

## Adaptive Modules G24/G30/H24 GPRS Terminal Card



Version 2.1

Oct 2010

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## Table of Contents

Features Summary .....	3
Interface Description .....	4
Main Connector J6 – RS232 and Power .....	4
Supplementary Data Connector J5 .....	5
USB Connector .....	5
Status LED.....	5
Mechanical Characteristics .....	6
Safety Recommendations .....	6
Contact Details.....	8

## Features Summary

Feature	Description
<b>Compatible with Motorola's G24, G24 Java, G30, H24, CDMA GSM /GPRS 3G modules</b>	The Motorola modules handle all GSM and GPRS processing for data on the AQ card.
<b>Frequency Bands</b>	Quad band : GSM 850/900/1800/1900/2100 MHz
<b>Power Supply</b>	Single supply voltage : 5V – 16V via J6 connector
<b>Operating Temperatures</b>	-20°C to 70°C ambient temperature
<b>Physical</b>	Dimensions 50x40x10 mm Weight : approx 50g
<b>RoHS, WEEE</b>	All hardware components are fully compliant with the RoHS and WEEE directives
<b>Connections</b>	J6 : RS232 (5wire), 2 x GPIO and power input J5: UART2 TTL (5wire) from G24, H24 only, 2 x GPIO and 3V3 power output J3 : USB type mini B std connector
<b>Onboard SIM</b>	Locking SIM connector with detection switch



## Interface Description

### Main Connector J6 – RS232 and Power

Connector J6 is a 6 pin Molex 89400-0620 connector incorporating both an RS232 connection to the module and power to the board as a whole.

The connections are as follows.

Pin	Signal Name	Description
1	VCC IN	Input power supply voltage 5V – 16V
2	RS232_TXD	RS232 Transmit Data (input)
3	RS232_RXD	RS232 Receive Data (output)
4	RS232_RTS	RS232 Request to send (input)
5	RS232_CTS	RS232 Clear to send (output)
6	GPIO 1	GPIO1 to GPRS module (3v3)
7	GPIO2	GPIO2 to GPRS module (3v3)
8	GND	Ground

The DC power supply connected to J6 must comply with the following requirements.

- Input voltage range 5V – 16V DC
- Nominal voltage 12V
- Current rating : min 1.2A at 12V
- Ripple : max 120mV
- Current in idle mode : 20mA at 12V
- Average current in comms mode : 100mA at 12V

The serial interface of the Adaptive Modules AQ Terminal Card is intended for communication between the GSM module and the host application. This RS-232 interface is a data and control interface for transmitting data, AT commands and providing multiplexed channels. EMC immunity complies with the vehicular environment requirements according to EN 301 489-7.

The interface of the Adaptive Modules AQ Terminal Card is accessible from a Data Terminal Equipment DTE connected to the RS232 interface and it is managed by AT commands according to the GSM 07.07 and 07.05 specification and additional Motorola supported commands, listed in the Motorola AT Commands Reference Guides.

## Supplementary Data Connector J5

The internal 3.3V power supply from the Adaptive Modules AQ Terminal Card can supply power to an external unit such as a GPS module, Zigbee or Bluetooth device.

The UART pins operate at a TTL level and are connected directly to the Motorola GSM module.

This connector is only active when using the G24 and H24 modules.

The connections are as follows.

Pin	Signal Name	Description
1	3V3_OUT	Output supply voltage 3.3V at 200mA
2	UART_TXD	UART Transmit Data (input)
3	UART_RXD	UART Receive Data (output)
4	UART_RTS	UART Request to send (input)
5	UART_CTS	UART Clear to send (output)
6	GPIO3	GPIO3 to GPRS module 3v3
7	GPIO4	GPIO4 to GPRS module 3v3
8	GND	Ground

## USB Connector

The USB interface of the Adaptive Modules AQ Terminal Card is intended for direct connection between the GSM module and a PC host using an industry standard mini type B connector.

## Status LED

The green status LED indicates the detection of a GPRS network. The LED is green when hunting for a network.

## Mechanical Characteristics

Weight	50g
Dimensions (mm) L x W x H	50 x 40 x 10 mm
Temperature range	-20°C to +70°C ambient temperature
Mechanical vibrations Amplitude	7.5mm at 5-200Hz sinus
Air humidity	5% - 85%

## Safety Recommendations

Be sure that the use of this product is allowed in the country and in the environment required. The use of this product may be dangerous and has to be avoided in the following areas.

where it can interfere with other electronic devices in environments such as hospitals, airports, aircrafts, etc.

where there is risk of explosion such as gasoline stations, oil refineries, etc

It is responsibility of the user to enforce the country regulation and the specific environment regulation.

Do not disassemble the product; any mark of tampering will compromise the warranty validity.

We recommend that the customer follows the instructions in this document for correct wiring of the product. The product has to be supplied with a stabilized voltage source and the wiring has to conform to security and fire prevention regulations. The product has to be handled with care, avoiding any contact with the pins because electrostatic discharges may damage the product itself. Same cautions have to be taken for the SIM, checking carefully the instruction for its use. Do not insert or remove the SIM when the product is in power saving mode.

Care has to be taken to the external components of the module, as well as of any project or installation issue, because of the risk of disturbing the GSM network or external devices or having impact on the security. Should there be any doubt, please refer to the technical documentation and the regulations in force. Every module has to be equipped with a proper antenna with specific characteristics. The antenna has to be installed with care in order to avoid any interference with other electronic devices and has to guarantee a minimum

distance from the body (20 cm). In case of this requirement cannot be satisfied, the integrator has to assess the final product against the SAR regulation. The European Community provides some Directives for the electronic equipments introduced on the market. All the relevant information's are available on the European Community website:

## Contact Details

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