

FCL COMPONENTS

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

FTP-629MCL103 *Not for New Design*

FTP-629MCL383#01/02 *DISCONTINUED*

■ 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 FCL Components' unique head drive control.
- **High resolution**
8 dots/mm head provides clear print out.
- **ELM (Easy Loading Mechanism) with lock type**
FCL Components' unique platen release mechanism allows easy paper setting and easy head maintenance.
- **Auto Cutter**
Printer with auto cutter (full cut or 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
- **RoHS compliant**



FTP-629MCL103



FTP-629MCL383



FTP-629DSL301

■ PART NUMBERS

Name		Part Number
Printer mechanism	Detachable platen	FTP-629MCL103
Mechanism with cutter	Detachable platen	FTP-629MCL383#01/#02
LSI		FTP-629CU301
Interface board	Serial (RS232C)	FTP-629DSL301
	USB	FTP-629DSL301
Interface cable (board to mechanism)	Serial	FTP-629Y302
	USB	FTP-629Y301
Power supply cable		FTP-629Y602

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

■ GENERAL SPECIFICATIONS

Item		Specifications	
Part number		FTP-629MCL103	FTP-629MCL383#01/#02
Printing method		Thermal sensitive line dot method	
Dot structure		432 dots/line	
Dot pitch (horizontal)		0.125mm (8dots/mm) - Dot density	
Dot pitch (vertical)		0.125mm (8dots/mm) - Line feed pitch	
Effective printing area		54 mm	
Number of columns		ANK 36 columns/line (12 x 24 dot font) OCR 18 columns	
Paper width		58mm +0/-1	
Paper thickness		60 to 100µm	
Cutting type		---	full or partial
Printing speed		200mm/sec. (1600 dot lines/sec.)	
Character types	Alphanumeric, Kana: International JIS Kanji (Kanji CG loaded board) OCR I OCR II OCR III OCR IV Extended numeric	159 types 195 types about 6,800 types 103 types 23 types 103 types 11 types	
Character, dimensions (WxH), number of columns		(8x16 dots), 54 columns: ANK (12x24 dots), 36 columns: ANK (16x16 dots), 27 columns: ANK (24x24 dots), 18 columns: ANK	(24x 40dots), 18 columns, OCR I (24x48 dots), 18 columns, OCR II (36x60 dots), 12 columns, OCR IV (24x48 dots), 18 columns, extended numeric
Interface standard		RS232C / USB	

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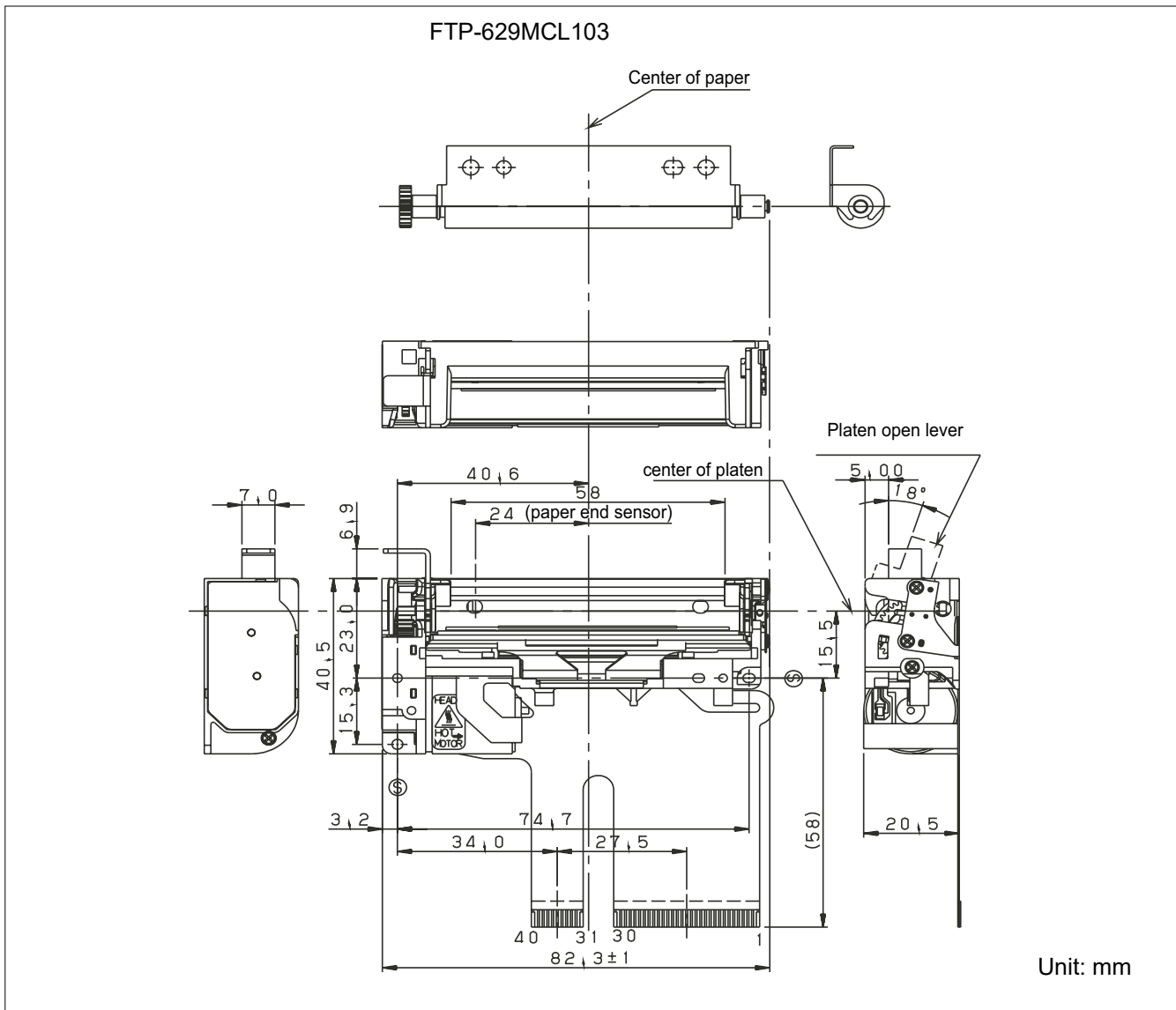
Item		Specifications	
Part number		FTP-629MCL103	FTP-629MCL383#01/#02
Power supply	For head	24 VDC \pm 5%, 1.4A (3A) (24V, 25% printing ratio)	
	For printer motor	24 VDC \pm 5% 1A maximum	
	For cutter motor	---	24 VDC \pm 5% 1A maximum
	For logic	5 VDC \pm 5% 0.2A maximum	
Dimension W x D x H	Printer mechanism	82.5 x 40.5 x 20.5mm	---
	Printer mechanism with cutter	---	90.5 x 70.3 x 37.4mm
	Interface board	77 x 50 x 21.5mm	
Weight	Printer mechanism	Approximately 100g	---
	Printer mechanism with cutter	---	Approximately 290g
	Interface board	Approximately 30g	
Life	Head	Pulse durability: 100 million pulse/dot (using FCLComponents' standard driving method) Wear resistance: 100km (at 12.5% print ratio)	
	Cutter	---	1,00,000 cuts minimum
	Platen	5,000 times (open/close)	
Environmental conditions	Operating temperature	-10°C to +60°C (guarantee)	0°C to +50°C
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-40°C to +70°C	-20°C to +60°C
	Storage humidity	5 to 95% RH (no condensation)	
Detection	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerruptor	
	Head release	By slide switch	
Recommended thermal sensitive paper	High sensitive paper	TF50KS-E4 (Nippon paper)	
	Standard paper	TF60KS-E2 (Nippon paper), FTP-020P0104 (58mm) PD150R (Oji paper), FTP-020P0701 (58mm)	
	Medium life storage paper	TF60KS-F1 (Nippon paper), FTP-020P0102 (58mm) PD170R (Oji paper) P220VBB-1 (Mitsubishi paper) PD160R-N (Oji paper)	
	Long life storage paper	AFP-235 (Mitsubishi paper) TP50KJ-R (Nippon paper) HA220AA (Nippon paper)	

FUNCTION

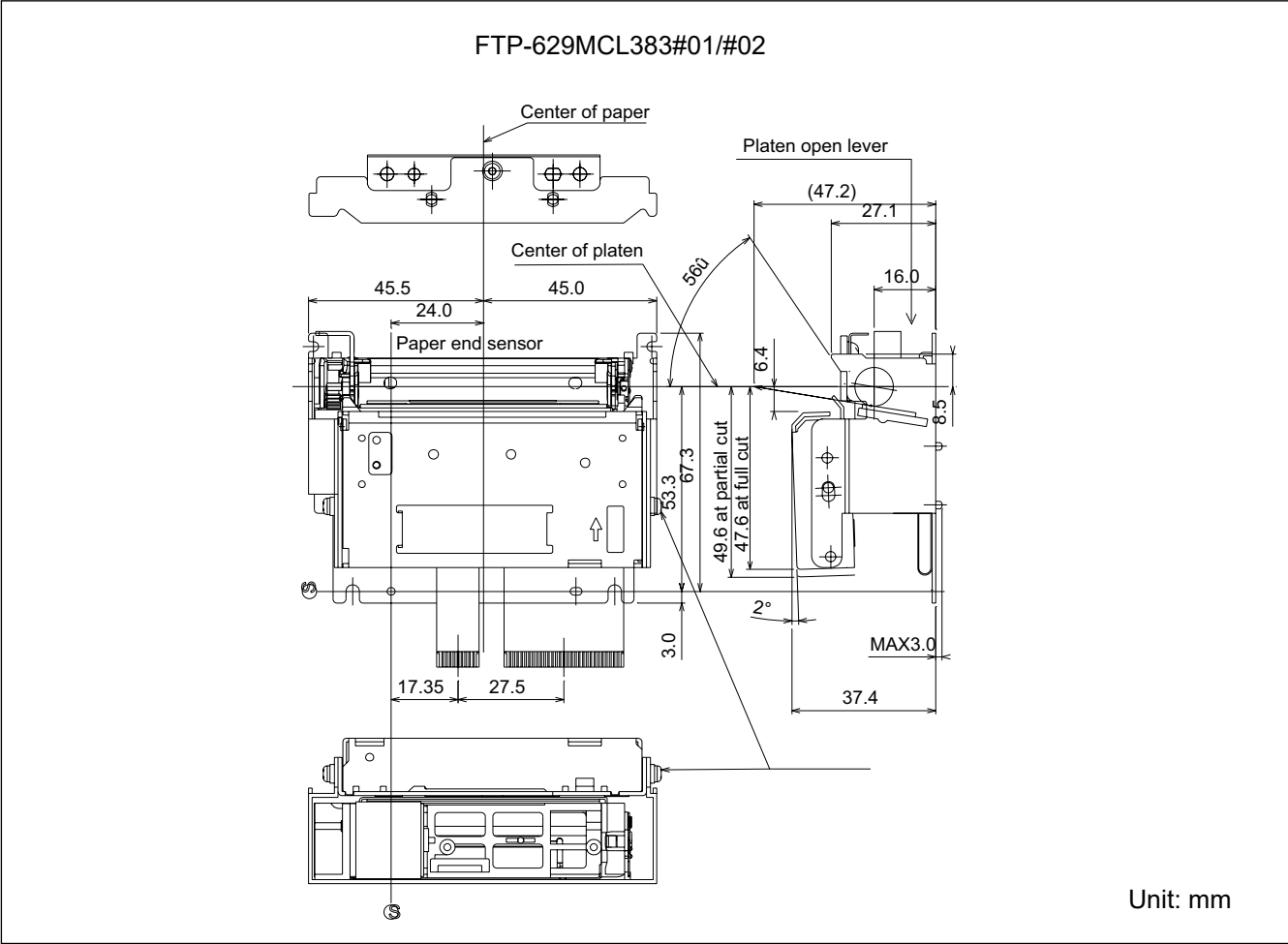
	ITEM		ITEM
1.	Test printing	8.	Cutter trouble detection
2.	Paper-out detection	9.	Motor power save
3.	Paper near end detection	10.	Mark detection
4.	Head-up detection	11.	MCU trouble detection
5.	Abnormal temp. of thermal head detection	12.	Power on/off sequence protection
6.	Blown fuse detection	13.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

DIMENSIONS

1. Printer mechanism



2. Printer mechanism



■ CONNECTOR PIN ASSIGNMENT OF PRINTER MECHANISM (FPC)

1. Thermal head control circuit side (CN3)

Part number : 52610-3071 (Molex) or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	SW	-	Platen open switch	2	SW	-	Platen open switch
3	VH		Power for thermal head	4	VH		Power for thermal head
5	VH		Power for thermal head	6	VH		Power for thermal head
7	DI	I	Data in	8	$\overline{\text{STB2}}$	I	Print enable 2
9	$\overline{\text{STB3}}$	I	Print enable 3	10	VDD	-	Power for logic
11	TM	O	Thermistor	12	GND	-	Head GND
13	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	STB1	I	Print enable 1
23	NC	-	Not connected	24	LAT	I	Print data latch
25	CLK	I	Clock	26	DO	O	Data output
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 : 52610-1071 (Molex) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
31	NC	-	Not connected	32	TM	O	Motor temperature sensor
33	TM	-	Motor temperature sensor	34	MT \bar{A}	I	Motor coil excitation /A
35	MT A	I	Motor coil excitation A	36	MT \bar{B}	I	Motor coil excitation /B
37	MT B	I	Motor coil excitation B	38	PHK	-	Paper out sensor cathode
39	VSE	-	Power for paper sensor	40	$\overline{\text{PHE}}$	O	Paper out sensor emitter

3. Cutter (CN5)

Connector type: B4B-PH-SM4 TB (J.S.T.) or equivalent

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	SW1	-	Cutter home position switch	2	SW2	O	Cutter home position switch
3	M+	O	Cutter motor drive	4	M-	I	Cutter motor drive

■ INTERFACE, COMMAND, OPTIONS

Please refer to the FTP-629DSL301 series datasheet.

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