

ESR1610 Series:

2.5" Enterprise SATA QLC SSD



At introduction the Phison Electronics ESR1610 Series is the world's highest capacity 15.36TB QLC 2.5" (7mm) Enterprise SATA III SSD available in a customizable platform. Phison is highly vertically integrated in research and development and manufacturing of controllers and SSDs. Phison's business model is to make customizations in controllers, firmware, PCBA design, and mechanical form factor to meet our customers' requirements and create products that they are proud to put their own brand name on. The ESR1610 Series SSD is the newest addition to Phison's customizable Enterprise SSD product portfolio and offers superior performance, lower power consumption, and greater storage rack densities than similar capacity 3.5" hard disk drives.

The QLC NAND storage in the ESR1610 achieves the highest capacities with more affordable pricing than traditional TLC NAND SSDs.

Advanced Features

Reliability

Phison's 3rd generation LDPC ECC Engine can correct up to 160 bits/2k via the hard decoder and up to 400bits/2k via the soft decoder. This will ensure that your data can be protected throughout the life of the SSD.

SATA Compatibility

The ESR1610 Series SSD is plug wise compatible with SATA backplanes, making it easy to install in existing backplanes.

Power Loss Protection

From the moment the data enters the SSD, the S12DC controller generates associated parities to prevent soft errors. The data is safeguarded from corruption at every step of the way from the host device to the NAND flash.

End-to-End Data Path Protection

From the moment the data enters the SSD, the S12DC controller generates associated parities to prevent soft errors. The data is safeguarded from corruption at every step of the way from the host device to the NAND flash.

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Capacities	1.92TB, 3.84TB, 7.68TB, 15.36TB
Interface	SATA III 6Gb/s
Form Factor	2.5" (7mm)
NAND Flash	3D QLC
Sustained Performance (Up to)^{1,2}	
Sequential Read	530 MB/s
Sequential Write	220 MB/s
4K Random Read	90K IOPS
4K Random Write	10K IOPS
Quality of Service (99.9%)	
4K Random Read QD1 Latency	374µs (15.36TB)
4K Random Write QD1 Latency	43µs (15.36TB)
Reliability	
DWPD (JEDEC 219A spec)	0.1 (15.36TB)
UBER	1 in 10 ¹⁷
Power	
Max	<4.5W
Idle	<2W
Temperature	
Operating	0°C ~ 70°C
Non-Operating	-40°C ~ 85°C
Advanced Features	<ul style="list-style-type: none"> • LDPC • Power loss Data Protection • End-to-End Data Protection

1) 1MB/s = 1,000,000 bytes / second

2) Performance measured using IOmeter version 1.1 on the full LBA span of the test drive.

- Sequential 128K queue depth 32,
- Random queue depth 32 with 4 workers
- 4K = 4096 bytes