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ReliaGATE 50-21 Development Kit Quick Start

Cell Activity LED

SIM Access Panel

User-configurable LEDs (2)

Power LED

What's in the Development Kit?

The development kit includes the following components:

- ReliaGATE multi-service gateway with
  - Wind River Linux 4.3 operating system
  - Everyware™ Software Framework (ESF) and Denali routing application
  - GPS
  - Wi-Fi (IEEE 802.11)
  - Cellular (GSM/GPRS or CDMA)
  - IEEE 802.15.4/Zigbee® Standard
  - Four USB 2.0 host ports
  - Two Gigabit Ethernet ports
  - Two EIA-232/485 port (5-wire)
  - Two CAN2.0 busses
  - VGA display output
  - LED status indicators
  - General-purpose inputs and outputs (with 12-position terminal block mating connector)
- 3-in-1 antenna for GPS, Wi-Fi, and cellular (Contact Eurotech for use of Zigbee feature.)
- Null modem serial cable
- Ethernet crossover cable
- 12 VDC power adapter and AC power cord (with 2-position terminal block mating connector)
- Mounting option (bumpers and screws) for use when brackets are not installed.

What Do I Need to Provide?

- Internet access for ReliaGATE (Ethernet – DHCP)
- Development PC with Internet access
- VGA display and USB keyboard

What are the Cellular Options?

ReliaGATE offers a GSM/GPRS or CDMA option for cellular network connectivity. Contact your Eurotech sales representative for part numbers.

- To install your activated SIM card for GSM/GPRS, remove the SIM access panel.
- CDMA versions support activation on Sprint or Verizon networks.

How Do I Set Up the Development Kit?

Hardware Connections

To prepare your ReliaGATE, complete the following steps:
1. Connect the 3-in-1 antenna provided with your kit as follows:
   - Cable labeled 2.4-2.5 / 4.9-6 GHz to Wi-Fi
   - Cable labeled 2.1-2.5 /4.4-6 GHz to Div
   - Cable labeled 800-1250 / 1650-2700 MHz to Cell
   - Cable labeled 3V/5V GPS to GPS
2. Connect a VGA display and USB keyboard.
3. Connect the lower Ethernet port to an Ethernet network with Internet access.
4. Connect the 12 VDC power adapter to the DC power input, and then connect the adapter to AC power. The Power LED lights green when power is successfully connected.
5. The system will boot the Linux operating system to the GRUB menu displayed on the graphics console.
6. Press Enter to select the graphics console.
7. After the message `startall -force` is displayed, press Enter for the login prompt.

Administrative Login

- You can log into the administrative console from the graphics console (VGA display/USB keyboard) or serial console (Serial 1 at 115200, N81), by choosing an option from the GRUB menu.
- Remote log in via Secure SHell (SSH) is available.
- Username is `root` and password is `IsiTech`.
- Shut down the system before disconnecting power. To shut down, use `poweroff`. The Power LED will turn off when the system has successfully shut down.

Feature Configuration

Your ReliaGATE runs the Denali routing application software which can configure the following networks:

- Ethernet via fixed IP address or DHCP (default)
- Wi-Fi (IEEE 802.11) via fixed IP address or DHCP
- Cellular via the modem option installed
- GPS

To change the configuration, complete the following steps:
1. In the administrative console, type `ifconfig eth0`.
2. HTTPS is used for secure transfer of configuration data. On your PC, open a Web browser and enter https://*ip_address* where *ip_adress* is the inet address displayed in step 1.
3. Your browser may display a warning about the certificate. Select the option in your specific browser to continue past the security warning.
4. In the dialog box, enter the User Name `eurotech` and Password `eurotech`.
5. The Denali Setup Web page is displayed. In the appropriate tab, make any necessary configuration changes and submit the new configuration. Changes to the network settings take effect immediately. It is not necessary to reboot.

How Do I Connect to the Everyware Cloud?

ReliaGATE leverages ESF, plus the power of Denali, to provide a complete, cloud-ready development platform. To connect to the Everyware Cloud, you must

- Request an account by contacting your Eurotech sales manager or email sales.us@eurotech.com.
- Configure Denali on your ReliaGATE with your account credentials (URL, username, and password).

What are the Hardware Features?

USB Host Ports

The four USB 2.0 ports are general-purpose USB host ports (500 mA max).

Gigabit Ethernet Ports

In Linux, the lower Ethernet port is assigned to `eth0`, while the upper port is assigned to `eth1`. Note that the upper Ethernet port is implemented by a high-speed USB 2.0 to 10/100/1000 Ethernet Controller.

Serial Ports

By default, Serial 1 and Serial 2 are 5-wire, EIA-232. These ports can be configured for EIA-485 mode by changing the settings in the BIOS Setup utility.

CAN

The pin assignment on the CAN connector is:

Pin	Type	Description
1	IO	CAN 2-
2	IO	CAN 1-
7	IO	CAN 1+
8	IO	CAN 2+

Note: Other pins are not connected.

General-Purpose Inputs and Outputs

The 12-position terminal block provides analog inputs (A1-A2), isolated digital inputs (D1-D4), isolated digital outputs (DO1-DO2), and a sleep/wake input (IGN).

Where Do I Find User Documentation?

See the following documents for additional details:
- ReliaGATE User Manual at http://support.eurotech-inc.com/forums/topic.asp?topic_id=3057

- Denali User Manual at http://support.eurotech-inc.com/forums/topic.asp?topic_id=3040

- Everyware Cloud Developer's Guide at http://everywarecloud.eurotech.com/doc/ECDevGuide

- Everyware Software Framework Developer's Guide at http://esf.eurotech.com/doc/ESFDevGuide

Eurotech Technical Support

The Eurotech support site includes errata reports, the latest versions of user documents, and developer's forums. These resources are available to registered developers at:

http://support.eurotech-inc.com/

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