WP-5141 vs. WP-5231-CE7

Hardware Comparison

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Specifications

WP-5141

WP-5231-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
EEPROM		16 KB	**64 KB (FRAM replace EEPROM)**
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		2	
Rotary Switch (0 ~ 9)		Yes	
VGA & Communication Ports			
VGA Resolution		640 x 480, 800 x 600	640 x 480, 800 x 600, 1024 x 768
Ethernet	Connector	RJ-45 x 2	RJ-45 x 1
	Type	10/100 Base-TX	10/100/**1000** Base-TX
USB		USB 1.1 x 1	**USB 2.0** x 1
COM 0		-	For XV-board in I/O expansion bus
COM 1		RS-232, Non-isolation	
COM 2		RS-485 2500 V_{DC} Isolation	RS-232, Non-isolation
COM 3		RS-232/RS-485, Non-isolation	RS-485, Non-isolation
COM 4		-	**RS-485** **2500 V_{DC} Isolation**

I/O Expansion Slots		
I/O Expansion Bus	XW-board	XV-board
Mechanical		
Dimensions (W x H x D)	91 mm x 132 mm x 52 mm	
Installation	DIN-Rail or Wall mounting	
Environmental		
Operating Temperature	-25 °C to +75 °C	
Storage Temperature	-30 °C to + 80 °C	
Ambient Relative Humidity	10 % to 90 % RH (Non-condensing)	
Power		
Input Range	+10 V_{DC} to +30 V_{DC}	
Redundant Power Inputs	Yes	
Isolation	1 kV	
Power Consumption	4.8 W	

Features comparison

Non-volatile Memory (FRAM and EEPROM)

The WP-5231-CE7 is equipped with 64 KB Ferroelectric Random Access Memory (FRAM).

Non-volatile storage is types of computer memory that can be used to retrieve stored information even after the power source has been removed, i.e., when the device is turned off and then turned back on.

From a software perspective, the performance of FRAM and EEPROM is the same. However, FRAM is has an advantage over EEPROM when considering the read/write speed, while providing low power consumption and improved data security.

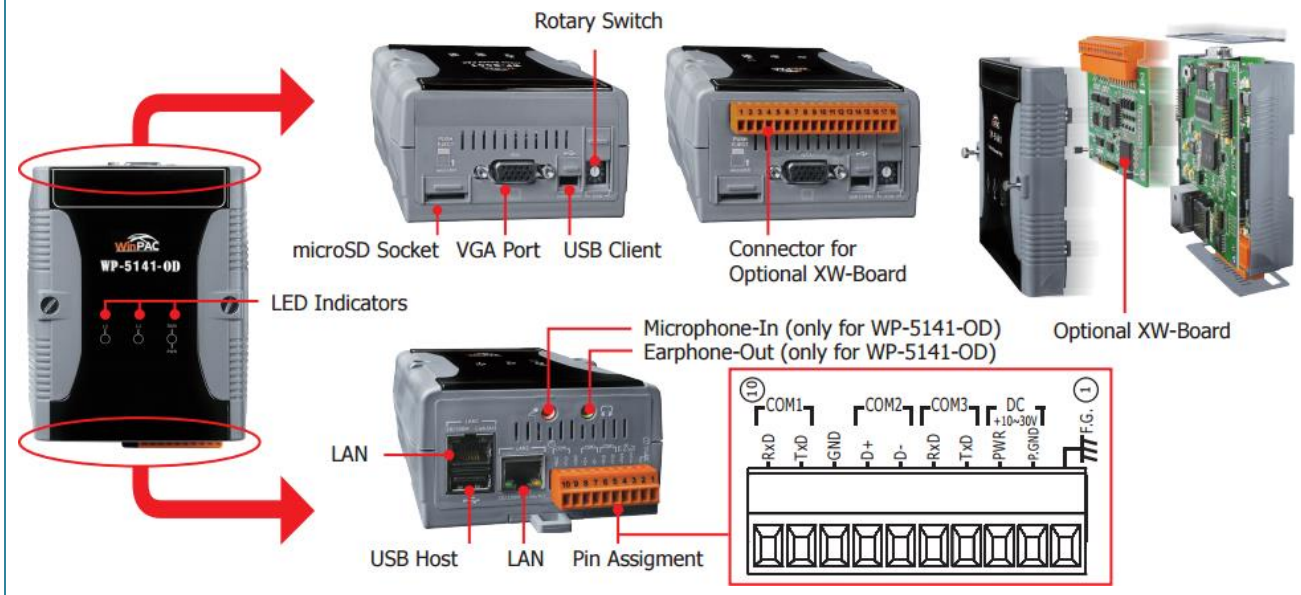
The WP-5141 series includes EEPROM storage of 16 KB.

Comparison Table

Specification	FRAM	EEPROM
Read/Write speed	**Better** Able to access or write data in a fraction of the time, with no erase latency.	-
Power	**Better** Does not require high voltage to Read/Write data.	-
Data security	**Better** Data retention is greater than EEPROM, with fewer write errors.	-
Write endurance	**Better** Able to endure a far greater number of write/erase cycles, up to 1014 times.	Limited to around 100,000 cycles

Overview

WP-5141



WP-5231-CE7