

# Synchronized Axes Control Module

(Catalog Number 1746-QS)

Use this abbreviated procedure for getting the 1746-QS module into operation. The following software and documentation are available for download from our website:

- User Manual for the Synchronized Axes Control Module, publication 1746-6.19
- Hydraulic Configurator Software to set up, tune, and troubleshoot axis movement
- Ladder Logic File of example logic to sequence module operation to the machine

Chapter references in this procedure refer to the user manual, publication 1746-6.19.

<b>1.</b>	<b>System Requirements for the Synchronized Axes Control System</b>	<b>Chapter 1</b>
-----------	---	------------------

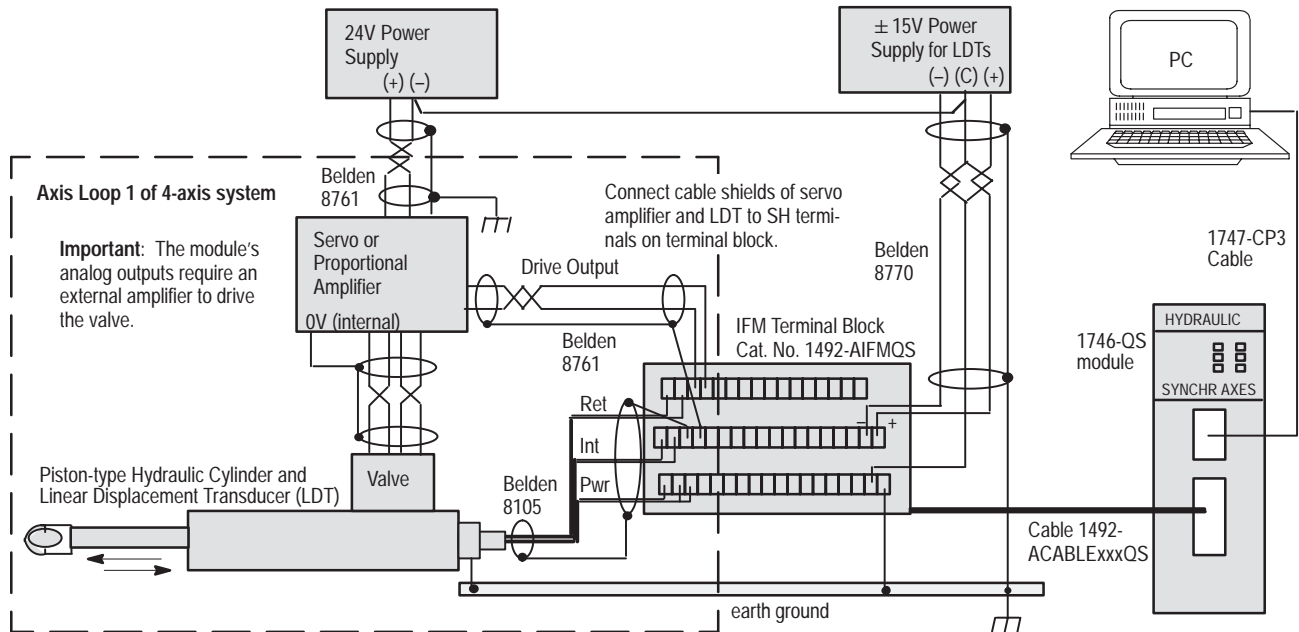
In addition to the 1746-QS module, you must have (or purchase) the following:

- PC with 4 MByte of available disk space
- Windows '95™ operating system
- SLC 5/03 processor (or later) with M0/M1 files
- Comm. Interface (1784-KTX) if using SLC 5/04
- Interface Module (terminal blk) (1492-AIFMQS)\*
- Interface Module cable (1492-ACABLExxxQS)\*
- Interface cable: PC to QS (1747-CP3)
- RSLogix500 Ladder Logic Software

\* Required for CE Certification. Otherwise, recommended for wiring convenience.

<b>2.</b>	<b>System Configuration and Wiring</b>	<b>Chapter 2</b>
-----------	--	------------------

**Important:** Connect the following to earth ground: a) all cable shields (except for amplifier output cable) at one end only b) LDT flange and machine frame c) IFM Terminal Block GND terminal 51 d) I/O chassis

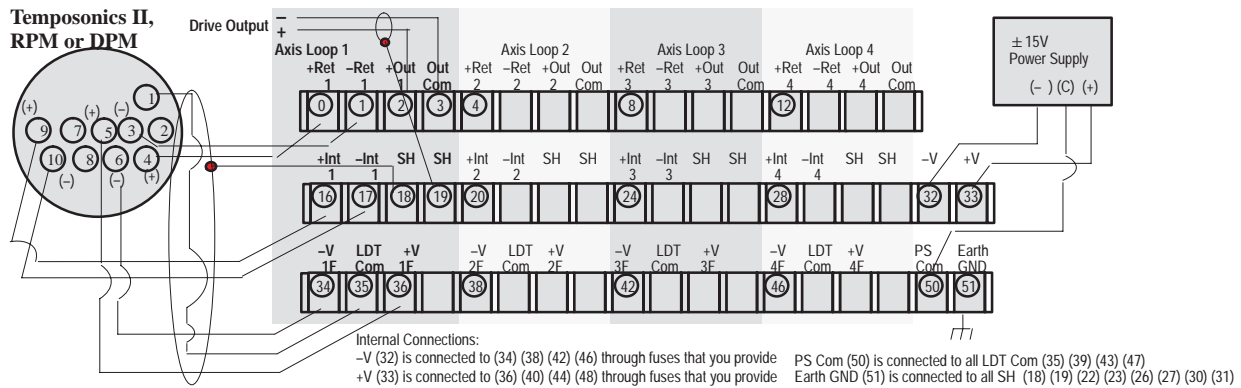


## 3.

## Connect LDT to Interface Module Terminal Block

Chapter 2

We give you example LDT connections for a Temposonics II with differential inputs.



## 4.

## Get Manual, Hydraulic Configurator Software, &amp; Ladder Logic Files from the Internet

Chapter 3

Path to the Allen-Bradley website: <http://www.ab.com>

**extension to manual:** /manuals (Application Systems Library, publication 1746-6.19)

**extension to Hydraulic Configurator and ladder logic:** /mem/apps/sys/prodinfo/applac/appla/qssw/index.html

Download manual, Hydraulic Configurator, and ladder logic to separate subdirectories in your hard drive.

## 5.

## Set Up Communication Between PC and QS Module

Chapter 3

1. Connect the PC serial port (COM1) to the QS module's 9-pin connector with a 1747-CP3 cable. You may run RSLogix500 and Hydraulic Configurator softwares if COM1 & 2 are both available, or if you provide a KTX card for DH+ connection to SLC processor with another 1747-CP3 cable.
  2. Open Hydraulic Configurator. Main screen appears. If also "No Motion Controller Detected", then check the 1747-CP3 cable connection between PC and QS module, and/or go to step 3.
  3. Set Hydraulic Configurator COM port to match your PC. To do this, pull Monitor Options from the ToolBar. In the window, enter the COM port number you used in step 1.
- You can run Hydraulic Configurator offline to access help screens, and view stored data and axis plots.

## 6.

## With Hydraulic Configurator, Set Up and Tune Each Axis

Chapter 4

1. Enter the type of LDT in the Configuration word.
2. Determine the Offset and Scale Parameters and the Extend and Retract Limits in open-loop mode.
3. Determine the value of the Dead Band Eliminator.
4. Tune each axis in closed-loop mode, independent of ladder logic.
5. Save configuration parameters for each axis in SLC memory.

## 7.

## Create Ladder Logic to Run Your Application

Chapter 5

We provide sample ladder programs to illustrate preferred methods of using the module.

You may download them from our website and use them as a base for creating your own logic (step 3).

1. Configure I/O for SLC processor: module slot number, ID = 13627, advance config M0 = M1 = 64.
2. If using our logic, modify rungs and addresses to match your system.
3. Integrate synchronized axes movement with ladder logic using status bits and command words.



Allen-Bradley, a Rockwell Automation Business, has been helping its customers improve productivity and quality for more than 90 years. We design, manufacture and support a broad range of automation products worldwide. They include logic processors, power and motion control devices, operator interfaces, sensors and a variety of software. Rockwell is one of the world's leading technology companies.



Worldwide representation

Allen-Bradley Headquarters, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414 382-2000 Fax: (1) 414 382-4444