



Inside This Powerful RTU

- 32 bit ARM7 RISC Processor
- 512 KB Flash Memory/96 KB Internal SRAM
- 4GB SD Card Data Storage
- 10/100 Auto detecting Real-time Ethernet
- In-Built Redundancy
- 16 bit Differential Analog Input
- Channel-to-Channel Isolated Input and Outputs
- Three Serial, One RS-485 and One USB Port
- Modbus Master/Slave and Modbus TCP Protocols
- Time stamped DNP 3 and IEC 60870-5 Protocol Support
- Flow Chart based programming support

Introduction

Accurate, timely monitoring and control of mission critical applications is imperative for the successful operation of a Utility. As a developer of the world's first flowchart programmable Remote Terminal Unit (RTU), CIMCON Software's intelligent RTUs have been utilized and proven themselves in thousands of projects worldwide, helping Utilities of all types to manage their operations, while avoiding crisis management situations.

The iRTU-6000 an Overview

CIMCON's iRTU-6000 is a compact, intelligent RTU that has been utilized globally in Water, Power, Oil and Gas Utilities to remotely monitor and control a broad range of mission critical applications.

The iRTU-6000 is an ideal solution for the monitoring and control of operations involved in Water Generation, Water Treatment, Water Distribution and Sewage, Electrical Feeder Monitoring and Control, Gas Compressor and Dispenser Monitoring. It lets Utilities quickly identify faults for immediate resolution, and its data logging capability provides the information needed for situation analysis. Given its unique blend of rugged Industrial Inputs/Outputs (I/Os), the iRTU-6000 can support the most demanding control applications. Real time, multi-tasking software combined with powerful communications capabilities based on proven technology and an open architecture enable inter-operability with other popular automation systems using universal protocols. The iRTU-6000 brings together the speed of a PLC, the precision of a Data Logger, and the flexibility of a large process controller.

Compact Intelligent Remote Utility
Monitoring and Control for



Water



Energy



Oil & Gas



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Global Leadership Through Technology Innovation

Redundancy

The iRTU-6000 offers hardware redundancy to meet the needs of the most demanding and mission critical control applications by providing redundancy for the CPU and Power Supply modules.

Report-by-Exception

The iRTU-6000 only provides reports to the SCADA system and GSM devices in the event of an abnormality, thus optimizing bandwidth utilization.

Real Time Monitoring

User programmable, the iRTU-6000 sends data to the SCADA station at a real time rate and frequency. In addition, it supports data transfer to a web-server thus enabling global web-based viewing.

Data Logging

The iRTU-6000 logs important process data in its non-volatile memory at user defined logging intervals. Data can be stored in memory for up to 10 years without charging.

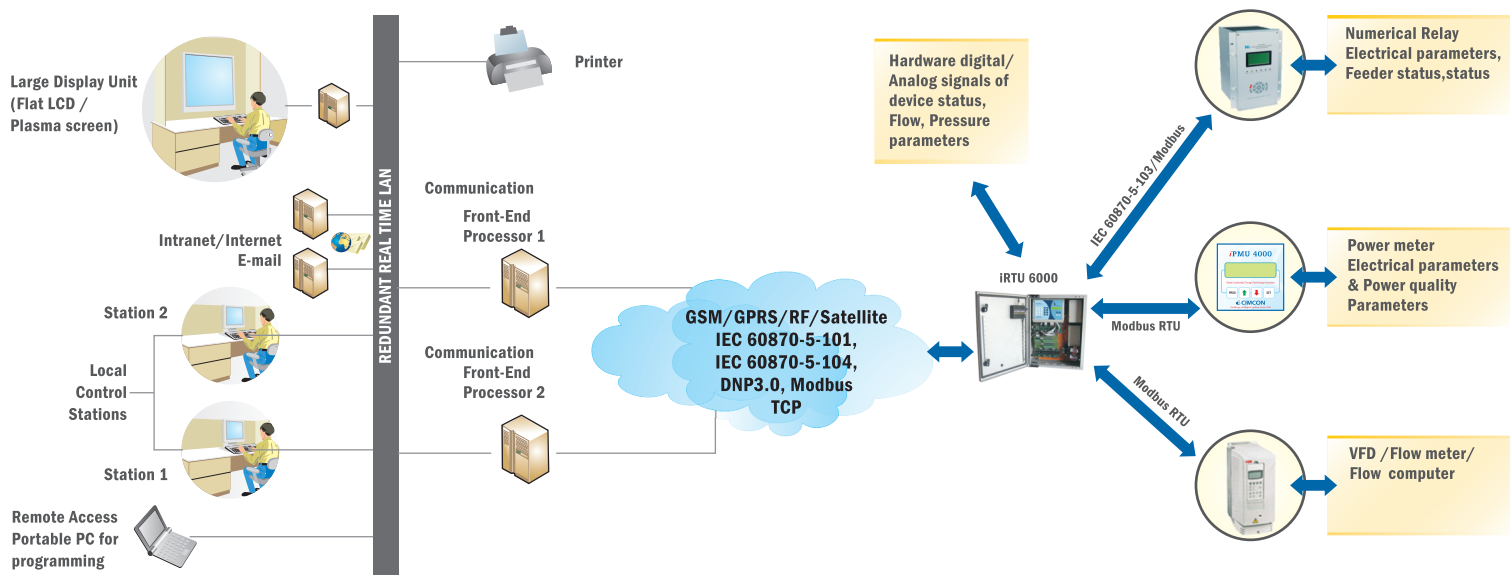
Alarm Time Stamping

For critical fault analysis, the iRTU-6000 is specifically designed to time stamp all alarm events at the RTU level using a highly accurate real time clock.

Local Display at the RTU Level

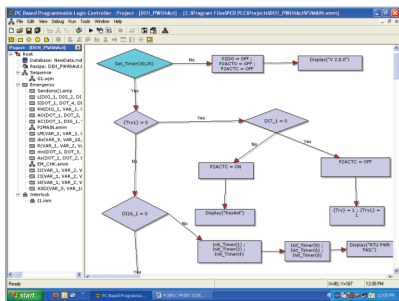
Each iRTU-6000 includes a 16 x 2 character backlit LCD for local monitoring of field data. A 4 x 6 matrix membrane keyboard is included for scaling and changing the limits of the I/O parameters and more.

System Diagram:



Benefits of Flow chart based Programming

As the world's first flowchart programmable controller, the iRTU-6000 provides the ability to develop complex control logic processes using flowchart building blocks provided by PCBPLC™ programming software. This capability is extremely valuable in situations where highly skilled personnel are not available with a Utility, as Flowchart based programming is easy to understand and can be learned quickly to enable application modifications.



Ordering Code:

Module	Description
iRTU 6000	Intelligent Remote Terminal Unit
Code	Number Of Channels
0	16 DI, 16 DO, 8 AI
Code	Additional Channels
0	None
1	2 AO
2	16 DI, 16 DO, 8 AI
3	16 DI, 16 DO, 8 AI, 2 AO
4	16 DI, 16 DO, 8 AI, 4 AO
Code	Communication Ports
0	RS 232- 3Nos, RS 485-1 No, Ethernet 10/1000 Base T-1 No
1	RS 232- 3Nos, RS 485-1 No, Ethernet 10/1000 Base T-1 No, USB Port-1 No.
Code	Communication Protocol
0	Modbus RTU/TCP/CIMCON
Code	Additional Communication Protocol
0	DNP 3.0/IEC 60870-5
Code	Memory
0	without 4 GB SD card
1	with 4 GB SD card
Code	Redundancy
0	None
1	With Redundancy in CPU and Power supply
Code	Battery Backup
0	None
1	Yes
Code	Power Supply
0	85 - 264 V AC

Accessories:	
iCOM3000	GSM Modem
iRF	RF Modem
HMI-07	7" HMI
PCBPLC-001	PCBPLC Engineering Software

iRTU 6000	—	0	—	1	—	0	—	0	—	0	—	1	—	1	—	1	—	0	Example
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Applications

The iRTU-6000 is an ideal solution for multiple Utility needs including:

Water Generation

The iRTU-6000 is an out-of-the-box solution used extensively in water generation systems, such as Tube Wells and Pumping Stations with numerous installations.

Water Treatment

iRTUs are excellent for monitoring and controlling water treatment plants and filtration bed operations. The iRTU-6000 has enough I/O capacity and communication capability to handle the automation of a Water Treatment Plant.

Water Distribution and Sewage Stations

iRTUs are used in Pumping Station and Sewage Treatment Plant Operations. The iRTU-6000 can communicate with a Energy Meter that can be used to monitor online pump efficiency.

Feeder Monitoring and Control

The iRTU-6000 can be used for Electrical Feeder monitoring and control in a substation. Its multiple communications options, including wireless communication is useful for remote monitoring of a feeder in a substation. The iRTU-6000's Alarm capability with time stamp is useful in problem diagnosis and fault analysis in electrical networks.

Gas Compressor and Dispenser Monitoring

The iRTU-6000 can be used for Compressor Parameter monitoring of Gas stations. Alarms related to temperature or pressure can be sent via SMS to identified individuals. Compressor loading and suction pressure can be set remotely at the SCADA station.

About CIMCON

Since 1988, CIMCON has been the world's leading provider of advanced turnkey industrial automation systems, delivering practical solutions from concept through commissioning. CIMCON's mission is to develop, market and support state of the art, scalable solutions that provide the lowest "lifecycle cost of ownership" for its clients. CIMCON solutions can include hardware, software and turnkey project implementation and operating services in all areas of automation.

Customer Training and Technical Support:

CIMCON provides engineering design, integration and support of automation hardware, software, networks and systems through its worldwide staff of qualified engineers with extensive computer and industrial automation experience.

Global After Sales Support:

CIMCON understands and values the importance of after sales support requirements of a mission critical real time system such as the iRTU6000. Our highly experienced support engineers are always available just a phone call away.

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Technical Specifications

Processor	Powerful 32 bit ARM7 RISC processor running at 72MHz 512KBytes of flash memory 96 Kbyte internal SRAM 256 Kbyte external I ² C based EEPROM 64 Kbyte external battery backed SRAM
Real Time Clock	Battery Backed RTC (20ppm crystal stability)
Storage Memory	4GB SD card storage
Power supply	Universal AC input 85V- 264V, 50/60Hz
Communication Ports	One 10/100-BASE T Ethernet Port One USB Port Three RS-232 serial ports One RS-485 serial port
Analog Inputs	16 differential analog Input (16-bit) Ranges: 0-5VDC, 4-20mA
Digital Inputs	32 optically isolated (5000 Vrms for 1min) digital Inputs 24V DC internal wetting voltage
Digital Outputs	32 optically isolated (5000 Vrms for 1min) digital outputs Works on the internal 24VDC 6-10A continuous current (Resistive load) Pulse on or hold (latched outputs) Max switched current 10A@24 VDC / 240 VAC Max switched voltage is 240 VAC / 24 VDC
Analog Outputs	4 analog outputs with 12-bit DAC resolution Output Ranges: 0 to 10 VDC
GSM/GPRS Characteristics	Quad band 850/900/1800/1900 Mhz - GPRS multi-slot class 10 (default) / 8 (optional) - GPRS max downlink speed is 85.6 kbps - GPRS max uplink speed is 42.8 kbps - GPRS coding schemes CS1, CS2, CS3 and CS4 - External antenna required
Enclosure	400 x 400 x 200 mm (non-Redundant iRTU) 400 x 500 x 200 mm (Redundant iRTU)
Protection	IP55
Installation	Wall Mount
Operating Conditions	0°C to 70°C / 32°F to 158°F 5% to 95% Rh non condensing
Storage Conditions	-20°C to + 80°C / -4°F to +176°F 5% to 95% Rh non condensing
Environmental Compliances	IEC 60068-2-1/IEC60068-2-2/IEC60068-2-30/IEC60068 - 2-78/IEC-68-2-6/IS 9000 Part VIII/IEC-68-2-27/IEC-61000-4-2/IEC-61000-4-3/IEC-61000-4-4/IEC-61000-4-5 CISPR22
Vibration	IS Standard, 5-300Hz
Software	Desktop and Web-based SCADA software for remote monitoring control

