



For GPD 333
Adjustable Frequency Drives

NCL SATELLITE

MODEL CM006

NOTE

This option may have been installed by the factory. However, certain steps can only be completed at the installation site. Therefore, review and then perform those steps which will complete the installation process.

CAUTION

Before installing this option, a **TECHNICALLY QUALIFIED INDIVIDUAL** who is familiar with this type of equipment and the hazards involved, should **READ THIS ENTIRE INSTRUCTION SHEET.**

CAUTION

The NCL Satellite board is an electrostatic sensitive device. Personnel must use approved methods for handling this type of equipment.

WARNING

HAZARDOUS VOLTAGE CAN CAUSE SEVERE INJURY OR DEATH. ENSURE ALL POWER SOURCES FEEDING DRIVE ARE LOCKED IN THE "OFF" POSITION BEFORE INSTALLING THIS OPTION.

INTRODUCTION

NCL is a communications network developed by MagneTek to accommodate multiple satellite devices (drives) from a single PLC network node which serves as a gateway to other networks. NCL protocol is based on CAN technology, featuring efficient real-time control via master/slave communication capability. NCL supports up to 30 satellite subnodes per gateway. The NCL satellite board will enable the drive to accept serial communication, allowing the network to perform all functions available via the keypad or external I/O, and to access all drive data.

| CHANGE RECORD | | | |
|---------------|--|--|--|
| | | | |
| | | | |
| | | | |

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SPECIFICATIONS

| GPD 333 NCL Satellite | |
|------------------------------|--|
| Ambient Temperature | -10 to +40 degrees C (+14 to +104 degrees F) |
| Storage Temperature | -20 to +60 degrees C (-4 to +140 degrees F) |
| Relative Humidity | 90% noncondensing |
| Altitude | 3300 feet |
| Vibration | 1G at less than 20 Hz, 0.2 G at 20-50 Hz |
| Input Power | Voltage: 11-25 VAC Current: 40 mA |

SYSTEM CONNECTIVITY

The table below shows the Connector Pinout for the GPD 333 NCL Satellite. For information on NCL network topology, maximum cable distance, cable specifications, and network termination, refer to the GPD 333 NCL technical manual, TM 4334.

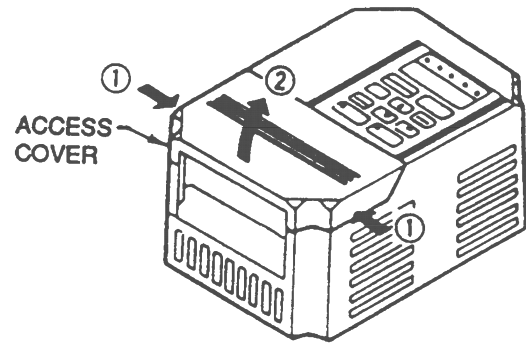
| Pin | Label | Definition |
|------------|--------------|-------------------|
| 1 | Drain | Shield |
| 2 | CAN_L | Data Pin (low) |
| 3 | CAN_H | Data Pin (high) |
| 4 | V- | Common |
| 5 | V+ | +24 VDC |

INSTALLATION

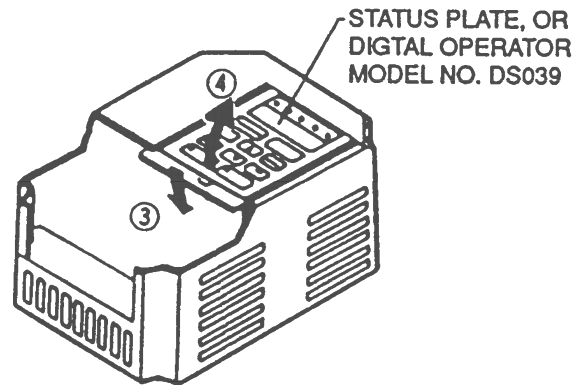
The NCL Satellite installs directly on the GPD 333 drive in place of the standard status plate or optional Digital Operator display (see Figure 1).

1. Disconnect all electrical power to the GPD 333.
2. Remove the GPD 333 access cover located on the bottom front of the drive (View A).
3. Check to ensure that the CHARGE indicator lamp (located inside the GPD 333 on the bottom left corner) is not lit.
4. Verify that voltage has been disconnected by using a voltmeter to check for power at incoming power terminals (L1, L2, L3).
5. Gently press down on the plastic terminal board label strip located just below the status plate or Digital Operator (View B). Carefully lift upward on the bottom edge of the status plate/Digital Operator until the connector located on its back is released from the drive.
6. Route the green pigtail ground wire of the NCL Satellite board through the rectangular opening in the drive chassis located in the area from which the status plate/Digital Operator was removed. This ground wire should be connected to one of the drive ground terminals marked 'G'. The two drive ground terminals are located at the lower right and lower left corners of the GPD 333.
7. The ten-position dipswitch located on the back of the NCL Satellite board should be properly configured at this time (see setting definitions on last page of this instruction sheet).
8. Install the NCL Satellite board in the mounting recess (View C).
9. Replace the GPD 333 access cover.
10. Insert the NCL network connector into the receptacle on the front of the NCL Satellite.

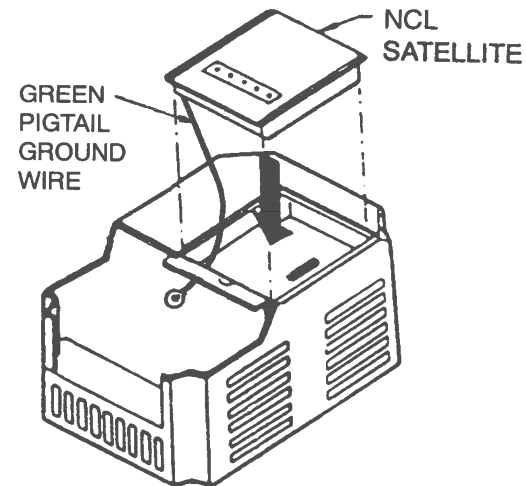
This completes installation of this option.



View A



View B



View C

Figure 1 Mounting NCL Satellite

DIPSWITCH SETTINGS

The dipswitch located on the backside of the NCL Satellite board must be properly set before attempting to establish serial communications. The following table defines the function of each switch position of DIPSW1:

| Switch # | Switch Function |
|----------|---|
| 1 | Baud Rate - bit 0 |
| 2 | Baud Rate - bit 1 |
| 3 | Operation and Frequency Remote/Local |
| 4 | Not Used |
| 5 | NCL Drive Subnode Address - bit 0 / MSB |
| 6 | NCL Drive Subnode Address - bit 1 |
| 7 | NCL Drive Subnode Address - bit 2 |
| 8 | NCL Drive Subnode Address - bit 3 |
| 9 | NCL Drive Subnode Address - bit 4 |
| 10 | NCL Drive Subnode Address - bit 5 / LSB |

| NCL Baud Rate * (Kbaud) | Satellite DIPSW Position 0 = off 1 = on | |
|-------------------------|--|---|
| | 2 | 1 |
| 125 | 0 | 0 |
| 250 | 0 | 1 |
| 500 | 1 | 0 |
| | 1 | 1 |

* Must match baud rate setting of NCL Gateway module.

| Operation Signal and Frequency Reference Source | | Satellite DIPSW Position 3 |
|---|-------------------------|-------------------------------|
| Remote | From NCL Network | 0 |
| Local | From External Terminals | 1 |

| Drive Subnode Address | Satellite DIPSW Position 0 = off 1 = on | | | | | |
|-----------------------|--|---|---|---|---|---|
| | 10 | 9 | 8 | 7 | 6 | 5 |
| 00 | 0 | 0 | 0 | 0 | 0 | 1 |
| 01 | 0 | 0 | 0 | 0 | 1 | 0 |
| 02 | 0 | 0 | 0 | 0 | 1 | 1 |
| 03 | 0 | 0 | 0 | 1 | 0 | 0 |
| 04 | 0 | 0 | 0 | 1 | 0 | 1 |
| 05 | 0 | 0 | 0 | 1 | 1 | 0 |
| 06 | 0 | 0 | 0 | 1 | 1 | 1 |
| 07 | 0 | 0 | 1 | 0 | 0 | 0 |
| 08 | 0 | 0 | 1 | 0 | 0 | 1 |
| 09 | 0 | 0 | 1 | 0 | 1 | 0 |
| 10 | 0 | 0 | 1 | 0 | 1 | 1 |
| 11 | 0 | 0 | 1 | 1 | 0 | 0 |
| 12 | 0 | 0 | 1 | 1 | 0 | 1 |
| 13 | 0 | 0 | 1 | 1 | 1 | 0 |
| 14 | 0 | 0 | 1 | 1 | 1 | 1 |
| 15 | 0 | 1 | 0 | 0 | 0 | 0 |
| 16 | 0 | 1 | 0 | 0 | 0 | 1 |
| 17 | 0 | 1 | 0 | 0 | 1 | 0 |
| 18 | 0 | 1 | 0 | 0 | 1 | 1 |
| 19 | 0 | 1 | 0 | 1 | 0 | 0 |
| 20 | 0 | 1 | 0 | 1 | 0 | 1 |
| 21 | 0 | 1 | 0 | 1 | 1 | 0 |
| 22 | 0 | 1 | 0 | 1 | 1 | 1 |
| 23 | 0 | 1 | 1 | 0 | 0 | 0 |
| 24 | 0 | 1 | 1 | 0 | 0 | 1 |
| 25 | 0 | 1 | 1 | 0 | 1 | 0 |
| 26 | 0 | 1 | 1 | 0 | 1 | 1 |
| 27 | 0 | 1 | 1 | 1 | 0 | 0 |
| 28 | 0 | 1 | 1 | 1 | 0 | 1 |
| 29 | 0 | 1 | 1 | 1 | 1 | 0 |
| 30 | 0 | 1 | 1 | 1 | 1 | 1 |

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