



IRDM M.2

SOLID STATE DRIVE

- High-speed PCIe gen 4 x4 interface
- NVMe 1.4
- Eight-channel Phison E18 controller with DRAM buffer
- 5year warranty limited by the TBW parameter ⁴ and free technical support

PERFORMANCE

	1 TB	2 TB	4 TB
INCOMPRESSIBLE DATA READ SPEED (MAX.) ¹	7 000 MB/s	7 000 MB/s	7 000 MB/s
INCOMPRESSIBLE DATA WRITE SPEED (MAX.) ¹	5 500 MB/s	6 850 MB/s	6 850 MB/s
RANDOM READ OPERATIONS PER SEC. (MAX.) ²	350 000	650 000	650 000
RANDOM WRITE OPERATIONS PER SEC. (MAX.) ²	700 000	700 000	700 000
TBW ⁴	700TB	1400TB	3000TB

TECHNOLOGY

FLASH MANAGEMENT

ERROR CORRECTION CODE (ECC), WEAR LEVELING, BAD BLOCK MANAGEMENT, TRIM, SMART, OVER PROVISION, FIRMWARE UPGRADE, THERMAL THROTTLING

ADVANCED DEVICE SECURITY FEATURES

NVMe FORMAT

SSD LIFETIME MANAGEMENT

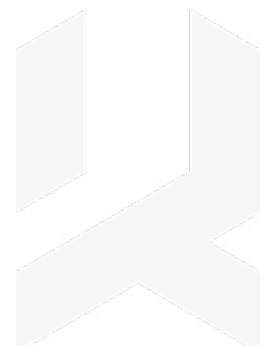
MEDIA WEAR INDICATOR, READ ONLY MODE (END OF LIFE)

PERFORMANCE TUNING

THROUGHPUT, PREDICT & FETCH, SLC CACHING

PARAMETERS

CAPACITY	1 TB, 2 TB, 4 TB
DIMENSIONS (DRIVE/DRIVE+HEATSINK)	22 × 80 × 3,8 mm] / 22,8 × 80 × 20,5 [mm]
INTERFACE	PCIe NVMe gen. 4 x4
FORM FACTOR	M.2 2280 (klucz M)
NAND FLASH	3D TLC
CONTROLLER	PHISON PS5018E18
MTBF	2 000 000 h
TEMPERATURE	- OPERATIONAL 0°C ~ 70°C - STORAGE 40°C ~ 85°C



LOGISTICS DATA

PRODUCT	CONTAINS	CAPACITY	P/N	EAN
IRDM SSD PRO M.2	SSD, HEATSINK, MOUNTING KIT	1 TB	IRP-SSDPR-P44A-1K0-80	5908267961407
		2 TB	IRP-SSDPR-P44A-2K0-80	5908267961414
		4 TB	IRP-SSDPR-P44A-4K0-80	5908267961421

¹ Based on tests performed in Crystal Disk Mark 6.0.0 on SSD in FOB (fresh-out-of-box) state. Actual results may vary depending on your system configuration or SSD wear.

² Based on tests performed in IOMETER on SSD in FOB (fresh-out-of-box) state. Actual results may vary depending on your system configuration or SSD wear.

³ Storage capacity for GOODRAM SSD is provided in decimal values, i.e. 1GB = 1 000 000 000 bytes. Operating systems that use the binary conversion, i.e. 1GB = 1,073,741,824 bytes, may show lower storage capacity than provided in this specification. For more information about capacities visit www.goodram.com.

⁴ After exceeding the TBW or 5 years, the SSD is not covered by warranty.

• IRDM may make changes to specifications and product descriptions at any time, without notice.

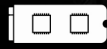
• Product Sheet | IRDM SSD PRO M.2 | V.2.2 | © 2023 Wilk Elektronik S.A. - IRDM



SSD IRDM PRO M.2

Performance without compromise

7000 MB/s
6850 MB/s
READ/WRITE
SPEED



HIGH-SPEED INTERFACE
PCIe GEN 4 X4



NVMe 1.4
SUPPORT

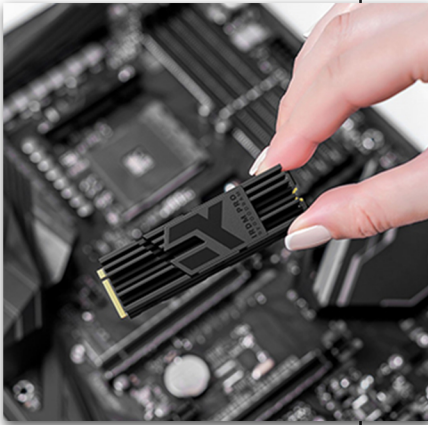


PHISON E18
CONTROLLER



5-YEAR WARRANTY
+ FREE TECHNICAL SUPPORT

Ultra-fast PCIe 4 x4 SSD by IRDM



The latest IRDM PRO M.2 SSD storage device is equipped with an extremely fast PCIe 4 x4 NVMe interface. Maximum read and write speeds of 7000 MB/s and 6850 MB/s, respectively, provide excellent performance and stability.

7000 MB/s
READ SPEED

6850 MB/s
WRITE SPEED

Equipping a desktop or laptop computer with an IRDM PRO drive guarantees smooth and comfortable operation under the most demanding conditions, such as working with 3D modeling and animation or rendering images. Another of the opportunities IRDM SSD offers is to increase storage space on ninth-generation consoles that support SSDs with M.2 2280 form factor.

Wide selection of memories

AVAILABLE CAPACITIES
1, 2, 4 TB

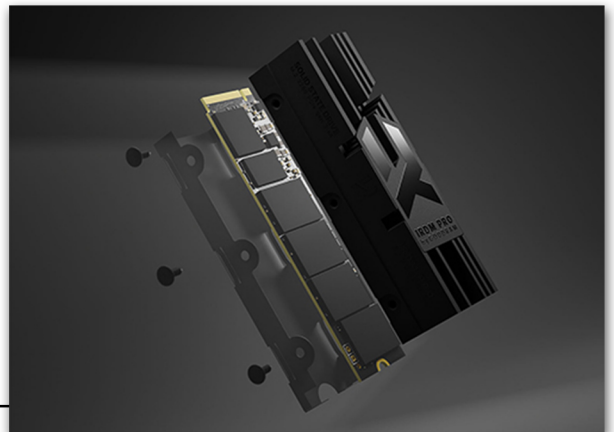
The latest SSD from IRDM is available in 1TB, 2TB and 4TB capacities. With three options to choose from, users can match the drive to their needs and applications, regardless of what device they use.

Unique Heatsink

Engineers and developers working on the IRDM PRO SSD did not only focus on technical performance, but also on the design. The heatsink that combines matte and glossy elements looks massive and further emphasizes the high quality of the whole device. By keeping the black color scheme, it refers to other products of the IRDM line, and the whole design retains a modern retro style, taking inspiration from the electronics of the 80's.

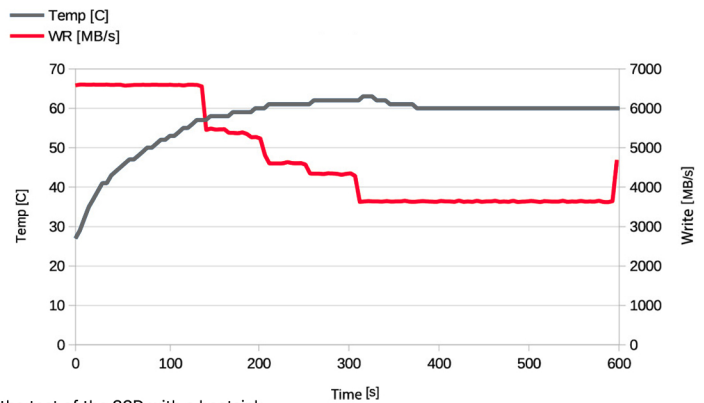
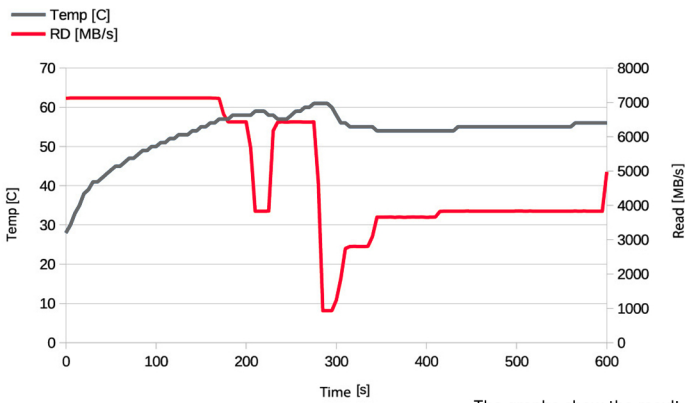


UNIQUE DESIGN
MODERN RETRO STYLE



High performance

The heatsink is made of aluminum, which conducts heat perfectly, and the additional holes and cut-outs that are also well matched with the brand logo, ensure a free and even airflow. Once installed, the heatsink guarantees a high performance of the drive even under extreme operating conditions, as proven in laboratory tests - SSD's uptime at the highest speed increases by up to 6x when compared with using it without any type of heat dissipation tool. The height of the heatsink has been optimized to be as small as possible, yet as efficient as possible.



The graphs show the result of the test of the SSD with a heatsink

The best and proven solutions

The use of the latest solution, which is the PCIe NVMe gen 4 x4 interface, provides high performance and very high read and write speeds. The type of FLASH memory used is the already well-known 3D TLC chips. What's more, the presence of a DRAM buffer of up to 2 GB DDR4 definitely increases the read and write speeds. Using the best quality components allowed to create a product that meets the expectations of the most demanding customers who refuse to compromise.

Phison controller

The management of the entire drive is handled by a technologically advanced PS5018-E18 chip, supplied by one of the best and most experienced manufacturers in the market, namely Phison. The eight-channel E18 controller, based on ARM Cortex R5 architecture, is used by the best SSD manufacturers. It supports the latest version of the NVMe protocol, i.e. 1.4, and is characterized by impressive maximum speeds of 7000 MB/s and 700 000 random IOPS.

Full range of technologies

Advanced technologies ensure the drive's operation and data security. The most important of them are:

Lifetime Management

Possibility to check the percentage lifetime used via SMART. It allows you to control the life of the drive and react before a possible failure occurs.

SLC Caching

Dynamically increases drive performance and life, resulting in a satisfying user experience.

ECC

Error Correction Code - an algorithm for detecting and correcting errors that occur during the reading of blocks of data and also protects the data from damage.

Wear leveling

The term indicates static and dynamic algorithms that significantly increase the life of the disk. This is due to the balanced consumption of memory blocks.

Thermal throttling

Prevents overheating of any drive components during read and write operations.

Read Only Mode

In the event that the maximum number of failed memory blocks is reached, the SSD enters a read-only mode.

EXPLANATION
NEEDED?
VISIT OUR
GLOSSARY!



Premium packaging

The IRDM PRO M.2 SSD is packed in an elegant box, which indicates that we are looking at a high-end product. Inside the box, you will find the drive itself, the heatsink, and a mounting kit consisting of a special plate, screws and a small screwdriver.

