

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

FTP-624MCL001/002/FTP-624DCL/DSL

■ OVERVIEW

FTP-624MCL/FTP-624DCL Series is a high speed line thermal printer driven by battery, printing on 2-inch wide paper (58 mm/ 60 mm).

This printer is compact and lightweight, and the design allows easy head maintenance, head cleaning and head replacement.

This printer is suitable for a variety of applications, such as hand held terminals, POS terminals, ticket machines, coupon machines, label printers, etc.

■ HIGHLIGHTS

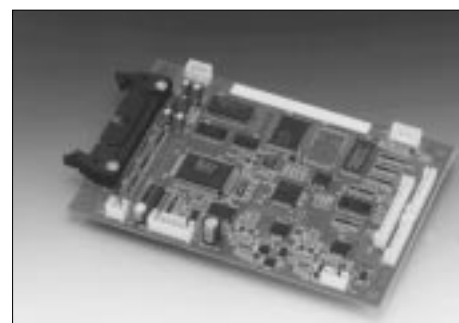
- **High speed printing**
It can print at 60 mm/s (480 dotlines/s) maximum by using Fujitsu Components' unique head drive control.
- **Compact and lightweight**
This printer has a low profile of only 20 mm, and a light weight of approximately 80 g.
- **Low power consumption**
The peak current for head drive is only 2.6 A (8.5 VDC, 64 dots on)
- **Easy head access**
It is designed for easy head cleaning and head replacement.
- **Paper auto loading function**
Thermal paper can be loaded without head-up lever operation.
- **UL recognized**
File No. E171434



FTP-624MCL001



FTP-624CU102



FTP-624DCL/DSL002

FTP-624MCL001/002/FTP-624DCL/DSL002

■ DESIGNATION

Item		Part number
Printer mechanism		FTP-624MCL001/002*1
Interface Board	Centronics	FTP-624DCL002*2
	RS-232C	FTP-624DSL002*3
LSI	Micro Controller Unit	FTP-624CU102
Cables	Thermal head cable	FTP-624Y001
	Parallel interface cable	FTP-441Y201
	Serial interface cable	FTP-624Y301
	Power cables	FTP-621Y401 FTP621Y601

*1: 001 is for front paper insertion (curl path) and 002 is for rear paper insertion (straight path).

*2: 002 supports ANK, 102 supports ANK and Kanji.

*3: 002 supports ANK, 103 supports ANK and Kanji.

■ GENERAL SPECIFICATIONS

Item	Specifications
Part number	FTP-624MCL001/002
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 (MCL001)	58 mm
Paper width (MCL002)	60 mm
Paper thickness	60 to 100 μ m*1
Number of columns	48 columns/line (16 \times 8 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 \times 8 dot font, room temperature, 8.5 VDC drive
Character types	JIS ANK : 128 International : 195 ASCII : 31
Character, dimensions (H \times W), number of characters	24 \times 12 dots, (3.0 \times 1.5 mm), 32 columns 16 \times 8 dots, (2.0 \times 1.0 mm), 48 columns 16 \times 16 dots, (4.0 \times 2.0 mm), 24 columns 24 \times 24 dots, (6.0 \times 3.0 mm), 16 columns
Interface	Centronics / RS-232C

FTP-624MCL001/002/FTP-624DCL/DSL

(Continued)

Item		Specifications
Power supply	For head	Voltage: 4.2 to 8.5 VDC (equivalent to 2 Lithium Ion batteries) Peak current: approx. 2.6 A (conditions: room temp., 7.2 VDC, 64 dots on)
	For motor	Voltage: 4.2 to 8.5 VDC (equivalent to 2 Lithium Ion batteries) Peak current: approx. 0.8 A (conditions: room temperature, 7.2 VDC)
	For logic	Voltage: 5 VDC \pm 5% Current: 0.2 A maximum
Dimensions	Mechanism	82 (W) \times 46 (D) \times 20 (H) mm (excluding lever and knob diameter)
	Interface board	131 (W) \times 89 (D) \times 24 (H) mm
Weight (Mechanism)		Approximately 80 g
Expected life	Mechanism	Pulse durability: 1×10^8 pulse/dot (using Fujitsu Takamisawa's standard driving method) Wear resistance: 50 km (at 12.5% print ratio)
Environmental conditions	Operating temperature	0 to +50°C*2
	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	By photointerrupter
	Head-up	By microswitch
Recommended thermal sensitive paper		For front insertion use (58 mm width) : FTP-020PU001, FTP-020PG021 For rear insertion use (60 mm width) : FTP-020P0020, FTP-020PG106 In Europe (58 mm width) : FTP-021P0060-45 · Oji Paper : PD150R, PD160R, PD170R · NIPPON Paper : TF50KS-E4, TF60KS-E, TF50KS-E · MITSUBISHI Paper Mills : P220VBB-1, AFP-235

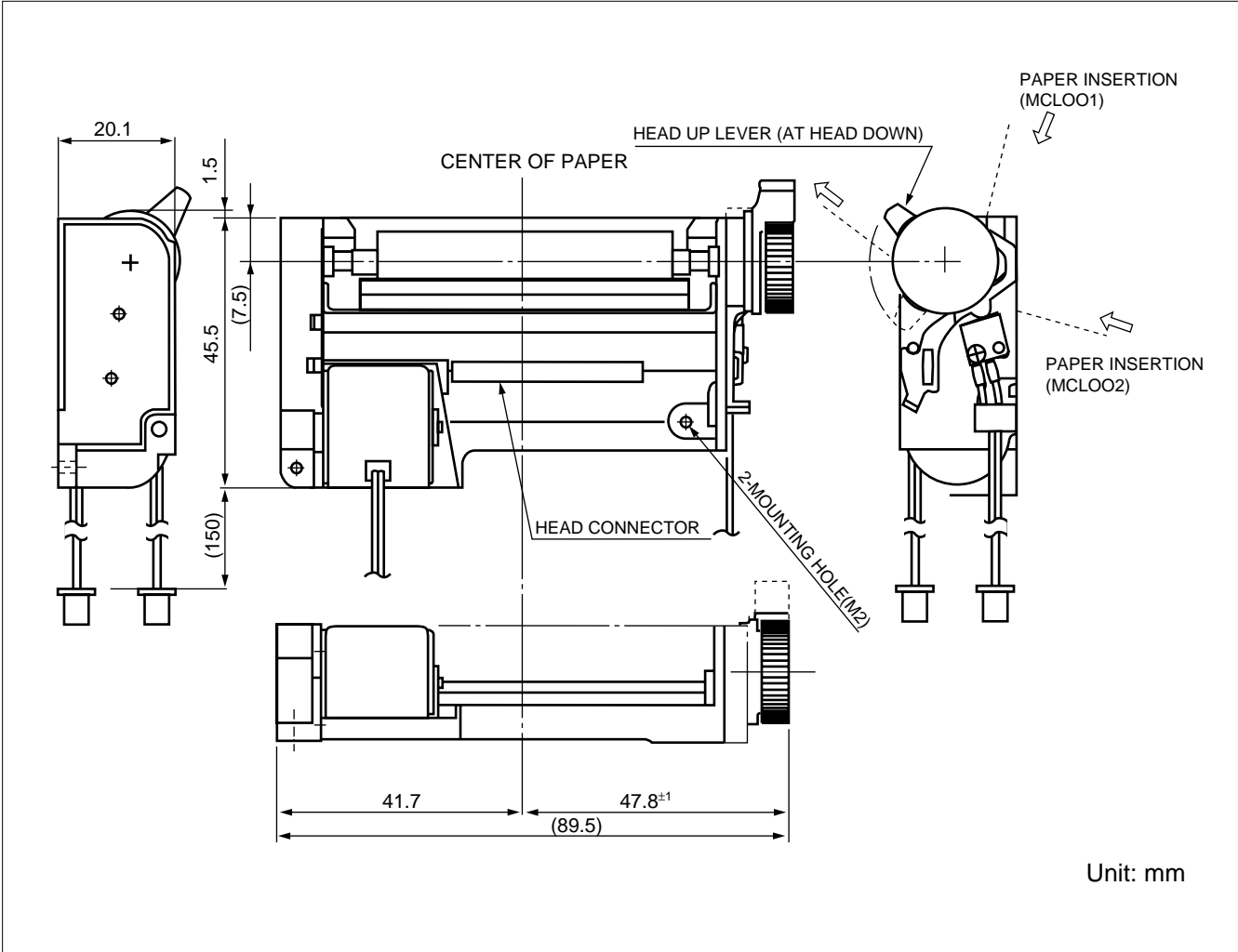
*1: There may be exceptions.

*2: Guarantee +5°C to +40°C.

FTP-624MCL001/002/FTP-624DCL/DSL002

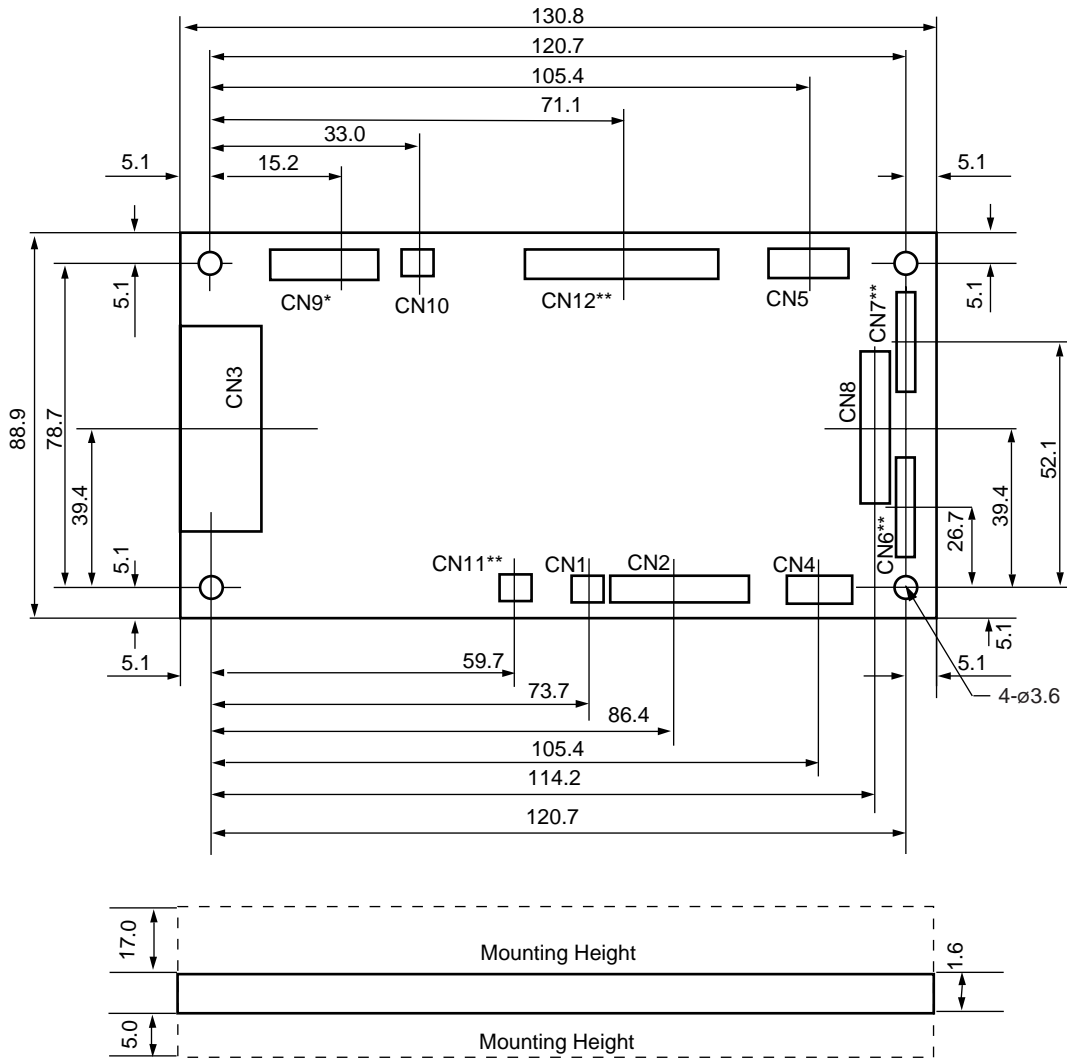
■ DIMENSIONS

Printer mechanism



FTP-624MCL001/002/FTP-624DCL/DSL

Interface board



* CN9 on FTP-624DSL only

**CN6, CN7, CN11, CN12 not used

Unit: mm

■ CONNECTOR PIN ASSIGNMENT FOR PRINTER MECHANISM

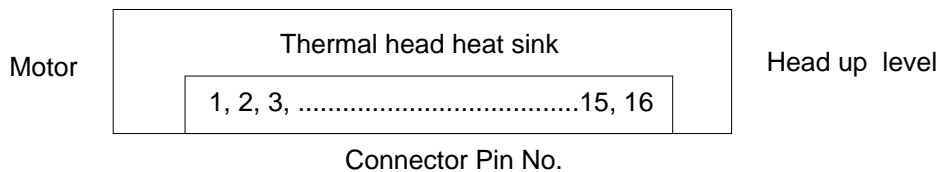
1. Thermal Head

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



■ FUNCTION

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

■ INTERFACE, COMMAND, OPTIONS

Please refer to the FTP-624DCL/DSL DATA SHEET.

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