# 24V DRIVE INTERFACE BOARD (PARALLEL)
# FTP-622DCL001/011/101/111

# FOR FTP-622/632/642MCL001/002/301/302/303/304

## ■ INTERFACE

### 1. Centronics

**(1) Connector (CN1)**

Connector part number : FCN-605Q030-G/S (Fujitsu Components)
Mating connector part number : FCN-607B030-G/D (Fujitsu Components) or equivalent

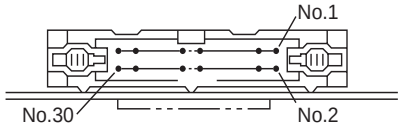
**(2) Connector pin assignment**

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | $\overline{\text{PRSTB}}$ | I | Data strobe | 2 | $\overline{\text{PRSTB}}$-RET | — | Connected to logic GND |
| 3 | PRDT0 | I | Data 0 | 4 | PRDT0-RET | — | Connected to logic GND |
| 5 | PRDT1 | I | Data 1 | 6 | PRDT1-RET | — | Connected to logic GND |
| 7 | PRDT2 | I | Data 2 | 8 | PRDT2-RET | — | Connected to logic GND |
| 9 | PRDT3 | I | Data 3 | 10 | PRDT3-RET | — | Connected to logic GND |
| 11 | PRDT4 | I | Data 4 | 12 | PRDT4-RET | — | Connected to logic GND |
| 13 | PRDT5 | I | Data 5 | 14 | PRDT5-RET | — | Connected to logic GND |
| 15 | PRDT6 | I | Data 6 | 16 | PRDT6-RET | — | Connected to logic GND |
| 17 | PRDT7 | I | Data 7 | 18 | PRDT7-RET | — | Connected to logic GND |
| 19 | $\overline{\text{ACKNLG}}$ | O | Data input acknowledge | 20 | $\overline{\text{ACKNLG}}$-RET | — | Connected to logic GND |
| 21 | BUSY | O | Busy | 22 | BUSY-RET | — | Connected to logic GND |
| 23 | RINF2 | O | Printer status | 24 | $\overline{\text{INPRM}}$-RET | — | Connected to logic GND |
| 25 | $\overline{\text{SLCTIN}}$ | I | Printer select | 26 | $\overline{\text{INPRM}}$ | I | Reset |
| 27 | RINF1 | O | Printer status | 28 | RINF3 | O | Printer status |
| 29 | $\overline{\text{ATF}}$ | I | Paper feed request | 30 | GND | — | Logic GND |

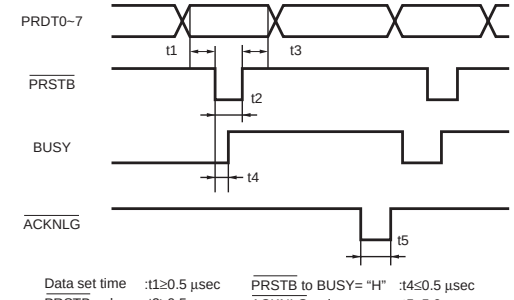
Notes:
- Symbol "—" means a negative logic signal.
- "–RET" signal is a return signal of the twisted pair cable.
- "I" or "O" means a signal direction from the interface board side.

**(3) Connector pin number**

FCN-605Q030-G/S (Fujitsu Components) or equivalent




**(4) Data input signal timing**




Data set time :t1≥0.5 µsec
PRSTB pulse :t2≥0.5 µsec
Data hold time :t3≥0.5 µsec
PRSTB to BUSY= "H" :t4≤0.5 µsec
ACKNLG pulse :t5≒5.0 µsec



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## ■ CONNECTOR PIN ASSIGNMENT

### 1. Connector for power supply (CN10)

Part number : B6P-VH (J.S.T)
Mating connector part number : VHR-6N (J.S.T) or equivalent

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | $V_{CC}$ | — | Power supply for logic (+5 V) | 2 | GND | — | GND (5 V, 24 V common) |
| 3 | GND | — | GND (5 V, 24 V common) | 4 | GND | — | GND (5 V, 24 V common) |
| 5 | $V_{DD}$ | — | Power for head/motor (+24 V) | 6 | $V_{DD}$ | — | Power for head/motor (+24 V) |

### 2. Connector for thermal head drive (CN8)

Part number : B16B-PH-K-S (J.S.T)
Mating connector part number : PHR-16 (J.S.T) or equivalent

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | VDH | O | Power for head (+24 V) | 2 | VDH | O | Power for head (+24 V) |
| 3 | GND (VDH) | — | Head GND | 4 | GND (VDH) | — | Head GND |
| 5 | $\overline{\text{STB1}}$ | O | Print enable signal 1 | 6 | $\overline{\text{STB2}}$ | O | Print enable signal 2 |
| 7 | $\overline{\text{STB3}}$ | O | Print enable signal 3 | 8 | TMP | I | Temperature detection signal |
| 9 | $\overline{\text{STB4}}$ | O | Print enable signal 4 | 10 | $\overline{\text{LAT}}$ | O | Print data latch signal |
| 11 | $\overline{\text{STB5}}$ | O | Print enable signal 5 | 12 | 5 VH | O | Power for logic (+5 V) |
| 13 | HCLK | O | Data transmission clock | 14 | HD | O | Print data output signal |
| 15 | GND (VDH) | — | Head GND | 16 | VDH | O | Power for head (+24 V) |

Notes:
- Symbol "—" means a negative logic signal.
- "I" or "O" means a signal direction from the interface board side.

### 3. Connector for Sensor (CN3)

Part number : B5B-PH-K-S (J.S.T)

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | +5 V | — | Power for logic (+5 V) | 2 | $\overline{\text{PES}}$ | I | Paper end detect signal |
| 3 | GND (5 V) | — | Logic GND | 4 | +5 V | — | Power for logic (+5 V) |
| 5 | HUP | I | Head-up detect signal | | | | |



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## 4. Connector for paper near end detection (CN5)

Part number : B2B-PH-K-S (J.S.T)
Mating connector part number : PHR-2 (J.S.T) or equivalent

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | +5 V | — | Power for logic (+5 V) | 2 | $\overline{\text{NES}}$ | I | Paper near end detect signal |

## 5. Connector for stepping motor drive (CN13)

Part number : B4B-PH-K-S (J.S.T)

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | MT/$\overline{\text{B}}$ | O | Stepping motor coil excitation | 2 | MT/B | O | Stepping motor coil excitation |
| 3 | MT/$\overline{\text{A}}$ | O | Stepping motor coil excitation | 4 | MT/A | O | Stepping motor coil excitation |

## 6. Connector for cutter drive (CN11) *1

Part number : B4B-EH (J.S.T)

| No. | Signal | I/O | Contents | No. | Signal | I/O | Contents |
|---|---|---|---|---|---|---|---|
| 1 | SW1 | I | Cutter position detect signal | 2 | GND | — | Logic ground |
| 3 | M+ | O | Motor control signal (+) | 4 | M- | O | Motor control signal (-) |

*1: Only for FTP-622DCL011/111.



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## ■ PRINTING COMMANDS (CENTRONICS INTERFACE)

| Command | Contents |
|---|---|
| HT | Moves the print position to the next tab. |
| LF | Line feed. |
| FF | Feeds forms (new page). |
| ESC RS | Sets reverse printing. |
| ESC US | Resets reverse printing. |
| ESC ! +n | Sets print mode. |
| ESC* +m+$n_1$+$n_2$+$d_1$~$d_N$ | Sets the bit image mode “m” for n1, n2 dot numbers. |
| ESC 2 | Sets 1/6 inch line feed length. |
| ESC 3 + n | Sets the line feed length. |
| ESC @ | Printer initialization. |
| ESC A+n | Sets the space between lines. |
| ESC C+n | Sets the page length by character line. |
| ESC D+$d_1$~$d_N$+NUL | Sets the tab position. |
| ESC J+n | Feeds paper in forward direction. |
| ESC K+n | Feeds paper in reverse direction. |
| ESC c+1+n | Sets the internal processing. |
| ESC R+n | Selects the international character. |
| ESC s+n | Sets the printing speed. |
| ESC d+n | Printing and n-line feeding. |
| ESC e+n | Reverse line feed in “n” lines after printing. |
| ESC t+n | Character code table selection. |
| ESC {+n | Sets/resets the upside down printing. |
| ECS EM+n | Automatic paper feed distance setting. |
| ESC X+n+m | Setting turning time of the motor excitation. |
| ESC V+n | Right Rotation 90° specification / cancellation. |
| FS E+n | Correction of impressed energy. |
| FS ! +n | Sets the Kanji print mode*[1]. |
| FS & | Sets Kanji mode*[1]. |
| FS . | Resets Kanji mode*[1]. |
| FS C+n | Selects Kanji code type*[1]. |

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| Command | Contents |
|---|---|
| FS 9+n | Sets the detection functions. |
| FS W+n | Sets/resets 4 times enlarged character. |
| 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 V+n+m | Executes paper cutting*2. |
| GS e+n+m | Sets the bar width. |
| GS h+n | Sets the barcode height. |
| GS k+m+n+$d_1$~$d_N$ | Selects the barcode type and prints. |
| GS w+n | Sets the barcode length. |
| GS &+m+x+y1+y2+[d]k | Registration of image data.. |
| GS '+m+n | Prints registered image data.. |
| GS a+n | Sets and cancels status transmission (valid only for DSL). |

*2: Only for FTP-622DCL011/111.



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## ■ OPTIONS

### 1. Cable (With FTP-622MCL, FTP-632MCL, FTP-642MCL)

| Name | | Part Number | Cable Length |
|---|---|---|---|
| Thermal head connection cable (CN8)* | | FTP-622Y001 | 270 mm (10.6 inches) |
| Interface cable | Centronics (CN1) | FTP-622Y201 | 500 mm (19.71 inches) |
| Power cable for head, motor, and logic (CN10) | | FTP-622Y401 | 300 mm (11.8 inches) |
| * short cable option | | FTP-624Y001 | 150 mm (5.9 inches) |

### 2. Paper holder

| Name | Part number |
|---|---|
| Flange | FTP-040HF |
| Stand | FTP-040HS |

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