


















Sentinel HL Driverless Configuration Keys												 SL (including CL)
		Basic	Pro	Max	Net	Max	Time	NetTime	Max	Drive microSD**	Max	
FORM FACTOR		Mini	Mini	Mini	Mini	Micro	Midi	Midi	Board	Midi	Chip	
SECURITY AND CRYPTOGRAPHIC ALGORITHMS												
Unique 32-Bit ID		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
AES 128-Bit Encryption	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
64,000 Encryption Keys	1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
On Chip Execution (AppOnChip)	Y*	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	
LICENSING MODELS SUPPORT												
Perpetual	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Feature-Based		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pay-Per-Use		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Network Concurrency		Y*	Y*	Y	Y	Y*	Y*	Y	Y*	Y*	Y*	Y* (Only SL-AdminMode, CL)
Time-Based		Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Custom or Remote Desktop		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CLOCK												
Real-Time Clock							Y	Y				
V-Clock		Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Battery Life Warranty							4-Years	4-Years				
Real Time Clock Accuracy (at 25± 5°C)							≤12.8 minutes/year					
MEMORY												
Protected Read/Write Memory		112 Bytes	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB
Read-Only Memory (ROM)		112 Bytes	2KB	2KB	2KB	2KB	2KB	2KB	2KB	2KB	2KB	2KB
Dynamic Memory	HW Type 1***		390KB	390KB	390KB	390KB	390KB	390KB	390KB	390KB	390KB	2MB
	HW Type 2***		25KB	25KB	25KB	25KB	25KB	25KB	25KB	25KB	25KB	
	HW Type 3***		25KB	25KB								
Data Retention							At Least 10 Years					
Write Cycles (EEPROM/Flash)							At Least 1,000,000					
Max. licensable modules (Features, depending on license complexity)	HW Type 1***	11-39	3484-24386	3484-24386	3484-24386	3484-24386	3484-24386	3484-24386	3484-24386	3484-24386	3484-24386	
	HW Type 2***	11-39	240-2160	240-2160	240-2160	240-2160	240-2160	240-2160	240-2160	240-2160	240-2160	
	HW Type 3***	11-39	240-2160	240-2160								
Flash (Read/Write) per second										* Depends on microSD card		
Flash Memory										Support microSD card up to 64GB		
PHYSICAL SPECIFICATIONS												
Default Color	Blue	Purple	Green	Red	Green	Black	Red	Black	Green	Black		
Plastic Case Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate		
Operating Temperature****	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-20°C to 60°C -4°F to 140°F	-20°C to 60°C -4°F to 140°F	-25°C to 85°C -13°F to 185°F	0°C to 60°C 32°F to 140°F	-25°C to 85°C -13°F to 185°F	
Humidity Rating	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	0-95%	
Power Consumption – operating/standby	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5mA	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5 mA	20mA / < 0.5mA	200mA Max	20mA / < 0.5mA	
Dimensions L x W x H (in mm)	40.5 x 16 x 8	40.5 x 16 x 8	40.5 x 16 x 8	40.5 x 16 x 8	18x12.2x4.5	52 x 16 x 8	52 x 16 x 8	52 x 16 x 8	15.2 x 8 x 12.4	52 x 16 x 8	8.2 x 5.3 x 2.1	
Weight (in grams)	HW Type 1***	5.63	5.63	5.63	5.63	1.64	7.36	7.36	6.98		N/A	
	HW Type 2***	5.63	5.63	5.63	5.63	1.64	7.36	7.36	1.23			
	HW Type 3***	6.3	6.3	6.3	6.3							
CERTIFICATION												
EMC Certifications	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	
Safety Certifications	HW Type 1***	IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1							IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1			
	HW Type 2***	IEC 60950-1, EN 60950-1, UL 60950-1, CAN/CSA-C22.2 NO.60950-1A, AS/NZS 60950.1										
	HW Type 3***	IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1										
Certification & Compliance	RoHS, WEEE, REACH, ECCN(EAR99)									RoHS, REACH, ECCN(EAR99)	ECCN(EAR99)	

* Requires a paid upgrade. **Supported only with Sentinel LDK 7.4 and later. *** Differentiation of three HW types: Type 1 - Housing with gold color key-ring and upper-case 'MADE IN CHINA' text (for firmware version 6.x). Type 2 - Housing with silver color key-ring and upper-case 'MADE IN CHINA' text (for firmware version 4.x). Type 3 - Housing with silver color key-ring and first capital letter and lower case 'Made in China' text (for firmware version 4.x). Learn more at [Product Change Notification](#) **** The host USB port which powers the hardware key should be compliant with LPS (Limited Power Source) requirement in IEC 62368-1 clause 2.5. The operating temperature of the hardware keys is up to 85°C, and to avoid scalding, do not touch the keys with hands directly when the environment temperature is higher than 50°C.

Sentinel HL HASP Configuration Keys											SL (including CL)
		Basic Mini	Pro Mini	Max Mini	Net Mini	Max Micro	Time Midi	NetTime Midi	Drive microSD** Midi	Max Chip	
SECURITY AND CRYPTOGRAPHIC ALGORITHMS											
Unique 32-Bit ID		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
AES 128-Bit Encryption	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
64,000 Encryption Keys		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LICENSING MODELS SUPPORT											
Perpetual	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Feature-Based		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pay-Per-Use		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Network Concurrency					Y			Y			Y* (Only SL-AdminMode, CL)
Time-Based						Y	Y				Y
Custom or Remote Desktop		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CLOCK											
Real-Time Clock							Y	Y			Support V-Clock
Battery Life Warranty							4-Years	4-Years			
Real-Time Clock Accuracy (at 25° ± 5°C)							≤12.8 minutes/year	≤12.8 minutes/year			
MEMORY											
Protected Read/Write Memory		112 Bytes	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB
Read-Only Memory (ROM)		112 Bytes	2KB	2KB	2KB	2KB	2KB	2KB	2KB	2KB	2KB
Backward Compatibility Memory / User-Created Memory	HW Type 1***	112 Bytes	4KB	4KB	4KB	4KB	4KB	4KB	4KB		2MB
	HW Type 2***	112 Bytes	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB	
	HW Type 3***	112 Bytes	4KB	4KB	4KB	4KB	4KB	4KB	4KB	4KB	
Data Retention		At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	At Least 10 Years	
Write Cycles (EEPROM / Flash)		At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	At Least 1,000,000	
Max. licensable modules (Features, depending on license complexity)	HW Type 1***	39	231	231	231	231	231	231	231		
	HW Type 2***	39	231	231	231	231	231	231	231	231	
	HW Type 3***	39	231	231	231	231	231	231	231	231	
Flash (Read/Write) per second										* Depends on microSD card	
Flash Memory										Support microSD card up to 64GB	
PHYSICAL SPECIFICATIONS											
Default Color		Blue	Purple	Green	Red	Green	Black	Red	Green	Black	
Plastic Case Material		Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	
Operating Temperature****		-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-25°C to 85°C -13°F to 185°F	-20°C to 60°C -4°F to 140°F	-20°C to 60°C -4°F to 140°F	0°C to 60°C 32°F to 140°F	-25°C to 85°C -13°F to 185°F	
Humidity Rating		0-95%	0-95%	0-95%	0-95%	0 - 95%	0-95%	0-95%	0-95%	0-95%	
Power Consumption - operating / standby		50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5 mA	50mA / < 0.5mA	50mA / < 0.5 mA	50mA / < 0.5 mA	200mA Max	20mA Max	
Dimensions L x W x H (in mm)		40.5 x 16 x 8	40.5 x 16 x 8	40.5 x 16 x 8	40.5 x 16 x 8	18x12.2x4.5	52 x 16 x 8	52 x 16 x 8	52 x 16 x 8	8.2 x 5.3 x 2.1	
Weight (in grams)	HW Type 1***	5.63	5.63	5.63	5.63	1.64	7.36	7.36	6.98		
	HW Type 2***	5.63	5.63	5.63	5.63	1.64	7.36	7.36		N/A	
	HW Type 3***	6.3	6.3	6.3	6.3	6.3					
CERTIFICATION											
EMC Certifications		CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	CE, FCC, VCCI	
Safety Certifications	HW Type 1***	IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1									
	HW Type 2***	IEC 60950-1, EN 60950-1, UL 60950-1, CAN/CSA-C22.2 NO.60950-1A, AS/NZS 60950.1									
	HW Type 3***	IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1									
Certification & Compliance		RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, WEEE, REACH, ECCN(EAR99)	RoHS, REACH, ECCN(EAR99)	ECCN(EAR99)

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