

BATTERY DRIVE, FTP-608 Series

2" HIGH SPEED THERMAL PRINTER

FTP-628MCL113, Easy Load & Mount Method

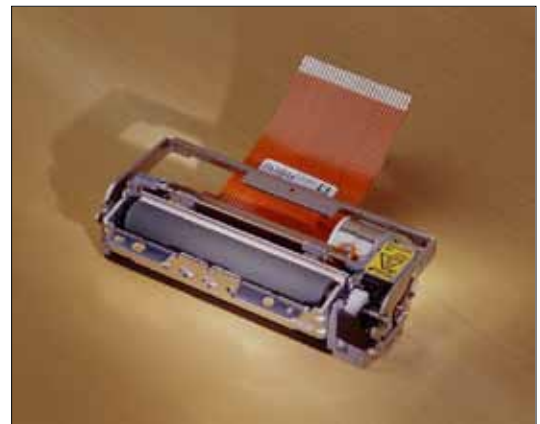
■ OVERVIEW

The easy loading FTP-608 MCL Series is ultra compact high speed, battery driven thermal printer, printing on 2-inch wide paper (58mm) where platens are removable. Our unique platen removal mechanism improved paper loading and maintenance.

The FTP-608 MCL series can be used for a variety of applications, such as portable terminals, POS, ticket issuing terminals, label printers, banking terminals, and measurement and medical equipment.

■ HIGHLIGHTS

- **Easy loading type**
Our original platen removal mechanism improved paper loading and maintenance.
- **Easy mounting platen**
The platen unit bracket allows attachment to cover with screws.
- **Ultra compact**
Height 15.5 mm, width 75 mm, depth 33.4 mm for the 2 inch model, excluding platen unit.
- **High speed printing**
It can print at 80 mm/s (640 dotlines/s) maximum by using Fujitsu's unique head drive control.
- **High resolution printing**
8 dots/mm of resolution printing is possible.
- **RoHS compliant**



FTP-628MCL113

■ PART NUMBERS

| Item | | Part Number |
|-------------------|--------------------|---|
| Printer mechanism | | FTP-628MCL113 (with platen bracket and platen open detect switch) |
| LSI for driving | | FTP-628CU301R (ANK only) FTP-628CU601R |
| Interface Board | Parallel | FTP-628DCL300R (Centronics) |
| | Serial | FTP-628DSL305R (RS 232C) |
| | USB | FTP-628DSL602R (V 2.0) |
| Interface Cables | Parallel | FTP-628Y202 |
| | Serial | FTP-628Y302 |
| | USB | FTP-629Y301 |
| Power cable | Head, motor, logic | FTP-628Y402 |

■ SPECIFICATIONS

| Item | Specifications |
|--|---|
| Part number | FTP-628MCL113 |
| Printing method | Thermal-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 |
| Number of columns | ANK 32 columns/line (maximum 12x 24 dot font) |
| Paper width | 58 mm ⁺⁰ ₋₁ |
| Paper thickness | 60 to 100 μm (some paper in this range may not be used because of paper characteristics) |
| Printing Speed | Maximum 80mm/sec. (640 dot line/sec.) at 8.5V |
| Character types | Alphanumeric, katakana: 159 types International and special characters: 195 types JIS Kanji level 1, level 2, non-Kanji (supported only when Kanji CG is mounted): about 6800 types |
| Character, dimensions (H×W), number of columns | 12 × 24 dots, (1.5 × 3.0mm), 32 columns: ANK 24 × 24 dots, (3.0 × 3.0mm), 16 columns: ANK, Kanji 8 × 16 dots, (1.0 × 2.0 mm), 48 columns: ANK 16 × 16 dots, (2.0 × 2.0 mm), 24 columns: ANK, Kanji |

■ SPECIFICATIONS

| Item | | Specification | |
|-------------------------------------|----------------------------|---|---|
| | | FTP-628MCL113 | |
| Interface | | Conforms to RS232C / Centronics | |
| Operating Voltage | For print head | 4.2 VDC to 8.5 V, average current 0.87A (0.93), peak value Printing ratio: 12.5%, printing speed 50mm/sec. at 7.2 V | |
| | For motor | 4.2 VDC to 8.5 V, 1 A maximum | |
| | For logic | 3.0 to 5.25 VDC \pm 5%, 0.1 A maximum | |
| Dimensions (WxDxH) | Printer mechanism | 74.7 x 33.4 x 15.5 mm (with platen set) | |
| | Interface board | 69.3 x 52 x 15 mm | |
| Weight | Printer mechanism | Approximately 46g | |
| | Interface board | Approximately 20g | |
| Head life | | Pulse resistance: 100 million pulses/dot (under our standard conditions). Abrasion resistance: paper traveling distance 50km (print ratio: 25% or less) | |
| 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 open/close | Slide switch | |
| Recommended thermal sensitive paper | | High sensitive paper: | TF50KS-E4 (Nippon Paper) |
| | | Standard paper: | TK50KS-E (Nippon Paper) PD150R (Oji Paper) FTP-020P0701 (58mm) |
| | | Medium life storage paper: | TK60KS-F1 (Nippon Paper) FTP-020P0102 (58mm) PD170R (Oji Paper) AFP220VBB-1 (Mitsubishi Paper) |
| | | Long life storage paper: | PD160R-N (Oji Paper) AFP-235 (Mitsubishi Paper) TP50KJ-R (Nippon Paper) HA112AA (Nippon Paper) |

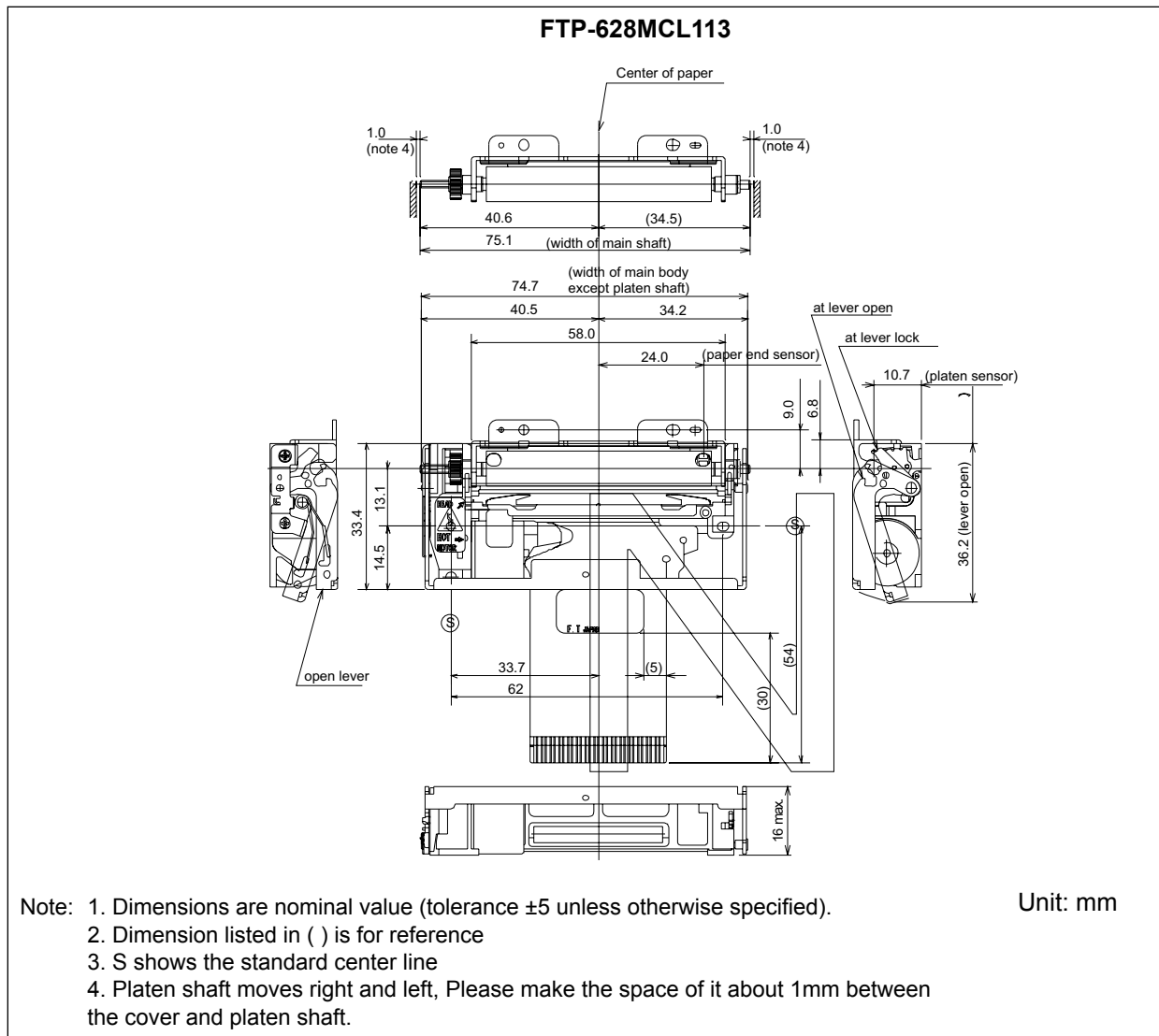
*+5°C to +40°C printing density assurance range (-25 to 70°C capability)

FUNCTION

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

DIMENSIONS

1. Printer mechanism



■ PRINTER CONNECTOR (FLEXIBLE PT BOARD) PIN ARRAYS FTP-628 MCL113

Thermal head, control circuit side connector: 52610-3071 Molex or equivalent product

| No | Signal | I/O | Contents |
|----|--------------------------|-----|---|
| 1 | PHK | — | Cathode for photo interruptor |
| 2 | VSEN | I | paper sensor power |
| 3 | PHE | O | Emittor for photo interruptor |
| 4 | SW1 | —/I | Platen release switch |
| 5 | SW2 | —/I | Platen release switch |
| 6 | VH | I | Head drive power |
| 7 | VH | I | |
| 8 | DIN | I | Data in |
| 9 | CLK | I | Synchronous clock for communication |
| 10 | GND | — | Ground power supply for thermal head |
| 11 | GND | — | |
| 12 | STB6 | I | Thermal head energizing control signal |
| 13 | STB5 | I | |
| 14 | STB4 | I | |
| 15 | VDD | I | Logic power |
| 16 | TH | O | Thermally sensitive resistor input terminal 1 |
| 17 | TH | O | Thermally sensitive resistor input terminal 2 |
| 18 | STB3 | I | Thermal head energizing control signal |
| 19 | STB2 | I | |
| 20 | STB1 | I | |
| 21 | GND | — | Ground power supply for thermal head |
| 22 | GND | — | |
| 23 | $\overline{\text{LAT}}$ | I | Data latch |
| 24 | DO | O | Data out |
| 25 | VH | I | Power supply for thermal head |
| 26 | VH | I | |
| 27 | MT A | I | Stepping motor excitation signal |
| 28 | $\overline{\text{MT A}}$ | I | |
| 29 | MT B | I | |
| 30 | $\overline{\text{MT B}}$ | I | |

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

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