VS-860

8" RISC-based Slim Touch Panel PC

System	
Hardware	ARM Cortex-A8 32-bit RISC CPU, 600 MHz
	256 MB SDRAM (512 MB option)
	256 MB NAND Flash (512 MB option)
	Real time clock with battery backup (CR2032)
	Watchdog Timer
Mass Storage	Internal NAND Flash Memory
	SD-card Reader SD 2.0 / SDHC
	CFast-Slot Type II, SATA connection
Network	2 x Fast Ethernet
	Option: WLAN 802.11b/g/n
	Option: Bluetooth
Display & Touch	8" Panel 800×600
	Resistive Touch function
Audio	Audio-In and -Out Jacks
Expansion Slot	1 x miniPCI Express, USB 2.0 signals (for GSM/3.5G, GPS, ...)
	SIM Slot for GSM/3.5G modems in miniPCIe slot
Serial Interfaces	2 x USB 2.0 as Host
	1 x USB 2.0 OTG
	1 x Console Port RS232, up to 115200 bps
	2 x RS232/422/485 up to 3.0 Mbps
	1 x CAN Bus up to 1.0 Mbps
LED	1 x Power on Front
	LAN: 2 x 10M/Link, 100M/Link, integrated in RJ45 connector
Buttons	1 x Power
	3 x User definable

Serial Interface	
Serial Port	2x RS232/422/485, selected by software or DIP switch
	Highspeed UART, 128 Byte FIFO
	RS232: up to 500 kbps
	RS422/485: up to 3.0 Mbps
Available Modes	RS232
	RS422 full duplex
	RS485 4-wire, full duplex
	RS485 2-wire, half duplex, without echo
Signals	RS232: TxD,RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
	RS422: Tx+/-, Rx+/-, GND
	RS485 2 – wire: Data+/-, GND
	RS485 4 – wire: Tx+/-, Rx+/-, GND
RS485 Data Direction Control	by ART (Automatic Receive Transmit control)
CAN Bus	CAN High Speed up to 1 Mbit/s for transmit/receive
	HECC CAN+TJA1050 (20kbps min.)
	Signals: CAN_H, CAN_L, CAN_GND

Power and Environmen	
Power	Input 9 - 30V DC
	min. 900mA @12V
	max. 3A @12V with USB devices
	2-pin Terminal block connector
Temperature	Operating: -10°C - 50°C
	Storage: -20°C - 70°C

Mechanical	
Dimensions	219 x 44 x 179 mm³ (W × D × H)
Weight	1.45Kg
Construction Material	Metal
Mounting	Panel Mount
	VESA 75 x 75

Software Specifications	
Linux	Debian GNU/Linux for ARM
	Enhanced support for USB
	Watchdog Timer supported
Other	Windows CE 6
Device Drivers	
Data Communication	USB (supports USB Mass Storage Devices, USB-to-Serial converters, USB – CAN adapter, Bluetooth)
	UART FT2232D, 128 Byte FIFO, RS232/422/485
	WLAN 802.11b/g/n optional
	Bluetooth optional
CAN	VScom CAN API, CANFestival, CANopen, LinCAN, SocketCAN
Others	RTC
	Watchdog Timer
Approvals	
EMC	FCC Class A, CE Class A
Environment	RoHS
Ordering Information	
Art. No.	6850
Product Name	VS-860
Packing List	◆ VS-860 RISC Panel PC
Optional Accessories	
Power Supply	Power adapter 12V @ 1.5A
Boot microSDs	with Debian GNU/Linux installed (4/8GB)
	with Windows CE 6 installed (4/8GB) + License
Wi-Fi / Bluetooth	Order with the system
GSM/UMTS	mPCIe card for 3G modem
Starter Kit	◆ VS-860 RISC Panel PC
	◆ 4GB microSD card for Linux inserted
	◆ Power adapter 12V @ 1.5A
	◆ Adapter cable for console port
	◆ Documentation and Development Software on DVD

Overview

The VS-860 is a RISC Panel PC, an industrial embedded computer based on ARM Cortex-A8. It features an integrated 8" display panel with resistive Touch function. The great variety of interfaces like LAN/WLAN, CFast, USB, Bluetooth, serial interface plus more options makes it easy to connect various industrial devices to the VS-860.

Compact dimensions and Panel mount capability make the VS-860 to a space saving and flexible mounting industrial computer. It is feasible to be installed even in space limited environments. The optional WLAN and Bluetooth functions provide opportunities for wireless communication. A miniPCIe slot provides options to extend that. For example the connected SIM slot allows to use GSM/3.5G modems.

Due to RISC based architecture the VS-860 has very small power consumption, so fanless heat dissipation is sufficient inside. Working in a wide temperature range from -10°C up to 65°C the VS-860 can be applied in under harsh industrial conditions. Therefore the VS-860 is downright designed for industrial automation.

The embedded computer runs full-featured Debian GNU/Linux on ARM operating system. This system is usually installed on the integrated NAND Flash memory, to operate without extra mass storage. External storage offered is a SD card to place in the card-reader, and an additional CFast card. The operating system may also start from the SD card. With Debian's repository database it is easy to install and update the free software on the VS-860. The system also supports Windows CE 6, starting from SD.

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