BATTERY DRIVE, FTP-608 Series

2" HIGH SPEED THERMAL PRINTER

FTP-628 MCL101#21/ #50

Easy Loading Method

■ OVERVIEW

The easy loading FTP-608 MCL Series is ultra compact high speed, battery driven thermal printer, printing on 2-inch wide paper (58mm) where platens are removable. Our original platen removal mechanism improved paper loading and maintenance.

The FTP-608 MCL series can be used for a variety of applications, such as portable terminals, POS, ticket issuing terminals, label printers, banking terminals, and measurement and medical equipment.

■ HIGHLIGHTS

- **Easy loading type**
  Our original platen removal mechanism improved paper loading and maintenance.
- **Ultra compact**
  Height 15.5 mm, width 70.2 mm, depth 33.0 mm for the 2 inch model.
- **Low drive power**
  3 or 5V operation.
- **High speed printing**
  It can print at 60 mm/s (480 dotlines/s) maximum by using Fujitsu's unique head drive control.
- **High resolution printing**
  8 dots/mm of resolution printing is possible.

■ PART NUMBERS

Item		Part Number
Printer mechanism		FTP-628MCL101 #21 without platen open detect switch FTP-628MCL101 #50 without platen open detect switch
LSI for driving		TBA
Interface Board	Parallel	TBA
	Serial	TBA
Interface Cables	Parallel	TBA
	Serial	TBA
Power cable	Head, motor, logic	TBA

■ SPECIFICATIONS

Item	Specifications	
Part number	FTP-628MCL101#21	FTP-628MCL101#50
Printing method	Thermal-line dot method	
Dot structure	384 dots/line	
Dot pitch (Horizontal)	0.125 mm (8 dots/mm)—Dot density	
Dot pitch (Vertical)	0.125 mm (8 dots/mm)—Line feed pitch	
Effective printing area	48 mm	
Number of columns	ANK 32 columns/line (maximum 12x 24 dot font)	
Paper width	58 mm $^{+0}_{-1}$	
Paper thickness	60 to 100 µ m (some paper in this range may not be used because of paper characteristics	
Printing Speed (max.)	60mm/sec. (480 dot line/sec.) at 7.2V	60mm/sec. (480 dot line/sec.) at 8.5V
Character types	Alphanumeric, katakana: 159 types International and special characters: 195 types JIS Kanji level 1, level 2, non-Kanji (supported only when Kanji CG is mounted): about 6800 types	
Character, dimensions (H×W), number of columns	12 × 24 dots, (1.5 × 3.0mm), 32 columns: ANK 24 × 24 dots, (3.0 × 3.0mm), 16 columns: ANK, Kanji 8 × 16 dots, (1.0 × 2.0 mm), 48 columns: ANK 16 × 16 dots, (2.0 × 2.0 mm), 24 columns: ANK, Kanji	

■ **SPECIFICATIONS**

Item		Specification	
		FTP-628MCL101#21	FTP-628MCL101#50
Interface		Conforms to RS232C / Centronics	
Operating Voltage	For print head	2.7 to 7.2VDC,average current 1.9A (3A) peak Printing ratio: 12.5%, at 4.2V	4.2 to 8.5 VDC, average current 3.2A (3.8A) peak Printing ratio: 12.5%, at 7.2V
	For motor	4.2 to 8.5 VDC, 1 A max.	
	For logic	3.0 to 5.25 VDC, 0.1 A maximum	
External dimensions		70.2 x 33.0 x 15.5 mm (WxDxH)	
Weight		Approximately 42g	
Head life		Pulse resistance: 100 million pulses/dot (under our standard conditions). Abrasion resistance: paper traveling distance 50km (print ratio: 25% or less)	
Operating environment	Operating temperature*	0° C to +50° C	
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-20° C to +60° C (paper not included)	
	Storage humidity	5 to 95% RH (no condensation)	
Detection function	Head temperature detection	Detected by thermistor	
	Paper out/mark detection	Detected by photo-interrupter	
Recommended thermal sensitive paper		High sensitive paper:	TF50KS-E4 (Nippon Paper)
		Standard paper:	TK50KS-E (Nippon Paper) PD150R (Oji Paper) FTP-020P0107 (58mm)
		Medium life storage paper:	TK60KS-F1 (Nippon Paper) FTP-020P0102 (58mm) PD170R (Oji Paper) AFP220VBB-1 (Mitsubishi Paper)
		Long life storage paper:	PD160R-N (Oji Paper) AFP-235 (Mitsubishi Paper) TP50KJ-R (Nippon Paper) HA112AA (Nippon Paper)

*+5°C to +40°C printing density assurance rance (-25 to 70°C capability)
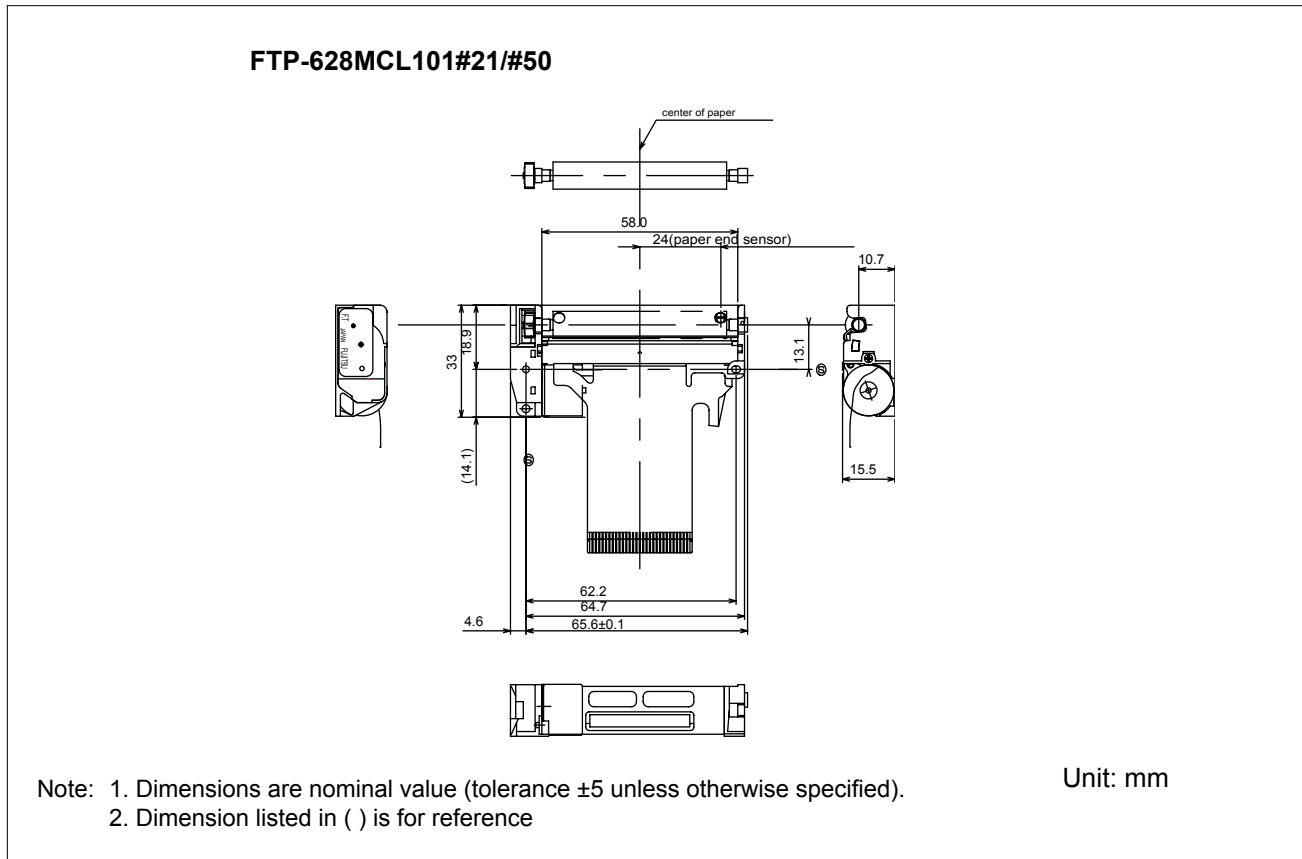
■ FUNCTION

	Item		Item
1.	Test print function	8.	Mark detection function
2.	Paper out detection	9.	MCU operation abnormality detection
3.	Paper near end detection	10.	Power ON/OFF sequence protection
4.	Thermal head temperature abnormality detection	11.	Motor over-current protection
5.	Blow-out fuse detection	12.	Hardware timer
6.	Head voltage abnormality detection		
7.	Motor power saving function		

■ DIMENSIONS
1. Printer mechanism: 2- inch

FTP-628MCL101#21/#50

center of paper

58.0
24(paper end sensor)
10.7
33
18.9
13.1
(14.1)
15.5
62.2
64.7
4.6
65.6±0.1

Note: 1. Dimensions are nominal value (tolerance ±5 unless otherwise specified).
2. Dimension listed in ( ) is for reference

Unit: mm

■ **PRINTER CONNECTOR (FLEXIBLE PT BOARD) PIN ARRAYS**
   FTP-628 MCL101#11 / #21

Thermal head, control circuit side connector: 52610-3071 Molex or equivalent product

No	Signal	I/O	Contents
1	PHK	—	Cathode for photo interruptor
2	VSEN	I	paper sensor power
3	PHE	O	Emittor for photo interruptor
4	N.C.	—	No connection
5	N.C.	—	No connection
6	VH	—	Head drive power
7	VH	—	
8	DI	I	Data in
9	CLK	I	Synchronous clock for communication
10	GND	—	Ground power supply for thermal head
11	GND	—	
12	STB6	I	Thermal head energizing control signal
13	STB5	I	
14	STB4	I	
15	VDD	I	Logic power
16	TH	O	Thermally sensitive resistor input termnial 1
17	TH	O	Thermally sensitive resistor input termnial 2
18	STB3	I	Thermal head energizing control signal
19	STB2	I	
20	STB1	I	
21	GND	—	Ground power supply for thermal head
22	GND	—	
23	LAT	I	Data latch
24	DO	O	Data out
25	VH	I	Power supply for thermal head
26	VH	I	
27	MT A	I	Stepping motor excitation signal
28	MT $\overline{A}$	I	
29	MT B	I	
30	MT $\overline{B}$	I	

Do not plug or unplug the FPC when power is on.

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