

BATTERY DRIVE, MICRO LINE THERMAL PRINTER 2" TYPE MECHANISM AND INTERFACE BOARD WITH MINIATURE CUTTER

FTP-624MCL303/304/FTP-624DSL113

■ OVERVIEW

FTP-624MCL303/304 is a high speed, battery driven thermal printer with a miniature cutter, printing on 2-inch wide paper (58mm/60mm). A newly developed, long life, compact, light weight cutter has been partnered with a FTP-624MCL mechanism to produce this new product.

The design allows easy maintenance, head cleaning, head replacement, and cutter replacement.

This printer is suitable for a variety of applications, such as hand held POS terminals, measurement and medical instruments.

A dedicated LSI (microcontroller) for driving the printer or an interface board mounting this LSI is also available.

■ HIGHLIGHTS

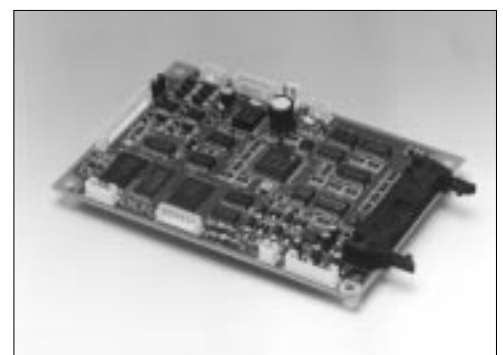
- **Long life**
Due to our proprietary cutter driving mechanism, the life of the cutter is 300,000 cuts.
- **High speed printing**
It can print at 60 mm/s (480 dotlines) maximum by using Fujitsu's unique head drive control.
- **Paper auto loading function**
Thermal paper can be loaded without head-up lever operation.
- **Two types of cut functions**
Full and partial cut are possible.
- **UL Recognized**
File No. E171434



FTP-624MCL303/304



FTP-624CU



FTP-624DSL113

FTP-624MCL303/304/FTP-624DSL113

■ DESIGNATION

Item		Part number
Printer mechanism		FTP-624MCL303/304*1
Interface board (Centronics /RS-232C)		FTP624DSL113*2
LSI	Micro Controller Unit	FTP-624CU112
Cables	Thermal head cable	FTP-624Y001
	Parallel interface cable	FTP-441Y201
	Serial interface cable	FTP-624Y301
	Power cables	FTP-621Y401 FTP-621Y601

*1: 303 is for front paper insertion (curl path) and 304 is for rear paper insertion (straight path).

*2: Includes ANK+Kanji and Flash Memory.

■ GENERAL SPECIFICATIONS

Item	Specifications
Part number	FTP-624MCL303/304
Printing method	Thermal-sensitive line dot method
Dot structure	384 dots/line
Dot pitch (Horizontal)	0.125 mm (8 dots/mm)—Dot density
Dot pitch (Vertical)	0.125 mm (8 dots/mm)—Line feed pitch
Effective printing area	48 mm
Paper width (MCL303)	58 mm
Paper width (MCL304)	60 mm
Paper thickness	60 to 100 μ m
Number of columns	32 columns/line (24 × 12 dot font)
Maximum printing speed	480 dotlines/s (60 mm/s) Conditions: 1 ply, printing on high sensitive thermal paper, 8 columns of "H" /line, double density 16 × 8 dot font, room temperature, 8.5 VDC drive
Character types	JIS ANK : 128 International : 195 ASCII : 31 JIS KANJI : approximately 6800
Character, dimensions (H×W), number of characters	24 × 12 dots, (3.0 × 1.5 mm), 32 columns 16 × 8 dots, (2.0 × 1.0 mm), 48 columns 16 × 16 dots, (2.0 × 2.0 mm), 24 columns 24 × 24 dots, (3.0 × 3.0 mm), 16 columns
Interface	Centronics / RS-232C (selectable by dip switch)

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FTP-624MCL303/304/FTP-624DSL113

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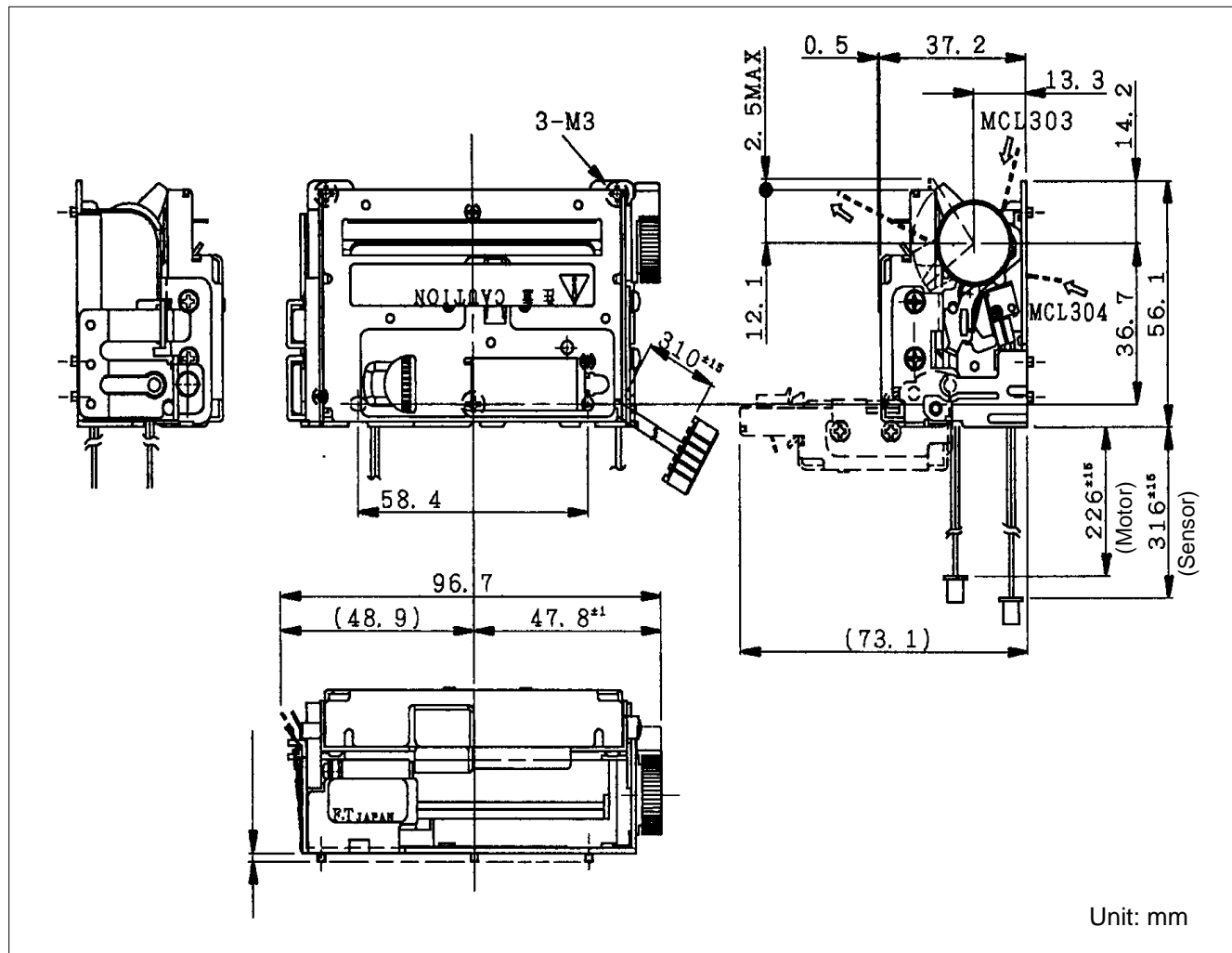
Item		Specifications
Power supply	For head	Voltage: 4.2-8.5 VDC Peak current: approx. 2.6 A (conditions: room temp., 7.2 VDC, 64 dots on)
	For motor	Voltage: 4.2-8.5 VDC Peak current: approx. 0.8 A (conditions: room temperature, 7.2 VDC)
	For logic	Voltage: 5.0 VDC \pm 5% Current: 0.2 A maximum
	For cutter	Voltage: 5.0 VDC \pm 5% Current: Approximately 5.0A (in-rush) Approximately 1.0A (average)
Dimensions	Mechanism	97 (W) \times 57 (D) \times 38 (H) mm
	Interface board	131 (W) \times 89 (D) \times 24 (H) mm
Weight (Mechanism)		Approximately 280 g
Expected life	Mechanism	Pulse durability: 1×10^8 pulse/dot (using Fujitsu Takamisawa's standard driving method) Wear resistance: 50 km (at 25% print ratio)
	Cutter	300,000 cuts minimum
Environmental conditions	Operating temperature	0 to +50°C*1
	Operating humidity	20 to 85% RH (no condensation)
	Storage temperature	-20 to +60°C (excluding paper)
	Storage humidity	5 to 95% RH (no condensation)
Detection	Head temperature	By thermistor (applied energy control, abnormal temperature detection)
	Paper out/Mark detect Head-up	By photointerrupter By microswitch
Recommended thermal sensitive paper		For front insertion use (58 mm width) : FTP-020PU001, FTP-020P0104/ P0701 For rear insertion use (60 mm width) : FTP-020P0020, FTP-020P0105/ P0702 In Europe (58 mm width) : FTP-021P0060-45 · Oji Paper : PD150R, PD160R-N, PD170R · NIPPON Paper : TF50KS-E4, TF60KS-E, TF50KS-E · MITSUBISHI Paper Mills : P220VBB-1, AFP-235

*1: Guarantee +5°C to +40°C.

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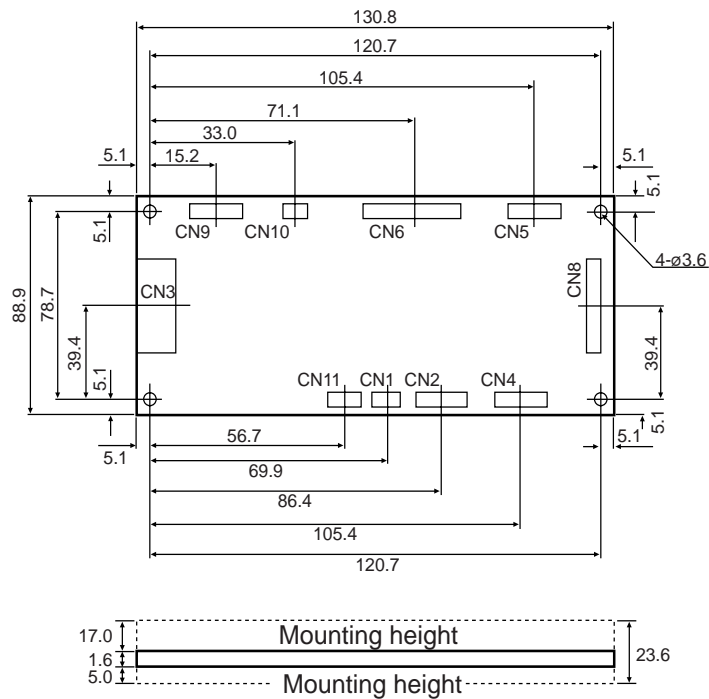
■ DIMENSIONS

Printer mechanism



FTP-624MCL303/304/FTP-624DSL113

Interface board



Unit: mm

■ CONNECTOR PIN ASSIGNMENT FOR PRINTER MECHANISM

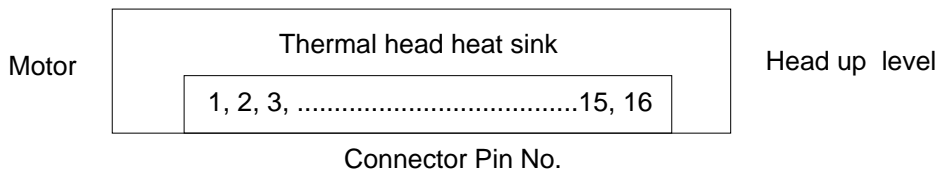
1. Thermal Head

Head side : B16B-PH-K-S-2.2 (J.S.T.) or equivalent

Board side : PHR-16 (J.S.T.) or equivalent



*1: Symbol: "—" means a negative logic signal



2. Motor connectors

Motor side : PHR-4 (J.S.T.) or equivalent
Board side : B4B-PH-K-S (J.S.T.) or equivalent

3. Sensor connectors

Sensor : PHR-5 (J.S.T.) or equivalent
Board side : B5B-PH-K-S (J.S.T.) or equivalent



3. Cutter

Mech side : EHR-4 (J.S.T.) or equivalent
 Board side : B4B-EH (J.S.T.) or equivalent

■ FUNCTION

Item	Item
1. Test print function	8. Cutter abnormality detection
2. Paper out detection	9. Motor power saving function
3. Paper near end detection	10. Mark detection function
4. Head up detection	11. MCU operation abnormality detection
5. Thermal head temperature abnormality detection	12. Power ON/OFF sequence protection
6. Blow-out fuse detection	13. Motor over-current protection
7. Head voltage abnormality detection	14. Hardware timer

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