

## 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 <sup>+0</sup>		
Paper thickness		60 to 85 μ m (some paper in this range may not be used because of paper characteristics		
Printing Speed MCL101  MCL111		Maximum 100mm/sec. (800 dot line/sec.) at 9.5V		
		Maximum 75mm/sec. (600 dot line/sec.) at 7.2V		
Character types		Alphanumeric, katakana: International and special characters: JIS Kanji level 1, level 2, non-Kanji (supported only when Kanji CG is mounted):	159 types 195 types about 6800 types	
Character, dimensions (H×W), number of columns		$\begin{array}{c} 12\times24\ dots,\ (1.5\times3.0\text{mm}),\ 32\ columns:\ ANK\\ 24\times24\ dots,\ (3.0\times3.0\text{mm}),\ 16\ columns:\ ANK,\ Kanji\\ 8\times16\ dots,\ (1.0\times2.0\ \text{mm}),\ 48\ columns:\ ANK\\ 16\times16\ dots,\ (2.0\times2.0\ \text{mm}),\ 24\ columns:\ ANK,\ Kanji\\ ANK,\ Kanji\\ \end{array}$		

# **■ SPECIFICATIONS**

ltom		Specification				
ltem			FTP-62DMCL101/111			
Interface			Conforms to RS232C / USB			
	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			
Operating Voltage	For motor	MCL101/111	4.2 to 9.5VDC, 1A maximum			
Voltago	For logic MCL101/111		3.0 to 5.25VDC, 0.1 A maximum			
Dimensions	Printer mechanism		69.5 x 46 x 19mm (WxDxH)			
Dimensions	Interface board		40 x 41mm			
Weight	Printer mechanism		Approximately 29 g			
Weight Interface board		ТВА				
Head life			Pulse resistance: 100 million pulses/dot (under our standard conditions). Abrasion resistance: paper traveling distance 50km (print ratio: 25% or less)			
	Operating temperature*		0°C to +50°C			
Operating	Operating humidity		20 to 85% RH (no condensation)			
environment	Storage temperature		-20°C to +60°C (paper not included)			
	Storage humidity		5 to 95% RH (no condensation)			
Detection	Head temperature detection		Detected by thermistor			
function Paper out/		nark detection	Detected by photo-interrupte	upte r		
			High sensitive paper:	TF60KS-E4 (Nippon Paper)		
Recommended thermal sensitive 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)		

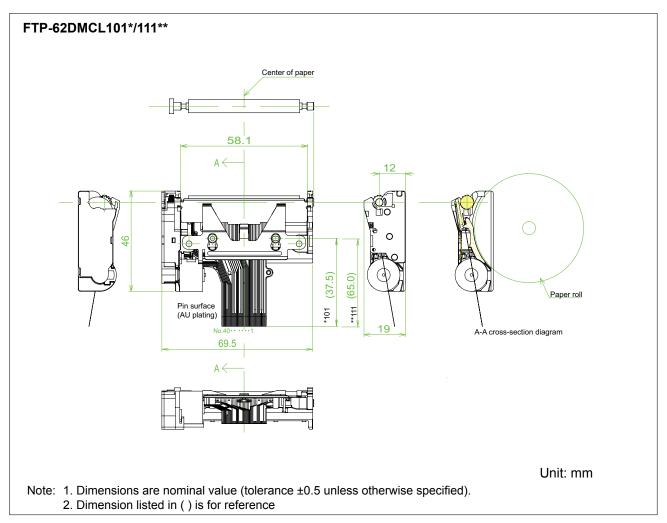
<sup>\*+5°</sup>C to +40°C printing density assurance rance (-25 to 70°C capability)

## **■ 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



# ■ 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.	-	
2	N.C	-	No connection
3	VH	I	
4	VH	I	Hand diving passing
5	VH	I	Head drive power
6	VH	I	
7	DI	I	Data in
8	CLK	I	Clock
9	GND	-	
10	GND	-	l land areas d
11	GND	-	Head ground
12	GND	-	
13	STB6	I	Strobe 6
14	STB5	I	Strobe 5
15	STB4	I	Strobe 4
16	Vdd	I	Logic power
17	TM	0	Thermoieten
18	TM	0	Thermistor
19	STB3	I	Strobe 3
20	STB2	I	Strobe 2
21	STB1	I	Strobe 1
23	GND	-	
24	GND	-	Head ground
25	GND	-	
26	/LAT	I	/ Data latch
27	DO	0	Data out
28	VH	I	
29	VH	I	Hood drive newer
30	VH	I	Head drive power
31	VH	I	
32	N.C.	-	No connection
33	PHK	-	Cathode for photo interrupter
34	VSEN	I	Paper sensor power
35	PHE	0	Emittor for photo interruptor
36	N.C.	-	No connection
37	MT /A	I	Excitation signal A
38	MT /A	ı	Excitation signal A
39	MT /B	I	Excitation signal B
40	MT /B	I	Excitation signal B
Do not plue	g or unplug the	FPC whe	en nower is on

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

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