TRACMAP TRAVELLING IRRIGATOR

TMi30 Installation Guide

INTRODUCTION

The TMi30 is a monitoring system for a Travelling irrigator that shuts down the pump and sends alerts under fault conditions. When the reservoir tank is full, the float switch will trip and needs to stay on while the reservoir is being emptied. Once the reservoir is empty the float switch will turn off. The float switch is connected to the TracMap pump controller. The TracMap pump controller will then turn the irrigator pump on/off when needed. When the float is tripped and stays on, the TracMap pump controller will pump for 5 minutes to allow time for the fluid to travel to the irrigator, and to get the irrigator to move. At the end of the 5 minutes, successful communication must have happened between the TracMap pump controller and the TracMap irrigator. If this has not happened, the TracMap pump controller will turn the pump off and alarm. If successful communication has been made, then the pump will keep pumping until either the float turns off or the 3-minute movement timer in the irrigator has expired.

PUMP HOUSE

Mount the pump controller box as close to the pump control relay, and where the end user can see and reach the controller.

On the pump controller board, the pump relay contacts are closed when the pump is ON.

Feed only 12v or 24v through the on-board pump relay. Use an external 12v or 24v relay to switch 230vac. Strobe and Siren outputs supply 12v DC to power the strobe and siren if fitted.

Float switch input is closed when on, and once triggered, needs to stay closed until the reservoir is empty. The supplied 12v DC power supply needs to be powered from 230v AC.

CAUTION!!

PUMP CONTROL CONTACTS RATED FOR 24V MAX.

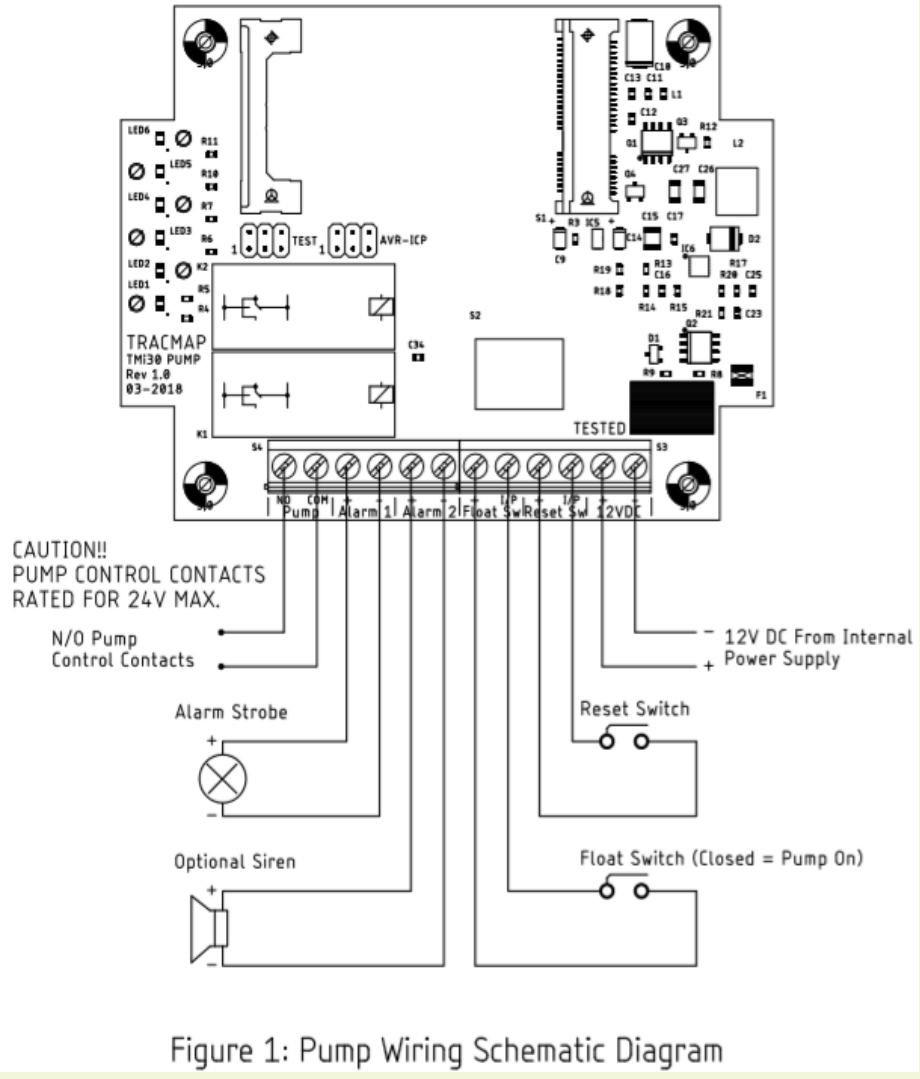

Figure 1: Pump Wiring Schematic Diagram

IRRIGATOR MONITOR

Locate a suitable place on the irrigator to mount the solar panel and the grey TracMap monitor box. The Solar panel needs to be mounted as flat as possible, so that the sun will hit the panel from all directions.

Picture 1: Typical Irrigator Monitor Installation

Remove the lid of the monitor by unscrewing the 4 black plastic bolts in each corner. The supplied galvanised M10 bolts and brackets are to bolt the bottom of the stays to the irrigator. Mount the stays on the irrigator. Not all irrigators are the same, so you may need to adjust the mounting stays to suit your irrigator. For this reason, no holes have been drilled into the solar panel at the top. You will need to use a 6.5mm drill for this, but be very careful not to damage the solar panel while drilling. Drill the holes in the solar panel with the cover fitted and using the supplied M6 bolts and nuts, mount the solar panel and cover to the stays. Run the cable from the solar panel and the GPS antenna back to into the grommet in the bottom of the monitor box, and cable tie up the cable as necessary. The GPS antenna needs to be the first cable put through the grommet in the monitor box otherwise the SMA connector on the end will not fit through once the other cable are put through.

The Wheel Movement Switch as in Picture 2 needs to be mounted so that the spring arm will touch the metal tab that needs to be mounted to the wheel. Mount two metal tabs to the wheel as in Picture 3. It's usually best to remove the wheel from the irrigator to do this. The mounting plate for the Wheel Movement Switch has an array of holes in it to allow for adjustment to fit most irrigators. You may need to drill some holes in this plate if the holes are not suitable. Use some thread locker on the 2 bolts that screw into the wheel movement switch. Rotate the wheel in both directions to confirm the spring arm is moved and you can hear the switch click. The metal tab may need bending to stop the wheel flicking the spring into the centre of the hub. Confirm the spring arm switches freely and does not get jammed when the wheel is turned. Run the cable back to into the grommet in the bottom of the monitor box, and cable tie up the cable as necessary.

Picture 2: Wheel Movement Switch

Picture 3: Metal Wheel Tab

Picture 4: End of Run Switch

Optional End of Run Switch Picture 4: If fitting optional end of run switch, mount the switch so that the level of the switch is knocked when end of run. See Picture 4. The switch bracket will need to be drilled and mounted to suit the irrigator.

Solar panel, GPS antenna wheel movement sensor, optional end or run switch all are terminated into the monitor box. Wire everything up as per Figure 2 below (Irrigator Wiring Schematic Diagram). When the unit is powered, the power LED will flash. Rotate the irrigator wheel that has the wheel movement switch on it and confirm the Wheel Sensor LED flashes. If this does not happen, then there is a problem with the wheel sensor. If all is ok, replace the cover to the monitor box and everything should be ready to use.

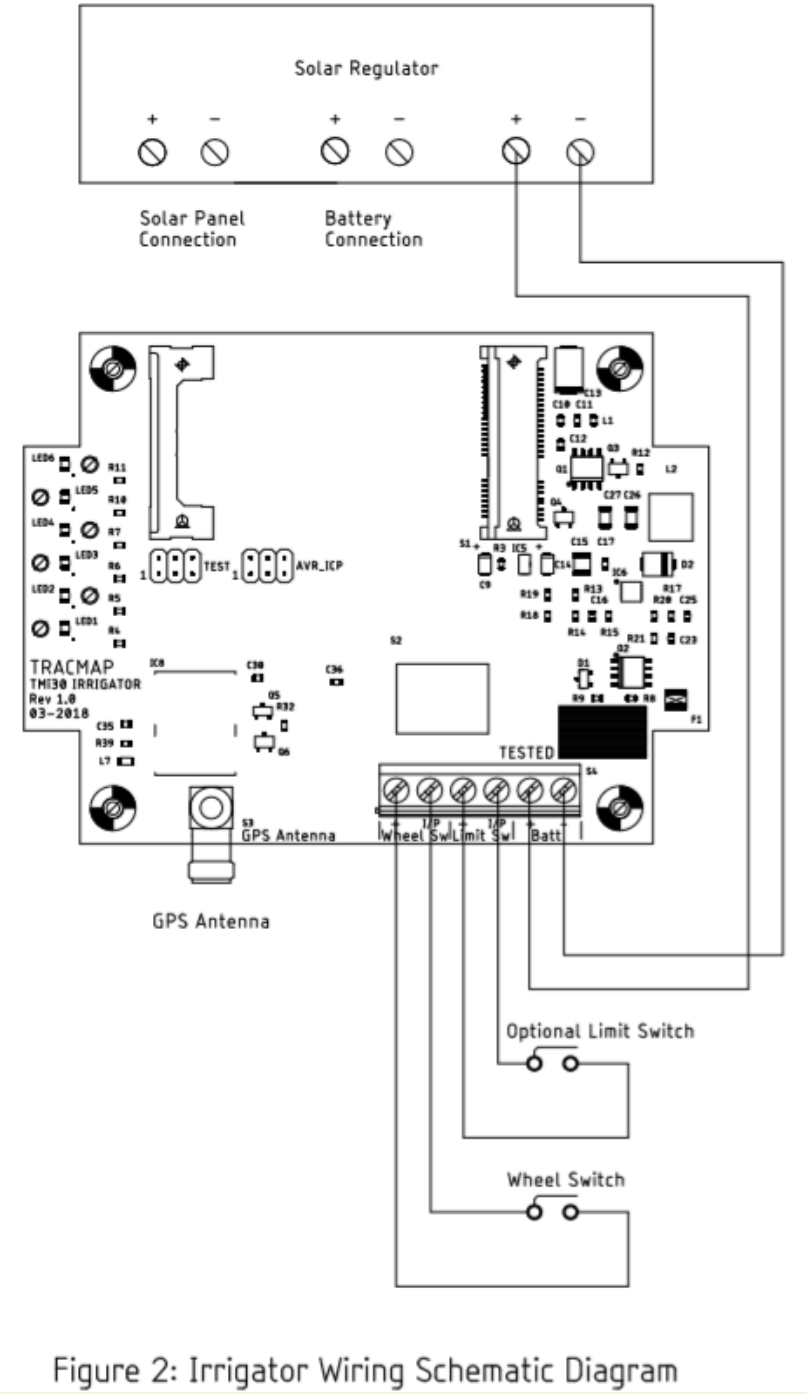

Figure 2: Irrigator Wiring Schematic Diagram

ON INITIAL SETUP AN ADMINISTRATOR NEEDS TO BE APPOINTED TO THE SYSTEM

To appoint the Admin you must send the unique PIN to the pump phone number, from the phone you wish to be the Admin (generally the farm owner).

From here the Admin can add or delete numbers and control the irrigator.

TMi30 TXT COMMANDS

Q: SMS back with current device status (battery voltage, uptime, pump/float state, etc.).

S: Stop the pump.

R: Reset the alarm and start the pump again if the float is on.

A: Select the A irrigator for current and future runs.

B: Select the B irrigator for current and future runs. (Only for A-B system)

The following commands are available only to the Administrator: (PIN Required)

LIST:	Show the contents of the phone book.
ADD <number>:	Add the given number to the phone book. The number must be specified in international form (i.e. +6427... rather than 027...).
REMOVE <slot/number>:	Remove the given number from the phone book.
CLEAR:	Clear the phone book, except for the administrator slot.