

X300 Data Sheet

Model			HDWR62C	HDWR62A	HDWR51J	HDWR51G
Model Number			22 TB	20 TB	18 TB	16 TB
Capacity ^{¶1}			CMR	CMR	CMR	CMR
Recording Technology ^{¶2}			HDWR62CZUSVA	HDWR62AUZSVA	HDWR51JUZSVA	HDWR51GUZSVA
Parts Number						
Basic Specifications						
Interface Speed ^{¶3}			SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor			3.5-inch	3.5-inch	3.5-inch	3.5-inch
Sector Size ^{¶4}			512e	512e	512e	512e
Features						
Shock Sensor			yes	yes	yes	yes
Native command queuing (NCQ)			yes	yes	yes	yes
Advanced Format (AF)			yes	yes	yes	yes
RoHS compliant			yes	yes	yes	yes
Halogen Free			yes	yes	yes	yes
Performances						
Interface Speed ^{¶3}	[Gbit/s]		6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5
Rotation Speed	[rpm]		7200	7200	7200	7200
Sustained data transfer rate ^{¶3}	[MB/s]		Non-Public	Non-Public	Non-Public	Non-Public
Buffer Size ^{¶7}	[MB]		512	512	512	512
Reliability						
MTTF ^{¶8}	[hours]		600 000	600 000	600 000	600 000
Unrecoverable Error Rate			1 per 10E15	1 per 10E15	1 per 10E14	1 per 10E14
Maximum rated workload ^{¶9}	[TB/year]		Non-Public	Non-Public	Non-Public	Non-Public
Load/Unload cycles	[times]		300 000	300 000	300 000	300 000
Power Requirements						
Supply Voltage ^{¶10}	[V]		12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %
Power Consumption	^{¶11}	[V]	5 VDC +10 / -7 %	5 VDC +10 / -7 %	5 VDC +10 / -7 %	5 VDC +10 / -7 %
	(Spin up, +12 VDC) ^{¶12}	[A, peak]	1.49	1.49	1.44	1.44
	(Spin up, +5 VDC) ^{¶12}	[A, peak]	0.4	0.4	0.29	0.29
	(Operating) ^{¶13}	[W]	8.02	8.02	7.48	7.48
	(Idle-A) ^{¶14}	[W]	4.35	4.41	4.14	4.14
(Standby)	[W]	0.61	0.66	0.42	0.42	
Environmental						
Temperature	(Operating)	(°C) (Ambient)	5 to 55	5 to 55	5 to 55	5 to 55
	(Operating)	(°C) (Surface)	5 to 60	5 to 60	5 to 60	5 to 60
	(Non-operating) ^{¶15, 18}	(°C)	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90	5 to 90	5 to 90	5 to 90
	(Non-operating) ^{¶15}	[%RH]	5 to 95	5 to 95	5 to 95	5 to 95
Vibration	(Operating) ^{¶16, 17}	[m/s ²] [G]	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)
	(Operating) ^{¶16, 17}	[m/s ²] [G]	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)
	(Operating) ^{¶16, 17}	[m/s ²] [G]	-	-	-	-
Shock	(Non-operating) ^{¶16, 19}	[m/s ²] [G]	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)
	(Operating) ^{¶16}	[m/s ²] [G]	490 (50 G) (2 ms duration)	490 (50 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)
	(Non-operating) ^{¶10, 11}	[m/s ²] [G]	1960 (200 G) (2 ms duration)	1960 (200 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)
Altitude	(Operating)	[m]	-305 to 3048	-305 to 3048	-305 to 3048	-305 to 3048
Acoustics ^{¶20}	(Non-operating) ^{¶10}	[m]	-305 to 12 192	-305 to 12 192	-305 to 12 192	-305 to 12 192
	Seek	[dB] (Typ.)	32	32	32	32
	idle mode	[dB] (Typ.)	20	20	20	20
Physical Dimension						
Height	[mm] (Max)		26.1	26.1	26.1	26.1
Length	[mm] (Max)		147	147	147	147
Width	[mm] (Max)		101.85	101.85	101.85	101.85
Weight	[g] (Max)		720	720	720	720
Bottom holes type ^{¶21}			TYPE1	TYPE1	TYPE1	TYPE1

X300 Data Sheet

Model			HDWR31G	HDWR51E	HDWR21E	HDWR51C
Model Number			16 TB	14 TB	14 TB	12 TB
Capacity ^{✱1}			CMR	CMR	CMR	CMR
Recording Technology ^{✱2}			HDWR31GZSVA	HDWR51EUZSVA	HDWR21EUZSVA EOL	HDWR51CUZSVA
Parts Number						
Basic Specifications						
Interface ^{✱3}			SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor			3.5-inch	3.5-inch	3.5-inch	3.5-inch
Sector Size ^{✱4}			512e	512e	512e	512e
Features						
Shock Sensor			yes	yes	yes	yes
Native command queuing (NCQ)			yes	yes	yes	yes
Advanced Format (AF)			yes	yes	yes	yes
RoHS compliant			yes	yes	yes	yes
Halogen Free			yes	yes	yes	yes
Performances						
Interface Speed ^{✱3}	[Gbit/s]		6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5
Rotation Speed	[rpm]		7200	7200	7200	7200
Sustained data transfer rate ^{✱3}	[MB/s]		Non-Public	Non-Public	Non-Public	Non-Public
Buffer Size ^{✱7}	[MB]		512	512	256	512
Reliability						
MTTF ^{✱8}	[hours]		600 000	600 000	600 000	600 000
Unrecoverable Error Rate			1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Maximum rated workload ^{✱9}	[TB/year]		Non-Public	Non-Public	Non-Public	Non-Public
Load/Unload cycles	[times]		300 000	300 000	300 000	300 000
Power Requirements						
Supply Voltage ^{✱10}	[V]		12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %
Power Consumption	^{✱11}	[V]	5 VDC +10 / -7 %	5 VDC +10 / -7 %	5 VDC ±5 %	5 VDC +10 / -7 %
	(Spin up, +12 VDC) ^{✱12}	[A, peak]	1.47	1.45	1.65	1.5
	(Spin up, +5 VDC) ^{✱12}	[A, peak]	0.26	0.31	0.33	0.3
	(Operating) ^{✱13}	[W]	6.91	7.38	6.77	6.85
	(Idle-A) ^{✱14}	[W]	4.03	3.77	4.54	3.3
(Standby)	[W]	0.44	0.41	0.62	0.41	
Environmental						
Temperature	(Operating)	(°C) (Ambient)	5 to 55	5 to 55	5 to 55	5 to 55
	(Operating)	(°C) (Surface)	5 to 60	5 to 60	5 to 60	5 to 60
	(Non-operating) ^{✱15, 18}	(°C)	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90	5 to 90	5 to 90	5 to 90
	(Non-operating) ^{✱15}	[%RH]	5 to 95	5 to 95	5 to 95	5 to 95
Vibration	(Operating) ^{✱16, 17}	[m/s ²] [G]	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	-	-	-	-
Shock	(Non-operating) ^{✱16, ✱19}	[m/s ²] [G]	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)
	(Operating) ^{✱16}	[m/s ²] [G]	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)
	(Non-operating) ^{✱10, ✱11}	[m/s ²] [G]	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)
Altitude	(Operating)	[m]	-305 to 3048	-305 to 3048	-305 to 3048	-305 to 3048
	(Non-operating) ^{✱10}	[m]	-305 to 12 192	-305 to 12 192	-305 to 12 192	-305 to 12 192
Acoustics ^{✱20}	Seek	[dB] (Typ.)	32	32	35	32
	idle mode	[dB] (Typ.)	20	20	20	20
Physical Dimension						
Height	[mm] (Max)		26.1	26.1	26.1	26.1
Length	[mm] (Max)		147	147	147	147
Width	[mm] (Max)		101.85	101.85	101.85	101.85
Weight	[g] (Max)		720	705	690	690
Bottom holes type ^{✱21}			TYPE1	TYPE1	TYPE1	TYPE1

X300 Data Sheet

Model			HDWR21C	HDWR71A	HDWR51A	HDWR11A
Model Number			12 TB	10 TB	10 TB	10 TB
Capacity ^{✱1}			CMR	CMR	CMR	CMR
Recording Technology ^{✱2}			HDWR21CUZSVA	HDWR71AUZSVA	HDWR51AUZSVA	HDWR11AUZSVA
Parts Number						
Basic Specifications						
Interface ^{✱3}			SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor			3.5-inch	3.5-inch	3.5-inch	3.5-inch
Sector Size ^{✱4}			512e	512e	512e	512e
Features						
Shock Sensor			yes	yes	yes	yes
Native command queuing (NCQ)			yes	yes	yes	yes
Advanced Format (AF)			yes	yes	yes	yes
RoHS compliant			yes	yes	yes	yes
Halogen Free			yes	yes	yes	yes
Performances						
Interface Speed ^{✱3}	[Gbit/s]		6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5
Rotation Speed	[rpm]		7200	7200	7200	7200
Sustained data transfer rate ^{✱3}	[MB/s]		Non-Public	Non-Public	Non-Public	Non-Public
Buffer Size ^{✱7}	[MB]		256	512	512	256
Reliability						
MTTF ^{✱8}	[hours]		600 000	600 000	600 000	600 000
Unrecoverable Error Rate			1 per 10E14	1 per 10E15	1 per 10E14	1 per 10E14
Maximum rated workload ^{✱9}	[TB/year]		Non-Public	Non-Public	Non-Public	Non-Public
Load/Unload cycles	[times]		300 000	600 000	300 000	300 000
Power Requirements						
Supply Voltage ^{✱10}	[V]		12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %
Power Consumption	^{✱11}	[V]	5 VDC ±5 %	5 VDC +10 / -7 %	5 VDC +10 / -7 %	5 VDC +10 / -5 %
	(Spin up, +12 VDC) ^{✱12}	[A, peak]	1.65	1.43	1.5	1.44
	(Spin up, +5 VDC) ^{✱12}	[A, peak]	0.33	0.45	0.3	0.35
	(Operating) ^{✱13}	[W]	6.77	9.07	6.85	9.48
	(Idle-A) ^{✱14}	[W]	4.54	5.74	3.3	7.22
(Standby)	[W]	0.62	0.58	0.41	0.67	
Environmental						
Temperature	(Operating)	[°C] (Ambient)	5 to 55	-	5 to 55	5 to 55
	(Operating)	[°C] (Surface)	5 to 60	5 to 60	5 to 60	5 to 60
	(Non-operating) ^{✱15, 18}	[°C]	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90	5 to 90	5 to 90	5 to 90
	(Non-operating) ^{✱15}	[%RH]	5 to 95	5 to 95	5 to 95	5 to 95
Vibration	(Operating) ^{✱16, 17}	[m/s ²] [G]	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	-	-	-	-
Shock	(Non-operating) ^{✱16, ✱19}	[m/s ²] [G]	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)
	(Operating) ^{✱16}	[m/s ²] [G]	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)
	(Non-operating) ^{✱10, ✱11}	[m/s ²] [G]	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)
Altitude	(Operating)	[m]	-305 to 3048	-305 to 3048	-305 to 3048	-305 to 3048
	(Non-operating) ^{✱10}	[m]	-305 to 12 192	-305 to 12 192	-305 to 12 192	-305 to 12 192
Acoustics ^{✱20}	Seek	[dB] (Typ.)	35	35	32	35
	idle mode	[dB] (Typ.)	20	34	20	34
Physical Dimension						
Height	[mm] (Max)		26.1	26.1	26.1	26.1
Length	[mm] (Max)		147	147	147	147
Width	[mm] (Max)		101.85	101.85	101.85	101.85
Weight	[g] (Max)		720	755	690	770
Bottom holes type ^{✱21}			TYPE1	TYPE1	TYPE1	TYPE1

X300 Data Sheet

Model			HDWR780	HDWR480	HDWR180	HDWR760
Model Number			HDWR780	HDWR480	HDWR180	HDWR760
Capacity ¹			8 TB	8 TB	8 TB	6 TB
Recording Technology ²			CMR	CMR	CMR	CMR
Parts Number			HDWR780UZ5VA	HDWR480UZ5VA	HDWR180UZ5VA EOL	HDWR760UZ5VA
Basic Specifications						
Interface ³			SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor			3.5-inch	3.5-inch	3.5-inch	3.5-inch
Sector Size ⁴			512e	512e	512e	512e
Features						
Shock Sensor			yes	yes	yes	yes
Native command queuing (NCQ)			yes	yes	yes	yes
Advanced Format (AF)			yes	yes	yes	yes
RoHS compliant			yes	yes	yes	yes
Halogen Free			yes	yes	yes	yes
Performances						
Interface Speed ³	[Gbit/s]		6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5
Rotation Speed	[rpm]		7200	7200	7200	7200
Sustained data transfer rate ³	[MB/s]		Non-Public	Non-Public	Non-Public	Non-Public
Buffer Size ⁷	[MB]		512	256	256	512
Reliability						
MTTF ⁸	[hours]		600 000	600 000	600 000	600 000
Unrecoverable Error Rate			1 per 10E15	1 per 10E14	1 per 10E14	1 per 10E15
Maximum rated workload ⁹	[TB/year]		Non-Public	Non-Public	Non-Public	Non-Public
Load/Unload cycles	[times]		600 000	300 000	300 000	600 000
Power Requirements						
Supply Voltage ¹⁰	[V]		12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %
Power Consumption	¹¹	[V]	5 VDC +10 / -7 %	5 VDC ±5 %	5 VDC +10 / -5 %	5 VDC +10 / -7 %
	(Spin up, +12 VDC) ¹²	[A, peak]	1.42	1.49	1.44	1.41
	(Spin up, +5 VDC) ¹²	[A, peak]	0.45	0.26	0.35	0.44
	(Operating) ¹³	[W]	8.19	8.41	9.48	7.43
	(Idle-A) ¹⁴	[W]	4.92	5.61	7.22	4.14
(Standby)	[W]	0.57	0.41	0.67	0.57	
Environmental						
Temperature	(Operating)	(°C) (Ambient)	-	-	5 to 55	-
	(Operating)	(°C) (Surface)	5 to 60	5 to 60	5 to 60	5 to 60
	(Non-operating) ^{15, 18}	(°C)	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90	5 to 90	5 to 90	5 to 90
	(Non-operating) ¹⁵	[%RH]	5 to 95	5 to 95	5 to 95	5 to 95
Vibration	(Operating) ^{16, 17}	[m/s ²] [G]	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (2 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)
	(Operating) ^{16, 17}	[m/s ²] [G]	2.45 (0.25 G) (300 to 500 Hz)	4.90 (0.50 G) (300 to 350 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)
	(Operating) ^{16, 17}	[m/s ²] [G]	-	2.45 (0.25 G) (350 to 500 Hz)	-	-
Shock	(Non-operating) ^{16, 19}	[m/s ²] [G]	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)
	(Operating) ¹⁶	[m/s ²] [G]	686 (70 G) (2 ms duration)	784 (80 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)
	(Non-operating) ^{10, 11}	[m/s ²] [G]	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)
Altitude	(Operating)	[m]	-305 to 3048	-	-	-
Acoustics ²⁰	(Non-operating) ¹⁰	[m]	-305 to 12 192	-	-	-
	Seek	[dB] (Typ.)	35	35	35	35
	idle mode	[dB] (Typ.)	34	31	34	34
Physical Dimension						
Height	[mm] (Max)		26.1	26.1	26.1	26.1
Length	[mm] (Max)		147	147	147	147
Width	[mm] (Max)		101.85	101.85	101.85	101.85
Weight	[g] (Max)		730	720	710	710
Bottom holes type ²¹			TYPE1	TYPE2	TYPE1	TYPE1

X300 Data Sheet

Model			HDWR460	HDWR160	HDWR740	HDWR440
Model Number			6 TB	6 TB	4 TB	4 TB
Capacity ^{✱1}			CMR	CMR	CMR	CMR
Recording Technology ^{✱2}			HDWR460UZSVA	HDWR160UZSVA	HDWR740UZSVA	HDWR440UZSVA
Parts Number				EOL		
Basic Specifications						
Interface Speed ^{✱3}			SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor			3.5-inch	3.5-inch	3.5-inch	3.5-inch
Sector Size ^{✱4}			512e	512e	512e	512e
Features						
Shock Sensor			yes	yes	yes	yes
Native command queuing (NCQ)			yes	yes	yes	yes
Advanced Format (AF)			yes	yes	yes	yes
RoHS compliant			yes	yes	yes	yes
Halogen Free			yes	yes	yes	yes
Performances						
Interface Speed ^{✱3}	[Gbit/s]		6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5	6.0 / 3.0 / 1.5
Rotation Speed	[rpm]		7200	7200	7200	7200
Sustained data transfer rate ^{✱3}	[MB/s]		Non-Public	Non-Public	Non-Public	Non-Public
Buffer Size ^{✱7}	[MB]		256	256	512	256
Reliability						
MTTF ^{✱8}	[hours]		600 000	600 000	600 000	600 000
Unrecoverable Error Rate			1 per 10E14	1 per 10E14	1 per 10E15	1 per 10E14
Maximum rated workload ^{✱9}	[TB/year]		Non-Public	Non-Public	Non-Public	Non-Public
Load/Unload cycles	[times]		300 000	300 000	600 000	300 000
Power Requirements						
Supply Voltage ^{✱10}	[V]		12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %	12 VDC ±10 %
Power Consumption	^{✱11}	[V]	5 VDC ±5 %	5 VDC +10 / -5 %	5 VDC +10 / -7 %	5 VDC ±5 %
	(Spin up, +12 VDC) ^{✱12}	[A, peak]	1.45	1.44	1.42	1.49
	(Spin up, +5 VDC) ^{✱12}	[A, peak]	0.27	0.35	0.45	0.29
	(Operating) ^{✱13}	[W]	7.72	9.48	6.75	6.81
	(Idle-A) ^{✱14}	[W]	4.93	7.22	3.49	4
(Standby)	[W]	0.43	0.67	0.59	0.46	
Environmental						
Temperature	(Operating)	(°C) (Ambient)	-	5 to 55	-	-
	(Operating)	(°C) (Surface)	5 to 60	5 to 60	5 to 60	5 to 60
	(Non-operating) ^{✱15, 18}	(°C)	-40 to 70	-40 to 70	-40 to 70	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90	5 to 90	5 to 90	5 to 90
	(Non-operating) ^{✱15}	[%RH]	5 to 95	5 to 95	5 to 95	5 to 95
Vibration	(Operating) ^{✱16, 17}	[m/s ²] [G]	7.35 (0.75 G) (2 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (5 to 300 Hz)	7.35 (0.75 G) (2 to 300 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	4.90 (0.50 G) (300 to 350 Hz)	2.45 (0.25 G) (300 to 500 Hz)	2.45 (0.25 G) (300 to 500 Hz)	4.90 (0.50 G) (300 to 350 Hz)
	(Operating) ^{✱16, 17}	[m/s ²] [G]	2.45 (0.25 G) (350 to 500 Hz)	-	-	2.45 (0.25 G) (350 to 500 Hz)
	(Non-operating) ^{✱16, 19}	[m/s ²] [G]	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)	29.4 (3.0 G) (5 to 500 Hz)
Shock	(Operating) ^{✱16}	[m/s ²] [G]	784 (80 G) (2 ms duration)	686 (70 G) (2 ms duration)	686 (70 G) (2 ms duration)	784 (80 G) (2 ms duration)
	(Non-operating) ^{✱10, ✱11}	[m/s ²] [G]	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2450 (250 G) (2 ms duration)	2940 (300 G) (2 ms duration)
Altitude	(Operating)	[m]				
Acoustics ^{✱20}	(Non-operating) ^{✱10}	[m]				
	Seek	[dB] (Typ.)	35	35	35	35
idle mode	[dB] (Typ.)	31	34	34	31	
Physical Dimension						
Height	[mm] (Max)		26.1	26.1	26.1	26.1
Length	[mm] (Max)		147	147	147	147
Width	[mm] (Max)		101.85	101.85	101.85	101.85
Weight	[g] (Max)		700	770	690	693
Bottom holes type ^{✱21}			TYPE2	TYPE1	TYPE1	TYPE2

X300 Data Sheet

Model			
Model Number		HDWE140	
Capacity ^{¶1}		4 TB	
Recording Technology ^{¶2}		CMR	
Parts Number		HDWE140UZSVA	
		EOL	
Basic Specifications			
Interface ^{¶3}		SATA 6.0 Gbit/s	
Form Factor		3.5-inch	
Sector Size ^{¶4}		512e	
Features			
Shock Sensor		yes	
Native command queuing (NCQ)		yes	
Advanced Format (AF)		yes	
RoHS compliant		yes	
Halogen Free		yes	
Performances			
Interface Speed ^{¶3}	[Gbit/s]	6.0 / 3.0 / 1.5	
Rotation Speed	[rpm]	7200	
Sustained data transfer rate ^{¶3}	[MB/s]	Non-Public	
Buffer Size ^{¶7}	[MB]	128	
Reliability			
MTTF ^{¶8}	[hours]	600 000	
Unrecoverable Error Rate		1 per 10E15	
Maximum rated workload ^{¶9}	[TB/year]	Non-Public	
Load/Unload cycles	[times]	300 000	
Power Requirements			
Supply Voltage ^{¶10}	[V]	12 VDC ±5 %	
Power Consumption	^{¶11}	[V]	5 VDC ±5 %
	(Spin up, +12 VDC) ^{¶12}	[A, peak]	2.4
	(Spin up, +5 VDC) ^{¶12}	[A, peak]	-
	(Operating) ^{¶13}	[W]	11.3
	(Idle-A) ^{¶14}	[W]	7.5
	(Standby)	[W]	1.2
Environmental			
Temperature	(Operating)	(°C) (Ambient)	5 to 55
	(Operating)	(°C) (Surface)	5 to 60
	(Non-operating) ^{¶15, 18}	(°C)	-40 to 70
Humidity	(Operating)	[%RH]	5 to 90
	(Non-operating) ^{¶15}	[%RH]	5 to 95
Vibration	(Operating) ^{¶16, 17}	[m/s ²] [G]	7.35 (0.75 G) (5 to 300 Hz)
	(Operating) ^{¶16, 17}	[m/s ²] [G]	2.45 (0.25 G) (300 to 500 Hz)
	(Operating) ^{¶16, 17}	[m/s ²] [G]	-
	(Non-operating) ^{¶16, 19}	[m/s ²] [G]	49.0 (5.0 G) (5 to 500 Hz)
Shock	(Operating) ^{¶16}	[m/s ²] [G]	686 (70 G) (2 ms duration)
	(Non-operating) ^{¶10, 11}	[m/s ²] [G]	2940 (300 G) (2 ms duration)
Altitude	(Operating)	[m]	
	(Non-operating) ^{¶10}	[m]	
Acoustics ^{¶20}	Seek	[dB] (Typ.)	34
	idle mode	[dB] (Typ.)	31
Physical Dimension			
Height	[mm] (Max)	26.1	
Length	[mm] (Max)	147	
Width	[mm] (Max)	101.85	
Weight	[g] (Max)	720	
Bottom holes type ^{¶21}		TYPE2	

- ※1 One terabyte (TB) = one trillion bytes; accessible capacity will be less and actual capacity depends on the operating environment and formatting.
- ※2 CMR means Conventional Magnetic Recording, SMR means Shingled Magnetic Recording.
- ※3 The maximum sustained data rate and interface speed may be restricted to the response speed of host system and by transmission characteristics. 1 Gbit/s = 1 000 000 000 bit/s. 1 MiB/s = 1 048 576 B/s
- ※4 Read-modify-write is supported.
- ※5 Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 10Mbit/s rate. Actual results may vary based on various factors, including the types of cameras installed, the system's hardware and software capabilities, and the video compression technology used, as well as system variables such as resolution, frames per second, and other settings.
- ※6 As for "Drive Bays Supported", please contact your Solutions Provider because the compatibility with the host device will vary based on the system.
- ※7 1 MiB = 1 048 576 B
- ※8 MTTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.

- ※9 Workload is defined as the amount of data written, read or verified by commands from host system.
- ※10 Input voltages are specified at the HDD connector side, during HDD ready state.
- ※11 Make sure the value is not less than DC -0.3V (less than -0.6V, 0.1 ms) when turning on or off the power
- ※12 Not including glitch less than 100 μs.
- ※13 Operating watt is measured using 80 % random read/write and 20 % performance idle.
- ※14 Idle is active idle
- ※15 Non-operating condition (except storage condition) assumes short term transportation.
- ※16 Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible
- ※17 At random seek write/read and default on retry setting with log sweep vibration
- ※18 The range of altitude is 3048 m or less. Up to 55 °C at 7620 m. Up to 40°C at 12 192 m.
- ※19 At power-off state after installation
- ※20 The measuring method is based on ISO 7779. Idle is active idle mode.