

# CHAMELEON CTM-15X MODEM DATA SHEET

## RUGGED DESIGN

- Wide operating temperature range (-30 °C - +65 °C)
- Tested to MIL-STD 810F/SAE standards for shock, temperature, vibration and humidity
- Shock absorbing mounting bracket for enhanced shock and vibration isolation
- CNC machined aluminum/hi-impact thermoplastic composite enclosure

## HIGH SPEED CELLULAR COMMUNICATOR

- EV-DO (REV A) - 3.1 Mbps (peak download) 1-2 Mbps (typical), 1.8 Mbps (peak upload) 300-500 kbps (typical)
- HSPA+ - 21 Mbps (peak download), 5.7 Mbps (peak upload)

## FUNCTIONALITY

- Linux operating system
- 10/100 Ethernet port, DB-9 serial port
- Integrated 12 channel Trimble GPS receiver (NMEA/TAIP) 6 analog or digital inputs, 4 digital outputs
- Low power (<1 mA) shutdown mode with wake on timer/event
- 9-36 Vdc power input
- DHCP server with port forwarding for local/remote configuration via telnet/SSH or embedded web page, firewall features
- Machine to machine device support - UDP/TCP PAD, MODBUS Master Gateway, MODBUS Slave Gateway (TCP/SERIAL), ULCP
- User configurable time/speed/heading/distance/ input reporting logic for GPS, I/O and device status commands
- Email/SMS support for reports and output triggering
- Store and forward of reports when out of coverage
- Remote firmware upgrade
- DYN DNS (dynamic domain) configuration
- Odometer feature
- Monitor the amount of data transmitted and received over a wireless link
- Advanced reporting logic for GPS, I/O, ignition, OBDII, power up, voltage level, acceleration/deceleration
- Onboard support for IPsec and SSL based VPNs (virtual private networks)



## ENVIRONMENTAL

### Random Vibration:

MIL-STD 810F Method 514.5C. 5 ~ 500 Hz,  
 1.6 ~ 2.0grms

### Shock:

MIL-STD 810F Method 516-I, 40G, 11ms  
 Sawtooth wave

### Temperature (operating):

MIL-STD 810F Method 502-II, -30°C to  
 +65°C

### Temperature (storage):

SAE 1455 4.2.3, Storage: -40°C to +75°C

### Humidity:

SAE J1455 Humidity test 4.2.3, 85-95%  
 relative humidity for 2, 24-hour cycles

## POWER

- 9 to 36 Vdc
- 0.5 Amps max @ 12 volts
- Less than 1mA standby at 12 volt
- Protection to SAE J1455

## GPS

- L1 (1575.42 MHz) frequency 12  
 channel continuous tracking receiver
- Accuracy: <5 metres (50%)  
 <8 metres (90%)
- Reacquisition: <2 sec (90%)  
 <10 sec (hot start)
- SMA GPS antenna connector and  
 other options
- 3.3 Vdc active antenna support

## SPECIFICATIONS

### ANALOG + DIGITAL I/O

#### 6 Inputs (analog or digital)

0-10V analog range (10 bit resolution)  
 36V max input, 50 kohm input impedance  
 alarm configuration

#### 4 Digital Outputs

500 mA sink capability, overload protection  
 Open drain configuration  
 12 position, dual row 3.5 mm pitch Term.  
 Block Weidmuller part#: 1727670000

### DEVICE INTERFACES

#### DB9 RS232C configured for DCE

PPP connection interface configuration  
 commands interface (com port)  
 PAD (UDP/TCP).SNMP  
 MODBUS SERIAL

#### RJ45/Ethernet 10/100 base T

Always on ethernet connection (plug and  
 play)  
 MODBUS TCP  
 Configuration commands interface (telnet/  
 SSH or web)

### RF

- Dual band (800/850/900 MHz and  
 1800/1900 MHz)
- CDMA (1xRTT/EVDO), UMTS  
 (WCDMA/HSPA)  
 RF power 23.5 dBm max into 50  
 Ohms
- SMA antenna connector and other  
 options available

### OPTIONS AND SOFTWARE

Custom on board application processing  
 capability (Linux O/S 2.6 KERNEL)

#### Chameleon Planet

Monitor multiple modem network status,  
 GPS location, etc

#### Chameleon Chat

UDP/TCP port monitor

#### Gateway Series

Allows the modem to communicate with  
 various WPAN devices

#### WPAN Device Accessories

E-VDT, Man Down Pendant, Marine Asset  
 Tracker, Message Terminal, etc

### APPROVALS

FCC, Industry Canada

