

# ACM5004-G-I

## Power

The industrial **ACM5004-G-I** model can be powered externally by either:

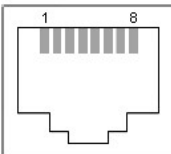
- connecting +9V to 30 VDC to *DC PWR* and *GND* on the green screw terminal block,
- supplying 12VDC from an external AC/DC power supply to the *PWR* socket or
- connecting an external 9 to 24 VAC source to the *PWR* socket

## Antenna

The ACM5004-GI comes with dual SMA antenna connectors. The *AUX* connector can be used for receive diversity (requires external antenna Part# 569006 and cable 449041) or for GPS (requires external GPS passive antenna and cable Part # 569008).

## RS232/422/485

Each of the four RJ45 serial ports can be configured as RS-232, RS422 or RS485 ports using the **Signaling Protocol** menu under **Serial Port: Configuration**



Pin	<u>RS232</u>	<u>RS422</u>	<u>RS485</u>
1	CTS	RX+	D+
2	DSR		
3	RXD	RX-	D-
4	GND	GND	
5	GND	GND	
6	TXD	TX+	D+
7	DTR		
8	RTS	TX-	D-

Prior to initial configuration all the serial ports are RS232. Also Port1 is configured by default as the local modem/console port (and can be reconfigured as a serial port through the command line or GUI).

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**Note:** In RS-485 mode two short cable loops are required between the RX+/TX+ pins (pins 1 & 6) and RX-/TX- pins (pins 3 & 8) for two wire operation

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## Environmental Sensors

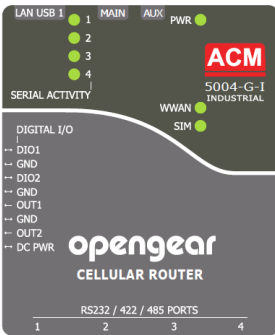
External environmental sensors can be attached directly to the two *DIO* ports. On the **System: I/O Ports** menu configure the *DIO* port as an *Input*

These *SENSOR* and *DIO* ports are "notionally" attached to an internal EMD so enable the **Internal EMD** on the **Serial & Network: Environmental** page

Screw the bare wires on any smoke detector, water detector, vibration sensor, open-door sensor or general purpose open/close status sensors into the *DIO* terminals on the green connector block



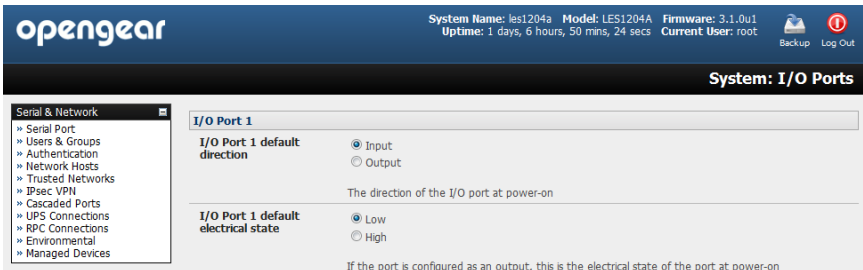
## Digital I/O



The ACM5004-G-I has a dedicated I/O (DIO1 & DIO2) and output only pins (OUT1 & OUT2), the later having inverting outputs with higher voltage/current transistors. These four digital I/O ports present on a green connector block:

- *DIO1* and *DIO2* are two TTL (5V max @ 20mA) level digital I/O ports
- *OUT1* and *OUT2* are two "High-Voltage" (>5V to <= 30V @100mA) output ports

These I/O ports are configured on the **System: I/O Ports** menu:



Alternately you can *ssh* or *telnet* into the ACM and use the *ioc* command line utility:

*ioc*: digital io-port controller:

- p pin\_num pin number (1 to 4)
- d pin\_dir pin direction (0 = output 1 = input)
- v pin\_val pin electrical value in output mode (0 = low 1 = high)
- r reset pins to all inputs and low
- g display the pin directions and current values
- l load pin configuration from *configity*

When configured as inputs the DIOs are 'dry contact' inputs which are normally open. When open these are sensed as a TTL high or digital '1'. When activated the external devices (e.g. door close) present a short circuit and the contact 'closes to ground' which is read as a TTL low or a digital '0'. For custom applications a user can sense the state (closed or open) of dry contact sensors through the UI or command line.

It is also possible to control the sensor pins as 'outputs'. The user can set the pins as TTL high (1) or low (0) as required for their low voltage/low current application. OUT1 and OUT2 are high voltage outputs which are to be used to pull a connected line to ground.