

# Ultrastar™ C10K300

## 2.5-INCH ENTERPRISE HARD DISK DRIVES

**HITACHI**  
Inspire the Next

Cool reliable SAS comes in a small package

### Highlights

- > Ultra fast 6Gb/sec SAS for reliable data throughput
- > Low carbon footprint SAS drive with Advanced Power Management technology
- > Consumes up to 65% less power than similar 3.5-inch drives
- > Large 64MB cache buffer manages data efficiently
- > Occupies 70% less space than its 3.5-inch siblings
- > Self-encrypting models conform to TCG's Enterprise specification

### Applications/Environments

- > Space and/or power constrained environments
- > Enterprise-class servers and networked storage arrays
- > Blade and 1U/2U rack-mounted servers
- > Databases and Online Transaction Processing (OLTP)
- > High performance computing and other applications requiring 24x7 availability



300 and 147GB | 10,000 RPM  
2.5-inch SFF | SAS 6Gb/s



### Features and Benefits

	Feature / Function	Benefits
<b>Return on Investment</b>	TCG Enterprise encryption	Reduces drive retirement cost
	300GB and 147GB	Get more capacity for less space and configuration flexibility
<b>Performance</b>	SAS 6Gb/s dual port	Fastest interface for enhanced reliability
	64 MB cache buffer	Manages data efficiently
	10,000 RPM	Low latency for faster access to data
	Rotational Vibration Safeguard (RVS)	Maintains drive performance in high rotational vibration environments and multi-drive systems
	Workload detector technology	Maximizes performance in RAID environments
<b>Reliability</b>	Reverse concatenation	Improves signal processing
	RRO fields	Improves handling of repeatable run out to lower risk of data squeeze and write inhibit rate
	End-to-end data protection (ANSI)	Enhances error detection for optimal data integrity
	Head load/unload ramp	Minimizes handling damage during integration
	Fluid Dynamic Bearing (FDB) Motor	Improves acoustics and proven reliability

### Cool and clean

The Ultrastar™ C10K300 drive saves you money on your cooling costs. Compared to its 3.5-inch sibling, power consumption is reduced by up to 65%. Advanced Power Management feature with multi-state idle modes maintains compatibility with T10 direction and can be pre-programmed or manually initiated in the system. In keeping with the Hitachi tradition of respecting the environment, the Ultrastar C10K300 drive also boasts halogen reduced components that are earth friendly. These eco-friendly features qualify the C10K300 for the EcoTrac classification.

### Great things do come in a small package

The C10K300 drive delivers the performance and reliability demanded in high performance computing and mission-critical environments. The ultra fast SAS interface running at 6Gb/s improves data reliability, availability and scalability. The small footprint consumes 70% less space compared to standard enterprise class drives. This is the only small form factor SAS drive in the industry to pack a 64MB cache buffer to optimize the read/write response time. When faced with space and power limitations, the Ultrastar C10K300 is an efficient solution for high performance computing environments like online transaction processing, intensive data analysis and multi-user applications. Higher capacity and lower power consumption reduces the total cost of ownership of this drive over previous generations.

### Compromise nothing

The Ultrastar C10K300 self-encrypting models conform to the Trusted Computing Group's Enterprise A Security Subsystem Class encryption specification. Now, customers can reduce the costs associated with drive retirement and extend drive life by enabling repurposing of drives.

## Specifications

<b>Model(s)</b>	HUC103030CSS600 HUC103030CSS601 HUC103014CSS600 HUC103014CSS601
<b>Configuration</b>	
Interface	SAS 6Gb/s
Capacity (GB) <sup>1</sup>	300 / 147
Recording zones	21
Data heads (physical)	4 / 2
Data Disks	2 / 1
Max. areal density (Gbits/sq. in.)	277
<b>Performance</b>	
Data buffer (MB) <sup>2</sup>	64
Rotational speed (RPM)	10,000
Latency average (ms)	3.0
Media transfer rate (Mbits/sec, max)	1669
Interface transfer rate (MB/sec, max)	600
Sustained transfer rate (MB/sec, typ.)	143 - 88
Seek time (read, ms, typical) <sup>3</sup>	3.9
<b>Reliability</b>	
Error rate (non-recoverable, bits read)	1 in 10 <sup>16</sup>
MTBF <sup>4</sup> (M hours)	1.6
Availability (hrs/day x days/wk)	24x7
<b>Acoustics</b>	
Idle (Bels)	2.9
<b>Power</b>	
Requirement	+5 VDC (+/-5%), +12 VDC (+/-5%)
Operating, (W, typical)	6.1 / 5.9
Low RPM idle (W)	2.8 / 2.8
Power efficiency at low RPM idle (W/GB)	0.0094 / 0.019
<b>Physical size</b>	
z-height (mm)	14.8
Dimensions (width x depth, mm)	70.1 x 100.6
Weight (g, max)	227
<b>Environmental (operating)</b>	
Ambient temperature	5° to 55° C
Shock (half-sine wave)	60 G (2ms)
Vibration, random (G RMS 5 to 500 Hz)	0.4, all axes
<b>Environmental (non-operating)</b>	
Ambient temperature	-40° to 70° C
Shock (half-sine wave)	>300 G (2ms)
Vibration, random (G RMS 5 to 500 Hz)	1.5, all axes

<sup>1</sup> One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity may be less.

<sup>2</sup> Portion of buffer capacity used for drive firmware

<sup>3</sup> Excludes command overhead

<sup>4</sup> MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under median operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.

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## Hitachi quality and service

Hitachi's Ultrastar C10K300 extends the company's long-standing tradition of performance and reliability leadership. A balanced combination of new and proven technologies enables high reliability and availability to customer data.

Hitachi drives are backed by an array of technical support and services, which may include customer and integration assistance. Hitachi is dedicated to providing a breadth of hard disk drive solutions to satisfy all of today's demanding computing needs.

## How to read the Ultrastar model number

HUC103030CSS600 = 300GB, SAS 6Gb/s

H = Hitachi

U = Ultrastar

C = Compact (vs S for Standard)

10 = 10,000 RPM

30 = Full capacity — 300GB

30 = Capacity this model, 30 = 300GB  
(14 = 147GB)

C = Generation code

S = 14.8mm z-height

S6 = Interface, SAS 6Gb/s

0 = Reserved

0 = Reserved (1 = TCG encryption)

## Information and Technical Support

[www.hitachigst.com](http://www.hitachigst.com) (Main Web site)

[www.hitachigst.com/partners](http://www.hitachigst.com/partners) (Partner Web site)

## North America

[support\\_usa@hitachigst.com](mailto:support_usa@hitachigst.com)

Toll free: 1 888 426-5214, Direct: 1 507 322-2370

## Asia Pacific

[support\\_ap@hitachigst.com](mailto:support_ap@hitachigst.com) / 65 6840 9595

## EMEA and UK

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 44 20 7133 0032

## Germany

[support\\_uk@hitachigst.com](mailto:support_uk@hitachigst.com) / 49 6929 993601

## Program Support

Partners First™ Program

[channelpartners@hitachigst.com](mailto:channelpartners@hitachigst.com)

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Hitachi Global Storage Technologies  
3403 Yerba Buena Road  
San Jose, CA 95135 USA

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The EcoTrac symbol identifies Hitachi hard drives that deliver on the principles of lower operating costs, smaller carbon footprint, safer product disposal and creation of a more sustainable environment.