

FCL Components Thermal Printer

FTP-66E Series (6-inch thermal printer)

FCL Components 12V and 24V, 6" high or low speed, easy loading thermal printer

Overview

The FTP-66EMCL Series, printing on 6-inch wide paper, is an ultra compact thermal printer that can be driven by either 12V or 24V. Our unique platen removal design allows easy access for both loading paper and maintenance. Both high speed and low speed versions are available.

The FTP-66EMCL Series can be used for a variety of applications such as test & measurement equipment, informational kiosks, ticket issuing terminals, label printers and medical equipment.



FTP-66EMCL101

Features

- Platen open structure
Paper jam-free / easy maintenance
- Multi-feature metal frame
The rugged metal frame provides excellent ESD performance, is shock/vibration resistant and the heat-sink allows for continuous printing
- 6-inch (156mm) wide paper width
- Label paper available
Straight paper pass
- Printing speed
HIGH SPEED: FTP-66EMCL101/112: it can print at 100mm/s
LOW SPEED: FTP-66EMCL151/162: it can print at 10mm/minute (max. 25mm/s)
- UL File No. E171434
- RoHS compliant

Item		Part Number
Printer mechanism		FTP-66EMCL001/051 (without adaptor board, without lever cap) (DISCONTINUED)
		FTP-66EMCL101/151 (with adaptor board, without lever cap) (DISCONTINUED March 2025)
		FTP-66EMCL112/162 (with adaptor board, with lever cap)
Lever cap (optional)		FTP-66EMP0495
LSI for driving		FTP-62ECU101
Interface board		FTP-62EDSL201 (For high speed mechanism)
		FTP-62EDSL202 (For low speed mechanism)
Cables	USB	FTP-629Y301#01-R
	Head	FTP-62EY001-R
	Power	FTP-629Y601-R

Item		Specifications	
Part number		FTP-66EMCL101/112/151/162	
Printing method		Thermal-line dot method	
Dot structure		1152 dots/lines (effective printing dot number 1696 dot/lines)	
Dot pitch (horizontal)		0.125mm (dot density 8 dots/mm)	
Dot pitch (vertical)		0.125mm (dot density 8 dots/mm)	
Effective printing area		144 mm	
Paper	Width	150-156mm (adaptor is required for 150mm width paper)	
	Thickness	60-100μm	
Operating voltage	For print head	MCL101/112	12V ±10% (538 dots, current peak 8.0A) 24V ±10% (high speed: 256 dots, low speed; 1050 dots, current peak 8.0A)
		MCL151/162	24V ±10% (high speed: 256 dots, low speed; 1050 dots, current peak 8.0A)
	For motor	MCL101/112	12V/24V ±10% current: 1 phase 0.6A, 2 phase: 1.2A
		MCL151/162	24V±10% current: 1 phase 0.4A, 2 phase: 0.8A
	For logic	3.3V ±5% 0.2A maximum or 5V ±5%, 0.3A maximum	
Printing speed	MCL001/101/112 (high speed)	12V max. 50mm/sec. (400 dotlines/sec.)* 24V max. 100mm/sec. (800 dotlines/sec.)*	
	MCL051/151/162 (low speed)	24V 10mm/min - 50mm/sec. (400 dotlines/sec.)**	
Dimensions	MCL001/101/112	194.6 x 55.2 x 26.0mm (WxDxH, except lever)	
	MCL051/151/162	208.4 x 57.9 x 30.0mm (WxDxH, except lever)	
Weight (Printer mech)	MCL001	Approximately: 420g	
	MCL101/112	Approximately: 430g	
	MCL051	Approximately: 425g	
	MCL151/162	Approximately: 435g	
Head life		Pulse resistance: 100 million pulse/dot (under FCL Components' standard conditions)	
		Abrasion resistance: paper traveling distance 50km (print ratio: 12.5% or less)	
Operating environment	Operating temperature***		0°C to 50°C
	Operating humidity****		20 to 85% RH
	Storage temperature		-10°C to +60°C
	Storage humidity		5 to 90% RH
Detection function	Head temperature detection		Thermistor
	Paper out / mark detection		Photo sensor
Recommended thermal sensitive paper		High sensitive paper	TF50KS-E4
		Standard paper	PD150R, TF60KS-E*****
		Medium life storage paper	TP60KS-F1*****, P220VBB-1*****
		Long life storage paper	PD160R

*: At 25°C high speed mode, using specified thermal paper

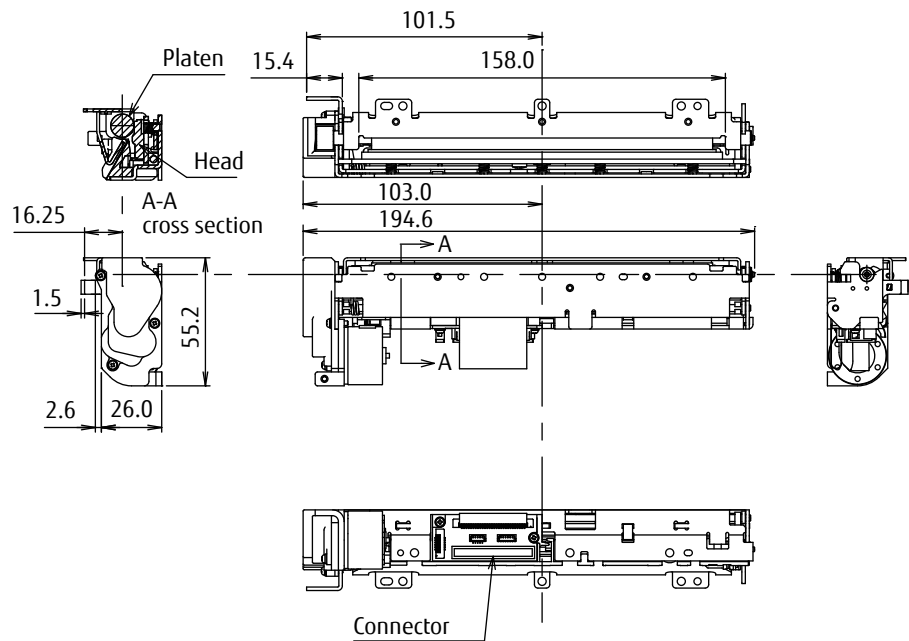
**: At 25°C batch printing mode, using specified thermal paper

***: +5° to +40°C printing density assurance range

****: Gradual decrease 12 to 52%RH in the range of +40°C to +50°C

*****: Only for high speed type

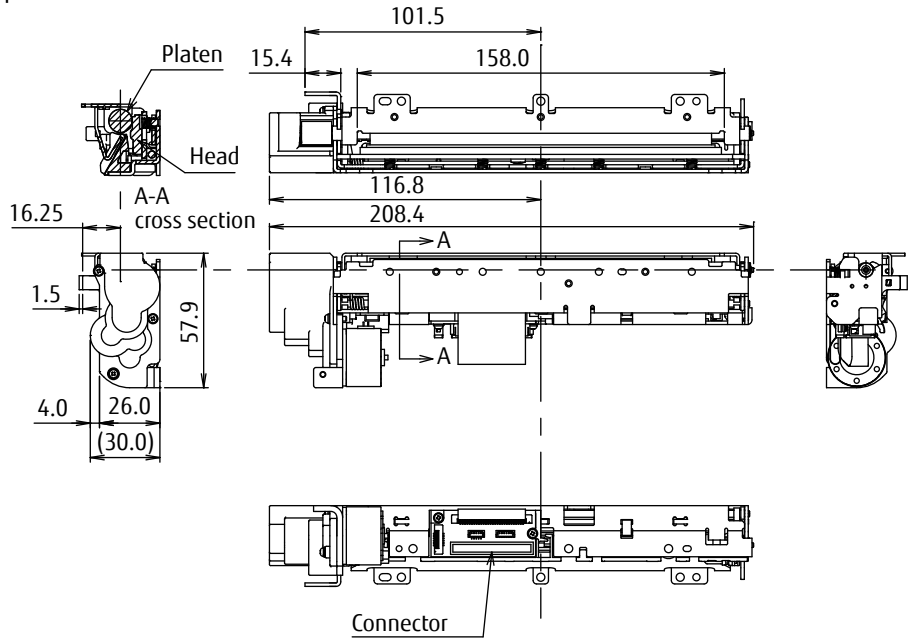
FTP-66EMCL101 - High Speed



Note: 1. Dimensions are nominal value, tolerance $\pm 0.5\text{mm}$ unless otherwise specified.

Unit: mm

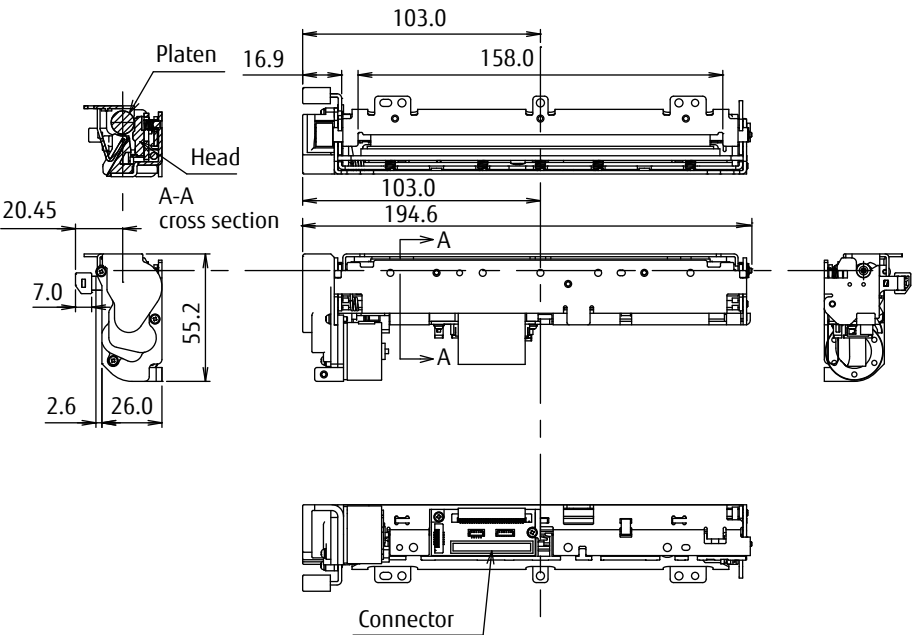
FTP-66EMCL151 - Low Speed



Note: 1. Dimensions are nominal value, tolerance $\pm 0.5\text{mm}$ unless otherwise specified.

Unit: mm

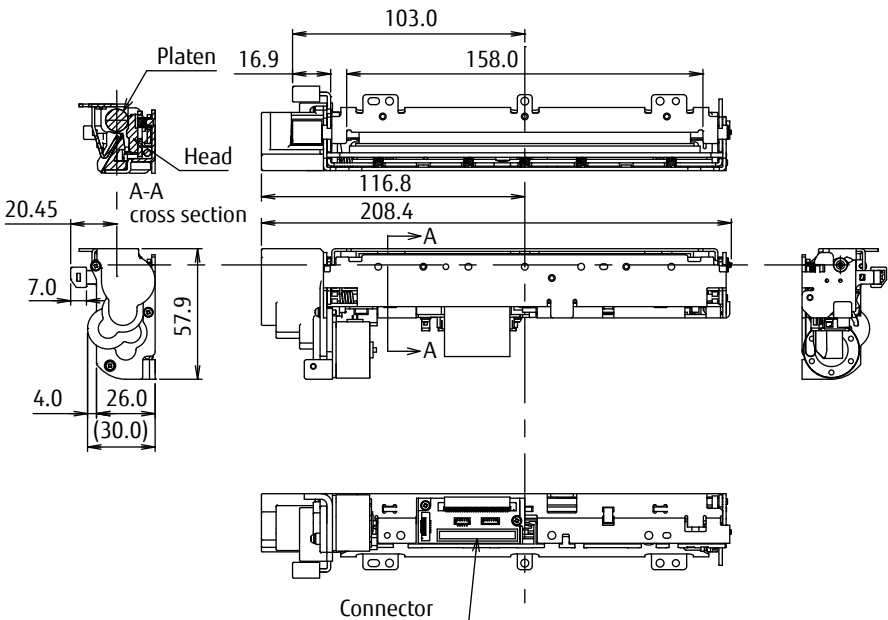
FTP-66EMCL112 - High Speed



Note: 1. Dimensions are nominal value, tolerance $\pm 0.5\text{mm}$ unless otherwise specified.

Unit: mm

FTP-66EMCL162 - Low Speed



Note: 1. Dimensions are nominal value, tolerance $\pm 0.5\text{mm}$ unless otherwise specified.

Unit: mm

FTP-66EMCL001/051

■ Printer FFC (thermal head)

- Thermal head FPC (contact pitch 1mm)

No	Signal	I/O	Contents
1	VH	I	Thermal head power supply
2	VH	I	
3	VH	I	
4	VH	I	
5	DO	I	Data out
6	/LAT	I	Data latch
7	CLK	I	Clock
8	VDD	I	Logic power
9	/STB1	I	Head strobe 1 signal
10	/STB2	I	Head strobe 2 signal
11	/STB3	I	Head strobe 3 signal
12	GND	-	Thermal head power supply
13	GND	-	
14	GND	-	
15	GND	-	
16	GND	-	
17	GND	-	
18	GND	-	
19	GND	-	
20	HTMP	-	Thermistor
21	/STB4	I	Head strobe 4 signal
22	/STB5	I	Head strobe 5 signal
23	/STB6	I	Head strobe 6 signal
24	DI	I	Data in
25	VH	I	Thermal head power supply
26	VH	I	
27	VH	I	
28	VH	I	

■ Printer FFC (motor)

- Mechanism side: 52610-0672 (Molex)

No	Signal	I/O	Contents
1	MTMP	-	Motor temperature detection
2	GND	-	Motor temperature detection ground
3	MT_/A	I	Transporter motor /A excitation signal
4	MT_A	I	Transporter motor A excitation signal
5	MT_B	I	Transporter motor B excitation signal
6	MT_/B	I	Transporter motor /B excitation signal

FTP-66EMCL001/051

■ Paper sensor and platen open detection switch (1)

- Connector used: BM03B-SRSS-TB (JST or equivalent)

No	Signal	I/O*	Contents
1	GND	-	Ground
2	HUP	O	Platen open detection switch
3	PHK	O	Cathode for photo interruptor (paper sensor)
4	PHE	O	Emitter for photo interruptor (paper sensor)
5	VSEN	I	Paper sensor power

*: Output direction from mechanism side

■ Platen open detection switch (2)

- Connector used: BM06B-SRSS-TB (JST or equivalent)

No	Signal	I/O*	Contents
1	GND	-	Ground
2	NC	-	Not connected
3	NC	-	
4	NC	-	
5	NC	-	
6	HUP	O	

*: Output direction from mechanism side

FTP-66EMCL101/151/112/162

■ Printer connector (head extension connector board) PIN arrays

- Adaptor board side: B34B-PHDSS (LF) (SN) (JST)
Remote side: PHDR-34VS (JST)

No	Signal	I/O	Contents
1	MTMP	I	Motor temperature detection
2	GND	-	Motor temperature detection ground
3	MT_/A	I	Transporter motor /A excitation signal
4	MT_A	I	Transporter motor A excitation signal
5	MT_B	I	Transporter motor B excitation signal
6	MT_/B	I	Transporter motor /B excitation signal
7	VSEN	I	Paper sensor power
8	PHE	O	Paper sensor out
9	PHK	O	Paper sensor cathode
10	VSEN	I	Mark (hole) sensor power terminal*
11	PHE	O	Mark (hole) sensor output terminal*
12	PHK	O	Mark (hole) sensor cathode terminal*
13	HUP	O	Platen open detection
14	GND	-	3.3V ground for the platen open sensor
15	VH	I	Thermal head power supply
16	VH	I	
17	DO	O	Thermal head data output

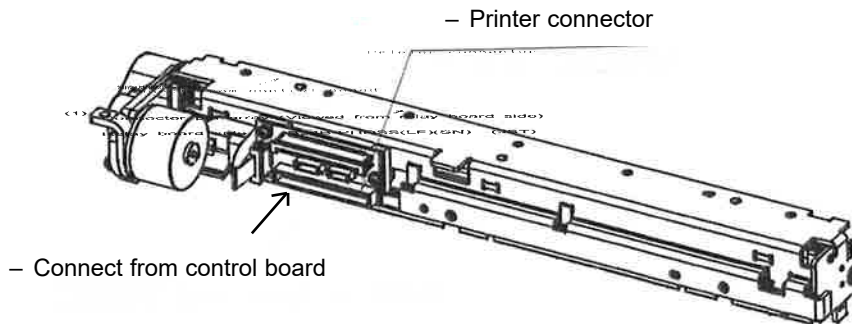
No	Signal	I/O	Contents
18	/LAT	I	Thermal head latch input
19	CLK	I	Thermal head clock
20	VDD	I	Thermal head logic power supply
21	/STB1	I	Head strobe 1 signal
22	/STB2	I	Head strobe 2 signal
23	/STB3	I	Head strobe 3 signal
24	GND	-	Power ground
25	GND	-	
26	GND	-	
27	GND	-	Thermal head temperature detection
28	HTMP	O	
29	/STB4	I	
30	/STB5	I	Head strobe 5 signal
31	/STB6	I	Head strobe 6 signal
32	DI	I	Thermal head data input
33	VH	I	Thermal head power supply
34	VH	I	

Do not plug or unplug the FPC when power is on.

*: FTP-66EMCL101/151: #10, 11, 12 are NOT CONNECTED

FTP-66EMCL101/112/151/162

- Adaptor board type (connector specification)
 - Connector pin array (viewed from relay board side)
Adaptor board side: B34B-PHDSS (LF) (SN) (JST)
Remote side: PHDR-34VS (JST)



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