FUJITSU

BATTERY DRIVE, FTP-60D Series

2” HIGH SPEED THERMAL PRINTER

FTP-62DMCL101/111, Easy Loading Method

■ OVERVIEW

The easy loading FTP-60D 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-60D MCL series can be used for a variety of applications, such as portable terminals, POS, banking terminals, and measurement and medical equipment.

FTP-62D series

■ HIGHLIGHTS

- **Easy loading type**
  Our unique platen removal mechanism improved paper loading and maintenance.
- **Ultra compact**
  Height 19 mm, width 69.5 mm, depth 46 mm for the 2 inch model.
- **High speed printing**
  It can print at 100 mm/s (at 9.5VDC) maximum.
- **High resolution printing**
  8 dots/mm of resolution printing is possible.
- **RoHS compliant**

■ PART NUMBERS

Item		Part number
Printer		FTP-62DMCL101 (FPC length 54 mm) without platen open detect switch FTP-62DMCL111 (FPC length 65 mm) without platen switch
LSI for driving		FTP-62DCUxxx
Interface board	Serial	FTP-62DUSLxxx (RS 232C)
	USB	FTP-62DUSLxxx (V2.0)
Interface cables	Parallel	FTP-628Y202
	Serial	FTP-628Y302
	USB	FTP-628Y301
Power cable	Head, motor, logic	FTP-628Y402

■ SPECIFICATIONS

Item	Specifications
Part number	FTP-628DMCL101/111
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 85 μ m (some paper in this range may not be used because of paper characteristics
Printing Speed	Maximum 100mm/sec. (800 dot line/sec.) at 9.5V
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-62DMCL101/111	
Interface		Conforms to RS232C / USB	
Operating Voltage	For print head	4.2 VDC to 9.5 V, average current 0.87A (0.93),peak value Printing ratio: 12.5%, printing speed 75mm/sec. at 7.2 V	
	For motor	4.2 to 9.5VDC, 1A maximum	
	For logic	3.0 to 5.25VDC, 0.1 A maximum	
Dimensions	Printer mechanism	69.5 x 46 x 19mm (WxDxH)	
	Interface board	TBA	
Weight	Printer mechanism	Approximately 29 g	
	Interface board	TBA	
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:	TF60KS-E4 (Nippon Paper)
		Standard paper:	TK50KS-E (Nippon Paper) PD150R (Oji Paper) FTP-020P0701 (58mm)
		Medium life storage paper:	TK60KS-F1 (Nippon Paper) FTP-020P0704 (58mm) PD170R (Oji Paper) P220VBB-1 (Mitsubishi Paper)
		Long life storage paper:	PD160R-N (Oji Paper) AFP-235 (Mitsubishi Paper) TP50KJ-R (Nippon Paper) HA220AA (Nippon Paper)

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

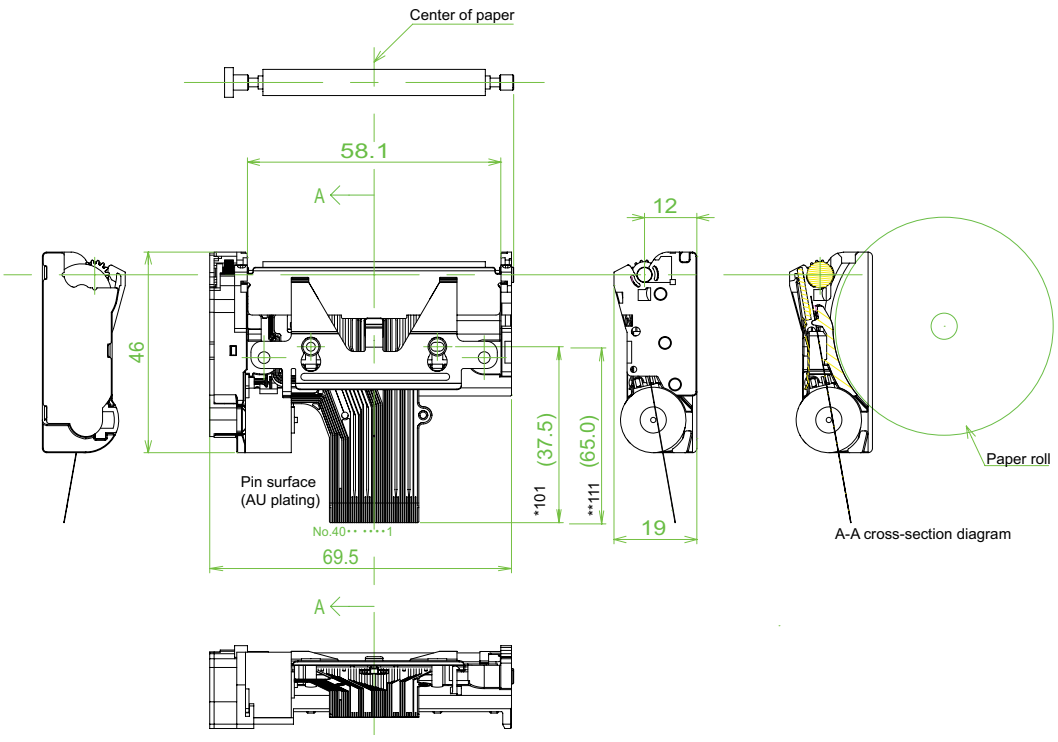
■ FUNCTION

	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-62DMCL101*/111**



Unit: mm

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

■ PRINTER CONNECTOR (FLEXIBLE PT BOARD) PIN ARRAYS

FTP-628 MCL101/111

Thermal head, control circuit side connector: 54104-4031 Molex or equivalent product

No.	Symbol	I/O	Signal Name
1	N.C.	-	No connection
2	N.C	-	
3	VH	I	Head drive power
4	VH	I	
5	VH	I	
6	VH	I	
7	DI	I	Data in
8	CLK	I	Clock
9	GND	-	Head ground
10	GND	-	
11	GND	-	
12	GND	-	
13	STB6	I	Strobe 6
14	STB5	I	Strobe 5
15	STB4	I	Strobe 4
16	Vdd	I	Logic power
17	TM	O	Thermistor
18	TM	O	
19	STB3	I	Strobe 3
20	STB2	I	Strobe 2
21	STB1	I	Strobe 1
23	GND	-	Head ground
24	GND	-	
25	GND	-	
26	/LAT	I	/ Data latch
27	DO	O	Data out
28	VH	I	Head drive power
29	VH	I	
30	VH	I	
31	VH	I	
32	N.C.	-	No connection
33	PHK	-	Cathode for photo interrupter
34	VSEN	I	Paper sensor power
35	PHE	O	Emittor for photo interruptor
36	N.C.	-	No connection
37	MT /A	I	Excitation signal A
38	MT /$\overline{A}$	I	Excitation signal $\overline{A}$
39	MT /B	I	Excitation signal B
40	MT /$\overline{B}$	I	Excitation signal $\overline{B}$

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

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