



Application Notes

Rev 01

AN36 –Pre-Season Checks for IPCs with Cloud IMS

Introduction

This application note describes how a farmer can undertake a check of IPCs that may have gone out of contact over winter. This note assumes you have an INC gateway device and your farm uses the Water-Insight Cloud IMS system. This note also assumes that your IPC system was running ok the previous summer. The intention is to identify units that may need servicing.

IMS is a cloud-based management system for irrigation control and sensor telemetry. It is designed as a self-service application that allows the farmer to monitor and control a variety of water systems on the farm including monitoring of water flows, tank levels, soil condition and fixed set irrigation equipment.

IMS can be used via a phone, tablet or desktop web browser. Farmers can sign up for the service and manage one or more farms or farm blocks. Readers of this application note should have some familiarity with IMS before proceeding.

Before You Start

1. Check that your EP3 has fresh batteries
2. Check that you have the latest revision of firmware on your EP3 (tap settings > info or settings > version). If it is not the latest version upgrade it. (see EP3 user manual or application note AN-31)
 - a. As at 1/8/2019 the latest version is V5.04
3. Export the site configuration from IMS (Farm Settings > Advanced > Export)
4. Transfer the exported podlist to a SD card
5. Load the podlist and schedules from the card to the EP3
6. Set the time on the EP3 to match the time on the INC (find the time on INC: settings > time; edit the time on EP3 settings > time)
7. You can now go to site. You must have with you:
 - a. EP3 (with card inserted)
 - b. Magnet
 - c. Your smartphone (showing your IMS farm site). If you don't have a phone or coverage, read how to produce a report of out of contact devices below.

Working On Site

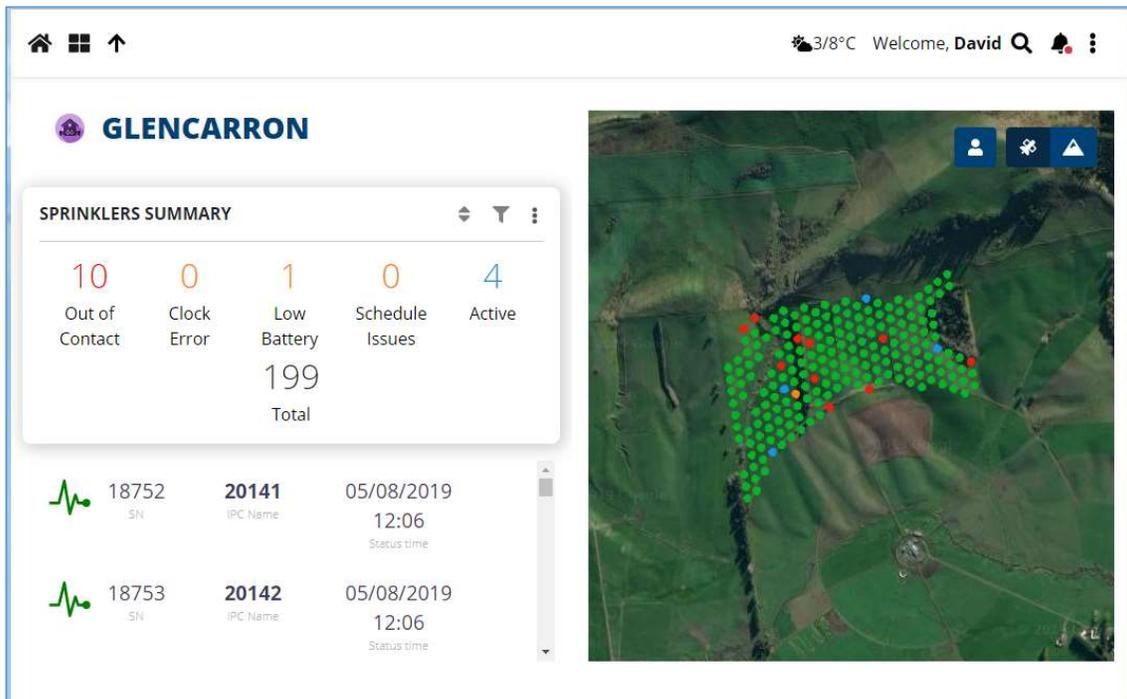
You should be familiar with navigating IMS before attempting this.

Important consideration when looking at battery or IPC replacement:

If an IPC has had limited sun exposure over winter, the battery charge % may be low. As we move into Summer, the battery may very well recharge as expected.

1. On your device tap your farm and view the sprinklers (IPCs). This brings up a map of the site and a list of all the sprinklers.
2. Filter the list by tapping the filter icon () then select "Out of Contact" to list all the IPCs that are in the red (out of contact) state.
3. It may help to tap the user icon () on the map. This will show where you are on the farm in relation to the IPCs. Use this to go to the nearest IPC in red. The map shows the IPC post (or pod) name
4. **Initial visual checks**
 - Obvious damage to IPC
 - Confirm solar panel is clean
 - Solenoid wires are connected correctly
 - Storage magnet is not installed.
5. **Check Serial number** on the IPC (inside on the silver metal cannister) matches the serial number associated with the IPC name. If the numbers differ, note down the serial number on the IPC and if you have cellphone coverage you can update the serial number for that post in IMS or do it later when you are in WiFi range and have internet access. Refer to **Replacing an IPC in the Field** application note or contact Water-Insight for guidance.
6. Send a **Status Request** to the IPC (using local comms).
 - If it responds check the battery charge % and issue it a timeset.
 - If your water line is pressurized you can also check the valve by turning the manual valve on command.

7. If the IPC does not respond, it may be in **hibernation**.
 - Tap the magnet over the end of the IPC that says “magnet” on the label. The LED will start flashing (entered bootloader mode).
 - If it doesn’t then the battery may be completely flat. (refer to **IPC Battery Replacement** or **Replacing an IPC in the Field**)
8. Once the LED stops flashing the unit will re-enter its normal operating mode and you have about 10-20seconds in which to poll the device for its status. If it responds then note the battery voltage in the response, it may be very low.
9. If it does not respond even after applying the magnet but does appear to enter bootloader mode (flashing LED), the IPC may have been replaced at some stage
 - Check the firmware version is as required for your site
 - Confirm channel and/or farm ID are set correctly. Follow the EP3 manual to set the FarmID (if your site uses one) and correct radio channel. This situation is unlikely to occur if the unit had previously been in contact last season.
10. If the **battery appears completely flat** you may need to either
 - Return it to Water-Insight for service
 - Replace the battery with a spare (IPCs with field replaceable battery)
 (refer to **Replacing an IPC Battery** or **Replacing an IPC in the Field** application notes or contact Water-Insight)
 - Ensure the farmID and channel are set correctly, plus give it a timeset, then send a schedule from IMS.



Creating a Report from IMS

To create a report of IMS follows these steps:

1. Click the filter icon and select the units you want to see (e.g. select “out of contact” for units that have not communicated for 30 days. (filter icon: )
2. Sort the list in the order that you wish (typically alphabetically by IPC name) using the sort icon. (sort icon: )
3. Click the more icon and select “export PDF report”. This will generate a report in PDF format and copy it to your downloads folder or
if you are on a phone provide options to share via email or store the file. (the more icon: )
4. Print the report to a printer and take it with you to the farm site.

For more information email support@waterinsight.co.nz