

24V DRIVEN RECEIPT, TICKET PRINTER

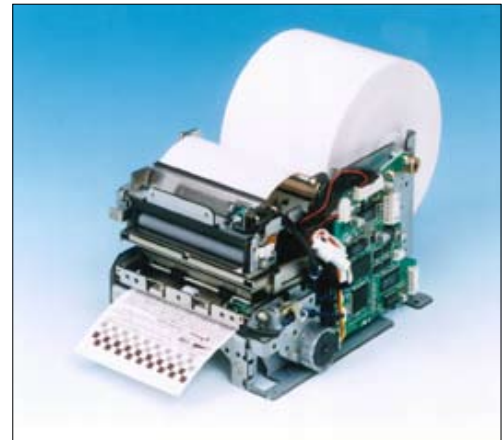
3” KIOSK PRINTER UNIT

FTP-639USL001/002

■ 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-639MCL354 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, and receipt and ticket issuing printers for various other equipment.



■ FEATURES

- Unit supported (mounting is easy)
- High speed printer (200mm / sec.)
- Auto cutter included
- Paper near end-detection function
- Paper presenter and retractor
- Up to 5 inch paper diameter
- Low power consumption
- Printer partial tilt function
- Prints 2-D barcodes

■ DESIGNATION

| | Item | Part Number |
|--------------------------|------------------------------|-----------------|
| Printer module interface | Serial (RS-232C) | FTP-639USL00 1* |
| | USB (Ver. 1.1) | FTP-639USL002* |
| Cables | Serial Interface | FTP-629Y30 2 |
| | USB Interface | FTP-629Y301 |
| | Power for logic, head, motor | FTP-629Y60 1 |

*: Interface board is FTP-629DSL100 series

■ SPECIFICATIONS

| Item | | Specifications |
|--|-----------------------|---|
| Part number | | FTP-639USL001/002 |
| 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 | | 200 mm/s (1600 dotlines/s) |
| Page mode | Low speed mode | 40mm/sec |
| | Middle speed mode | 80mm/sec. |
| | High speed mode | 125 mm/sec. |
| | Ultra high speed mode | 200 mm/sec. |
| Character types | | Alphanumeric KANA: 159 International characters : 195 JIS KANJI (FTP-622DSL107, DSL112): 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 |
| Interface | | Serial RS232C, USB |
| Power supply | For head | 24VDC ± 5%, Voltage Current : average (): Peak TBA (2.04) A (at 200 mm/s printing speed, 12.5% printing ratio) TBA (1.03) A (at 80 mm/s printing speed, 12.5% printing ratio) TBA (0.51) A (at 40 mm/s printing speed, 12.5% printing ratio) |
| | For print motor | 24VDC ± 5%, 1.0 A maximum |
| | For conveyance motor | 24VDC ± 5%, 1.0 A maximum |
| | For cutter | 24VDC ± 5%, 1.2 A maximum |
| | For logic | 5VDC ± 5%, 0.2 A maximum |
| Dimensions | | 136.5(W) × 165(D) × 155 (H) mm |
| Weight (mechanism, cutter, board, frame) | | Approximately 1.5 kg |

(Continued)

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| Item | | Specifications |
|-------------------------------------|-----------------------|--|
| 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 | 500,000 cuts |
| MTBF | Mechanical | 3,000 hrs |
| | Interface Board | 500,000 cuts |
| Environmental conditions | Operating temperature | 0°C to +50°C |
| | Operating humidity | 20 to 85% RH (no condensation) |
| | Storage temperature | -20°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 front 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-233 |
| Paper diameter | Standard | 120mm |
| | Extended (attachment) | TBA |

*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-629DSL100 series. Interface command options, please see FTP-629DSL100 datasheet.

■ COMMANDS

| Command | Contents |
|--------------------------|---|
| HT | Moves print position to the next tab. |
| LF | Line feed. |
| FF | Feeds forms (new page). |
| ESC FF | Data printing in page printing mode. |
| 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 \$+n1+n2 | Absolute position spacing. |
| 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 E+n | Highlighted printing specification/cancellation. |
| ESC G+n | Double printing specification/cancellation. |
| ESC J+n | Feeds paper in forward direction and prints. |
| ESC K+n | Reverse paper feed. |
| ESC L+n | Page printing mode selection. |
| ESC Q+n+!+j | Frame overlay function. |
| ESC R+n | Selects international character. |
| ESC S+n | Line printing mode. |
| ESC T+n | Print direction setting (only page mode). |
| ESC V+n | Right Rotation 90° specification / cancellation. |

Commands continued

| Command | Contents |
|----------------------------------|--|
| ESC W+X1+X2+1+Y2+dX1+dX2+dX1+dY2 | Page printing mode printing area setting. |
| ESC X+m+n | Setting the turning time of the motor excitation. |
| ESC Y+01h+ESC+x+a+m+d~ | Program download. |
| ESC Y+01h+ESC+x+a+m+d~ | Printer test. |
| ESC\+n1+n2 | Relative position setting. |
| ESC a+n | Positional alignment. |
| ESC c+1+n | Sets internal processing. |
| ESC c+4+n | Paper-out detector selection. |
| 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. |
| ESC i | Full cut |
| ESC m | Partial cut |
| ECS s+n | Sets printing speed. |
| ECS t+n | Character code table selection. |
| ESC u+n | Status of peripherals. |
| ESC v | The status of the paper sensor is notified. |
| ESC {+n | Sets/resets upside down printing. |
| 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. |

Commands continued

| Command | Contents |
|--|--|
| GS \$ + n1 + n2 | Vertical absolute position specification in page printing mode. |
| GS & +m + x + y1 + y2 + d1 to dn | Registered bit image definition. |
| GS' + m + n | Registered bit image printing. |
| GS *+x+y+d1 to dx*y*8 | Registered bit image definition. |
| GS/ +m | Registered bit image printing. |
| GS : | Macro definition start/end. |
| GS < | Line feeds to the next mark. |
| GS A+m+n | Sets the line feed length after mark detection. |
| GS B+m | Angle setting of bar code. |
| GS E+n | Sets print quality. |
| GS H+n | HRI character printing position selection. |
| GS I+n+m | Printer ID registration |
| GS L+n1+n2 | Left margin position setting. |
| GS R+n | Printer ID demand. |
| GS W + n1 + n2 | Printing area width setting. |
| GS\ +n1 + n2 | Vertical relative position specification in page printing mode (vertical direction of characters). |
| GS^ + r + t + m | Mark detection execution. |
| G a+n | Automatic notification setting status. |
| GS e+n+m | Sets bar code width. |
| GS f + n | HRI character font selection. |
| GS h+n | Sets bar code height. |
| y) GS k+m +d1to dk + NUL x) GS k+m+n+ d1 to dn | Bar code printing. |
| GS k+m+k1+k2+k3+k4+[[p1][d(1,1)] ~ [d(1,i)] ~ [[pi][d(i,1)]~[d(i,j)] [00]16 | Print of 2Dcode (QR). |
| GS k+m+k1+k2+k3+k4+k5+d1~dn | Print of 2 Dcode (maxi). |
| GS k+m+k1+k2+k3+k4+k5+k6+d1~dn | Print of 2 Dcode (PDF417). |
| GS s | Check on presenter. |
| GS t+n | Eject paper. |
| GS u+n | Model selection for presenter. |
| GS v | Notification of firmware version. |

Commands continued

| Command | Contents |
|---------|-----------------------|
| GS w+n | Sets bar code length. |
| GS x+n | Collect paper. |
| GS y | Eject preparation. |
| GS z | Retract paper. |

*1: These commands are valid with FTP-629DSL100 series.

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