



Высокоскоростные термопечатающие механизмы FTP-637MCL401, FTP-637MCL411, FTP-637MCL601 Технические характеристики

| | | | | |
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| Астана (7172)727-132 | Иркутск (395)279-98-46 | Москва (495)268-04-70 | Ростов-на-Дону (863)308-18-15 | Тверь (4822)63-31-35 |
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| Иваново (4932)77-34-06 | Киргизия (996)312-96-26-47 | Казахстан (772)734-952-31 | Таджикистан (992)427-82-92-69 | |

Единый адрес для всех регионов: fst@nt-rt.ru || www.fujitsu.nt-rt.ru



24V, FTP-607 Series

3" HIGH SPEED THERMAL PRINTER

FTP-637MCL401/411/601

Not recommended for New Design: FTP-637MCL601

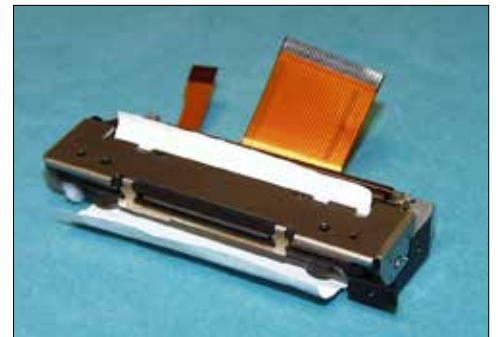
■ OVERVIEW

The FTP-637 MCL series are 24V driven high-speed printers with with a long life, ultra low profile auto cutter.

The FTP-637 MCL Series can be used for a variety of applications, such as POS terminals, ticket vending machines, label printers, banking terminals, measurement and medical equipment.

■ HIGHLIGHTS

- **Ultra low profile**
Height 21.8 mm, width 103.2/104.5 mm, depth 42.2 mm
- **High speed printing**
Using Fujitsu's unique head drive control, maximum print speeds of 100/170/150mm per second can be achieved.
- **Auto Cutter**
Long life, guillotine style cutter with a dedicated motor.
- **Easy paper loading**
Fujitsu Components' unique lever assisted platen release mechanism allows for easy paper loading and easy head maintenance. Conventional auto loading is also available.
- **Multifunctional die-cast frame**
The rugged die-cast frame provides excellent ESD performance, is shock/vibration resistant and the heat-sink allows for continuous printing.
- **RoHS compliant**



FTP-637MCL401/411/601

FTP-637MCL401/411/601

■ PART NUMBERS

| | | | Part Number | |
|---|-----------------|------------|---|--|
| Easy Load Model with low profile cutter | | | FTP-637MCL401 FTP-637MCL411 FTP-637MCL601 | |
| LSI for driving | | MCL401/411 | FTP-627CU430 | |
| | | MCL601 | FTP-627CU351 | To be discontinued, no replacement planned |
| Interface board for Mech/Cutter | USB/ RS-232C | MCL401/411 | FTP-637DSL430#01 (Japanese font) FTP-637DSL430#02 (Chinese font) | |
| | | MCL601 | FTP-638DSL382 | To be discontinued, no replacement planned |
| | USB | MCL601 | FTP-637DSL384 | To be discontinued, no replacement planned |
| | RS-232C | MCL601 | FTP-637DSL386 | To be discontinued, no replacement planned |
| Interface cables | USB | | FTP-629Y301 | |
| | Serial (RS232C) | | FTP-628Y601 | |
| Power cables | | MCL401/411 | FTP-629Y602 | |
| | | MCL601 | FTP-629Y602 | |

■ SPECIFICATIONS

| Item | | Specifications |
|--|--------|---|
| Part number | | FTP-637MCL401/411/601 |
| Printing method | | Thermal-line dot method |
| Dot structure | | 576 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 | | 72 mm |
| Number of columns | | ANK 48 columns/line (maximum 12 x 24 dot font) |
| Paper width | | 80 mm |
| Paper thickness | | 60 to 85 μm (some paper in this range may not be used because of paper characteristics) |
| Printing Speed | MCL401 | Maximum 100mm/sec. (800 dot line/sec.) |
| | MCL411 | Maximum 170mm/sec. (1,360 dot line/sec.) |
| | MCL601 | Maximum 150mm/sec. (1,200 dot line/sec.) |
| Character types | | Alphanumeric, kana: 159 types International characters: 195 types JIS Kanji (Kanji CG loaded board): about 6800 types |
| Character, dimensions (W×H), number of columns | | 12 × 24 dots, (1.5 × 3.0 mm), 48 columns: ANK 24 × 24 dots, (3.0 × 3.0 mm), 24 columns: ANK 8 × 16 dots, (1.0 × 2.0 mm), 72 columns: ANK 16 × 16 dots, (2.0 × 2.0 mm), 36 columns: ANK |

■ SPECIFICATIONS

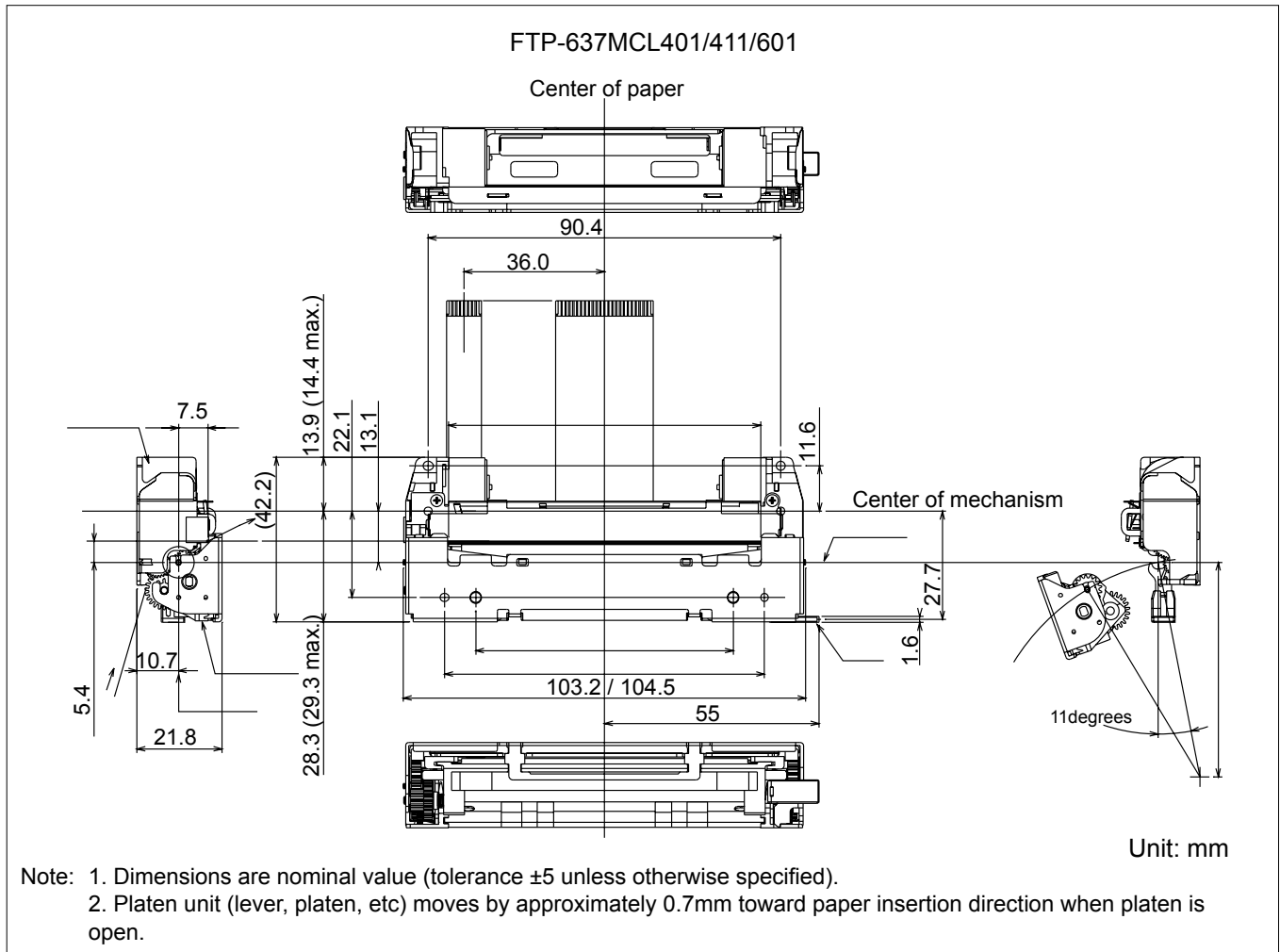
| Item | | | Specification | |
|-------------------------------------|----------------------------|--------------------------|--|---|
| Interface | | | Conforms to RS232C/USB | |
| Power supply | For print head | MCL401/411 | 24VDC±5% approx. 4.4A at 25°C, Rav=1,500Ω, concurrent applied dot number 288dots | |
| | | MCL601 | 24VDC ±5% approx. 8.0A at 25°C, Rav=800Ω, concurrent applied dot number 288dots | |
| | For motor | MCL401 | 24 VDC ±5%, 1.0 A maximum | |
| | | MCL411 | 24 VDC ±5%, 0.8 A maximum | |
| | | MCL601 | 24 VDC ±5%, 1.1 A maximum | |
| | For cutter | MCL401 | 24 VDC ±5%, 1.1 A maximum | |
| | | MCL411 | 24 VDC ±5%, 1.2 A maximum | |
| | | MCL601 | 24 VDC ±5%, 1.3 A maximum | |
| | For logic | MCL401 | 4.75 to 5.25 VDC, 0.1 A maximum | |
| | | MCL411 | 3.3 to 5.25 VDC, 0.1 A maximum | |
| | | MCL601 | 4.75 to 5.25 VDC, 0.2 A maximum | |
| | Dimensions | Mechanism with cutter | MCL401 | 103.2 x 42.2 x 21.8 mm (WxDxH) |
| MCL411/601 | | | 104.5 x 42.2 x 21.8 mm (WxDxH) | |
| Interface board | | DSL3xx | 69.3 x 52 x 21.2mm (WxDxH) | |
| | | DSL4xx | 40 x 70 x 16.2 mm (WxDxH) | |
| Weight | Mechanism with cutter | | Approximately 118g/124g/124g | |
| | Interface board | | Approximately DSL3xx: 30g / DSL4xx: 20g | |
| Life | Head | MCL401 | Pulse durability: 50 million pulses/dot (print ratio: 12.5% or less). | |
| | | MCL411 | Pulse durability: 100 million pulses/dot (print ratio: 12.5% or less). | |
| | | MCL601 | Pulse durability: 100 million pulses/dot (print ratio: 12.5% or less). | |
| | | MCL401 | Abrasion resistance: paper traveling distance 50km | |
| | | MCL411 | Abrasion resistance: paper traveling distance 100km | |
| | | MCL601 | Abrasion resistance: paper feed length 100km. | |
| | Cutter | MCL401 | 500,000 cuts | |
| | | MCL411 | 1,000,000 cuts | |
| | | MCL601 | 1,000,000 cuts | |
| Platen | | 5,000 times (open/close) | | |
| Operating environment | Operating temperature | | 0°C to +50°C (+5°C to +40°C printing density assurance range) | |
| | Operating humidity | | 20 to 85% RH (no condensation) | |
| | Storage temperature | | -20°C to +60°C (paper not included) | |
| | Storage humidity | | 5 to 95% RH (no condensation) | |
| Detection function | Head temperature detection | | Detected by thermistor | |
| | Paper out/mark detection | | Detected by photo-interruptor | |
| | Platen release | | Detected by sliding switch | |
| Recommended thermal sensitive paper | | | High sensitive paper | TF50KS-E4 (Nippon) |
| | | | Standard paper | TF60KS-E (Nippon), FTP-020PU001 (58mm), PD150R (Oji), FTP-020PU701 (58mm) |
| | | | Medium life paper | TF60KS-F1 (Nippon), FTP-020P0102 (58mm), PD170R (Oji), P220VBB-1 (Mitsubishi) |
| | | | Long life paper | PD160R (Oji), AFP-235 (Mitsubishi), TP50KJ-R (Nippon), HA220AA (Nippon) |

■ FUNCTION OF INTERFACE BOARD

| Item | Item |
|---|---|
| 1. Test print function | 8. Cutter trouble detect |
| 2. Paper out detection | 9. Motor power saving function |
| 3. Paper near end detection | 10. Mark detection function |
| 4. Paten open 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 |

■ DIMENSIONS

1. Printer mechanism



1. Connector (FPC) specification (CN4)

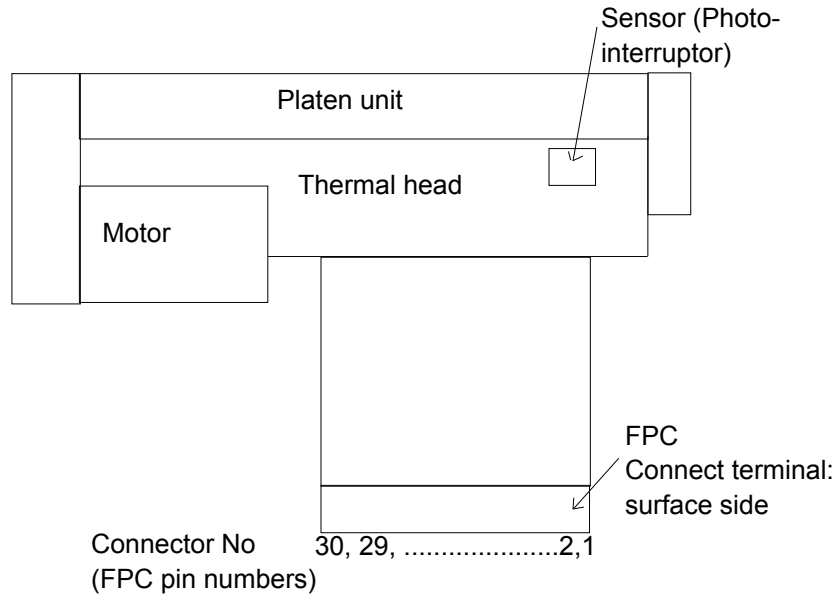
(1) Connector

Mechanical unit side: FPC connector

Remote side (housing site): 52610-3071 (made by Molex)

(2) Pin assignment on the mechanical side

| No | Signal | I/O | Contents |
|----|--------------------------|-----|---|
| 1 | PHK | — | Photointerrupter (Cathode) |
| 2 | VSEN | I | Ground power supply for paper sensor |
| 3 | PHE | O | Photointerrupter (Emitter) |
| 4 | VH | I | Head drive power |
| 5 | VH | I | Head drive power |
| 6 | VH | I | Head drive power |
| 7 | DI | I | Data input |
| 8 | $\overline{\text{STB3}}$ | I | Strobe 3 |
| 9 | $\overline{\text{STB4}}$ | I | Strobe 4 |
| 10 | VDD | — | Logic Power |
| 11 | GND | — | Head ground |
| 12 | GND | — | Head ground |
| 13 | GND | — | Head ground |
| 14 | GND | — | Head drive power |
| 15 | GND | — | Head drive power |
| 16 | GND | — | Head drive power |
| 17 | TM | O | Thermistor |
| 18 | $\overline{\text{STB1}}$ | I | Strobe 1 |
| 19 | $\overline{\text{STB2}}$ | I | Strobe 2 |
| 20 | $\overline{\text{LAT}}$ | I | Data Latch |
| 21 | CLK | I | Clock |
| 22 | VH | I | Head drive power |
| 23 | VH | I | Head drive power |
| 24 | VH | I | Head drive power |
| 25 | SW | — | Platen open switch |
| 26 | SW | — | Platen open switch |
| 27 | MT A | I | Motor excite signal A |
| 28 | $\overline{\text{MT A}}$ | I | Motor excite signal $\overline{\text{A}}$ |
| 29 | MT B | I | Motor excite signal B |
| 30 | $\overline{\text{MT B}}$ | I | Motor excite signal $\overline{\text{B}}$ |



2. Cutter (CN5)

Connector on control circuit side: 52610-0871 Molex or equivalent

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|-----|--------------|-----|-----------------------------|-----|--------|-----|-----------------------------|
| 1 | VSEN | I | Paper sensor power | 2 | PHE | O | Photo interruptor (emitter) |
| 3 | PHK | — | Photo interruptor (cathode) | 4 | MT A | I | Motor excite signal A |
| 5 | MT \bar{A} | I | Motor excite signal A | 6 | MT B | I | Motor excite signal B |
| 7 | MT \bar{B} | I | Motor excite signal B | 8 | NC | — | Not connected |

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