BittWare a **molex** company

TeraBox 4102S
4U FPGA Server

Up to 10 double-width FPGA Cards

BittWare's TeraBox-4102S offers a 4U, 12-slot chassis supporting Intel's latest 3rd Generation Xeon Scalable processors and PCIe Gen4. Configurations include up to 10 of BittWare's double-width cards using Achronix, Intel, or Xilinx FPGAs.

Users seeking maximum logic/memory density can choose the S7t-VG6 with the Achronix Speedster7t FPGA and high-bandwidth GDDR6 memory. Or choose the IA-840F, which features an Intel Agilex FPGA along with QSFP-DDs and yields an impressive 60x 100G — for a port density of 30 per rack unit! No matter which configuration you choose, you're getting BittWare's installation, support, and comprehensive warranty.

Support for up to **10** double-width or **12** single-width FPGA accelerator cards

key features

| Up to **40 QSFPs** for 80x 100G or 320x 10/25G | **PCIe Gen4** | Support for BittWare's full range of FPGA cards |

Up to 12 single-width or 10 double-width FPGA cards

Up to 24x hot-swap NVMe/SATA/SAS drive bays

chassis key specs

4U, depth 29 in (737mm)

Processor: 2x Intel® 3rd Generation Xeon® Scalable processors

Memory: Up to 32x ECC DDR4-3200 DIMMs

Slots: 10x double-width PCIe Gen4 x16 slots

Storage: Up to 24x 2.5" hot-swap NVMe/SATA/SAS drive bays (8x 2.5" NVMe dedicated)

Power supply: 2000W, redundant (2+2), Titanium

TeraBox 4102S
4U FPGA Server

The TeraBox 4102S is a 4U FPGA server based on the SuperMicro 420GP-TNR chassis. This server offers two Intel 3rd Generation Xeon Scalable CPUs along with high PCIe slot density. With configurations of up to 10 of BittWare's large double-width cards, this server is an excellent premium option for the 4U form factor.

System Management

For system management, BittWare's FPGA cards are equipped with a Board Management Controller (BMC), which accepts PLDM commands. Use it along with BittWare's Software Development Kit to program the FPGA over USB, monitor card power and temperature, and re-program the onboard clocks. You'll also be able to set points to shut down the card when it gets too hot, access JTAG, or access the software tools remotely.

The TeraBox Advantage

Choosing a TeraBox FPGA server means knowing you are getting a pre-configured and tested solution. This includes setup and installation of your FPGA cards and associated hardware, your choice of operating system, and development tools. Your TeraBox arrives ready for use—giving your team more time for development and deployment.

Certified Cards

The TeraBox 4102S supports any of BittWare's Achronix, Intel, or Xilinx FPGA-based PCIe cards. The table below lists specifications for some of our certified cards*:

	FPGA	Cards in Server	Memory	I/O	Processing
S7t-VG6	Achronix Speedster7t	10	• 4 banks GDDR6 (up to 16 GBytes)	• 1x QSFP-DD, 1x QSFP • 6x 100/50/40/25/10 GbE	• 692K 6-input lookup tables (LUTs) • 375 Mbits embedded RAM
IA-840F	Agilex AGF027	10	• 4 banks DDR4 (up to 128 GBytes)	• 3x QSFP-DDs • 6x 100 GbE, or 24x 25/10 GbE	• 2.6 million system logic elements • Up to 8,528 DSP blocks
IA-420F	Agilex AGF014	12	• 2 banks DDR4 (up to 32GBytes)	• 1x QSFP-DD • 2x 100 GbE, or 8x 25/10GbE	• 1.4 million system logic elements • Up to 4,510 DSP blocks
XUP-VV8	UltraScale+ VU13P	10	• 4 banks DDR4 (up to 512 GBytes) • 8 banks QDRII+ (up to 2.3 Gbits)	• 4x QSFP-DDs • 8x 100/50/40/25/10 GbE	• 3.8 million system logic cells • Up to 12,288 DSP slices

Other certified cards available. Contact BittWare for additional FPGA card options.

Server Configurations

Low
- (2) Intel Xeon 5315Y 8 Cores / 16 Threads 3.20GHz Processors
- (4) 16GB DDR4-3200 memory modules (64GB)
- (2) Samsung PM983 960GB NVMe M.2
- 2000W Redundant Titanium Power Supplies

Medium
- (2) Intel Xeon 5318N 24 Cores / 48 Threads 2.10 GHz Processors
- (4) 32GB DDR4-3200 memory modules (128GB)
- (2) Samsung PM983 960GB NVMe M.2
- 2000W Redundant Titanium Power Supplies

High
- (2) Intel Xeon 6330N 28 Cores / 56 Threads 2.20 GHz Processors
- (16) 16GB DDR4-3200 memory modules (256GB)
- (2) Samsung PM983 960GB NVMe M.2
- 2000W Redundant Titanium Power Supplies

Premium
- (2) Intel Xeon 8362 32 Cores / 64 Threads 2.80 GHz Processors
- (16) 32GB DDR4-3200 memory modules (512GB)
- (2) Samsung PM983 960GB NVMe M.2
- 2000W Redundant Titanium Power Supplies

Ultra
- (2) Intel Xeon 8362 32 Cores / 64 Threads 2.80 GHz Processors
- (32) 32GB DDR4-3200 memory modules (1TB)
- (2) Samsung PM983 960GB NVMe M.2
- 2000W Redundant Titanium Power Supplies

To learn more, visit **www.BittWare.com**

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