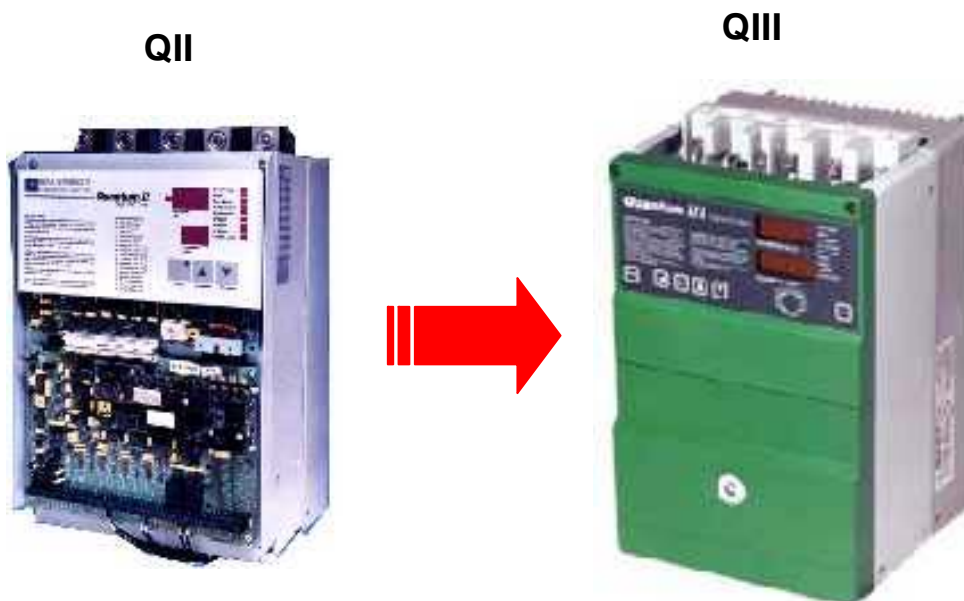


## Quantum II to Quantum III Conversion Guide

This document pertains QII and QIII drives

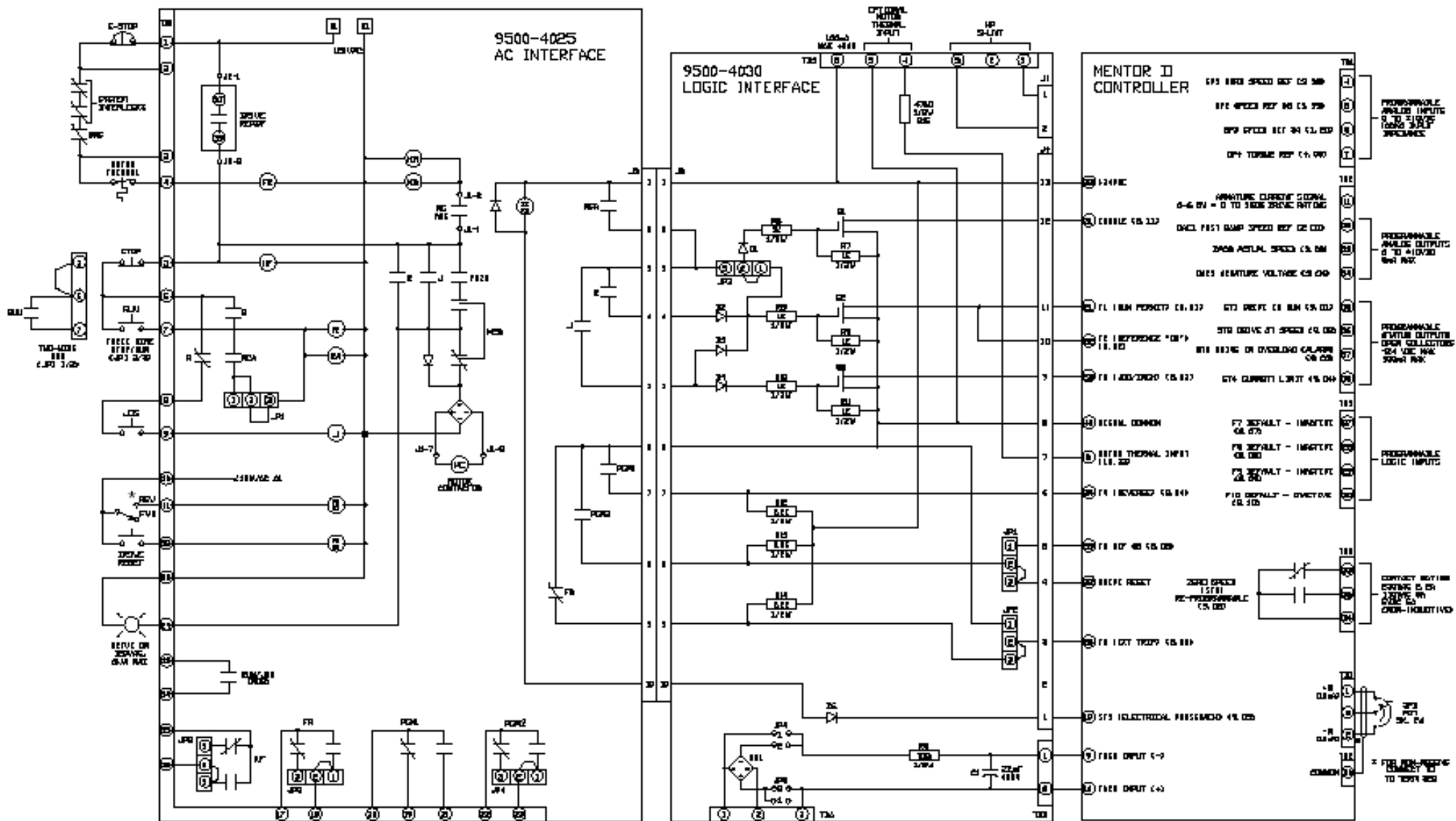


The chart below shows a Quantum cross reference table for size 1 and size 2 drives

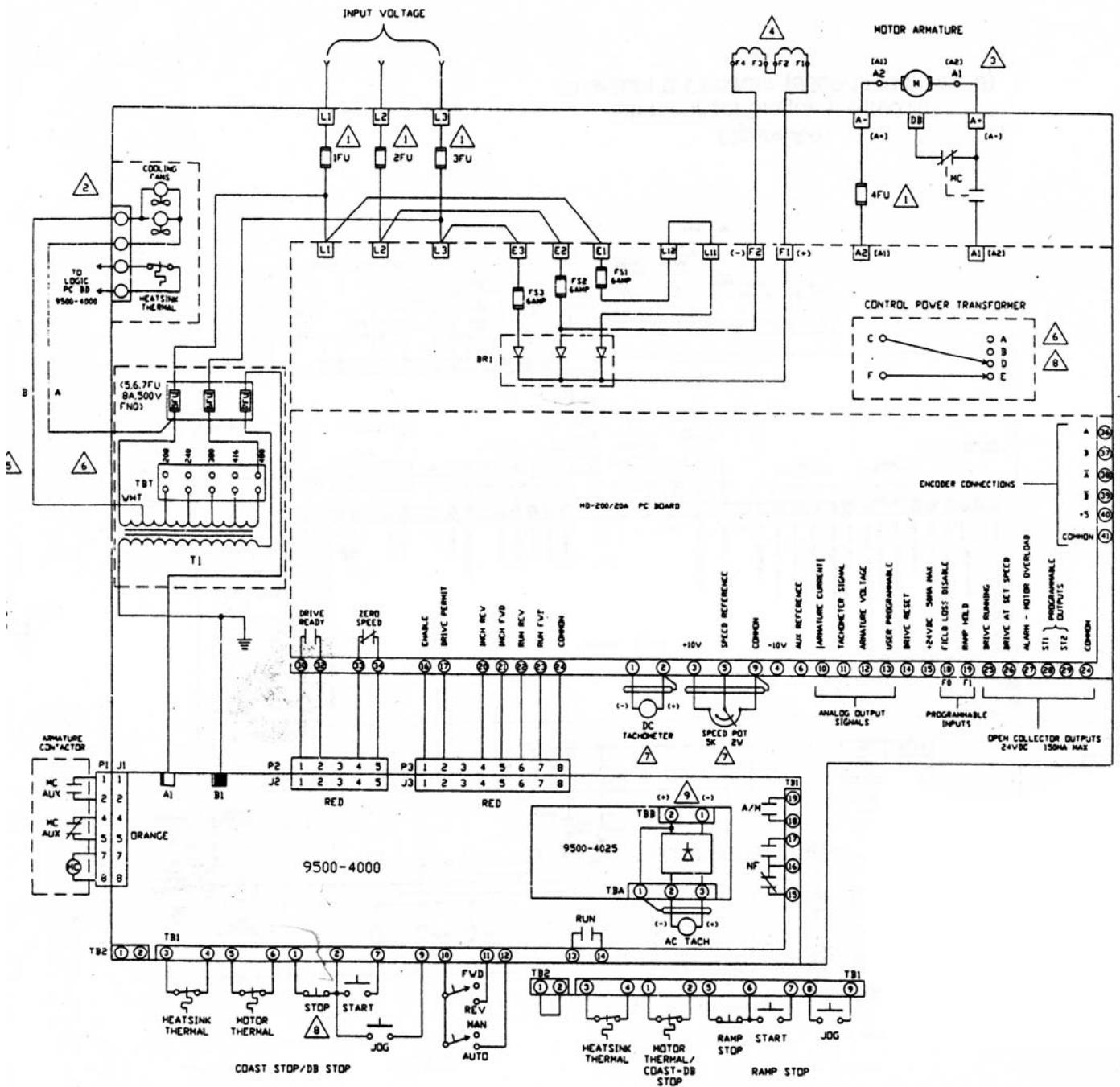
Quantum II	Quantum III	Current rating
9500-8201 / 8501	9500-8302 / 8602	20.1
9500-8202 / 8502	9500-8302 / 8602	38
9500-8203 / 8503	9500-8303 / 8603	55
9500-8204 / 8504	9500-8305 / 8605	89.1
9500-8205 / 8505	9500-8305 / 8605	105.5
9500-8206 / 8506	9500-8306 / 8606	172
9500-8107 / 8407	9500-8307 / 8607	255
9500-8108 / 8408	9500-8308 / 8608	338
9500-8109 / 8409	9500-8309 / 8609	428
9500-8110 / 8410	9500-8310 / 8610	508
9500-8111 / 8411	9500-8311 / 8611	675



# QIII Interconnect Diagram



# QII Interconnect Diagram



## Terminal Cross Reference Chart

### USING COAST / DB STOP WITH THREE WIRE START/STOP

Function	QII Terminal #	QII Board Number	QIII Terminal #	QIII Board Number
Heatsink Thermal	3 to 4	9500-4000	NA	Built into the drive
Motor Thermal	5 to 6	9500-4000	1 to 4 / 4 to 5	9500-4025 / 9500-4030
Not Stop	1 to 2	9500-4000	5 to 6	9500-4025
Run	2 to 7	9500-4000	6 to 7	9500-4025
Jog	2 to 9	9500-4000	8 to 9	9500-4025
Fwd / Rev	10 to 11	9500-4000	10 to 11	9500-4025
Man / Auto	10 to 12	9500-4000	Use Prog. Features	Use Prog. Features
Dry Run Contact	13 to 14	9500-4000	13 to 14	9500-4025
NF Contact	15, 16, and 17	9500-4000	15 to 16	9500-4025
AC Tachometer	2 to 3	9500-4045	1 to 2	9500-4030 JP1/2 = 2-2
DC Tachometer	1(+) to 2(-)	MD200	1(-) to 3(+)	9500-4030 JP1/2 = 1-1
Speed Reference +/- 10VDC	5	MD200	3	MDA2B
+10VDC Supply	3	MD200	1	MDA2B
-10VDC Supply	4	MD200	2	MDA2B
0 Volt Common	9	MD200	20 and 40	MDA2B
+24VDC Supply	15	MD200	33 / 6	MDA2B / 9500-4030
Encoder Connections	36 - 41	MD200	SK3	MDA2B

## Transformer Voltage Selection

### QIII Voltage Fly Lead selection

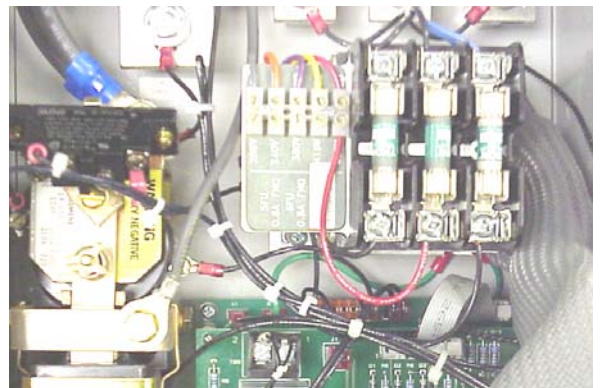
Selection made on the power board and the control

Line Voltage	Jumper Strap Positions	
	Jumper C to	Jumper F to
240VAC	A	D
480VAC	D	E

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

Line Voltage	Jumper Strap Positions		115VAC Control Transformer T1
	Jumper C to	Jumper F to	
208VAC	A	D	208
240VAC	A	D	240
380VAC	B	E	380
415VAC	B	E	415
480VAC	D	E	480

### 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](http://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.

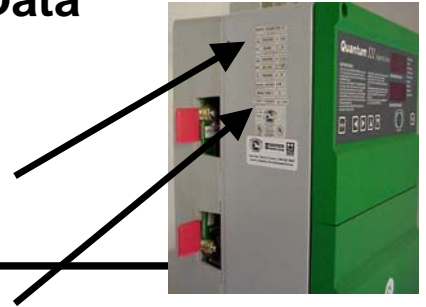
For questions call Control Techniques Technical Support at 716-774-1193 Grand Island, NY 14072
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# Quantum II to Quantum III Conversion Motor & Basic Application Data



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 ? \_\_\_\_\_

FXM4



## 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**