Quantum II to Quantum III Conversion Guide

This document pertains to Quantum II and Quantum III drives.

The chart below shows a Quantum cross reference table for size 1 and size 2 drives:

<table>
<thead>
<tr>
<th>Quantum II</th>
<th>Quantum III</th>
<th>Current rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>9500-8201 / 8501</td>
<td>9500-8302 / 8602</td>
<td>20.1</td>
</tr>
<tr>
<td>9500-8202 / 8502</td>
<td>9500-8302 / 8602</td>
<td>38</td>
</tr>
<tr>
<td>9500-8203 / 8503</td>
<td>9500-8303 / 8603</td>
<td>55</td>
</tr>
<tr>
<td>9500-8204 / 8504</td>
<td>9500-8305 / 8605</td>
<td>89.1</td>
</tr>
<tr>
<td>9500-8205 / 8505</td>
<td>9500-8305 / 8605</td>
<td>105.5</td>
</tr>
<tr>
<td>9500-8206 / 8506</td>
<td>9500-8306 / 8606</td>
<td>172</td>
</tr>
<tr>
<td>9500-8107 / 8407</td>
<td>9500-8307 / 8607</td>
<td>255</td>
</tr>
<tr>
<td>9500-8108 / 8408</td>
<td>9500-8308 / 8608</td>
<td>338</td>
</tr>
<tr>
<td>9500-8109 / 8409</td>
<td>9500-8309 / 8609</td>
<td>428</td>
</tr>
<tr>
<td>9500-8110 / 8410</td>
<td>9500-8310 / 8610</td>
<td>508</td>
</tr>
<tr>
<td>9500-8111 / 8411</td>
<td>9500-8311 / 8611</td>
<td>675</td>
</tr>
</tbody>
</table>
QII Interconnect Diagram
## Terminal Cross Reference Chart

### Transformer Voltage Selection

### QII Voltage Fly Lead selection

Selection made on the power board and the control.

<table>
<thead>
<tr>
<th>Line Voltage</th>
<th>Jumper Strap Positions</th>
<th>Jumper C to</th>
<th>Jumper F to</th>
</tr>
</thead>
<tbody>
<tr>
<td>240VAC</td>
<td>A</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>480VAC</td>
<td>D</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

Selection made on the power board and the control transformer (A)

### QIII Voltage Fly Lead selection

**NOTE:** The QIII has an SMPS which allows the power supply voltage to operate between 208 and 480 VAC +/- 10%. The control transformer shown above is the only change needed.
Additional Conversion Information

There is a wealth of reference materials available online at www.emersonct.com. Some of the documents that will help in programming the QIII are listed below. Click on the links to open the documents.

For the Quantum III Manual   click here   QIII Manual

For more Quantum III Information   Catalog Info

How to Specify a Quantum III   CTAN199

MD21 Co-Processor Conversion Considerations   CTAN 263

**CTRI 218**  QIII drive replacement instructions are available. This document will highlight the location of jumpers and potentiometers that may need to be changed.

**CTAN 193**  Discusses using MentorSoft software to program and save the drive data. It contains a link to download the software for free.

**CTTN 135**  Discusses tuning the current loop of the QIII to ensure stability.

**CTTN 126**  Setting up with tachometer feedback.

**CTTN 128**  Field Weakening Setup

**Assistance**

If you would like assistance in selecting and/or setting up a Quantum III when converting from a Quantum II, please fill out the following Motor/Application Data Sheet (next page) and fax in to the number at the bottom. Include your name and number so that we can contact you.

For questions call Control Techniques Technical Support at 716-774-1193 Grand Island, NY 14072
Quantum II to Quantum III Conversion
Motor & Basic Application Data

Drive Model Number

Quantum II Drives will begin with 9500-8________

Motor Nameplate Data

Rated Armature Voltage________vdc
Rated Armature Amps __________Adc
Rated Speed________RPM or ________/__________RPM
Field Voltage________vdc
Field Amps __________Adc or ________/________Adc
Field Ohms __________

Does motor have one or two field windings? _______ F1 & F2 or F1, F2, F3, F4
Does motor have a series field? _______ S1, S2
Is there an External FXM4 Field Regulator being used? _______

Motor Feedback

Does the motor have a speed feedback device on the end of it? _______

If Yes, is it an AC or DC Tach _______ and what is the output of it _______v/1K rpm
If it is an Encoder, what is the Pulses/Rev _______PPR and voltage rating ______vdc

Application Information

What is the line voltage for the Drive? _______ vac
What kind of a machine is this being used on? ___________________ ie Extruder, Lathe
What is maximum motor speed required for this application? _______RPM
Is reversing required? _______
Is Speed controlled using a Speed Pot? _______ or External Voltage _______
How do you intend to Start/Stop the drive? On/Off Switch-Contact____ Start-Stop Buttons____
Upon a Stop Command, do you want the motor to Coast ____ or Decel under control____

Fax Back to 716-774-8949 with your Company Name, Your Name and Telephone Number
And we will help you to get your Drive Started-up
Control Techniques Technical Support Center
Grand Island, NY