high speed serial (460kbps) I/F
- Supports 2-D bar code and graphics
- Windows® CE 5.0/2000/XP/Vista, Linux drivers
- UL File No. E171434
- RoHS compliant



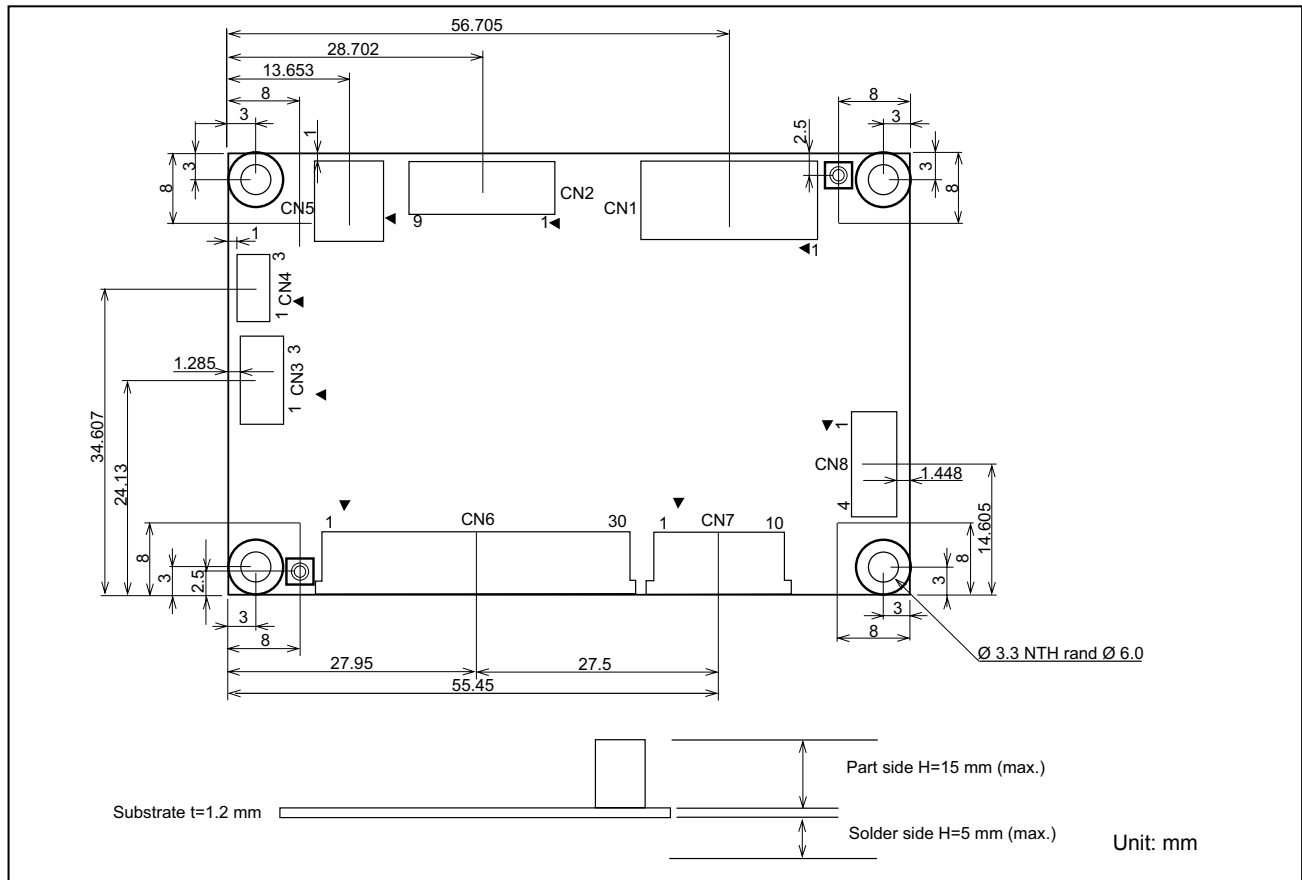
■ PART NUMBERS

Part Number	Interface Type	Flash	SRAM	Cutter	Drivers	Mechanism Part Number
FTP-629DSL301R	USB / Serial	O	O	O	Windows® CE5.0 2K/ XP/Vista, Linux	FTP-629MCL054
FTP-629DSL302R		X	O	X		FTP-629MCL103
FTP-629DSL303R		X	O	O		FTP-629MCL354
FTP-629DSL304R		O	O	X		FTP-629MCL383#01, #02
						FTP-639MCL054
						FTP-639MCL064
						FTP-639MCL103
						FTP-639MCL113
						FTP-639MCL354
						FTP-639MCL364
						FTP-639MCL383#01, #02
						FTP-639MCL393#01, #02
						FTP-649MCL054
						FTP-649MCL103

Item	Specifications	
RS-232C	Data send receive speed:	9.6k, 19.2k, 38.4k, 115.2k, 230.4k, 460.8 kbps
	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

EXTERNAL DIMENSION SPECIFICATIONS

1. External Dimension Chart of the Control Board



2. Connector Types of Control Board

No.	Name	Function	Remarks
CN1	Power connector	To connect +24V and +5V power supply	-
CN2	Connector for RS-232C interface control signal connection	To connect RS-232C interface and control signal	depends on models
CN3	Near End Switch connector	To connect Near End detection switch	sensor or switch
CN4	External sensor connector	To connect external sensor`	optional
CN5	USB interface connector	To connect USB interfaces	depends on models
CN6	Head connector	To connect the head	
CN7	Transport motor connector	To connect the transport	
CN8	Cutter connector	To connect the cutter	depends on models

CN 4 detection sensor is optional and user responsibility.

Bit No.	Setting Function	Switch Status	Operation	Remarks
1	Cutter selection	OFF	Yes	Factory setting
		ON	No	
2	USB class	OFF	USB printer	Factory setting
		ON	Not used	

■ INTERFACE

1. RS-232C standard

(1) Connector (CN2)

Connector part number : S9B-ZR-SM4A-TF (J.S.T.) or equivalent

Mating connector part number : ZHR-9 (J.S.T.) or equivalent

(2) Connector pin assignment

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	FG	-	Frame ground	2	RD	I	Receive Data
3	TD	O	Transmission data	4	DTR	O	Data terminal ready
5	GND	-	Signal ground	6	DSR	I	Data set ready
7	SLCTIN	I	Printer select	8	INPRM	I	Reset
9	AFT	I	Paper feed request				

Notes:

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

2. USB standard

(1) Connector (CN5)

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

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

No	Signal	Contents	Direction
1	Vbus	Bus power supply	Output
2	D-	Differential data I/O D- terminal	I/O
3	D+	Differential data I/O D+ terminal	I/O
4	N.C.	No connector	-
5	GND	Signal ground terminal	-

CONNECTOR PIN ASSIGNMENT OF INTERFACE BOARD

1. Thermal head control circuit side (CN6)

Part number: 52207-3085(Molex) or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	GND	-	Platen open ground	2	HUP	I	Platen open signal
3	+24V	O	Power for thermal head	4	+24 V	O	Power for thermal head
5	+24V	O	Power for thermal head	6	+24 V	O	Power for thermal head
7	HDO	O	Data out	8	STB2/STB3	O	Print enable 2/3
9	STB3/STB4	O	Print enable 3/4	10	+5 VDD	O	Power for logic
11	GND	-	Head GND	12	GND	-	Head GND
13	GND	-	Head GND	14	GND	-	Head GND
15	GND	-	Head GND	16	GND	-	Head GND
17	GND	-	Head GND	18	GND	-	Head GND
19	GND	-	Head GND	20	GND	-	Head GND
21	TMP	I	Thermistor input	22	STB1	O	Print enable 1
23	NC /STB2	O	Not connected / Head control signal 2*	24	LAT	O	Print data latch
25	HCLK	O	Clock signal	26	HDI	I	Data input
27	+24V	O	Power for thermal head	28	+24V	O	Power for thermal head
29	+24V	O	Power for thermal head	30	+24V	O	Power for thermal head

*: FTP629MCL: NC FTP-639MCL: STB4

2. Motor, Sensor (CN7)

Connector on circuit side: 52207-1085 (Molex) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	NC	-	Not connected	2	MTMP	I	Motor temperature signal
3	GND +5V	-	Logic ground	4	MT A	I/O	Motor coil excitation A
5	MT $\bar{A}$	I/O	Motor coil excitation A	6	MT B	I/O	Motor coil excitation B
7	MT $\bar{B}$	I/O	Motor coil excitation B	8	PSEK	I	Sensor cathode
9	SVCC	O	Power for logic	10	PES	I	Paper out signal

■ CONNECTOR PIN ASSIGNMENT OF INTERFACE BOARD

3. Connector for Logic, Head, Motor Power Supply (CN1)

Board side: SM0GB-PASS-TBT (J.S.T) or equivalent

Other side: PARP-08V (J.S.T.)

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	+5V	I	Power 5V	2	GND	-	5V ground
3-5	GND	-	Ground of 24V	6-8	+24V	I	+24V power

4. 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	2	NES	I	Paper near-end signal
3	NC	I	Not used				

5. Connector for External Sensor (CN4)

Board side: B3B-ZR-SM4-TBT (J.S.T)

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

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	SVCC	O	Power terminal	2	EXT SENS	I	External sensor detection
3	SEHSK	I	Cathode for photo sensor				

6. Connector for Cutter (CN8)

Board side: B4B-PH-SM4-TPT (J.S.T) or equivalent (P.C.B. side)

Other side: PHR-4 (J.S.T)

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	CHP	I	Cutter home position signal	2	GND	-	Ground
3	MT+	O	Cutter motor driving signal	4	MT-	O	Cutter motor driving signal

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 US	Resets reverse printing.
ESC SP+n	Print mode specification.
ESC ! + n	Sets print mode.
ESC % + n	External registration character specification/cancellation.
ESC & +y+c1+c2+x+d1to dn	External registration character definition.
ESC *+m+n1+n2+d1+dN	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+d1+dN +NUL	Sets the tab position.
ESC J+n	Feeds paper in forward direction and prints.
ESC K+n	Reverse paper feed.
ESC R+n	Selects international character.
ESC V+n	Right Rotation 90° specification / cancellation.
ESC X+n+m	Setting the turning time of the motor excitation.
ESC c+1+n	Sets internal processing.
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.
ECS s+n	Sets printing speed.

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Commands continued

Command	Contents
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*1.
FS &	Kanji printing mode specification*1.
FS*+m+n1+n2+d1 to dn	High speed collective image printing specified.
FS -+n	Kanji underline specification/cancellation*1.
FS .	Kanji printing mode cancellation*1.
FS 2+c1+c2+d1 to dn	External character definition.
FS 9+n	Sets the detection functions.
FS C+n	Kanji code system selection*1.
FS E+n	Correction of impressed energy.
FS S + n1 + n2	Kanji spacing setting*1.
FS W+n	Kanji double height and width printing specification/cancellation*1
FS r+n	Parameter transmission (serial mode)*2.
GS ! +n	Character size specification.
GS &+m+x1+xy1+y2+d1 to dn	Registered image definition
GS '+m+n	Registered bit image printing.
GS(+E+L1+L2+fn+d1 to d9)	RS-232C communication setting*2.
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+ n1 + n2	Left margin positions setting.
GS V+n+m	Paper cutting (this command is only available for chip).
GS W + n1 + n2	Print area width setting.
GS a+n	Setting and cancellation of auto status transmission (serial mode).
GS e+m+n	Bar code width magnification setting.
GS h+n	Sets bar code height.
GS k+m+k1 to k6 + d1 +dn	Prints PDF417 2-D barcode
GS w+n	Sets bar code width.

*1: These Kanji commands are valid with Flash models.

*2: Only RS-232C Interface model.

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■ OPTIONS

1. Cables

Name		Part Number	Cable length
Interface cable (board to mechanism)	USB	FTP-629Y301	500mm (19.7 inch)
	RS-232C	FTP-629Y302	500mm (19.7 inch)
Power supply cable	logic, head, motor	FTP-629Y602	300mm (11. 8inch)

2. Driver LSI of Control Board

Name	Part Number	Quantity / Tray	Remarks
MCU	FTP-629CU301	84	On-board Flash and SRAM

3. Paper holder

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

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