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## The MultiConnect® rCell 100 Series of cellular

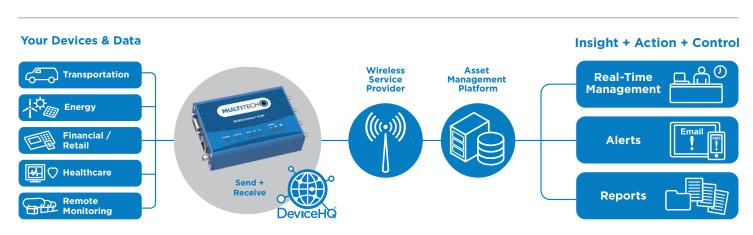
routers, optimized for M2M (machine-to-machine)/Internet of Things (IoT) applications, offer a robust Ethernet or serial network interface platform ready to deploy. The intuitive user interface and free cloud device management (no recurrent monthly fees) allows for quick configuration and over-the-air upgrades. Enhanced with features such as WAN Failover and Certificate Management, the MultiConnect rCell 100 Series creates an ideal environment for secure and redundant communications critical to the reliability of remote monitoring systems in a variety of industries.

## **FEATURES**

- 4G-LTE, 3G and 2G cellular technology support
- Flexible Web API for developers based on RESTful JSON over HTTPs
- Ruggedized enclosure -Class I Div 2
- Designed, manufactured and tested in ISO 13485 facilities
- · Remotely hosted device management platform

### **BENEFITS**

- · Lowest total cost of ownership
- · Long and stable lifecycles
- · Certified and carrier-approved



## **SPECIFICATIONS**

Model	MTR-LAT1	MTR-LVW2	MTR-LEU1	MTR-H5			
Performance		HSPA+					
Frequency Band (MHz)	4G: 700(B17)/850(B5) /AWS1700(B4)/ 1900(B2) 3G: 850(B5)/1900(B2) 2G: 850/1900	4G: 700(B13)/ AWS1700(B4)	4G: 800(B20)/ 1800(B3)/2600(B7) 3G: 850(B5)/ 900(B8)/2100(B1) 2G: 900/1800	3G: WCDMA/HSDPA/ HSUPA 800/850/900/ AWS1700/1900/2100 2G: GSM/GPRS/EDGE 850/900/1800/1900			
Packet Data*	Uķ	Up to 100 Mbps downlink/ Up to 50 Mbps uplink (Category 3)					
Diversity/MIMO		Yes					
SMS	Point	Point-to-Point Messaging, Mobile-Terminated SMS, Mobile-Originated SMS					
Voltage	7V to 32VDC						
Connectors							
Cellular	Female SMA						
Wi-Fi	Not Available	Not Available	vailable Reverse polarity female SMA				
GPS	Female SMA						
SIM	Mini SIM; 1.8 and 3V						
LAN	RJ-45, 10/100 BaseT						
RS-232	DE9						
Power	2.5 mm miniature (screw-on)						
Physical Description							
Dimensions (L x W x H)	4.17" x 3.0" x 1.15" (10.6 cm x 7.6 cm x 2.9 cm)						
Weight	0.51 lbs (0.231 Kg)						
Chassis Type Environmental		Alun	ninum				
Operating Temperature <sup>†</sup>	-	-40° to +185° F (-40° to +85° C)					
Storage Temperature	-40° to +185° F (-40° to +85° C)						
Humidity	Relative humidity 15% to 93% noncondensing						
Certifications							
Regulatory	FCC Class B (US), IC (Canada)	FCC Class B (US)	R&TTE (EU Economic Area)	FCC Class B (US), IC (Canada), R&TTE (EU Economic Area), A-Tick (Australia/NZ)			
Safety	UL60950-1 (US), UL 201 (US) cUL60950-1 (Canada)	UL60950-1 (US), UL 201 (US)	IEC60950-1 (EU Economic Area)	UL60950-1 (US), UL 201 (US), Class I Div 2 (US and Canada), cUL60950-1 (Canada), IEC60950-1 (EU Economic Area), AS/NZS 60950.1 (Australia/NZ)			
Network	AT&T, T-Mobile, Rogers	Verizon	EU carriers	PTCRB, GCF approved module, AT&T, T-Mobile, Telstra, EU carriers Rogers, Pending: Bell, Telus			
Quality	MIL-STD-810: High Temp, Low Temp, Cold Dwell, Random Vibration and Sine Vibration SAE J1455: Random Vibration and Sine Vibration						
Build Options Available		B07, B08, B09, B10, Class I Div 2					

- \* Actual performance speeds may be affected by a variety of attributes such as cell tower distance, data loads, packet sizes, etc.
- <sup>†</sup> Device has been tested up to +85° C. UL Recognized @ 40° C, limited by AC power supply. UL Recognized @ 60° C when used with the fused DC power cable, part number FPC-532-DC. Note: The radio's performance may be affected at the temperature extremes. This is considered normal. There is no single cause for this function. Rather, it is the result of an interaction of several factors, such as the ambient temperature, the operating mode and the transmit power.

## **HIGHLIGHTS**

# **Applications**

The MultiConnect rCell 100 Series of cellular routers are used in a wide variety of applications such as digital signage, smart vending, smart energy or home medical monitoring. Because the routers are certified and carrier approved, customers are able to quickly deploy with cellular connectivity to realize new revenue streams, expense reduction or improved service offering.

# WI-FI/BLUETOOTH SPECIFICATIONS

The Wi-Fi interface can be set up in 802.11 b\g\n Access Point (AP) or client mode. In AP mode, the router can support up to 5 client connections. The Bluetooth serial interface allows you to set up a transparent data pipe from a Bluetooth device to a remote server. The router can be configured using TCP or UDP protocols and supports client and server modes giving you the flexibility you need for your particular application. RFCOM and SPP profile support. Contact MultiTech about additional Bluetooth profile support today.

# Security 1

The MultiConnect rCell 100 Series of cellular routers use IPSec industry standard data encryption to provide high performance, secure LAN-to-LAN VPN connections with 3DES or AES encryption using IKE and PSK key management. Support for five concurrent VPN tunnels.

# Wi-Fi

- · 802.11 b\g\n (1x1), 2.5GHz (20MHz BW)
- $\cdot$  11, 54 and 65 Mbps max theoretical throughput, for 802.11 b\g\n, respectively
- $\cdot$  20, 15 and 14.5 dBm output power, for 802.11 b\g\n, respectively
- $\cdot$  WEP, WPA, and WPA2 support

## Bluetooth

· Version 2.1+EDR · Power Class 1.5 · Data rate 3 Mbps

# **SPECIFICATIONS**

Model	MTR-H6	MTR-EV3	MTR-G3	MTR-C2			
Performance	HSPA	EV-DO GPRS Class 10		1xRTT			
Frequency Band (MHz)	3G: Tri-band 850/900/2100 2G: Quad-band 850/900/1800/1900	Dual-band 800/1900 Quad-band 850/900/1800/1900		Dual-band 800/1900			
Packet Data*	Up to 7.2 Mbps downlink, up to 5.76 Mbps uplink	Up to 3.1 Mbps downlink Up to 1.8 Mbps uplink Up to 85.6K uplink		Up to 153.6K downlink Up to 153.6K uplink			
Diversity/MIMO	No Yes No						
SMS	Point-to-Point Messaging, Mobile-Terminated SMS, Mobile-Originated SMS						
Voltage	7V to 32VDC						
Connectors							
Cellular	Female SMA						
Wi-Fi	Not Available	Not Available Reverse polarity female SMA					
GPS	Female SMA						
SIM	Mini SIM; 1.8 and 3V	N/A	Mini SIM; 1.8 and 3V	N/A			
LAN	RJ-45, 10/100 BaseT						
RS-232	DE9						
Power		2.5 mm miniat	ure (screw-on)				
Physical Description							
Dimensions (L x W x H)	4.17" x 3.0" x 1.15" (10.6 cm x 7.6 cm x 2.9 cm)						
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Chassis Type		Alum	inum				
Environmental	ı						
Operating Temperature <sup>†</sup>	-40° to +185° F (-40° to +85° C)						
Storage Temperature	-40° to +185° F (-40° to +85° C)						
Humidity	Relative humidity 15% to 93% noncondensing						
Certifications							
Regulatory	R&TTE (EU Economic Area), A-Tick (Australia/NZ)	FCC Class B (US)	R&TTE (EU Economic Area)	FCC Class B (US)			
Safety	IEC60950-1 (EU Economic Area), AS/NZS 60950.1 (Australia/NZ)	UL60950-1 (US), UL 201 (US), Class 1 Div 2 (US and Canada)	IEC60950-1 (EU Economic Area)	UL60950-1 (US), UL 201 (US)			
Network	GCF, Telstra, EU carriers	Aeris, Verizon, Sprint	EU carriers	Verizon, Aeris			
Quality	MIL-STD-810: High Temp, Low Temp, Cold Dwell, Random Vibration and Sine Vibration SAE J1455: Random Vibration and Sine Vibration						
Build Options Available	B16, B18, B19	B07, B08, B09, B10	B16	B16, B17			

<sup>\*</sup> Actual performance speeds may be affected by a variety of attributes such as cell tower distance, data loads, packet sizes, etc.

# **BUILD / ORDERING OPTIONS (FOR MODELS WITH ACCESSORY KITS)**

<b>Build Number</b>	Power Supply	Cellular Antenna	Ethernet Cable	GPS Antenna	Wi-Fi Antenna
B07	X	X	X		
B08	X	X	×	×	
B09	X	X	×		X
B10	X	X	×	×	X
B16	X	X	×		
B17	X	X	X	X	
B18	X	X	X		X

<sup>&</sup>lt;sup>†</sup> Device has been tested up to +85° C. UL Recognized @ 40° C, limited by AC power supply. UL Recognized @ 60° C when used with the fused DC power cable, part number FPC-532-DC. Note: The radio's performance may be affected at the temperature extremes. This is considered normal. There is no single cause for this function. Rather, it is the result of an interaction of several factors, such as the ambient temperature, the operating mode and the transmit power.

# **SOFTWARE SPECIFICATIONS**

### Security

#### SPI Firewall

Wizard for creating port forwarding and outbound traffic blocking rules

Advanced settings allows users to specify DNAT, NAT-T, SNAT, and Filter rules for accepting, rejecting, dropping, and logging packets

### SSL Certificate Management

#### SSL on Serial Port

#### MAC Filtering

Accept, reject, drop and/or log packets based on their MAC address

#### Tunneling

IPSec VPN

IKE with 3DES, AES-128, 192 and 256 encryption (up to 5 connections)

#### GRE tunneling

VPN passthrough support

Easy to use Wizards

### Configurable IP Defense

Denial-of-Service

ICMP/Ping Flood

**Brute Force Access** 

# Management

Hosted device management with MultiTech DeviceHQ

API (RESTful JSON over HTTPs)

SMS messaging via API

Firmware Upgradeable through GUI, API or DeviceHQ

Configuration file save and restore

User-defined default configuration can be saved and recovered on device

## Troubleshooting options

Downloadable logs Remote Syslog Auto-reboot Configurable to time of day Diagnostics over SMS Radio Terminal Ping Test RF survey tool Remote reboot over SMS Statistics on system performance, Ethernet, Wi-Fi, cellular, tunnel interfaces, and serial and Bluetooth usage

### Data usage alerts

SMS and email

# Useability

Start up wizard to activate and configure device

Context sensitive help/ Help-On-Hover pop-ups

# Documentation integrated into Web GUI

### Customizable GUI

Upload logos, labels, and color schemes

Customize support contact information

# Flexibility

# WAN Failover

Wi-Fi models only

### IP Pass-through

### Dynamic DNS (DDNS)

(Enables private LAN access with port forwarding)

### Forwarding DNS Server

### DHCP Server

Supports fixed and dynamic IP addresses

### Configurable SNTP client

# Serial Port (RS-232)

PAD - Packet Assembler/ Disassembler

TCP/UDP protocols

Supports client and server modes

# Configurable MODBUS

Pass-through

Bridges serial MODBUS RTU traffic to MODBUS

Allows a MODBUS TCP Master to communicate with a MODBUS RTU slave connected to the serial port

### Persistent Connectivity/ Keep-Alive

Active and passive cellular link monitoring (automatic repair of the cellular PPP connection)

Active mode (ICMP or TCP) feature is configurable to ping or connect to a server at specified intervals Passive mode monitors cellular connection for traffic for a configurable

# time period Dial on Demand

Maintains cellular connection only when there is traffic to send

### Wake Up on Call

Establishes a cellular connection upon a wake up event such as Ring, Caller ID or SMS

### GPS

Server and client modes provide configurable NMEA data to external devices (LAN and/or WAN)

Serial port dump

### **Protocols**

Network: TCP/IP, UDP/IP, DNS, SSL/TLS, PAP, CHAP, idle time

Routing: NAT, Host Port Routing, DHCP, PPP, Static Routes

Application: Telnet/SSH Serial: TCP/UDP PAD Mode, MODBUS RTU Bluetooth: TCP/UDP PAD Mode, SPP, RFCOMM

GPS: NMEA TCP/UDP Server/ Client

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MultiTech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations.

### **INSTALLATION SUPPORT**

MultiTech's Installation Support Service delivers priority service with the ability to work one-onone with an experienced MultiTech technical support engineer, to guide you through the installation process for our products.

# TECHNICAL SUPPORT SERVICES

At MultiTech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your MultiTech representative or visit www.multitech.com/support.go

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