



LOW HORSE POWER PANEL MCWW OVERDRIVE®

ELECTRICAL SPECIFICATIONS:

	LOW HP PANEL
ELECTRICAL	POWER: 100 or 150 AMPS @ 208 VAC 100 AMPS @ 460 VAC CONTROL: UNIVERSAL VOLTAGE 24-250 VOLTS (AC/DC) UL® CERTIFIED

Notes and safety Symbols

Where necessary, important points will be highlighted in this manual, using the following symbols:

 **NOTE: PROVIDES FURTHER INFORMATION!**

 **STOP! PRECAUTION TO TAKE TO AVOID EQUIPMENT MALFUNCTION OR ERROR!**

 **WARNING! DANGEROUS SITUATION WHICH MAY CAUSE EQUIPMENT DAMAGE, PERSONAL INJURIES OR FATALITIES!**

Always follow all “Notes”, “Warnings” and instructions. Failure to do so may have serious consequences on the overall performance of the equipment and/or the safety of the people working on the equipment

FEATURES AND BENEFITS



Introduction

The Altivar™ 32 variable speed drive from Schneider Electric provides high performance and improved connectivity, while reducing panel space, improving uptime and maximizing machine through-put. Its extra-slim, book-style design allows side-by-side mounting, as well as the direct attachment of a self-protected disconnect. The Altivar 32 can be mounted in smaller spaces, minimizing wiring, and reducing machine costs.

The Altivar 32 features embedded Bluetooth™ technology, which enables monitoring, viewing and performing machine diagnostics, while keeping cabinet doors safely closed. It also has an onboard HMI and navigation wheel for easy adjustments, and includes an on-board RJ45 connector. This RJ45 port can be

used for Modbus™ or CANopen networks, or to connect a remote LCD graphic display.

The Altivar 32 drive offers built-in functions that meet the demands of multiple applications: b Integrated safety functions are certified to safety standards (SIL 2 according to standard IEC 61508)

comparable with performance level “d” (PL d) according to ISO/EN 13849-1/-2.

The Altivar Logic function offers simple control system functions (such as Boolean, arithmetical operations, comparators) that can reduce panel space and wiring costs by eliminating the need for external relays, timers and counters. Optional communication cards allow the Altivar 32 drive to integrate seamlessly into main control system architectures. The Altivar 32 drive includes various motor control profiles for three-phase asynchronous motors. It also features a control profile for permanent magnet synchronous motors. Compact and highly energy efficient, PM motors are particularly suitable for conveying applications and other equipment with gear boxes.

Using a PM motor often eliminates the need for a gear box. This improves efficiency, reduces space required and eliminates the maintenance associated with gear boxes.

Reduced mounting space, with simplified setup and use

The Altivar 32 drive simplifies setup and use with: Compatible HMI and configuration tools for Altivar 32 variable speed drives and Lexium™ 32 servo drives (SoMove™ PC setup software, SoMobile™ software for mobile phones, remote display terminals and the Simple Loader and Multi-Loader configuration tools) Built-in Bluetooth link Easy-fit communication cards in cassette format. Option for connection to the CANopen machine bus Side-by-side mounting with no derating. For mounting in shallow cabinets, the control module can be rotated 90 degrees.

Quick connect for a TeSys™ GV2 self-protected disconnect Labeled terminals. Synergy with Lexium 32 servo asynchronous and synchronous motors (common tools and options, same shape and dimensions)

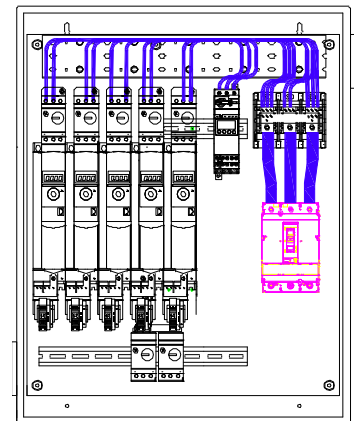
The Altivar 32 drive is also compatible with SoMachine™, the software solution for OEMs. This solution can be used to develop, configure and setup an entire machine in a single software environment.



Picture #1: Altivar 32 with top mounted GV self-protected disconnect



Picture #2 Example with six 45 mm wide drives w/Fan mounted side-by-side



Picture #3 Example of a 5VFD-6 Motors LHP Panel

How To Connect Your VFD Panel

Your VFD panel have been FULLY PROGRAMMED and TRULY TESTED at the factory. Our technicians programs all parameters for each VFD according to their usage and then rigorously TEST EACH VFD by powering the panel and running a motor for each circuit. This ensures an easy start-up without the hassle of programming or adjusting all VFD's.

For each VFD you must connect ONE OUTPUT FUNCTION to the RUN COMMAND SIGNAL INPUT MODULE mounted directly on the lower part of the VFD (see picture #6). The voltage of the signal from the output function can be anything from 24-250 volts AC or DC! You may need also to INTERCONNECT an air valve retract in series with the VFD's FAULT RELAY (see picture #6).

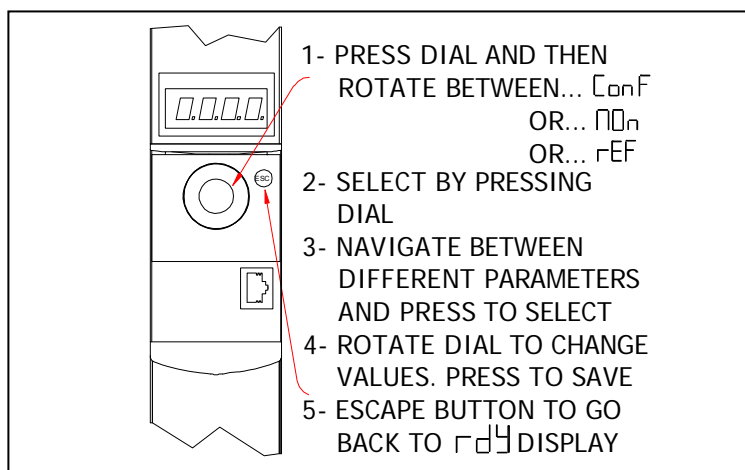
Your VFD panel may also be equipped with single starter with or without SOFT START module. Adjust each trip module according to the recommended motor FLA using the table below. Adjust each soft start using the table below.

TRIP MODULE ADJUSTMENT @ 460VAC		SOFT START ADJUSTMENT @ 460VAC		TRIP MODULE ADJUSTMENT @ 208VAC		SOFT START ADJUSTMENT @ 208VAC	
HP	AMPS	START TIME	INITIAL VOLT	HP	AMPS	START TIME	INITIAL VOLT
1	1.5	N/A	N/A	1	3.8	N/A	N/A
1-1/2	2.4	N/A	N/A	1-1/2	5.8	N/A	N/A
3	4.0	HYD UNIT: A PREP UNIT: B	HYD UNIT: D PREP UNIT: D	3	8.6	HYD UNIT: A PREP UNIT: A	HYD UNIT: D PREP UNIT: D
5	6.3	HYD UNIT: A PREP UNIT: B	HYD UNIT: D PREP UNIT: D	5	13.6	HYD UNIT: A PREP UNIT: A	HYD UNIT: D PREP UNIT: D
7-1/2	9.6	HYD UNIT: A-B PREP UNIT: B	HYD UNIT: D PREP UNIT: D	7-1/2	21	HYD UNIT: A-B PREP UNIT: A-B	HYD UNIT: D PREP UNIT: D
10	DRYER: 18 OTHER: 12.5	DRYER: C HYD UNIT: B	DRYER: D HYD UNIT: D	10	DRYER: 32 OTHER: 28.5	DRYER: C HYD UNIT: B	DRYER: D HYD UNIT: D
15	18.5	DRYER: C HYD UNIT: B	DRYER: D HYD UNIT: D				
20	25.5	HYD UNIT: B	HYD UNIT: D				

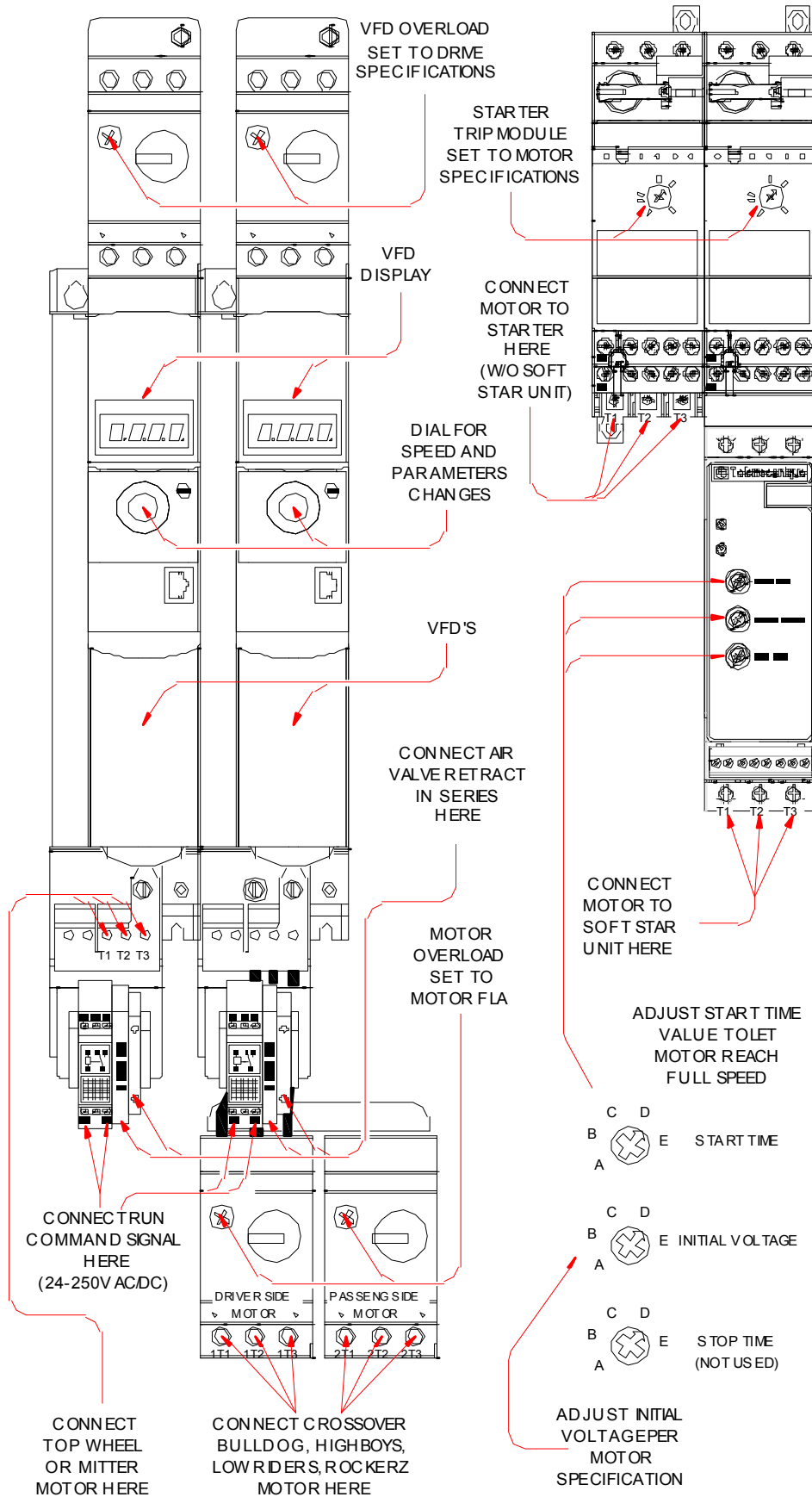
Picture #4: Trip Module, Soft Start Adjustment Table At 480VAC and 208VAC

How To Change The Motor Speed

To Change the motor speed, press the DIAL (See Picture beside) and rotate to REF then PRESS: Change the speed by rotating the dial from 0% to 100% maximum speed.



Picture #5: VFD Speed Adjustment

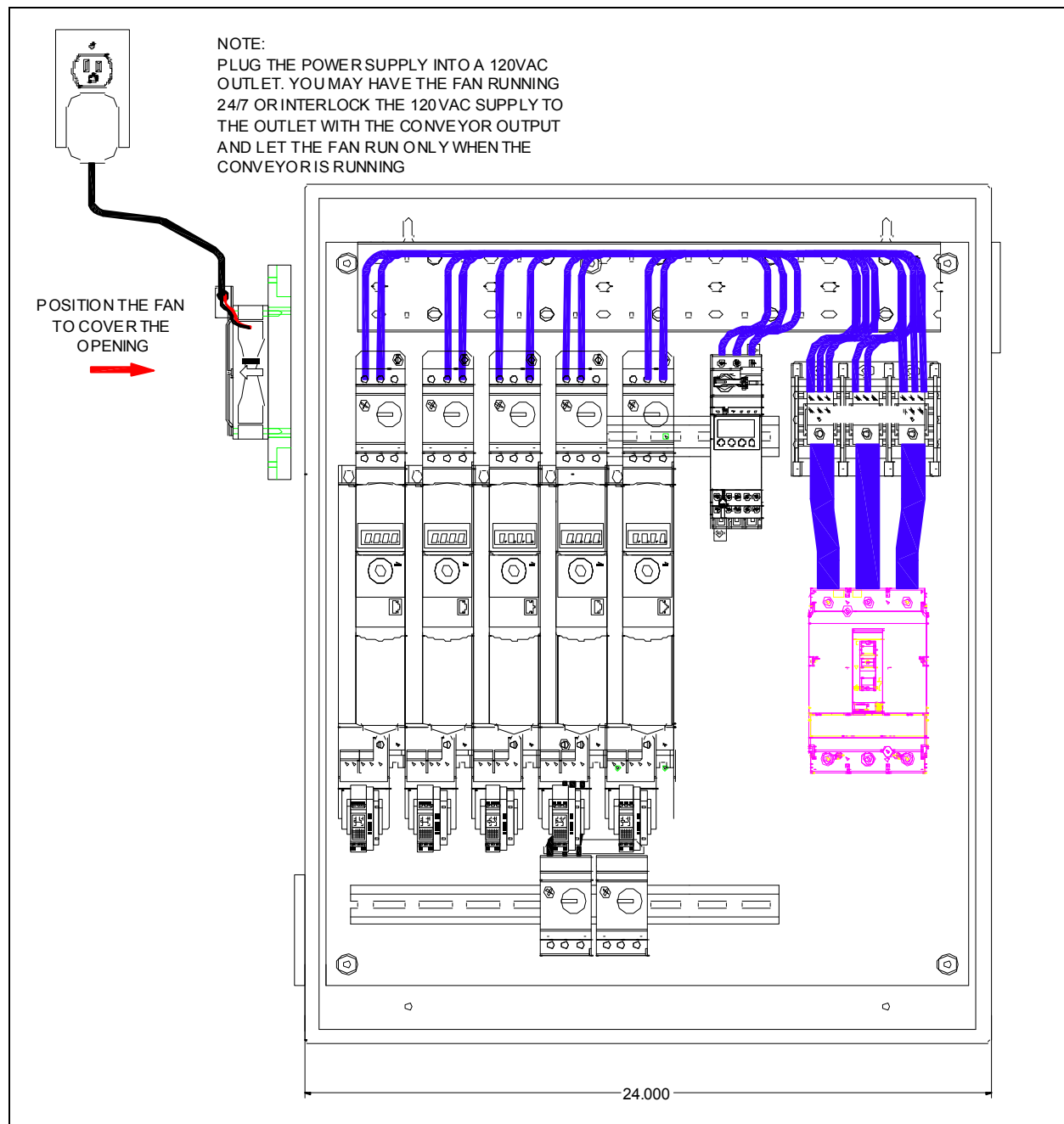


Picture #6: VFD, Soft-Start and Starter Quick Reference

Optional "Mag" Fan

Your VFD panel may be equipped with an optional fan for heat management. The installation does not require any drilling, fasteners or electrical wiring. Just place the fan body onto the side of the enclosure, covering the opening located on the top left part of the enclosure (Remove louver if already installed in the opening). Then let the magnets do the rest: the fan will "stick" to the enclosure, ready to pump hot air to the outside.

Finally, connect the power supply to a domestic outlet and connect the DC plug to the fan... And voila! The fan will now circulate about 65 CFM at 25 Celsius (75 F) and then ramping up to 120 CFM at 40 Celsius (105 F).



Picture #7: Mag Fan

Support Documents:

MENU	CODE	DESCRIPTION	FACTORY SETTING	TOP WHEEL	MITTER	WRAP AROUND	ROCKERZ LSW	BULLDOG	OTHER
ConF>FULL>SIn-	bFr	STANDARD MOTOR FREQUENCY (Hz)	50.0	60.0	60.0	60.0	60.0	60.0	X
	nPr	RATED MOTOR POWER ON MOTOR NAMEPLATE (#P)	DRIVE RATING	1.5	1.5	3.0	2.0	3.0	X
	unS	RATED MOTOR VOLTAGE ON MOTOR NAMEPLATE (V)	DRIVE RATING	460	460	460	460	460	460
	nCr	RATED MOTOR CURRENT ON MOTOR NAMEPLATE (A)	DRIVE RATING	2.80	2.80	5.50	3.4	5.10	X
	FrS	RATED MOTOR FREQ. ON MOTOR NAMEPLATE (Hz)	50.0	60.0	60.0	60.0	60.0	60.0	X
	nSP	RATED MOTOR SPEED ON MOTOR NAMEPLATE (RPM)	DRIVE RATING	1740	1740	1740	1740	1740	X
	ACC	ACCELERATION TIME (SEC)	3.0	3.0	3.0	3.0	2.0	1.5	X
	LSP	MOTOR FREQUENCY AT MINIMUM SPEED (Hz)	0.0	40	30	40	40	40	X
ConF>FULL>LD-	ECC	2 OR 3 WIRE CONTROL	2 SEC	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	X
	Ect	2 WIRE TYPE OF CONTROL	2 SEC	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	X
	Frd	FORWARD DIRECTIONAL COMMAND		(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	X
ConF>FULL>LD->rI-	rI	RELAY R1 CONFIGURATION	(VFD RUNNING) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	X
ConF>FULL>FUIn>Stt-	Stt	TYPE OF STOP	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	X
ConF>FULL>CtL-	Fr I	CONTROL REFERENCE (FREQ CONTROL)	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	X
	CHCF	PROFILE	2 SEC	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	X
OVERLOAD SETTING	FVD MOTOR	CURRENT SETTING OF VFD AND MOTOR OVERLOAD (A)	N/A	9	9	9	9	9	X

Picture #8: VFD Parameters at 460VAC-3PH

MENU	CODE	DESCRIPTION	FACTORY SETTING	TOP WHEEL	MITTER	WRAP AROUND	ROCKERZ LSW	BULLDOG	OTHER
ConF>FULL>SIn-	bFr	STANDARD MOTOR FREQUENCY (Hz)	50.0	60.0	60.0	60.0	60.0	60.0	X
	nPr	RATED MOTOR POWER ON MOTOR NAMEPLATE (#P)	DRIVE RATING	1.5	1.5	3.0	2.0	3.0	X
	unS	RATED MOTOR VOLTAGE ON MOTOR NAMEPLATE (V)	DRIVE RATING	208	208	208	208	208	X
	nCr	RATED MOTOR CURRENT ON MOTOR NAMEPLATE (A)	DRIVE RATING	5.8	5.8	11.5	6.5	11	X
	FrS	RATED MOTOR FREQ. ON MOTOR NAMEPLATE (Hz)	50.0	60.0	60.0	60.0	60.0	60.0	X
	nSP	RATED MOTOR SPEED ON MOTOR NAMEPLATE (RPM)	DRIVE RATING	1740	1740	1740	1740	1740	X
	ACC	ACCELERATION TIME (SEC)	3.0	3.0	3.0	3.0	2.0	1.5	X
	LSP	MOTOR FREQUENCY AT MINIMUM SPEED (Hz)	0.0	40	30	40	40	40	X
ConF>FULL>LD-	ECC	2 OR 3 WIRE CONTROL	2 SEC	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	(2 WIRE) 2C	X
	Ect	2 WIRE TYPE OF CONTROL	2 SEC	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	(LEVEL) LEL	X
	Frd	FORWARD DIRECTIONAL COMMAND		(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	(LI-1) LI1	X
ConF>FULL>LD->rI-	rI	RELAY R1 CONFIGURATION	(VFD RUNNING) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	(VFD running) rUn	X
ConF>FULL>FUIn>Stt-	Stt	TYPE OF STOP	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	(FRE EWHEEL) nSt	X
ConF>FULL>CtL-	Fr I	CONTROL REFERENCE (FREQ CONTROL)	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	(V.A.I. DIAL) AI1	X
	CHCF	PROFILE	2 SEC	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	(I/O PROFILE) IO	X
OVERLOAD SETTING	FVD MOTOR	CURRENT SETTING OF VFD AND MOTOR OVERLOAD (A)	N/A	23	23	23	23	23	X

Picture #9: VFD Parameters at 208VAC-3PH

Warranty and Return Procedure:

Motor City Wash Works warrants this product to be free of defect in material and/or workmanship for a period of **one year** from the date of purchase. During the warranty period MCWW will at its discretion, at no charge to the customer, repair or replace this product if found defective, with a new or refurbished unit, but not to include costs of removal or installation. Any product returned to MCWW for warranty has to have a **Return Material Authorization Number**. All shipping costs to MCWW are assumed by the customer. This is only a summary of the **MCWW Limited Warranty**. Please, communicate with MCWW for our complete warranty.

Prior to returning any product to MCWW, the customer must call in for a **Return Material Authorization Number** and a copy of our **Return Material Authorization Form** must be completed. The **RMA** number must be written clearly on the outside of the shipping package and a copy of the form must be included in the package.