



PART #: NETB12PPAC

User Manual and Installation Guide

The PumpProxy™ AC (Part # NETB12PPAC) is designed for the remote monitoring and control of electrically powered three phase and single phase pumps. For engine driven pumps, please refer to the user manual and installation guide for part # NETB12PPDC.

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| Revision History | | |
|------------------|----------------------------------|----------------------------|
| Rev | Date | Description |
| A | December 13 th , 2012 | Initial release of manual. |
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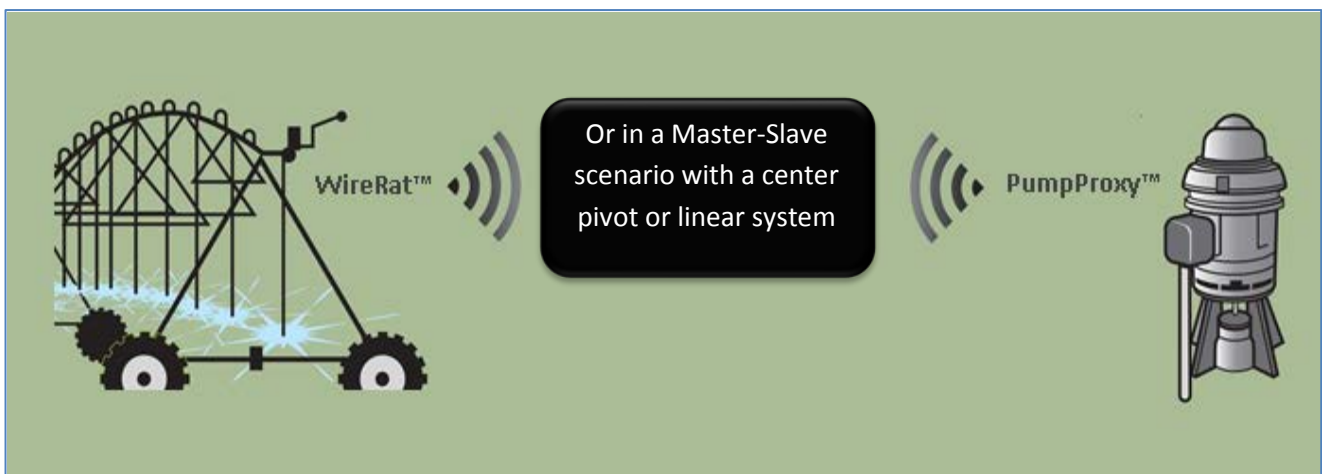
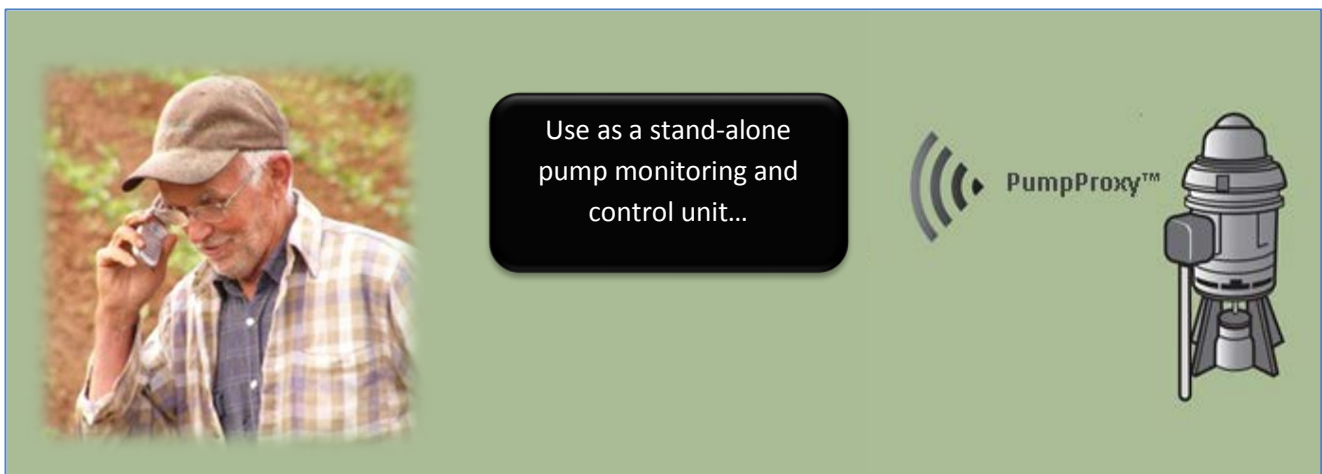
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Applications

Part # NETB12PPAC (branded the PumpProxy™) is specifically designed to remotely monitor and control AC powered irrigation pumps. With a PumpProxy™ installed on an irrigation pump, you can:

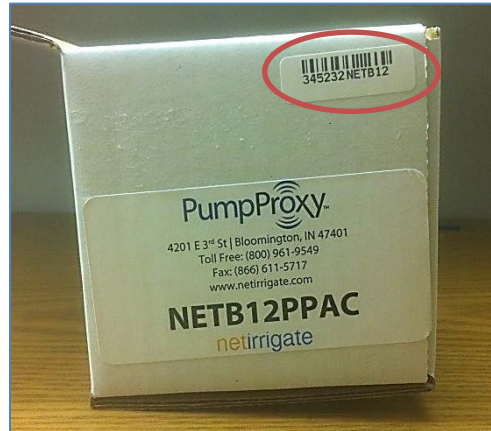
- Remotely start or stop a pump with a cell phone.
- Notify up to ten recipients via voice call, text message, or email when a pump starts or stops.
- Receive notifications in the event of power failure or thermal overload.
- Replace underground “kill wires” from your center pivot irrigation panel to its associated pump (requires compliment part # NETB12WR).



PumpProxy™ Basics

Identifying the Device Id

All NETB12 products are uniquely identified by a 6 digit serial number which is barcoded on both the packaging carton and the physical unit. Net Irrigate refers to this number as the “Device Id”.



Package Contents

All NETB12PPAC units ship with:

1. A ½” NPT Cord Grip to be used with the knock out on the pump control panel.
2. Magnetic mounts which come pre-installed on the enclosure.
3. An extra Device Id bar code sticker which can be placed on the exterior of the pump panel.





Connection Cable

The NETB12PPAC is equipped with a five conductor PVC jacketed connection cord containing five wires. The description of each conductor is as follows:

| Part #: NETB12PPAC | |
|--|--|
| Black | AC Line (90 – 250VAC) |
| White | Neutral |
| Red | Control Relay Common (8 amp resistive; 5 amp inductive @ 125-250VAC) |
| Blue | Normally open (NO) Relay Contact |
| Purple* | Normally closed (NC) Relay Contact |
| *Older versions of the NETB12PPAC only contained a NO relay contact. The purple wire did not exist and instead was a GND conductor. | |

Power On and Power Off

The NETB12PPAC triggers notifications when off-to-on and on-to-off transitions occur. For example, when 120VAC is supplied to the black and white conductors, the unit can be configured to send a voice, text, or email notification that *“YourSiteName has powered up.”*

Conversely, because the NETB12PPAC is equipped with a rechargeable lithium polymer battery, when 120VAC stops being supplied to the black and white conductors, the unit can be configured to send a notification that *“YourSiteName has powered down.”*

The unit is equipped with a “debounce” timer so small interruptions in power do not trigger notifications. When a transition from on-to-off occurs, the unit must be off for at least 40 seconds before a notification will be sent. Likewise, the unit must have been ON for at least 5 minutes, to ensure the backup battery is adequately charged to support a “powered down” notification.

Remote Start and Stop

If the NETB12PPAC is wired correctly, it may be used to remotely start or stop a pump (or potentially any other control circuit). When your security profile is properly configured on www.netirrigate.com, starting or stopping the pump can simply be achieved by sending a text message to the NETB12PPAC or utilizing the PumpProxy™ iPhone app (available in the Apple App Store 2/15/2013).

To start the pump (i.e. transition the NO relay contact to closed), send a text message to **317-602-1732**. The text message should be formatted as follows: **PPAC START 333001** Where 333001 is the six digit device id of the hardware.

To stop the pump (i.e. transition the NO relay contact back to open), send a text message to **317-602-1732**. The text message should be formatted as follows: **PPAC STOP 333001** Where 333001 is the six digit device id of the hardware.

Note that to send remote control messages to the unit, your security profile must first be setup within your account on the netirrigate.com website or by calling customer support at (800) 961-9549.



Customer, Site, and Notification Recipient Setup

Before mounting the NETB12PPAC on an actual pump control panel, it is best to setup the customer information, the irrigation site details, and the intended notification recipients in the NetIrrigate™ system. Additionally, you will need to link this information to the Device Id you intent to mount. Setup is fast and easy and can be accomplished through one of three possible ways:

1. Login to www.netirrigate.com. If you do not yet have a username and password for your dealership, please contact customer support at (800) 961-9549 or email support@netirrigate.com. For details on how to utilize the dealer portal on www.netirrigate.com, please review the document entitled “Web Portal User Guide”.
2. Login to the PumpProxy™ iPhone App. PumpProxy™ is available in the App Store as of 2/15/2013. You may use the same login information as you would use to login to www.netirrigate.com. For information on how to use the iPhone app, please review the document entitled “Pump Proxy™ iPhone App User Guide”.
3. If you do not have access to a computer or the PumpProxy™ iPhone App, just contact customer support at (800) 961-9549 and an agent will be happy to setup the customer, site, and notification recipients for you.

“Notification recipients” are the people who are contacted (either via voice call, text message, or email) when a pump starts or stops. Up to ten notification recipients can be configured per pumps site. Notification recipients can be easily enabled or disabled by using the web portal, iPhone app, or simply by calling customer support at (800) 961-9549.

Setting Up a Master-Slave Scenario with a Pivot

If the NETB12PPAC will be used in conjunction with a center pivot irrigation system equipped with a NetIrrigate® WireRat™, it is important to properly configure the association on the netirrigate.com web portal. See **Appendix A** for configuration details.

Wet/Dry Behavior

It is important to note that in Master-Slave scenarios, the NETB12WR unit on the pivot will by default always relay pump start/stop messages to a NETB12PPAC if the pump panel is ON. To run the pivot dry, do one of the following:

- Turn the HAND/OFF/AUTO switch to the HAND position.
- Disconnect the power to the pump control panel.
- Use the NetIrrigate® WireRat® iPhone App to simply disable the notification recipients associated with the remote pump control signals before starting the pivot.

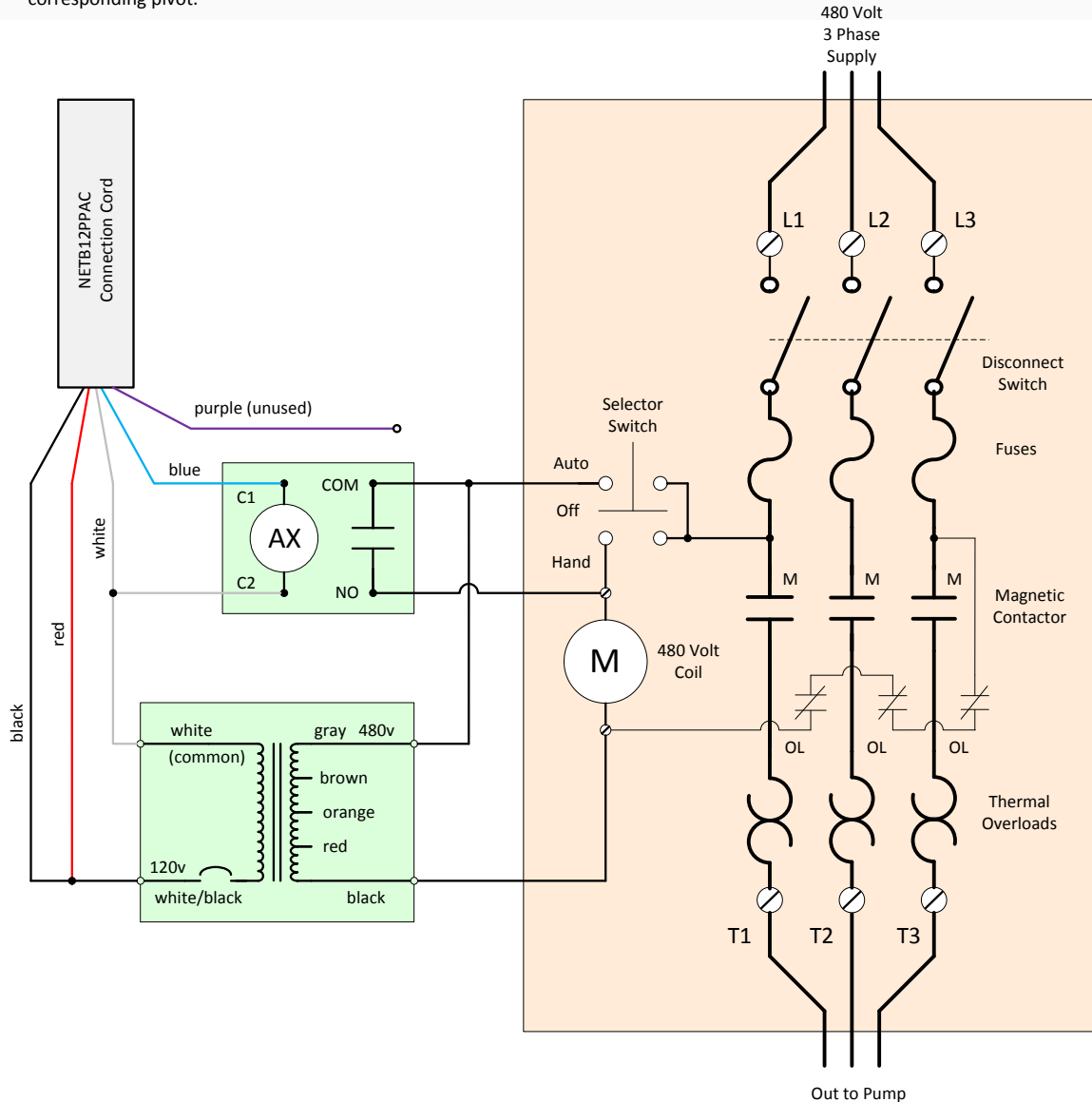
Installation

HIGH VOLTAGE WARNING: Installation should be performed by qualified licensed electricians.

3 Phase Pump Controllers without Step Down Transformers

The most common type of AC pump controller installation assumes a 3 phase combination starter with a 480 volt contactor, coil, and hand/off/auto selector switch. The diagram should be adhered to such that both power loss and thermal overload events can be trapped by the NETB12PPAC.

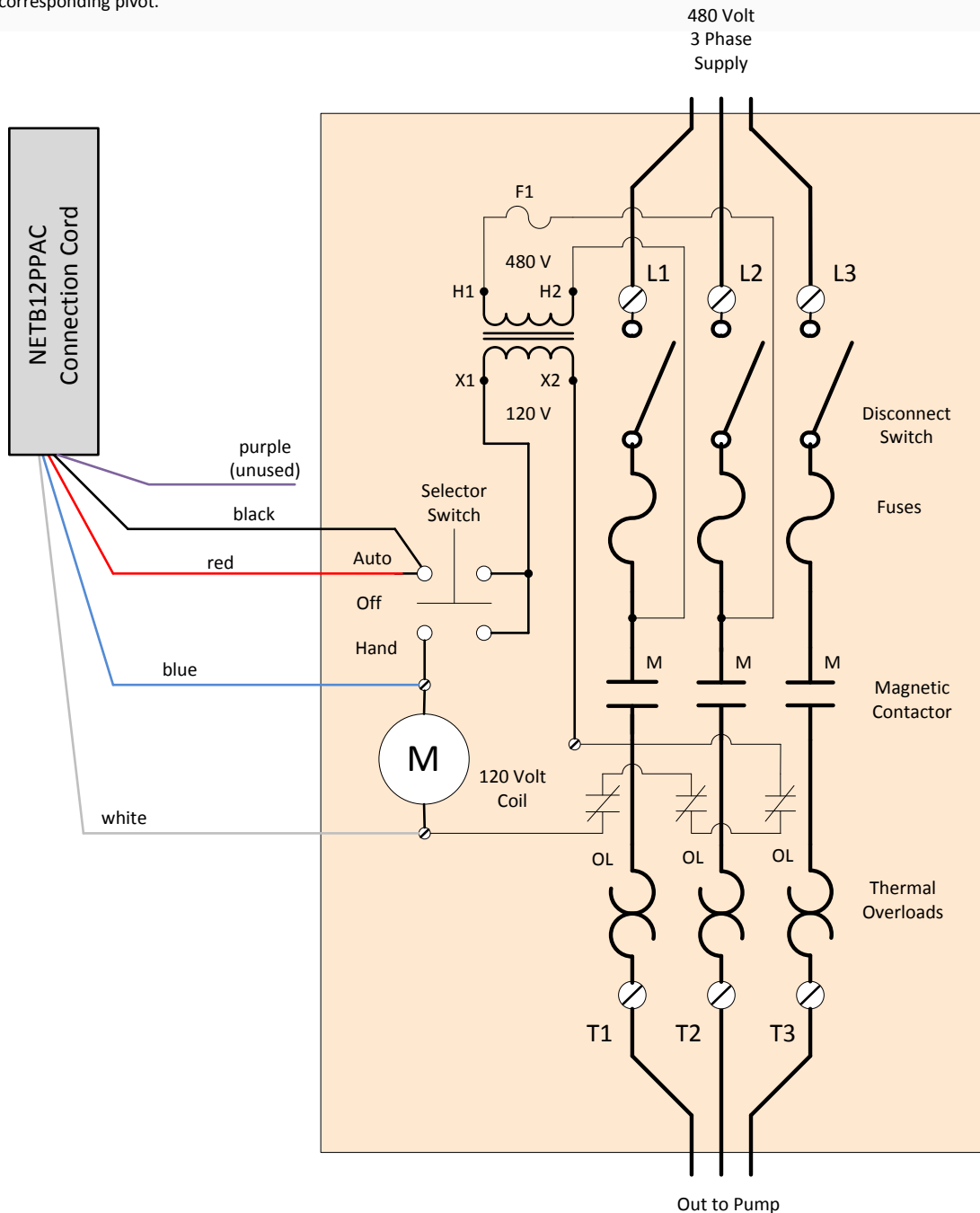
1. **ENSURE POWER IS OFF AT THE PUMP PANEL.**
2. Mount the NETB12PPAC outside the pump controller enclosure. Run the connection cord through an available knock-out.
3. A 480 to 120 VAC control transformer with 50va capacity or larger must be added to all pump controllers that do not have a 120 VAC control circuit.
4. An auxiliary relay with one normally open (NO) contact and a 120 VAC coil must be added to all pump controllers that do not have a 120 VAC control circuit.
5. Wire the NETB12PPAC as shown in the diagram below.
6. After wiring has been completed, place the selector switch in the AUTO position, the pump can now be started and stopped via remote commands to the NETB12PPAC. Remote commands can come from either a person or a NETB12WR unit mounted on a corresponding pivot.



3 Phase Pump Controllers with 120 Volt Contactor Coil

Pump control panels with a built-in 120 volt contactor coil and a hand/off/auto selector do not need an auxiliary transformer and relay installed. The diagram below should be adhered to such that both power loss and thermal overload events can be trapped by the NETB12PPAC.

1. **ENSURE POWER IS OFF AT THE PUMP PANEL.**
2. Mount the NETB12PPAC outside the pump controller enclosure.
3. Wire the NETB12PPAC as shown in the diagram below.
4. After wiring has been completed, place the selector switch in the AUTO position, the pump can now be started and stopped via remote commands to the NETB12PPAC. Remote commands can come from either a person or a NETB12WR unit mounted on a corresponding pivot.



Testing Procedures

Before testing notification services, at least one notification recipient should be configured for the site in question. If this has not been done, please see previous section [Customer, Site, and Notification Recipient Setup](#).

Testing Power-Up Notifications

If the wiring schemes on pages 8 and 9 are adhered to, a “*NetIrrigateSiteName has powered up*” notification should occur when the main disconnect of the pump panel is turned on. The notification should occur within 3 minutes after power has been applied to the panel. If a power-up notification is not received, contact customer support at (800) 961-9549 to ensure the unit is registered on the network.

Testing Power Failure Notifications

Providing the pump panel has been on for at least 3 minutes (to ensure backup battery is adequately charged), shut-off the main disconnect to the pump panel. Within 3 minutes, you should receive a “*NetIrrigateSiteName has powered down*” notification. If a power-down notification is not received, contact customer support at (800) 961-9549.

Testing Thermal Overload Notifications

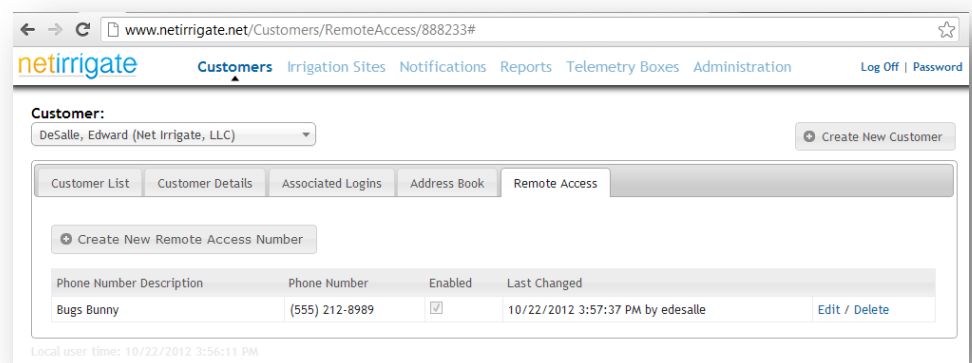
Newer thermal-overload protectors are typically equipped with a dial or test button to simulate a thermal overload. Older overload protectors not equipped with solid state components will have to have at least one heater removed to most accurately simulate an overload. When a thermal-overload is simulated, the pump should automatically stop and a “*NetIrrigateSiteName has powered down*” notification will be triggered.

Testing Remote Start and Stop

Remotely controlling the pump can be accomplished via one of three interfaces:

- Sending appropriate text message commands to (317) 602-1732
- The PumpProxy™ Mobile App
- The NetIrrigate® Remote Shutdown Line (800) 961-9549 x7 (**supports shut down only**)

All remote control functionality uses a combination of account and caller id security to identify your list of PumpProxy™ equipped sites available for remote control. To enable your phone to initiate remote shutdown calls, make sure your phone number exists and is enabled within the Remote Access tab within the NetIrrigate® Web Portal.





Testing Remote Pump Control with Text Messaging

To start the pump, send a text message to **317-602-1732**. The text message should be formatted as follows: **PPAC START 333001** Where 333001 is the six digit device id of the hardware.

To stop the pump, send a text message to **317-602-1732**. The text message should be formatted as follows: **PPAC STOP 333001** Where 333001 is the six digit device id of the hardware.

Testing Remote Pump Control with the PumpProxy™ App

The PumpProxy™ Mobile App will be available 2/15/2013. The app will facilitate remotely starting and stopping a pump through a graphical user interface. Detailed instructions will be published in a later manual revision upon release of the app.

Testing Remote Shutdown with Voice Calls

To initiate a remote shutdown call, simply dial (800) 961-9549 x7. The automated system will read off a list of your pumps available for remote shutdown. Follow the voice prompts and your pump should shut down within two minutes. Note that shutdown is only supported through the voice interface.

Appendix A

When the NETB12PPAC is being used as a slave from a center pivot control panel to start and stop the associated pump, setup on the netirrigate.com web portal involves certain steps to ensure proper functionality.

1. Create a separate “Irrigation Site” for the associated pump panel and link the DeviceId of the NETB12PPAC installed at the pump to the site.
2. After creating the link, make sure the “PumpProxy” check box is **UN-CHECKED**. We recognize this seems counter intuitive.

Customer: Abbett, Glenn (Abbett Farms LLC) Chester Inc.

Site: Rietveld well (342333)

| Site List | Details | Linked Telemetry Boxes | Associated Rate Plans | | | | | |
|-----------|----------|------------------------|-----------------------|----------------|----------|----------------|--------------------------|-------------|
| DeviceId | IMEI/ESN | Sim Card Number | Phone Number | Flow Meter SKU | K Factor | Rain Gauge SKU | PumpProxy™ | |
| 342333 | 342333 | 4213048674 | (570) 246-7807 | | | | <input type="checkbox"/> | Edit Delete |

Link a Netirrigate Telemetry Box to Site:

100054 Create Link

Local user time: 12/13/2012 9:07:45 AM

3. Navigate to *Customers* → *Address Book*. Create a PumpProxyAc notification recipient for **both the start and stop events** associated with the Well Pump.

Select type “PumpProxyAcStart”

Recipient Name: TargetWellPumpStartEvent

Type: PumpProxyAcStart

Phone/Email: 333001

Blackout Start: None

Blackout End: None

Check to enabled this notification

Save New Notification Recipient

Create a recipient name to handle the incoming relay message to start the pump. We recommend using the same name as the site equipped with the NETB12PPAC and the word “Start” after it.

Instead of entering a phone or email address, enter the deviceId of the NETB12PPAC

Repeat the process above for the stop event. Be sure to select type “PumpProxyAcStop” and make the recipient name descriptive such that it clearly indicates the Notification Recipient is for relaying stop messages to the pump.

4. Navigate to *Notifications* and select the site that represents the pivot that will relay pump start and stop commands to the NETB12PPAC. I.E. the “Master”. Add the PumpProxyAcStart and PumpProxyAcStop recipients you created in step 3 as start and stop notification recipients for the pivot. See example below:

The screenshot shows the Net Irrigate web interface for configuring notification recipients. The browser address bar shows the URL: `www.netirrigate.net/Notifications/Subscribers/890768?siteId=555531&ratePlanId=884`. The navigation menu includes: Customers, Irrigation Sites, **Notifications**, Reports, Telemetry Boxes, and Administration. The user is logged in as "DeSalle, George (Electro-Kinetic Corp)" for "Net Irrigate, LLC".

The configuration is for Site: "Pivot to Call 3-Phase Pump (No Boxes)" and Rate Plan: "-NETB12WR (For the WireRat (PART# NETB...))".

Three notification messages are shown, each with a table of recipients:

- MESSAGE: {NetIrrigateSiteName} has reached a virtual stop-in-slot with heading of {Heading}.**

| Recipient | Type | Target | Enabled | Ignore Start Hour | Ignore End Hour | Last Changed |
|--------------|------------------|--------|-------------------------------------|-------------------|-----------------|-----------------------------------|
| Remote Start | PumpProxyAcStart | 342939 | <input checked="" type="checkbox"/> | None | None | 12/13/2012 9:55:59 AM by edesalle |
- MESSAGE: {NetIrrigateSiteName} is now running.**

| Recipient | Type | Target | Enabled | Ignore Start Hour | Ignore End Hour | Last Changed |
|--------------|------------------|--------|-------------------------------------|-------------------|-----------------|-----------------------------------|
| Remote Start | PumpProxyAcStart | 342939 | <input checked="" type="checkbox"/> | None | None | 12/13/2012 9:55:59 AM by edesalle |
- MESSAGE: {NetIrrigateSiteName} has stopped walking.**

| Recipient | Type | Target | Enabled | Ignore Start Hour | Ignore End Hour | Last Changed |
|-------------|-----------------|--------|-------------------------------------|-------------------|-----------------|-----------------------------------|
| Remote Stop | PumpProxyAcStop | 342939 | <input checked="" type="checkbox"/> | None | None | 12/13/2012 9:56:23 AM by edesalle |

Each message table includes a "New Recipient:" dropdown menu and an "Add Selected Notification Recipient" button. The dropdowns are currently set to "Eddie DeSalle - Cell | Voice | (713) 540-9822" for the first message and "Eddie DeSalle - Desk | Voice | (812) 822-3133" for the others.

Should you have any questions with NETB12PPAC configurations, please contact customer support at (800) 961-9549.