

OmniPulse[™] DDC *Series 2*

Quick Start Guide



MAGNETEK

Firmware version: 44300
Part Number 144-47015 R00
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1 Service Contact Information

For questions regarding service or technical information contact:

1-866-MAG-SERV
(1-866-624-7378)

Magnetek Material Handling
N49 W13650 Campbell Drive
Menomonee Falls, WI 53051

Telephone: 800-288-8178

Website: www.magnetek.com

E-mail: mhcustomerservice@magnetek.com

Fax Numbers:

Main: 800-298-3503

Sales: 262-783-3510

Service: 262-783-3508

Magnetek, Inc. has additional satellite locations for Canada and the United States. For more information, please visit <http://www.magnetek.com>.

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This guide is a supplement to other documentation available for the DDC Series 2 drive and is intended to help the user in proper installations and setup of the system.

2 Preface and Safety

2.1 Product Safety Information

Magnetek, Inc. (Magnetek) offers a broad range of radio remote control products, control products and adjustable frequency drives, industrial braking systems, and power delivery products for material handling applications. This manual has been prepared by Magnetek to provide information and recommendations for the installation, use, operation and service of Magnetek's material handling products and systems (Magnetek Products). Anyone who uses, operates, maintains, services, installs or owns Magnetek Products should know, understand and follow the instructions and safety recommendations in this manual for Magnetek Products.

The recommendations in this manual do not take precedence over any of the following requirements relating to cranes, hoists, lifting devices or other equipment which use or include Magnetek Products:

- Instructions, manuals, and safety warnings of the manufacturers of the equipment where the Magnetek Products are used,
- Plant safety rules and procedures of the employers and the owners of the facilities where the Magnetek Products are being used,
- Regulations issued by the Occupational Health and Safety Administration (OSHA),
- Applicable local, state, provincial, or federal codes, ordinances, standards and requirements, or
- Safety standards and practices for the industries in which Magnetek Products are used.

This manual does not include or address the specific instructions and safety warnings of these manufacturers or any of the other requirements listed above. It is the responsibility of the owners, users and operators of the Magnetek Products to know, understand and follow all of these requirements. It is the responsibility of the employer to make its employees aware of all of the above listed requirements and to make certain that all operators are properly trained.

No one should use Magnetek Products prior to becoming familiar with and being trained in these requirements and the instructions and safety recommendations for this manual.

2.2 Product Warranty Information

Magnetek, hereafter referred to as Company, assumes no responsibility for improper programming and/or installation of a device (such as a drive or radio) by untrained personnel. A device should only be programmed/installed by a trained technician who has read and understands the contents of the relevant manual(s). Improper programming/installation of a device can lead to unexpected, undesirable, or unsafe operation or performance of the device. This may result in damage to equipment or personal injury. Company shall not be liable for economic loss, property damage, or other consequential damages or physical injury sustained by the purchaser or by any third party as a result of such programming. Company neither assumes nor authorizes any other person to assume for Company any other liability in connection with the sale or use of this product.

For information on Magnetek's product warranties by product type, please visit www.magnetek.com.

2.3 DANGER, WARNING, CAUTION, and NOTE Statements

Read and understand this manual before installing, operating, or servicing this product. Install the product according to this manual and local codes.

The following conventions indicate safety messages in this manual. Failure to heed these messages could cause fatal injury or damage products and related equipment and systems.



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: A NOTE statement is used to notify people of installation, operation, programming, or maintenance information that is important, but not hazard-related.

3 Installation



DANGEROUS VOLTAGES ARE PRESENT WHEN THE DRIVE IS ON. Improper wiring can cause bodily harm and damage to the equipment. Before applying power, make sure that the cover of the OmniPulse DDC Series 2 is fastened and all wiring connections are secure. Only qualified personnel should make wiring and parameter changes. After disconnecting the utility (main and control disconnects opened), wait at least 5 minutes before doing any work on the OmniPulse DDC Series 2 connections. Do not open the cover before this time has elapsed.

When installing the system, be sure to follow all applicable NEC and local electrical codes. Install the controller in a ventilated, clean, dry atmosphere. Maximum ambient temperature must not exceed 149°F (65°C) and avoid contaminated atmospheres (metal chips, water spray, acids, etc.).

3.1 Model Numbers and Ratings

	Maximum Allowable Motor Full Load Amps	NEMA Rating	Model Number
200-320 Volts	67	2	LN20067-DDC-S2
	133	3	LN30133-DDC-S2
	200	4	LN40200-DDC-S2
	400	5	LN50400-DDC-S2
	800	6	LN60800-DDC-S2
	1200	7	LN71200-DDC-S2
	1600	8S	LN8S1600-DDC-S2
	2000	8L	LN8L2000-DDC-S2
360-600 Volts	67	2	HN20067-DDC-S2
	133	3	HN30133-DDC-S2
	200	4	HN40200-DDC-S2
	400	5	HN50400-DDC-S2
	800	6	HN60800-DDC-S2
	1200	7	HN71200-DDC-S2
	1600	8S	HN8S1600-DDC-S2
	2000	8L	HN8L2000-DDC-S2

3.2 Wiring

Figure 1 and Figure 2 show the electrical connections for the input power and motor terminals for a hoist and traverse application. Make the appropriate connections with the power turned off.

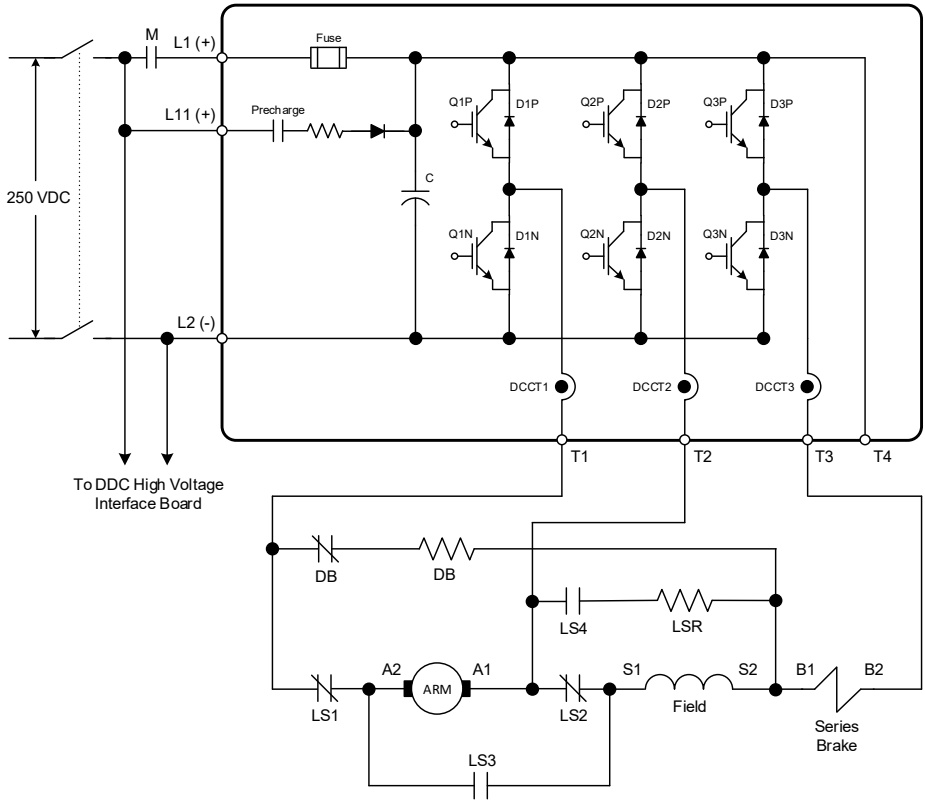


Figure 1: Typical Hoist Power Wiring

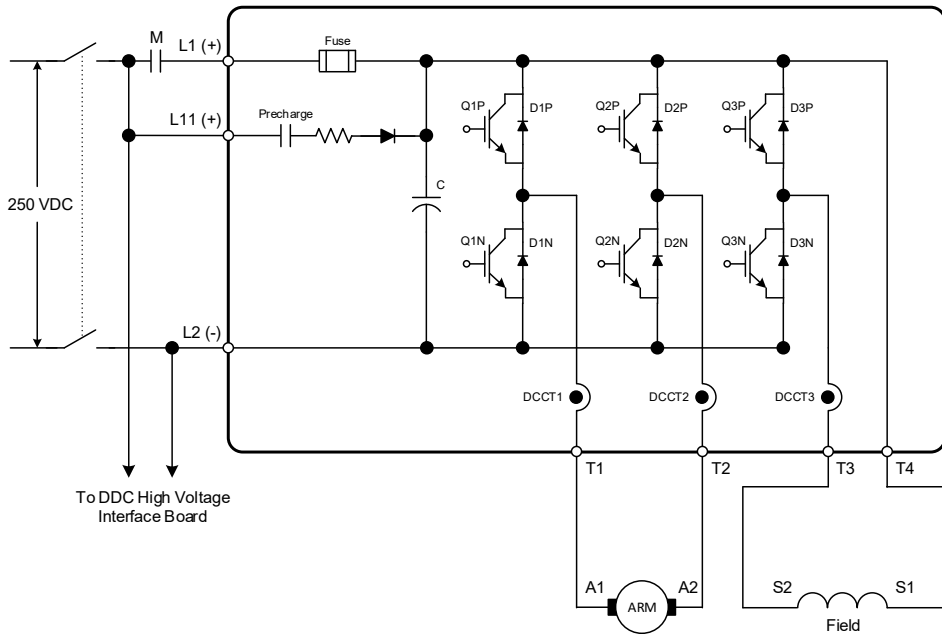


Figure 2: Typical Traverse Power Wiring

Figure 3 and Figure 4 show the available wiring connections to the OmniPulse DDC Series 2 control board and externally mounted interface board respectively. Make the appropriate connections with the power turned off.

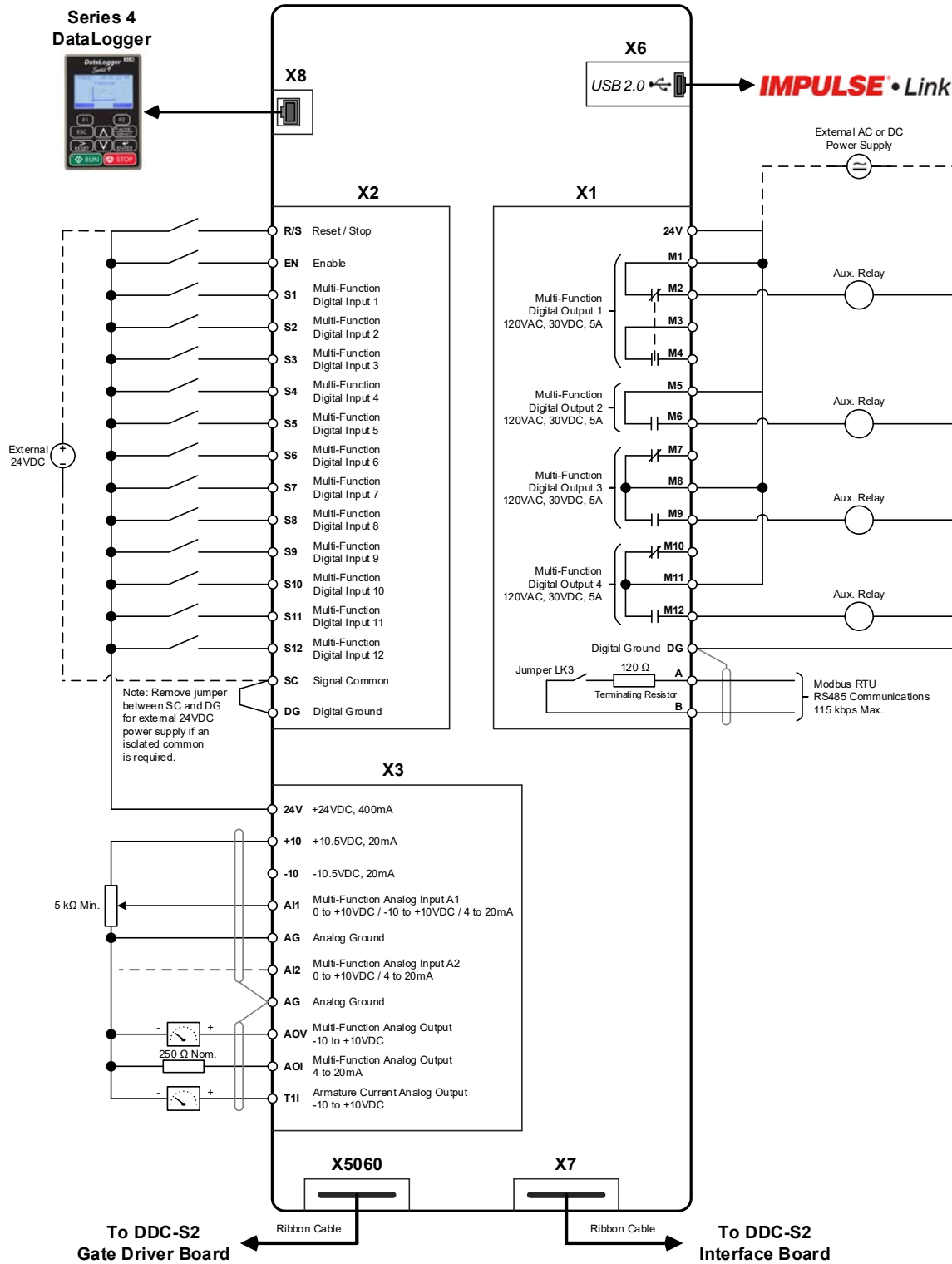


Figure 3: Control Board Wiring

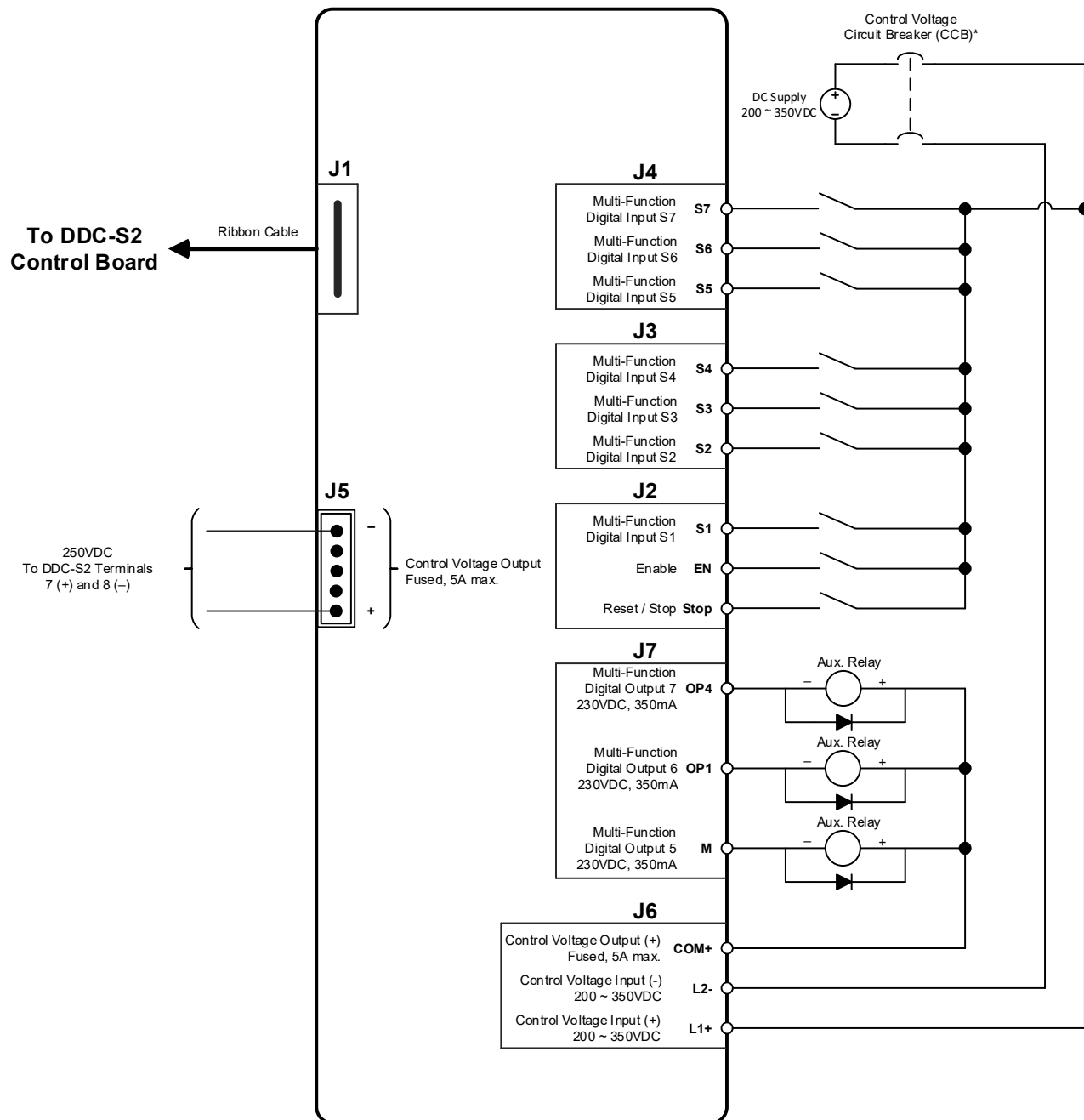


Figure 4: Interface Board Wiring

3.3 Hardware Settings

Before power is applied to the drive, it is important to insure the drive is configured properly. See tables below for correct jumper settings.

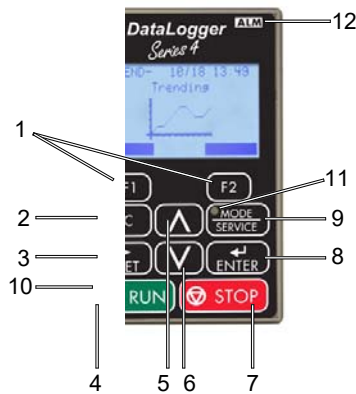
Gate Driver Board Jumper Settings

Current Class	Current Feedback Scaling Jumper Setting
NEMA 2 (67A)	LK1, LK2, LK3 IN
NEMA 3 (133A)	LK1, LK2, LK3 OUT
NEMA 4 (200A)	LK1, LK2, LK5 IN
NEMA 5 (400A)	LK1, LK2, LK5 OUT
NEMA 6-8L Follower	Ensure only pins 11 and 12 of J9 are Closed









Configuration	Jumper Setting
Hoist	LK10 IN
Travel	LK10 OUT

4 Keypad LED and Button Functions

Some of the keypad buttons, whose functions are described below, are dual-purpose. The dual-purpose keys have one function when used in a view-only mode, and another function when used in a programming mode.

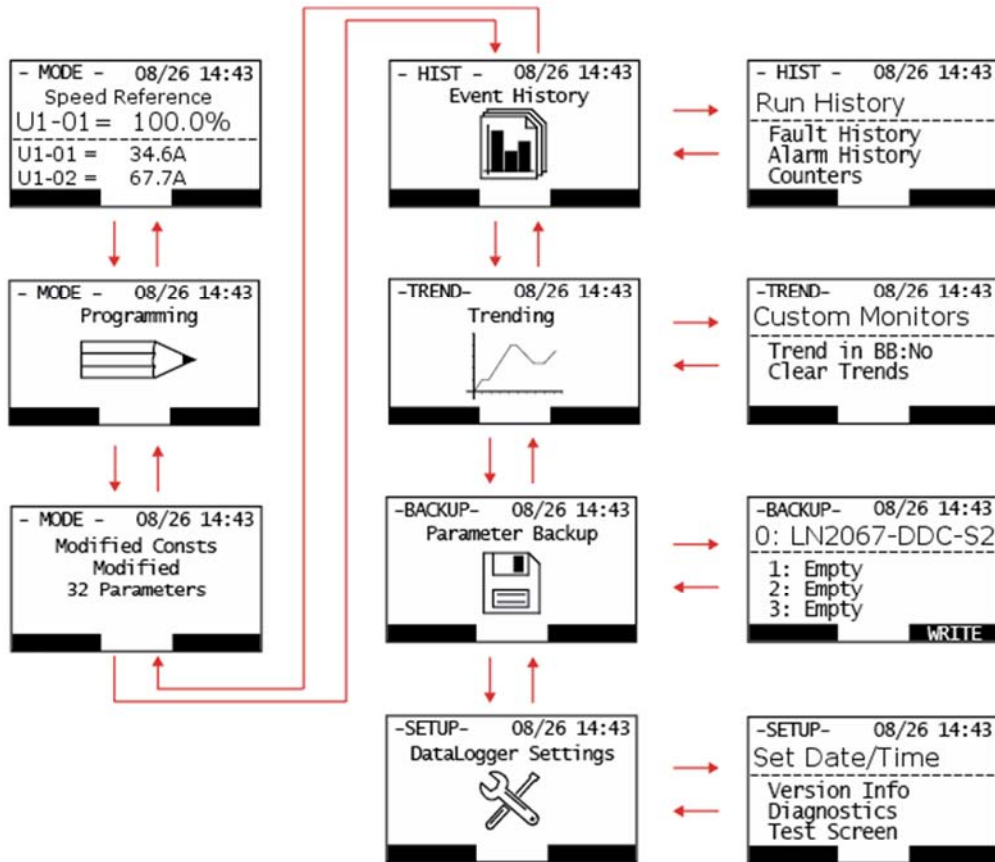


1		The F1 will move the cursor to the left when editing a parameter. Likewise, the F2 move the cursor to the right when editing a parameter.
2		<ul style="list-style-type: none"> • Returns to the previous display. • When editing a parameter, will disregard changes.
3		<ul style="list-style-type: none"> • Moves the cursor to the right. • Resets the current fault when the fault condition is cleared.
4		This button has no function.

5		Scrolls up to display the next item, selects parameter numbers, and increments setting values.
6		Scrolls down to display the previous item, selects parameter numbers, and decrements setting values.
7		Stops drive operation.*1
8		<ul style="list-style-type: none"> • Enters parameter values and settings. • Selects a menu item to move between displays.
9		Displays the phone number for the Magnetek Service Department.
10		Lit while the drive is operating the motor.
11		Lit when the Enable digital input is on.
12		<ul style="list-style-type: none"> • Off during normal operation (no fault or alarm). • On continuously when the drive detects a fault. • Flashing when the drive detects an alarm.

*1 The STOP key has highest priority. Pressing the STOP key will always cause the drive to stop the motor, even if a Run command is active at any external Run command source.

4.1 Keypad Menu Structure



5 Programming

Below is a list of parameters that must be configured for the OmniPulse DDC Series 2 to operate safely. To gain access to these parameters the password must be entered in parameter A01-08.

Parameter	Function	Settings	Default
A01-01	Access Level	0 = Monitor Only 1 = User 2 = Advanced	2 = Advanced
A01-03	Motion	0 = Hoist 1 = Traverse	0 = Hoist
A01-04	Speed Reference	0 = Two-Speed Multi-Step 1 = Three-Speed Multi-Step 2 = Five-Speed Multi-Step 5 = Uni-Polar Analog	2 = Five-Speed Multi-Step
A01-08	Password	0000 = Locked 2004 = Advanced	2004
<hr/>			
B05-01	Hoist Accel Time	0.02 ~ 25.5 seconds	5.0 seconds
B05-02	Hoist Decel Time	0.02 ~ 25.5 seconds	5.0 seconds
B05-03	Lower Accel Time	0.02 ~ 25.5 seconds	5.0 seconds
B05-04	Lower Decel Time	0.02 ~ 25.5 seconds	5.0 seconds
B05-05	Trav Accel Time	0.02 ~ 25.5 seconds	5.0 seconds
B05-06	Trav Decel Time	0.02 ~ 25.5 seconds	5.0 seconds
<hr/>			
E02-01	Motor Rated Current	1 ~ Drive current rating selected by O02-04	½ of drive current rating selected by O02-04
E02-03	Motor Rated Volt	200 ~ 700 VDC	250 VDC
E02-04	Motor Base Speed	0 ~ 5000 RPM	400 RPM
<hr/>			
O02-04	Drive Model	00 = LN2067-DDC-S2 01 = LN3133-DDC-S2 02 = LN4200-DDC-S2 03 = LN5400-DDC-S2 04 = LN6800-DDC-S2 05 = LN71200-DDC-S2 06 = LN8S1600-DDC-S2 07 = LN8L2000-DDC-S2 08 = HN2067-DDC-S2 09 = HN3133-DDC-S2 10 = HN4200-DDC-S2 11 = HN5400-DDC-S2 12 = HN6800-DDC-S2 13 = HN71200-DDC-S2 14 = HN8S1600-DDC-S2 15 = HN8L2000-DDC-S2	00 = LN2067-DDC-S2