VITA-350

Automatic Vehicle Location Device with GPS, GPRS, D I/O, RS-232

Features

- 16 channel positioning engine
- Tri-band GSM/GPRS 900/1800/1900 MHz
- 1 x RS-232 serial port
- 10 x programmable digital I/O
- Built-in watchdog timer
- Real-time clock (RTC)
- Built-in data logger capability with flash memory (up to 80 MB)
- M2M configuration utility
- Remote parameter configuration via GPRS

Introduction

Advantech's first M2M product, VITA-350, provides in-vehicle data solutions over GSM/GPRS networks for fleet management and transportation applications. A 16-channel GPS module with: 1 x RS232 and 10 x digital I/O ports are also offered for advanced tracking and alarms.

Turn-key Solution

Industrial hardware design with intelligent software capabilities, making it a reliable fleet management solution. VITA-350 is a compact vehicle platform that combines GPS + GPRS modules and versatile data interfaces. As the hardware is developed by Windows CE and makes Advantech VITA-350 an ideal platform for many professional fleet management and telemetry applications

Versatile I/O Interfaces

VITA-350 offers 10 x GPIO and 1 x RS-232 serial ports that allow user to monitor and connect to external devices.

Embedded SDK for Easy Configuration

Advantech also provides SDK (software development kit) package, including APIs, to back up VITA-350; making VITA-350 easy-to-be management and integration.

Over The Air Upgrades

VITA-350 provides remote parameter upgrades Over The Air (OTA), without the need to re-set parameters on the local site; therefore, it saves time and cost for field maintenance.

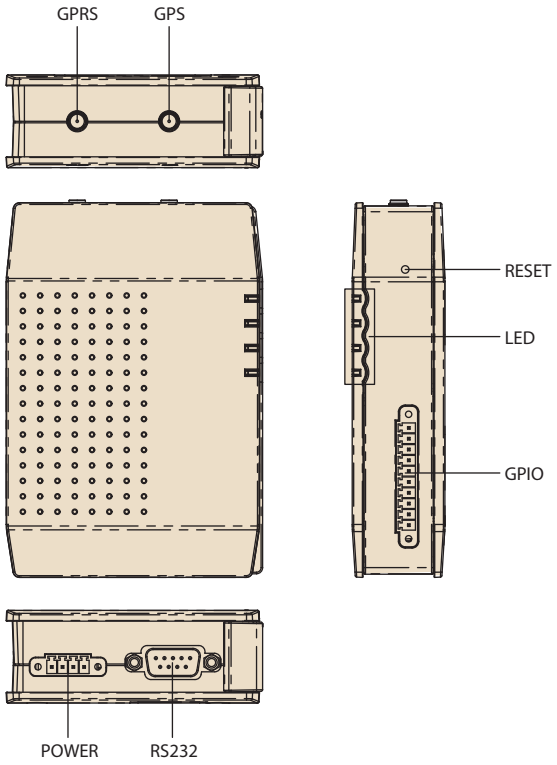
Specifications

General Specifications	Dimension (W x D x H)	121.3 x 83.01 x 30 mm (47.76" x 32.68" x 11.81")				
	Weight	170 g (0.375lb)				
	Case Material	Plastic				
	Power Input voltage	10 ~ 30 V_{DC}				
	Power Consumption	Operating mode < 2 W (GPRS transmission; GPS receiving) Standby mode 1.5 W (GPRS online; GPS receiving) Idle mode < 1.5 W (GPRS online; GPS OFF)				
	Operating Temperature	-10 ~ 65° C				
	Storage Temperature	-20 ~ 70° C				
GPRS Module Siemens Power Modes	Parameter	Description	Condition	Typ	Max	Unit
	IBATT+	Average supply current 3)	Power Down Mode	50	100	uA
			Sleep mode at DRX = 2, DRX = 5, DRX = 9	4.3, 3.0, 2.5	N/A	mA
			IDLE mode at DRX = 2, GSM 850 1)4), EGSM 900 1)4), GSM 1800/1900 2)4)	15, 15 15	N/A	mA
			Data mode GPRS, (4RX, 1TX) GSM 850 1)4), EGSM 900 1)4), GSM 1800/1900 2)4)	300, 300, 230	N/A	mA
			Notes. 1) Power control level PCL 5 2) Power control level PCL 0 3) All average supply current values at IVDD = 0mA 4) Test condition for the typical values: 50Wantenna			

GPS Specifications		16 Channel ANTARIS 4 Positioning Engine				
		Supports Various Serial Protocols (NEMA, UBX, & RTCM)				
		Supports Active Antenna				
		Short Antenna and Open Circuit				
		Power Brown-out Protection: No External Reset Hardware Needed				
	Accuracy	Position 2.5m CEP 5.0m SEP Position DGPS/SBAS2 2.0m CEP 3.0m SEP				
	Acquisition	GPS Mode	Fast Mode	Normal Mode	High Sensitivity Mode	Auto Mode
		Cold Start	34 s	36 s	41 s	34 s
		Warm Start	33 s	N/A	N/A	N/A
		Hot Start	< 3.5 s	N/A	N/A	N/A
		Re-acquisition	< 1 s	N/A	N/A	N/A
	Sensitivity	Tracking	-158 dBm			
		Acquisition & re-acquisition	-148 dBm			
		Cold starts	-142 dBm			
GSM/GPRS Specifications of Siemens MC55 Module	Tri-band MC55	EGSM900 /GSM1800/1900				
	GPRS Multi-slot	Class 10				
	GPRS Mobile Station	Class B				
	Download: Max.	85.6 Kbps				
	Uplink: Max.	42.8 Kbps				
	Coding scheme	CS1-4				
	Internet Service	TCP, UDP, HTTP, FTP, SMTP, POP3				
External I/O		1 x Serial Port: RS-232 interface 1 x Reset Button 1 x Phoenix Type of Power Input Connector 1 x Phoenix Type of Digital I/O Connector				
Programmable Digital I/O	Digital I/Os	5 In / 5 Out				
	VIH	2.64~3.3 V (Input logic 1)				
	VIL	0~0.66 V (Input logic 0)				
	VOH	3.2~3.3 V (Output logic 1)				
	VOL	0~0.4 V (Output logic 0)				
	Maximum DC Current	5mA				
LED Indicators	Green LED (Power Indicator)	LED Mode	VITA-350 Status			
		1 LED ON	+12/+24 V Power ON			
		2 LED OFF	+12/+24 V Power OFF			
	Red LED (GPS Indicator)	LED Mode	VITA-350 Status			
		1 LED ON	NA			
		2 LED OFF	NA			
	Blue LED (GPRS Indicator)	LED Mode	VITA-350 Status			
		1 LED Permanently OFF	GPRS Power Down			
		2 LED 600ms ON/ 600ms OFF	Limited Network Service: No SIM inserted. No PIN enter. Network search in progress. Ongoing user authentication. Network login in progress.			
		3 LED 75ms ON/ 75ms OFF/ 75ms ON/ 3s OFF	GPRS network activated			
		4 LED 0.5s ON/ OFF depending on transmission activity	GPRS Data Transfer in progress. LED goes ON within 1 sec after data packets are exchanged.			
	Orange LED (Error Indicator)	LED Mode	VITA-350 Status			
		1 LED ON	Error			
		2 LED OFF	System OK			
Certification	FCC	Part 15B, FCC ID - M28VITA-350, Safety - UL 60950-1				
	CE: R&TTE	EMI - EN55022; EN61000-3-2; EN61000-3-3 EMS - EN61000-4-2; EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61000-4-8; EN61000-4-11 LVD - EN60950				
	ISO 7637-1/-2					
	E-mark	ECER10; CISPR 25; E13: E13 x 10R00 x 10R02 x 9613 x 00				
	NCC	GPRS PLMN01; NCC Number: CCAB07DG0290T1				
	GSM/GPRS	301489 -1/-17				
	Vibration & Shock	MIL-STD-810F 514.5C-3				

Dimensions

Unit: mm (inch)



121.3 (W) x 83.01 (D) x 30 (H)

Packing List

- 1 x VITA-350E Module
- 1 x GPS Antenna
- 1 x GPRS Antenna
- 1 x Wall/DIN Rail Mounting Kit
- 1 x CD-ROM (User's manual; Utility)
- 1 x 4-pin Phoenix jack power cable

Ordering Information

Part Number	Description
VITA-350E	M2M module with 1 x GPS, 1 x GPRS, 1 x RS-232, & 10 x programmable Digital I/Os.