

24V DRIVE, FTP-609 SERIES ULTRA HIGH SPEED (200mm/s) 3" TYPE MECHANISM (with cutter)

FTP-639MCL064/113/364/393-R

■ OVERVIEW

The FTP-609MCL Series thermal printer (driven by 24VDC) provides ultra-high speed printing (200mm/s) for 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 250 mm/s (2000 dotlines/s) maximum by using Fujitsu Components' unique head drive control.
- **2-D Barcode printing**
QR, Maxi, PDF417
- **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: 63-70mm, width: 110-113mm, height: 37-38mm.
- **High resolution**
8 dots/mm head provides clear print out.
- **RoHS compliant**



FTP-6x9MCL364R

FTP-639MCL064/113/364/393-R

■ PART NUMBERS

Name		Part Number		
Printer mechanism	Bottom insertion	FTP-639MCL064R	FTP-629MCL105R	FTP-639MCL064R
	Detachable platen	FTP-639MCL113R	FTP-639MCL115R	FTP-639MCL113R
Mechanism with cutter	Bottom insertion	FTP-639MCL364R		FTP-639MCL364R
	Detachable platen	FTP-639MCL393R	FTP-639MCL395R	FTP-639MCL393R
LSI		FTP-629CU151R	FTP-629SR201R	FTP-629CU301R
Interface board	Parallel	FTP-629DSL283R*	FTP-629DSL281R*	---
	Serial (RS232C)	FTP-629DSL283R*	FTP-629DSL281R*	FTP-629DSL301R
	USB	FTP-629DSL232R*	FTP-629DSL212R	FTP-629DSL301R
Thermal head cable extension		---	FTP-629Y001	---
Interface cable (board to mechanism)	Parallel	FTP-628Y202		---
	Serial	FTP-628Y302	FTP-629Y302	
	USB	---	FTP-629Y301	
Power supply cable	Logic	FTP-629Y401	---	FTP-629Y602
	Head, motor	FTP-629Y601		

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

*2: Interface is selectable by DIP switch

FTP-639MCL064/113/364/393-R

■ GENERAL SPECIFICATIONS

Item		Specifications	
Part number		FTP-639MCL064/364-R	FTP-639MCL113/393#01/#02-R
Printing method		Thermal sensitive line dot method	
Dot structure		640 dots/line	
Dot pitch (horizontal)		0.125mm (8dots/mm) - Dot density	
Dot pitch (vertical)		0.125mm (8dots/mm) - Line feed pitch	
Effective printing area		80 mm	
Number of columns		ANK 53 columns/line (12 x 24 dot font) OCR 26 columns (24x40)	
Paper width		82.5mm +0/-1	
Paper thickness		60 to 150μm (there may be exceptions)	60 to 100μm
Cutting type		Standard full or partial cut	ELM full or partial
Printing speed	FTP-629DSL200 series	125mm/sec. (1000 dot lines/sec.) line mode	
	FTP-629DSL300 series	250mm/sec. (2000 dot lines/sec.) page mode	
Interface types		FTP-629DCL/DSL200 series	FTP-629DSL300 series
Character types	Alphanumeric, Kana:	159 types	159 types
	International:	195 types	195 types
	JIS Kanji (Kanji CG loaded board):	about 6800 types	about 6,800 types
	OCR I 103 types		103 types
	OCR II 23 types		23 types
	OCR III 103 types		103 types
	Extended numeric		11 types
Character, dimensions (WxH), number of columns		8x16 dots, 80 columns: ANK 12x24 dots, 53 columns: ANK 16x16 dots, 40 columns: ANK 24x24 dots, 26 columns: ANK	24x40 dots, 26 columns, OCR I 24x48 dots, 26 columns, OCR III 36x60 dots, 17 columns, OCR IV 24x48 dots, 26 columns, extended numeric
Interface standard		Centronics / RS232C /USB	Serial/USB

FTP-639MCL064/113/364/393-R

Item		Specifications	
Part number		FTP-639MCL064/364-R	FTP-639MCL113/393-R
Power supply	For head	24 VDC \pm 5%, 3.0A (5.3A) (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	104.2 x 40.5 x 20.5mm	104.2 x 40.5 x 20.5mm
	Printer mechanism with cutter	110.4 x 62.5 x 37.2mm	112.5 x 70.3 x 37.4mm
	Interface board (DSL200)	95 x 73.5 x 11.6mm	
	Interface board (DSL300)	77 x 50 x 21.5mm	
Weight	Printer mechanism	Approximately 125g	Approximately 125g
	Printer mechanism with cutter	Approximately 320g	Approximately 350g
	Interface board (std)	Approximately 25g	
	Interface board (medium speed)	Approximately 45 g	
	Interface board (high speed)	Approximately 20g	
Life	Head	Pulse durability: 100 million pulse/dot (using Fujitsu's standard driving method) Wear resistance: 100km (at 12.5% print ratio)	
	Cutter	500,000	1,000,000 cuts minimum
	Platen	5,000 times (open/close)	
Environmental conditions	Operating temperature	-10°C to +60°C (guarantee)	0°C to +50°C (guarantee)
	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-030P0104 (80mm) PD150R (Oji paper), FTP-030P0701 (80mm)	
	Medium life storage paper	TF60KS-F1 (Nippon paper), FTP-030P0102 (80mm) 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)	

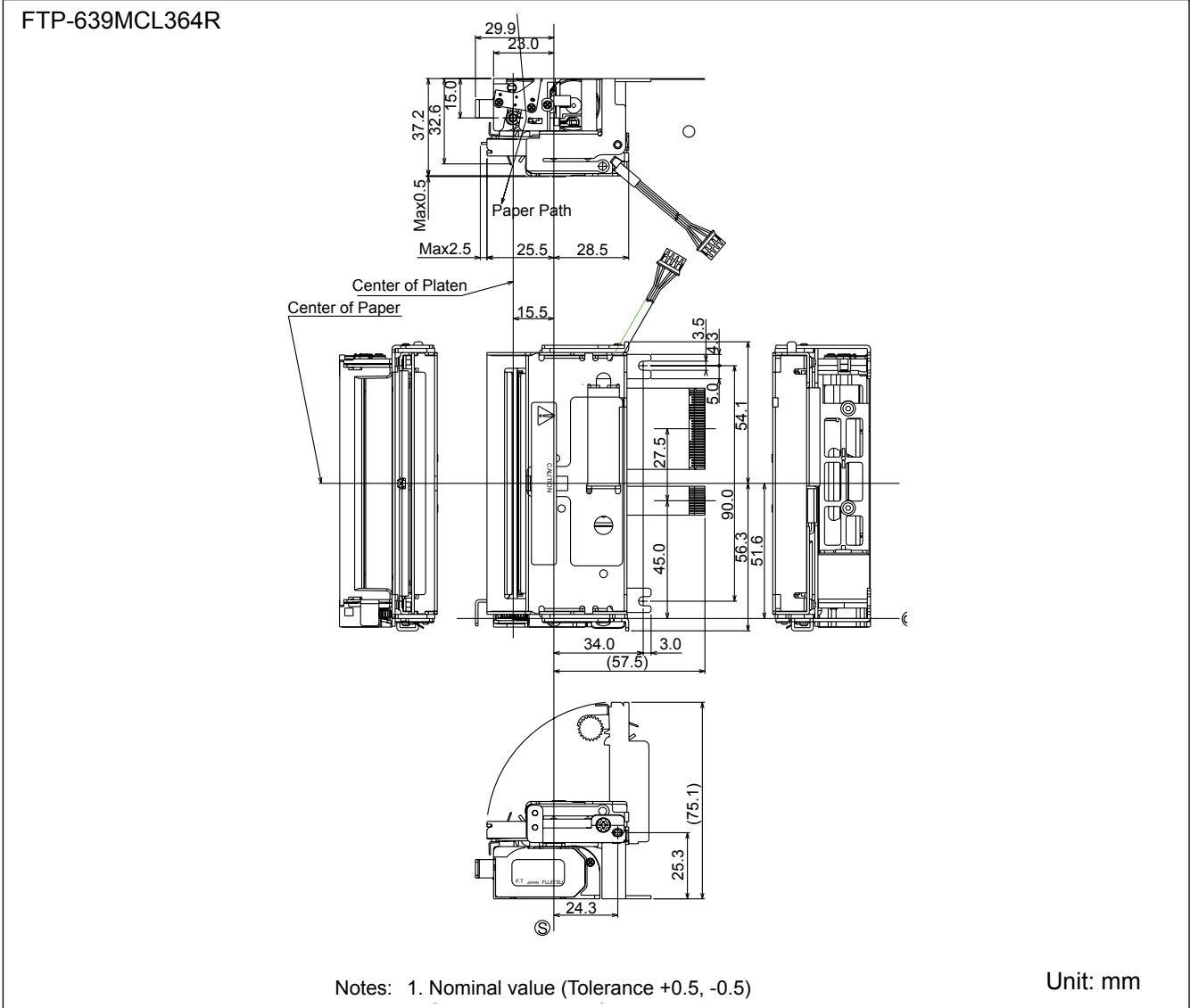
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■ FUNCTION

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

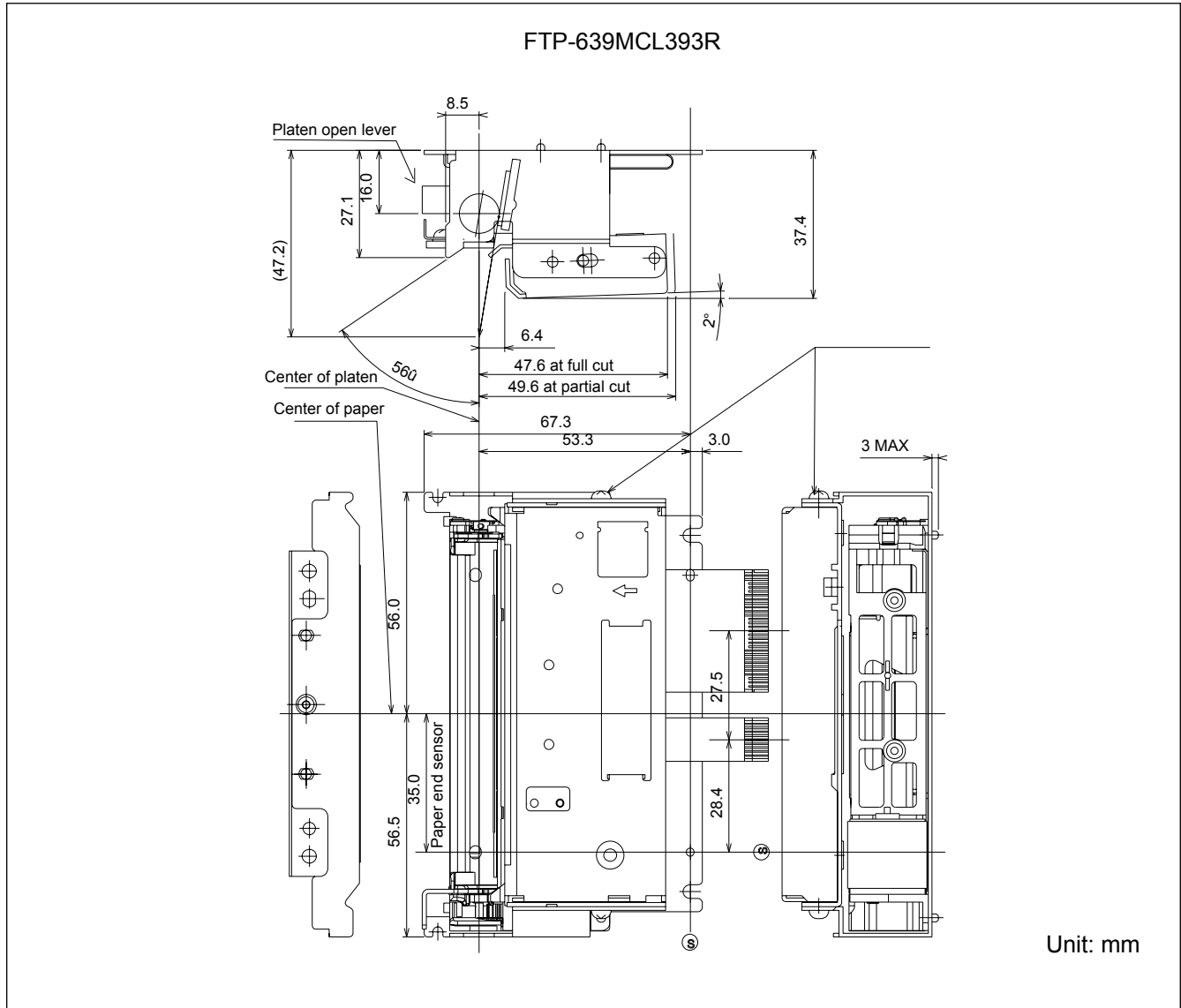
■ DIMENSIONS

1. Printer mechanism / cutter



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2. Printer mechanism / cutter



■ CONNECTOR PIN ASSIGNMENT OF PRINTER MECHANISM (FPC)

1. Thermal head control circuit side

Part number : 52610-3071 (Molex) or equivalent

No	Signal	I/O	Contents	No	Signal	I/O	Contents
1	SW	O	Platen open switch	2	SW	-	Platen open switch
3	VH	I	Power for thermal head	4	V-	I	Power for thermal head
5	VH	I	Power for thermal head	6	V-	I	Power for thermal head
7	DI	I	Data in	8	$\overline{\text{STB2}}$	I	Print enable 2
9	NC	-	Not connected	10	VDD	-	Power for logic
11	TM	-	Head 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	$\overline{\text{STB1}}$	I	Print enable 1
23	NC	-	Not connected	24	$\overline{\text{LAT}}$	I	Print data latch
25	CLK	I	Clock	26	DO	O	Data out
27	VH	I	Power for thermal head	28	VH	I	Power for thermal head
29	VH	I	Power for thermal head	30	VH	I	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
1	NC	-	Not connected	2	TM	O	Motor temperature sensor
3	TM	-	Motor temperature sensor	4	$\overline{\text{MT A}}$	I	Motor coil excitation /A
5	MT A	I	Motor coil excitation A	6	$\overline{\text{MT B}}$	I	Motor coil excitation /B
7	MT B	I	Motor coil excitation B	8	PHK	-	Paper out sensor cathode
9	VSEN	-	Power for paper sensor	10	$\overline{\text{PHE}}$	O	Paper out sensor emittor

3. Cutter (CN5)

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

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

■ INTERFACE COMMAND OPTIONS

Please refer to the FTP-629DCL/DSL200 or FTP-629DSL300 series datasheet

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