Page A-2

Replace the Ultra3000 (230V) Power Specifications table on page A-2 with the one shown below. The new table includes inrush current specifications configured as Series A, B, or C.

- Ultra3000 drive firmware revision 1.45 is required to support the Series C hardware.
- Ultraware software, version 1.63, is required to download firmware to Series C drives containing the new power board.

Ultra3000 Drive (230V) Power Specifications
2098-DSD-005*x-xx*, 2098-DSD-010*x-xx*, and 2098-DSD-020*x-xx*

Specification	Description		
	2098-DSD-005	**2098-DSD-010**	**2098-DSD-020**
AC input voltage [1]	100...240V rms single-phase		
AC input frequency	47...63 Hz		
AC input current [2] [3] Nom (rms) 230V ac (0-pk) max inrush [4]	 5 A 100 A - Series A or B 20 A - Series C	 9 A 100 A - Series A or B 20 A - Series C	 18 A 100 A - Series A or B 20 A - Series C
Continuous output current (0-pk)	2.5 A	5 A	10 A
Intermittent output current (0-pk)	7.5 A	15 A	30 A
Bus capacitance	1410 µF	1880 µF	1880 µF
Internal shunt resistance	N/A	N/A	N/A
Shunt on	N/A	N/A	N/A
Shunt off	N/A	N/A	N/A
Bus overvoltage	400V dc	400V dc	400V dc
Energy absorption capability 115V ac input 230V ac input	 93 J 38 J	 125 J 51 J	
Continuous power output 115V ac input 230V ac input	 0.25 kW 0.5 kW	 0.5 kW 1.0 kW	 1.0 kW 2.0 kW

[1] Specification is for nominal voltage. The absolute limits are ±10%, or 88...265V rms.

[2] The 2098-DSD-005*x-xx*, -010*x-xx*, and -020*x-xx* (230V) drives are limited to:
Series A or B - one contactor cycle every two minutes.
Series C - one contactor cycle every 10 s for up to two minutes, not to exceed 12 cycles in five minutes.

[3] Power initialization requires a short period of inrush current. Dual-element time delay (slow blow) fuses are recommended.

[4] Inrush current-limiting circuitry is enabled within 3 s after removal of ac line power.

ATTENTION

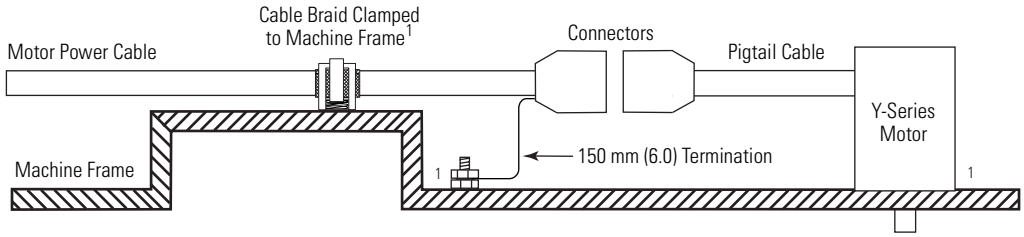


The inrush current-limiting circuitry is limited in the number of power cycles it can withstand within a set period of time. If you exceed these limitations, the circuitry will be damaged.

Connecting the Y-Series Cable Shield at the Motor

Y-Series motors have a short pigtail cable which connects to the motor, but is not shielded. The preferred method for grounding the Y-Series motor power cable on the motor side is to expose a section of the cable shield and clamp it directly to the machine frame. The motor power cable also has a 150 mm (6.0 in.) shield termination wire with a ring lug that connects to the closest earth ground. Use this method in addition to the cable clamp. The termination wire may be extended to the full length of the motor pigtail if necessary, but it is best to connect the supplied wire directly to ground without lengthening. Refer to Figure 3.13 for an illustration and Figure B.15 in *Appendix B* for the interconnect diagram.

Figure 3.13
Y-Series Motor Power Cable Connection



[1] Remove paint from machine frame to ensure proper HF-bond between machine frame and motor case, shield clamp, ground stud, etc.

Configuring Your Ultra3000 Drive and Ultra3000 Drive with Indexing

The procedures in this section are listed in this table and apply to Ultra3000 drives and Ultra3000 drives with indexing.

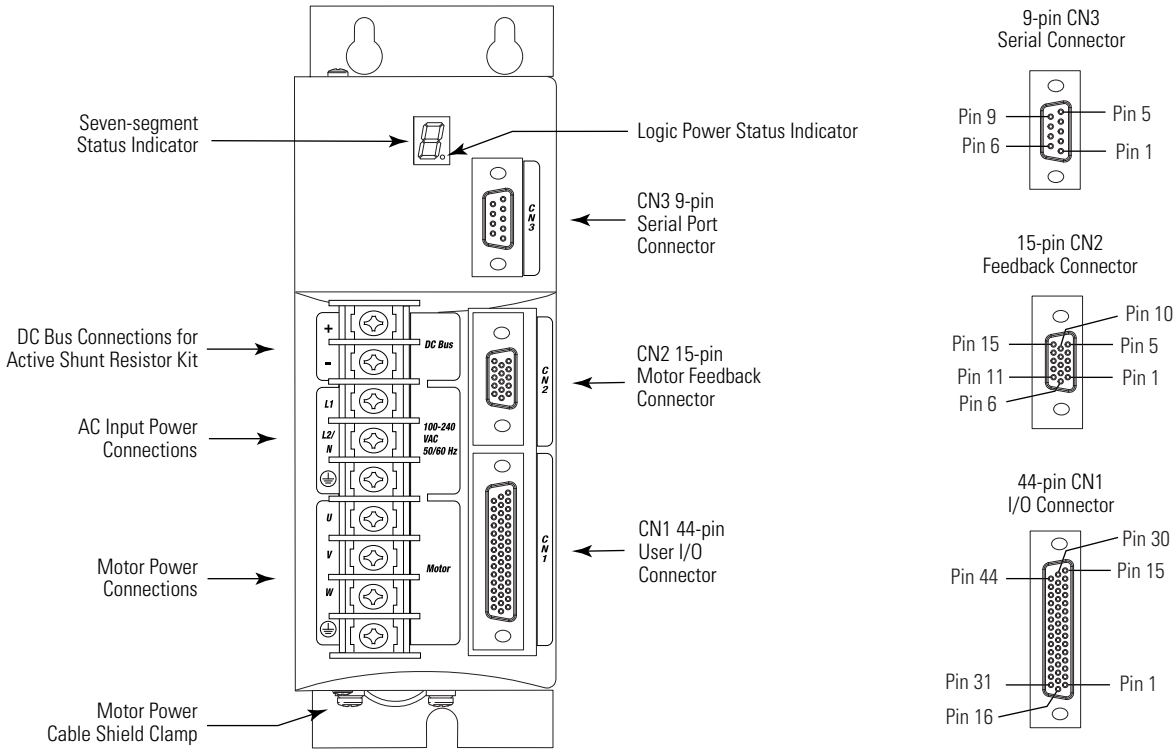
Ultra3000 Drive Configuration Procedures

Procedure	Page
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Front Panel Connections

Use this figure to locate the front panel connections on the Ultra3000 230V drives (500 W, 1 kW, and 2 kW).

Front Panel Connections for 2098-DSD-005, 2098-DSD-005X, 2098-DSD-010, 2098-DSD-010X, 2098-DSD-020, and 2098-DSD-020X Drives



For CN1, CN2, and CN3 connector pin-out information, refer to the Ultra3000 Digital Servo Drives Installation Manual, publication 2098-IN003.

Apply Power To Your Ultra3000 Drive

This procedure assumes you have wired your Ultra3000 system, verified the wiring, and are ready to begin using your Ultraware software.

ATTENTION



High voltage exists in ac line filters. The filter must be grounded properly before applying power. Filter capacitors retain high voltages after power removal. Before handling the equipment, voltages should be measured to determine safe levels. Failure to observe this precaution could result in personal injury.

Follow these steps to apply power to your Ultra3000 drive.

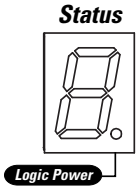
1. Disconnect any load to the motor, making sure the motor is free of all linkages when initially applying power to the system.

ATTENTION



To avoid damage to the drive due to improper sequencing of input power and the Drive Enable (Input 1) signal, do not apply the Drive Enable signal without first applying input power.

2. Apply input power to the Ultra3000 drive and observe the front panel Logic Power status indicator.



If the Logic Power status indicator is	Then
ON	Go to step 3.
Not ON	1. Check your input power connections. 2. Repeat step 2.

3. Observe the front panel seven-segment status indicator on your Ultra3000 drive.

Seven-segment Status Indicator	Status	Do This
Actively cycling segments in a full circle	The drive is ready.	Go to Detect Your Ultra3000 Drive on page 16.
Flashing E followed by two numbers	The drive is faulted.	Go to Error Codes on page 98.

Select a Motor

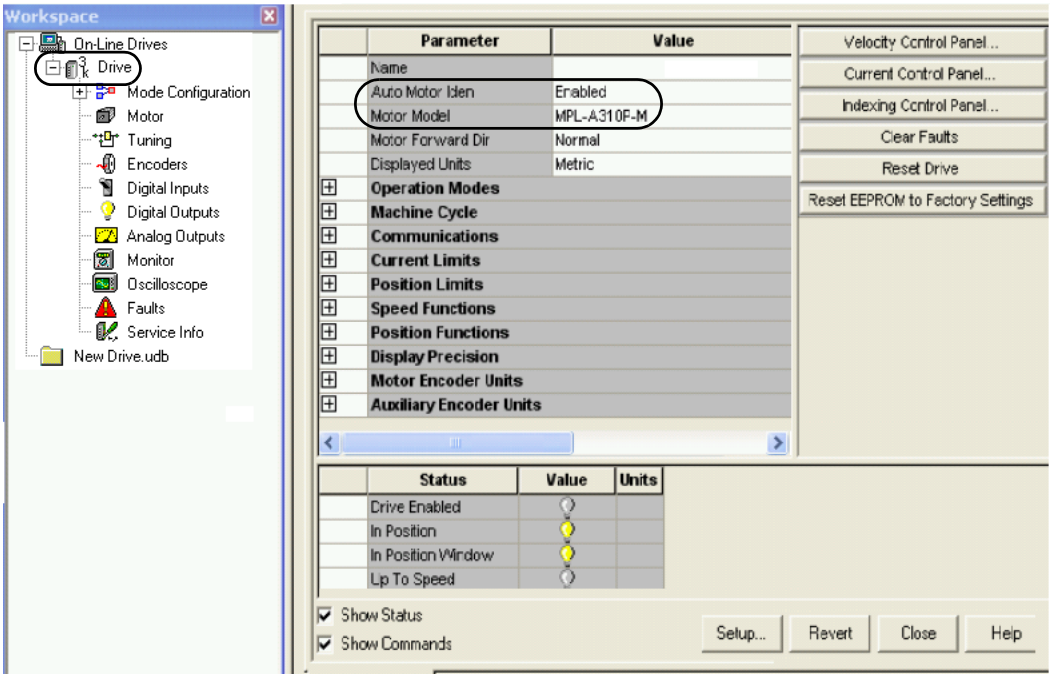
This procedure assumes you have power applied to your drive and the drive is detected by the Ultraware software.

Refer to the Ultraware User Manual, publication 2098-UM001, for more information on selecting a motor.

Follow these steps to select a motor.

1. Double-click the Ultra3000 icon (Ultra3k) under the On-Line Drives tree.

   The Ultra3000 Drive properties dialog opens.



   Actual values depend on your application. Auto Motor Iden default value is Enabled and remains Enabled if motor with intelligent encoder is detected or selected. Value changes to Disabled if motor without intelligent encoder is selected.

2. Check the Motor Model parameter value.

If motor is	Value (motor cat. no.)	Go To
An Allen-Bradley motor with intelligent encoder	Is recognized by the Ultraware software	Assign Digital Inputs on page 22.
	Is not recognized by the Ultraware software	Go to Error Codes in Chapter 2 and refer to troubleshooting for E30.
Not an Allen-Bradley motor with intelligent encoder		Step 3.

3. From the Motor Model pull-down menu, choose your motor.

Test Your Motor (non-indexing move)

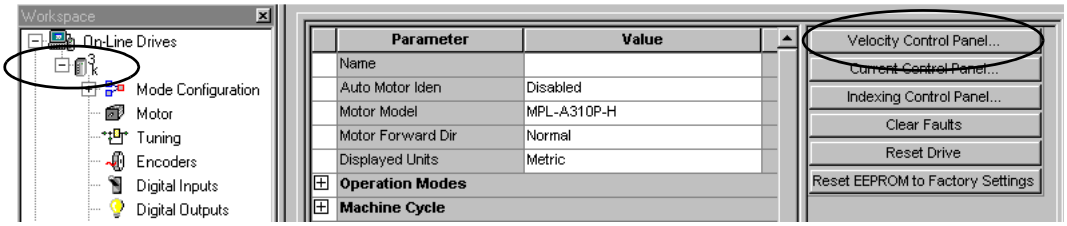
This procedure assumes you have applied power to your drive, the Ultraware software is running, the drive is detected, and you have selected a motor. In this procedure you will enable the drive and set the motor velocity to test the motor.

Refer to the Ultraware User Manual, publication 2098-UM001, for more information on using the velocity control panel.

Follow these steps to jog the motor at a constant speed.

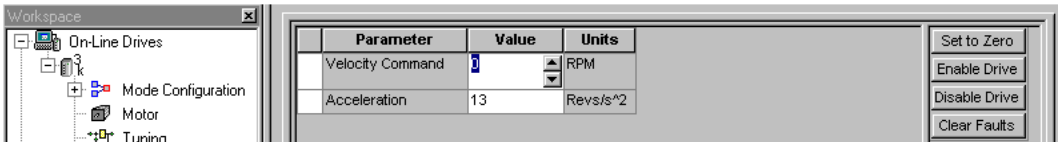
1. Double-click the U3k icon.

   The drive properties dialog opens.



2. Click Velocity Control Panel.

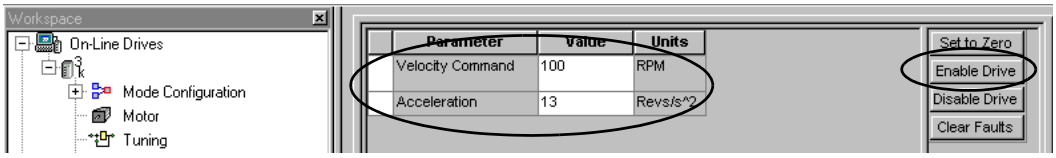
   The velocity control panel dialog opens.



3. Apply 12…24V dc to input 1.

   Input 1 was configured as Drive Enable in a previous step.

4. Click Enable Drive.

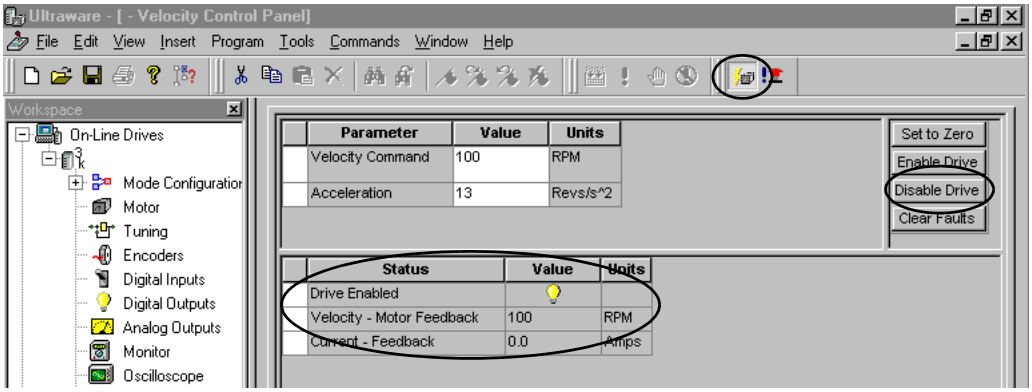


5. In the Velocity Command box, enter an appropriate low speed.

6. Press Enter.

   The motor should be turning at the velocity you entered in step 5.

7. Observe the Status table.



- Drive Enable status = lamp is on (yellow)
- Velocity - Motor Feedback status = the value you entered in step 5

8. Click Disable Drive.

   The motor stops.

9. Close the velocity control panel.

   The drive is software disabled and the enable icon in the toolbar is no longer illuminated.

Test Your Motor (indexing move)

This procedure assumes you have applied power to your drive, the Ultraware software is running, the drive is detected, and you have selected a motor. In this procedure you will enable the drive and make an incremental move to test the motor.

IMPORTANT If you do not have an Ultra3000X indexing drive, you cannot access the indexing functions.

Refer to the Ultraware User Manual, publication 2098-UM001, for more information on using the indexing control panel.

Follow these steps to test your motor.

1. Double-click the U3k icon.