

Outstanding performance and reliability for demanding server environments

HITACHI
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Hitachi Ultrastar 36Z15 hard disk drives

Highlights

- ▶ **Rotational speeds of 15,000 RPM and average seek time as low as 3.4ms to help boost performance**
- ▶ **Capacities of 36 or 18GB provide configuration flexibility.**
- ▶ **Utilizes technologies such as Drive Fitness Test, load/unload, and glass substrate disks to enhance reliability and robustness and to prolong the lifespan of the drive.**
- ▶ **Allows for greater speed and higher performance with online transaction processing (OLTP), online analytical processing (OLAP), and other decision support applications such as Oracle*, DB2, and Microsoft SQL Server* databases.**
- ▶ **Ideal for integration with Customer Relationship Management and B2B solutions.**

Advanced drive technology

The Hitachi Ultrastar 36Z15 leads the industry with the Ultrastar 15,000 RPM disk drive family. Leveraging the award-winning technologies that have generated proven quality and high-performance, Hitachi drives utilize powerful processors and read/write channels, feed-forward servo controls that improve seek and settle times, and suspension dynamics that enable better servo bandwidth, improved mechanical stability, and faster speeds for the new Ultrastar 15,000 RPM family.

The Ultrastar 36Z15 hard disk drive combines fast seek times, large multi-segmented buffers, a sophisticated command queuing system, hardware automation, and industry-leading data rates to achieve outstanding I/O performance. In addition, the Ultrastar 36Z15 employs a fifth-generation giant magneto-

resistive (GMR) head technology for an areal density of up to 10.7 Gbits/sq. in.

Reliability features

Research and development teams are responsible for developing 40 years of award-winning storage technologies that satisfy increasingly complex user requirements. The new Ultrastar 36Z15 builds on this tradition.

To help ensure data protection, Hitachi Ultrastar drives include exclusive reporting tools, such as Predictive Failure Analysis* which signals potential drive problems; Drive-TIP* which monitors drives and avoids malfunctions; and Drive Fitness Test which enables self-testing and analysis.

Reliability is further enhanced with load/unload technology and glass substrate



disks which provide a robust solution at high rotational speeds.

Support for advanced applications and interfaces

The Ultrastar 36Z15 provides high data throughput for data-intensive applications with the Ultra160 SCSI (backward-compatible) interface.

Hitachi offers a five-year warranty on its Ultrastar 36Z15 hard disk drives.

Hitachi Ultrastar 36Z15 specifications

Product name	Ultrastar 36Z15
Model names	IC35L018UWPR15, IC35L018UCPR15 IC35L036UWPR15, IC35L036UCPR15

Configuration

Interface	Ultra160 SCSI
Capacity (GB)	36.7 / 18.4
Sector size (bytes)	512-528 (variable, 2 byte increments)
Recording zones	11 / 8
Data heads (physical)	12 / 8
Data disks	6 / 4
Max. areal density (Mbits/sq. inch)	10,700
Max. recording density (BPI)	397,000
Track density (TPI)	27,000

Performance

Data buffer	4096 KB
Rotational speed (rpm)	15,000
Latency average (ms)	2.00
Media transfer rate (max. Mbits/sec)	453 - 647
Interface transfer rate (max. MB/sec)	160
Sustained data rate (MB/sec)	36.6–52.8

Seek time (read, typical) ²	
Average (ms)	4.2 / 3.4
Track to track (ms)	0.65
Full track (ms)	8.9 / 6.7

Reliability

Error rate (non-recoverable)	10 in 10E16 bits read
Start/stop cycles	50K

Acoustic

Idle - Typical (Bels)	4.0 / 3.8
Operating - Typical (Bels)	4.8 / 4.7

Power

Requirement	+5VDC (+-5%), +12VDC (+-5%)
Dissipation	
Startup current (max. peak)	1.0A (5V), 2.5A (12V)
Idle (W)	13.5 / 11.0
Power consumption efficiency index	0.0004 W/MB, 0.0006 W/MB

Dimensions

Height (mm)	25.7 (+-0.4)
Width (mm)	101.6 (+-0.4)
Depth (mm)	146 (+-0.6)
Weight (max. kg)	0.75

Environmental characteristics

Operating	
Ambient temperature	5° to 55° C
Relative humidity (non-condensing)	8% to 90%
Max. wet bulb (non-condensing)	29.4° C
Shock (half sine wave)	15 G (11 ms) / 60 G (2 ms)
Random Vibration (RMS)	1.5 G

Non-operating	
Ambient temperature	-40° to 70° C
Relative humidity (non-condensing)	5% to 95%
Max. wet bulb (non-condensing)	35° C
Shock (half sine wave)	80 G (11 ms) / 250 G (2 ms)
Random Vibration (RMS)	2.23G

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For more information

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