
24V DRIVE, FTP-609 SERIES

ULTRA HIGH SPEED (200mm/s)

3" TYPE MECHANISM (Cutter option)

FTP-639MCL353/354-R

■ 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.
- **Rear paper insertion with lock type**
Fujitsu Components' unique platen release mechanism allows straight paper path 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 with stand by function of earth frame and shock/vibration resistance by function of solid frame are valid.
- **Compact size**
Depth: 40.5mm, width: 104.2mm, height: 20.5mm
- **High resolution**
8 dots/mm head provides clear print out.
- **RoHS compliant**

FTP-639MCL353/354-R

■ PART NUMBERS

Name		Part Number		
Mechanism with cutter	front insertion	FTP-639MCL353R	TBA	FTP-639MCL353R
	bottom insertion	FTP-639MCL354R	FTP-639MCL374R	FTP-639MCL354R
LSI		FTP-629CU101R	FTP-629SR201	FTP-629CU301R
Interface board	Parallel	FTP-629DCL014R	FTP-629DSL181R*	
	Serial (RS232C)	FTP-629DSL034R	FTP-629DSL181R*	FTP-629DSL301R
	USB	---	FTP-629DSL112R	FTP-629DSL301R
Thermal head cable extension		---	FTP-629Y001	---
Interface cable	Parallel	FTP-628Y202		---
	Serial	FTP-628Y302	FTP-629Y302	
	USB	---	FTP-629Y301	
Power supply cable	Logic	FTP-629Y401	---	
	Head, motor	FTP-629Y601		FTP-629Y602

*: Interface is selectable by DIP switch

■ GENERAL SPECIFICATIONS

Item		Specifications
Part number		FTP-639MCL354/374-R
Printing method		Thermal sensitive line dot method
Dot structure		576 dots/line
Dot pitch (horizontal)		0.125mm (8dots/mm) - Dot density
Dot pitch (vertical)		0.125mm (8dots/mm) - Line feed pitch
Effective printing area		72 mm
Number of columns		ANK 48 columns/line (12 x 24 dot font), OCR 24 columns (24x40
Paper width		82.5 mm +0/-1
Paper thickness		60 to 100μm
Cutting type		full or partial
Printing speed		FTP-629DSL100 series/ FTP-629DSL300 series
		125mm/sec. (1000 dot lines/sec.) line mode 200mm/sec. (1600 dot lines/sec.) page mode
Interface types		FTP-629DSL300 series
Character types	Alphanumeric, Kana: International and special OCRI OCRIII OCRIV Extended numeric JIS Kanji level 1, level 2, non-Kanji	159 types 195 types 103 types 23 types 103 types 11 types about 6,800 types
Character, dimensions (WxH), number of columns		(24 x 40 dots), 24 columns, OCRI (24 x 48 dots), 24 columns, OCRII (36 x 60 dots), 16 columns, OCRIV (24 x 48 dots) 24 columns, extended numeric
Interface standard		Serial /USB

FTP-639MCL353/354-R

Item		Specifications
Part number		FTP-639MCL354/374-R
Power supply	For head	24 VDC $\pm 5\%$ 1.9A (4A,)(24V , 25% printing ratio)
	For printer motor	24VDC $\pm 5\%$ 1A maximum
	For cutter motor	24VDC $\pm 5\%$ 1.2A maximum
	For logic	5VDC $\pm 5\%$ 0.2 A maximum
Dimensions W x D x H	Printer Mechanism	110.4 \times 62.5 \times 37.7mm
	Interface board (DCL/DSL)	70 \times 60 \times 21.6 mm
	Interface board (DSL100)	95 x 73.5 x 11.6mm
	Interface board (DCL300)	77 x 50 x 21.5mm
Weight	Printer Mechanism	Approximately 320g
	Interface board (standard)	Approximately 25g
	Interface board (med speed)	Approximately 45g
	Interface board (hi speed)	Approximately 22g
Life	Head	Pulse durability: 100 million pulse/dot (using Fujitsu Components' standard driving method) Wear resistance: 100 km (at 12.5% print ratio)
	Cutter	500,000 cuts
Environmental conditions	Operating temperature	0°C to +50°C (Guarantee)
	Operating humidity	20 to 85% RH (no condensation)
	Storage temperature	-20°C to +60°C
	Storage humidity	5 to 95% RH (no condensation)
Detection	Head temperature	By thermistor
	Paper out/Mark detect	By photointerrupter
	Head release	By slide switch
	Cutter position	By microswitch (inside cutter)
	High sensitivity paper	TF50KS-E4 (Nippon paper)
	Standard paper	TF60KS-E (Nippon paper), FTP-030P0104 (80mm), PD150R (Oji paper), FTP-030P0701 (80mm)
	Medium term paper	TP60KS-F1 (Nippon paper), FTP-030P0102(80mm), PD170R (Oji paper) P220VBB-1 (Mitsubishi paper) PD160R-N (Oji paper)
Recommended thermal sensitive paper	Long term paper	AFP-235 (Mitsubishi paper) TP50KJ-R (Nippon paper) HA220AA (Nippon paper)
	Label paper	HW54T (Nippon paper)

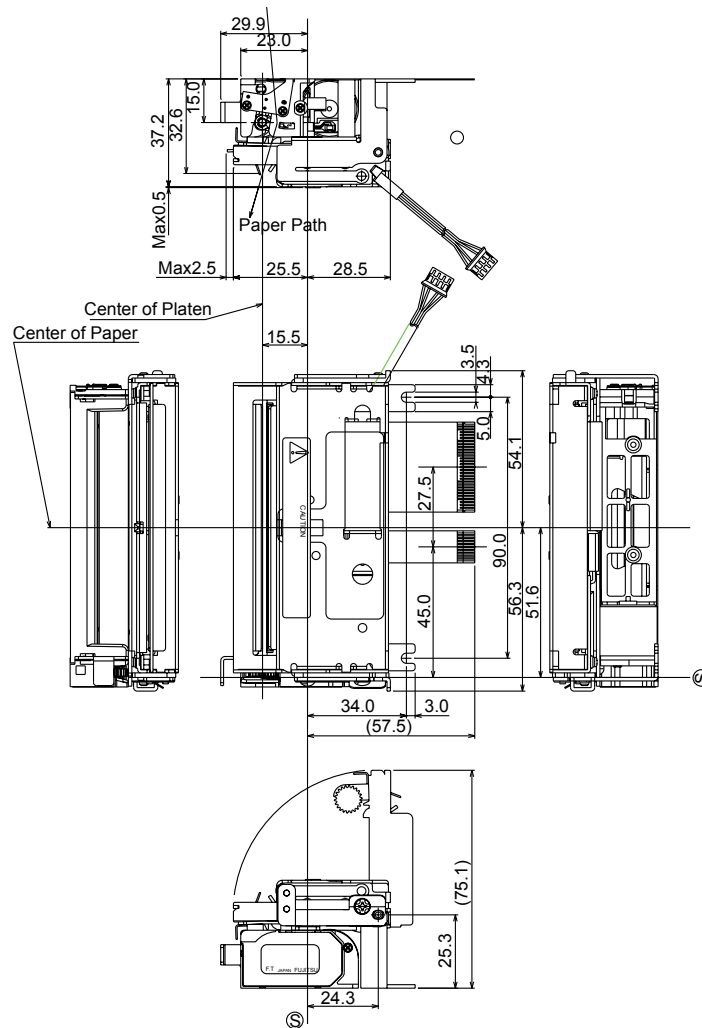
■ FUNCTION

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 with cutter

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Notes: 1. Nominal value (Tolerance +0.5, -0.5)
2. S is the base line of installing (Tolerance +0.5, -0.5)

Unit: mm

■ 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	-	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	$\overline{\text{STB3}}$	I	Print enable 3
9	$\overline{\text{STB4}}$	I	Print enable 4	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	$\overline{\text{STB2}}$	I	Print enable 2	24	$\overline{\text{LAT}}$	I	Print data latch
25	CLK	I	Clock	26	DO	O	Data out
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

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	$\text{MT } \overline{\text{A}}$	I	Motor coil excitation /A
5	MT A	I	Motor coil excitation A	6	$\text{MT } \overline{\text{B}}$	I	Motor coil excitation /B
7	MT B	I	Motor coil excitation B	8	PHK	-	Paper out sensor cathode
9	VSEN	I	Power for paper sensor	10	PHE	O	Paper out sensor emitter

3. Cutter

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-629DCL/DSL or FTP-629DCL/DSL100/300 datasheet series datasheet.

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