

TOSHIBA

FR2100TX model 700

2U Rack Mount Solution

Intel® Xeon® processor W-1270TE(2.0GHz) and incorporates reliable memory with ECC (max. 32 GB), RAS to monitor inside the hardware and a mirroring disk for hot swapping (optional), combine to support 24-hour continuous, stable operation, which is demanded of industrial computers. This is backed up by product supply and maintenance over a long period of time.

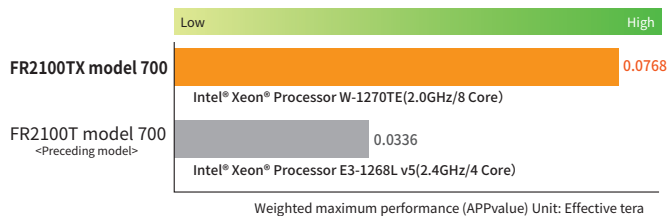


Now more functional

High performance CPU Intel® Xeon® processor

High-performance CPU Intel® Xeon® processor for Workstations with built-in W-1270TE (2.0GHz/8 core) for high-speed processing.

CPU performance comparison



Gigabit (4 Ports) Ethernet Interface as a Standard Feature

Gigabit-compatible 4 Ports Ethernet interface (with auto negotiation for 10BASE-T, 100BASE-TX, 1000BASE-T) is a standard feature (Compatible with the Wake On LAN function).

Graphic Function with built-in CPU Chipset Provided

The graphic function with a built-in CPU chipset (compatible with full HD display) is provided. It permits multi display of the expansion desktop function, clone display function, etc.

Expansion DesktopFunction



Monitors are used for wide display

Clone DisplayFunction



Monitors are used to show the same display on each screen

Collage DisplayFunction



Two monitors are used to display a single image

*The above is a comparison of the weighted maximum performance (in APP value) released by Intel, and there may be difference from the above depending on your system.

Reference:APP Metrics for Intel® Microprocessors Intel® Xeon® Processor Revision.05 Date:11/16/2022

Good Maintainability and Protection Structure

High Maintainability by Front Access

The Storage Devices, cooling fan, and battery can be easily replaced from the front.

Example of Replacement



Front-end Replacement of Storage Devices



Front-end Replacement of Cooling Fans

Front-end Replacement of Battery

Operation Error Prevention



AC Power Cable Clamp

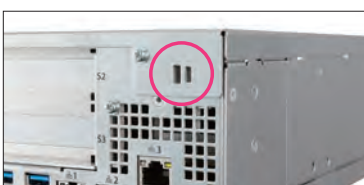
Security



Key lock^{*1}



Front switch cover USB connector cover



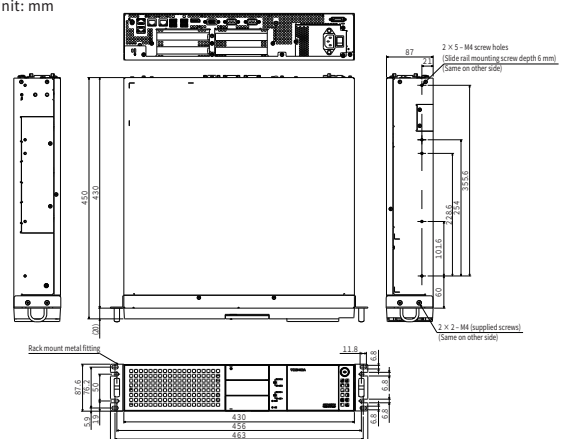
Security lock slot^{*2}

*1 By fastening the power button mini-door and USB mini-door with the parts inside the front panel, illegal access can be prevented with this security key lock.

*2 This can be used for preventing theft and access to the internal parts of the product.

Dimensions

Unit: mm



Specifications

| Product Name | | FR2100TX model 700 | |
|--|--|--|----------------------|
| | | Single Disk Model | Mirroring Disk Model |
| Processor | Main Processor | Intel® Xeon® W-1270TE(2.0GHz) | |
| | No. of Cores/No. of Threads ¹ | 8/16 | |
| | Level 2 Cache Memory | 256 KB/Core (built into main processor) | |
| | Level 3 Shared Cache Memory | 16 MB (built into main processor) | |
| Chipset | | Intel® W480E Chipset | |
| Main Memory ² | Capacity | Min.8GB (8GB×1), Max. 32GB (16GB×2) | |
| | Memory | DDR4-SDRAM (DDR4-2933 SDRAM / PC4-23400) with ECC function, DIMM 2 sockets | |
| Auxiliary Storage | Built-in HDD | Options (Refer to Optional Hardware Specifications) | |
| | Built-in SSD ³ | | |
| | Built-in DVD-ROM ⁴ | | |
| RAID Compatible | | — | RAID1 |
| Interface | COM Interface | RS-232C (9-pinD-SUB)×2 (rear) | |
| | Graphic Interface ⁵ | RGB×1, DisplayPort ⁶ ×1 (rear) CPU・Chipset built in Graphic Function | |
| | LAN Interface | 10BASE-T/100BASE-TX/1000BASE-T (Auto Negotiation) (RJ45)×4 (rear) Wake On LAN (compatible for main unit port only) | |
| | Sound Interface ⁷ | LINE OUT (3.5φ mini jack) (rear) | |
| | USB Interface ⁸ | USB 5Gbps×6 (front2/rear4) | |
| | DI/DO Interface | Option (Refer to Optional Hardware Specifications) | |
| Expansion Interface | | PCI-Express (x16) ⁹ 1 slot (full size) PCI Express 3.0 PCI-Express (x4) ⁹ 1 slot (half size) PCI Express 3.0 PCI slot ¹⁰ 2 slots (full size ×1, half size ×1) PCI 2.2 | |
| Input Device | Keyboard | Option (Refer to Optional Hardware Specifications) | |
| | Mouse | Option (Refer to Optional Hardware Specifications) | |
| RAS Function | | Fan stop detection, CPU temperature rise detection, Internal temperature detection, Internal voltage detection, Memory error detection, Digital input/output ¹¹ (DI/DO 4 points each, remote ON/OFF or remote initialize 1 point), Watchdog timer monitoring (at system startup, during system operation), hard disk monitor (Mirroring Disk only) Software power off (shutdown), Remote initialize, Remote power on/off, Error information saved on RAS memory, Operating time monitor function, Temperature information trend function, Simulation function | |
| Power Supply (Wide Range Power Supply) ¹² | | Rated voltage 100VAC-240 VAC, allowable voltage 85 VAC - 264 VAC, allowable frequency 50Hz/60Hz±3Hz | |
| Electric Power Consumption ¹³ | | Max. 278W/290VA | |
| Dimensions and Weight | | Rack mount (horizontal mounting) 430 (W) ×87 (H) ×450 (D) mm (without projections) (No vertical mounting) Weight: about 11 kg | |
| Items included in shipment package | | Instruction manual,AC power cable (1), AC power cable clamp (1), Rubber foot (4pieces), rack mounting brackets (2 in each set), Security key (1 set), Product recovery media (with OS pre-installed models ¹⁴) * Items other than those listed above may be included depending on the configuration of the system ordered. | |
| Software (OS) ¹⁵ ¹⁶ | | Windows® 10 IoT Enterprise 2021 LTSC (Japanese or English selectable) (64bit) ¹⁷ Windows® 10 IoT Enterprise 2019 LTSC (Japanese or English selectable) (64bit) ¹⁷ Windows Server® IoT 2022 Standard (Japanese version/English version) (64bit) ¹⁸ Windows Server® IoT 2019 Standard (Japanese version/English version) (64bit) ¹⁸ MIRACLE LINUX 8.6 (64bit) | |

Optional Hardware Specifications

| | |
|-----------------------------------|---|
| Built-in HDD | Single disk model capacity: 4TB HDD 2 units mountable |
| | Mirroring disk model capacity:500GB/4TB 1 set(2 units) mountable (Hot swap compatible mirroring disk) |
| Built-in SSD ³ | Single disk model capacity : 128 GB/512 GB 2 units mountable |
| | Mirroring disk model capacity: 160 GB/400 GB 1 set(2 units) mountable (hot swap compatible) |
| Built-in DVD-ROM ⁴ | Read Media DVD-ROM,CD-ROM,DVD-R,DVD+R,DVD-RW,DVD+RW,CD-R,CD-RW |
| Keyboard | USB109 keys (Japanese OS), 104 keys (English OS) |
| Mouse | USB (Optional) |
| DI/DO Interface ⁴ | (DI/DO board) Digital input/output (half-pitch 20-pin) DI 4 points, DO 4 points, remote input 1point |
| RAS Terminal Board | DI 4 points, DO 4 points, remote input 1 point |
| RAS Cable | Half-pitch 20-pin male at both ends, 2m max |
| RAS Terminal Board Mounting Panel | Simplified type |
| Slide Rail | 2-step slide rail (2 steps in 1 set) |
| Slide Rail Support Bracket | Bracket (1 set) to secure the slide rail to the rack |
| Instruction Manual(Bound Booklet) | FR2100TX model 700 unit instruction manual, RAS support software instruction manual, RAID controller instruction manual |

Installation Environment Conditions

| | | |
|--|--------------------------------------|--|
| Installation Environment | Temperature (Operating/While Stored) | 5 to 40°C / -10 to 50°C |
| | Humidity (Operating/While Stored) | 20 to 80% RH (no condensation)/10 to 90% RH (no condensation) |
| | Vibration (Operating) ¹⁹ | With HDD configuration: 2.0 m/s ² (JIS C60068-2-6:9 to 150Hz 1 cycle) |
| | | With SSD configuration: 4.9 m/s ² (JIS C60068-2-6:9 to 150Hz 1 cycle) |
| | (While Packed) | 19.6 m/s ² or less |
| | Shock (Operating/While Packed) | 19.6 m/s ² or less / 245 m/s ² or less |
| | Dust | 0.3mg/m ³ or less (JEITA IT-1004B Class B compliant) |
| | Corrosive gas / chemicals | Not to be detected (JEITA IT-1004B Class A compliant) |
| Allowable Instantaneous Power Failure Time | | 20 ms or less at the rated input voltage |

- *1 The hyper-threading function is disabled in the factory setting. To enable this function, the BIOS setting must first be changed.
- *2 As the product supports dual channels, communication speed between the memory and CPU improves when 2 memory modules are mounted. Operation will not be guaranteed if you combine other than the genuine memory modules for Toshiba industrial computers.
- *3 A "SMART support software" tool that can be used to predict SSD life is not pre-installed. In case of an OS pre-installed model, an installation program is stored on the internal storage. Customers can install and use the program as needed. Also, mixed use of the SSD and HDD is only possible with the single disk model.
- *4 No expansion at customer site because of pre-shipment options.
- *5 Supports a total of 2 screens of 1 RGB connection + 1 DisplayPort connection or DisplayPort connection only (2 MST (Multi Stream Transport) compatible displays). 3-screen display with other combinations is not supported.
- *6 The DisplayPort of this product supports Display audio. When outputting audio from a display connected to a DisplayPort, use a cable and display that support DisplayPort audio. The DisplayPort of this product supports MST, and can output video by daisy-chaining up to two displays. Connect the Input and Output of the display compatible with MST correctly.
- *7 Use correcting units that meet the specifications below.

| Terminal | Maximum Voltage | Remarks |
|----------|-----------------|------------------------------|
| LINE OUT | 1Vrms | Load impedance 10kΩ to 600kΩ |

- *8 USB interface does not always guarantee the operation of all the USB peripherals.
- *9 PCI Express slot (half size) board size (167.65 mm (L) × 111.15 mm (H) or less) mountable. PCI Express slot (full size) board size (312 mm (L) × 111.15 mm (H) or less) mountable.
- *10 PCI slot (half size) board size (174.63 mm (L) × 106.68 mm (H) or less) mountable. PCI slot (full size) board size (312 mm (L) × 106.68 mm (H) or less) mountable. Installable PCI boards are 5V key boards and 5V/3.3V shared key boards(Boards of 3.3V keys only cannot be installed).
- *11 To use the digital input/output function, optional hardware is required (DI/DO interface, RAS terminal block and RAS cable).
- *12 This model has a power supply with a built-in PFC (power factor correction) circuit. If you are using a UPS (uninterrupted power supply), select a sine wave output type.
- *13 As a reference value to power consumption, when no peripherals are connected to the FR2100TX model 700 main unit (16 GB memory × 2, HDD × 2 (mirrored)), the maximum power consumption is about 140 W during startup of the main unit, and about 90 W after startup when the application is not running.
- *14 Windows adopts optical media and MIRACLE LINUX adopts a USB memory device.
- *15 Of the Operating Systems listed here, your specified OS will be installed. OS supply period is subject to change depending on the OS distribution period of the OS supplier.
- *16 If Windows is in use, the following functions are outside the scope of your support. Windows Bitlocker, power-saving modes (suspend, hibernation), Windows fast startup, Windows Hello.
- *17 Please note that Windows® 10 IoT Enterprise 2021 LTSC or Windows® 10 IoT Enterprise 2019 LTSC is the only pre-installation option we support. We do not support any other versions, servicing models or editions. For language selection, select either Japanese or English at the initial setup.
- *18 Client Access License (CAL) includes five licenses of Windows Server CAL. It does not include CAL for other specific functions. The secure boot function is not supported.
- *19 Except when a drive unit such as an optical drive is running. If the SSD and HDD are used in a mixed configuration, the vibration specification will be the same as for HDD configuration (2.0 m/s² or less (0.2G or less)).