

Industrial Data Collector and Controller



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Introduction

Progress in hardware technologies, embedded operating systems, and data acquisition and control systems (DAQ) has led to increased reliability, accuracy and affordability.

DAQ systems are commonly used in industrial process control automation, data acquisition, remote equipment monitoring, machine vision, motion control, and video surveillance.

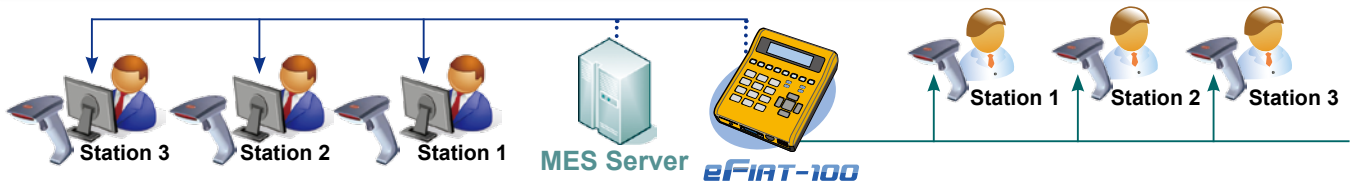
IEI provides a range of products for different DAQ needs. The VITO series of high performance industrial control systems offer a range of extensions expansion, unrivaled flexibility and wide networking functionality. The eFIAT is a cost-effective data acquisition terminal for reading barcode and IRFD LF/HF signals. Minimal hardware investment is required for an automatic identification data collection system.

- Low power consumption design
- Fanless design
- Reliable module design
- Flexible mounting options
- Compact size
- Best-fit for real-time system
- Computing power
- Rich communication functions
- Isolated circuit protection :
RS-232/422/485, DI/O, is up to 2000VDC
CAN bus is up to 3000VDC



eFIAT-100

FLOOR INFORMATION ACQUISITION TERMINAL



Traditionally, shop floor data must be collected with a barcode or RFID device attached to a computer :

- Every workstation needed a computer. The expense of a computer and all the necessary software is hard to justify for such a simple, dedicated task.
- It's difficult to recognize the data source after the data is sent to the backend server.
- Special provision must be made to deal with networking issues, power failure and other inconveniences.

IEI eFIAT-100 is simpler and more robust :

- Compact size to save space
- Simple installation interface for convenience of usage and maintenance
- Multiple expansion interfaces are provided, supporting up to four barcode scanners and RFID readers (2 x USB, 1 x RS-232, 1 x PS/2) and capable of transferring at up to 80 bytes/s. Total hardware savings of around 80%.
- All information collected is automatically forwarded to the backend server with both the terminal IP address and port number making identification of the data source easy.

3 Steps to Use and Manage eFIAT-100

Step.1 To configure your eFIAT-100

■ **Initiation** : The first time the FIAT is turned on, the default device name "eFIAT-100" is displayed. There are three ways to configure the device.

1. Press <F1> function key and use keypad to input settings
2. Use the web management page to login and change settings through your web browser
3. Connect eFIAT-100 to Ethernet and use eFIAT Administrator utility to set up multiple devices

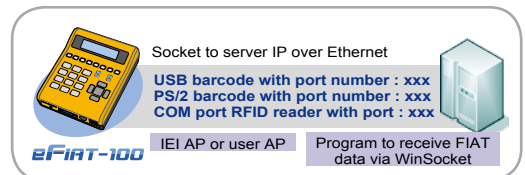
■ **SETTING MODE and WORKING MODE** :

1. Press F1 to enter the settings mode. The following settings are configurable:
A. Password; B. Ethernet; C. Serial; D. PS2; E. USB; F. Buzzer; G. Time
 2. After configuration, press F3 on the device to run the data acquisition program, or F5 to run a customized application. The collected information will then be forwarded to the backend server.
- Press F2 on the device to show the current IP address of the device. Press F5 to show the current data and time of the device. F6 to F8 are reserved for custom applications.
- The web interface allows changing of the system settings and monitoring of the input data status.



Step.2 Administration through the web

In the settings mode, the peripheral devices connected to the eFIAT-100 are configured to automatically forward the collected data to the IP address and port number specified in the settings. The included example program and source code provide the basis for creating your own custom applications.



Step.3 To manage eFIAT-100 via web page or administration tool

- The eFIAT-100 is a web-enabled device with a built-in web server, FTP server and related Internet services.
- Built-in management web pages and web server make it easy to manage and monitor the eFIAT-100 remotely over a network.
- With these management web pages, users can :
 1. In setting mode : configure the device settings
 2. In working mode : monitor the input data

In addition, eFIAT Administrator PC site utility enables IT administrators to monitor, synchronize configuration and upgrade firmware for multiple eFIAT-100s via the Internet



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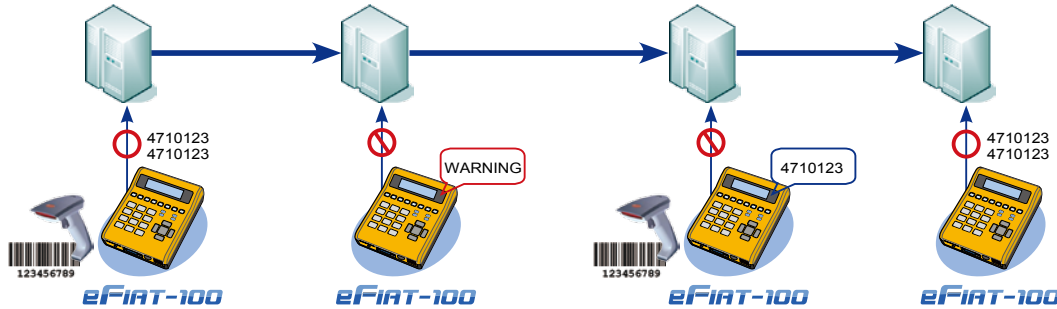
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Power Supply
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System Stability Enhancement Design

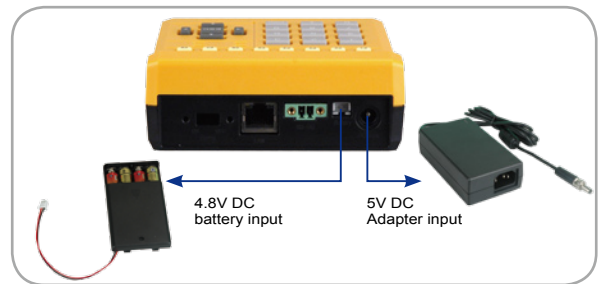
Ensure normal operation against network failure

1. Network failures are automatically detected and a warning message is shown.
2. Collected data is stored in local memory until the network comes back online. Up to 10,000 records can be stored on the device.
3. After network recovery, all the recorded data is uploaded to the server.



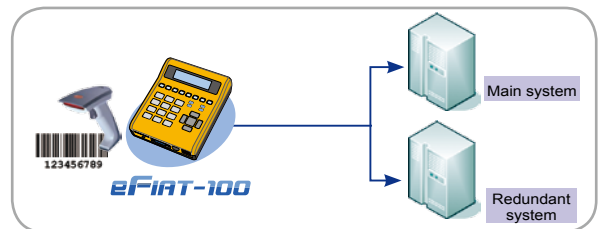
Battery backup

- The eFIAT-100 supports backup power that is activated in the following sequence :
 1. By default power is drawn from the DC power input
 2. Input switches to the 4.8V battery pack when main DC power fails.
 3. Once power is restored, the system switches to drawing power from the DC power input.
- These features ensure against temporary loss of main power.



Redundant backend server support

- A redundant server setup allows data to be stored in two places to provide a backup in case of server failure.
- The eFIAT-100 can be configured to send all collected data to two backend servers simultaneously.



Barcoded system settings

- The barcode reader switches to keyboard input mode after pressing F1 and entering the settings menu. The settings information can be programmed into a barcode for easy setup of all system settings.

Multi-layer authentication

- A password is required to switch modes and change the system settings. The password is required whenever F1, F3 or F5 are pressed.
- Three levels of user authentication are offered, user level depends on the entered password.

Information rich data packets

- Each data packet sent from the device to the server includes the name of the device, the username of the current user, the I/O port, the data and the time the data was recorded.

Device Name / User Name / I/O Port / Date/Time

- The server decodes the data packet to extract the information.



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eFIAT-100 Compact form factor floor information acquisition terminal with ARM processor + Linux platform, rich peripheral expansion interfaces and turnkey software integrated



Features

- Compact form factor design
- 16 character x 2 lines backlight LCM & 4 Status LED display
- 17 numeric/direction/Enter & 8 programmable function keys
- 2 x USB + 1 x PS/2 peripheral integration
- 10/100Mbps ethernet connectivity
- 1 x MiniSD expandable storage capacity
- Optional redundant battery pack for power failure backup



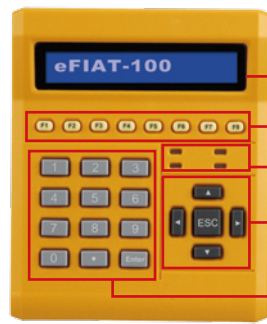
10/100M Ethernet 4.8V DC battery input



Power switch RS-485 5V DC Adapter input

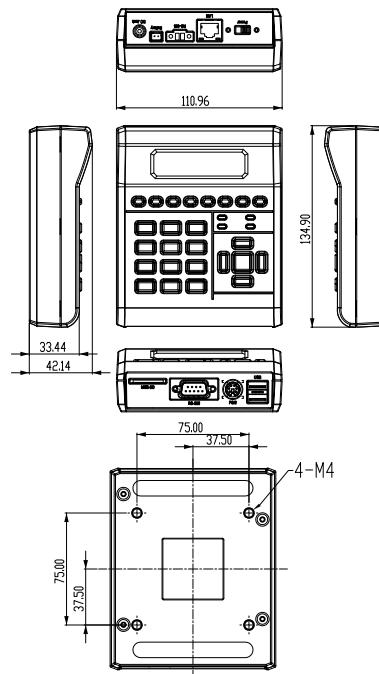


Mini SD slot RS-232 PS/2 2 x USB 2.0



2 x 16 Text Mode LCM
F1 ~ F8 function keys
Status LEDs
Direction keys
Numeric & Enter keys

Dimensions (mm)



Specifications

CPU / MCU	Nuvoton (Winbond) ARM9 W90910@200MHZ RISC-based CPU
System memory	64MB SDRAM
NAND Flash	128MB for Embedded OS and data programming
Operation System	Linux Kernel 2.6.18
Display	16 Characters x 2 Lines backlight LCM
Status LED	Power/Connection/Battery status/Data transfer LED Indicators
Communication	1 x 10/100Mbps Ethernet
Keypad	17 numeric/direction/enter & 8 programmable keys
Peripheral Expansion	1 x PS2 2 x High Speed USB2.0 1 x RS-232 1 x miniSD 1 x RS-485
Power	1 x 5V DC input 1 x 2-pin connector for 4.8V Battery Input 1 x Power Switch
Power Consumption	5W
Operation Temperature	0~50°C
Construction Mechanical	PC + ABS
Dimensions (WxHxD)	111.0 mm x 134.9 mm x 42.1 mm
Weight	280g

Packing List

- 1 x eFIAT-100
- 1 x Power adapter
- 1 x Utility CD includes application tools, SDK and technical documents

Ordering Information

Part No.	Description
eFIAT-100-R10	Linux Integration Product,shop Floor Data Collector, Winbond ARM 9,90P910, 2MB ROM, 256MB NAND FLASH, 64MB SDRAM, RoHS
46026-000100-RS	eFIAT-100 Optional 4x 1.2V Battery Pack

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RFID TAG Reader Device & Module

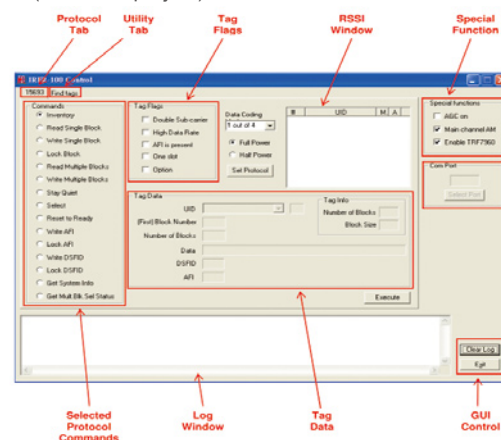
Introductions to RFID

- Radio Frequency Identification (RFID) is one member in the family of Automatic Identification and Data Capture (AIDC) technologies and is a fast and reliable means of identifying just about any material object. Primarily, the two main components involved in a Radio Frequency Identification system are the Transponder (tags that are attached to the object) and the Interrogator (RFID reader). Communication between the RFID reader and tags occurs wirelessly and generally does not require a line of sight between the devices. An RFID transponder, considered as a next generation barcode, is a minuscule microchip that is attached to an antenna. They come in a wide variety of sizes, shapes, and forms and can be read through most materials with the exception of conductive materials like water and metal, but with modifications and positioning even these can be overcome. An RFID reader typically contains a module (transmitter and receiver), a control unit and a coupling element (antenna). The reader has three main functions: energizing, demodulating and decoding. In addition, readers can be fitted with an additional interface that converts the radio waves returned from the RFID tag into a form that can then be passed on to another system, like a computer or any programmable logic controller. Anti-Collision algorithms permit the simultaneous reading of large numbers of tagged objects, while ensuring that each tag is read only once.



Software Support

- Driver support OS: Windows 2000, Windows XP, Windows XPe, Windows CE 5.0 and Linux (based on project)
- A desktop interface for
 - Configuring and testing ICP RFID reader module
 - Reading and writing tags
 - Demonstrating the user of the RFID API
- SDK (Software Development Kits)
 - Installed on development PC with DLL files
 - Easy-to-use APIs
 - Command set for serial communication
 - Embedded Visual C++ and .NET Compact Framework support



RFID Applications

- Some examples of RFID in action are shown below.



LIVESTOCK IDENTIFICATION

An RFID tag is small and slim enough to be embedded under an animal's skin and is most commonly used for identification of household pets. The tags also help farmers in identifying and tracking their cattle. The tags are also used for wildlife conservation.

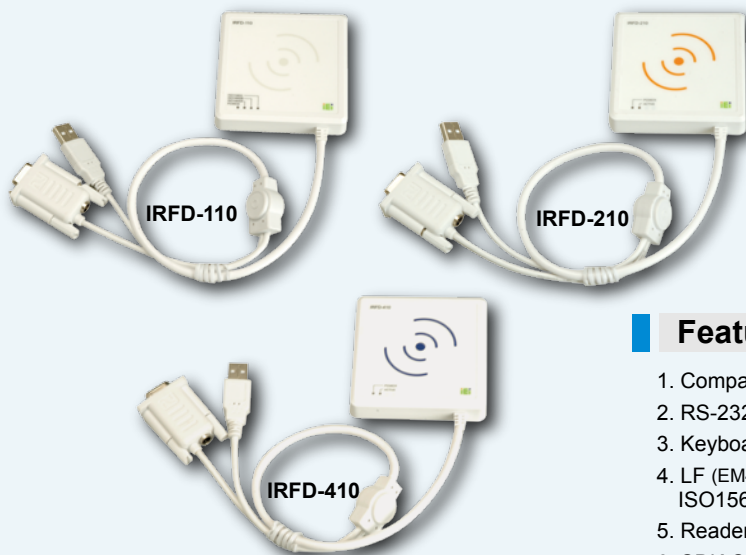


FUEL DISPENSING LOYALTY PROGRAMS

Customers pay for their fuel at the pump with a wave of their key tag.

IRFD-110 / 210 / 410

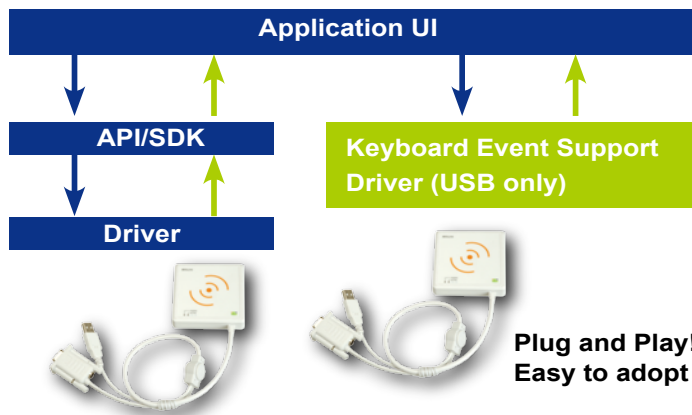
COMPACT FORM FACTOR RFID READER (w/ INTER ANTENNA), LF 125KHz EM & HF ISO14443A/ISO15693 STANDARD SUPPORTED



Features

1. Compact, stylish design
2. RS-232 and USB plug
3. Keyboard-Event Support (USB Only)
4. LF (EM4305/EM4450 R/W), HF ISO14443 (including MiFare), ISO15693 available
5. Reader to reader anti-collision
6. SDK CD with developer documents, Demo program and source code

IRFD-X10 Series is a short range RFID reader. The reader has an RS-232 and USB connector. When connected using USB it supports the keyboard event driver for easy integration into any computer system or embedded system. The stylish and flexible design comes at an affordable price, and makes it the ideal choice.



Why Keyboard event?

Most applications need to deal with the RF procedure which means that programmers need to put in a lot of effort even if only the UID is needed.

The IRFD reader series includes the keyboard event function in its USB driver. It can simulate data input as a presses of the keys on the keyboard. This makes software integration quick and easy.

**Plug and Play!
Easy to adopt**

	IRFD-110	IRFD-210	IRFD-410
Operating frequency	13.56 MHz	125 KHz	13.56 MHz
UART	RS-232	RS-232	RS-232
USB	USB 2.0 full speed with 3.3/5V logic levels	USB 2.0 full speed with 3.3 / 5V logic levels	USB 2.0 full speed with 3.3 / 5V logic levels
RFID Protocol	ISO 15693 (R/W)	ISO 11784,ISO 11785 (EM4305/EM4450 R/W)	ISO 14443A / Mifare (R/W)
Control Interface	USB / UART	USB 2.0	USB / RS-232
RFID ASIC	TI TRF7960	EM4095	PN532
Processor	TI MSP430	AT90USB162 and ATMEGA64	PN532 and AT90USB162
Dimensions	22 mm X 50 mm X 7 mm	22 mm X 53 mm X 7 mm	22 mm X 53 mm X 7 mm
Power Consumption	5V @150mA	5V @150mA	5V @150mA
Storage Temperature	-10°C~ 70°C	-10°C~ 70°C	-10°C~ 70°C
Operating Temperature	0°C~ 50°C	0°C~ 50°C	0°C~ 50°C
Operating Humidity	10%~85% RH	10%~85% RH	10%~85% RH
Driver Support	Windows® XP/XPE	Windows® XP/XPE	Windows® XP/XPE

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IEI RFID Platform



The IRFD series have been tested to work on all IEI products. Using the serial or USB interface the RFID reader can be installed on a panel PC or data collector without any worry about drivers and compatibility.

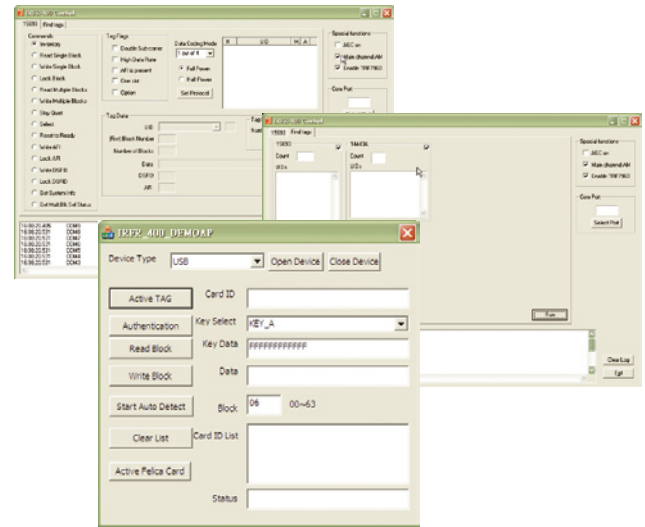
IRFD-110
 IRFD-110 is a ISO15693 reader which is ideal for mid-range reading applications such as desktop reading, visitor registration or embedded systems

IRFD-210
 IRFD-210 with low frequency can be integrated with HR system as access control or duty on/off registration. It can also provide a cost effective way to update the card data.

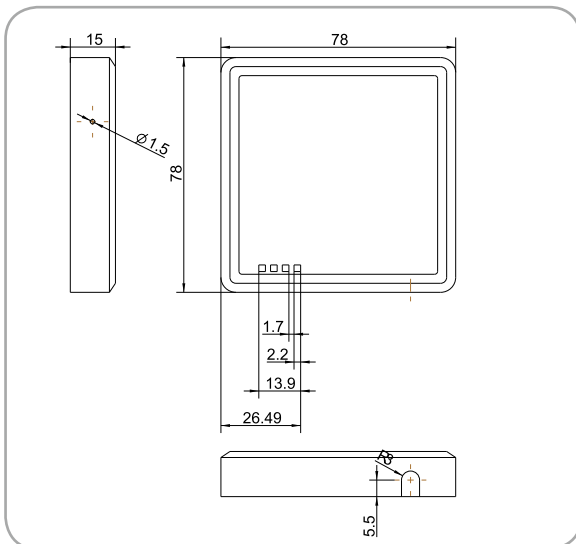
IRFD-410
 IRFD-410 is compatible with ISO14443 standard which is mainly used in finance (e-payment, member loyalty program) or transportation (e-ticket) applications.

Software Support

- Driver Support OS: Windows 2000, Windows XP, Windows XPe, Windows CE 5.0 and Linux (based on project)
- A desktop interface for
 - Configuring and testing ICP RFID reader module
 - Reading and writing tags
 - Demonstrating the user of the RFID API
- SDK (Software Development Kits)
 - Installed on development PC with DLL files
 - Easy-to-use APIs
 - Command set for serial communication
 - Embedded Visual C++ and .NET Compact Framework support



Dimensions (mm)



Packing List

- 1 x IRFD-110 / IRFD-210 / IRFD-410
- 1 x Utility CD including SDK, utilities, and technical documents
- 1 x 5Vdc 12W power adapter with DC plug in females; 100-240VAC input
- 1 x USB / RS232 Y cable

Ordering Information

Part No.	Description
IRFD-110-R10	Window® XP Integration Product, RFID reader and antenna, HF 13.56MHZ, TITRF7960, USB/UR interface, RoHS
IRFD-210-R10	Window® XP Integration Product, RFID reader and antenna, LF 125KHZ EM4095, USB/UR interface, RoHS
IRFD-410-R10	Window® XP Integration Product, RFID reader and antenna, HF 13.56MHZ NXP PN532, USB/UR interface, RoHS

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RFID TAGS

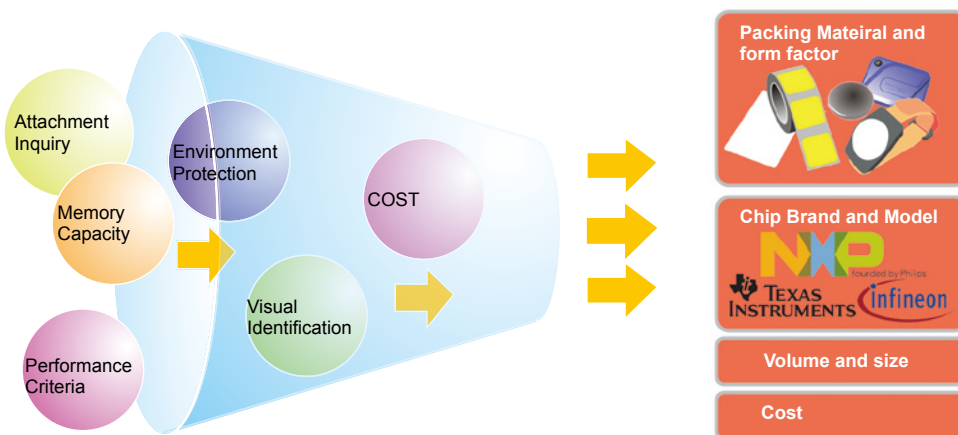
Introduction

- RFID tags are uniquely identifiable and carry information to identify objects, the information can be updated too. RFID tags are available in lots of different shape and sizes for various applications.

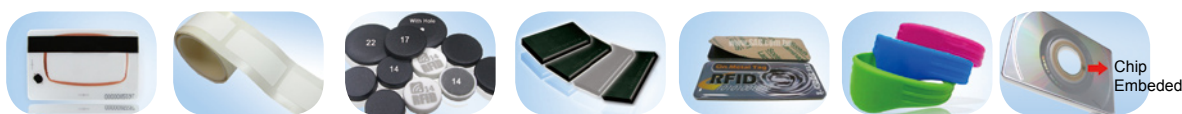
How to choose your Tag?

Choosing the correct tag is a crucial step in designing an RFID system because tag choice affects the efficiency and performance of operation. The factors below should be taken into consideration before deciding on which tag to use.

Attachment	Surface material of object, available attachment area
Memory Capacity	Depending on specific storage needs
Performance Criterion	Reading distance and data rate
Robustness	The more robust, the more expensive
Visual identification	Certain tags can be printed on and come in different shapes and sizes
Cost	Actual cost per tag and how often the tags need to be replaced



IEI 13.56MHz (ISO-15693) RFID Tags



Form Factor	Proximity Card	Label	Laundry Tag/Token	Mount-on-metal	on-metal	Wristband	Smart Disc
Application	<ul style="list-style-type: none"> Access control Campus ID e-Payment Production run card 	<ul style="list-style-type: none"> Asset Management Library Counterfeit 	<ul style="list-style-type: none"> Laundry Garment Transportation Counterfeit 	<ul style="list-style-type: none"> Field service Factory automation Asset Management 	<ul style="list-style-type: none"> Patient identify Loyalty Program Entertainment Access Control 	<ul style="list-style-type: none"> IP Protection CD/DVD management DVD rental 	
Dimension	85.6x 54x 0.76mm	Square : 20 x 50/50 x 50mm Round : 22/25/30/40mm dia	14/17/22mm diameter	65 x 35.6 x 6.5mm	65 x W 25 x T 3 mm	78 x 15 x 2.5mm	80/120mm dia
Material	PVC	PP/PET	PPS/Nylon+GF/PRT	PC	Epoxy+PVC	Silicone+PPS	PC
Environment Proof	↓ : Temperature ▲ : Water ☆ : Dust	↓ (Optional)	↓ ▲ ☆	↓ ▲ ☆	↓ ▲ ☆	↓ ▲ ☆	
Available IC	NXP (I-CODE SLI/SLI-S), TI (Tag-it HF Standard/Pro/Plus, Infineon (my-d SRF 55V02S/55V10S))						
MOQ	100 pcs/box	500 pcs/roll	200 pcs	100 pcs/box		500 pcs/box	2000 pcs/box

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VITO-2688 / VITO-2000 Series Selection Guide



VITO-2600 Series
Industrial Communication Server



VITO-2060 Series
Generic Data Collector

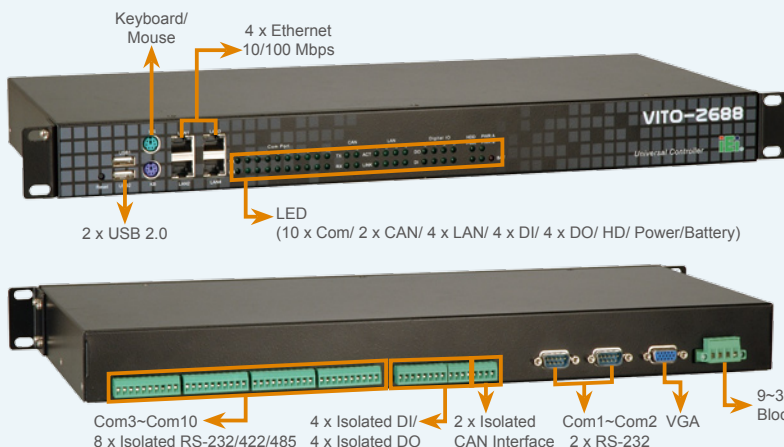


VITO-2070 Series
Multiport Data Collector

Model name		VITO-2688	VITO-2060	VITO-2070	
CPU		ULV Intel® Celeron® M 1 GHz / Zero Cache	AMD® Geode™ GX466 333 MHz	AMD® Geode™ LX 800 500 MHz	
Memory socket		1 x 200-pin 1 GB (max.) 266/200 MHz DDR SDRAM SO-DIMM	1 x 200-pin 512 MB (max.) 266/200 MHz DDR SDRAM SO-DIMM	1 x 200-pin 1 GB (max.) 400/333 MHz DDR SDRAM SO-DIMM	
Memory size		512 MB	256 MB	256 MB	
Display interface		VGA 15-pin D-SUB output	VGA 15-pin D-SUB output	VGA 15-pin D-SUB output	
Operating systems		Windows® XP Embedded / Linux (OEM/ODM)	Windows® CE 5.0, Windows® XP Embedded / Linux (OEM/ODM)	Windows® CE 5.0, Windows® XP Embedded / Linux (OEM/ODM)	
I/O	On-board	Button/switch	1 x reset button / 1 x power switch	1 x reset button	
		Mouse/keyboard	2 x PS/2	-	
		Audio	-	1 x line out	
		VGA	1 x VGA	1 x VGA	
		External CF card slot	-	-	
		External PC card slot	-	-	
		Printer port	-	-	
		USB port	2 x USB 2.0	2 x USB 2.0	4 x USB 2.0
		Serial port	2 x RS-232 (9-pin D-SUB) 8 x isolated RS-232/422/485 (5-pin screw terminal)	2 x RS-232 (9-pin D-SUB) 1 x RS-422/485 (9-pin D-SUB)	7 x RS-232 (9-pin D-SUB), 1 x RS-422/485 (9-pin D-SUB) with Windows® XPe 3 x RS-232 (9-pin D-SUB), 1 x RS-422/485 (9-pin D-SUB) with Windows® CE 5.0
		Ethernet port	4 x Ethernet (10/100BASE-T)	2 x Ethernet (10/100Base-T)	1 x Ethernet (10/100Base-T)
		Communication	2-channel isolated CAN interfaces	-	-
		Digital input channel	4-channel isolated DI	-	-
		Digital output channel	4-channel isolated DO	-	-
Expansion	802.11b/g wireless LAN	-	-		
LED indicator		4 x LAN 4 x DI/DO 3 x Power 2 x CAN 10 x COM	Power LED	Power LED	
Watchdog timer		Yes	Yes	Yes	
Power requirement		9~36 VDC (e.g +24 V@1 A) (min.24 W), AT	9~36VDC (e.g +24 V@1 A) (min. 24 W), ATX	9~36 VDC (e.g +24 V@ 1 A) (min. 24 W), ATX	
Storage interface		One internal CF type I/II slot and one IDE	1 x internal CF type I/II slot	1 x internal CF type I/II slot	
Storage		1 G CF card or 2.5"/1.8" 40 G HD (optional)	256 M/1 G CF card	256 M/1 G CF card	
Operating environmental		Operation temperature: 0°C ~ 60°C Relative humidity: 5% ~ 95 % RH without condensation Vibration: 5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5 G acceleration peak to peak Shock: 10 G acceleration peak to peak. (11ms)	Operation temperature: 0 ~ 60°C Relative humidity: 5 ~ 95 % RH without condensation Vibration: 5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5G acceleration peak to peak Shock: 10G acceleration peak to peak. (11ms)	Operation temperature: 0 ~ 60°C Relative humidity: 5 ~ 95 % RH without condensation Vibration: 5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5G acceleration peak to peak Shock: 10G acceleration peak to peak. (11ms)	
Dimensions		480 mm x 198.12 mm x 42 mm	223.6 mm x 11 0.7 mm x 61.8 mm	223.6 mm x 11 0.7 mm x 61.8 mm	
Weight		2.8 kg	1.3 kg	1.3 kg	
Color		Black	Black and Silver	Black and Silver	
Construction		Aluminum extrusion, heavy-duty steel chassis	Aluminum extrusion, heavy-duty steel chassis	Aluminum extrusion, heavy-duty steel chassis	
Mounting		19" 1U rack mount	Wall mount, DIN-rail mount	Wall mount, DIN-rail mount	

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VITO-2688 Industrial Communication Server with ULV Intel® Celeron® M 1 GHz, 4 x LAN, 10 x COM, 2 x USB, 2 x isolated CAN, 4 X isolated DI, 4 X isolated DO



Features

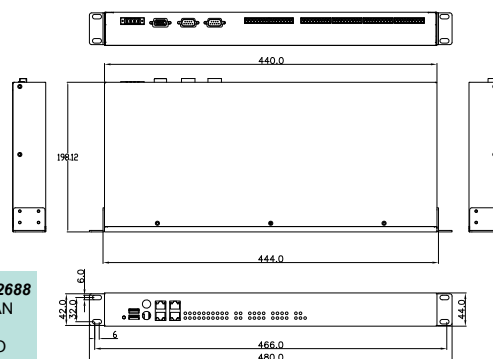
- ULV Intel® Celeron® M 1GHz zero cache processor
- Supports 512 MB up to 1 GB memory
- Two RS-232 (9-pin D-SUB) Eight isolated RS-232/422/485 (5-pin screw terminal) ports with automatic flow control
- Four 10/100 Mbps Ethernet RJ-45 ports and two USB ports
- Windows® XP Embedded ready platform
- Included remote display for easy configuration
- Provides Modbus RTU/ASCII to Modbus TCP Gateway utilities
- Supports Modbus/RTU and Modbus/TCP devices
- Support DI/DO and CAN Bus options
- 19" 1U form factor



Specifications

System hardware	CPU	ULV Intel® Celeron® M 1 GHz / Zero Cache	
	System chipsets	Intel® 852GM + ICH4	
	Memory socket	1 x 200-pin 1 GB (max.) 266/200 MHz DDR SDRAM SO-DIMM	
	Memory size	512 MB	
	Keyboard/mouse	2 x PS/2	
	Expansion slots	-	
	PC/104	-	
	Printer port	-	
	Storage interface	1 x CF type II slot 1 x IDE	
	Storage	1 G CF card or 2.5"/1.8" 40 G HD (optional)	
I/O & communication	VGA	1 x VGA 15-pin D-SUB output support up to 1600 x 1200	
	Audio	-	
	Watchdog timer	Programmable	
	LAN	4 x Ethernet (10/100Base-T with RJ-45 port)	
	Serial port	2 x RS-232 (9-pin D-SUB) 8 x isolated RS-232/422/485 with 5-pin screw terminal automatic RS-485 data flow control	
	USB port	2 x USB 2.0	
	Channel	Model name	VITO-2688
		Communication interface	2-channel isolated CAN Bus
		Digital input	4-channel isolated DI
		Digital output	4-channel isolated DO
Channel hardware	Digital input signal	2000 VDC isolated protection , 2000 VDC ESD protection 70 VDC over-voltage protection 0 ~ 50 VDC input range & 10 kHz speed Dry contact levels (0: GND, 1: Open) Wet contact levels (0: +2 V max, 1: +4 V ~ +50 V) DO ch 2000 VDC isolation and 200mA max/ch sink current keeps.	
	Digital output signal	Keeps output status after system hot reset. 5~30 VDC output range and 10kHz.	
	CAN communication interface	Compatible with CAN specifications 2.0 3000VDC isolated by photo coupler for dual ports.	
Power	Power input	9~36 VDC (e.g +24 V@1 A) (min.24 W), AT	
	Power consumption	20W	
Environmental	Operation temperature	0 ~ 50°C	
	Humidity	5% ~ 95% RH without condensation	
	Vibration	5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5 G acceleration peak to peak	
	Shock	10 G acceleration peak to peak. (11ms)	
General	Dimensions (WxDxH)	480 mm x 198.12 mm x 42 mm	
	Construction	Aluminum extrusion, heavy-duty steel chassis	
	Mounting	19" 1U rack mount	
	Weight	2.8 kg	
	OS support	Windows® XP Embedded / Linux (OEM/ODM)	

Dimensions (mm)



45W AC/DC Adapter
Part No: 63000-UP0451E24P56L-RS

Packing List

1 x VITO-2688
1 x Utility CD including SDK, utilities, and technical documents
1 x Null modem cable
1 x Screw kit
1 x Rack mount kit

Options

Part No.	Description
VITO-CF-2688XPE-R10	1 GB CF memory card with built-in Windows® XP Embedded OS image, licensed sticker, and SLD S/W CD
63000-UP0451E24P56L-RS	24 VDC 45 W power adapter with bare wire; 90~264 VAC input

Ordering Information

Part No.	Description
VITO-2688-R10	Industrial communication server with ULV Intel® Celeron® M 1GHz, 512 MB 400 MHz DDR SDRAM, 1 x VGA, 4 x LAN, 10 x COM, 2 x USB, 2 x isolated CAN, 4 x isolated DI, 4 x isolated DO

1

Industrial Computing Solutions

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Embedded Computing Solutions

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Industrial Data Collector and Controller

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Video Capture Solutions

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I/O Communication Solutions

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Panel Solutions

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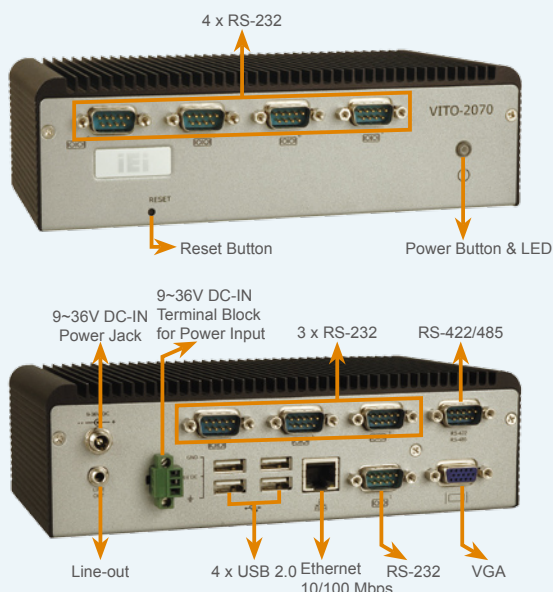
ORing Network Communication

8

Power Supply Peripherals

VITO-2070

Multiport Data Collector with AMD® Geode™ LX 800 500 MHz, 1 x LAN, 8 x COM, 4 x USB, I/O support DI/DO/AI and CAN Bus



Features

- AMD® Geode™ LX 800 500 MHz processor
- Eight RS-232 (9-pin D-SUB), one RS-422/485 (9-pin D-SUB) port with automatic flow control
- One 10/100 Mbps Ethernet RJ-45 port and four USB ports
- Windows® CE 5.0, Windows® XP Embedded ready platform
- Audio with Line out
- Included remote display for easy configuration
- Provides Modbus RTU/ASCII to Modbus TCP Gateway utilities
- Supports Modbus/RTU and Modbus/TCP devices
- Power adapter with lock screw or bare wire connector type
- DIN-rail and wall mounting options



Specifications

System hardware	CPU	AMD® Geode™ LX800 500 MHz
	System chipsets	AMD® Geode LX800 + AMD® CS5536
	Memory socket	1 x 200-pin 1 GB (max.) 400/333 MHz DDR SDRAM SO-DIMM
	Memory size	256 MB
	Keyboard/mouse	-
	Expansion slot	-
	PC/104	1 x PC/104
	Printer port	-
	Storage interface	1 x CF type II slot
	Storage	256 M/1 G CF card
	VGA	1 x 15-pin D-SUB VGA output supports up to 1600 x 1200
	Audio	1 x line out
Watchdog timer	Programmable	
I/O & communications	LAN	1 x Ethernet (10/100Base-T with RJ-45 port)
	Serial port	Windows® XP Embedded : 7 x RS-232 (9-pin D-SUB), 1 x RS-422/485 with 9-pin D-SUB connector automatic RS-485 data flow control Windows® CE 5.0 : 3 x RS-232 (9-pin D-SUB), 1 x RS-422/485 with 9-pin D-SUB connector automatic RS-485 data flow control
	USB port	4 x USB 2.0
Channel Hardware	Digital input signal	DI ch. 2,000 VDC isolation, 2,000 VDC ESD protection and 70 VDC overvoltage protection 0 ~ 50 VDC input range and 10 kHz speed Digital input levels with dry contact: Logic level 0: Close to GND, Logic level 1: Open Digital input levels with wet contact: Logic level 0: +2 V max, Logic level 1: +4 V ~ +50 V
	Digital output signal	DO ch 2000 VDC isolation and 200mA max/ch sink current keeps. Keeps output status after system hot reset. 5~30 VDC output range and 10kHz.
	Counter / timer	2x 16-bit: - counter source: DI6 & DI7 , - Pulse output: DO6 & DO7 , Can be cascaded as one 32-bit counter/timer, Down counting, preset counting value, interrupt handling, Timer - time base: 100/10/1 kHz, 100 Hz
	Analog input signal	2 ch. input type: Thermocouple: JKTE type Input range : ±5 V , ±2.5 V , 0~2.5 V , 0~5 V Supports T/C types: J, K, T, E
	CAN communication interface	Compatible with CAN specifications 2.0 3000VDC isolated by photo coupler for dual ports.
Power	Power input	9~36 VDC (e.g. +24 V@1 A) (min.24 W), ATX
	Power consumption	15 W
Environmental	Operation temperature	0 ~ 60°C
	Humidity	5% ~ 95% RH without condensation
	Vibration	5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5 G acceleration peak to peak
	Shock	10 G acceleration peak to peak. (11ms)
General	Dimensions (WxDxH)	223.6 mm x 110.7 mm x 61.8 mm
	Construction	Aluminum extrusion, heavy-duty steel chassis
	Mounting	Wall mount, DIN-rail mount
	Weight	1.3 kg
	OS support	Windows® CE 5.0, Windows® XP Embedded / Linux (OEM/ODM)

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Industrial
Computing
Solutions

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Embedded
Computing
Solutions

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Industrial Data
Collector
and Controller

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Video
Capture
Solutions

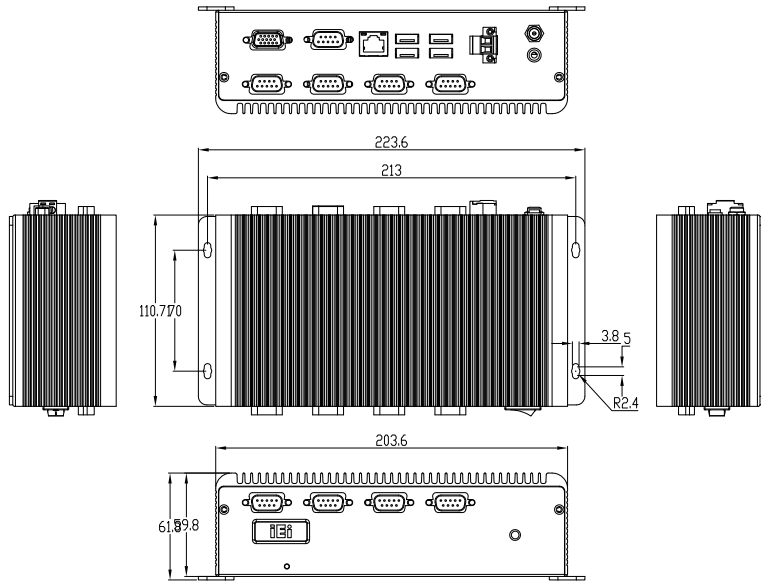
5
I/O
Communication
Solutions

6
Panel
Solutions

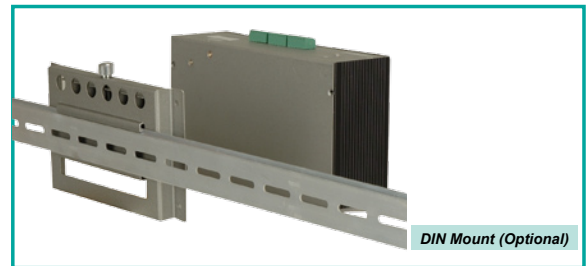
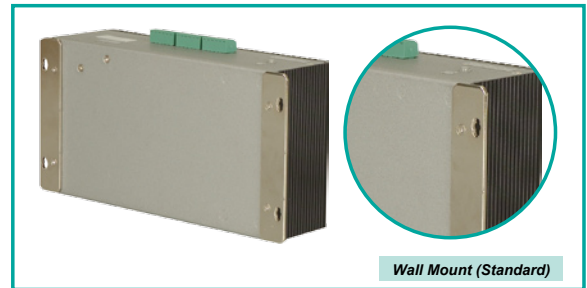
7
ORing
Network
Communication

8
Power Supply/
Peripherals

Dimensions (Unit:mm)



Mounting Support



Packing List

- 1 x VITO-2070
- 1 x Utility CD including SDK, utilities, and technical documents
- 1 x Null modem cable
- 1 x Screw kit
- 1 x Wall mount kit

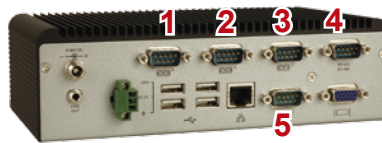


45W AC/DC Adapter
Part No: 63000-UP0451E24P56L-RS

45W AC/DC Adapter
Part No: 63000-UP0451E12P71L-RS

Serial Port Support Limitation

VITO-2070 only Supports 4 serial port in Windows CE environment.



Windows® XP Embedded	Windows® CE 5.0
8 x RS-232 or 7 x RS-232 + 1 x RS-422/485	4 x RS-232 or 3 x RS-232 + 1 x RS-422/485

Working COM port map under Windows® CE

- 4 x RS-232 Port 1,2,3,5
- 3 x RS-232 + 1 x RS-422/485 Port 1,2,4,5
Port 4 activated as RS-422/485

Options

Part No.	Descripton
VITO-CF-2070CE-R10	256 MB CF memory card with built-in Windows® CE 5.0 OS image, licensed sticker, and BSP S/W CD
VITO-CF-2070XPE-R10	1 GB CF memory card with built-in Windows® XP Embedded OS image, licensed sticker, and SLD S/W CD
63000-UP0451E12P71L-RS	12 VDC 45 W power adapter with lock screw; 90~264 VAC input
63000-UP0451E24P56L-RS	24 VDC 45 W power adapter with bare wire; 90~264 VAC input
DK-200MM	Din mount kit

Ordering Information

Part No.	Descripton
VITO-2070X-R10	Multiport Data Collector with AMD® Geode™ LX 800 500 MHz , 256 MB 400 MHz DDR SDRAM, 1 x VGA , 1 x Line out, 1 x LAN, 8 x COM, 4 x USB
VITO-2070C-R10	Multiport Data Collector with AMD® Geode™ LX 800 500 MHz , 256 MB 400 MHz DDR SDRAM, 1 x VGA , 1 x Line out, 1 x LAN, 4 x COM, 4 x USB

Provide AMD® Geode™ LX 800 wide temperature OEM/ODM service

1 Industrial Computing Solutions

2 Embedded Computing Solutions

3 Industrial Data Collector and Controller

4 Video Capture Solutions

5 I/O Communication Solutions

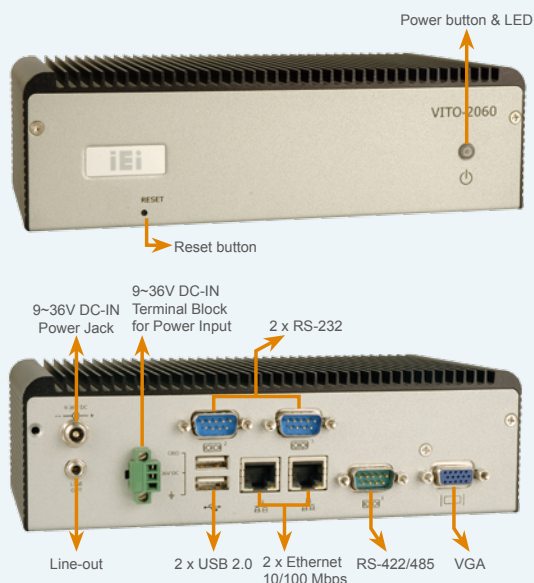
6 Panel Solutions

7 ORing Network Communication

8 Power Supply Peripherals

VITO-2060

Generic Data Collector with AMD® Geode™ GX 466 333 MHz, 2 x LAN, 3 x COM, 2 x USB, 1 x Line out, I/O support DI/DO/AI and CAN Bus



Features

- AMD® x86 grade 333 MHz AMD® Geode™ processor
- Two RS-232 (9-pin D-SUB), and one RS-422/485 (9-pin D-SUB) port with automatic flow control
- Two 10/100 Mbps Ethernet RJ-45 ports and two USB ports
- Windows® CE 5.0, Windows® XP Embedded ready platform
- Audio with Line out
- Included remote display for easy configuration
- Provides Modbus RTU/ASCII to Modbus TCP Gateway utilities
- Supports Modbus/RTU and Modbus/TCP devices
- Power adapter with lock screw or bare wire connector type
- DIN-rail and wall mounting options



Specifications

System hardware	CPU	AMD® Geode™ GX 466 333 MHz
	System chipsets	AMD® GX466 + CS5536
	Memory socket	1 x 200-pin 512 MB (max.) 266/200 MHz DDR SDRAM SO-DIMM
	Memory size	256 MB
	Keyboard/mouse	-
	Expansion slot	-
	PC/104	1 x PC/104
	Battery backup RTC	Yes
	Storage interface	1 x CF type II slot
	Storage	256 M/1 G CF card
	VGA	1 x 15-pin D-SUB VGA output supports up to 1024 x 768
	Audio	1 x line out
I/O & communication	Watchdog timer	Programmable
	LAN	2 x Ethernet (10/100Base-T with RJ-45 port)
	Serial port	2 x RS-232 (9-pin D-SUB), 1 x RS-422/485 with 9-pin D-SUB connector automatic RS-485 data flow control
Channel hardware	USB port	2 x USB 2.0
	Digital input signal	DI ch. 2,000 VDC isolation, 2,000 VDC ESD protection and 70 VDC overvoltage protection 0 ~ 50 VDC input range and 10 KHz speed Digital input levels with dry contact: Logic level 0: Close to GND, Logic level 1: Open Digital input levels with wet contact: Logic level 0: +2 V max, Logic level 1: +4 V ~ +50 V
	Digital output signal	DO ch 2000 VDC isolation and 200mA max/ch sink current keeps. Keeps output status after system hot reset. 5~30 VDC output range and 10 KHz.
	Counter / timer	2x 16-bit - counter source: DI6 & DI7 , - Pulse output: DO6 & DO7 , Can be cascaded as one 32-bit counter/timer, Down counting, preset counting value, interrupt handling, Timer - time base: 100/10/1 KHz,100 Hz
	Analog input signal	2 ch. input type: Thermocouple: JKTE type Input range : ±5V,±2.5V,±0~2.5V,±0~5V Supports T/C types:J,K,T,E
	CAN communication interface	Compatible with CAN specifications 2.0 3000VDC isolated by photo coupler for dual ports.
Power	Power input	9~36 VDC (e.g +24V@1A) (min.24W), ATX
	Power consumption	20 W(typical)
Environmental	Operation temperature	0 ~ 60°C
	Humidity	5% ~ 95% RH without condensation
	Vibration	5~17 Hz, 0.1" double amplitude displacement, 17~640 Hz, 1.5 G acceleration peak to peak
	Shock	10 G acceleration peak to peak. (11ms)
General	Dimensions (WxDxH)	223.6 mm x 110.7 mm x 61.8 mm
	Construction	Aluminum extrusion, heavy-duty steel chassis
	Mounting	Wall mount, DIN-rail mount
	Weight	1.3 kg
	OS support	Windows® CE 5.0, Windows® XP Embedded / Linux (OEM/ODM)

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Industrial Computing Solutions

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Embedded Computing Solutions

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Industrial Data Collector and Controller

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Video Capture Solutions

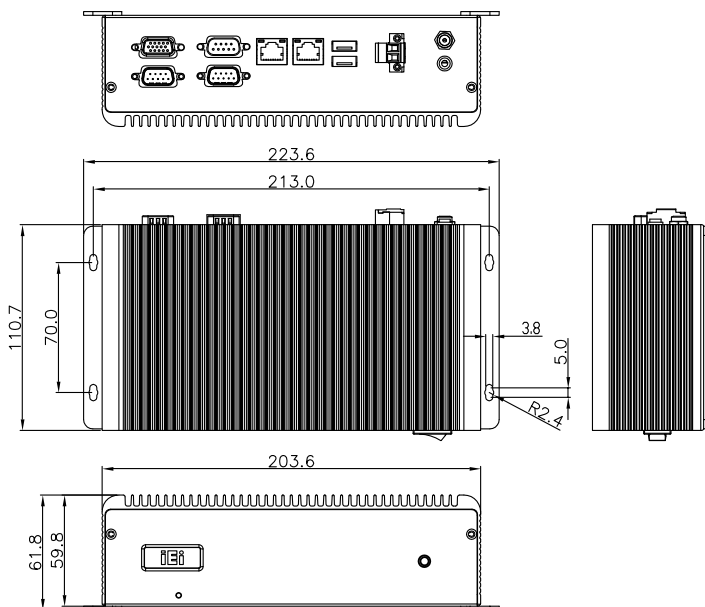
5
I/O Communication Solutions

6
Panel Solutions

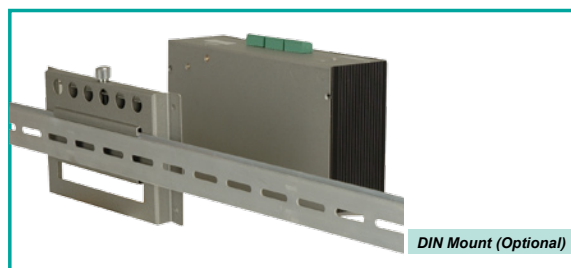
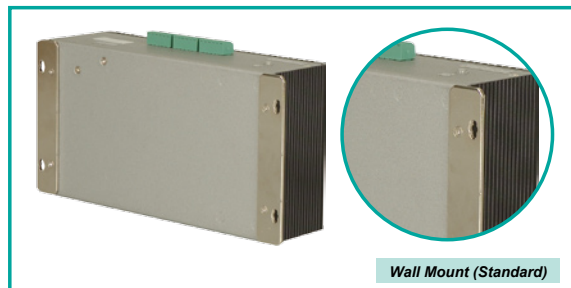
7
ORing Network Communication

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Power Supply/Peripherals

Dimensions (Unit:mm)



Mounting Support



Packing List

- 1 x VITO-2060
- 1 x Utility CD including SDK, utilities, and technical documents
- 1 x Null modem cable
- 1 x Screw kit
- 1 x Wall mount kit



45W AC/DC Adapter
Part No: 63000-UP0451E12P71L-RS



45W AC/DC Adapter
Part No: 63000-UP0451E24P56L-RS



Options

Part No.	Descripton
VITO-CF-2060CE-R10	256 MB CF memory card with built-in Windows® CE 5.0 OS image, licensed sticker, and BSP S/W CD
VITO-CF-2060XPE-R10	1 GB CF memory card with built-in Windows® XP Embedded OS image, licensed sticker, and SLD S/W CD
63000-UP0451E12P71L-RS	12 VDC 45 W power adapter with lock screw; 90~264 VAC input
63000-UP0451E24P56L-RS	24 VDC 45 W power adapter with bare wire; 90~264 VAC input
DK-200MM	Din mount Kit

Ordering Information

Part No.	Descripton
VITO-2060-R10	Generic Data Collector with AMD® Geode™ GX466 333 MHz, 256 MB 400 MHz DDR SDRAM, 1 x VGA, 1 x line out, 2 x LAN, 3 x COM, 2 x USB

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