

GENERAL

Question	Answer
What are Electric Drives?	<p>"In the Industrial and Commercial sectors, electric drives are devices that are connected to fixed electrical supply systems and provide variable electric power supplies for electric motor control.</p> <p>Different electric drives are available to control different electric motor types such as DC motors, AC induction motors and AC permanent motors. Some electric drives can be applied to more than one type of motor."</p>
What are VFD Packaged Solutions?	<p>"Packaged drive solutions are electric drives mounted in industrial enclosures and are typically high power and available with a range of power and control accessories including HMIs, line reactors, fuse protection and cooling systems.</p> <p>These large packaged AC drives are typically pre-engineered and configurable and provide robust and reliable solutions for motor control applications."</p>
What is a VFD?	<p>"A variable frequency drive or VFD is an electronic controller used to vary the frequency applied to an AC motor in order to control the motor speed. Other names for such devices include variable speed drive or VSD, adjustable speed drive or ASD and inverter.</p> <p>VFDs are commonly used in automation systems and for machine control and productivity and in building automation systems for energy savings."</p>
What is an AC Drive?	<p>"An AC Drive is a device that is used to control the speed of an AC motor. AC drives range from variable frequency drives for basic speed control to closed loop vector drives for precision speed and torque control.</p> <p>AC drives are available with a wide range of control, feedback and networking options. Working with a trusted drive specialist is the best way to select the optimum drive for your application."</p>
What is Motor Control?	<p>"Motor control refers to devices that are used to control the torque, speed or position of an electric motor. Examples of electronic motor controls are soft starters that limit the electrical and mechanical shock applied to a system when an AC motor is started and VFDs and servo drives that control motor speed and position across the working design range of the motor.</p> <p>It is important that the motor and motor controls are matched for long term reliable operation."</p>
What is a DC Drive?	<p>"A DC drive is an electronic controller used to vary the voltage and current applied to a DC motor in order to control the motor speed and torque. Other names for such devices include variable speed drive or VSD, adjustable speed drive or ASD.</p> <p>DC Drives are not commonly used in modern automation systems today but can be found in older machines."</p>
What is a motion controller?	<p>"The term motion control is commonly used to describe machinery where the position of the machine parts are controlled. Motion controllers can be in the form of standalone electronic hardware devices or embedded in PLCs (Programmable Logic Controllers), PCs or drives.</p> <p>Servo drives and motors are most commonly used in these applications but AC drives and motors can also be used depending on the machine type."</p>
What is a servo drive?	<p>A servo drive is an electronic controller used to precisely control the torque, speed and position of a servo motor or actuator in motion control applications. The term servo amplifiers is also used. Most servo drive systems include motor feedback devices that the servo drive uses to continuously vary its output to meet the machine demands.</p>
What is a servo motor?	<p>A servo motor is a type of permanent magnet motor used most commonly in motion control positioning applications. Compared to standard AC induction motors servo motors are typically smaller and lighter and can be controlled for highly dynamic and high precision applications. Most servo motors are supplied with a feedback device for closed loop speed and position control systems.</p>

COMMANDER C

Question	Answer
General Topics	
How do I clear the Digital Output Overload (O.Ld1) fault on my Commander C200/C300 drive?	Reduce the total load on digital output (DO) and the 24VDC terminal rail to below 100 mA. Check for incorrect wiring and damages or re evaluated the loads that are supported from the digital outputs.
How can I change the direction of my motor running in open loop from a drive?	<p>"To change the direction of the motor by phase output (where you want to change the positive direction of the motor), with the drive powered down do either:</p> <ol style="list-style-type: none"> 1. Swap the installation location of 2 of the motor leads at the drive output terminal. 2. Set Pr. 5.042 to ""On"" to reverse the output phase sequence. <p>To change the direction of the motor where you want the drive to run in the opposite direction (reversing) on command, you can do any of the following:</p> <ol style="list-style-type: none"> 1. Change the digital input destination that is running the drive from ""Run Forward (Pr 6.030)"" to ""Run Reverse (Pr 6.032)"". 2. If controlling from a fieldbus with the control word, use Bit 3 instead of Bit 1 to issue the run command."
What is a PH.LO trip on my drive? How can I check what is causing it?	<p>"The Ph.Lo fault is an indication of an input phase loss or large supply imbalance.</p> <p>Check phase to phase, phase to ground and do the same on the output side to see if one or more phases are dipping right before the drive trips compared to the other two legs. Also, measure the DC Bus Link (between: DC+ and DC- when meter is set for an AC mode) to confirm if there is a significant ripple input/output voltage imbalance."</p>
What are the best ways to troubleshoot an OV trip on a Commander drive, and what does this mean?	<p>DC bus voltage has exceeded the peak level or maximum continuous level for 15 seconds. The OV trip indicates that the DC bus voltage has exceeded the maximum limit. Possible solutions:</p> <p>Increase Deceleration Rate (Pr 04)</p> <p>Decrease the braking resistor value (staying above the minimum value)</p> <p>Check nominal AC supply level</p> <p>Check for supply disturbances which could cause the DC bus to rise</p> <p>Check motor insulation using insulation tester</p>
What are the best ways to troubleshoot an OIAC trip on a Commander drive, and what does this mean?	<p>Instances output over current detected.</p> <p>The instantaneous drive output current has exceeded the set limit. Possible solutions:</p> <p>Increase acceleration/deceleration rate</p> <p>If seen during autotune reduce the voltage boost</p> <p>Check for short circuit on the output cabling</p> <p>Check integrity of the motor insulation using an insulation tester</p> <p>Reduce the values in the current loop gain parameters.</p>
How do I use the AI-Backup adapter with an SD card to transfer parameter sets between Commander drives?	<p>NV Media Card Operation</p> <p>Installing the AI-Backup Adaptor (SD Card):</p> <ol style="list-style-type: none"> 1. Identify the two plastic fingers on the underside of the AI-Backup adaptor (1) - then insert the two fingers into corresponding slots in the spring-loaded sliding cover on the top of the drive. 2. Hold the adaptor firmly and push the spring-loaded protective cover towards the back of the drive to expose the connector block (2) below. <p>Press the adaptor downwards (3) until the adaptor connector locates into the drive connection below.</p> <p>Basic NV Media Card Operation:</p> <p>The whole card may be protected from writing or erasing the setting that read-only flag, refer to the Control User Guide for further information. The card should not be removed during data transfer, as the drive will produce a trip. If this occurs then either the transfer should be reattempted or in the case of a card to drive transfer, default parameters should be loaded.</p> <p>Note: The drive supports SD cards formatted with the FAT32 file system only.</p>

<p>How do I remove the drive terminal cover from a C200/C300?</p>	<p>Using a flat bladed screwdriver, turn the terminal cover locking anti-clockwise by approximately 30 degrees, and then pull the cover off, starting on the top edge.</p> <ol style="list-style-type: none"> 1. Using a flat bladed screwdriver, turn the terminal cover locking clip anti-clockwise by approximately 30°. 2. Slide the terminal cover down. 3. Remove terminal cover in direction shown.
<p>What is an "r5" trip, and how do I clear it?</p>	<p>This typically means that resistance in the motor stator is likely more than recommended for this drive. This can be solved by using a more suitable motor, or by changing the drive into "Fixed" mode by setting Pr. 0.041 to "FD" and 0.042 to 1.0 .</p>
<p>How do I clear the "INH" or "INHIBIT" message on my Commander keypad?</p>	<p>Make sure the Drive enable terminal (T11) on C200 (or M100-M200) or the Safe Torque OFF inputs on the C300 (M300-M400) drive are energized with a 24VDC supply from T9 or T17, or an external 24VDC supply that shares a same common reference with the drive IO.</p>
<p>How do I configure S Ramps in my Unidrive M or Commander C drive to control jerk and acceleration?</p>	<p>https://youtu.be/A6sGH5GPMp8</p>
<p>How do I configure the Unidrive M or Commander C relay contacts?</p>	<p>https://youtu.be/n2r3bBZpePQ</p>
<p>How do I configure the onboard PID controller in Menu 14 of my drive?</p>	<p>https://youtu.be/2N-rNWNrU_U</p>
<p>Using the Drive Keypad</p>	
<p>What do I do if my remote keypad is stuck displaying "Initializing"?</p>	<p>"For a remote keypad to work, first the serial port communication parameters must be modified so that the remote keypad can access the drive parameters. This can be done by a drive mounted keypad or through Connect software. Make the following parameter changes, and then save them to the drive:</p> <ol style="list-style-type: none"> 1. Pr. 11.023 (Serial Address) = 1 2. Pr. 11.024 (Serial Mode) = "8 1 NP M" or (5) 3. Pr. 11.025 (Baud Rate) = "115200" or (10) 4. Pr. 11.020 (Reset Comms)"
<p>How do I change the status parameter on the drive keypad that displays during normal operation?</p>	<p>"Use the status mode parameters 11.018 and 11.019 to setup a display readout by changing their value pointers. For example, if you want to have the drive keypad to display RPM speed value, then you will set Pr. 11.018 to 5.004, then SAVE parameters. "</p>
<p>How do I save my parameter set to my drive from the keypad?</p>	<p>Saving Parameters</p> <p>When changing a parameter in Menu 0, the new value is saved when pressing the Enter button to return to parameter mode from parameter edit mode.</p> <p>If parameters have been changed in the advanced menus, then the change will not be saved automatically. A save function must be carried out.</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Select 'Save' in Pr 00 or Pr mm.000 (alternativel enter a value 1001 in Pr 00 or Pr mm.000). 2. Either: <p>Press the red reset button.</p> <p>Carry out a drive reset through serial communications by setting Pr 10.038 to 100.</p>
<p>How can I setup my C300 defaults the match the defaults of my old M300 from the keypad?</p>	<p>https://youtu.be/lq3u-i7GdT8</p>
<p>How do I migrate from an M300 to a C300 using an SD card?</p>	<p>https://youtu.be/YZc0n0vMB6c</p>

Quick Start

I just received my first Unidrive M400, how do I get it running with my motor?

<https://youtu.be/jRVi20bQ90k>

I just received my first Unidrive M300, how do I get it running with my motor?

<https://youtu.be/rEqjvG48EY>

I just received my first Unidrive M200, how do I get it running with my motor?

<https://youtu.be/ZKhVcH9hN7E>

How do I configure the digital IO on my Unidrive M or Commander C drive?

<https://youtu.be/d90jecE2zYw>

I just received my first C200, how do I get it running with my motor?

<https://youtu.be/QzQacmfRQJI>
<https://youtu.be/BEi29-lLzu8>

I just received my first C300, how do I get it running with my motor?

<https://youtu.be/mnZo15UksCo>
<https://youtu.be/laQTufDIUPc>

Drive Software

How can I transition my M300 drive to a C300 drive using Connect software?

<https://youtu.be/8A-8LfbNKY0>

