Overview

The 1394 System

The 1394 is a modular, multi-axis motion control and drive system family. Its unique design allows the 1394 to be used as an integrated motion controller and drive system (GMC) with Turbo or standard IMC™ S Class Compact functionality, an integrated 9/440 CNC system, a 9/Series CNC digital interface drive system, a SERCOS servo drive system, or an analog servo drive system.

All 1394 systems provide direct line connection (transformerless) for 360 and 480V three-phase input power, efficient IGBT power conversion, and slide-and-lock, module-to-module connection systems. Each system module can be configured with up to four axis modules, with each axis module interfacing to a motor. The 1394 provides significant panel space and interconnect savings.

Series Note

Series C system modules (catalog numbers 1394C-SJT*xx*-*x*) and axis modules (catalog numbers 1394C-AM*xx* and -AM*xx*-IH) include features not available on Series A and B modules (catalog numbers 1394-SJT*xx*-*x* and 1394-AM*xx*).

System Module Features:	Feature Availability	
	Series C	Series A and B
Connector (plug-in) input power termination	Yes	No
Cable Clamp (strain relief, shield bond)	Yes	No
EMI filter (24V input power, registration)	Yes	No
Smart Power (Soft Start, power monitor)	Yes	22 kW systems only

Axis Module Features:	Feature Availability	
	Series C	Series A and B
Cable Clamp (strain relief, shield bond)	Yes	No
EMI filter (motor brake and thermal circuit)	Yes	No

Series C system modules are interchangeable with Series A and B. Likewise, Series A, B, and C axis modules are interchangeable with each other.

Series C is recommended for all new applications. See the tables above for feature availability. For help in determining the series of your module(s), refer to the section *Module Series Designator* in the *Preface*.

Safety Precautions

The following general precautions apply to the 1394:

ATTENTION: Only those familiar with the 1394 Digital, AC, Multi-Axis Motion Control System and associated machinery should plan or implement the installation, startup, and subsequent maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.

ATTENTION: This product contains stored energy devices. To avoid hazard of electrical shock, wait five minutes after removing power or verify that all voltage on the capacitors has been discharged before attempting to service, repair, or remove this unit.You should only attempt the procedures in this manual if you are qualified to do so and familiar with solid-state control equipment and the safety procedures in publication NFPA 70E.

ATTENTION: The system integrator is responsible for local safety and electrical codes.

ATTENTION: An incorrectly applied or installed drive can result in component damage or a reduction in product life. Wiring or application errors, such as undersizing the motor, incorrect or inadequate AC supply, or excessive ambient temperatures can result in malfunction of the drive.

ATTENTION: This drive contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, servicing, or repairing this assembly. Component damage can result if ESD control procedures are not followed. If you are not familiar with static control procedures, refer to Allen-Bradley publication 8000-4.5.2, Guarding Against Electrostatic Damage or any other applicable ESD Protection Handbook.

1394 System Overview

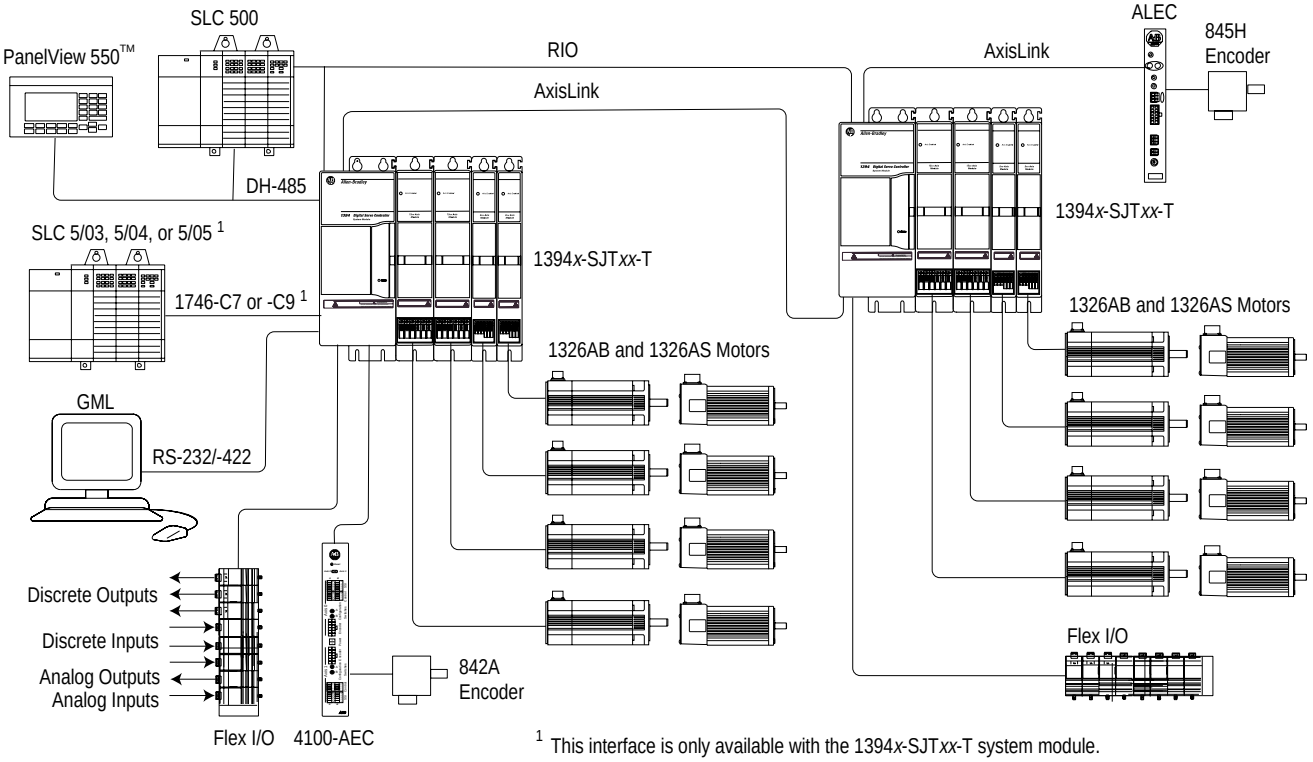
GMC System

The 1394 GMC System provides all the functionality of the IMC S Class Compact Motion Controller and power conversion within the 1394 system module. Allen-Bradley offers two versions of the 1394 GMC system module (Standard GMC and GMC Turbo). Both systems are completely programmed and commissioned using GML™ (Graphical Motion Control Language), offer Allen-Bradley DH485, RS-232, and RS-422 as standard communications, and have Remote I/O and AxisLink available as communication options.

The 1394*x*-SJT*xx*-C (Standard GMC) system supports four axis modules and provides four channels of auxiliary encoder input. The 1394C-SJT*xx*-L (Standard GMC) provides the same functionality of the 1394*x*-SJT*xx*-C, but supports only one axis module and provides two channels of auxiliary encoder input.

In addition, the 1394*x*-SJT*xx*-T (GMC Turbo) provides more GML application program memory and executes the programs faster. The 1394*x*-SJT*xx*-T offers 64K of memory with a 32-bit processor while the 1394*x*-SJT*xx*-C offers 32K of program memory with a 16-bit processor. The 1394*x*-SJT*xx*-T also includes a direct, high speed link to the SLC 5/03™, 5/04™, or 5/05™ that simplifies the programming required to transfer data between the 1394*x*-SJT*xx*-T and the SLC™.

Figure 1.1
Two GMC Turbo Systems (1394*x*-SJT*xx*-T)



1 This interface is only available with the 1394*x*-SJT*xx*-T system module.