EAGLE I REMOTE MONITORING

TITAN P-SERIES
ENCLOSED VFD MODEL

OWNERS MANUAL

CARRY PUMPS

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EAGLE i REMOTE MONITORING SYSTEM

for CARRY PUMPS OUTDOOR-RATED ENCLOSED VARIABLE FREQUENCY DRIVES (VFD)
TITAN P-SERIES

OVERVIEW

The Eagle i Remote Monitoring System allows you to keep an eye on your pump station and can alert you if there is a problem, without you having to be onsite to manually check your pump's operation!

The **Eagle i System** keeps you informed by sending you a text message when certain preprogrammed conditions exist with your pumping system, such as if there is a power failure, or if there is a low/high water situation in your pit. You can also reset a fault on your CARRY PUMPS VARIABLE FREQUENCY DRIVE (VFD), request the status of a variety of functions in your system, and even change some of the preprogrammed monitoring conditions simply by sending a text message to your remote unit.

The **Eagle i System** is assigned its own phone number and uses SMS text messages to communicate information from your CARRY PUMPS VARIABLE FREQUENCY DRIVE (VFD) to any device capable of receiving basic text messages (for example, iPhones/iPads and Android devices/tablets). Annual cellular package for texting service is quick and easy to renew with **Eagle i**.

EAGLE i • COSTS

- The Eagle I System is available in both 230V and 460V configurations. The initial cost for the remote monitoring system equipment is $1,484.00 for either 230V or 460V.
- The cellular package for texting service must be renewed annually to keep the phone number that is assigned to your remote monitoring system.
- Cost of the texting service is $300.00 per remote, per year.
- ***Please contact us at carrypumpsales@gmail.com or (989) 737-8374 to activate your new system or to renew your texting service cellular package.***

EAGLE i • INSTALLATION

Unpacking and mounting instructions for non-factory installed units:

1. Turn off power to the Variable Frequency Drive (VFD) and allow all voltage to drain off. Remove the remote from the shipping box.

2. Find a suitable mounting location for the din rail provided and attach it. Then, snap the remote unit onto the din rail using the clips on the back of the unit.

3. Locate the enclosure knockouts in the upper right side of the box. Remove one of the ½" knockouts. Install the provided cord connector in this hole.

4. Install the magnetic antenna through the cord connector and tighten it on the antenna cord location with additional electrical tape. (Note: the enlarged diameter is to provide a proper seal with the oversized grommet.)

5. Route the prewired remote cable to the control wire opening of the VFD and insert it through in order to connect the wires to the VFD terminals. Then, connect the wires to the VFD terminals by following the wiring instructions below.

6. Turn the power on to the VFD unit. Then, turn the SMS controller switch to the "ON" position.

7. ***Please contact us at carrypumpsales@gmail.com or (989) 737-8374 to have your remote monitoring unit's phone number added to the monitoring system.***

EAGLE i • WIRING

1. Connect the wire labeled "24" to the "24" terminal on the VFD.

2. Connect the wire labeled "CM" to the "5G" terminal on the VFD.

3. Connect the wire labeled "A1" to the "A1" terminal on the VFD.

4. Connect the wire labeled "A3" to the "A3" terminal on the VFD.

5. Connect the wire labeled "3A" to the "3A" terminal on the VFD.

6. Connect the wire labeled "V1" to the "V1" terminal on the VFD.

7. Connect the wire labeled "S1" to the "S1" terminal on the VFD.

8. Connect the wire labeled "M2" to the "M2" terminal on the VFD.

9. Connect the wire labeled "M4" to the "M4" terminal on the VFD.

10. Connect the wire labeled "M5" to the "M5" terminal on the VFD.

EAGLE i • BASIC FUNCTIONS

Adding and removing authorized telephone numbers:

- There are ten available spaces for telephone numbers so that multiple users can utilize the remote monitoring system.
- However, if more than one phone number is active in the system, more text messages will be used because of messages sent to multiple recipients.
- An authorized phone number must be used to add and remove phone numbers.
- The number (989) 737-8374 has been preprogrammed in your unit as the default phone number.
- ***Please contact us at carrypumpsales@gmail.com or (989) 737-8374 to remove the default phone number and add your phone number(s) to your unit.***

Checking the status of the controller's inputs:

- There are three inputs being monitored from the VFD.
    1. **VFD Fault**.
    2. **Remote/Local Mode**.
    3. **Pump Running Status**.
- A text message can be sent to the unit to get the status of these inputs.

Checking the status of the controller's outputs:

- There are three outputs that are used to send signals to the VFD.
    1. **Minimum Speed Input**. This output is used to limit the pump from running above minimum speed. It locks the frequency at minimum while it is in remote. Used when pumping restrictions are in place.
    2. **Fault Reset Output**. This output is used to reset a VFD controller by a text message.
    3. **VFD Enable/Disable Output**. This output is used to idle the VFD/pump when no pumping is required.

EAGLE i • ADDITIONAL FUNCTIONS

- **Water Level Monitoring**. A text may be sent to request the current water level of the pump tank. The response will be in inches of water.

- **Pump Speed Monitoring**. A text may be sent to request the current speed (frequency) of the pump.

- **Pump Run Time**. A text may be sent to request the accumulated run time of the pump.

- **Pump Cycles**. A text may be sent to request the accumulated cycles that the pump has had.

- **Pump Running or Off Conditions**. The controller can be set to send a text message to the recipients every time the pump turns on or off. This can use a lot of messages and be somewhat bothersome if the pump cycles often. This function can be turned on and off with a command text. So, if the recipients don't what to receive this message it can be turned off until it is needed later.

- **Water Level Alarms**. The controller has been preprogrammed for high and low alarm messages based on the level transducers signal. The high setpoint has be preprogrammed at 85 inches of water. The low setpoint has been preprogrammed at 4 inches of water. These can be changes thru command text messages, or they can be disabled also. These setpoints can be beneficial at sending an alarm if the water is actually too high or these will trigger an alarm if the transducer is not operating correctly.

- **Power Loss**. The controller will send a text message if power is lost to the unit, which most likely would mean that the VFD power was interrupted. Once power has returned, another message will be sent to notify the recipients.

- **Fault Reset**. A text message may be sent to the controller to reset a VFD fault. Some fault will auto reset up to three times before there is a lock out.

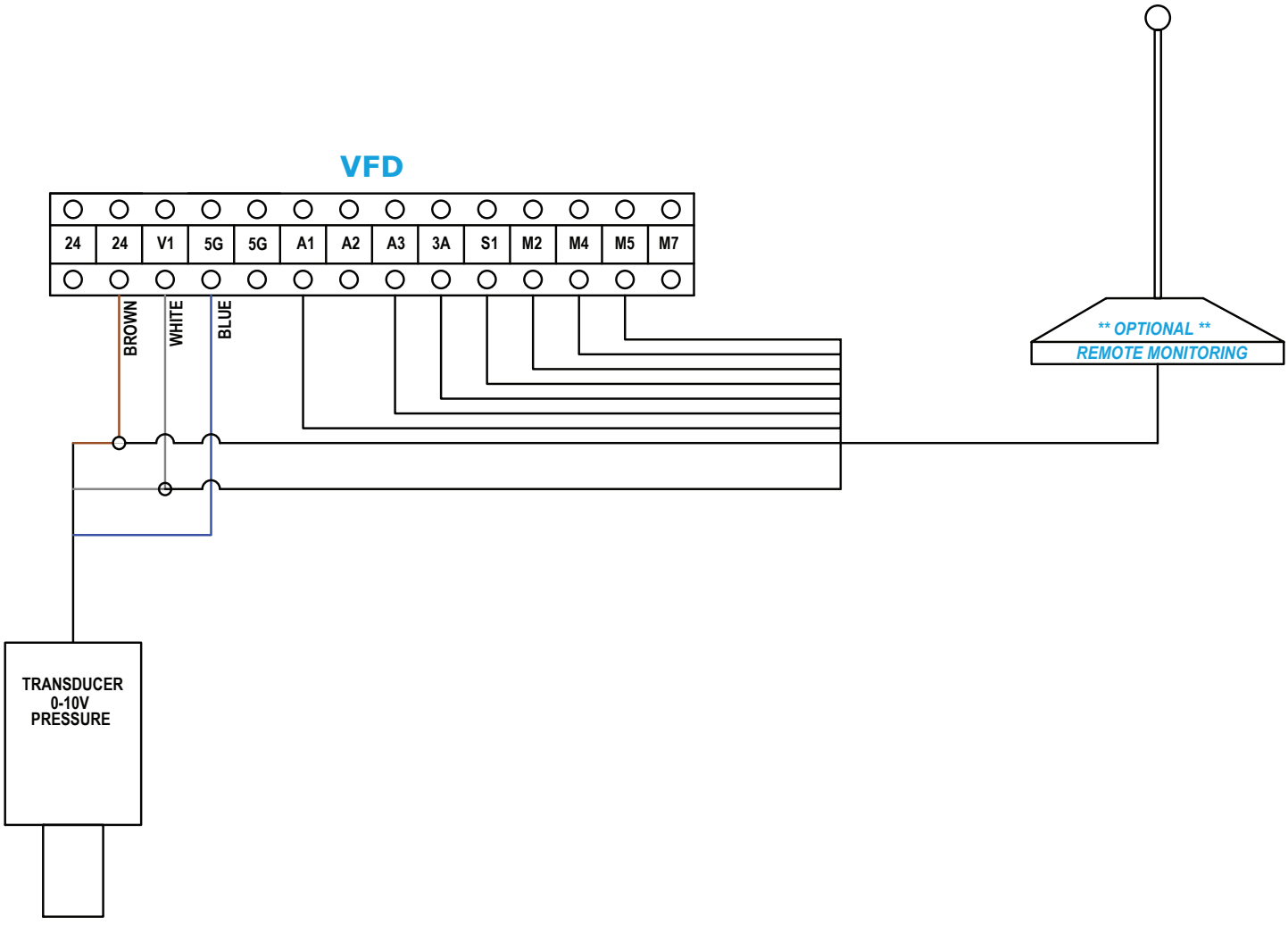
- **Setting a Frequency Limit**. A text message may be sent to the controller to limit the running frequency to a minimum speed (30hz). This is utilized when flooding conditions exist or when regulations have limitations on the amount of water that may be pumped.

- **Enabling and Disabling Drive Operations**. A text message may be sent to the controller to disable the operations of the VFD. This will command will inhibit the VFD from running, thus idling the pump operations. Another text may be sent to enable the VFD so normal operating functions can be restored. When the drive has been disabled, "EM Stop BX" will be displayed on the VFD screen.

EAGLE i • COMMANDS

- **OUTPUTS** Requests the status of the outputs.
- **INPUTS** Requests the status of the inputs.
- **LEVEL** Requests the water level status.
- **RESET** Resets a VFD fault.
- **SPEED** Requests the pump's speed status.
- **TIME** Requests the accumulated run time. The maximum run time is 9999 hours. To reset the run timer, use the command "IOIAS2=0".
- **CYCLES** Requests the accumulated cycles. The maximum number of cycles is 9999. To reset the cycle counter, use the command "IOIAT2=0".
- **IOOH1** Turns the minimum speed limit on.
- **IOOL1** Turns the minimum speed limit off.
- **IOOH2** Turns the VFD operations off (disables the drive).
- **IOOL2** Turns the VFD operations on (enables the drive).
- **AIN0H=<value>** Changes the high-level alarm set point. For example: AIN0H=85 will set the set point to 85 inches of water.
- **AIN0L=<value>** Changes the low-level alarm set point. For example: AIN0HL=4 will set the set point to 4 inches of water.
- **CS<n>=<phone number>** Adds a telephone number to the authorized list. There are 10 available spaces for phone numbers, represented by the <n> (0-9). The phone number must be entered without a "1" prefix or any dashes. For example: CS0=9897378374 would add the telephone number (989) 737-8374 to the “0” space on the list.
- **CS<0>** Deletes the delete the phone number in the “0” position. For example: CS0 will delete the phone number in the “0” position.
- **CS?** Reads or displays all the authorized phone numbers on the unit's list.
- **IOIP=2** Disables sending a text message every time the pump turns on and off.
- **IOIC=2** Enables sending a text message every time the pump turns on and off.
- **999** Synchronizes the SMS controller to the time and date.

EAGLE I REMOTE MONITORING
TITAN P-SERIES WIRING DIAGRAM



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