

# FCL Components Thermal Printer FTP-63GMCL163-R/463-R series

FCL Components 3" high speed (up to 200mm/s) thermal printer mechanism with cutter option

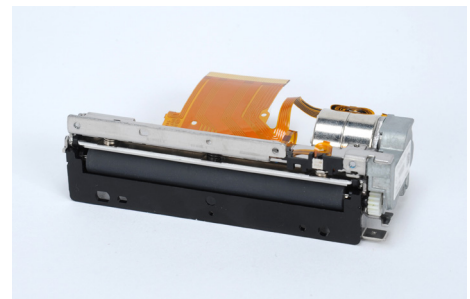
## Overview

The FTP-63GMCL series thermal printer driven by 24VDC provides high speed printing (up to 200mm/s) for 3-inch wide paper.

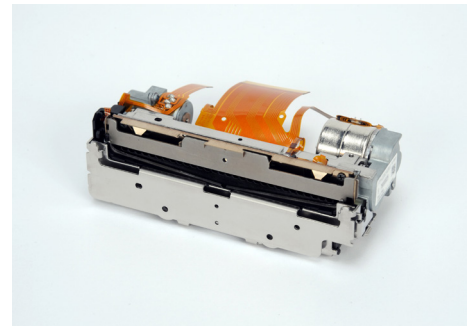
The series is suitable for a variety of applications, such as POS/ECR, kiosk terminals, ticket machines, label printers, banking machines, measuring devices, medical equipment, etc.

## Features

- High-speed printing  
It can print up to 200mm/s (1,600 dotlines/s) maximum by using FCL Components' unique head drive control
- Rear paper insertion mechanism with lock type  
FCL Components' unique platen release mechanism allows for a straight paper path and easy head maintenance
- Auto Cutter  
Optional ultra-low profile auto cutter (full/partial cut) mounted at the factory  
(FTP-63GMCL463-R)
- Multi-featuring metal frame  
The rugged metal frame provides excellent ESD performance, is shock/vibration resistant and the heat-sink allows for continuous printing
- Compact size  
Width: 96.2mm, depth: 20.4mm, height: 36.3mm (FTP-63GMCL163-R)  
Width: 100.5mm, depth: 32.6mm, height: 45.6mm (FTP-63GMCL463-R)
- High resolution  
8 dots/mm head provides clear print
- Paper width  
80mm
- UL recognized. File number E171434
- RoHS compliant



FTP-63GMCL163-R



FTP-63GMCL463-R

## ■ Part numbers

Item		Part Numbers
Printer mechanism	Back insertion	FTP-63GMCL163-R
Mechanism with cutter	Rear insertion	FTP-63GMCL463-R
LSI for driving		FTP-62GCU201-R
Interface board	Serial (RS232C/USB)	FTP-62GDSL201-R
Interface cable	Serial	FTP-62GY302-R
	USB	FTP-62GY311#01-R
Power supply cable	Logic, head, motor	FTP-629Y603-R

## ■ Specifications

Item		Specifications	
Part number		FTP-63GMCL163-R	FTP-63GMCL463-R
Printing method		Thermal sensitive line dot method	
Dot structure		576 dots/lines	
Dot pitch (horizontal)		0.125mm (8 dots/mm) - Dot density	
Dot pitch (vertical)		0.125mm (8 dots/mm) - Line feed pitch	
Effective printing area		72mm	
Number of columns		ANK 48 columns/line (12 x 24 dot font), OCD 24 columns (24 x 40)	
Paper width		80mm +0/-1	
Paper thickness		60-150 $\mu$ m*1	60-100 $\mu$ m*1
Cutting type		---	Full or partial
Printing speed		200mm/s (1,600 dot lines/s)	
Character types	Alphanumeric KANA	159 types	
	International and special	195 types	
	OCR I	103 types	
	OCR III	23 types	
	OCR IV	103 types	
	Extended numeric	12 types	
	JIS KANJI level 1, 2, non-Kanji	JIS KANJI: approx. 6800 (FTP-62GDSL101#01) 13, 503 (FTP-62GDSL101#02)	
Character dimensions (W x H), number of characters		8 x 16 dots, 72 columns, ANK	24 x 40 dots, 24 columns, OCR I
		12 x 24 dots, 48 columns, ANK	24 x 48 dots, 24 columns, OCR II
		16 x 16 dots, 36 columns, ANK	36 x 60 dots, 16 columns, OCR IV
		24 x 24 dots, 24 columns, ANK	24 x 48 dots, 24 columns, extended numeric

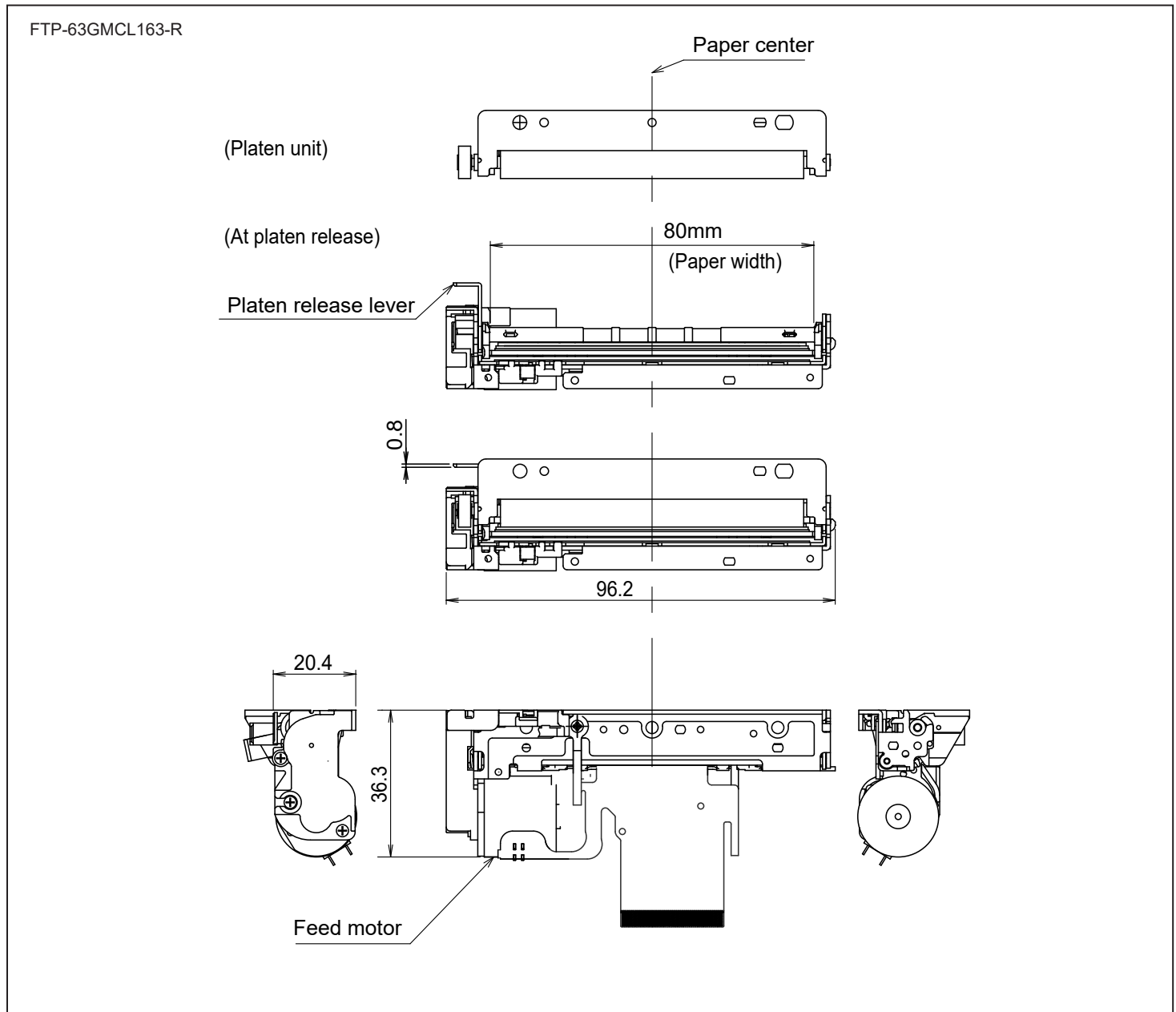
\*1: There may be exceptions

Item		Specifications	
Part number		FTP-63GMCL163-R	FTP-63GMCL463-R
Power	For head	24VDC $\pm$ 10% 2.0A (1,500 $\Omega$ , +25°C, concurrent applied dot number: 128 dots)	
	For printer motor	24VDC $\pm$ 10% 1.5A maximum	
	For logic	3.3 or 5 VDC $\pm$ 5% 45mA maximum	
	For cutter	24VDC $\pm$ 10% 1.5A maximum	
Dimensions (WxDxH)	Printer mechanism	96.2 x 20.4 x 36.3mm	100.5 x 32.6 x 45.6mm
	Interface board	70 x 37mm	
Weight	Printer mechanism	79g	155g
	Interface board	15g	
Expected life	Head	Pulse durability: 100 million pulse (using FCL Components' standard driving method) Wear resistance: 100km (at 12.5% print ratio)	
	Cutter	---	1,000,000 cuts min.*2
Environmental conditions	Operating temperature	+5°C to +40°C (guarantee)	
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-20°C to +60°C (excluding paper)	
	Storage humidity	5 to 95% RH (no condensation)	
Detection functions	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerrupter	
	Platen open	By slide switch	
Recommended thermal sensitive paper	High sensitive paper	TF50KS-E45 (Nippon paper)	
	Standard paper	TF-60KS-E (Nippon paper) PD150R (Oji paper)	
	Medium term paper	TF-60KS-F1 (Nippon paper) P220VBB-1 (Mitsubishi paper)	
	Long term paper	PD160R (Oji paper) TP50KJ-R (Nippon paper) HA220AA (Mitsubishi paper) AFP235 (Mitsubishi paper)	

\*2: Under conditions of 20 $\pm$ 5°C, 40 to 60% RH, cut cycle: min.3 sec., max 20 cuts per min.

■ Dimensions

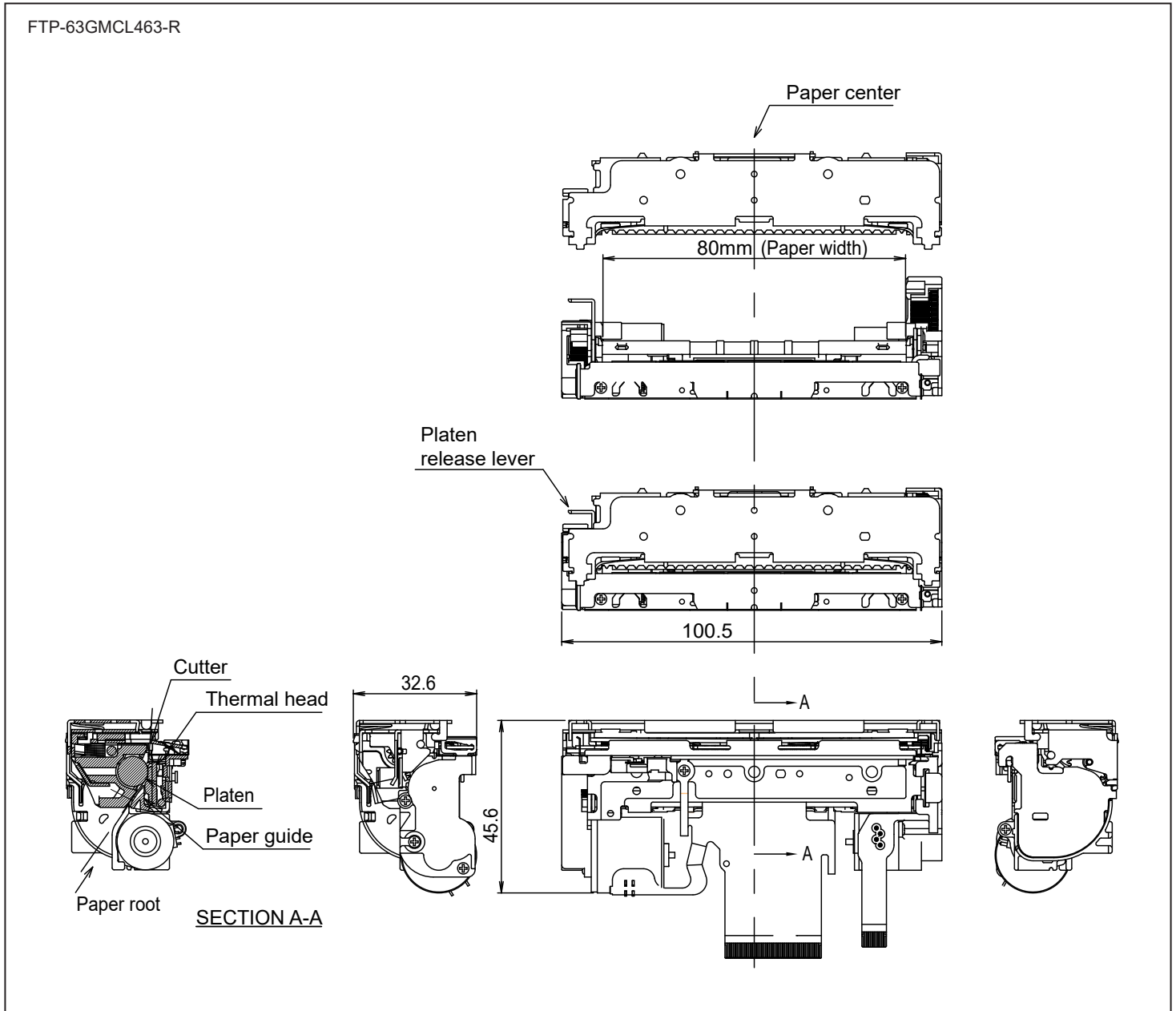
- Printer mechanism 3-inch



Note: 1. Dimensions are nominal value )tolerance  $\pm 0.5\text{mm}$  unless otherwise specified.  
2. Dimensions in ( ) is reference value.

■ Dimensions

- Printer mechanism 3-inch



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■ Connector pin assignments of printer mechanism (FPC)

Recommended connector of head FPC: 54104-5031 (Molex ) or equivalent

No	Signal	Content	I/O
1	VSEN	Paper sensor power	IN
2	PHK	Cathode for photo interrupter	OUT
3	PHE	Emitter for photo interrupter	OUT
4	N.C.	Not connected	-
5	VH	Head drive power	IN
6	VH	Head drive power	IN
7	VH	Head drive power	IN
8	VH	Head drive power	IN
9	VH	Head drive power	IN
10	VH	Head drive power	IN
11	DI	Data in	IN
12	/STB3	/Strobe3	IN
13	/STB4	/Strobe4	IN
14	VDD	Logic power	IN
15	GND	Head ground	-
16	GND	Head ground	-
17	GND	Head ground	-
18	GND	Head ground	-
19	GND	Head ground	-
20	GND	Head ground	-
21	GND	Head ground	-
22	GND	Head ground	-
23	GND	Head ground	-
24	GND	Head ground	-
25	GND	Head ground	-
26	GND	Head ground	-
27	TM	Thermistor	OUT
28	/STB1	/Strobe1	IN
29	/STB2	/Strobe2	IN
30	/LAT	/Data latch	IN
31	CLK	Clock	IN
32	VH	Head drive power	IN
33	VH	Head drive power	IN
34	VH	Head drive power	IN
35	VH	Head drive power	IN
36	VH	Head drive power	IN
37	VH	Head drive power	IN
38	N.C.	Not connected	-
39	SW	Platen switch release	OUT
40	SW	Platen switch release	OUT

No	Signal	Content	I/O
41	MTM	Motor thermistor	OUT
42	MTM	Motor thermistor	OUT
43	MT_/A	Excitation signal /A	SINK/SOURCE
44	MT_/A	Excitation signal /A	SINK/SOURCE
45	MT_A	Excitation signal A	SINK/SOURCE
46	MT_A	Excitation signal A	SINK/SOURCE
47	MT_/B	Excitation signal /B	SINK/SOURCE
48	MT_/B	Excitation signal /B	SINK/SOURCE
49	MT_B	Excitation signal B	SINK/SOURCE
50	MT_B	Excitation signal B	SINK/SOURCE

■ Connector pin assignments of printer mechanism (FPC)

Recommended connector for cutter FPC : 52745-1297 (Molex) or equivalent

No	Signal	Content	I/O
1	MT_B	Excitation signal B	SINK/SOURCE
2	MT_B	Excitation signal B	SINK/SOURCE
3	MT_/B	Excitation signal /B	SINK/SOURCE
4	MT_/B	Excitation signal /B	SINK/SOURCE
5	MT_A	Excitation signal A	SINK/SOURCE
6	MT_A	Excitation signal A	SINK/SOURCE
7	MT_/A	Excitation signal /A	SINK/SOURCE
8	MT_/A	Excitation signal /A	SINK/SOURCE
9	N.C.	Not connected	-
10	VSEN	Paper sensor power	IN
11	PHE	Emitter for photo interrupter	OUT
12	PHK	Cathode for photo interrupter	OUT

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