VP-25W1 vs. VP-1231-CE7

Hardware Comparison

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Specifications

VP-25W1 **VP-1231-CE7**

CPU		
CPU	PXA270 (32-bit/520 MHz) or compatible	**Cortex-A8 (1.0 GHz) or compatible**
SDRAM	128 MB	**512 MB (DDR3)**
Flash	96 MB	**256 MB**
Non-volatile Memory	Dual Battery Backup SRAM 512 KB	128 KB **MRAM**
EEPROM	16 KB	
SD/microSD	microSD socket with one microSD card	
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year	
64-bit Hardware Serial Number	Yes, for software copy protection	
Dual Watchdog Timers	Yes	
Programmable LED Indicator	3	
Rotary Switch (0 ~ 9)	Yes	
VGA & Communication Ports		
VGA Resolution	640 x 480	
Ethernet — Connector	RJ-45 x 1	
Ethernet — Type	10/100 Base-TX	10/100/**1000** Base-TX
USB	USB 1.1 x 1	**USB 2.0** x 1
COM 0	For I-87K series modules in slots	
COM 2	RS-485 (D2+, D2-); self-tuner ASIC inside; 2500 V_{DC} Isolated	
COM 3	RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated	
COM 4	For touch panel driver	
I/O Expansion Slots		
Number of I/O slots	3	
Supported types of I/O modules	I-8K and I-87K series I/O Modules	

MMI (Man Machine Interface)	
LCD	5.7" TFT (Resolution 640 x 480)
Touch Panel	Yes
Rubber Keypad	6 Keys
Audio	Microphone-in and Earphone-out
LED Indicators	3 Dual-Color LEDs (PWR, RUN, LAN1, L1, L2, L3; L1~L3 For User Programmable)
Mechanical	
Dimensions (W x H x D)	182 mm x 158 mm x 125 mm
Enclosures	Plastic
Ingress Protection	Front Panel: IP65
Environmental	
Operating Temperature	-20 °C ~ +70 °C
Storage Temperature	-30 °C ~ + 80 °C
Ambient Relative Humidity	10 % ~ 90 % RH (Non-condensing)
Power	
Input Range	+10 V_{DC} ~ +30 V_{DC}
Redundant Power Inputs	Yes
Isolation	1 kV
Power Consumption	7.2 W (0.3 A @ 24 V_{DC})

Features comparison

Non-volatile Memory (SRAM & MRAM)

The VP-1231-CE7 is equipped with 128 KB Magneto resistive RAM (MRAM), which is a type of non-volatile memory that is not subject to degradation over time and removes any limits on the stored data, even when power is lost.

The VP-25W1 includes 512 MB Dual BB (battery backup) SRAM. However, BB SRAM requires batteries in order to retain data. In addition, SRAM with dual battery backup only retains data for 5 years and requires maintenance in order to replace the exhausted batteries. In contrast, batteries are not required for MRAM.

Comparison Table

Item	SRAM	MRAM
Non-volatility	No	Yes
Read/Write speed	Read time: 1 ~ 100 ns Write time: 1 ~ 100 ns	Read time: 3 ~ 20 ns Write time: 3 ~ 20 ns
Write Power	Low	Mid-High
Write endurance	Infinite	Infinite