

# SMS Control and Alarm Notification

## Overview

SMS or 'Short Messaging Service' enables text messages to be sent between mobile phones. There are also moves afoot to provide SMS functionality into the land line phone system. Cloudmaster is able to accept SMS messages as control commands and send SMS messages to a nominated mobile phone to warn of an alarm condition such as a broken solenoid wire or a frost. You can configure Cloudmaster to accept control commands from either any, or for security, only nominated mobile phones.

## SMS Control Commands

The following list shows the common day to day commands that can be sent to a Cloudmaster unit. Note, the abbreviated form, shown in brackets saves typing and you can pre-program commonly used commands into the outbox of your phone.

<u>Command</u>	<u>Function</u>
REPORT	Returns an SMS report of current activity and warnings (RE)
HELP	Returns an SMS menu of typical control commands (HE)
DISABLE 17	Disables station 17 (DI 17)
ENABLE 159	Enables station 159 (EN 159)
IRRIGATION ON	Enables irrigation or take out of rain mode (IR ON)
IR OFF	Disables irrigation or put into rain mode
LIGHTS ON	Enables floodlight control facility (LI ON)
LI OFF	Disables floodlight control facility
STATION OFF	Turns off all active stations. Sequences are terminated (ST OFF)
ST ALL OFF	Same as above
ST 7 ON 15	Manual override station 7 immediately for 15 minutes
ST 7 ON S15	Manual override station 7 immediately for 15 seconds
ST 7 OFF	Turns station 7 off. If station is in a sequence then it is terminated
SEQUENCE 06:00 STOP	Stops all sequences that have a start time of 6:00 AM (SE 06:00 STOP)
SE 06:00 SKIP	Skips current station in all sequences that have a start time of 6:00 AM
SE 15:30 START	Starts (or unpauses) all sequences that have a start time of 3:30 PM
SE 06:00 PAUSE	Pauses all sequences that have a start time of 6:00 AM
AUXPUMP ON	Select auxiliary pump and turn main pump off
AUXPUMP OFF	Select main pump and turn auxiliary pump off

You can also use SMS to send commands in a format that emulates keypad presses where the characters **OP**, **/**, **L**, **R** and **|** (vertical bar) represent each Cloudmaster key **Operation**, **Enter**, **Left**, **Right** & **End** respectively. For example, to set the time to 3:27 PM through the keypad you would press the buttons 'OPERATION', '4', '0', 'ENTER', '1', '5', '2', '7', 'ENTER'. Sending the SMS command '**OP40/1527/**' would do the same job.

The SMS facility was intended for override control and alarm condition monitoring only, not complex setting up of the Cloudmaster unit. This should be done through the keypad or using the Cloudmaster Windows software from a PC. Trying to download watering schedules via

SMS messages, although technically possible, would be a nightmare. If you have the CDMA modem option fitted to your Cloudmaster then you can easily dial in from any remote desktop or notebook PC that is equipped with a phone connection and the Cloudmaster software.

## SMS Alarm Notification

The Cloudmaster unit can be set up to send an SMS alarm message to a nominated mobile phone number, or dial a land line, when an error condition occurs. Each alarm condition can be treated as required. For instance you may want a broken or shorted solenoid wire detection event and a frost activation condition to be sent as an SMS message to your mobile phone, but the frost condition you may also want to dial your house phone so you are woken up. The following list shows the different possible alarm conditions:

- Frost becomes active
- Frost becomes inactive
- Rain becomes active
- Rain becomes inactive
- Advisory SMS message has been sent to a club
- A station is skipped
- A shorted solenoid wire is detected
- An open circuit solenoid wire is detected
- A Flow rate error is detected
- A preset volume of leakage (flow when nothing is on) has been detected
- A power fail has occurred (reported as soon as power is restored)
- Power has been restored
- An overflow condition has been detected for a particular station
- An underflow condition has been detected for a particular station
- A slave unit has become faulty
- A faulty slave unit has become operational
- An input has become active
- An input has become inactive
- A station has missed its watering during a power fail
- An input with its alarm flag set has become active
- An input with its alarm flag set has become inactive

Typical SMS alarm messages could be:

- Station 59 off 17:34 open valve wire
- Station 6 off 06:23 shorted wire
- Frost on 04:12
- Slave 1 Fault 19:37
- Input 0 active 03:24

## Daily SMS Report

The daily SMS report is a useful method of ensuring the irrigation system is operating as expected at a remote site. It is an SMS message that is sent to a mobile phone every day at a preset time. The text of the message is the same text that is scrolling through the LCD (as detailed in Section 3 'The LCD Status Line') at that time. This facility is the equivalent of sending the REPORT SMS command to the controller at the same time everyday. This serves two purposes. Firstly, if you do not get the SMS then this may indicate a serious problem on site such as the controller losing power. Secondly, if you have the 24 hour totals enabled (Ref Operation 71 'Set up 24Hr totals') then you will know what the total station run time and volume

applied (if you have flow meters installed) has been over the last 24 hour period. This will give an indication that the hydraulics is running as expected. Refer to operations 71 & 13 and section 3 'LCD Status Line' for more details and an example of the 24 hour totals display.

## Hardware Required

The SMS feature requires the GSM modem kit from Jeffery Electronics. This kit includes a GSM modem, a whip antenna, serial cable with adapter and a power cable so the modem does not need a plug pack; it is powered directly from the Cloudmaster terminals. Also, the modem must be connected with one of the cellular service providers such as Telstra or Optus.

The modem data cable connects to the DB25 serial port on the side of the unit via the adapter supplied. This means the modem cannot be used as well as a permanent direct cable connection to a PC. You can plug in one or the other as required but you cannot have both at once. The modem can, however, work in conjunction with an internal dedicated radio telemetry transceiver.

Refer to operators manual section 9 - Installation and Cable Connections or Installation Guide - GSM modem.doc available from [www.jec.com.au](http://www.jec.com.au) for details on installing the modem and checking for reliable signal strength levels.

## Clubs and Staff

Some operations refer to clubs and staff. This terminology is intended for the Council park management application (see operators manual section 5 'Council Floodlight Control & Billing' for details). Club users are only able to send the command to turn on and off the floodlights within their nominated time slots. Staff users, on the other hand, can send any control commands any time of the day. Therefore, when used in any application other than municipal, simply ignore the 'Club' operations and use the 'Staff' ones instead.

## Getting Connected

Refer to information sheet 'GSM Modem – Installation Guide' for physical installation and network connection of the modem.

Inquiries or comments, please contact Brett Jeffery  
Ph. (02) 91442666 Mob. 0415 222160 Email. [brett@jec.com.au](mailto:brett@jec.com.au) Web. [www.jec.com.au](http://www.jec.com.au)