

# 24V DRIVE, FTP-609 SERIES ULTRA HIGH SPEED (200mm/s) 2" TYPE MECHANISM (Cutter option) FTP-629MCL103/383

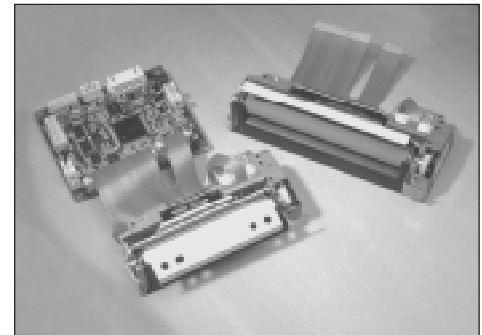
## ■ OVERVIEW

The FTP-609MCL Series thermal printer (driven by 24VDC) provides ultra-high speed printing (200mm/s) for 2-inch and 3-inch wide paper.

This series is suitable for a variety of applications, such as POS/ ECR, kiosk terminals, ticket machines, label printers, banking machines, measuring devices, medical equipment, etc.

## ■ HIGHLIGHTS

- **Ultra high speed printing**  
It can print at 200 mm/s (1600 dotlines/s) maximum by using Fujitsu Components' unique head drive control.
- **2 Color printing**  
It can print 2 colors: blue/ black or red/black
- **ELM (Easy Loading Mechanism) with lock type**  
Fujitsu Components' unique platen release mechanism allows easy paper setting and easy head maintenance.
- **Auto Cutter**  
Printer with auto cutter (full cut/ partial cut) is available. It can be mounted on top of the mechanism.
- **Multi-featuring diecast frame**  
By application of multi-featuring diecast frame, continuous print by function of heat-sink, high ESD stand by function of earth frame and shock/vibration stand by function of solid frame are valid.
- **Compact size**  
Depth: 40.5mm, width: 82.2mm, height: 20.5mm for the 2-inch model. The 3-inch model has a width of 104.2mm
- **High resolution**  
8 dots/mm head provides clear print out.



FTP-6x9MCL103 with FTP-629DCL014

# FTP-629MCL103/383

## ■ PART NUMBERS

Name		Part Number
Printer Mechanism	2 inch	FTP-629MCL103
Mechanism with Cutter	2 inch	FTP-629MCL383#01/ #02*1
LSI		FTP-629CU101
Interface Board	parallel	FTP-629DCL014
	serial	FTP-629DSL034
Interface Cable (board to mechanism)	Centronics	FTP-628Y202
	RS-232C	FTP-628Y302
Power supply cable	logic	FTP-629Y401
	head, motor	FTP-629Y601

\*1: #01 is for full cut, #02 is for partial cut

## ■ GENERAL SPECIFICATIONS

Item	Specifications	
Part number	FTP-629MCL103	FTP-629MCL383
Printing method	Thermal-sensitive line dot method	
Dot structure	432 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	54 mm	
Number of columns	ANK 36 columns (12X24 dot font max.)	
Paper width	58mm $\pm$ <sub>1</sub> <sup>0</sup>	
Paper thickness	60 to 150 $\mu$ m (there may be exceptions)	
Cutting type	---	full or partial
Printing speed	200mm/s (1600 dotlines/s maximum at black-white image batch printing)	
Character types	Alphanumeric KANA International JIS Kanji (Kanji CG loaded board)	:159 :195 :approx. 6800
Character, dimensions(H×W), number of characters	12×24 dots,(1.5×3.0mm) 24×24 dots,(3.0×3.0mm) 8×16 dots,(1.0×2.0mm) 16×16 dots,(2.0×2.0mm)	36 columns 18 columns 54 columns 27 columns
Interface	Centronics / RS-232C standard	

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Item		Specifications	
Part number		FTP-629MCL103	FTP-629MCL383
Power supply	For head	24 VDC $\pm$ 5% 3A (24V , 25% printing ratio)	
	For printer motor	24VDC $\pm$ 5% 1A maximum	
	For cutter motor	---	24VDC $\pm$ 5% 1A maximum
	For logic	5VDC $\pm$ 5% 0.5 A maximum	
Dimension	Printer Mechanism	82.5 (W) $\times$ 40.5 (D) $\times$ 20.5 (H) mm	---
	Printer Mechanism with cutter	---	90.5 (W) $\times$ 70.3 (D) $\times$ 37.4 (H) mm
	Interface board	70 (W) $\times$ 60 (D) $\times$ 24 (H) mm	
Weight	Printer Mechanism	Approximately 110g	---
	Printer Mechanism with cutter	---	Approximately 300g
Life	Head	Pulse durability: $1 \times 10^8$ pulse/dot (using Fujitsu Components' standard driving method) Wear resistance: 50 km (at 25% print ratio)	
	Cutter	---	1,000,000 cuts min.
Environmental conditions	Operating temperature	-25°C to +70°C (Guarantee)	0°C to +50°C
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-40°C to +85°C (excluding paper)	
	Storage humidity	5 to 95% RH (no condensation)	
Detection	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerrupter	
Recommended thermal sensitive paper	Head release	By slide switch	
	High sensitivity paper	TF50KS-E4 (Nippon paper)	
	Standard paper	TF60KS-E (Nippon paper), FTP-020P0104 (58mm), PD150R (Oji paper), FTP-020P020P0701 (58mm)	
	Medium term paper	TP60KS-F1 (Nippon paper), FTP-020P0102(58mm), PD170R (Oji paper) P220VBB-1 (Mitsubishi paper) PD160R-N (Oji paper)	
	Long term paper	AFP-235 (Mitsubishi paper) TP50KJ-R (Nippon paper) HA220AA (Nippon paper)	

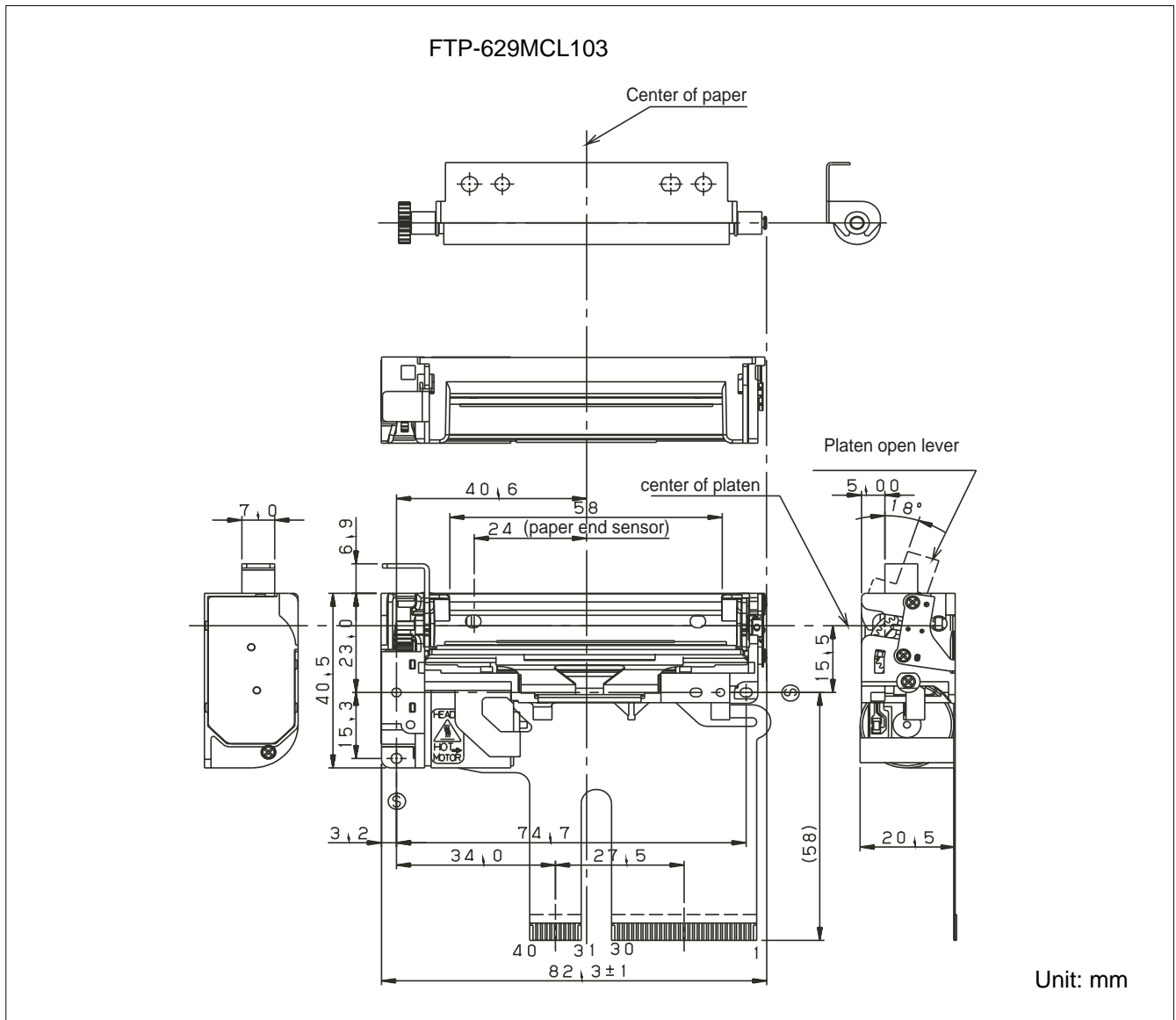
# FTP-629MCL103/383

## FUNCTION

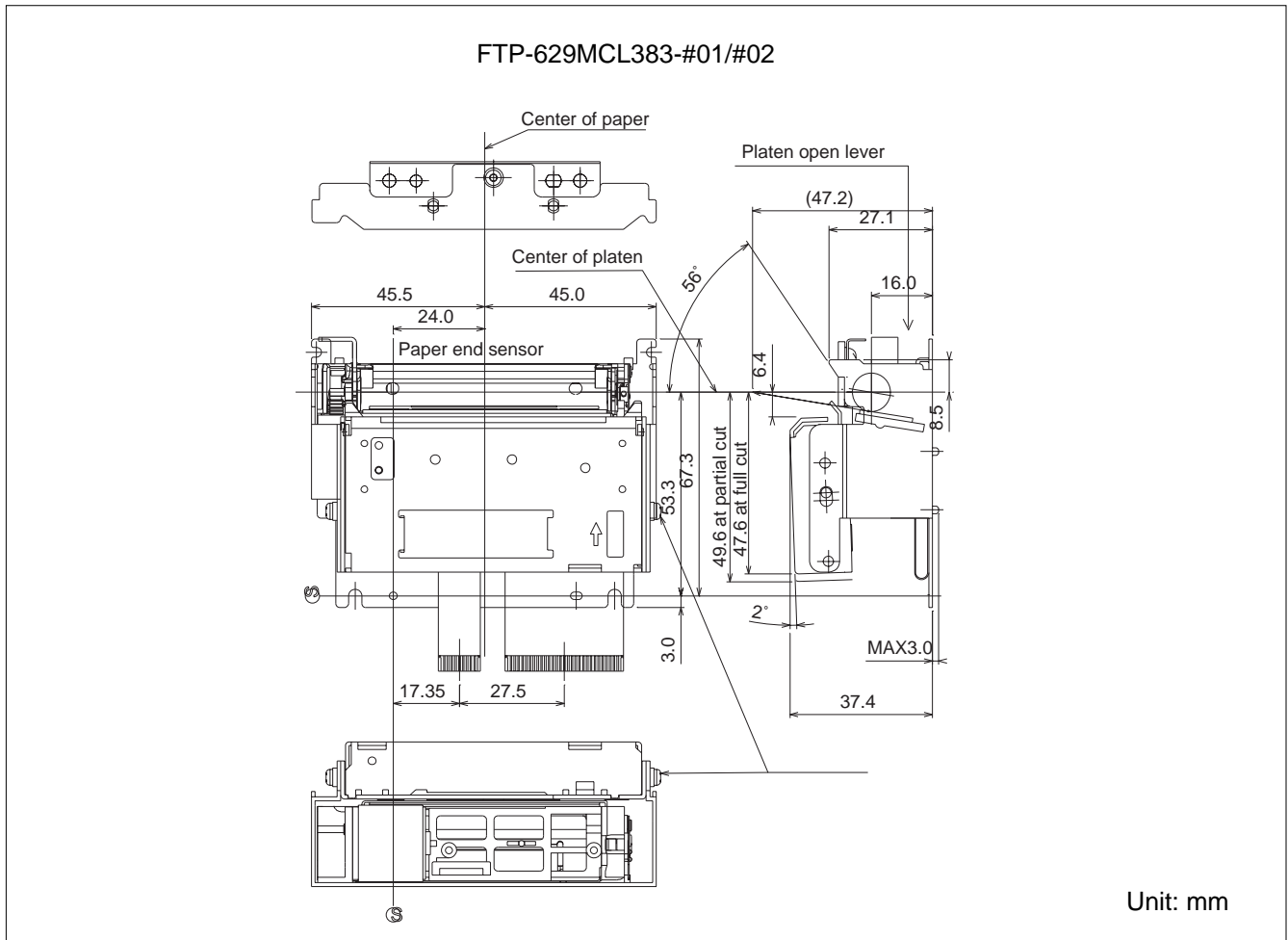
ITEM		ITEM	
1.	Test printing	8.	Cutter trouble detection
2.	Paper-out detection	9.	Motor power save
3.	Paper near end detection	10.	Mark detection
4.	Head-up detection	11.	MCU trouble detection
5.	Abnormal temp. of thermal head detection	12.	Power on/off sequence protection
6.	Blown fuse detection	13.	Motor protection
7.	Abnormal voltage detection of head	14.	Hardware timer

## DIMENSIONS

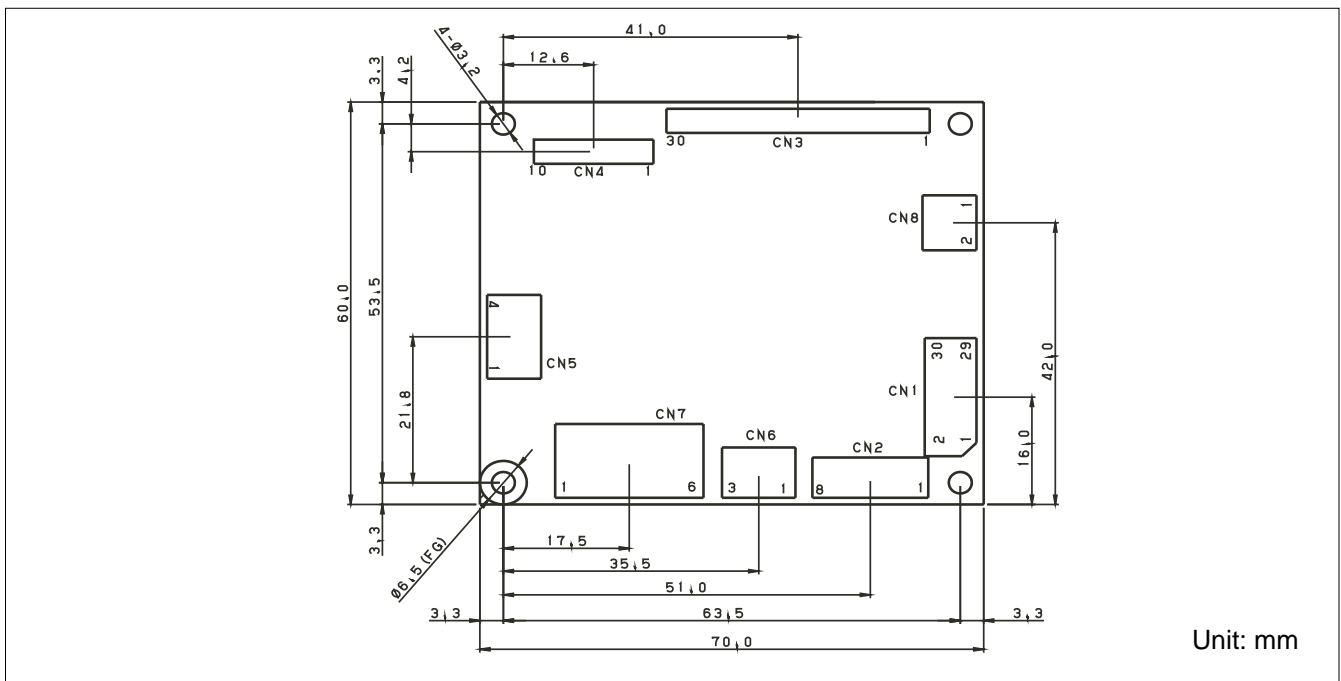
### 1. Printer mechanism



## 2. Printer mechanism



## Interface board



## ■ CONNECTOR PIN ASSIGNMENT OF PRINTER MECHANISM (FPC)

### 1. Thermal head control circuit side (CN3)

Part number : 52610-3090 (Molex) or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	SW	O	Platen open switch	2	VDD	-	Power for thermal head
3	VH	-	Power for thermal head	4	VH	-	Power for logic
5	VH	-	Power for thermal head	6	VH	-	Power for thermal head
7	DO	I	Data out	8	$\overline{\text{STB2}}$	I	Print enable 2
9	$\overline{\text{STB3}}$	I	Print enable 3	10	VDD	-	Power for thermal head
11	GND	-	Head GND	12	GND	-	Head GND
13	$\overline{\text{GND}}$	-	Head GND	14	GND	-	Head GND
15	GND	-	Head GND	16	GND	-	Head GND
17	GND	-	Head GND	18	GND	-	Head GND
19	GND	-	Head GND	20	GND	-	Head GND
21	TH	O	Thermistor	22	$\overline{\text{STB1}}$	I	Print enable 1
23	NC/ $\overline{\text{STB4}}$	I	Not connected / Print enable 4*	24	$\overline{\text{LAT}}$	I	Print data latch
25	CLK	I	Clock	26	DIN	O	Data input
27	VH	-	Power for thermal head	28	VH	-	Power for thermal head
29	VH	-	Power for thermal head	30	VH	-	Power for thermal head

### 2. Motor, Sensor (CN4)

Connector on circuit side : 52610-1090 (Molex) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	NC	-	Not connected	2	MTMP	O	Motor temperature sensor
3	GND	-	Logic	4	$\text{MT}/\overline{\text{A}}$	I/O	Motor coil excitation A
5	MT/A	I/O	Motor coil excitation A	6	$\text{MT}/\overline{\text{B}}$	I/O	Motor coil excitation B
7	MT/B	I/O	Motor coil excitation B	8	PESK	-	Paper out sensor cathode
9	+5V	-	Power for logic	10	$\overline{\text{PES}}$	O	Paper sensor out

### 3. Cutter (CN5)

Connector type: B4B-PH-SM3-TB (J.S.T.) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	CHP	-	Cutter home position	2	GND	I	Ground of logic
3	MT+		Cutter motor drive	4	MT-		Cutter motor drive

## ■ INTERFACE, COMMAND, OPTIONS

Please refer to the FTP-629DCL/DSL datasheet.

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