

# Hydrovar<sup>®</sup>



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

## WIRING

### INPUT POWER WIRING:

For **Single Phase Input (230V) Wiring**

use L1, L3 and Ground



For **Three phase Input Wiring** use

L1, L2, L3, and Ground



### FOR MOTOR WIRING:

Use **U, V, and W** for Motor Terminals and Ground.



### CONTROL WIRING (FOR SINGLE PUMP APPLICATIONS):

**NOTE:** Jumpers will need to be installed if your application is not using a low water device or Start/ Stop switch.

#### Install Jumpers on X-1 Terminals:

16 & 17 (Low Water Input)

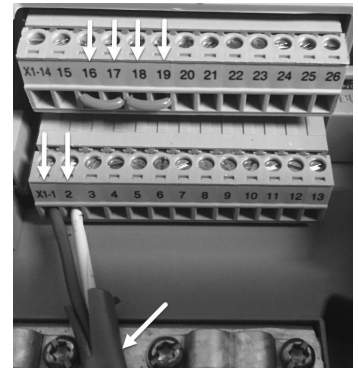
18 & 19 (Start/ Stop Input)

#### Transducer: X1 Terminal:

Brown #1 (24VDC)

White #2 (Analog Input #1)

Shield on Chassis



### FOR MULTI CONTROL (CASCADE SERIAL APPLICATIONS):

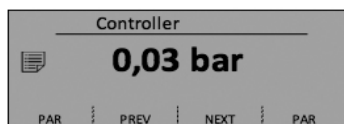
Complete all programming, power down all units and connect RS485 communication cable on terminal X1 on 11, 12, 13. Please refer to your Quick Startup Guide on page 33, Figure #6, for multiple units.



### PROGRAMMING

**PLEASE NOTE:** Drive will need to be **changed from Europe (Metric Units) to USA (Imperial Units)** before performing Quick Startup.

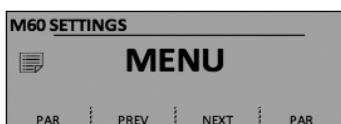
Your first step is to hold the left arrow and the right arrow key together for three seconds until the **main controller screen** appears



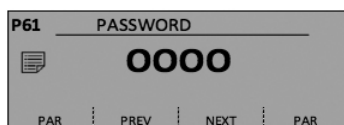
Push the right arrow key until you get to **M00 Main Menu**



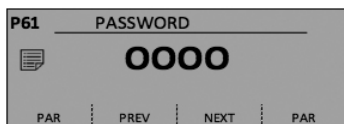
Push the down key until you get to **M60 Settings**



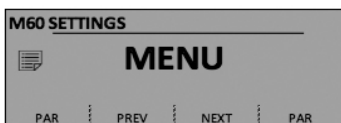
Push the right arrow key to **P61 Password**



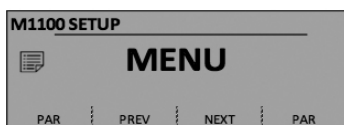
Push the up arrow until you get to the Passcode 66. Then hold the right arrow key for three seconds. Once it defaults back to zeros you are OK.



Now push the right arrow key until you get back to **M60 Settings**



Push the down arrow to advance to **M1100 Setup Menu**



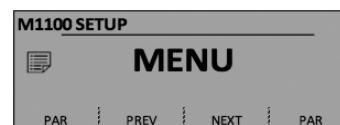
Push the Right arrow button until **P1110 Factory Set** Comes up



Push the up arrow and change **1110 to USA**. Hold the right arrow key for three seconds to accept the change. (An \* asterisk will be to the left of the USA).



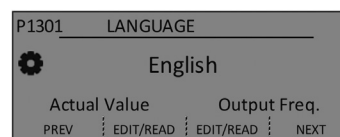
Push the left arrow key to get back to **M1100 Setup Menu**



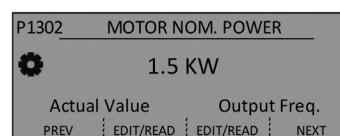
Push the down arrow to **M1300 Startup**



Push the right arrow key to **P1301 Language** and verify English is your Language



Push the right arrow to **P1302 Motor Nom Power** and input your motor power HP from motor nameplate



## Commercial Water

Push the right arrow key to **P1303 Motor Nom Voltage** and enter Motor Voltage

P1303	MOTOR NOM VOLT		
	230V		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1304 Preset Motor**. Select No for U.S. motors and Yes for Lowara 50 Hz Motors. Refer to Manual for further information.

P1304	PRE-SET MOTOR?		
	NO		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1305 Motor Nom. Current** and input current from motor nameplate

P1305	MOTOR NOM. CURRENT		
	7.5 A		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1306 Motor Nom. Speed** and input your motor speed

P1306	MOTOR NOM. SPEED		
	3500 rpm		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1307 AMPI** (Automatic Motor Parameter Identification). Select OFF. Refer to the IOM for further instructions.

P1307	AMPI		
	Off		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1308 STC Motor Trip** and select STC Trip. If you are using a motor thermistor select Thermistor Trip. Refer to the manual for further information.

P1308	STC MOTOR TRIP		
	STC TRIP		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1309 Mode**. Select Controller for Single pump, Cascade Serial for Multi pump, Actuator for Speed Control, Cascade Synchron for all pumps to operate on the same frequency. Refer to the manual for further information.

P1309	MODE		
	Controller		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1310 Pump Address**. If selecting cascade serial (multi pump) each address will have to be different. Example: One Hydrovar has address 1, and the next unit requires address 2.

P1310	PUMP ADDR.		
	1		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1311 Control Mode** and select Constant for constant pressure, and differential for differential pressure control. Refer to your IOM for further instructions.

P1311	CONTROL MODE		
	Constant		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1312 Dimension Unit** and select PSI.

P1312	DIMENSION UNIT		
	PSI		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1313 Start-up Completed?** and select No as we are not complete with our setup.

P1313	START-UP COMPLETED?		
	No		
Actual Value	Output Freq.		
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1314 Sensor Range** and select the max PSI of your pressure transducer (Example: 300PSI)

P1314		SENSOR RANGE	
300PSI			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow to **P1315 Required Value** and put in your required value

P1315		REQUIRED VALUE	
50PSI			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1316 Start Value**. Enter your value in %. This parameter defines, in percentage (0-100%) the start value after pump stops. Refer to the IOM for further information.

P1316		START VALUE	
85%			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1317 Min Thresh** and select Disabled. You can select the minimum threshold limit: if an adjusted value is not reached within the P1317 DELAY-TIME, then the unit stops. Please refer to your IOM for further instructions.

P1317		MIN. THRESH.	
Disabled			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1318 Delay-Time**. This selects the delay time of the minimum threshold limit: it shuts off the HYDROVAR if the actual value drops below P1317 MIN.THRESH.

P1318		DELAY-TIME	
2 Sec			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1319 Date** and set the current date.

P1319		DATE	
xx.xx.20xx			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1320 Time** and set the time.

P1320		TIME	
HH.MM			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1321 Auto Start**. If Auto Start is ON, then the HYDROVAR starts automatically (if there is demand) after a power loss.

P1321		AUTO-START	
ON			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Push the right arrow key to **P1322 Startup Completed** and select Yes.

P1322		STARTUP COMPLETED?	
Yes			
Actual Value		Output Freq.	
PREV	EDIT/READ	EDIT/READ	NEXT

Now hold your left arrow key for 3 seconds to return to the Home screen.

\* Verify Correct Motor Rotation.

\* If you are running Cascade Serial (Multi-Pump), Please power down and connect your RS485 Communication cable between Terminal X1 on 11, 12, 13. Please refer to your Quick Startup Guide for further wiring instructions.

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