The following procedure is a supplement to other documentation supplied with this equipment and will guide the user in properly wiring the iQpump and motor. It will also show the user how to configure the iQpump for a simplex pump application.

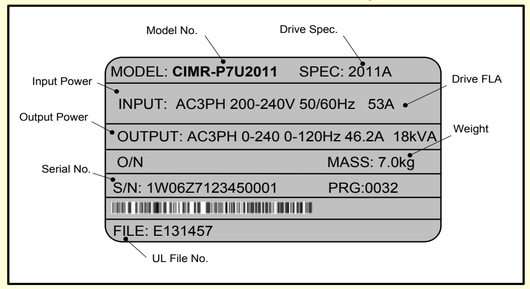
Danger:
Improper wiring can and will cause bodily harm as well as damage to the equipment.

When installing the system, be sure to follow good wiring practices and all applicable codes. Ensure that the mounting of the various components are secure and that the environment, such as extreme dampness, poor ventilation, etc., will not cause system degradation.

Please read this cheat sheet and other documentation provided with the iQpump thoroughly before attempting any installation.

Step 1 iQpump Model Identification and Mounting

To make sure you received the correct model, it is essential to verify the iQpump nameplate with your order and make sure that the iQpump has the correct rating so it can be used with your motor. Please check the nameplate information as shown in the example below.



- Check that the available power will meet the ***input power*** requirements.
- Ensure that the ***output power*** from the iQpump is compatible with the pump motor requirements.
- In the case of systems with more than one iQpump, follow the above procedure for each iQpump and pump motor.

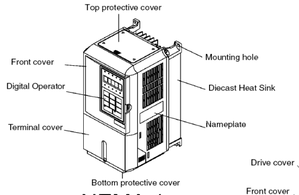
Mounting the iQpump

The mounting of the iQpump is extremely important regarding environment and accessibility. Depending on your system, there are various models available and the mounting dimensions (footprint) may be different. Because the mounting procedure is fairly extensive, it is beyond the scope of this document; the user is referred to the iQpump User Manual (Document No. TM.iQp.01) received with the iQpump, ***Section 1 Physical Installation***. Match the model that you received and follow the procedure described in the manual to ensure a safe and functional installation. In cases where the system has more than one iQpump, refer to the proper clearances required for adequate ventilation. *Please pay particular attention to:*

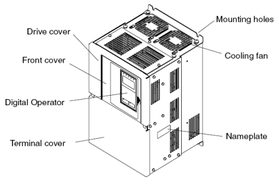
- The clearances to be maintained around the enclosure for adequate ventilation.
- The environmental specifications, such as avoiding excessive dampness, extreme temperatures, chemical exposure, corrosive areas, etc., to avoid damage to the equipment and to maintain safety.

Removing and Attaching the Terminal Cover

Improper removal of the iQpump terminal cover as well as front cover can cause extensive damage to the iQpump. To avoid damage to these items, please pay particular attention to the iQpump User Manual, Document No. TM.iQp.01, Section 1.8, **Removing and Attaching the Terminal Cover.**



NEMA 1



Open Chassis

Step 2 Connect Pump Motor and Line Power

Fig. 1 & 2 below show the electrical connections for the input power and motor terminals for various iQpump models. Select the proper diagram for the model you are installing ***(see Step 1). WITH POWER OFF*** make the appropriate connections.
Make sure to follow good wiring practices and all applicable codes. Ensure that the equipment is grounded properly as shown.

DANGER, ***LETHAL VOLTAGES ARE PRESENT- Before applying power to the iQpump, ensure that the terminal cover is fastened and all wiring connections are secure. After the power has been turned OFF, wait at least five minutes until the charge indicator extinguishes completely before touching any wiring, circuit boards or components.***

WARNING, DO NOT CONNECT ANY OF THE FOLLOWING TERMINALS TO EARTH GROUND

B1 B2 - + +1 +2

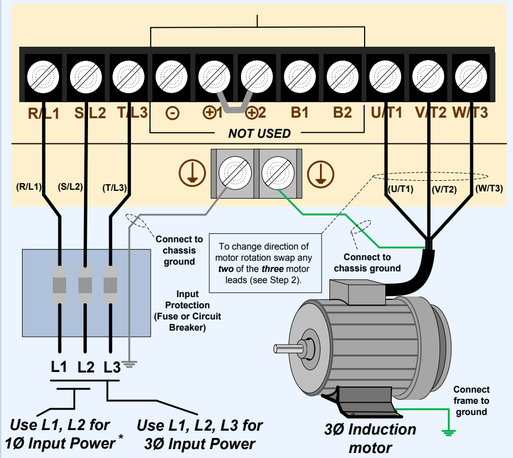


Fig. 1 Input Power and Output Motor Electrical Connections for Models: 20P4 to 2018 & 40P4 to 4018

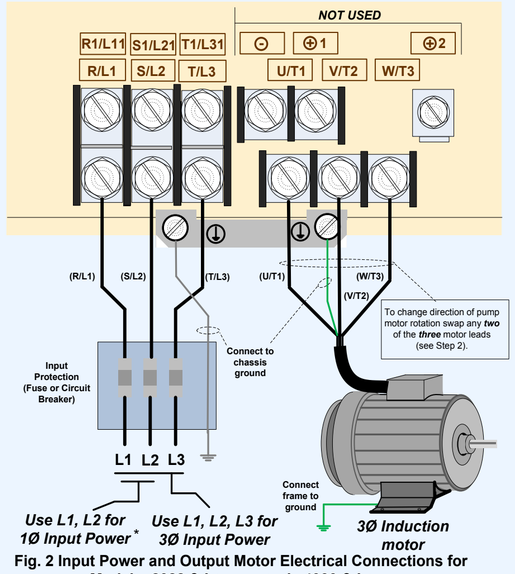


Fig. 2 Input Power and Output Motor Electrical Connections for Models: 2022 & Larger and 4030 & Larger

* Make sure the drive has been properly sized for single phase input power.

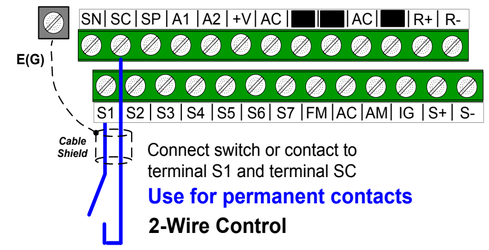
Step 3 Control Wiring

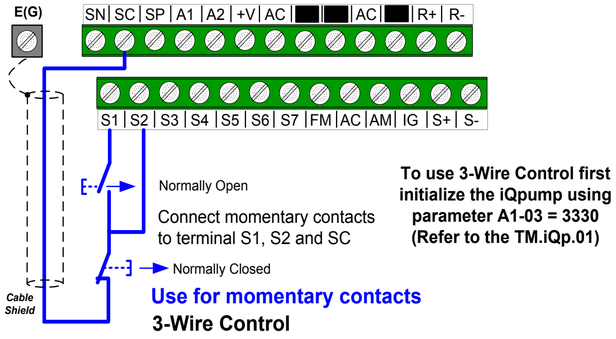
This step shows how to connect control wiring and feedback signal to the iQpump. Before making any control connections, **MAKE SURE POWER TO THE iQpump IS TURNED OFF!** Next remove the terminal cover to gain access to the control terminals (Step 1).

SELECT START / STOP CONTROL METHOD

The iQpump is **DEFAULT SETUP TO START/STOP FROM THE KEYPAD** (digital operator). If this is the preferred start/stop method, then continue to the feedback signal connection section. Please refer to the wiring diagram below to start/stop the iQpump using an external switch or contact.

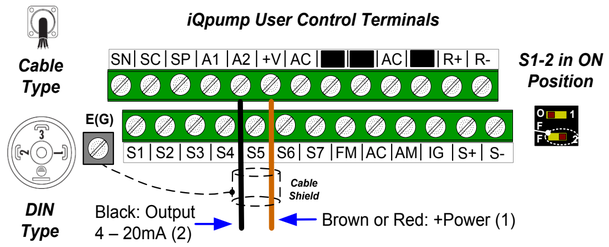
iQpump User Control Terminals

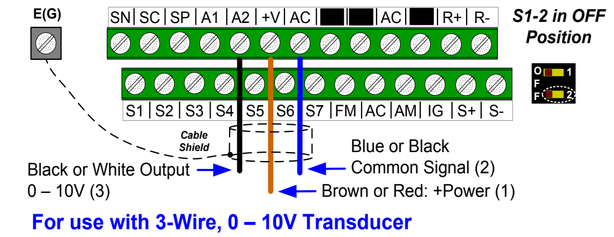




FEEDBACK SIGNAL WIRING (TRANSDUCER)

iQpump User Control Terminals





Important Note: Signal colors and numbering may vary depending on feedback device used, please consult feedback device manual.

Step 4 Pump Quick Setup

In this step, the iQpump is set up for a simplex pump application using the pump quick setup menu. Apply power to the iQpump after all the electrical connections have been made and the terminal cover has been reattached. At this point DO NOT RUN THE MOTOR; the digital operator should be reading as shown below in ***Fig. 3***.

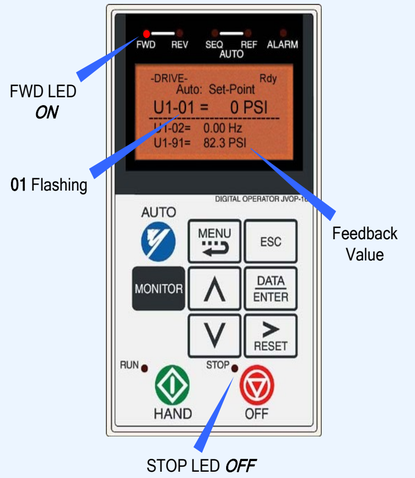
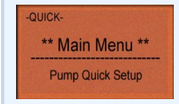
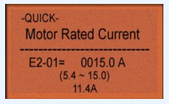


Fig. 3 Digital Operator

Next, push MENU 2 times on the Digital Operator until the Digital Operator shows the **Pump Quick Setup** Menu.



Next press DATA ENTER to start the Pump Quick Setup procedure.



The Pump Quick Start Menu consists of the most important parameters to set up your iQpump Drive for use with your pump system.

Press DATA ENTER to access a parameter, use RESET to select the digit and use ∧ ∨ to change the parameter value.

Press DATA ENTER to save the value.

IMPORTANT: Enter service factor amps (SFA) when using an iQpump in combination with submersible motor.

Press ∧ to go to the next parameter to continue the Pump Quick Setup programming. When Quick Setup is completed, press MONITOR to exit the Pump Quick Setup menu and go to operation.

Note: Refer to Step 5 for a Pump Quick Setup Parameter Overview.

Step 5

iQpump Quick Setup Parameter Overview (Simplex)

Parameter	Value	Description	Reference	Comments
E2-01	Drive Size Dependent	Motor Rated Current	Set to the motor nameplate full load amps.	For submersible motors use service factor (SF) amps.
E2-04	2	Number of Motor Poles	Number of motor poles is used to show the correct motor RPM on the display Enter '4' for an 1800 RPM motor and '2' for a 3600 RPM motor.	Confirm number of poles
b1-02	0 (Keypad)	Run Command Selection	Selects how the pump system is started: 0: Operator - "Hand" and "Off" keys on digital operator 1: Terminals - Contact Closure on Terminal S1	Only change if Start/Stop command is **NOT** from keypad.
b1-01	0 (Keypad)	Frequency Reference Selection	Selects how to set the system set-point: 0: Operator - Enter set-point on Keypad (Operator) 1: Terminals - Set-point from external analog signal	Only change if System Set-Point is **NOT set via** the keypad (see U1-01 Parameter).
P1-02	PSI	System Units	System Scaling: Select pump system units: Example: For a constant pressure system select PSI, for constant flow system select GPM.	Confirm system units. ***(See illustration 1)***
P1-03	145	Feedback Device Scaling	System Scaling: Enter feedback device maximum: Example: Enter 200 for pressure transducer with a maximum of 200 PSI at 20mA.	Confirm feedback device scaling. ***(See illustration 1)***
b5-12	0 (Disabled)	PI Feedback Ref Missing Detection Selection	Select what to do when the feedback device (transducer) fails or gets disconnected. 0: Disabled, continue running no message is displayed 1: Alarm, show warning on the keypad when the feedback device fails or is disconnected 2: Fault, stop pump system when the feedback fails or is disconnected	Also known as transducer loss detection. Not recommended to set on initial startup until system is operating properly. Refer to iQpump User Manual ***(Document No. TM.iQp.01)***
b5-13	0%	PI Feedback Loss Detection Level	Level in percentage feedback to indicate feedback device has failed or is disconnected. Example: Maximum feedback level (P1-03) set to 200 PSI. Enter 5% to indicate that a pressure below 10 PSI indicates that the feedback device has failed or has been disconnected. (10 PSI ÷ 200 PSI = 5%)	
b5-14	1.0 sec.	PI Feedback Loss Detection Time	Delay time before iQpump shows alarm or fault when feedback device has failed or is disconnected. Example: 5.0 sec., iQpump displays alarm or fault 5 sec. after the device has failed or is disconnected.	
P1-04	0.0 PSI	Start Level	When the iQpump is turned **On** and the feedback signal level (transducer) falls below this level the pump system will start after the time specified in P1-05. Example: Start Level P1-04 set to 50 PSI and delay time P1-05 set to 5 sec. Pump system will start when the pressure drops below 50 PSI for 5 sec.	It is mandatory to program the start level in order to use the sleep function. ***(See illustration 2 and 3)***
P1-05	0 Sec	Start Level Delay Time	Start delay time before pump system starts when feedback signal level falls below the start level (P1-04)	Recommended setting of **one** second or greater based on your system requirements. ***(See illustration 2 and 3)***
P2-01	0 (Frequency)	Sleep Level Type	Make system go to sleep when the selected signal level falls below sleep level (P2-02) 0: Output Frequency, iQpump checks output frequency (motor speed) 1: Output Current, iQpump checks motor current 2: Feedback Signal, iQpump checks feedback level signal	Recommended setting of 45.0 Hz for initial startup. **Note:** confirm during startup of iQpump that sleep function is working properly. The iQpump should go to sleep when the system detects a no-flow condition (e.g. closed valve). ***(See illustration 3)*** For the sleep function to become active the motor speed (frequency) has to rise above P2-02 first and then drop back down below P2-02.
P2-02	0.0 Hz	Sleep Level	When the selected signal level (P2-01) falls below the sleep level (P2-02) the system will stop and go to sleep. Example: Sleep level at 35 Hz indicates (2100 ÷ 3600 x 60 Hz = 35 Hz) that the pump system will stop running when the pump motor speed is smaller or equal to 2100 RPM for the sleep delay time specified (P2-03).	
P2-03	10 sec.	Sleep Delay Time	Time it takes before the pump system goes to sleep when the selected signal level (P2-01) falls below the specified sleep level (P2-02)	
P1-06	35.0 Hz	Minimum Pump Frequency	Minimum speed (Hz) the pump motor has to operate at. Example: Base pump motor speed is 3600 RPM, minimum speed is 1800 RPM. Set minimum pump frequency to 30.0 Hz (1800 ÷ 3600 x 60 Hz = 30 Hz).	P1-06 should be set to 1 Hz below P2-02 level after sleep function has been tested. For initial startup set P1-06 to 35 Hz.
C1-01	25.0 sec.	Acceleration Time 1	Time it takes to accelerate the pump motor from zero to maximum speed.	Recommended to program to 10.0 sec. for initial startup but might have to be adjusted depending on system performance.
C1-02	25.0 sec.	Deceleration Time 1	Time it takes to decelerate the pump motor from maximum speed to zero.	
P5-01	1 (Keypad)	Hand Mode Reference Source	Specifies source to set hand mode operation speed. 0: External Analog Signal (0 to 10V) 1: Keypad, use parameter P5-02 to set hand mode speed	Only change if Hand Reference is **NOT** set via the keypad. **(See parameter P5-02 and illustration 4)**
P5-02	0.0 Hz	Hand Reference	Specifies speed the pump system will operate at in hand mode operation when hand mode reference parameter P5-01 is set to '1'.	Recommended initial setting of 45.0 Hz. It is mandatory to program hand reference in order to use the hand mode operation. ***(See illustration 4)***

1 SYSTEM FEEDBACK UNIT / FEEDBACK DEVICE SCALING

P1-02 Feedback Unit

0: Inch or Water
1: PSI
2: GPM
3: Degrees Fahrenheit
4: CFM
5: CMH
6: Liters
7: Liters/Sec
8: Bar
9: Pascal
10: Degrees Celsius
11: Meters
12: Percent

P1-03 = 0 0 0 0 0 Feedback Scaling

Feedback Maximum

Decimal Point Position

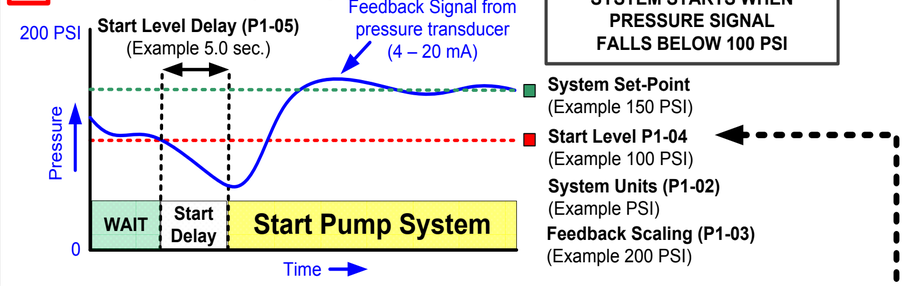
Examples:

0 – 1000, no decimals, P1-03 = 1000

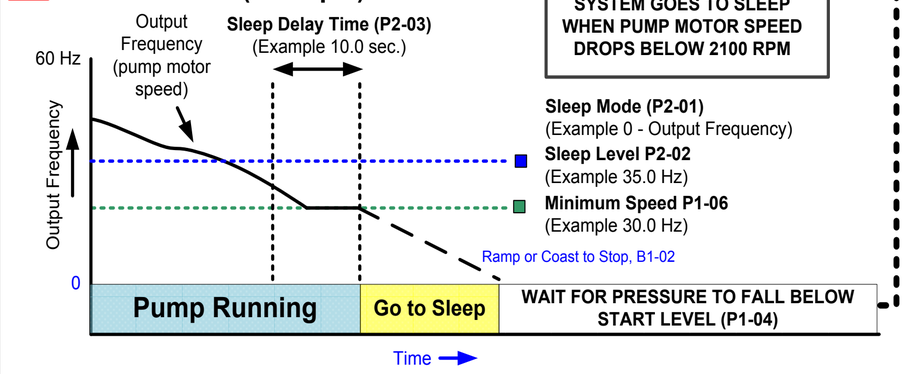
0 – 300.0, one decimal, P1-03 = 10300

0 – 50.00, two decimals, P1-03 = 25000

2 START LEVEL (Example)



3 SLEEP MODE (Example)

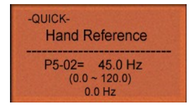


NOTE: Sleep Level (P2-01) must be set to a value greater than minimum speed level (P1-06)

4 HAND MODE OPERATION

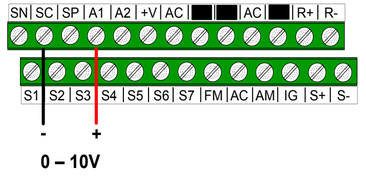
Hand Speed from the Keypad/Digital Operator (Default)

Press the HAND KEY on the digital operator to run the system in Hand Mode. Hand Mode speed can be adjusted with parameter P5-02 'Hand Reference' available in the Pump Quick Setup (recommended setting is 45.0 Hz for initial startup).



Hand Speed from Analog Input (0 – 10V)

Set parameter P5-01 'Hand Mode Ref.' to '0' to adjust the hand mode reference from an external 0 – 10V signal connected to terminal A1 and SC.



HAND KEY

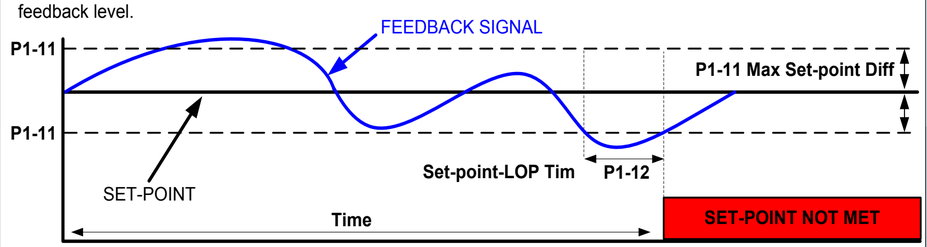
Step 5

iQpump Quick Setup Parameter Overview (Simplex) continued

Parameter	Value	Description	Reference	Comments
P1-11	0.0 PSI	Maximum Set-Point Difference	The pump system will stop and show a fault on the display when the difference between the feedback signal level and the specified set-point exceeds this level for the time specified in parameter P1-12. Example: 30 PSI difference, set-point 100 PSI, measured is 65 PSI due to a broken pipe in the system.	Not recommended to set on initial startup until system is operating properly and not maintaining set-point is required for system protection. ***(See illustration 1)***
P1-12	60 sec.	Not Maintaining Set-Point Delay Time	Delay time before 'Not Maintaining Set-point' fault occurs based on the maximum set-point difference specified in parameter (P1-11)	
P1-14	0.0 A	Prime Loss Level	Used to detect loss of prime in the pump. If output current drops below this level for the time specified in P1-12 and the output frequency is at maximum frequency, a "Loss of Prime" fault occurs. The iQpump will coast to stop when a fault occurs.	Not recommended to set on initial startup until system is operating properly and ***loss of prime detection*** is required for system protection. Refer to iQpump User Manual ***(Document No. TM.iQp.01)***
P4-09	0.2 min	Loss of Prime Maximum Restart Time After Fault	If the restart fails (or is not attempted due to a continuing fault condition) the iQpump waits this many minutes before attempting another restart. **Note:** This parameter will take the place of L5-03 during a Loss of Prime Fault restart attempt.	
L5-01	0	Number of Auto Restart Attempts	Determines the number of times the iQpump will perform an automatic restart.	Not recommended to set on initial startup until system is operating properly and ***automatic restarts on iQpump & pump faults*** are required for system protection. Refer to iQpump User Manual ***(Document No. TM.iQp.01)***
L5-03	180 sec.	Maximum Restart Time After Fault	If the restart fails (or is not attempted due to a continuing fault condition, e.g. an OV fault) the iQpump waits the Maximum Restart Time After Fault (L5-03) before attempting another restart. This parameter is not applicable to Loss of Prime Fault.	
P4-08	0	Protection Fault Auto Restart Enable	Parameter used to enable/disable Auto Restart for the following iQpump protection faults (N = disable/Y = enable): SP: Not Maintaining Set-Point (P1-11), LOP: Loss of Prime (P1-12), POC: Pump Over Cycling (P2-08)) **Note:** Parameter L5-02 needs to be set to '1' and program L5-03 needs to be set to the applicable time.	
P4-07	0	Feedback Fault Auto Restart Enable	Setting to enable/disable Auto Restart for the following iQpump transducer/feedback faults (N = disable/Y = enable): LL: Low Level Feedback (P1-07), HL: High Level Feedback (P1-09), TL: Transducer Loss (b5-12) **Note:** Parameter L5-02 needs to be set to '1' and program L5-03 needs to be set to the applicable time.	
P1-07	0.0 PSI	Low Feedback Level	The iQpump will display a "Low Feedback (LFB)" alarm when the feedback level falls below the programmed level. The alarm will turn off when the feedback level rises above the programmed Low Feedback Level plus the Hysteresis Level (P1-13). A value of 0 disables this function. This function is only active during running while operating in the auto mode.	Not recommended to set on initial startup until system is operating properly and low/high feedback is required for system protection. ***(See illustration 2)***
P1-08	5 sec.	Low Feedback Level Fault Delay Time	The iQpump will display a "Low Feedback/Water (LFB/LW)" alarm when the feedback level falls below the programmed level for a time specified in P1-08. The iQpump will coast to a stop when a fault occurs. A value of 0 disables this function. This function is only active during running while operating in the auto mode.	
P1-09	155 PSI	High Feedback Level	The iQpump will display a "High Feedback Level (HFB)" alarm when the feedback level rises above the programmed level. The alarm will turn off when the feedback level falls below the programmed High Feedback Level minus the Hysteresis Level (P1-13). This function is active during running in the Hand Mode.	
P1-10	2 sec.	High Feedback Level Fault Delay Time	The iQpump will initiate a "High Feedback Fault (HFB)" when the feedback level rises above the programmed level for a time specified in P1-10. The iQpump will coast to a stop when a fault occurs. This function is active during running in all operation modes.	
P2-10	0.0 PSI	Maximum Set-Point Compensation	Maximum allowable set-point compensation for the over-cycling function.	Do not program unless pump over-cycle function is used. Refer to iQpump User Manual ***(Document No. TM.iQp.01)***
P4-01	0.0 PSI	Pre-Charge Level	Sets the level when the iQpump will run at the pre-charge frequency (P4-02). The iQpump will stop when one of the following conditions occurs: Feedback signal rises above P4-01 level, pre-charge timer P4-03 expires, or low water digital input is deactivated (H1-XX = 85). The pre-charge function can only be activated while in a stop condition. The function is enabled by setting P4-03 to a value greater than 0. When the function is activated, the iQpump operator display indicates a "Pre-charge" alarm. **Note:** This function is only active in the stopped mode. **Thrust Mode:** The pre-charge level is used when the thrust mode is active for the feedback check. The thrust mode is deactivated when the feedback exceeds the programmed level in P4-01. A value of 0 disables the thrust mode feedback check function.	Not recommended to set on initial startup until system is operating properly. ***(See illustration 3)***
P4-02	0.0 Hz	Pre-Charge Frequency	Sets the frequency reference used when the pre-charge function is active.	Refer to iQpump User Manual ***(Document No. TM.iQp.01)***
P4-03	0.0 min.	Pre-Charge Time	Sets the maximum allowed pre-charge time. A value of 0 disables this function.	
P4-04	1.0 sec.	Thrust Bearing Acceleration Time	Sets the thrust bearing acceleration time. When enabled (P4-05>0), the iQpump output frequency will ramp up to the specified thrust bearing frequency reference in P4-05 using an acceleration time as specified in P4-04. The PI mode is automatically disabled. Once the output frequency reaches the programmed thrust bearing frequency, the iQpump automatically switches to PI control and the original acceleration time (C1-01), and will continue in the normal operation (auto) mode, unless Pre-Charge is enabled, in which case Pre-Charge mode occurs. This function active in the Hand Mode and Auto Mode. **Note:** In **Auto Mode**, the Minimum Pump Frequency (P1-06) will become the thrust bearing frequency if smaller than the thrust bearing frequency in P4-05. In **Hand Mode**, the minimum frequency is P4-05 when the thrust mode is enabled. The Pre-Charge level is not active in the Hand Mode.	**IMPORTANT PLEASE READ** It is mandatory to program thrust bearing frequency (P4-05) for **all** submersible motors. Recommended thrust bearing frequency is 30.0 Hz and thrust bearing acceleration and deceleration time is 1.0 sec. ***(See illustration 4)***
P4-05	0.0 Hz	Thrust Bearing Frequency	Sets the frequency reference used when the thrust bearing function is active. A value of 0 disables this function.	
P4-06	1.0 sec	Thrust Bearing Deceleration Time	This deceleration time will be used to bring the iQpump from Thrust Frequency (P4-05) to stop when Thrust Mode is active. Any time the Run Command is removed while the iQpump is operating in the Thrust Mode above the Thrust Frequency, this deceleration time will be used once the frequency reference is at or below the Thrust Frequency. **Note:** In **Auto Mode**, the Minimum Pump Frequency (P1-06) will become the thrust bearing frequency if smaller than the thrust bearing frequency in P4-05. In **Hand Mode**, the minimum frequency is P4-05 when the thrust mode is enabled. The Pre-Charge level is not active in the Hand Mode.	
P4-10	0 Disabled	Auto Mode Operator Run Power Down Storage	Stores the run status in the Auto mode when operating from digital operator (b1-02=0). 0: Disabled 1: Enabled	Recommended for use when Start/Stop command is from keypad. ***(See illustration 5)***

1 PUMP SYSTEM FAULT SETUP

The iQpump can display a '**Set-point Not Met**' fault when the iQpump is unable to maintain the programmed system set-point due a problem with the pump system. Set P1-11 to the maximum allowed difference between set-point and feedback level.

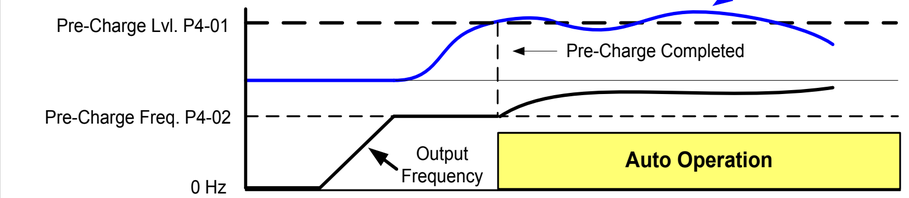


2 LOW/HIGH FEEDBACK LEVEL DETECTION

iQpump continuously monitors the system feedback signal. To display a '**Low Feedback**' fault set the low feedback level parameter P1-07 to the minimum feedback level allowed for your system and to display a '**High Feedback**' fault set the high feedback level parameter P1-09 to the maximum feedback level allowed.

3 PRE-CHARGE OPERATION

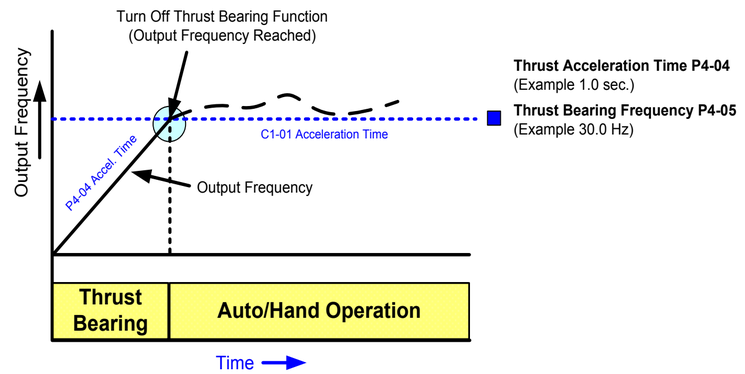
This function is used when the pump system requires to be pre-charged before normal operation. Upon start, the iQpump will run at a fixed speed for a specified time or until the feedback signal reaches a programmed level, after which it will switch to auto mode operation.



P4-01 Pre-Charge Level: Specified feedback level to stop pre-charge operation
P4-02 Pre-Charge Frequency: Set desired pre-charge speed
P4-03 Pre-Charge Time: Specified maximum pre-charge operation time

4 THRUST BEARING - SUBMERSIBLE MOTORS (e.g. Franklin)

When **using** a submersible motor in combination with the iQpump, it is recommended to use the **Thrust Bearing** function to prevent excess motor wear. To enable this function, enter the minimum motor frequency in parameter P4-05. Example: Minimum motor speed 1800 RPM, 1800 RPM ÷ 3600 RPM x 60.0 Hz = **30.0 Hz**



5 AUTO OPERATION – POWER DOWN STORAGE

Allows iQpump to automatically start after power failure when operated from keypad/digital operator. This function is recommended for use when operating the iQpump in remote/unmanned areas.

When the iQpump is powered down while running, an internal run command will automatically be initiated upon power-up.

Step 6 Pump Rotation and Feedback Signal Check

When Quick Setup is completed, press MONITOR to exit the Pump Quick Setup menu and go to operation.

In this step, the pump motor is checked for proper direction and operation. This test is to be performed solely from the digital operator. Apply power to the iQpump after all the electrical connections have been made and the terminal cover has been reattached. At this point, **DO NOT RUN THE MOTOR**, the Digital Operator should display as shown below in ***Fig. 5***.

Hand Mode speed can be adjusted with parameter P5-02 'Hand Reference' in the Pump Quick Setup (recommended setting is 45.0 Hz for initial startup).

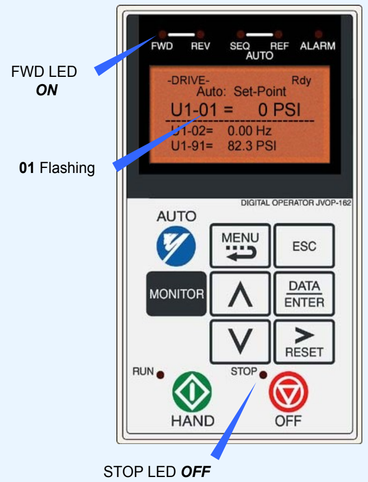
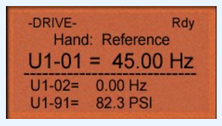


Fig. 5 Digital Operator

Next, push HAND on the Digital Operator; the display should read



and the RUN LED should be ***ON***.

The motor should now be operating at low speed in the correct direction of pump.

Push OFF on the Digital Operator; the display should read as in ***Fig. 3***.

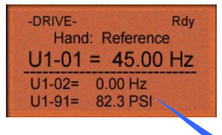
If the direction is not correct, then power down the iQpump.

DANGER, *LETHAL VOLTAGES ARE PRESENT- Before applying power to the iQpump, ensure that the terminal cover is fastened and all wiring connections are secure. After the power has been turned OFF, wait at least five minutes until the charge indicator extinguishes completely before touching any wiring, circuit boards or components.*

Using Safety precaution, and referring to ***Fig. 1 or 2,*** swap any ***two*** of the ***three*** output leads to the motor (U/T1, V/T2 and W/T3). After the wiring change, repeat ***Step 6*** and recheck motor direction.

FEEDBACK SIGNAL CHECK

Verify feedback on display (show keypad) matches mechanical pressure gauge.



Refer to parameter P1-02 and P1-03, if the feedback device scaling or system units are incorrect.

Step 7 Auto Mode Operation

iQpump can be operated in automatic mode when the following actions have been performed:

- All parameters are programmed
- Pump motor direction has been checked
- Feedback signal has been checked

At this point, **DO NOT RUN THE MOTOR**, the Digital Operator should display as shown below in ***Fig. 6***.

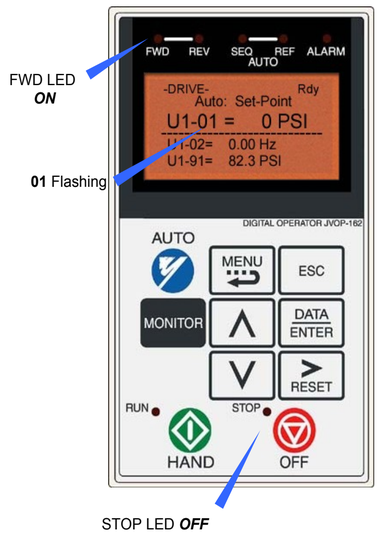


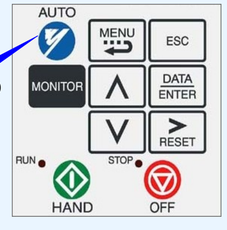
Fig. 6 Digital Operator

SET SYSTEM SET-POINT

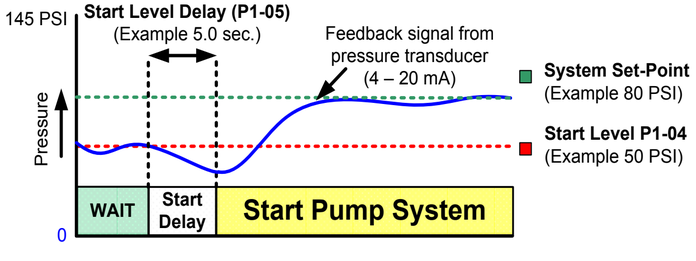
Next, press DATA ENTER to access or modify the system set-point.

Use RESET to select the digit and ∧ V to change the system set-point (Example 80 PSI). Next, press DATA ENTER to store set-point and press MONITOR to return to the main operation menu.

Next, press the **AUTO** button to start the iQpump.

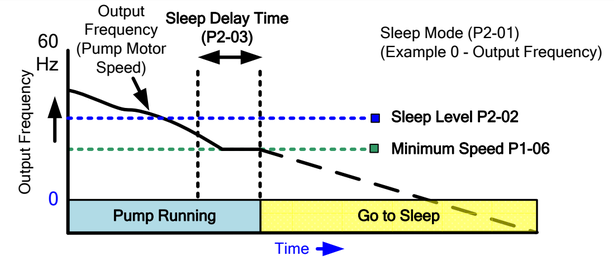


iQpump automatically starts in Auto Mode when the feedback signal level falls below the programmed level in parameter P1-04 for the specified time in P1-05.



After the system has been in operation, confirm that the sleep function operates satisfactory by closing off the discharge valve. The motor speed (U1-02) will decrease and the iQpump will go to sleep when U1-02 falls below the sleep level (P2-02) for the sleep time specified (P2-03).

If iQpump does not go to sleep after the valve has been closed, check U1-02 to determine the no-flow speed (Hz) and adjust the sleep level (P2-02) to ensure the motor speed drops below this level. It is recommended to set the sleep level (P2-02) 2 Hz above the no-flow speed (Hz). After confirmation that the sleep and wake up function operate correctly, set the minimum pump frequency (P1-06) to 1 Hz below the sleep level (P2-02).
Refer to iQpump User Manual (Document No. TM.iQp.01)



NOTE: Sleep Level (P2-01) must be set to a value greater than minimum speed level (P1-06).

TYPICAL DISPLAY MESSAGES

Displays when the iQpump is about to start. The feedback level has fallen below the Start Level (P1-04) and the start delay timer is active. Once the Start Level delay Time (P1-05) expires the iQpump will start.

Displays when the iQpump is in "sleep" mode or when the iQpump is waiting for the feedback level to drop below the Start Level (P1-04).

Displays when "Pre-Charge" mode is active. Refer to iQpump User Manual (Document No. TM.iQp.01)

Displays when "Thrust Bearing" mode is active. To enable, enter value in parameter P4-05.

The feedback level has dropped below P1-07 for the time specified in P1-08 or Low Water input is active. Low feedback fault is active in Auto Mode when the iQpump is running.

The feedback level has risen above P1-09 level for the time specified in P1-10. High feedback fault is active in Hand Mode, Auto Mode, Pre-Charge and Thrust Mode when the iQpump is running.

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