

FUJITSU Component Thermal Printer FTP-632MCL303#50/304#50 series

Fujitsu 3" high speed (80mm/s) thermal printer mechanism

Overview

The FTP-632MCL/FTP-622DCL series is an ultra low high speed line thermal printer driven by 24 VDC, printing on 3-inch wide paper (84 mm).

This printer is compact and light weight, and the design allows easy head maintenance, head cleaning and head replacement.

The printer is suitable for a variety of applications, such as POS terminals, ticket machines, coupon machines, label printers, medical instruments, etc.

A printer with a specially designed cutter is also available.



FTP-632MCL303/304#50

Features

- **High-speed printing**
It can print at 80mm/s (640 dotlines/s) maximum by using Fujitsu Components' unique head drive control
- **Low power consumption**
The peak current for head driving is approximately 2.9 A (at 80mm/s printing speed, 50% printing ratio)
- **Easy head access**
It is designed for easy head cleaning and head replacement
- **Paper auto loading function**
Thermal paper can be loaded without head-up lever operation
- **ESC/POS™*1 Commands**
The commands conform to ESC/POS™
- **Auto cutter**
Printer with auto cutter (full cut/partical cut) is also available
- **UL recognized. File number E171434**



FTP-622DCL011

*1 ESC/POS™ is a registered trademark of SEIKO EPSON Corp.

■ Part numbers

Item	Part Number	
Printer mechanism with cutter	FTP-632MCL303#50 / 304#50 ^{*1}	
Interface board	Parallel (Centronics) and serial (RS232C) FTP-622DCL011 ^{*2}	
LSI (MCU)	FTP-622CU101 ^{*3}	
Cables	Thermal head	FTP-622Y001
	Parallel interface	FTP-622Y201
	Serial	FTP-622Y301
	Power	FTP-622Y401

*1: 303#50 is for front paper insertion (curl path) and 304#50 is for rear paper insertion (straight path).

*2: 011 supports ANK

*3: CU101 supports cutter control

■ Specifications

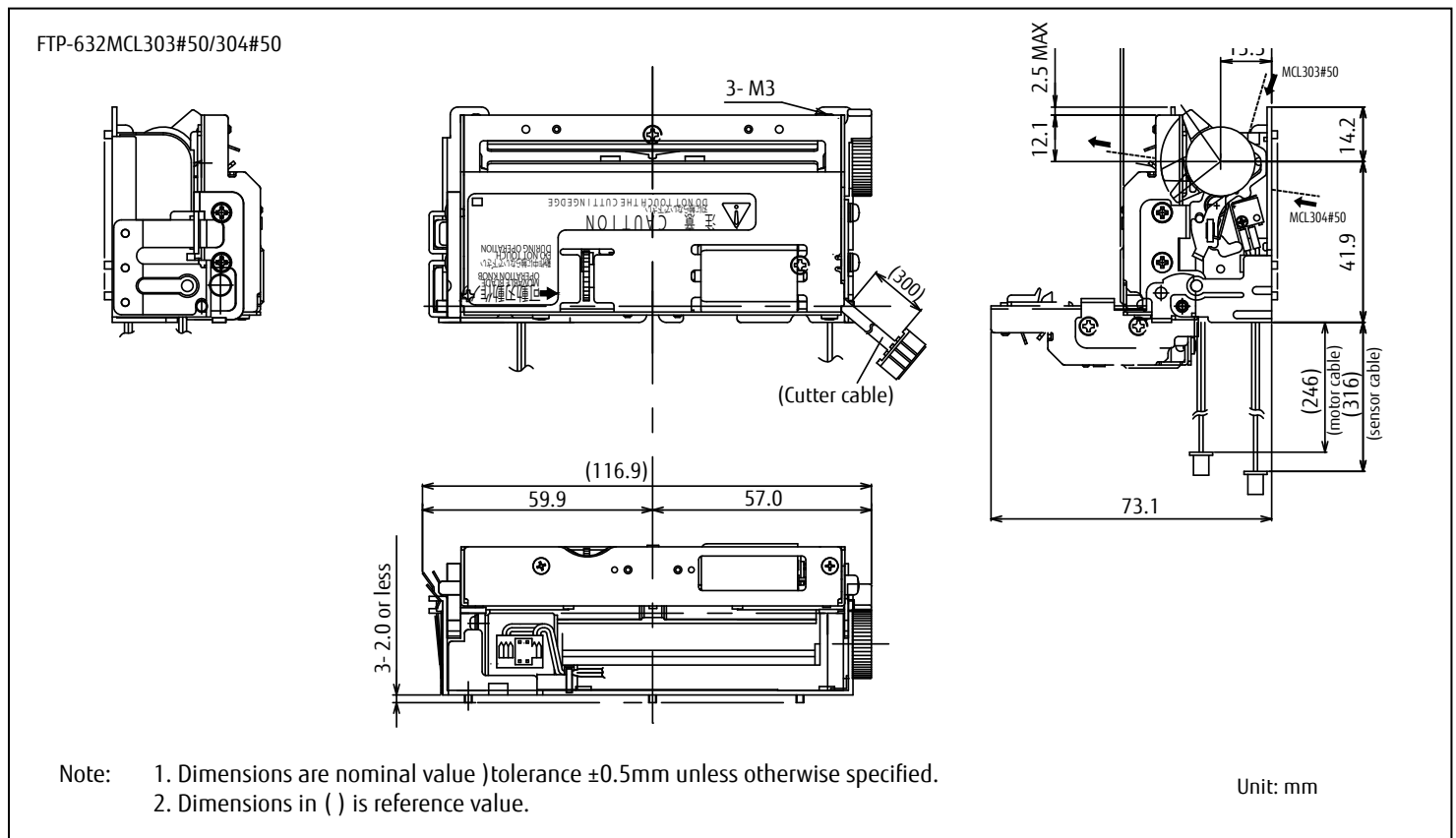
Item	Specifications	
Part number	FTP-632MCL303#50 / 304#50	
Printing method	Thermal sensitive line dot method	
Dot structure	576 dots/lines	
Dot pitch (horizontal)	0.125mm (8 dots/mm) - Dot density	
Dot pitch (vertical)	0.125mm (8 dots/mm) - Line feed pitch	
Effective printing area	72mm	
Paper width	84mm +0/-1	
Paper thickness	60-100μm (there may be exceptions)	
Cutting type	Full or partial	
Number of columns	48 columns (24x12 dot font)	
Printing speed	80mm/s (640 dot lines/s)	
Character types	Alphanumeric KANA: 159 International characters: 195	
Character dimensions (W x H), number of characters	24 x 12 dots (3.0 x 1.5mm), 48 columns 24 x 24 dots (3.0 x 3.0mm), 24 columns 16x 8 dots (2.0 x 1.0mm), 72 columns 16 x 16 dots (2.0 x 2.0mm), 36 columns	
Interface standard	Centronics (ESC/POS™), RS232C	
Power	For head	24VDC ±5%, Voltage Current: average (): Peak 2.9A (at 80mm/s printing speed, 50% print ratio)
	For printer motor	24VDC ±5%, 1.0A maximum
	For logic	5 VDC ±5%. 0.2A maximum
Dimensions (WxDxH)	Printer mechanism	116.9 x 56.5 x 37.7mm (excluding lever and knob)
	Interface board	131 x 89 x 24mm
Weight	Printer mechanism	Approximately 340g
Part number	FTP-632MCL303#50 / 304#50	

■ Specifications

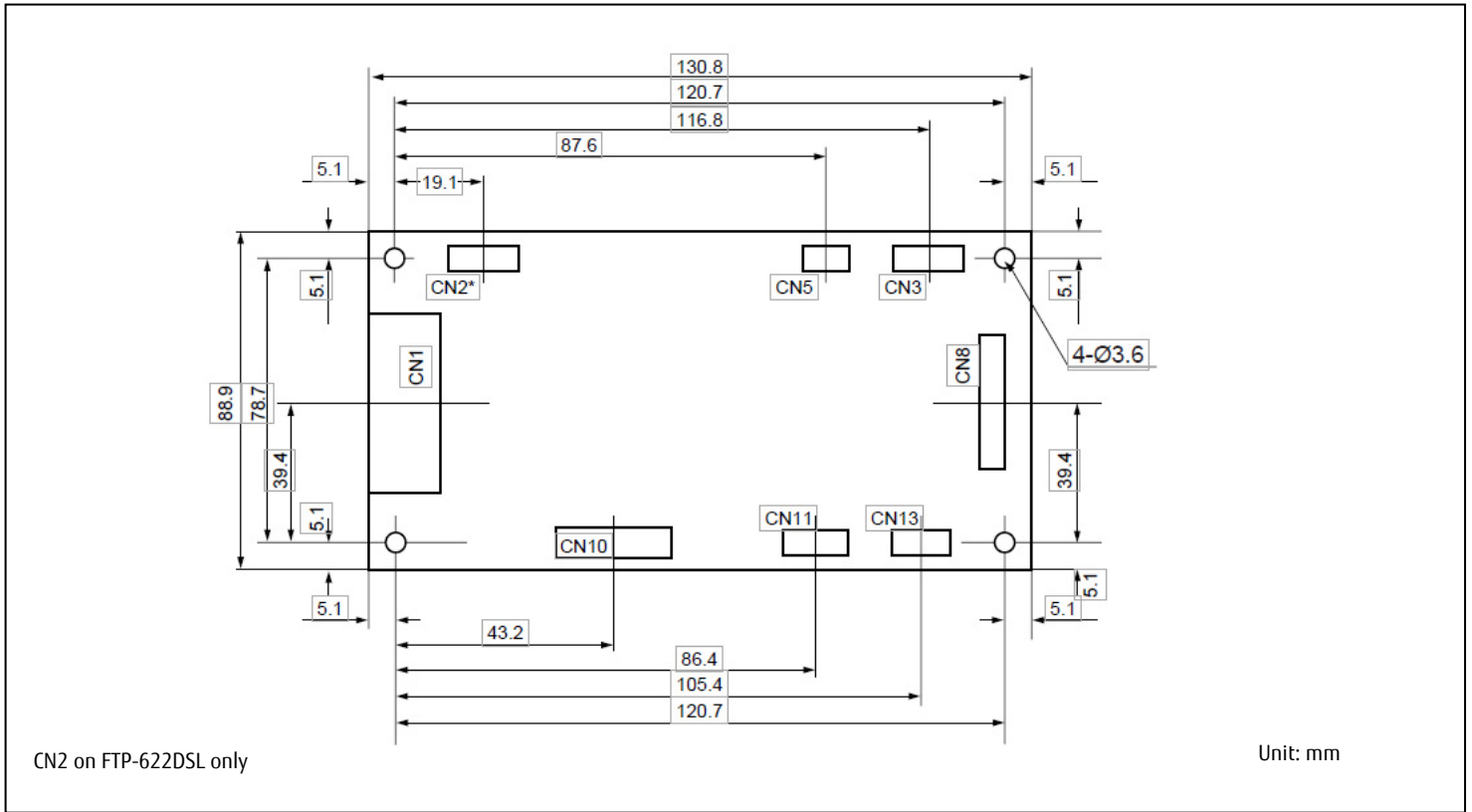
Item	Specifications	
Expected life	Mechanism	Pulse durability: 1 x10 ⁸ pulse/dot (using Fujitsu Components' standard driving method) Wear resistance: 50km (at 25% print ratio)
	Cutter	1,000,000 cuts
Environmental conditions	Operating temperature	+5°C to +40°C
	Operating humidity	20 to 85% RH (no condensation)
	Storage temperature	-20°C to +60°C (excluding paper)
	Storage humidity	5 to 95% RH (no condensation)
Detection functions	Head temperature	By thermistor (applied energy control, abnormal temperature detection)
	Paper out/Mark detect	By photointerrupter
	Head release	By microwitch
Recommended thermal sensitive paper	High sensitive paper: TF50KS-E4 (Nippon Paper) Standard paper: TF60KS-E (Nippon Paper), PD150R (Oji Paper) Medium-term preservation paper: TF60KS-F1 (Nippon Paper), P220VBB-1 (Mitsubishi Paper), PD170R (Oji Paper) Long-term preservation paper: TP60KJ-R (Nippon Paper), AFP-235 (Mitsubishi Paper), PD160R (Oji Paper)	

■ Dimensions

- Printer mechanism3-inch



■ Dimensions



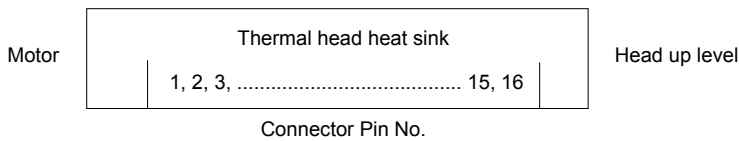
■ Connector pin assignments for printer mechanism

• Thermal head

Head side: B16B-PH-K-S-2.2 (LF)(SN) (J.S.T.) or equivalent

Board side: PHR-16 (J.S.T.) or equivalent

No	Signal	I/O	Content
1	VH	I	Thermal head power supply
2	VH	I	
3	GND	-	Ground for thermal head
4	GND	-	
5	/STB1	I	Head strobe 1 signal
6	/STB2	I	Head strobe 2 signal
7	/STB3	I	Head strobe 3 signal
8	TH	-	Thermistor (one of the thermistor is connected to the ground)
9	/STB4	I	Head strobe 4 signal
10	LAT	I	Data latch
11	/STB5	I	Head strobe 5 signal
12	VDD	I	Logic power
13	CLK	I	Clock
14	DIN	I	Data input
15	GND	-	Ground for thermal head
16	VH	I	Thermal head power supply



• Motor connectors

Motor side: PHR-4 (J.S.T.) or equivalent

Board side: B4B-PH-K-S (LF)(SN) (J.S.T.) or equivalent

No	Signal	I/O	Content
1	/B	I	Transporter motor /B excitation signal
2	B	I	Transporter motor B excitation signal
3	/A	I	Transporter motor /A excitation signal
4	A	I	Transporter motor A excitation signal

• Sensors connectors

Sensor: PHR-5 (J.S.T.) or equivalent

Board side: B5B-PH-K-S (LF)(SN) (J.S.T.) or equivalent

No	Signal	I/O	Content
1	VSEN	I	Paper sensor power
2	PHE	O	Emittor for photo interruptor
3	PHK	O	Cathode for photo interruptor
4	SW1	O	Head up detection switch 1
5	SW2	O	Head up detection switch 2

■ Function

Item	Item
1 Test printing	8 Cutter trouble detection
2 Paper out detection	9 Motor power save
3 Paper near end detection	10 Mark detection
4 Head-up detection	11 MCU trouble detection
5 Abnormal temperature detection of thermal head	12 Power off/on sequence protection
6 Blown fuse detection	13 Motor protection
7 Abnormal voltage detection of head	14 Harware timer

■ Interface, command, options

- Please refer to the FTP-622DCL datasheet and the FTP-622DSL datasheet for interface, command, and options.

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