

THE POSSIBILITIES ARE INFINITE

FUJITSU

Fujitsu Quality Storage Products

3.5-inch Magnetic Disk Drives

MAN3XXX

18.4GB, 36.7GB, and 73.5GB



10000rpm

Desktop Products

Fujitsu's new 10,000rpm MAN3xxx series includes models with optimum capacities of 18.4GB, 36.7GB, and 73.5GB. The series is thus ideal for all mainstream SCSI applications, such as enterprise servers, PC servers, workstations, and RAID subsystems, where data integrity and reliability are essential.

These new drives offer new performance standards with a maximum internal transfer rate of 84MB/s and a fast average seek time of 4.5ms. To ensure maximum performance in a variety of demanding applications, Fujitsu will also offer both Ultra 160 and Ultra 320, with fiber channels available on the 36.7GB and 73.5GB versions.

Concerning reliability, the new series features the industry's highest MTBF rating of 1,200,000 hours. It also incorporates many reliability enhancing features, such as alloy top cover for lower acoustics, and an improved SMART detection system.

FEATURES

■ Drive Features

- High Capacities of 18.4GB and 36.7GB and 73.5GB, respectively
- Fast average positioning time: Read 4.5ms ; Write 5.0ms
- Industry's fastest rotational speed of 10,025rpm
- High reliability of 1,200,000 hours MTBF
- Advanced GMR head
- Light-weight rotary actuator
- EEPR4ML read channel technology

■ SCSI Features

- Supports FAST/URTRA-1/ULTRA-2/U160/U320 Wide SCSI
- Supports Multi-Mode LVD (Single-Ended/Low-Voltage Differential)
- Supports FC-AL2 (Fiber Channel Arbitrated Loop)
- Programmable 8MB multisectioned buffer
- Read-ahead cache / Write cache
- Tagged Command Queuing
- 480Bit Reed Solomom ECC with on-the-fly correction
- SCSI Active Negation
- SMART
- ID Less Format
- Hot Swap Case-4 (Dynamic Switchover between SE/LVD)

FUNCTIONAL SPECIFICATIONS

Model		MAN3735MP/MC,NP,NC,FC	MAN3367MP/MC,NP/NC,FC	MAN3182MP/MC,NP/NC
Storage capacity (formatted)		73.5GB	36.7GB	18.4GB
Disks		4	2	1
Heads (read/write)		8	4	2
Tracks capacity		221KB* 337KB		
Bytes/sectors		512		
Cylinders		30,200		
Sectors/track		432 to 737		
Seek time	Track to track	Read: 0.4ms(typ)/Write: 0.6ms(typ)		
	Average	Read: 4.5ms(typ)/Write: 5.0ms(typ)		
	Full track	Read: 11.0ms(typ)/Write: 12.0ms(typ)		
Average latency time		2.99ms		
Rotational speed		10,025rpm		
Recording density		485,000BPI		
Track density		38,300TPI		
Data transfer rate	To/from media	84MB/s*		
	To/from host	160MB/s, 320MB/s, 2Gb/s		160M/s, 320MB/s
Recording code		32/34MEEP4 NPV2		
Interface		U160, U320, FC-AL2		U160, U320
Head positioning method		ROTARY VCM		
Start time		30 sec. (typ.), 60 sec. (max)		
Stop time		30 sec. (typ.)		
Buffer size		8MB		

PHYSICAL SPECIFICATIONS

Model		MAN3735MP/MC,NP,NC,FC	MAN3367MP/MC,NP/NC,FC	MAN3182MP/MC,NP/NC
Power requirements	Voltage	12V ±5%		
	Spin-up	12V ±5% 2.50A / 3.0A (peak> 100µs) / 5V ±5% 0.70A		
	Read/Write(Typ.)	12V ±5% TBD / 5V ±5% TBD		
	Idle (Typ.) (FC)	12V ±5% 0.60A / 5V ±5% 0.50A (1.12A)	12V ±5% 0.50A / 5V ±5% 0.50A (1.12A)	12V ±5% 0.40A / 5V ±5% 0.50A
Dimensions (HxWxD)		25.4mmx101.6mmx146.0mm		
Weight		750 g		
Ambient temperature	Operating	5°C to 50°C (DE base 55°C max.)		
	Non-operating	-10°C to 60°C		
	Gradient	15°C/H (max.)		
Relative humidity	Operating	20% to 80%		
	Non-operating	20% to 80%		
	Max. wet bulb	29°C (Operating)		
Vibration	Operating	0.3mm (5 to 20Hz)/1.0G (20 to 300Hz)		
	Non-operating	3.1mm (5 to 20Hz)/5.0G (20 to 300Hz)		
Shock	Operating	65G max. (2ms)		
	Non-operating	200G max. (2ms)		
Altitude (operation)	Operating	3,000m (max.)		
	Non-operating	12,000m (max.)		
Acoustic Noise(idle sound power)(typ.)		3.9≤bels (ready)	3.6≤bels (ready)	3.6≤bels (ready)

RELIABILITY SPECIFICATIONS

Model		MAN3184/3367/3735MC/MP/NC/NP	MAN3367/3735 FC
Mean time between failures (MTBF)		1,200,000 power-on hours	
Component life		5 years power on hours	
Error rates	Unrecoverable errors	1 per 10 ¹⁵ bits read	
	Seek errors	10 per 10 ⁹ bits seeks	

Notes:

*1: Formatted by 512 bytes/sector

Specifications are subject to change without notice. For the latest information, contact your local Fujitsu representative.
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