DIGICELL® *ANY*NET
NETWORK ACCESS MODULE

Product ID # 19-25133-070/-071

INSTALLATION AND
USER'S GUIDE

UplinkSM
A Numerex Wireless Solution

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WARRANTY INFORMATION & LIABILITY WAIVER

The Company's Products Are Subject To The Following Limited Warranty:
The company's products are warranted against defects in materials and workmanship for a period of one (1) year following the date of purchase, under normal use and service. The company's obligation under this limited warranty is limited to repairing or replacing with reconditioned parts, at its option, any product proven to be defective in materials or workmanship under normal use and service. The company shall have no obligation if its products are altered or improperly repaired or serviced by any party other than the company. Except as set forth herein, the company's products are delivered without warranty of any kind, whether express or implied, including any warranty of merchantability and any warranty that the company's products are fit for any particular purpose. In no event shall company be liable for actions of third parties which may affect the performance of its products or other factors outside company's control which may require installation of additional equipment or affect the performance of the products.

THE EXTERNAL ANTENNAS USED FOR THIS MODULE MUST PROVIDE A SEPARATION DISTANCE OF AT LEAST 20 CM FROM ALL PERSONS AND MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER.

WARNING: Unauthorized antennas, modifications, or attachments could impair call quality, damage the Module, or result in violation of FCC regulations. Do not use the Module with a damaged antenna. Please contact your local authorized dealer for antenna replacement.

IMPORTANT!
Read these safety guidelines prior to using your Module. Failure to follow these rules and guidelines may be dangerous and/or illegal.

TECHNICAL SUPPORT

Technical support is available Monday through Friday 8:00 AM to 8:00 PM ET excluding holidays. Before calling technical support please ensure you have read the installation guide completely. Technical support requires you to provide:

- Login name
- Password
- Serial number of the unit

These items are required in order to assist you.

UPLINK Technical Support
1600 Parkwood Circle, Suite 500
Atlanta, GA 30339
888-9-Uplink
Fax: 770-693-3501
For Customer Support, call 888-987-5465,
or visit www.uplink.com

DESCRIPTION

DigiCell *Any*NET® Network Access Modules are comprised of various radio modules supporting multiple analog and digital radio technologies. Supported technologies include GSM, CDMA, and AMPS. Supported services include Cellemetry® and SMS for either GSM or CDMA. Support is also provided for expansion to broadband wireless. In addition, the Module can also be optionally ordered and configured with an IP communications module providing 10/100 Ethernet connectivity.
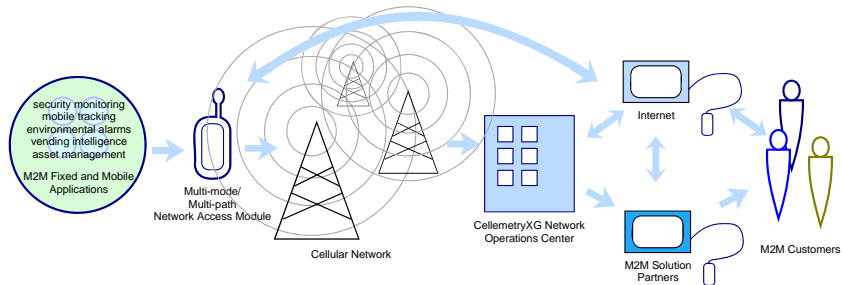
All modules feature an RS-232 serial port that can be used to program the unit and execute firmware flash upgrades in the field. The port also provides serial connectivity to auxiliary devices, including SCADA systems and alarm panels.

This *Any*NET Module is an always on multi-purpose FCC certified device capable of sending and receiving digital data over the GSM Network. The operating frequencies are in the 850 MHz and 1900 MHz bands. The Module can be powered using a nominal 12 VDC supply and the transmitter is capable of operating as a class 4 (2 W output) on 850 MHz and Class 1 (1 Watt output) on 1900 MHz transmitter. The unit typically comes with a dual band quarter-wave antenna with frequency bands of 850 MHz and 1900 MHz. The Module's four discrete inputs are triggered by DC voltage signals. The pulse counter can be set to report on demand, or it can be set to report and reset. The pulse counter automatically reports when the counter overflows and the power input reports a low battery condition of less than 10.2 VDC.

INSTALLATION STEPS

1. For new customers, establish an account with Uplink by visiting the www.uplink.com website and requesting a new account.

2. The *Any*NET Module must be activated and configured from the Uplink website at www.uplink.com or by calling Uplink Support at 1-888-987-5465.

3. Install the Module's antenna on top of the unit.

4. Before permanently installing the unit, test signal strength of the unit by connecting a 12 VDC, 2 A capable power supply.

5. Upon initial power up, observe the status LEDs located on the Module's front panel to determine unit and network status:

Table 1: LED indications

NETWORK	
ON	GSM and GPRS networks available
Slow Blink	Only one network available
Fast Blink	No network available
NOTE	If after waiting for at least three minutes the unit continues with a fast blink call Uplink customer support at 1-888-987-5465 to check network availability in your area.
SERVICE	
OFF	No GSM service
Slow Blink	Service and signal less than -111 dBm (not recommended)
Fast Blink	Service and signal between -109 dBm and -53 dBm (good)
ON	Service and signal greater than -51 dBm (best)
COMMS	
Intermittent Blink	Active (internal device communications only)

6. After successfully testing the unit, disconnect all power before installation.

7. Mount or place the unit in an area that is dry and free from metal objects, obstructions, and it is recommended that it is above grade level.

8. **Wire unit per the Unit Wiring section on page 6**.

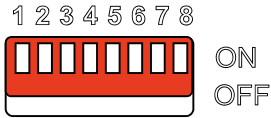9.   The *Any*NET Module is configured via the DIP switches on the front panel.

Figure 1: Detail of Dip Switch

Set DIP switches according to the following table:

Switch#	Settings		
S1	reserved (set to off)		
S2	reserved (set to off)		
S3 and S4	**S3**	**S4**	Input 1 Type
	OFF	OFF	Standard Input
	OFF	ON	Pulse Counter
	ON	OFF	Timed Bell
	ON	ON	Sampled Siren
S5	OFF	Output 1 Normal Operation	
	ON	Output 1 Trouble	
S6	reserved		

10. After attaching power, wait at least 2 minutes and then perform a central station test to verify correct operation.
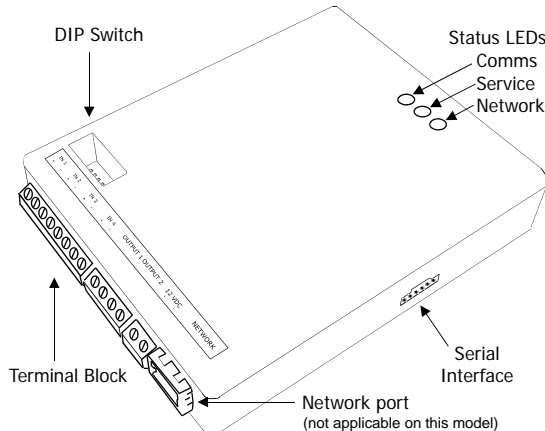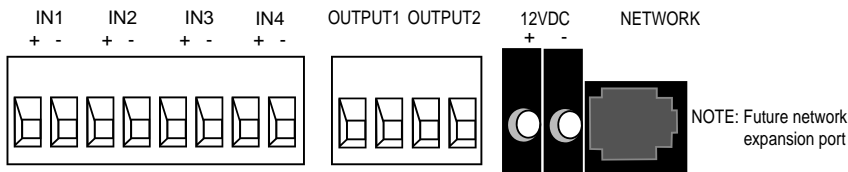

Figure 2: *Any*NET Module

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UNIT WIRING

The location of the DIP switch, terminal block connections, network port, serial interface, and status LEDs of the Module are shown in Figure 2 on page 5. Further detailed drawings included below.

Figure 3: Detail of connections

Input 1 (Selectable Via DIP Switches)

Standard Input - (DIP switches S3 OFF, S4 OFF) This mode configures the unit to be tripped from a DC voltage ranging from 9 VDC to 12 VDC or an open collector.

Timed Bell - (DIP switches S3 ON, S4 OFF) This mode configures the unit to be tripped from a DC voltage ranging from 9 VDC to 12 VDC. The unit reads a pulsed voltage as a fire signal and a steady voltage as a burglary signal.

Sampled Siren - (DIP switches S3 ON, S4 ON) This mode configures the unit to be tripped from a **siren driver or a panel with a built in siren driver**. The unit reads a steady tone as a fire signal and a yelping tone as a burglary signal.

> **NOTE**: The input assumes that a speaker is connected to the panel. If you are not using a speaker we recommend using a bell trip instead of a siren. This is an option on most panels.

Pulse Counter - (DIP switches S3 OFF, S4 ON) This mode configures the unit to count the number of times the unit has been tripped from a DC voltage, or an open collector. The maximum frequency pulse is 40Hz. The count will be reported on request.

Inputs 2, 3, and 4 (and Input 1 if Standard Type)

Figure 4: Wiring example for voltage trip
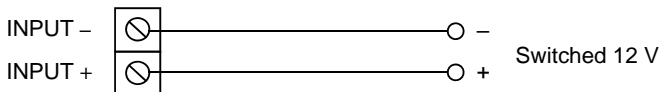
Voltage Trip - Inputs 2, 3, and 4 (and 1 if set for standard input) can be tripped by applying 12 V to the + input and 0 V to the - input. A signal must be continuously present for 500 ms.
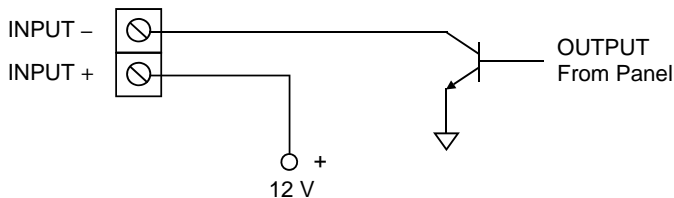

INPUT –

INPUT +

OUTPUT
From Panel

+
12 V

Figure 5: Wiring example for open collector trip

Open Collector - Inputs 2, 3 and 4 (and 1 if set for standard input) can be tripped by applying 12 V to the + input and the Open Collector output of the panel to the - input. A signal must be continuously present for 500 ms.

Outputs - Outputs 1 and 2 are dry contact relays rated for a maximum of 1 A at 24 VDC, and are in the normally open condition. The outputs can be used to control other devices at the installation site.

Power Supply - The customer-supplied 12 VDC, 2 A rated power supply must be connected to the unit at the 12 V terminal block connector. Terminate the positive voltage from the power source to the "+" connector of the unit and terminate the ground of the power source to the "-" connector. The power supply **must** be capable of delivering at least **2 A**.

Network Expansion Port - (Future) A serial RJ45 connector is provided for future optional external network interface that will enable the *Any*NET Module to link with and report through a broadband connection using TCP/IP protocols.

**Serial Interface** - The Module's six-pin connector provides for network retransmission of user-defined data packets via the built-in RS-232 port.

Parts required to use the interface include:

> **Molex -** 50-57-9406 - 2.54mm (.100") Pitch SL(tm) Crimp Housing, Single Row, Version G, Positive Latch, 6 Circuits
> **Molex -** 16-02-0103 - SL(tm) Crimp Terminal 70058, 22-24 AWG, Bag Selective Gold (Au)

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You need to assemble your serial connection cable as detailed in the graphic below. Pinouts on this connector are as follows:

Pin 1
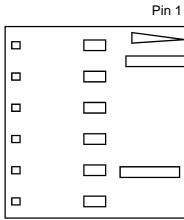
Pin 2   Data to Unit
Pin 3   Data From Unit
Pin 4   Ground

Figure 6: Serial connector details

The serial communications protocol document is available upon request. A DB9 to Molex serial cable is also available upon request from Uplink support.

Optional DB25 Connector

The unit may be optionally configured with a DB25 connector in place of terminal block connections.
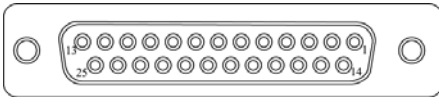
Figure 7: Optional DB25 Connector

Pinouts on this connector are as follows:

Pin	Signal	Notes	Pin	Signal	Notes
1	Case Ground	N/U	14	Power Ground	+5V/+12V Supply/Battery Rtn
2	TXD - Data In	Serial Data Input	15	Power Ground	+5V/+12V Supply/Battery Rtn
3	RXD - Data Out	Serial Data Output	16	+ Battery	Optional +12V Battery Backup In
4	Out 2	Relay Contact	17	+ Battery	Optional +12V Battery Backup In
5	Out 2	Relay Contact	18	+12 Power Input	+12V Supply In at 2 A
6	Out 1	Relay Contact	19	+12 Power Input	+12V Supply In at 2 A
7	Signal Ground	Serial Data Common	20	Out 1	Relay Contact
8	+5 VDC	Source Voltage (200ma max)	21	Power Ground	+5V/+12V Supply/Battery Return
9	nPSEN	Factory Only - DO NOT USE	22	In 4 -	Input 4 Negative
10	In 3 -	Input 3 Negative	23	In 4 +	Input 4 Positive (~9ma@12V)
11	In 3 +	Input 3 Positive(~9ma@12V)	24	In 2 -	Input 2 Negative
12	In 1 -	Input 1 Negative	25	In 2 +	Input 2 Positive (~9ma@12V)
13	In 1 +	Input 1 Positive(~9ma@12V)			

Network Expansion Port

The network expansion port is a serial RJ45 connector. This interface is essentially an interface to a modem like device. All levels are 3V TTL.
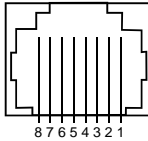

Figure 8: RJ45 Network Expansion Port

NOTE: Not operational - do not use for phone

Pinouts on this connector are as follows:

Pin	Signal	Notes
1	Ground	
2	VCC (3.3 Volt)	3.3 Volt Supply
3	Reset	Low = Reset
4	Data Input	TTL
5	Data Output	TTL
6	CTS	TTL
7	DCD	TTL
8	RTS	TTL

ANTENNA SPECIFICATION

Antennas used with this module should be of the following types:

Antenna type: External Dual Band ¼ wave antenna
Maximum Antenna Gain: 3.0 dBi
Antenna connector: SMA

Antenna type: External Dual Band ¼ wave antenna Magnet mount
Maximum Antenna Gain: 3.5 dBi
Antenna connector: SMA
Cable length and loss: 3 meter, RG-174, total loss 2.8 dB

FCC & INDUSTRY CANADA REGULATORY COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television
reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to
- which the receiver is connected.
- Consult the dealer or an experienced technician for help.

FCC RF Exposure Information

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this module complies with the FCC guidelines and these international standards. For more information about RF exposure, please visit the FCC website at www.fcc.gov. THE TERM "IC:" BEFORE THE CERTIFICATION/REGISTRATION NUMBER ONLY SIGNIFIES THAT THE INDUSTRY CANADA TECHNICAL SPECIFICATIONS WERE MET.

THE EXTERNAL ANTENNAS USED FOR THIS MODULE MUST PROVIDE A SEPARATION DISTANCE OF AT LEAST 20 CM FROM ALL PERSONS AND MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER.

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