

# 24V DRIVE, FTP-60A SERIES

## ULTRA HIGH SPEED (250mm/s)

### 3" TYPE MECHANISM (with cutter option)

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## FTP-63AMCL001/011/401/411-R

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#### ■ OVERVIEW

The FTP-60AMCL Series thermal printer (driven by 24VDC) provides ultra-high speed printing (250mm/s) for 3-inch wide paper.

This series is suitable for a variety of applications, such as ATM, 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 replaceable thermal head**  
Fujitsu Components' unique platen release mechanism allows easy paper loading and easy head maintenance. 150km life minimum.
- **Auto Cutter**  
Printer with auto cutter (full cut/ partial cut) is available. It can be mounted in front of the mechanism. 1 million cuts minimum.
- **Heavy duty diecast frame**  
By application of heavy duty diecast frame, continuous printing by function of heat-sink, high ESD with stand by function of earth frame and shock/vibration with stand by function of solid frame are valid.
- **Compact size**  
Depth: 54mm (with cutter), width: 118.4mm, height: 30mm.
- **Wide temperature range**  
-20°C to +70°C.
- **RoHS compliant**



FTP-63AMCL011



FTP-63AMCL411

# FTP-63AMCL001/011/401/411

## ■ PART NUMBERS

Name		Part Number	
Printer mechanism	with FFC connector*1	Changeable head	FTP-63AMCL001
	with header connector		FTP-63AMCL011
Mechanism with cutter	with FFC connector*1	Guillotine	FTP-63AMCL401
	with header connector		FTP-63AMCL411
Interface board		USB (V 2.0)	FTP-62ADSL001
		Serial (RS232C)	FTP-62ADSL011
Interface cable (board to mechanism)		Serial	FTP-629Y302
		USB	FTP-629Y301
Power cables		Head	FTP-62AY001
		Platen / cutter motor	FTP-62AY003
		Power supply	FTP-62AY601

\*1: Requires Flat Flexible Cable (FFC)

## ■ GENERAL SPECIFICATIONS

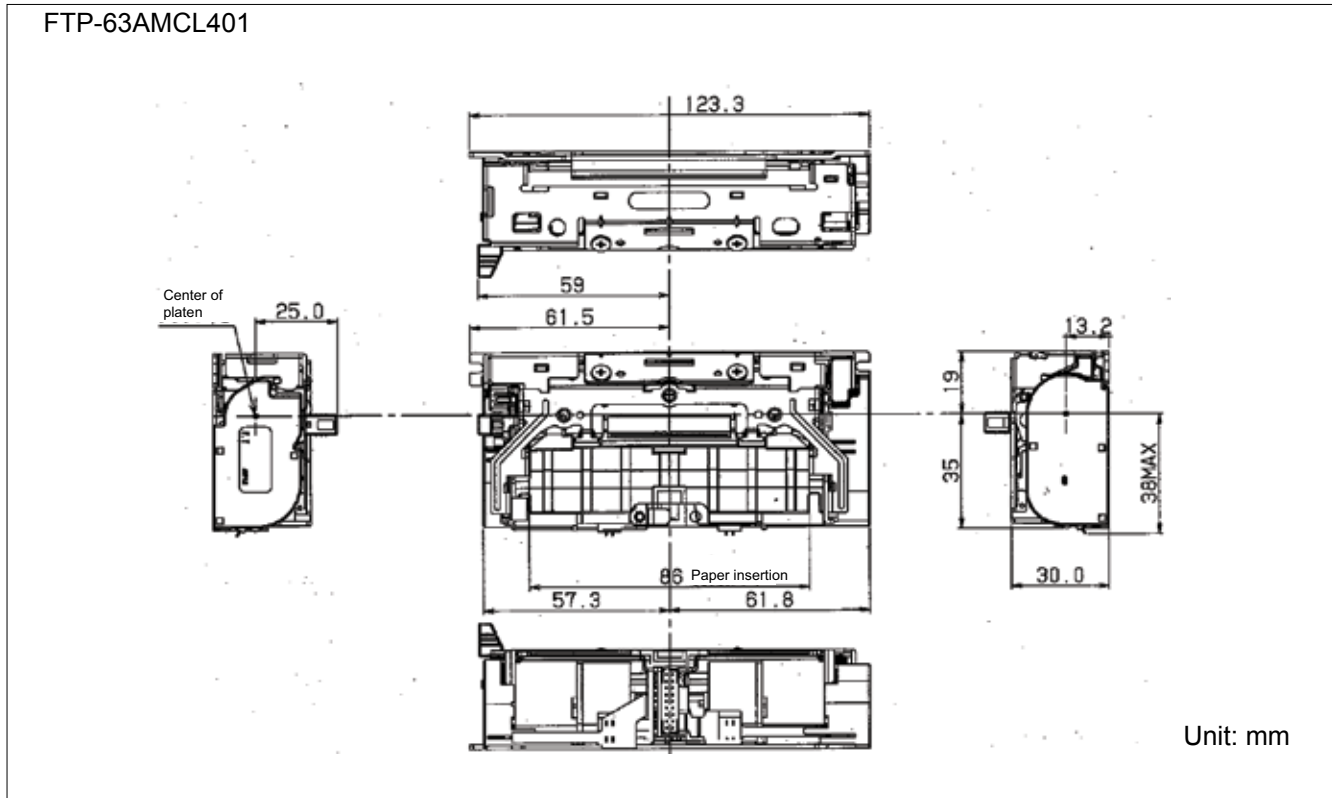
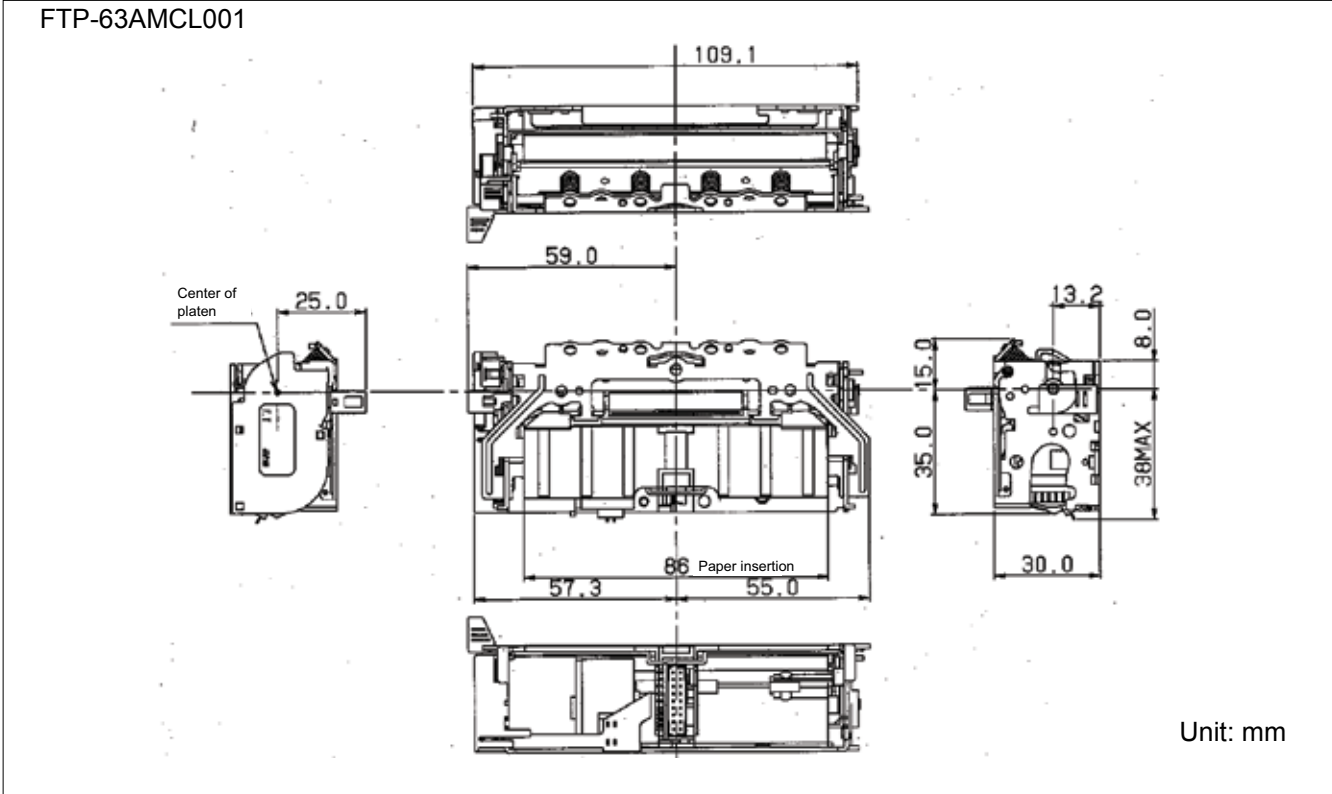
Item		Specifications	
Part number		FTP-63AMCL001/011	FTP-63AMCL401/411
Printing method		Thermal sensitive line dot method	
Dot structure		640 dots/line	
Dot pitch (horizontal)		0.125mm (8dots/mm) - Dot density	
Dot pitch (vertical)		0.125mm x 0.16mm - Line feed pitch	
Effective printing area		80 mm maximum	
Number of columns		ANK 53 columns/line (12 x 24 dot font)	
Paper width		80-85mm +0/-1	
Paper thickness		60-150µm	
Cutting type		-	Guillotine (full or partial cut)
Printing speed	FTP-62ADSL series	200mm/sec. (1600 dot lines/sec.) line mode 250mm/sec. (2000 dot lines/sec.) page mode	
Interface types		FTP-62ADSL series	
Character types	Alphanumeric, Kana: International: JIS Kanji (Kanji CG loaded board): OCRI OCRII OCRIII 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, 80 columns: ANK 12x24 dots, 53 columns: ANK 16x16 dots, 40 columns: ANK 24x24 dots, 26 columns: ANK	24x40 dots, 26 columns, OCRI 24x48 dots, 26 columns, OCRIII 36x60 dots, 17 columns, OCRIV 24x48 dots, 26 columns, extended numeric	
Interface standard		RS232C /USB	

# FTP-63AMCL001/011/401/411

Item		Specifications	
Part number		FTP-63AMCL001/011	FTP-63AMCL401/411
Power supply	For head	24 VDC $\pm$ 5%, 5.7A (11.2A) (24V, 25% printing ratio)	
	For printer motor	24 VDC $\pm$ 5% 1.2A maximum	
	For cutter motor	---	24 VDC $\pm$ 5% 1.2A maximum
	For logic	3.3 to 5 VDC $\pm$ 5% 0.2A maximum	
Dimension W x D x H	Printer mechanism	112 x 50 x 30 /38.2mm	-
	Printer mechanism with cutter	-	119.1 x 54 x 30 /38.2mm
	Interface board (high speed)	96 x 71 x 21.2mm	
Weight	Printer mechanism	Approximately 180/185g	-
	Printer mechanism with cutter	-	Approximately 335/340g
	Interface board (high speed)	Approximately 50g	
Life	Head	Pulse durability: 150 million pulse/dot (using Fujitsu's standard driving method) Wear resistance: 150km (at 12.5% print ratio)	
	Cutter	-	1,000,000 cuts minimum
	Platen	5,000 times (open/close)	
Environmental conditions	Operating temperature	-20°C to +70°C (guarantee)	-20°C to +70°C (guarantee)
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-25°C to +75°C	-25°C to +75°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)	

■ DIMENSIONS

1. Printer mechanism



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

### 1. Thermal head control circuit side

#### a. FPC type (FTP-63AMCL001/401)

Printer mechanism side: FPC / FFC  
Control circuit side: for 1.25mm pitch x 28pins

#### b. Adaptor Board type (FTP-63AMCL011/411)

Printer mechanism side: B28B-PHDSS (J.S.T)  
Control circuit side: PHDR-28VS (J.S.T)

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	VH		Head drive power	2	VH		Head drive power
3	VH		Head drive power	4	VH		Head drive power
5	DO 1	O	Data out 1	6	DI 1		Data in 1
7	GND	-	Head ground	8	GND	-	Head ground
9	GND	-	Head ground	10	GND	-	Head ground
11	GND	-	Head ground	12	STB 1		Strobe 1
13	CLK		Clock	14	LAT		Data latch
15	Vdd		Logic	16	TH	O	Thermistor
17	TH	O	Thermistor	18	STB 2		Strobe 2
19	GND	-	Ground	20	GND	-	Ground
21	GND	-	Ground	22	GND	-	Ground
23	DO 2	O	Data out 2	24	DI 2		Data in 2
25	VH		Head drive power	26	VH		Head drive power
27	VH		Head drive power	28	VH		Head drive power

### 2. Motor, Sensor (CN4)

Printer mechanism side: LY20-18P-DLT1-P1E (JAE)  
Control circuit side: LY10-DC18 (JAE)

#### FTP-63AMCL001/011

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	N.C.	-	Not connected	2	N.C.	-	Not connected
3	N.C.	-	Not connected	4	N.C.	-	Not connected
5	N.C.	-	Not connected	6	N.C.	-	Not connected
7	N.C.	-	Not connected	8	TH	-	Thermistor
9	TH	-	Thermistor	10	PHK-P	-	Paper detection photointerruptor (cathode)
11	MT A		Motor excitation signal A	12	PHE-P	O	Paper detection photointerruptor (emitter)
13	MT B		Motor excitation signal B	14	VSEN		Power supply for photointerruptor
15	MT A		Motor excitation signal A	16	PHK-L	-	Lever detection photointerruptor (cathode)
17	MT B		Motor excitation signal B	18	PHE-L	O	Lever detection photointerruptor (emitter)

## FTP-63AMCL401/411

No.	Signal	I/O	Contents	No.	Signal	I/O	Contents
1	MT A		Motor excitation signal A (cutter)	2	MT $\bar{B}$		Motor excitation signal $\bar{B}$ (cutter)
3	MT B		Motor excitation signal B (cutter)	4	MT $\bar{A}$		Motor excitation signal $\bar{A}$ (cutter)
5	VSEN		Power supply for photointerruptor	6	PHE-C	O	Cutter photointerruptor (emitter)
7	PHK-C	-	Cutter photointerruptor (cathode)	8	TH	O	Thermistor
9	TH	O	Thermistor	10	PHK-P	-	Paper detection photointerruptor (cathode)
11	MT A		Motor excitation signal A (paper)	12	PHE-P	O	Paper detection photointerruptor (emitter)
13	MT $\bar{B}$		Motor excitation signal $\bar{B}$ (paper)	14	VSEN		Power supply for photointerruptor
15	MT B		Motor excitation signal B (paper)	16	PHK-L	-	Lever detection photointerruptor (cathode)
17	MT $\bar{A}$		Motor excitation signal $\bar{A}$ (paper)	18	PHE-L	O	Lever detection photointerruptor (emitter)

## ■ INTERFACE COMMAND OPTIONS

Please refer to the FTP-62ADSL series datasheet

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