

BATTERY DRIVEN, FTP-608 Series 2" HIGH SPEED THERMAL PRINTER

FTP-628MCL353/354 #01 / #02

■ OVERVIEW

The FTP-628 MCL Series are battery driven high-speed printers with a 2-inch paper width equivalent.

The FTP-628 MCL Series can be used for a variety of applications, such as portable terminals, POS, ticket issuing machines, label printers, banking terminals, and measurement and medical equipment.



Ultra compact Height 26.4 mm, width 83.5 mm, depth 43.0 mm

· High speed printing

It can print at 80 mm/s (640 dotlines/s) maximum by using Fujitsu's unique head drive control.

Auto Cutter

Full cut type (#01) and partial cut type (#02) printers are available.

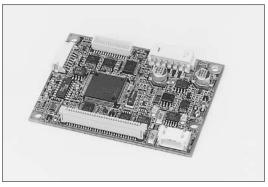
· Auto paper loading

Our unique platen release mechanism allows a wide paper route even if the printer is ultra-compact, so paper can be easily inserted. Conventional auto loading is also available.

RoHS compliant



FTP-628MCL354



FTP-628DSL306

1

■ PART NUMBERS

		Part Number			
Printer mechanis	m with Cutter	FTP-628MCL353#01 (front paper insertion, full cut type with knob) FTP-628MCL353#02 (front paper insertion, partial cut type with knob) FTP-628MCL354#01 (bottom paper insertion, full cut type without knob) FTP-628MCL354#02 (bottom paper insertion, partial cut type without kno			
LSI for driving		FTP-628CU301R (ANK only) FTP-628CU601R			
Interface Board for Mech/Cutter	Cutter supported	FTP-628DCL301R Parallel (Centronics) FTP-628DSL306R Serial (RS232C) FTP-628DSL608R (USB)			
Interface	Parallel (Centronics)	FTP-628Y202			
cables	Serial (RS232C)	FTP-628Y302			
	USB	FTP-629Y301			
Power cable	Head, motor, logic	FTP-628Y402			

■ SPECIFICATIONS

Item	Specifications			
Part number	FTP-628MCL353#01/#02, FTP-628MCL354#01/#02			
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 12 x 24 dot font)			
Paper width	58 mm			
Paper thickness	60 to 100 µm (some paper in this range may not be used because of paper characteristics)			
Printing Speed	Maximum 80mm/sec. (640 dot line/sec.) at 8.5V			
Character types	Alphanumeric, kana: International characters: JIS Kanji (Kanji CG loaded board):	159 types 195 types about 6800 types		
Character, dimensions (W×H), number of columns	12×24 dots, $(1.5\times3.0$ mm), 32 columns: ANK 24×24 dots, $(3.0\times3.0$ mm), 16 columns: ANK 8×16 dots, $(1.0\times2.0$ mm), 48 columns: ANK 16×16 dots, $(2.0\times2.0$ mm), 24 columns: ANK			

■ SPECIFICATIONS

Item			Specification				
Interface			Conforms to RS232C / Centronics				
	For print head		4.2 - 8.5 VDC average current, 0.78A (0.93A) peak value (print ratio: 12.5%, print speed: 50mm/sec. at 7.2V)				
Power supply	For motor		4.2 - 8.5 VDC, 1A maximu m				
	For cutter		5 VDC ± 5%, 1A maximum				
	For logic		3.0 to 5.25 VDC ± 5%, 0.1 A maximum				
	Mechanism MCL353		83.5 x 43.0 x 26.4 mm (WxDxH)				
Dimensions	with cutter	MCL354	80.5 x 43.0 x 26.4 mm (WxDxH)				
Difficusions	Interface boar	d	69.3 x 52 x 15mm				
\\/oight	Mechanism w	ith cutter	Approximately 120g				
Weight	Interface board		Approximately 20g				
Life	Head		Pulse resistance: 100 million pulses/dot (under our standard conditions); Abrasion resistance: paper traveling distance 50km (print ratio: 25% or less)				
	Cutter		300,000 cuts				
	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 90% RH (no condensation)				
Detection	Head temperature detection		Detected by thermistor				
Detection function	Paper out/mark detection		Detected by photo-interrupter				
	Platen release		Detected by sliding switch				
			High Sensitive Paper	TF50KS-E4 (Nippon Paper)			
Recommended thermal sensitive paper			Standard paper:	TF60KS-E(Nippon Paper), FTP - 020PU001 (58mm), PD105R (Oji Paper), FTP-020P0701 (58mm)			
			Medium Life Paper	TF60KS-F1, FTP-020P0102 (58mm), PD170R (Oji Paper), P220VBB-1 Mitsubishi Paper)			
			Long Life Paper	PD160R-N (Oji Paper), AFB-235 (Mitsubishi Paper), TP50KJ-R (Nippon Paper), HA220AA (Nippon Paper)			
				- 1 - 7, (11 11 - 7			

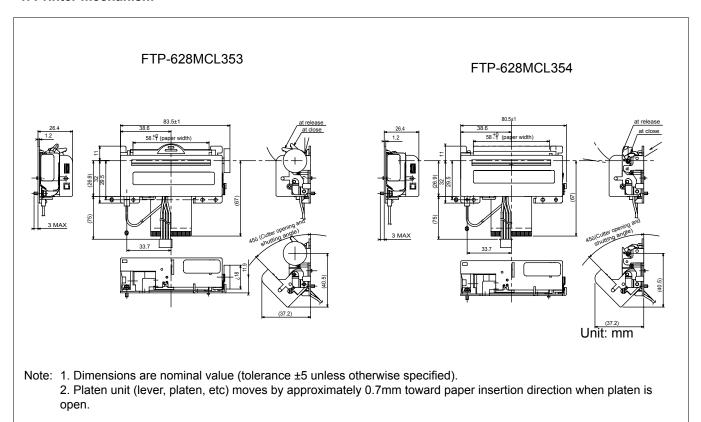
^{*+5°}C to +40°C printing density assurance rance (-25 to 70°C capability)

■ FUNCTION OF INTERFACE BOARD

	Item		Item
1.	Test print function	8.	Cutter trouble detect
2.	Paper out detection	9.	Motor power saving function
3.	Paper near end detection	10.	Mark detection function
4.	Platen open detection	11.	MCU operation abnormality detection
5.	Thermal head temperature abnormality detection	12.	Power ON/OFF sequence protection
6.	Blow-out fuse detection	13.	Motor over-current protection
7.	Head voltage abnormality detection	14.	Hardware timer

■ DIMENSIONS

1. Printer mechanism



1. Connector (FPC) specification (CN4)

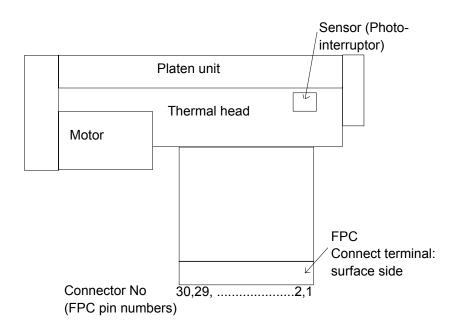
(1) Connector

Mechanical unit side: FPC connector

Remote side (housing site): 52610-3071 (made by Molex)

(2) Pin assignment on the mechanical side

No	Signal	I/O	Contents		
1	PHK	_	Cathode for photo interruptor		
2	VSEN	I	paper sensor power		
3	PHE	0	Emittor for photo interruptor		
4	SW1	0	Platen release switch		
5	SW2	I	Platen release switch		
6	VH	I	Head drive power		
7	VH	I	Tread drive power		
8	DI	I	Data in		
9	CLK	I	Synchronous clock for communication		
10	GND		Ground power supply for thermal head		
11	GND	_	Ground power supply for thermal nead		
12	STB6	I			
13	STB5	_	Thermal head energizing control signal		
14	STB4	_			
15	VDD		Logic power		
16	ТМ	0	Thermally sensitive resistor input termnial 1		
17	TM	0	Thermally sensitive resistor input termnial 2		
18	STB3		Thermal head energizing control signal		
19	STB2	_			
20	STB1	Ι			
21	GND		Ground power supply for thermal head		
22	GND	_	Ground power supply for thermal nead		
23	LAT	I	Data latch		
24	DO	0	Data out		
25	VH	I	Dower gupply for thormal head		
26	VH	I	Power supply for thermal head		
27	MT A	I			
28	MT Ā	I	Stanning mater evoltation signal		
29	MT B	I	Stepping motor excitation signal		
30	MT B	I			



2. Cutter (CN5)

Connector on control circuit side: B4B-PH-K-S (J.S.T. or equivalent)

	No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
ſ	1	SWI	0	Cutter position detect signal	2	SW2	0	Logic ground
	3	MT+	I	Stepping motor coil excitation A	4	MT-	I	Not connected

Fujitsu Components International Headquarter Offices

Japan

Fujitsu Component Limited Gotanda-Chuo Building

3-5, Higashigotanda 2-chome, Shinagawa-ku

Tokyo 141 8630, Japan Tel: (81-3) 5449-7010 Fax: (81-3) 5449-2626 Email: promothq@fcl.fujitsu.com Web: www.fcl.fujitsu.com

North and South America

Fujitsu Components America, Inc. 250 E. Caribbean Drive Sunnyvale, CA 94089 U.S.A. Tel: (1-408) 745-4900 Fax: (1-408) 745-4970

Email: components@us.fujitsu.com Web: http://us.fujitsu.com/components/

Europe

Fujitsu Components Europe B.V.

Diamantlaan 25 2132 WV Hoofddorp Netherlands Tel: (31-23) 5560910 Fax: (31-23) 5560950 Email: info@fceu.fujitsu.com Web: emea.fujitsu.com/components/

Asia Pacific

Fujitsu Components Asia Ltd. 102E Pasir Panjang Road #01-01 Citilink Warehouse Complex

Singapore 118529 Tel: (65) 6375-8560 Fax: (65) 6273-3021 Email: fcal@fcal.fujitsu.com

Web: http://www.fujitsu.com/sg/services/micro/components/

©2009 Fujitsu Components America, Inc. All rights reserved. All trademarks or registered trademarks are the property of their respective owners.

Fujitsu Components America or its affiliates do not warrant that the content of datasheet is error free. In a continuing effort to improve our products Fujitsu Components America, Inc. or its affiliates reserve the right to change specifications/datasheets without prior notice. Rev. February 26, 2009.