



RapidFlex C1000 NVMe-oF Bridge Adapter

Standards Supported

- NVMe 1.2, 1.3
- NVMe-oF 1.0 – NVMe over Fabrics
- 802.1AX-2008 (IEEE 802.3ax) – Link Aggregation
- 802.1P – QoS Priority
- 802.1Q – Virtual LANS
- 802.1Qbb – (PFC) Priority-based Flow Control
- 802.1Qaz – (ETS) Enhanced Transmission Selection
- 802.1Qau – (QCN) Congestion Notification
- 802.1Qbb – Priority-based Flow Control (PFC)
- 802.3-2012 IEEE Standard for Ethernet
- 802.3ac-1998 – VLAN TAG
- 802.3ad-2000 – Link Aggregation
- P802.3ar – Congestion Management
- 802.3az-2010 – Energy-efficient Ethernet
- 802.3by-2016 – 25 Gigabit Ethernet
- 802.3bj-2014 – 100 Gb/s Backplane and Copper Cable
- 802.3bm-2015 – 40 Gb/s and 100 Gb/s Fiber Optic
- 802.3-2012 CL91 – RS-FEC (100G)

Ordering Information

Models:	KN-ONYX2.0 KN-ONYX2.0-E
Leadtime:	16 weeks
ECCN:	4A994.j
HTC:	8471.80.1000
MOQ:	20 adapters

Western Digital's RapidFlex™ C1000 NVMe-oF adapter is a half-height/half-length solution which enables NVMe™ over Fabrics (NVMe-oF™) attached storage systems. This high-performance adapter is based on Western Digital's NVMe-oF Bridge ASIC, and forms a key component for the enablement of the industry's newest Composable Disaggregated Infrastructures.

This target NVMe-oF adapter represents a unique approach to NVMe-oF bridging, based on extensive levels of hardware acceleration. By removing firmware from the performance path, read and write I/Os flows through the NVMe-oF adapter with minimal latency.

At less than 10W of nominal power consumed, this plug-in adapter enables extremely low-power JBOF solutions which can significantly lower overall power and cooling requirements of today's scale-out data centers.

The -E option offers a second Ethernet management port through the PCIe connector. This second Ethernet port runs up to 100Mbps and allows management traffic to be supported on an independent network from the main data fabric. This port can be enabled through the addition of a "-E" suffix (see ordering information section).

Contact Western Digital today for more information about integrating this NVMe-oF target solution into a specific JBOF system.

Specifications

Network Interfaces

- Ethernet 100GbE – Single Port
- Ethernet 50/25GbE – Dual Ports
- HW Link Aggregation
- Static or Dynamic Addressing
- Fiber and Copper Cable Support
- Up to 4 MAC addresses per Port
- One VLAN address per Port
- 4 IPv4 / IPv6 addresses per Port

PCI Interface

- Root Complex
- Single x16 or Dual x8 Gen3
- 2.5, 5.0, 8GT/s Rates

Hardware-based Protocol Engines

- RoCEv1, RoCEv2
- NVMe
- Up to 1,024 NVMe / RDMA Queue Pairs

Power

- 9.3W nominal @ Tj = 25°C
- 15.5W worst-case @ Tj = 110°C
- Power Supply = +5%, Copper Interface
- 200 lfm Airflow at 55°C (sea level)

Physical Dimensions

- Length: 129.41 mm
- Height: 68.95 mm

Miscellaneous Interfaces

- SPI Flash for Firmware / Logging
- Three I²C Ports
- 32 GPIO Pins

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