



Configuring Reporting on CTM-200

Model	CTM - 200
Revision	Rev 1.0

Revision Control

Description	Revision	Date
Initial Release	Rev 1.0	

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I. Overview

The CTM-200 has many different messages that can be reported locally and remotely (via serial, Ethernet, Wi-Fi, Cellular, SMS, Email). Reports are typically generated from the CTM-200 and sent to local/remote software to be parsed and aggregated for easy viewing. When sending reports to IP devices, the CTM-200 can be configured to report to an IP address or a hostname.

2. Triggers, Reports and Messages

Before we can begin configuring the CTM-200, we need to understand some of the basics of how the CTM-200 generates messages:

2.1 Trigger

A **trigger** is an event that serves as a stimulus for a report. A trigger can be generated based on a variety of conditions: time, distance, max/min speed, accel/decel, heading, input, ignition, engine diagnostic parameters, power status, etc.

2.2 Report

A **report** is a configuration for messages that are to be delivered. The report defines whether the message(s) are to be sent locally, remotely and the type of communication, UDP, TCP, email, SMS, serial, etc.

2.3 Message

A **message** is a predefined string of information usually formatted as an NMEA style sentence. Many predefined messages exist that provide data such as GPS information (speed, heading, etc), input status, device diagnostic data, engine diagnostics, odometer, engine hours, etc. If required, a trigger can generate multiple reports. Reports can have up to 4 messages defined. Messages do not have to be linked to the trigger. For example, a trigger based on a GPS condition, such as distance traveled, can result in an engine diagnostic message being generated.

Below are links to the CTM-200 Command Reference and CTM-200 Report Messages. These references will be very useful in the next sections:

Command Reference: http://cloud.cypress.bc.ca/documents/Command_Ref/CTM200/

Report Message Reference: http://cloud.cypress.bc.ca/documents/Report_Messages/CTM200/

3. CTM-200 Reporting Options

There are 3 options for reporting on the CTM-200:

3.1 General Reporting

Up to 999 general reports can be defined. There are various different triggers that can be defined for general reports such as:

- Ignition – **cmd igncond, cmd ignreport**
- Power Up – **cmd pupcond, cmd pupreport**
- Acceleration – **cmd accel cond, cmd accel report**
- Idle – **cmd idle cond, cmd idle report**
- OBD – **cmd obdcond, cmd obdreport**
- VCC – **cmd vcccond, cmd vccreport**

The trigger is then linked to the general report which consists of some or all of the following general report commands: **cmd reptime, cmd reptimeip/cmd reptimeip, cmd reptimeport/cmd reptimeport, cmd reptimeaddmes**

3.2 GPS Reporting

Up to 8 GPS Reports can be defined. The trigger for GPS reports is always the **cmd gpscond** command. Any combination of the following can be used as a trigger(s) for a GPS report:

- Time (seconds)
- Distance traveled (meters)
- High speed threshold (kph)
- Low speed threshold (kph)
- Heading

The trigger (ie. **cmd gpscond**) is then linked to the GPS report which consists of some or all of the following commands:

cmd gpsrep, cmd gpsrepip/cmd gpsrepip, cmd gpsrepport/cmd gpsrepport, cmd gpsrepaddmes

3.3 Input Output (IO) Reporting

Up to 8 IO Reports can be defined. The trigger for IO reports is always the **cmd iocond** command. Any combination of the following can be used as a trigger(s) for an IO report:

- Time (seconds)
- Alarm on input trigger
- Report on IP address changes

The trigger (ie. **cmd iocond**) is then linked to the IO report which consists of some or all of the following commands:

cmd iorep, cmd iorepip/cmd iorepip, cmd iorepport/cmd iorepport, cmd iorepaddmes

The CTM-200 Manual has diagrams for wiring the inputs.

4. CTM-200 Configuration Examples

Below are some report configuration examples. Note that if you want your changes to take effect, you must enter **cmd save** followed by **cmd pwr mode 2** which will save and power cycle the CTM-200. You can gather useful information from each of the examples below and combine them to create a configuration suited for your needs.

4.1 Ignition Report (remote reporting)

The **general report** below will send message \$PMID, \$GPGGA, \$GPRMC, and \$PPWR remotely to cypress.bc.ca:8000 via UDP every time the ignition is toggled ON or OFF. Typically a configuration like this will send remote reports via the cellular device installed in the CTM-200.

```
cmd igncond 1 3          # Trigger ignition report 1 if ignition is toggled ON/OFF
cmd ignreport 1 1        # Link ignition report 1 to general report 1
cmd reptime 1 0 3 1     # Send report remotely using UDP, with store and forward enabled
cmd repemip 1 cypress.bc.ca # Remote hostname (IP address could be used instead)
cmd repemport 1 8000     # Remote Port
cmd repaddmes 1 3 80 82 116 # Report $PMID, $GPGGA, $GPRMC and $PPWR messages.
```

4.2 VCC Report (local reporting)

The **general report** below will send message \$PGPS locally to 192.168.1.20:8001 via TCP every time the supply voltage goes below 7V. This configuration will send reports via LAN locally.

```
cmd vcccond 1 1 7.0      # Trigger VCC report 1 if supply voltage is less than 7.0
cmd vccreport 1 3        # Link VCC report 1 to general report 3
cmd reptime 3 5 0        # Send report locally using TCP
cmd replocip 3 192.168.1.20 # Local IP
cmd replocport 3 8001     # Local Port
cmd repaddmes 3 114      # Report the $PGPS message
```

4.3 GPS Report (remote reporting)

The **GPS report** below will send message \$PMID, \$GPGGA and \$GPRMC remotely to 2.2.2.2:9000 via UDP every 300 seconds OR 1000 meters travelled. Typically a configuration like this will send remote reports via the cellular device installed in the CTM-200.

```
cmd gpscond 1 2 300 1000      # Trigger GPS report 1 every 300 sec OR 1000 meters travelled
cmd gpsrep 1 0 3 1          # Send report remotely using UDP, with store and forward enabled
cmd gpsremip 1 2.2.2.2      # Remote IP
cmd gpsremport 1 9000       # Remote Port
cmd gpsaddmes 1 3 80 82     # Report $PMID, $GPGGA and $GPRMC messages.
```

4.4 GPS Report (local reporting)

The **GPS report** below will send message \$GPGGA and \$GPRMC locally via the CTM-200 primary serial port every 5 seconds:

```
cmd gpscond 4 2 5           # Trigger GPS report 4 every 5 seconds
cmd gpsrep 4 1 0           # Send report locally via the serial port
cmd gpsaddmes 4 3 80 82    # $GPGGA and $GPRMC messages.
cmd port 1 9600 8 n 1 2    # Set serial port to 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control
```

The **cmd port** command needs to be configured to match the serial port settings configured on the receiving device.

4.5 IO Report (remote reporting)

The **IO report** below will send message \$PGPS and \$PIND remotely to test@gmail.com every time input 3 is in alarm (ie. toggled on or off). A configuration like this will send remote reports via the cellular device installed in the CTM-200.

```
cmd insetup 3 D 0.0 N 2     # Set input 3 as digital input and alarm on change state
cmd iocond 1 1 0 3         # Trigger only while input 3 is in alarm
cmd iorep 1 0 6            # Send report remotely via email
cmd ioemail 1 test@gmail.com # Send report remotely using UDP, with store and forward enabled
cmd emailsrv 207.167.198.18 # Telus SMTP email server
cmd ioaddmes 1 114 20      # Report $PGPS and $PIND messages.
```

The **cmd emailsrv** IP address that you use is dependent on the carrier of your cellular device. The example above will work if you have a Telus SIM card, but if you have a different SIM card then you can find out the SMTP email server address from your ISP. Below are some reverse lookup names you can use:

Telus - smtp.telus.net

Bell - mail.1xbell.ca

US Cellular - smtp.uscc.net

4.6 IO Report (remote reporting)

The **IO report** below will send message \$PGPS and \$PIND remotely to cellphone number 7781234567 every time the CTM-200 IP address changes.

```
cmd iocond 4 2 0 0 1      # Trigger when IP address changes
cmd iorep 4 0 7          # Send report remotely via SMS
cmd iosms 4 7781234567   # Send report to this phone number
cmd ioaddmes 4 114 20    # Report $PGPS and $PIND messages.
```

Technical Support

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