Reference Manual
v1.1.1

Specifications

Supply Voltage	7-36 Vdc		
Supply Current	350mA @ 12 Vdc		
RS485	Modbus RTU 2	Programmable Baudrate 2400-115200	
RS232	DB9	Programmable Baudrate 2400-115200	
Ethernet	10/100	Lantronix Xport (GC)	
Cellular 1	LTE (Verizon)	Sequans 3, Telit, Digi	
Wifi 1	Digi S6B		
Canbus	2.0b	J1939 2	
Virtual COM Port	USB	Mini Type B	115200 max baudrate
SMTP	Open relay and basic authentication supported.		
SNMP	V1 and V2c supported	Ethernet and Wifi only	
TCP/UDP	Transparent Mode or API Mode		
Processor	ARM Cortex M4		72mhz
Memory	SPI		512 KB

1. Modem can only support 1 module (cellular or wifi).
2. Other protocols may be supported. Contact Flight Systems for details.
3. List price is based on Sequans Class M radio. Other radio options are available.

Layout
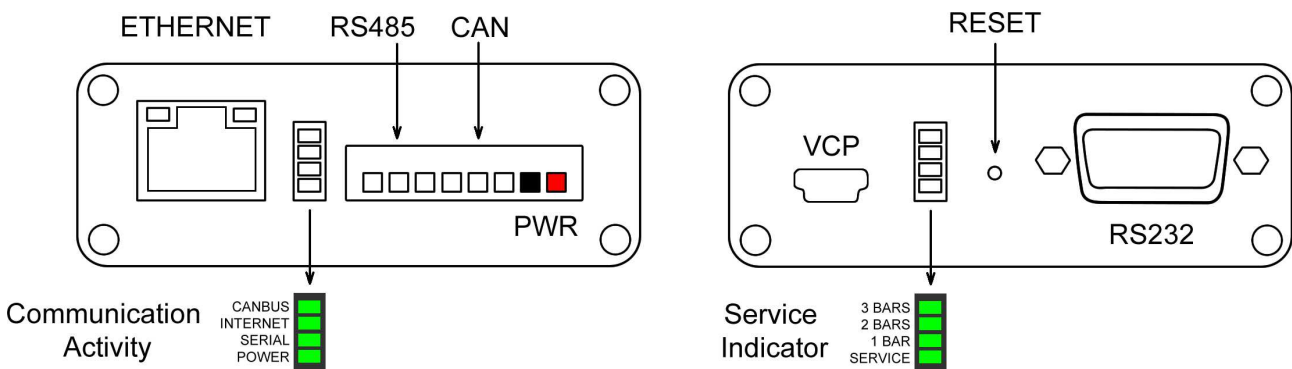
LED Indicators

Communication – The activity indicator will flash anytime data is sent or recieved. The Internet indicator will monitor ethernet, wifi, or cellular activity. The serial indicator will monitor RS485 or RS232.

Service – The service indicator will indicate that the cellular or wifi module is enabled. This feature is not available on all modules. See the application note that applies to the module installed for a description of this indicator. 1 bar will indicate that the carrier has been detected (internet is available) and a very poor signal. 1 and 2 bars indicates a moderate signal and for cellular applications it is the minimum signal quality that can be considered reliable. 1, 2, and 3 bars is ideal for cellular applications. When connected using ethernet (ETH0) these indicators will display the remote monitor status.
1 BAR   – Connected
2 BARS – Connected and authenticated
3 BARS – Connected, authenticated, and subscribed to commands.

Notification Setup

SMTP Server:Port - Server address in IP:Port format. If this field is left blank notification settings are ignored. If you are accessing the SMTP server using the ethernet connection you must use the server's IP address. URLs are not supported for ethernet.

Ethernet – 74.94.13.250:587
Cellular/Wifi – 74.94.13.250:587 or smtp.flightsystems.com:587

SMTP Subject - Arbitrary text that will be the subject of all notifications from this device. Typically a location or device name.

SMTP Sender Name - This must be a valid email address from the sender.

SMTP Username and Password - Username and password for basic authentication. If this field is left blank the modem will not try to authenticate (open relay).

SMTP Recipient 1-3 - Up to 3 email addresses or 3 SMS text numbers. SMS text numbers must be in email format. Typically the the 10 digit number folowed by the carrier's domain. For example, a Verizon number would be xxxxxxxxxx@vtext.com. Any entries not required should be left blank.

Internet Setup

Server:Port - Server address in IP:Port format. If this field is left blank internet settings are ignored. If you are accessing the server using the ethernet connection you must use the servers IP address. URLs are not supported for ethernet. Transparent mode will maintain this connection and remain silent. API mode will maintain this connection and upgrade it to a websocket. The API requires an additional parameter /directory. See API mode in Remote Monitoring and GenPulse quick start guide for more information.

Transparent
Ethernet – 74.94.13.250:8080
Cellular/Wifi – 74.94.13.250:8080 or vpn.flightsystems.com:8080
API
Ethernet – 74.94.13.250:8080/api/websocket
Cellular/Wifi – 74.94.13.250:8080/api/websocket or
                vpn.flightsystems.com:8080/api/websocket
Username and Password - The username and password for API authentication. If this field is left blank the modem will default to transparent mode.

Ethernet Settings (ETH0)

The LAN connection labeled ETH0 is installed on every M327V2. The M327V2 uses the GC XPORT ethernet module manufactured by Lantronix and disributed by Grid Connect. The more common settings are accessable through the M327V2 set up application supplied by Flight Systems. Additional features are available using the device set up page that can be accessed by navigating your web browser to the device's IP address. The default login credentials are null. Do not enter any login name or password and click enter. More details on these modules can be found on the manufacturers website.

DHCP / Static IP – Select static to enter a static IP (default setting is DHCP)
Static IP – IP address for the GC XPORT module (default setting 0.0.0.0 for DHCP).
Subnet Mask – The subnet mask must be set from the device set up page.
Default Gateway
Listening Port – Port number to leave open for UDP requests (default setting 161 SNMP).
Baud Rate – 115200 is the recommended baud rate. Must match the baud rate on the GC XPORT.

Wireless Settings (ETH1)

The optional expansion port ETH1 can support a variety of wireless modules that fit the common xbee footprint. You can specify a device at the time of ordering or you can optionally install a module yourself at a later date. Depending on the type of module, you may need to download specific firmware for your device to operate correctly. Contact Flight Systems before performing a self install.

DHCP / Static IP – Select static to enter a static IP (default setting is DHCP)
Static IP – IP address for the GC XPORT module (default setting 0.0.0.0 for DHCP).
Subnet Mask
Default Gateway
Listening Port – Port number to leave open for UDP requests (default setting 161 SNMP).
Baud Rate – 115200 is the recommended baudrate.

Wifi Setttings

Access Point - Only required if wifi is enabled module is installed.
Wifi Password - Password for your wireless access point.

Remote Monitoring

API Mode - API mode is enabled by entering the remote servers IP address and a directory to the Devicehive IoT server. Devicehive is an open source IoT platform that supports websocket connections to provide the user with remote connectivity to the M327V2. A free development server is provided by Flight Systems. The default setting is set to enabled and the M327V2 will attempt to connect to Flight Systems servers as soon as it finds an active internet connection. If you haven't done so previously you will have to set up a user account to access your device online. If you wish to set up your own server contact Flight Systems for technical support and documentation.

SNMP Mode – SNMP mode is enabled by default but it will not respond if the device is currently in API mode. To turn on SNMP you must clear the setting for API mode and set your SNMP community name. You can download the MIB file for your device from www.flightsystems.com. A complete list of OID numbers can be found in the SNMP download.

Slave Device Configuration

The slave device configuration setting will automatically setup a pre-configured algorithm for monitoring and generating alarms on a known device. Selecting a specific slave device will open a new tab of settings for that device. See application note for your device. Universal settings for modbus, canbus, and RS232 are also available. Be sure to set the correct baud rate for the slave device.

RS485 – Default setting 19200 (GenPulse)
RS232 – Default setting 19200
CANBus – Default setting 250000

Factory Reset

To return the M327V2 back to the default settings, press and hold the reset button until all signal indicators are flashing. Release the reset button and all indicators will flashrapidly for 10 seconds. While the indicators are flashing press and release reset again to confirm your selection or allow the device to timeout to cancel. There will be approximately a 7 second delay and the indicators should start flashing again to indicate success. Cycle power to complete the factory reset.

Firmware Updates

Firmware updates should only be downloaded from www.flightsystems.com.   Firmware updates will be zipped with instructions and applications approved for the processor. Before installing the modem please check www.flightsystems.com for the most recent firmware for your device. Devices with firmware version 1.2 and later can be updated over the air (OTA) by either using the standalone application or the devicehive platform.