



QUICK START GUIDE

IM311 REV 3



FOR FULL IOM,
SCAN BELOW



AQUAVAR® IPC

QUICK START-UP GUIDE FOR ADVANCED IPC

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**CAUTION:**

UNINTENDED START. When the frequency converter is configured as **"Single Pump"** or **"Fixed Speed Follower"** and the **"Pipe Filling"** function is activated, the DI18 does not prevent the unit from starting (terminal 18 open). To prevent unintended motor start: press [OFF] button on the LCP.

1. SAFETY AND INSTRUCTIONS

OVERVIEW

This guide provides necessary information about safety and a quick reference for installing the AQUAVAR Intelligent Pump Controller.

NOTE: Refer to the IM318 AQUAVAR Intelligent Pump Controller Installation, Operation, and Maintenance (IOM) Manual (current version) for complete information.



CAUTION:

Read this manual carefully before installing and using the product. Improper use of the product can cause personal injury and damage to property, and may void the warranty.

NOTICE:

Save this manual for future reference, and keep it readily available at the location of the unit.

SAFETY



WARNING:

- The operator must be aware of safety precautions to prevent physical injury.
- Operating, installing, or maintaining the unit in any way that is not covered in this manual could cause death, serious personal injury, or damage to the equipment. This includes any modification to the equipment or use of parts not provided by Xylem. If there is a question regarding the intended use of the equipment, please contact a Xylem representative before proceeding.
- Do not change the service application without the approval of an authorized Xylem representative.



CAUTION:

You must observe the instructions contained in this manual. Failure to do so could result in physical injury, damage, or delays.

Safety message levels

About safety messages

It is extremely important that you read, understand, and follow the safety messages and regulations carefully before handling the product. They are published

to help prevent these hazards:

- Personal accidents and health problems
- Damage to the product
- Product malfunction

Definitions

Safety message level	Indication
DANGER:	A hazardous situation which, if not avoided, will result in death or serious injury
WARNING:	A hazardous situation which, if not avoided, could result in death or serious injury
CAUTION:	A hazardous situation which, if not avoided, could result in minor or moderate injury
Electrical Hazard:	The possibility of electrical risks if instructions are not followed in a proper manner
NOTICE:	• A potential situation which, if not avoided, could result in undesirable conditions • A practice not related to personal injury

Qualified personnel



WARNING:

This product is intended to be operated by qualified personnel only.

- Correct and reliable transport, storage, installation, operation, and maintenance are required for the trouble-free and safe operation of the frequency converter. Only qualified personnel are allowed to install or operate this equipment.
- Qualified personnel are defined as trained staff, who are authorized to install, commission, and maintain equipment, systems, and circuits in accordance with pertinent laws and regulations. Also, the personnel must be familiar with the instructions and safety measures that are described in this document.
- Persons with diminished capacities should not operate the product unless they are supervised or have been properly trained by a professional.
- Children must be supervised to ensure that they do not play on or around the product.

Safety precautions



WARNING:

HIGH VOLTAGE. Frequency converters contain high voltage when connected to AC mains. Installation, start-up and maintenance must be performed by qualified personnel only. Failure to comply could result in death or serious injury.

AQUAVAR IPC Start-Up Genie



WARNING:

DISCHARGE TIME. Disconnect and lock out electrical power and wait for the minimum waiting time specified below. Failure to wait the specified time after power has been removed before performing service or repair could result in death or serious injury.

Frequency converters contain DC-link capacitors that can remain charged even when the frequency converter is not powered. To avoid electrical hazards, stop motor and disconnect:

- AC mains
- Any permanent magnet type motors
- Any remote DC-link power supplies, including battery backups, ups and DC-link connections to other frequency converters.

Wait for the capacitors to discharge completely before performing any service or repair work. Refer to the following table for wait times:

Voltage (V)	Power range		Minimum wait time (min)
	hp	kW	
200-240	1.5-5	1.1-3.7	4
200-240	7.5-60	5.5-45	15
380-480	1.5-10	1.1-7.5	4
380-480	15-125	11-90	15
380-480	150-350	90-315	20
380-480	450-600	315-450	40
525-690	1.5-10	1.1-7.5	4
525-690	1.5-10	1.1-7.5	7
525-690	15-125	11-90	15
525-690	75-350	55-315	20
525-690	350-600	315-450	30

High voltage may be present even when the warning LED indicator lights are off.



WARNING:

LEAKAGE CURRENT HAZARD. Follow national and local codes regarding protective earthing of equipment with a leakage current > 3.5 mA. Frequency converter technology implies high frequency switching at high power. This will generate a leakage current in the earth connection. A fault current in the frequency converter at the output power terminals might contain a DC component which can charge the filter capacitors and cause a transient earth current. The earth leakage current depends on various system configurations including RFI filtering, screened motor cables, and frequency converter power. Failure to ground the drive properly could result in death or serious injury.

EN/EC61800-5-1 (Power Drive System Product standard) requires special care if the leakage current exceeds 3.5 mA. Earth grounding must be reinforced in one of the following ways:

- Earth ground wire of at least 8 AWG or 10 mm².
- Two separate earth ground wires both complying with the dimensioning rules.



WARNING:

UNINTENDED START. Before using the Genie, set DI18 to Stop (terminal 18 open) to prevent the unit from starting the motor. Keep terminal 18 open to avoid an unintended motor rotation. Apply the Start signal to the controller only when pump operation is desired.



WARNING:

UNINTENDED START. WINDMILLING! Unintended rotation of permanent magnet motors causes a risk of personal injury and equipment damage. Ensure permanent magnet motors are blocked to prevent unintended rotation.



WARNING:

EQUIPMENT HAZARD. Rotating shafts and electrical equipment can be hazardous. All electrical work must conform to national and local electrical codes. Installation, start-up, and maintenance must be performed by trained and qualified personnel. Wear safety glasses whenever working on electric control or rotating equipment. Failure to follow these guidelines could result in death or serious injury.



WARNING:

Only use original spare parts to replace any worn or faulty components. The use of unsuitable spare parts may cause malfunctions, damage, and injuries as well as void the guarantee.



WARNING:

INTERNAL FAILURE HAZARD. Risk of personal injury when the frequency converter is not properly closed. Before applying power, ensure all safety covers are in place and securely fastened.

1.3 User safety

General safety rules

These safety rules apply:

- Always keep the work area clean.
- Pay attention to the risks presented by gas and vapors in the work area.
- Avoid all electrical dangers. Pay attention to the risks of electric shock or arc flash hazards.
- Always bear in mind the risk of drowning, electrical accidents, and burn injuries.

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Safety equipment

Use safety equipment according to the company regulations. Use this safety equipment within the work area:

- Hard hat
- Safety goggles, preferably with side shields
- Protective shoes
- Protective gloves
- Gas mask
- Hearing protection
- First-aid kit
- Safety devices

NOTICE:

Never operate a unit unless safety devices are installed. Also see specific information about safety devices in other chapters of this manual.

Electrical connections

Electrical connections must be made by certified electricians in compliance with all international, national, state, and local regulations. For more information about requirements, see sections dealing specifically with electrical connections in the manual. See QR code on front page for more information.

Precautions before work

Observe these safety precautions before you work with the product or are in connection with the product:

- Provide a suitable barrier around the work area, for example, a guard rail.
- Make sure that all safety guards are in place and secure.
- Make sure that you have a clear path of retreat.
- Make sure that the product cannot roll or fall over and injure people or damage property.
- Make sure that the lifting equipment is in good condition.
- Use a lifting harness, a safety line, and a breathing device as required.
- Allow all system and pump components to cool before you handle them.
- Make sure that the product has been thoroughly cleaned.
- Disconnect and lock out power before you service the pump.
- Check the explosion risk before you weld or use electric hand tools.

Precautions during work

Observe these safety precautions when you work with the product or are in connection with the product:

- Never work alone.
- Always wear protective clothing and hand protection.
- Stay clear of suspended loads.

- Always lift the product by its lifting device.
- Beware of the risk of a sudden start if the product is used with an automatic level control.
- Beware of the starting jerk, which can be powerful.
- Rinse the components in water after you disassemble the pump.
- Do not exceed the maximum working pressure of the pump.
- Do not open any vent or drain valve or remove any plugs while the system is pressurized. Make sure that the pump is isolated from the system and that pressure is relieved before you disassemble the pump, remove plugs, or disconnect piping.
- Never operate a pump without a properly installed coupling guard.

1.3.1 Wash the skin and eyes

Follow these procedures for chemicals or hazardous fluids that have come into contact with your eyes or your skin:

Condition	Action
Chemicals or hazardous fluids in eyes	1. Hold your eyelids apart forcibly with your fingers. 2. Rinse the eyes with eyewash or running water for at least 15 minutes. 3. Seek medical attention.
Chemicals or hazardous fluids on skin	1. Remove contaminated clothing. 2. Wash the skin with soap and water for at least 1 minute. 3. Seek medical attention, if necessary.

1.4 Protecting the environment**Emissions and waste disposal**

Observe the local regulations and codes regarding:

- Reporting of emissions to the appropriate authorities
- Sorting, recycling and disposal of solid or liquid waste
- Clean-up of spills

Exceptional sites**CAUTION: Radiation Hazard**

Do NOT send the product to Xylem if it has been exposed to nuclear radiation, unless Xylem has been informed and appropriate actions have been agreed upon.

AQUAVAR IPC Start-Up Genie

Recycling guidelines

Always follow local laws and regulations regarding recycling.

Waste and emissions guidelines

Do not dispose of equipment containing electrical components together with domestic waste. Collect it separately in accordance with local and currently valid legislation.

**CAUTION**

Before using the Genie, set DI18 to Stop (terminal 18 open) to prevent the unit from starting the motor. Keep terminal 18 open to avoid an unintended motor rotation. Apply the Start signal to the controller only when pump operation is desired.

PREPARE FOR INSTALLATION**WARNING! Installation must be performed by a qualified technician.**

- Suitable Environment - Ensure installation is indoors and the site temperature range is 0°C (32°F) to 40°C (104°F).
- Ensure properly sized safety devices are installed in the system such as pressure relief valves, compression tanks, pressure controls, temperature controls and flow controls.
- Ensure proper guards are installed when the system has potential to operate at extreme temperatures and/or pressures.

UNPACK THE UNIT

Remove all packing materials from the product. Inspect the product to determine if any parts have been damaged or are missing. Contact your sales representative if anything is out of order.

PREPARE THE MOUNTING LOCATION

- Ensure adequate supports are utilized to handle the weight of the system, piping and fluid.
- Ensure the suction and discharge pipes are supported independently by use of pipe hangers near the pump.
- Ensure there is adequate space around the unit to ensure proper cooling and allow for maintenance and service.

MOUNT THE UNIT

- Ensure the unit is properly lifted according to the pump Installation, Operation and Maintenance manual.
- Ensure all flange bolts are adequately torqued.
- For vertically mounted installations with the motor and controller in the horizontal position, ensure that adequate support for the motor and controller is provided.
- Refer to chapter 4 Mechanical Installations in the IM318 AQUAVAR Intelligent Pump Controller IOM for details of installations.

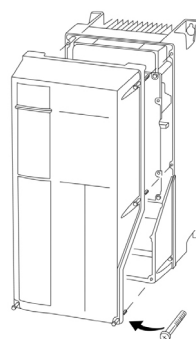
INSTALL WIRING**Electrical Hazard. Dangerous voltage.**

Ensure all input power disconnects and circuit breakers are locked in the off position prior to installing the input power wiring.

NOTE: External fusing is required for units without a built in fused disconnect.

**Electrical Hazard**

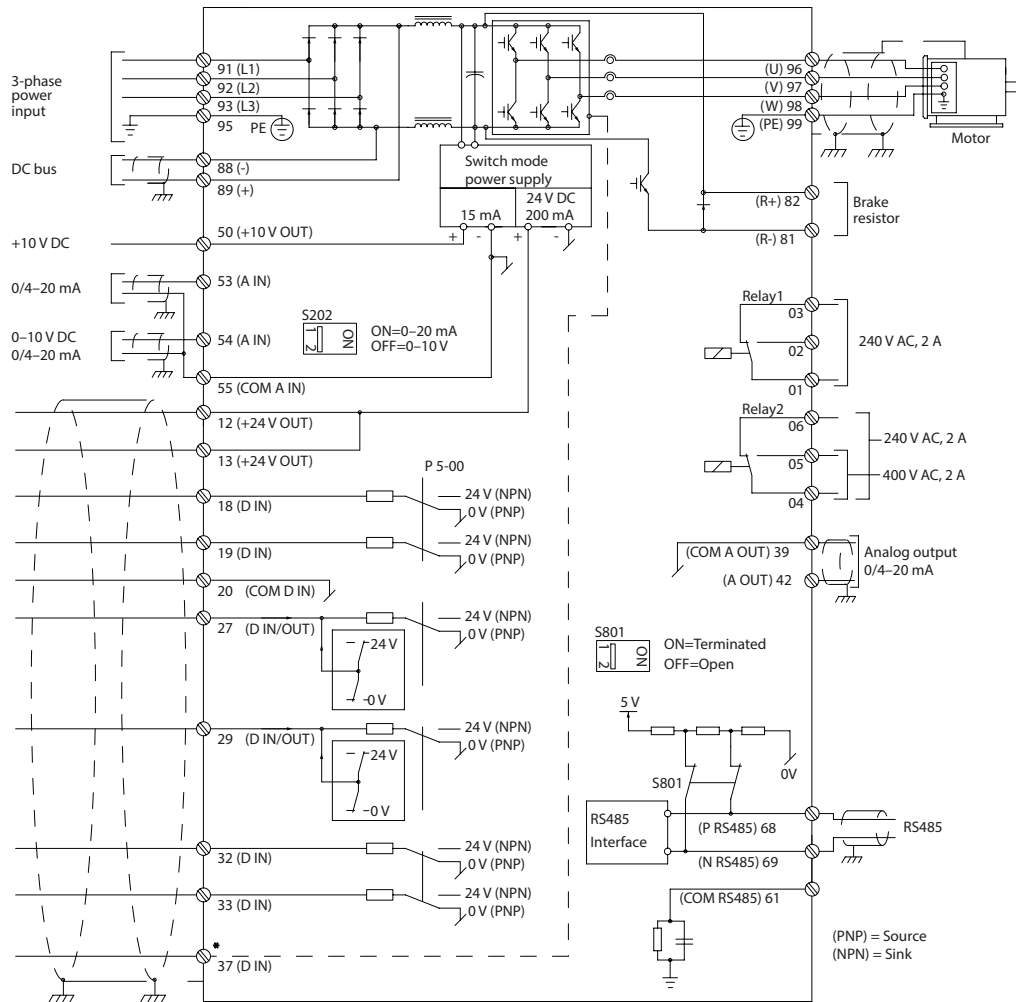
Ensure power wiring and fusing is installed according to NEC/CEC, state, local or municipal codes.



Remove the front cover to gain access to the power and control wiring terminals. Connect conduit runs from the disconnect or service panel to the drive and route the power wires through the conduit.

Refer to chapter 5 Electrical Installation and chapter 10 Technical Specifications in the IM318 AQUAVAR Intelligent Pump Controller IOM (current version) for details on wiring and routing.

2. BASIC ELECTRICAL CONNECTIONS

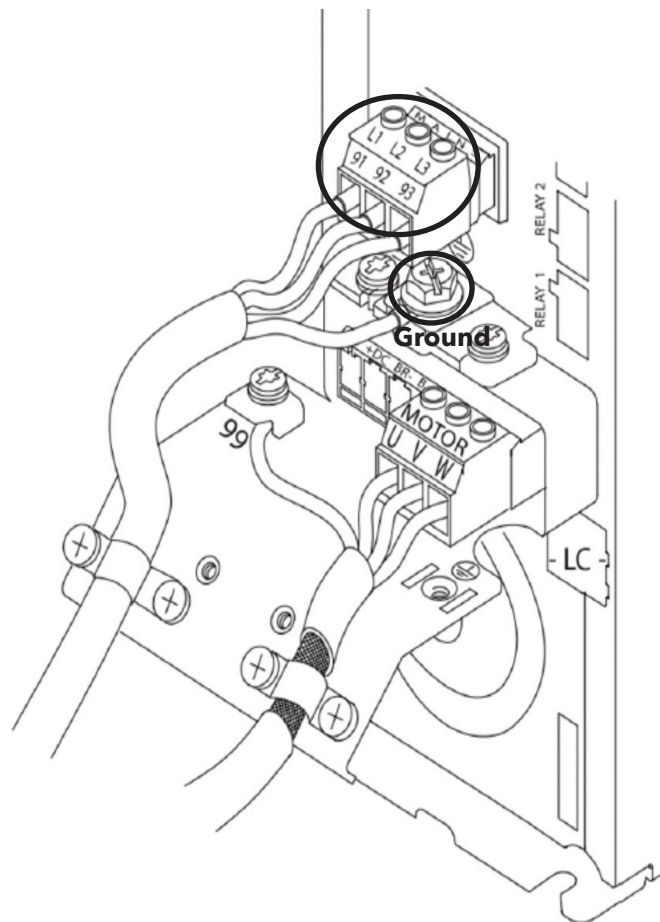


3. INPUT AND MOTOR WIRING

INPUT (MAINS) WIRING 3-PHASE:

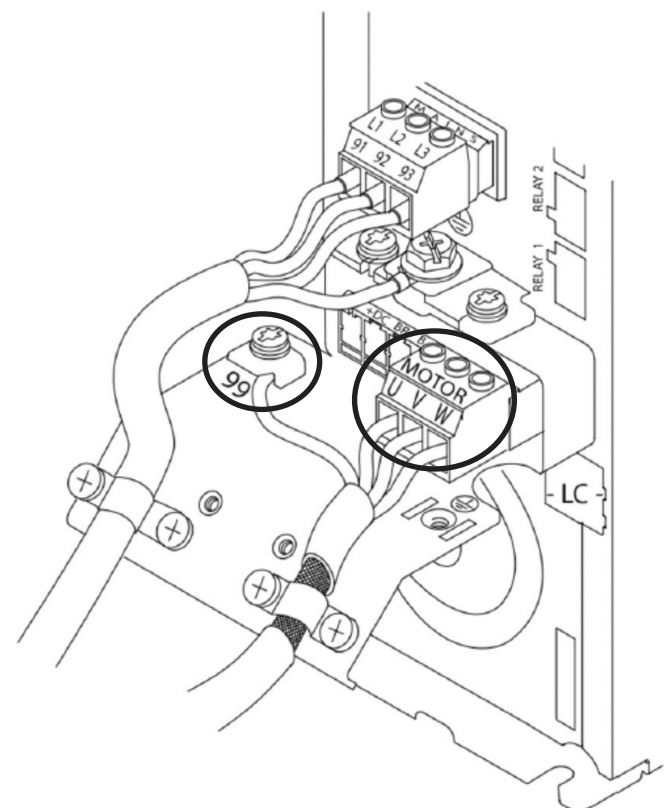
Connect 3-phase AC input power wiring to terminals L1, L2, L3 and ground the cable.

Input Terminals



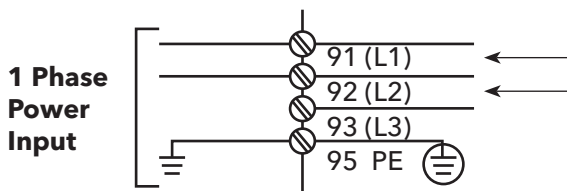
OUTPUT WIRING TO MOTORS:

Connect output motor wires to terminal block labeled U, V, W and ground the cable.



SINGLE PHASE INPUT DRIVES:

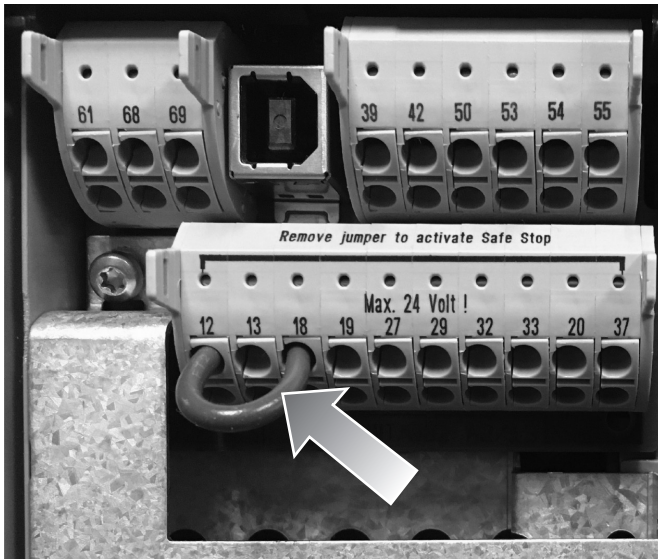
Connect single phase power wiring to L1, L2 and ground the cable.



Check IOM for specific frame size considerations

4. CONTROL WIRING

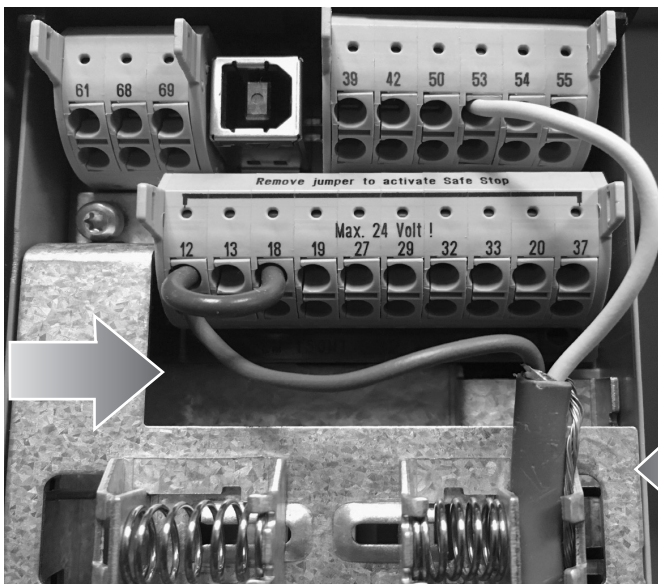
4.1 SINGLE-PUMP CONTROL WIRING



Install Jumper wires on:

Terminal 12 and 18

The IPC requires a start command on terminal 18. To apply a start signal connect a jumper wire between terminals 18 (DI 18, parameter 5-10) and 12 (24V dc). A start command is given to the controller when terminal 18 is connected to 24V.



Install Transducer cable on:

- Brown on terminal 12 (24V)
- White on terminal 53 (4-20MA)
- Place ground shield between spring clip and shielded cable.

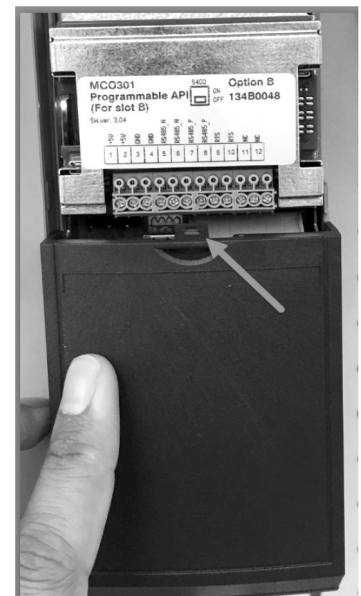
4.2 MULTI-PUMP CONTROL WIRING



Connect communication wires to the bottom of this card



Carefully remove the plastic cover by unlocking the tab on the top of the drive and releasing.



Carefully remove bottom cover by unlocking tab

Connect Wires



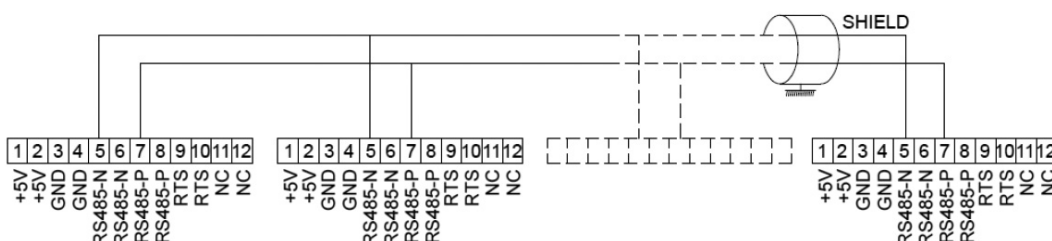
Terminal #5 to Terminal #5

Terminal #7 to Terminal #7

If using more than two controllers, follow the same wiring instructions for the additional drive.

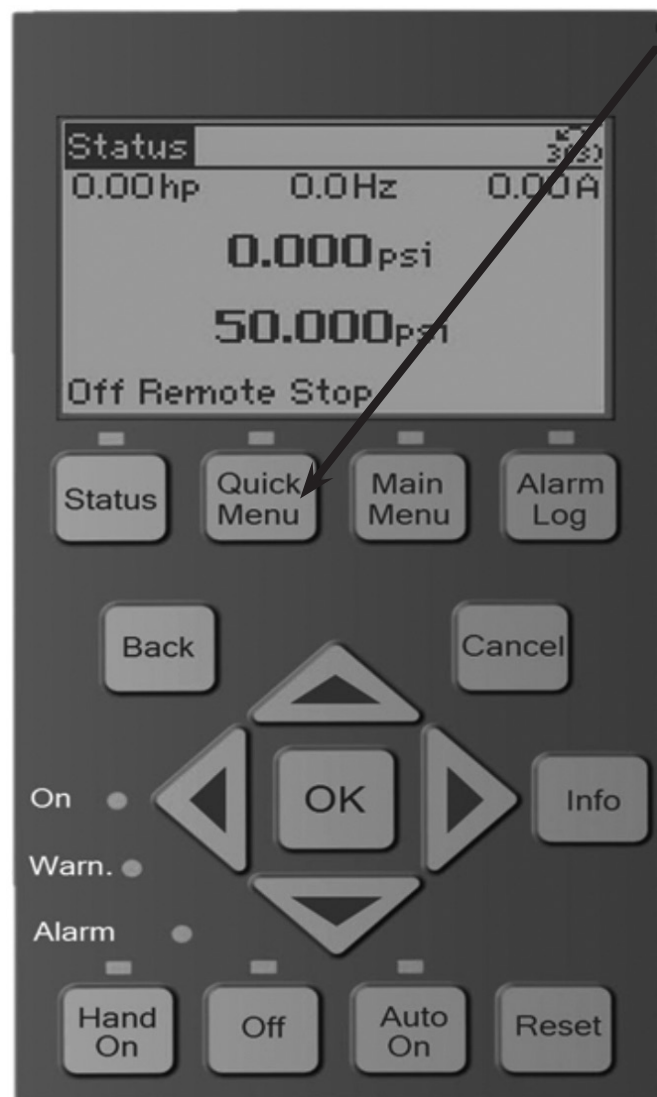
Refer to the IOM for additional multi-control wiring configurations.

Re-install covers and keypad and begin commissioning



5. SETUP AND COMMISSIONING

1. Power on drive(s)
2. Complete Programming.



Select Quick Menu

Select Parameter 04
"Start-Up Genie"

You are now able to start the Start-Up
Genie

Quick Menus
Q1 My Personal Menu
Q2 Quick Setup
Q3 Function Setups
Q4 Start-Up Genie

CAUTION: Before proceeding, set DI 18 to Stop (terminal 18 open) to prevent the unit from starting the motor.
[OK]

Set DI18 to Stop (terminal 18 open)

Regional Settings
North America

For Regional Settings Select North America or International

Language
English US

Select English US as Language and proceed with the down arrow

Selection Pump Application Type
Booster

Select Booster for Application type

Motor Power
1.50hp
Motor Nominal Voltage
208V

Select Motor Horsepower

Select Motor Voltage

Motor Frequency
60Hz
Motor Nominal Speed
1704RPM

Select Motor Frequency

Select Motor Nominal Speed

Motor Current

5.48A

Motor Type

Surface

Sleep Speed / Low Limit

30.0Hz

Filter Type

None

Continue to the Application Setup?

Yes

- Input Motor Current

Example:

SFA is 6.03, FLA is 5.48

Current Limit: $6.03/5.48 = 1.10$

- Input Current Limit - SFA/FLA

Carry over the decimal 2 places to the right to ensure your Current Limit percentage = 110%

For Submersible motors we input SFA and use current limit at 100%

Select Motor Type

Select Sleep Frequency Low Limit

Select Filter Type

- None for no filter
- Reactor-Line Load Reactor (KLR Type)
- Dv/Dt (for V1K Type)
- Sinewave for sinewave

(Please refer to the IOM for further instructions)

Select Yes to Continue to the Application Setup

Operating Mode
CHANGING OPERATING
MODE WILL OVERWRITE
CURRENT SETUP!

Single Pump Control

Select either Single Pump or Multi-Pump Control. Follow the programming for single pump application below.

Operating Mode
CHANGING OPERATING
MODE WILL OVERWRITE
CURRENT SETUP!

Multipump Control

For Multi-Pump Programming, continue to page 17.

6. PUMP PROGRAMMING

6.1 SINGLE-PUMP PROGRAMMING

Application Type
Constant Pressure

Select Constant Pressure for Application type

Pressure control units
psi

Select PSI for pressure control units

Ramp Time

Fast

Would you like to Autoset
the rest of the settings?

Yes

Setpoint 1

50.000psi

Select Ramp Time

Fast: 5 sec accelerate, 3 sec decelerate.

Medium: 10 sec accelerate, 5 sec decelerate.

Slow: 20 sec accelerate, 10 sec decelerate.

Select Yes to Autoset the rest of the settings.

For Simplex configuration, here are the parameters that will get autoset:

Autoset Configuration	Constant Pressure
Transducer Max Feedback	300 [unit]
Transducer Type	4-20mA
Feedback 1 Source	AI 53
PID Performance	Normal
Sleep Mode	Enabled
Sleep Frequency	30 Hz
Restart Difference	10 [unit]
No Water/Loss of Prime Fault	Enabled
No Water/Loss of Prime Restart Time	10 min.

Select Setpoint 1

Constant pressure with
300 [unit], 4-20mA
sensor on AI 53, Sleep
Frequency = 30Hz,
Restart Difference = 10
1/2

Proceed with the down arrow. Verify that Pressure Transducer is 300 PSI, you are wired in on Analog Input 53, that your sleep frequency is 30 Hz, and your restart difference is 10 [unit], the No Water loss of prime fault is enabled, and your restart time is 10 Minutes.

[unit], No Water/Loss of
Prime fault is enabled,
Restart Time = 10 min.
[OK]

2/2



Check Pump and Motor Rotation by selecting Hand On. If motor is running backwards, power down drive, wait five minutes, and rotate motor wires from the drive. Once rotation is verified, select Off.

Select Auto On. Verify Unit cycles into sleep mode at desired PSI.

Now perform no flow power calibration on page 20.

6.2 MULTI-PUMP PROGRAMMING

Operating Mode
CHANGING OPERATING
MODE WILL OVERWRITE
CURRENT SETUP!

Multipump Control

Select Multipump control

Multi-pump control
Multi Master MulCtl

Select Multi Master Multi Control

Note: Other multi pump configurations are described in the IOM

Pump Address

1

Select Pump Address for each pump

For each, use a unique address: 1, 2, 3, or 4

Application Type
Constant Pressure

Select Constant Pressure for Application Type

Pressure control units
psi

Select psi for Pressure control units

Ramp Time
Fast

✓ Select Ramp Time

Fast: 5 sec accelerate, 3 sec decelerate.

Medium: 10 sec accelerate, 5 sec decelerate.

Slow: 20 sec accelerate, 10 sec decelerate.

Number of Pumps
2

Select Number of Pumps

Number of standby pumps
1

Select Number of Standby Pumps

Would you like to Autoselect
the rest of the settings?
Yes

Select Yes to Autoselect the rest of the settings.

Setpoint 1
50.000psi

Select Set point PSI

Constant pressure with
300 [unit], 4-20mA
sensor on AI 53, Sleep
Frequency = 30Hz,
Restart Difference = 10
1/4

[unit], No Water/Loss of
Prime fault is enabled,
Restart Time = 10 mins,
Duty Standby = Disabled,
Stage Speed = 95%,
2/4

Destage Percentage =
80%, Alternation
Function = On Run Time,
Alternation Time = 24
hrs., Pump Exercise =
3/4

disabled. [OK]

4/4

Start-Up Genie Complete.
Press [OK] to Exit

For Multi-Control configuration here are the parameters that will get autoset:

Autoset Configuration	Constant Pressure
Transducer Max Feedback	300 [unit]
Transducer Type	4-20mA
Feedback 1 Source	AI 53
PID Performance	Normal
Sleep Mode	Enabled
Sleep Frequency	30 Hz
Restart Difference	10 [unit]
No Water/Loss of Prime Fault	Enabled
No Water/Loss of Prime Restart Time	Enabled
Duty Standby	Disabled
Stage Speed	95%
Destage Percentage	80%
Alternation Function	On Run Time
Alternation Time	24 Hrs
Pump Exercise	Disabled

Acknowledge Auto Set Settings by pressing the down arrow and cycling through each of the four screens.

For further Multi-Pump Setups, Feedback Setup, Pump Protection Setup, Flow Compensation, Pipe Fill Setup, please refer to the IOM.

Select OK to verify Genie is completed.

7. NO FLOW POWER CALIBRATION



The No Flow Power Calibration Setup provides the method to program the no flow power curve in to the controller

- In order to detect a no flow condition for the various pump(s), the no flow power curve needs to be programmed in to the drive

Quick Menus

Q1 My Personal Menu

Q2 Quick Setup

Q3 Function Setups

Q4 Start-Up Genie

Select Quick Menu

Select 04 Start-Up Genie

Setup Selection

Pump Protection

Change Setup Selection to Pump Protection.

Sleep Mode

Enable

Select Enable for sleep mode.

Minimum/Sleep Frequen

18.0Hz

Sleep Delay
3s

Select 30 Hz for Sleep Frequency, 3 Seconds for Sleep Delay.

No Flow Restart Difference

0.000

Select 10 for Restart difference.

Minimum Run Time

10s

Minimum Sleep time
10s

Select 3 Seconds for Minimum Run Time

Select 10 Seconds for Minimum Sleep Time.

Flow Check Window

0.00%

Flow Check Time
10mins

Select 0.0 % for Flow Check Window

Select 10 Mins for Flow Check Time

To enable Sleep Mode based on power consumption, No Flow Power Calibration must be run on all pumps in the system. [OK]

Acknowledge that you are enabling sleep mode based on power consumption and proceed by pushing the down arrow.

No Water/Loss of Prime
Fault

Warning

Select Alarm for No Water Loss of Prime Fault

Run the No Flow Power
Calibration Setup?

Off

Select Enable for No Flow Power Calibration

50.0 0.0Hz 0.00A

Have output speed low and
high limits been set? Press
[OK] if set or press [Cancel]
to abort

Off Remote Stop

Follow all on-screen instructions carefully.

WARNING: The No Flow Power Calibration Process requires the pump to be operated at no flow. This can produce high pressure within the system. Ensure the system piping and components are designed to withstand the suction pressure plus shutoff head pressure produced by the pump prior to starting the calibration process.

50.0 0.0Hz 0.00A

Close outlet valve and press
[Hand On] to start the No
Flow Power Calibration
Set-up

Off Remote Stop

Close outlet valve before starting.

The drive will now run through steps 1-5.

0.00hp 0.00A 0.00kW
Calibration completed. open
the valve. Press [OK] then
down arrow to save results or
[cancel] to discontinue.

Hand Local Running

No Water/Loss of Prime
Protection Delay

10 secs

NWLP Restart Time

10mins

NWLP Restart Attempts
3

To enable No Water /
Loss of Prime
functionality, No Flow
Power Calibration must
be run on all pumps in the
system. [OK]

Once the calibration is completed, select OK
and the down arrow to proceed.

Repeat for all drives if you are in
multi-control.

Select 10 Seconds for No Water Loss of
Prime Protection Delay

Select 10 Mins for NWLP Restart Time

Select 3 for NWLP Restsrt Attempts

Proceed with the down arrow acknowledging
that you are enabling your loss of prime
functionality.

Select OK

Suction Input

Not Set

Select Not Set for Suction Input

Setup Low Suction
Protection Through Digital
Input 27?

Disabled

Select Disabled for Digital input 27

Setup High Suction
Protection Through Digital
Input 29?

Disabled

Select Disabled for Digital input 29

Under Pressure Function

Man. Reset Alarm

Select Manual Reset Alarm for Under
Pressure Function

Under Pressure Delay

30s

Under Pressure Diff.
20.0%

Select 30 Seconds for Under Pressure Delay
and 20.0% for Under pressure Difference

Low System Cut-out

Disabled

Select Disabled For Low System Cut-out

High System Fault

Disabled

Select Disabled for High System fault

Setup Pump Protection
Through Digital Input 19?

No

Select No for Digital Input 19

Setup Pump Protection
Through Digital Input 27?

No

Select No for Digital input 27

Setup Pump Protection
Through Digital Input 29?

No

Select No for Digital Input 29

Priming Delay

0secs

0 Seconds for Priming delay

Continue to Digital Input
Setup?

No

Select No for Continuing Digital Input Setup

Setup Selection

Exit

Change Setup Selection to Exit, hit OK and
Down key

Start-Up Genie Complete.
Press [OK] to Exit

Press OK

**To setup the INTELLIGENT PUMP CONTROLLER
TO RUN IN SPEED CONTROL, refer to (IM295)**

**For troubleshooting issues, refer to
AQUAVAR IPC Q&A (AQIPCQA)**

Notice - Industrial Control Protocols

Certain Industrial Control Protocols do not offer security protections at protocol level and may be exposed to additional Cybersecurity risk. Customer security precautions including physical security measures are an important layer of defense in such cases. Xylem's AQUAVAR IPC is designed with the consideration that it would be deployed and operated in a physically secure location.

- Xylem suggests that physical access to cabinets and/or enclosures containing AQUAVAR IPC and the associated system should be restricted, monitored and logged at all times.
- Xylem recommends that customers inventory and document all industrial equipment running on their premises including model name, software version, and how devices are connected to each other and the local network.
- Xylem recommends creating and maintaining offline copies of configuration backups to all equipment involved in controlling critical processes.
- In cases where control commands for Xylem equipment are issued from SCADA or building management systems, Xylem recommends a regular check by operators to ensure the integrity of communications between these systems and Xylem equipment.
- Physical access to the communication lines should be restricted to prevent any attempts of wiretapping, sabotage. Best practice is to use metal conduits for the communication lines running between one cabinet to another cabinet.
- People with unauthorized physical access to the device could cause serious disruption of the device functionality. A combination of physical access controls to the location should be used, such as locks, card readers, and/or guards etc.
- Xylem's AQUAVAR IPC supports the following physical access ports:
 - RJ45 connector for removable keypad as well as MODBUS® RTU communications
 - RJ45 for MODBUS TCP communications
 - Terminal block for MODBUS RTU and other Digital IOs
- Xylem suggests access to above physical ports need to be restricted.

Xylem Product Cybersecurity

Xylem values your system security and the availability of your critical services. For more information on Xylem cybersecurity practices or to contact the cybersecurity team please visit xylem.com/security.

8. VFD/CONTROLS TECHNICAL SUPPORT

Controls Technical Hotline: 866-325-4210

Pre-Sales Support - AE_Support_Presales@xylem.com

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