

AutoSave

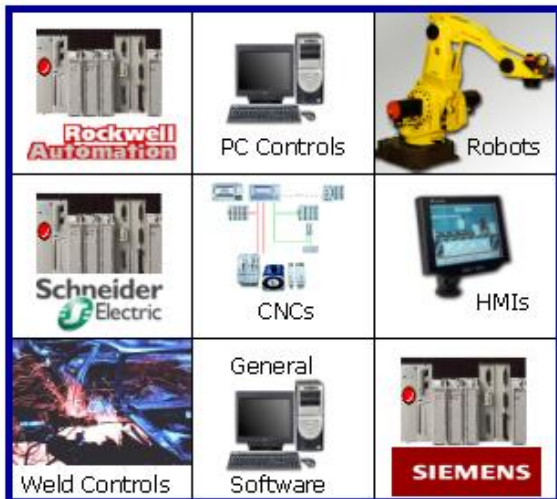
Siemens 840D-ADDMM CNC (ARMS)

Enterprise tools for automation source management

OVERVIEW

The ever-expanding AutoSave suite of products provides the software tools needed to manage all your automation programs.

AutoSave controls and tracks the changes for a variety of industrial programmable devices and program sources including CNCs, Siemens, Schneider, and Rockwell processors, robots & weld controllers of all kinds, HMI/OPs, PC based controls, and any and all ancillary files needed.



With this industry-leading standard, it's no wonder AutoSave's installed base includes over ninety (90) automotive plants world-wide supporting over 100,000 devices! MDT Software has the largest installed base in the general manufacturing industry as well.

The AutoSave Siemens 840D-ADDMM CNC (ARMS) module uses the ADDMM agent v1.2 Interface libraries to back up and restore NCU and PLC data for easier downloads and transparent uploads. ARMS now replaces the AutoSave client/agent software previously required on the CNC; the NT or XP embedded applications on the CNC do not have all the items the AutoSave agent requires for consistent reliable performance. ARMS resolves those issues, occupies a much smaller footprint on the device, and handles the communications to the ADDMM agent.

The module offers you both an interactive environment and background monitoring, resulting in a comprehensive change management solution.

You have complete control over your device programs including:

- Secured Access to Device Files
- Historical Tracking and Audit Trails
- Automatic Change Notification
- Permanent Master Copies
- Quick Disaster Recovery

CLIENT / SERVER / AGENT

The Sinumerik 840D CNC is a Computer Numeric Control system used to control machine tools. It uses the S7 PLC Hardware by Siemens as a base controller with special firmware for Numeric Control and adds a computer front end

840D-ADDMM ARMS PROFILE

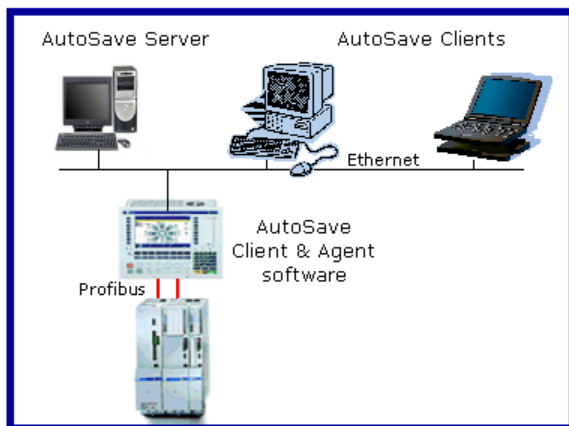
running Windows and some special hardware for motion control.

The program for the Sinumerik 840D resides, for the most part, on the disk of the PC; the exception to this is the parts program that is currently in use. The 840D erases the program from the disk when it is loaded and when the program is unloaded from the controller it is restored to the disk.

The 840D uses a separate partition for its data (always drive F, according to Siemens). Under the drive is a directory **dh** that contain the user programs. The 840D has a S7 PLC to do I/O (other than very fast I/O like resolver counts).

This version of the module now creates the archive files of **both the NCU and PLC** and therefore no STEP 7 module program is necessary to manage the PLC files. (The S7 program is stored as a separate program only if it is a standalone device.)

ARMS replaces the AutoSave client/agent software on the CNC and a remote agent communicates with each CNC's ARMS application for uploads/downloads/comparisons. The AutoSave server acts as the master control center that coordinates all change-related programming activities and stores program files.



ARCHIVED CONTENTS

All files uploaded by the agent are archived and saved as a single unit. The complete unit is restored to the client or agent whenever needed for subsequent use.

SECURED PROGRAM ACCESS

The GUI-based client interface allows a user to access the AutoSave functions with a login and password. At login, the AutoSave server determines the level of access to the different areas and programs that are permitted to the user *and* the client PC.

MDT SOFTWARE MISSION STATEMENT

MDT Software's mission is to deliver innovative software that propels businesses, both large and small, to new levels of performance and profitability through better automation software change management.

Constantly driven by customer needs and customer input, MDT remains aware of industry trends and standards and delivers innovative solutions that become benchmarks of excellence in industrial automation, thereby maintaining our status as the very best provider of change management software and related services.

VERSION CONTROL

When the user initiates an AutoSave action, the program file set becomes locked and indicates the user and client that have the file checked out. Access to others is denied while the program is in use.

All program edits are performed off-line outside of AutoSave using a standard text editor selected and launched manually by the user. When the user completes the changes, AutoSave is used to download the files to the device, creating a new current copy and relegating the previous current to a numbered ancestor.

Downloading an ancestor or master copy and restoring it to the current copy can undo unwanted programming changes.

COMMUNICATIONS

Communications between the agent and the OP to the S7 or NC is via Profibus; hence, an individual Profibus wire is configured for each CNC system. Both the agent and the S7 communication connections are configured to this individual Profibus.

UPLOAD

The AutoSave agent communicates the requested operation to the device's ARMS application and the ADDM agent is triggered to perform the upload. The files are transferred to the AutoSave agent, who sends them to the server as a new current copy. The data is stored in AutoSave in ADDM's native format. The CNC must be in a stopped and non-faulted state in order for the upload to be a success.

DOWNLOAD

Whether initiated from the CNC's client or a remote client, the operation is performed by the remote agent passing the files to the CNC's ARMS and the ADDM performs the download. directly loading them into the NCU/PLC.

The user may select the current copy or any available ancestor or version with which to update the processor's files. Accessing the download function only via a context menu provides additional security, as does AutoSave's prompting for confirmation before initiating the download.

DISASTER RECOVERY

When catastrophic failure of a CNC occurs, time is of the essence! A few simple steps with the aid of AutoSave see to it that the recovery happens in minutes, not hours.

- Replace the defective hardware part.

- Restore the operating system with a product such as Ghost™.
- Insert the AutoSave v5.04 or higher software CD in the drive and allow the AutoRun interface walk you through the Client/Agent installation.
- Log into AutoSave.
- Find or Select from the AutoSave directory the device's 840d-ADDM CNC module program, right-click on Current Copy or proper master copy and select Download. Entry of a revision comment is required. The download completes and creates a new program Current Copy.

SPECIAL CNC COMPARISON FEATURES

The Siemens 840D ADDM CNC module supports a "text" compare, which identifies whether the text type files of the project have been changed or not. If so, it will detail the lines of each file that has been changed.

COMPARISON ON DEMAND

Any two copies of a program, such as current, local, ancestor, version, or processor, can be compared to each other.

This comparison is done on an as-needed basis and may be performed from any client with configured access to the device program.

AUTOMATED COMPARISON

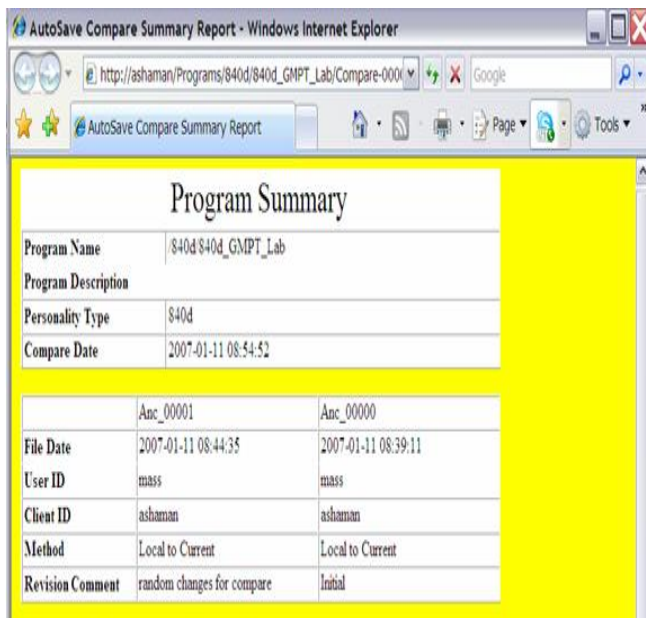
The Sinumerik 840D-ADDM CNC ARMS module allows for scheduled, unattended comparisons of configured groups of programs. Using the agent to perform the actual upload and comparison, AutoSave can compare the processor copy to the current copy or compare the current copy to a selected version (permanent/master copy).



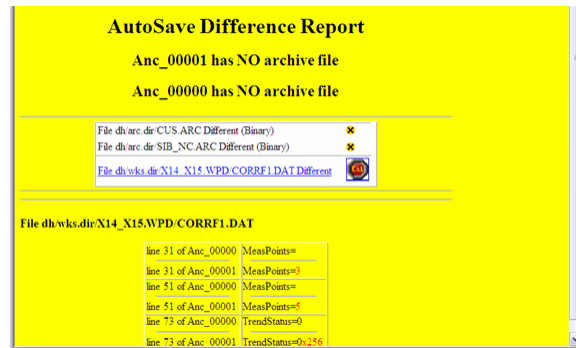
This module supports the **AutoUpdate** feature that enables AutoSave to replace the existing current copy if it is different than the processor.

NOTIFICATION

Notification e-mail is automatically sent to selected, designated personnel when scheduled comparisons are completed and provides links to complete HTML detail reports as shown in the example on the last page.



The standard program summary is followed by a listing of the differences.



EDITOR REQUIREMENTS

MDT certified this module as operating properly on a Siemens SINUMERIK PCU50 v3 with an Intel Pentium M Process (2GHz) and 1014 MB of RAM, running Sinumerik engineering package 01.01.01.00 (SP1).