



Низковольтные термопечатающие механизмы FTP-638MCL401

Технические характеристики

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

BATTERY DRIVEN, FTP-608 Series 3" HIGH SPEED THERMAL PRINTER

FTP-638MCL401

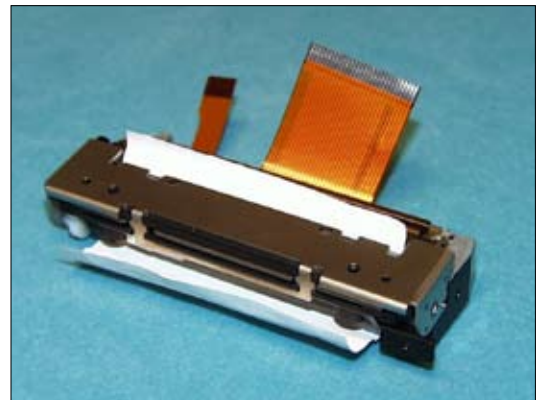
■ OVERVIEW

The FTP-638 MCL Series are 5V driven high-speed printers with a ultra low profile auto cutter and long life.

The FTP-638 MCL Series can be used for a variety of applications, such as POS terminals, banking terminals, and measurement and medical equipment.

■ HIGHLIGHTS

- **Ultra low profile**
Height 21.8 mm, width 103.2 mm, depth 42.2 mm
- **High speed printing**
It can print at 60 mm/s (480 dotlines/s) maximum by using Fujitsu's unique head drive control.
- **Auto Cutter**
Long life and high reliable guilotine with dedicated motor.
- **Easy paper loading**
Our lever platen release mechanism allows a wide paper route, so paper can be easily inserted. Conventional auto loading is also available.
- **Multifunctional die-cast frame**
Wide operating temperature range, long continuous printing, high ESD absorption and discharge of static electricity vibration and shock resistant.
- **RoHS compliant**



FTP-638MCL401



FTP-638DSL291

■ PART NUMBERS

| | | Part Number |
|---------------------------------|-----------------------|---|
| Printer mechanism with Cutter | | FTP-638MCL401 (Easy Load Model with low profile cutter) |
| LSI for driving | | FTP-628CU451R |
| Interface Board for Mech/Cutter | Cutter supported | FTP-628DSL490R Parallel/Serial without Flash & SRAM FTP-628DSL491R (Centronics) / Serial (RS-232C) with SRAM FTP-628DSL493R Parallel/Serial with Flash & SRAM |
| Interface cables | Parallel (Centronics) | FTP-628Y202 |
| | Serial (RS232C) | FTP-628Y302 |
| Power cables | Head, motor, logic | FTP-628Y402 |

■ SPECIFICATIONS

| Item | Specifications |
|--|---|
| Part number | FTP-638MCL401 |
| 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 100 μ m (some paper in this range may not be used because of paper characteristics) |
| Printing Speed | Maximum 60mm/sec. (480 dot line/sec.) at 8.5V |
| 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 / Centronics |
| Power supply | For print head | 4.2 - 8.5 VDC average current, 0.30A (2.4A peak) at 7.2V (print ratio: 12.5%, print speed: 60mm/sec.) |
| | For motor | 4.2 - 8.5 VDC \pm 5%, 1.0A maximum |
| | For cutter | 7.2 - 8.5 VDC \pm 5%, 1.1A maximum |
| | For logic | 3.0 -5.25 VDC, 0.1 A maximum |
| Dimensions | Mechanism with cutter | 103.2 x 42.2 x 21.8 mm (WxDxH) |
| | Interface board | 70 x 60 x 12mm |
| Weight | Mechanism with cutter | Approximately 118g |
| | Interface board | Approximately 25g |
| Life | Head | Pulse resistance: 100 million pulses/dot (under our standard conditions); Abrasion resistance: paper traveling distance 50km (print ratio: 12.5% or less) |
| | Cutter | 500,000 cuts (20 cuts/minute) |
| Operating environment | Operating temperature* | 0° C to 50° C |
| | Operating humidity | 20 to 85% RH (no condensation) |
| | Storage temperature | -20° C to +60° C (paper not included) |
| | Storage humidity | 5 to 90% RH (no condensation) |
| Detection function | Head temperature detection | Detected by thermistor |
| | Paper out/mark detection | Detected by photo-interrupter |
| | Platen release | Detected by sliding switch |
| Recommended thermal sensitive paper | | High Sensitive Paper TF50KS-E4 (Nippon Paper) |
| | | Standard paper: TF60KS-E(Nippon Paper), FTP-020PU001 (58mm), PD105R (Oji Paper), FTP-020P0701 (58mm) |
| | | Medium Life Paper TF60KS-F1, FTP-020P0102 (58mm), PD170R (Oji Paper), P220VBB-1 Mitsubishi Paper) |
| | | Long Life Paper PD160R-N (Oji Paper), AFB-235 (Mitsubishi Paper), TP50KJ-R (Nippon Paper), HA220AA (Nippon Paper) |

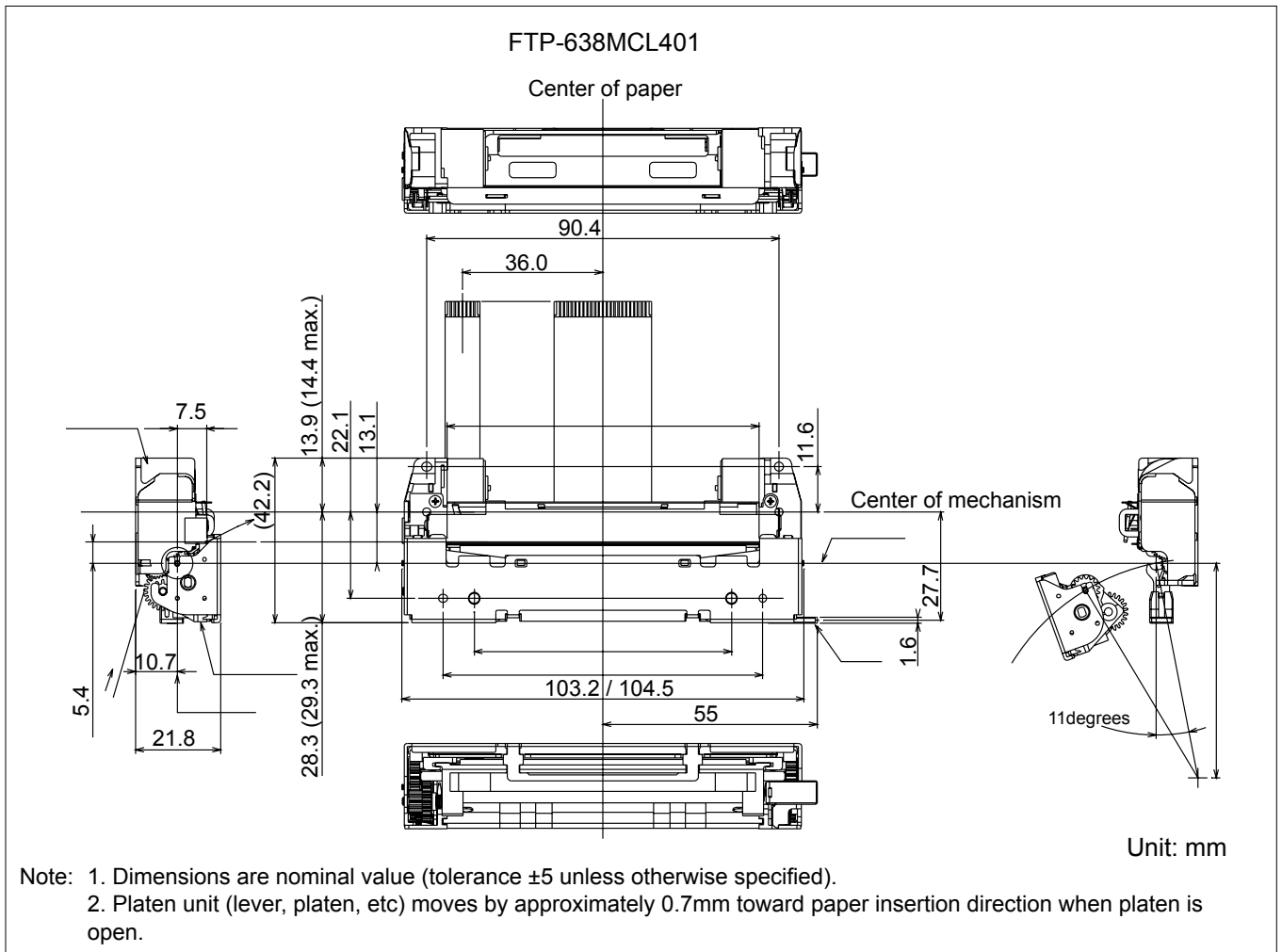
*+5°C to +40°C printing density assurance rance.

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. Platen 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)

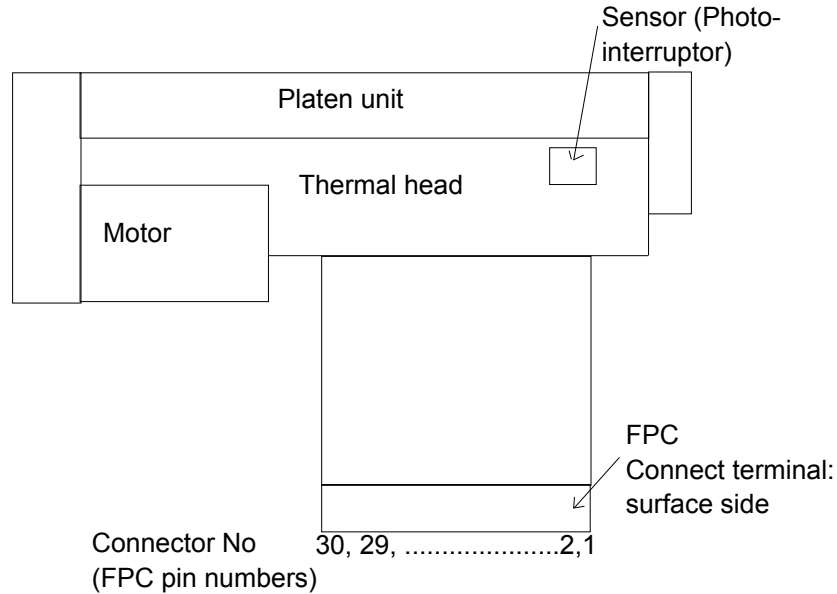
(1) Connector

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 | DI | I | Data in |
| 7 | CLK | I | Clock |
| 8 | GND | — | Head ground |
| 9 | GND | — | Head ground |
| 10 | STB5 | I | Strobe 5 |
| 11 | STB4 | I | Strobe 4 |
| 12 | STB3 | I | Strobe 3 |
| 13 | VDD | I | Logic Power |
| 14 | TM | O | Thermistor |
| 15 | STB2 | I | Strobe 2 |
| 16 | STB1 | I | Strobe 1 |
| 17 | $\overline{\text{AE2}}$ | O | Enable 2 |
| 18 | $\overline{\text{AE1}}$ | O | Enable 1 |
| 19 | GND | — | Head ground |
| 20 | GND | — | Head ground |
| 21 | $\overline{\text{LAT}}$ | I | Data latch |
| 22 | DO | O | Data out |
| 23 | VH | I | Head drive power |
| 24 | VH | I | Head drive power |
| 25 | SW | I | Platen open switch |
| 26 | SW | O | Platen open switch |
| 27 | $\text{MT } \overline{\text{A}}$ | I | Motor excite signal $\overline{\text{A}}$ |
| 28 | MT A | I | Motor excite signal A |
| 29 | $\text{MT } \overline{\text{B}}$ | I | Motor excite signal $\overline{\text{B}}$ |
| 30 | MT B | I | Motor excite signal 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 (emittor) |
| 3 | PHK | — | Photo interruptor (cathode) | 4 | MT \bar{A} | I | Motor excite signal \bar{A} |
| 5 | MT A | I | Motor excite signal A | 6 | MT \bar{B} | I | Motor excite signal \bar{B} |
| 7 | MT B | I | Motor excite signal B | 8 | NC | — | Not connected |

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