

24V DRIVEN RECEIPT, TICKET PRINTER

3" KIOSK PRINTER UNIT

FTP-639USL100-R Series

■ OVERVIEW

The FTP-639USL Series is 24V driven receipt printer unit with cutter for 3 inch wide paper. The unit has our high-speed FTP-639MCL mechanism, cutter and control board, with an integrated paper feed and built-in paper guide section.

The receipt printer unit is most suitable for applications such as Kiosk, ATM, receipt, label, and ticket issuing printers for various other equipment.

■ FEATURES

- External presenter option
- Medium duty unit (mounting is easy)
- Ultra high speed printer (125/200mm / sec.)
- Auto cutter included
- Paper near end-detection function
- Up to 6 inch paper roll diameter
- Rear paper auto loading
- Paper jam detection
- Prints 2-D barcodes

■ DESIGNATION

| | Item | Part Number | Comment |
|--------------------------|------------------------------|----------------|-------------------|
| Printer module interface | USB (ver 2.0) | FTP-639USL101* | without presenter |
| | Serial (RS-232C) / USB | FTP-639USL102* | |
| | USB (ver 2.0) | FTP-639USL201 | with presenter |
| | Serial (RS-232C) / USB | FTP-639USL202 | |
| Cables | USB interface | FTP-629Y301 | |
| | Serial interface | FTP-629Y302 | |
| | Power for logic, head, motor | FTP-629Y603 | |



FTP-639USL100 - horizontal



FTP-639USL100 - vertical

*: Interface board is FTP-629DSL350 series

FTP-639USL100-R Series

■ SPECIFICATIONS

| Item | | Specifications |
|--|-----------------------|---|
| Part number | | FTP-639USL101/102/201/202 |
| Printing method | | Thermal-sensitive 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 |
| Paper width | | 80 ⁺⁰ ₋₁ mm |
| Paper thickness | | 60 to 100 μm |
| Paper print length | | 50 to 250mm |
| Cutting type | | Full or partial |
| Number of columns | | 48 columns/line (12×24 dot font) |
| Maximum printing speed | | 1600 dotlines/s (200 mm/s) |
| Page mode | Middle speed mode | 80mm/sec. without automatic division |
| | High speed mode | 125 mm/sec.without automatic division |
| | Ultra high speed mode | 200 mm/sec.without automatic division |
| Character types | | Alphanumeric KANA: 159, Registered: 94, International: 195, OCR: 103 JIS KANJI (FTP-629DSL400): approximately 6800 |
| Character composition, dimensions (H×W), Number of characters | | 24 × 12 dots, (3.0 × 1.5 mm), 48 columns 24 × 24 dots, (3.0 × 3.0 mm), 24 columns 16 × 8 dots, (2.0 × 1.0 mm), 72 columns 16 × 16 dots, (2.0 × 2.0 mm), 36 columns OCR I: 24 × 40, 24 columns OCR III: 24 × 48, 24 columns OCR IV: 36×60, 16 columns Expanded: 24×48, 24 columns |
| Interface | | Serial (RS232C), USB |
| Power supply | For head | 24VDC ± 5%, Voltage Current : average*1 () : Peak 12.5% printing ratio 1.0 (2.0) A (at 200 mm/s printing speed, 1 division) 0.7 (1.0) A (at 125 mm/s printing speed, 2 divisions) 0.6 (1.0) A (at 80 mm/s printing speed, 2 divisions) 0.6 (2.0) A (at 80mm/s printing speed, automatic division) |
| | For print motor | 24VDC ± 5%, 1.1 A maximum, 0.9A average |
| | For cutter | 24VDC ± 5%, 1.3 A maximum |
| | For logic | 5VDC ± 5%, 0.2 A maximum (converted from 24V) |

(Continued)

FTP-639USL100-R Series

(Continued)

| Item | | Specifications |
|--|-----------------------|---|
| Dimensions | | 120.0(W) × 100.0(D) × 80.0(H) mm |
| Weight (mechanism, cutter, board, frame) | | Approximately 760g without arm, 990g with arm |
| Expected life | Mechanism | Pulse durability : 100 million pulse/dot (using Fujitsu's standard driving method) Wear resistance: 100 km (at 12.5% printing ratio) |
| | Cutter | 1,000,000 cuts |
| | Platen | 5,000 cycles |
| Environmental conditions | Operating temperature | -20°C to +60°C |
| | Operating humidity | 10 to 85% RH (no condensation) |
| | Storage temperature | -25°C to +65°C (excluding paper) |
| | Storage humidity | 5 to 90% RH (no condensation) |
| Detection | Head temperature | By thermistor (applied energy control, abnormal temperature detection) |
| | Paper out/Mark detect | By photointerrupter |
| | Platen open | By microswitch |
| | Near end paper | By mechanical switch |
| Recommended thermal sensitive paper | | For rear insertion use (80 mm width) : FTP-030P0701/P0102 Recommended papers · Oji Paper : PD150R,PD160R-N,PD170R · NIPPON Paper : TF50KS-E,TF60KS-E,TF50KS-E4 · MITSUBISHI Paper Mills : P220VBB-1,AFP-235 |
| Paper diameter | Standard | 83mm |
| | Extended | 150mm |

*1: 24VDC, minimum head resistance.

■ FUNCTIONS

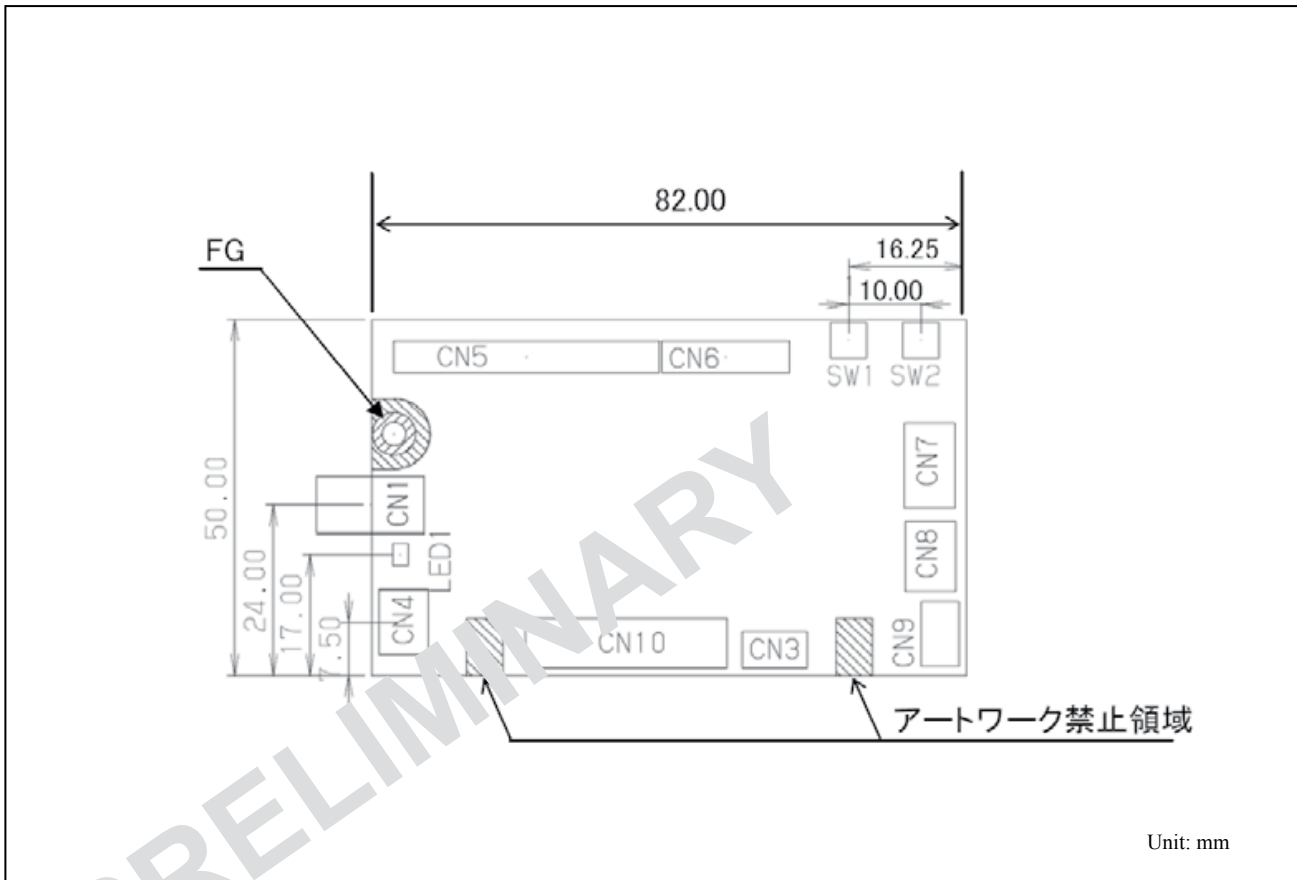
| Item | Item |
|---|---|
| 1. Test print function | 9. Internal RAM abnormality detection |
| 2. Paper feed | 10. Cutter abnormality detection |
| 3. Paper out detection | 11. Mark detection |
| 4. Paper near end detection | 12. MCU operation abnormality detection |
| 5. Platen open detection | 13. Motor power saving |
| 6. Thermal head temperature abnormality detection | 14. Power supply disconnection protection |
| 7. Motor temperature detection | 15. Motor protection |
| 8. Voltage abnormality detection | 16. Thermal head protection |

■ INTERFACE , COMMAND, OPTIONS

Please refer to the FTP-629DSL350 series. Interface command options, please see FTP-609 datasheet.

EXTERNAL DIMENSION SPECIFICATIONS

1. External Dimension Chart of the Control Board



2. Connector Types of Control Board

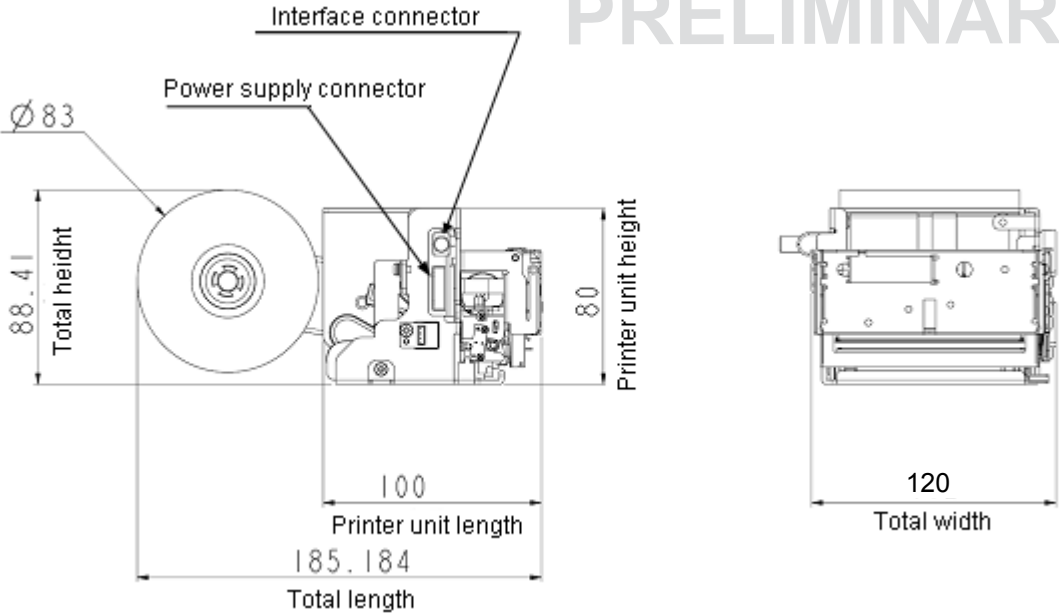
| No. | Name | Function | Remarks |
|-----|---------------------------|-----------------------------------|-------------------|
| CN1 | Power connector | Connect +24V power supply | - |
| CN2 | RS-232 connector | Connect RS-232 interface | depends on models |
| CN3 | Operation panel connector | Connect to operation panel | - |
| CN4 | USB interface connector | Connect USB interface | depends on models |
| CN5 | Thermal head connector | Connect thermal head | - |
| CN6 | Paper feed motor | Connect paper feed motor | - |
| CN7 | Cutter connector | Connect cutter motor | - |
| CN8 | Near end connector | Connect near end switch or sensor | - |
| CN9 | External sensor connector | Connect external sensor | optional |

■ DIMENSIONS

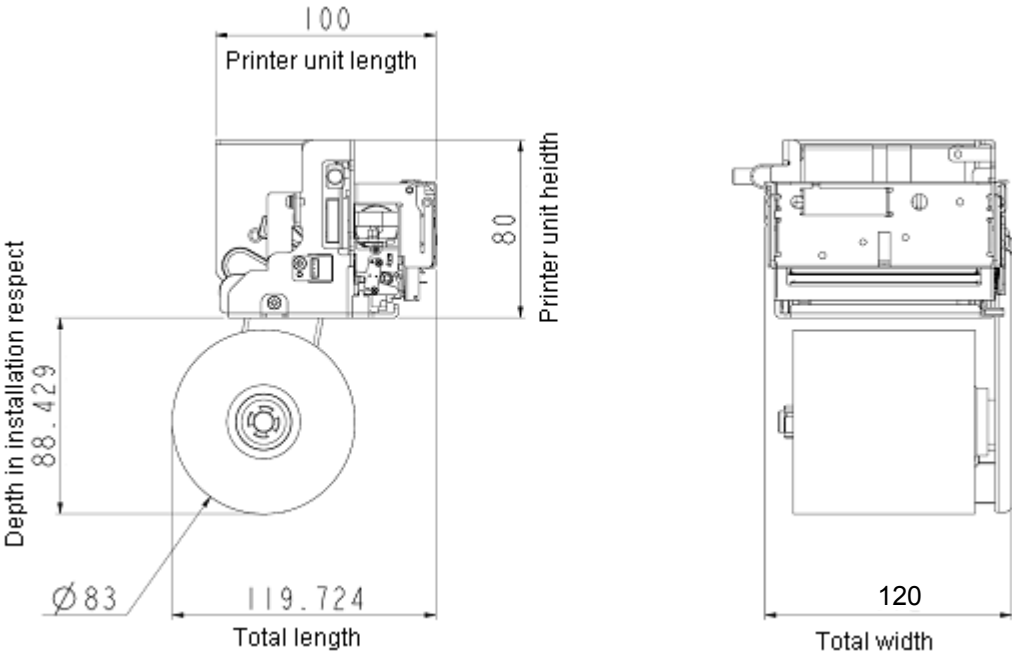
Modular printer without presenter and standard paper roll

(1) Paper Diameter: 83mm

Horizontal installation



Lower installation

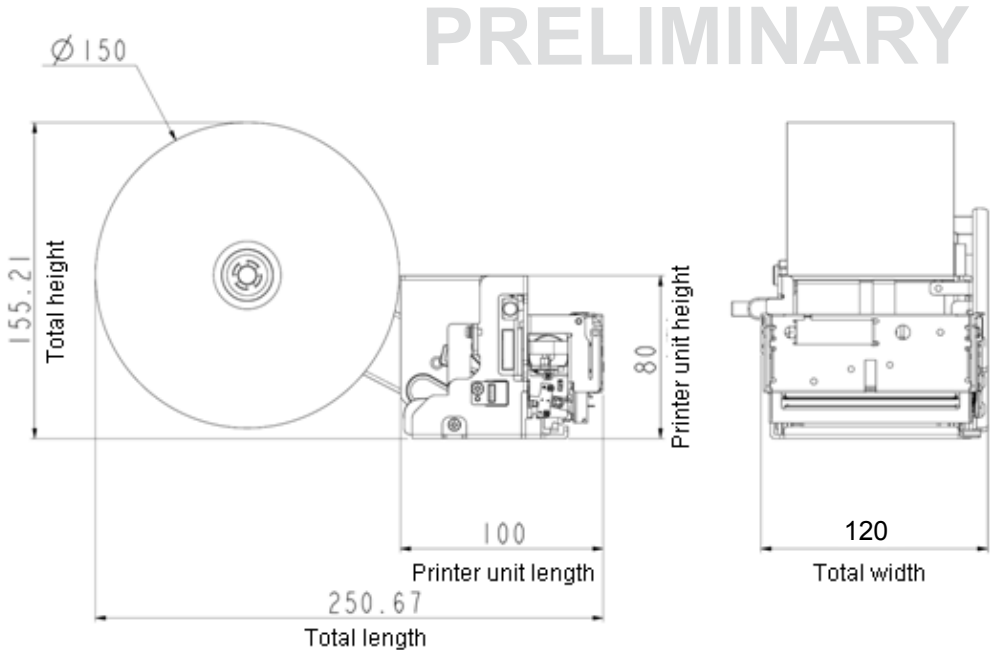


FTP-639USL100-R Series

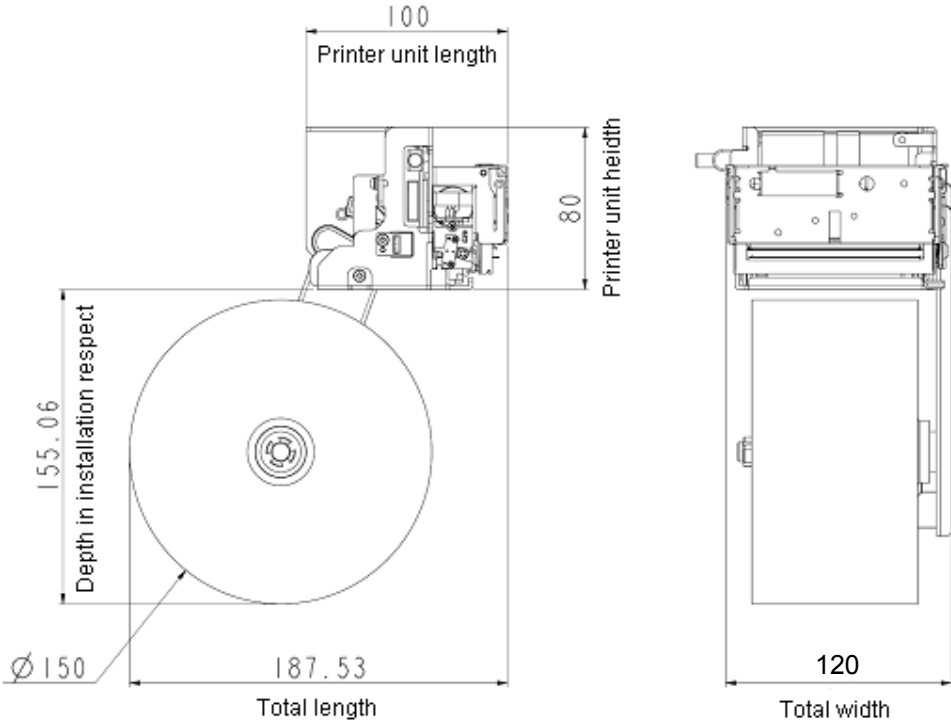
■ DIMENSIONS

Modular printer without presenter and large paper roll

(1) Paper Diameter: 150mm
Horizontal installation

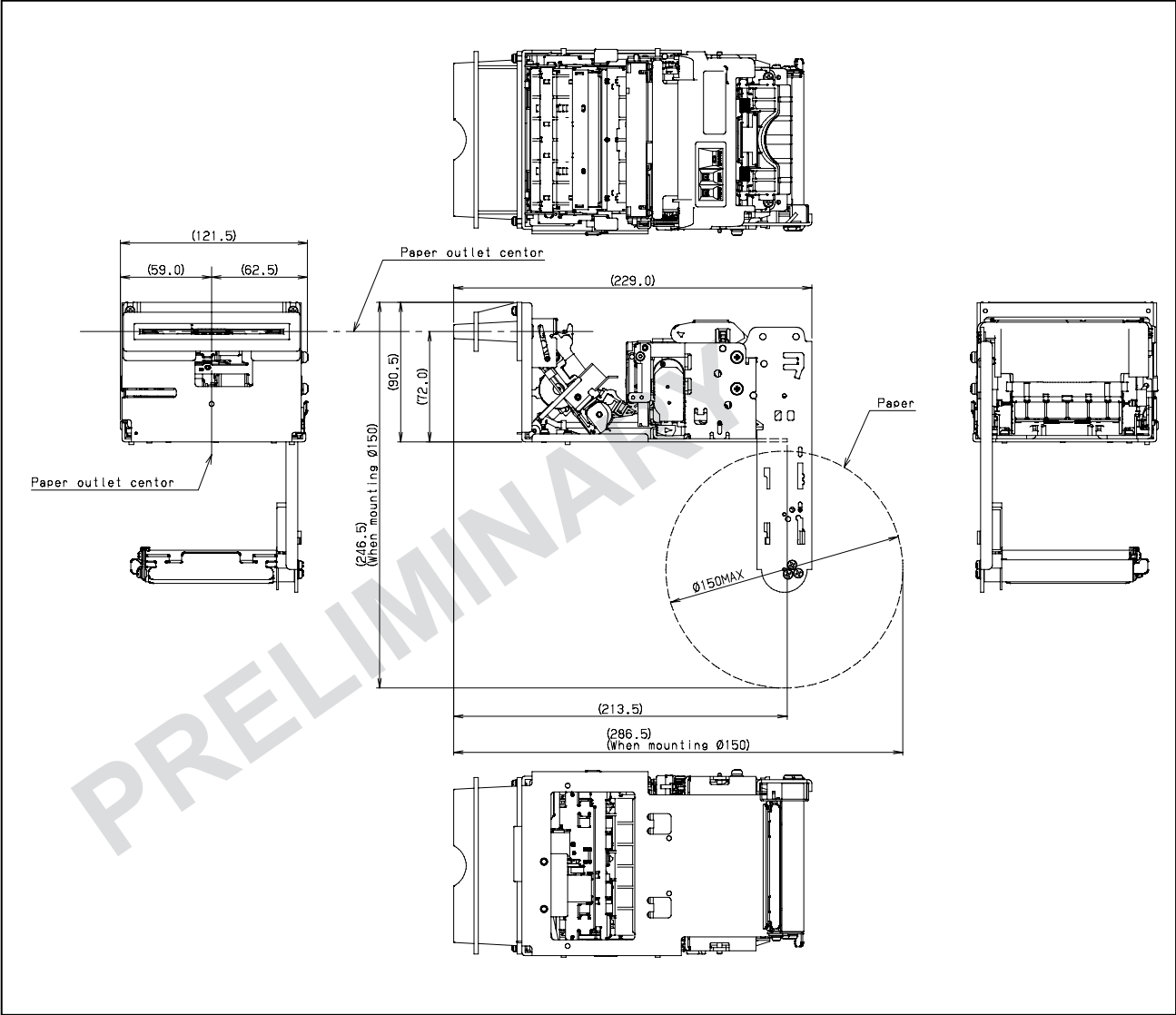


Lower installation



■ DIMENSIONS

Modular printer with presenter and large paper roll



FTP-639USL100-R Series

■ COMMANDS

| Command | Contents |
|--------------------------|---|
| HT | Moves print position to the next tab. |
| LF | Line feed. |
| FF | Feeds forms (new page). |
| ESC EM+n | Setting the amount of the feeding at automatic paper feed. |
| ECS RS | Sets reverse printing. |
| ESC US | Resets reverse printing. |
| ESC SP+n | Character spacing setting. |
| ESC ! + n | Sets print mode. |
| ESC % + n | External registration character specification/cancellation. |
| ESC & +y+c1+c2+x+d1to dn | External registration character definition. |
| ESC *+m+n1+n2+d1+dN | Sets bit image mode. |
| ESC - +n | Undeline setting. |
| ESC 2 | Sets 1/6 inch line feed length. |
| ESC 3+n | Sets the line feed length. |
| ESC ? + n | External registration character deletion. |
| ESC @ | Printer initialization. |
| ESC A+n | Sets the space between the line. |
| ESC C+n | Sets the page length by character line. |
| ESC D+d1+dN +NUL | Sets the tab position. |
| ESC J+n | Feeds paper in forward direction and prints. |
| ESC K+n | Reverse paper feed. |
| ESC R+n | Selects international character. |
| ESC V+n | Right Rotation 90° specification / cancellation |
| ESC X+m+n | Setting the turning time of the motor excitation. |
| ESC c+1+n | Sets internal processing. |
| ESC c+5+n | Panel switch enable/disable setting. |
| ESC d+n | Printing and n-line feeding. |
| ESC e+n | Prints and reverse feeds n-lines. |
| ECS s+n | Sets printing speed. |
| ECS t+n | Character code table selection. |
| ESC {+n | Sets/resets upside down printing. |

FTP-639USL100-R Series

Commands continued

| Command | Contents |
|----------------------------------|--|
| ESC DEL+n | |
| FS !+n | Kanji printing mode collective specification. |
| FS & | Kanji printing mode specification. |
| FS - + n | Kanji underline specification/cancellation. |
| FS *+ m+n1+n2+d1 to dn | High speed collective image printing specified. |
| FS . | Kanji printing mode cancellation. |
| FS 2+c1+c2+d1 to dn | External character definition. |
| FS 9+n | Sets the detection functions. |
| FS C+n | Kanji code system selection. |
| FS E+n | Correction of impressed energy. |
| FS S+n+n1+n2 | Kanji spacing setting. |
| FS W+n | Kanji double height and width printing specification/cancellation. |
| FS r+n ^{*1} | Parameter transmission. |
| GS ! + n | Character size specification. |
| GS & +m + x + y1 + y2 + d1 to dn | Registered bit image definition. |
| GS' + m + n | Registered bit image printing.. |
| GS (+E+L1+L2+n+d,~dq | RS-232C communication setting* ¹ |
| GS < | Line feeds to the next mark. |
| GS A+m+n | Sets the line feed length after mark detection. |
| GS E+n | Sets print quality. |
| GS L+n1+n2 | Left margin position setting. |
| GS V+m+n | |
| GS W + n1 + n2 | Printing area width setting. |
| GS a+n | Automatic status transmission setting* ¹ |
| GS e+n+m | Sets bar code width. |
| GS h+n | Sets bar code height. |
| GS k+m+n+ d1 to dn | Bar code printing. |
| GS w+n | Sets bar code length. |

*¹: These commands are valid with FTP-629DSL350 series serial interface.

FTP-639USL100-R Series

■ OPTIONS

1. Cables

| Name | | Part Number | Cable length |
|--------------------------------------|--------------------|-------------|-------------------|
| Interface cable (board to mechanism) | USB | FTP-629Y301 | 500mm (19.7 inch) |
| | RS-232C | FTP-629Y302 | 500mm (19.7 inch) |
| Power supply cable | Logic, head, motor | FTP-629Y603 | 300mm (11. 8inch) |

2. Driver LSI of Control Board

| Name | Part Number | Quantity / Tray | Remarks |
|------|--------------|-----------------|-------------------------|
| MCU | FTP-629CU350 | 84 | On-board Flash and SRAM |

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