

DISCONTINUED

BATTERY DRIVE, FTP-60D Series 2" HIGH SPEED THERMAL PRINTER

FTP-62DMCL101/111, Easy Loading Method

■ OVERVIEW

The easy loading FTP-60D MCL Series is ultra compact high speed, battery driven thermal printer, printing on 2-inch wide paper (58mm) where platens are removable. Our original platen removal mechanism improved paper loading and maintenance.

The FTP-60D MCL series can be used for a variety of applications, such as portable terminals, POS, banking terminals, and measurement and medical equipment.



FTP-62D series

■ HIGHLIGHTS

- **Easy loading type**
Our unique platen removal mechanism improved paper loading and maintenance
- **Ultra compact**
Height 19 mm, width 69.5 mm, depth 46 mm for the 2 inch model
- **High speed printing**
Print at 100mm/s (at 9.5VDC) maximum (FTP-62DMCL101)
Print at 75mm/s (at 7.2 VDC) maximum (FTP-62DMCL111)
- **High resolution printing**
8 dots/mm of resolution printing is possible
- **RoHS compliant**

FTP-62DMCL101/111

■ PART NUMBERS

| Item | | Part number |
|----------------------------------|-------------|--|
| Printers | | FTP-62DMCL101 (FPC length 38mm) without platen open detect switch FTP-62DMCL111 (FPC length 65mm) without platen switch |
| LSI for driving | | FTP-62DCUxxx |
| Interface boards | Serial | FTP-62DDSLxxx (RS 232C) |
| | USB | FTP-62DDSLxxx (V2.0) |
| | USB/RS-232C | FTP-62DDS001-R |
| Interface cables | Parallel | FTP-628Y202 |
| | Serial | FTP-628Y302 |
| | USB | FTP-628Y301 |
| Power cable (head, motor, logic) | | FTP-628Y402 |
| Platen replacement | | FTP-62DMP0221 |

■ SPECIFICATIONS

| Item | | Specifications |
|--|--------|---|
| Part number | | FTP-62DMCL101/111 |
| 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 85 μ m (some paper in this range may not be used because of paper characteristics) |
| Printing Speed | MCL101 | Maximum 100mm/sec. (800 dot line/sec.) at 9.5V |
| | MCL111 | Maximum 75mm/sec. (600 dot line/sec.) at 7.2V |
| 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 |

FTP-62DMCL101/111

■ SPECIFICATIONS

| Item | | Specification | |
|-------------------------------------|----------------------------|---|--|
| | | FTP-62DMCL101/111 | |
| Interface | | Conforms to RS232C / USB | |
| Operating Voltage | For print head | MCL101/111 | 4.2 VDC to 9.5 V, average current 0.87A (0.93), peak value Printing ratio: 12.5%, printing speed 75mm/sec. at 7.2 V |
| | For motor | MCL101/111 | 4.2 to 9.5VDC, 1A maximum |
| | For logic | MCL101/111 | 3.0 to 5.25VDC, 0.1 A maximum |
| Dimensions | Printer mechanism | 69.5 x 46 x 19mm (WxDxH) | |
| | Interface board | 40 x 41mm | |
| Weight | Printer mechanism | Approximately 29g | |
| | Interface board | TBA | |
| 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 95% RH (no condensation) | |
| Detection function | Head temperature detection | Detected by thermistor | |
| | Paper out/mark detection | Detected by photo-interrupter | |
| Recommended thermal sensitive paper | | High sensitive paper: | TF60KS-E4 (Nippon Paper) |
| | | Standard paper: | TK50KS-E (Nippon Paper) PD150R (Oji Paper) FTP-020P0701 (58mm) |
| | | Medium life storage paper: | TK60KS-F1 (Nippon Paper) FTP-020P0704 (58mm) PD170R (Oji Paper) P220VBB-1 (Mitsubishi Paper) |
| | | Long life storage paper: | PD160R-N (Oji Paper) AFP-235 (Mitsubishi Paper) TP50KJ-R (Nippon Paper) HA220AA (Nippon Paper) |

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

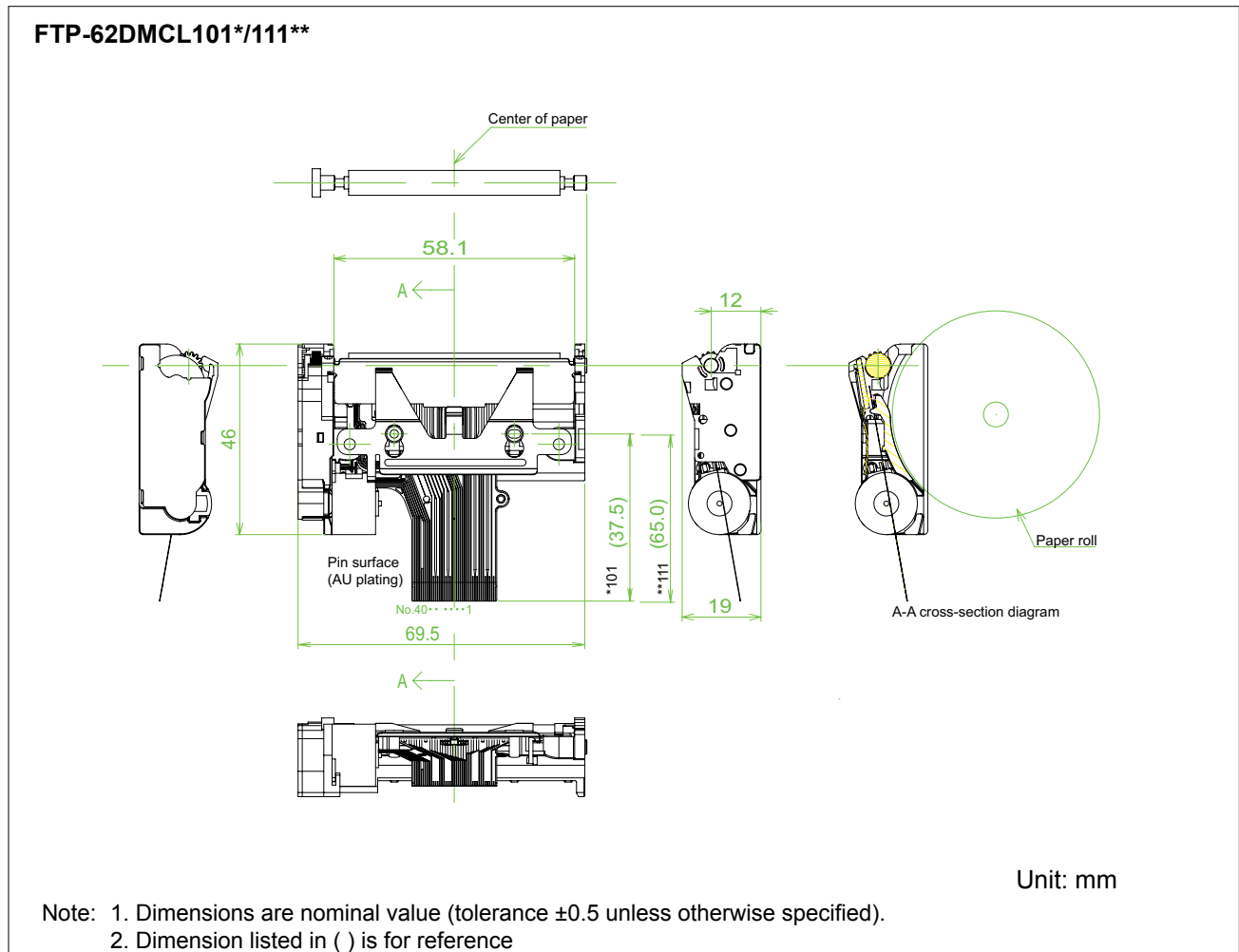
FTP-62DMCL101/111

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: 2- inch



■ PRINTER CONNECTOR (FLEXIBLE PT BOARD) PIN ARRAYS

FTP-62DMCL101/111

Thermal head, control circuit side connector: 54104-4031 Molex or equivalent product

| No. | Symbol | I/O | Signal Name |
|-----|----------------|-----|-------------------------------|
| 1 | N.C. | - | No connection |
| 2 | N.C | - | |
| 3 | VH | I | Head drive power |
| 4 | VH | I | |
| 5 | VH | I | |
| 6 | VH | I | |
| 7 | DI | I | Data in |
| 8 | CLK | I | Clock |
| 9 | GND | - | Head ground |
| 10 | GND | - | |
| 11 | GND | - | |
| 12 | GND | - | |
| 13 | STB6 | I | Strobe 6 |
| 14 | STB5 | I | Strobe 5 |
| 15 | STB4 | I | Strobe 4 |
| 16 | Vdd | I | Logic power |
| 17 | TM | O | Thermistor |
| 18 | TM | O | |
| 19 | STB3 | I | Strobe 3 |
| 20 | STB2 | I | Strobe 2 |
| 21 | STB1 | I | Strobe 1 |
| 23 | GND | - | Head ground |
| 24 | GND | - | |
| 25 | GND | - | |
| 26 | /LAT | I | / Data latch |
| 27 | DO | O | Data out |
| 28 | VH | I | Head drive power |
| 29 | VH | I | |
| 30 | VH | I | |
| 31 | VH | I | |
| 32 | N.C. | - | No connection |
| 33 | PHK | - | Cathode for photo interrupter |
| 34 | VSEN | I | Paper sensor power |
| 35 | PHE | O | Emittor for photo interruptor |
| 36 | N.C. | - | No connection |
| 37 | MT /A | I | Excitation signal A |
| 38 | MT / \bar{A} | I | Excitation signal \bar{A} |
| 39 | MT /B | I | Excitation signal B |
| 40 | MT / \bar{B} | I | Excitation signal \bar{B} |

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

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