

DISCONTINUED

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**
Print at 100mm/s (at 9.5VDC) maximum (FTP-62DMCL101)
Print at 75mm/s (at 7.2 VDC) maximum (FTP-62DMCL111)
- **High resolution printing**
8 dots/mm of resolution printing is possible
- **RoHS compliant**

■ PART NUMBERS

Item		Part number
Printers		FTP-62DMCL101 (FPC length 38mm) without platen open detect switch FTP-62DMCL111 (FPC length 65mm) without platen switch
LSI for driving		FTP-62DCUxxx
Interface boards	Serial	FTP-62DDSLxxx (RS 232C)
	USB	FTP-62DDSLxxx (V2.0)
	USB/RS-232C	FTP-62DDS001-R
Interface cables	Parallel	FTP-628Y202
	Serial	FTP-628Y302
	USB	FTP-628Y301
Power cable (head, motor, logic)		FTP-628Y402
Platen replacement		FTP-62DMP0221

■ SPECIFICATIONS

Item		Specifications
Part number		FTP-62DMCL101/111
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 μm (some paper in this range may not be used because of paper characteristics)
Printing Speed	MCL101	Maximum 100mm/sec. (800 dot line/sec.) at 9.5V
	MCL111	Maximum 75mm/sec. (600 dot line/sec.) at 7.2V
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	MCL101/111	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	MCL101/111	4.2 to 9.5VDC, 1A maximum	
	For logic	MCL101/111	3.0 to 5.25VDC, 0.1 A maximum	
Dimensions	Printer mechanism		69.5 x 46 x 19mm (WxDxH)	
	Interface board		40 x 41mm	
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 range (-25 to 70°C capability)

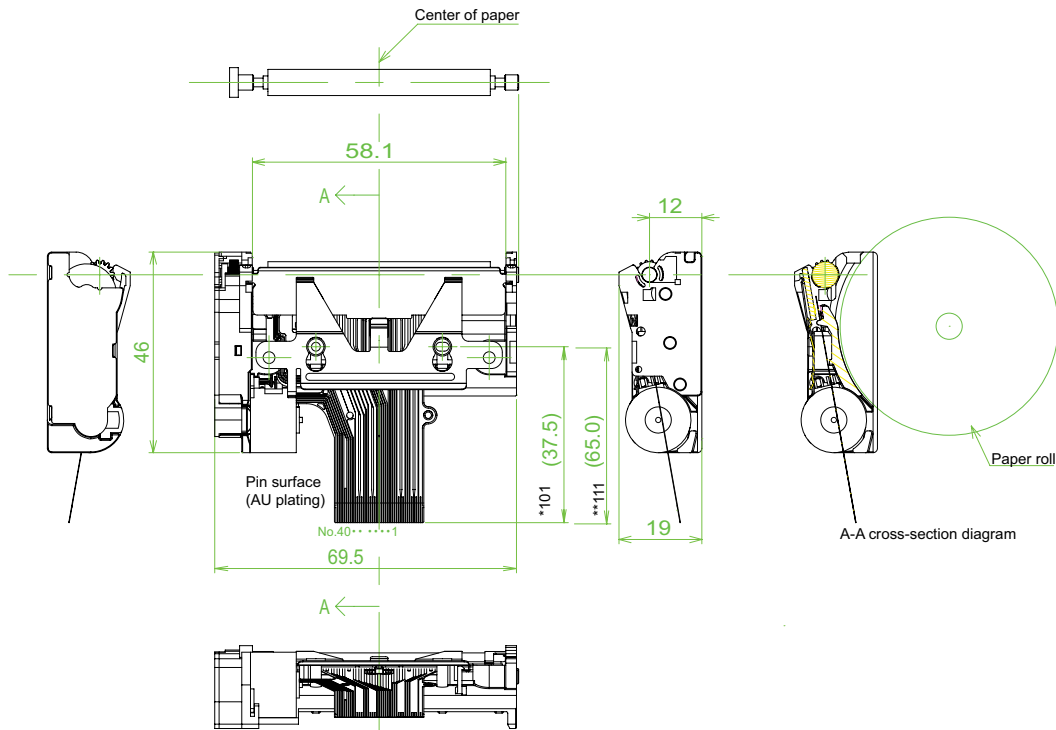
■ FUNCTION

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 ± 0.5 unless otherwise specified).
2. Dimension listed in () is for reference

■ PRINTER CONNECTOR (FLEXIBLE PT BOARD) PIN ARRAYS

FTP-62DMCL101/111

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	Emitter 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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