USER MANUAL

SPECTRUM CONTROLS

An Allient Company

User's Manual Pub. 0300318-02 Rev. A1

Micro800™ Memory Backup Module with Real Time Clock

Catalog Number: 2080-SDMEMRTC-SC

Important Notes

1. Please read all the information in this owner's guide before installing the product.
2. The information in this owner's guide applies to hardware Series A and firmware version 1.1 or later.
3. This guide assumes that the reader has a full working knowledge of the relevant processor.

Notice

The products and services described in this owner's guide are useful in a wide variety of applications. Therefore, the user and others responsible for applying the products and services described herein are responsible for determining their acceptability for each application. While efforts have been made to provide accurate information within this owner's guide, Spectrum Controls, Inc. assumes no responsibility for the accuracy, completeness, or usefulness of the information herein.

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The information in this owner's guide is subject to change without notice.

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Spectrum Controls, Inc. warrants that its products are free from defects in material and workmanship under normal use and service, as described in Spectrum Controls, Inc.'s literature covering this product, for a period of 1 year. The obligations of Spectrum Controls, Inc. under this warranty are limited to replacing or repairing, at its option, at its factory or facility, any product which shall, in the applicable period after shipment, be returned to the Spectrum Controls, Inc. facility, transportation charges prepaid, and which after examination is determined, to the satisfaction of Spectrum Controls, Inc. to be thus defective.

This warranty shall not apply to any such equipment which shall have been repaired or altered except by Spectrum Controls, Inc. or which shall have been subject to misuse, neglect, or accident. In no case shall the liability of Spectrum Controls, Inc. exceed the purchase price. The aforementioned provisions do not extend the original warranty period of any product which has either been repaired or replaced by Spectrum Controls, Inc.

Table of Contents

Preface

Read this preface to familiarize yourself with the rest of the manual. This preface covers the following topics:

- Who should use this manual
- How to use this manual
- Related documentation
- Technical support
- Documentation
- Conventions used in this manual

Who Should Use This Manual

Use this manual if you are responsible for designing, installing, programming, or troubleshooting control systems that use the Micro800™ Memory Backup and High Accuracy RTC Plug-In Module.

NOTE	Before you access any equipment or begin to install any IO modules, review all safety material and warnings in the Micro850 and Micro870 Programmable Controllers User Manual. Be sure to review the warnings provided in this document before you start installing a module in a system. Keep in mind that Version 12 of the PLC firmware is required for operation with Micro830, 850 or 870 processors.

How to Use This Manual

As much as possible, we organized this manual to explain, in a task-by-task manner, how to install, configure, program, operate and troubleshoot a control system using the Micro800™ Memory Backup and High Accuracy RTC Plug-In Module.

Related Documentation

The table below provides a listing of publications that contain important information about Allen-Bradley Micro800 Expansion I/O Module systems.

For	Refer to this Document	Allen-Bradley Pub. No.
Selection information	Micro800 Programmable Controllers Family Selection Guide	2080-SG001
General instructions for using	Micro800 Programmable Controllers General Instructions	2080-RM001
Using a SD Card	Micro8*x*0 Programmable Controller User Manual	2080-UM002

For	Refer to this Document	Allen-Bradley Pub. No.
Environment and Enclosure Information	Industrial Automation Wiring and Grounding Guidelines, Allen-Bradley publication 1770-4.1, for additional installation requirements. NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.	1770-4.1 NEMA 250-2014 IEC 60529
Declarations of conformity, certificates, and other certification details.	Product Certification website: https://spectrumcontrols.com	

Technical Support

For technical support, please contact your local Rockwell Automation TechConnect Office for all Spectrum products. Contact numbers are as follows:

- USA 1-440-646-6900
- United Kingdom 01-908-635-230
- Australia 1-800-809-929
- Mexico 001-888-365-8677
- Brazil 55-11-3618-8800
- Europe +49-211-41553-630

or send an email to support@spectrumcontrols.com

Documentation

If you would like a manual, you can download a free electronic version from the Internet at www.spectrumcontrols.com

Conventions Used in This Manual

The following conventions are used throughout this manual:

- Bulleted lists (like this one) provide information not procedural steps.
- Numbered lists provide sequential steps or hierarchical information.
- *Italic* type is used for emphasis
- **Bold** type identifies headings and sub-headings

WARNING 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. These messages help you to identify a hazard, avoid a hazard, and recognize the consequences.

ATTENTION 	Actions ou situations risquant d'entraîner des blessures pouvant être mortelles, des dégâts matériels ou des pertes financières. Les messages « Attention » vous aident à identifier un danger, à éviter ce danger et en discerner les conséquences.

NOTE 	Identifies information that is critical for successful application and understanding of the product.

Chapter 1
Module Overview

The 2080-SDMEMRTC-SC Expansion I/O module is a microSD card and real-time clock (RTC) module designed to add clock and removable memory to Micro800 Systems.

The module provides a microSD memory card slot that is accessible when the module is installed on the Micro830/850/870 controller. This module has a mechanical feature that does not allow its use in the Micro820 PLC.

It also provides RTC power backup with a supercapacitor or optional battery (not supplied(, to keep the RTC crystal oscillator and clock IC running during any period when the system power is off.

The minimum system requirement in which a module can be installed is a Micro800 Controller with firmware V12 or higher. Backplane power is provided by the Micro800 Controller.

Section 1.1 General Description

The 2080-SDMEMRTC-SC module provides a slot in the case that allows you to insert a standard Micro SD Flash Memory card. This slot is accessible when the module is installed on the controller.

NOTE	You must plug in the module into slot 1 (the left most slot) and perform Back and Restore operations without any other configuration necessary.

The module is expected to operate indefinitely. It does not require periodic

maintenance or calibration. The module is factory calibrated and tested before shipping. The module always starts in the same configuration. There are no parameters than can be set or reset to change the power-up configuration.

Section 1.2 Electrical Specifications

Power Requirements:	**Description**
Bus +3.3 V (3.0 V to 3.6 V)	38 mA max
Bus +24 V (19.9 V to 26.4 V)	30 mA max
Battery	CR1632 (customer optional install, not supplied).
Heat Dissipation	1.5 Watts maximum
Inrush current	Less than 120 mA at 3.3 V. Less than 120 mA at 24 V.
SD Card Data Transfer rate	Up to 2.5 Mbyte/sec max. transfer rate. NOTE: Controller manages all data transfers.
Battery Fault detection	Battery voltage low, 2 V minimum, if installed. Battery not present will be indicated when voltage below 0.25 V.
RoHS	Meets European RoHS component standards (January 2015 and earlier).
REACH	Meets European REACH 7 requirements.
RTC Requirement:	
Accuracy	Less than 0.43 sec/day over full temperature
Minimum resolution	1 second
Backup	1 day, minimum, no battery 1 year, minimum, battery installed
Module Dimensions	62 mm (L × 32 mm (W) × 25 mm (H), max. (2.44 in × 1.23 in × 0.98 in)
Recommended Tightening Torque:	2.25 N-m (2.2 lb-in)

Section 1.3 Environmental Specifications

Environmental Tests	**Test Level Limits**
Temperature (Operating) (Performance Criteria A)	-20 °C to 65 °C (-4 °F to 149 °F)
Temperature (Non-operating) (Performance Criteria B)	-40 °C to 85 °C (-40 °F to 185 °F)

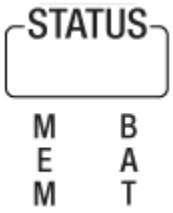
Environmental Tests	Test Level Limits
Humidity (Operating) (Performance Criteria A)	5 to 95% non-condensing
Vibration (Operating) (Performance Criteria A)	2 G at 10 to 500 Hz, 0.030 in. max. peak-to-peak
Shock (Operating) (Performance Criteria A)	25 G, 11 ms half-sine (3 mutually perpendicular axes)
Shock (Non-operating) (Performance Criteria B)	25 G (35 G Panel mount), 11 ms half-sine (3 mutually perpendicular axes)
Radiated Emissions	(Enclosure) Class A, 30 MHz – 2 GHz
Conducted Emissions	Group 1, Class A (AC Mains), 150 kHz – 30 MHz
ESD immunity (Performance Criteria B)	6 kV Indirect (Coupling Plate) 6 kV Contact Discharge (to points of initial contact) 8 kV Air Discharge (to points of initial contact)
Radiated RF immunity (Performance Criteria A)	10 V/M with 1 kHz sine-wave 80% AM from 80…2000 MHz 10 V/M with 200 Hz sine-wave 50% Pulse 100% AM at 900 MHz 10 V/M with 200 Hz sine-wave 50% Pulse 100% AM at 1890 MHz 3 V/M with 1 kHz sine-wave 80%AM from 2000…6000 MHz
EFT/B immunity (Performance Criteria B)	Signal Ports: ± 2 kV at 5 kHz for 5 minutes, Criteria B Power Ports: ± 2 kV at 5 kHz for 5 minutes, Criteria B
Surge transient immunity (Performance Criteria B)	Signal Ports: ± 2 kV line-earth {CM}at 2 Ω on shielded ports Power Ports ± 2 kV CM at 12 Ω ± 1 kV DM at 2 Ω
Conducted RF immunity (Performance Criteria A)	10 V RMS with 1 kHz sine wave 80% AM from 150 kHz…80 MHz on signal and power ports
Magnetic Field (Performance Criteria A)	30 Arms/m
AC Mains Voltage Dips, Interruptions and Variations	Follow the 61000-4-11.

Section 1.4
Safety Tests

Safety Tests	Industry Standards
UL Safety	UL 61010-2-201 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-201: Particular Requirements for Control Equipment (NRAQ, NRAQ7)
	cUL CAN/CSA C22.2 No. 61010-1-12 (Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements)
UL Hazardous Locations	ULH ANSI/ISA–12.12.01–2007 Nonincendive Electrical Equipment for Use in Class I, Division 2 Hazardous (Classified) Locations (NRAG, NRAG7)
	cULH CSA C22.2 No. 213-M1987 - Non-incendive Electrical Equipment for use in Class I Division 2 Hazardous Locations
CE Low Voltage Directive	EN 61010-2-201 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-201: Particular Requirements for Control Equipment
CE EMC Directive	EN 61131-2 Programmable Controllers: Third Edition 2007-02, Clause 8, Zones A&B EN 61000-6-2: Generic Industrial Immunity EN 61000-6-4: Generic Industrial Emissions
UKCA	Electromagnetic Compatibility Regulations 2016 BS EN 61131-2, BS EN 61000-6-4, BS EN 61000-6-2
CMIM	Arrêté ministériel n° 6404-15 du 29 ramadan 1436 (16 juillet 2015) NM EN 61131-2, NM EN 61000-6-4, NM EN 61000-6-2

Section 1.5 Status LED Operation

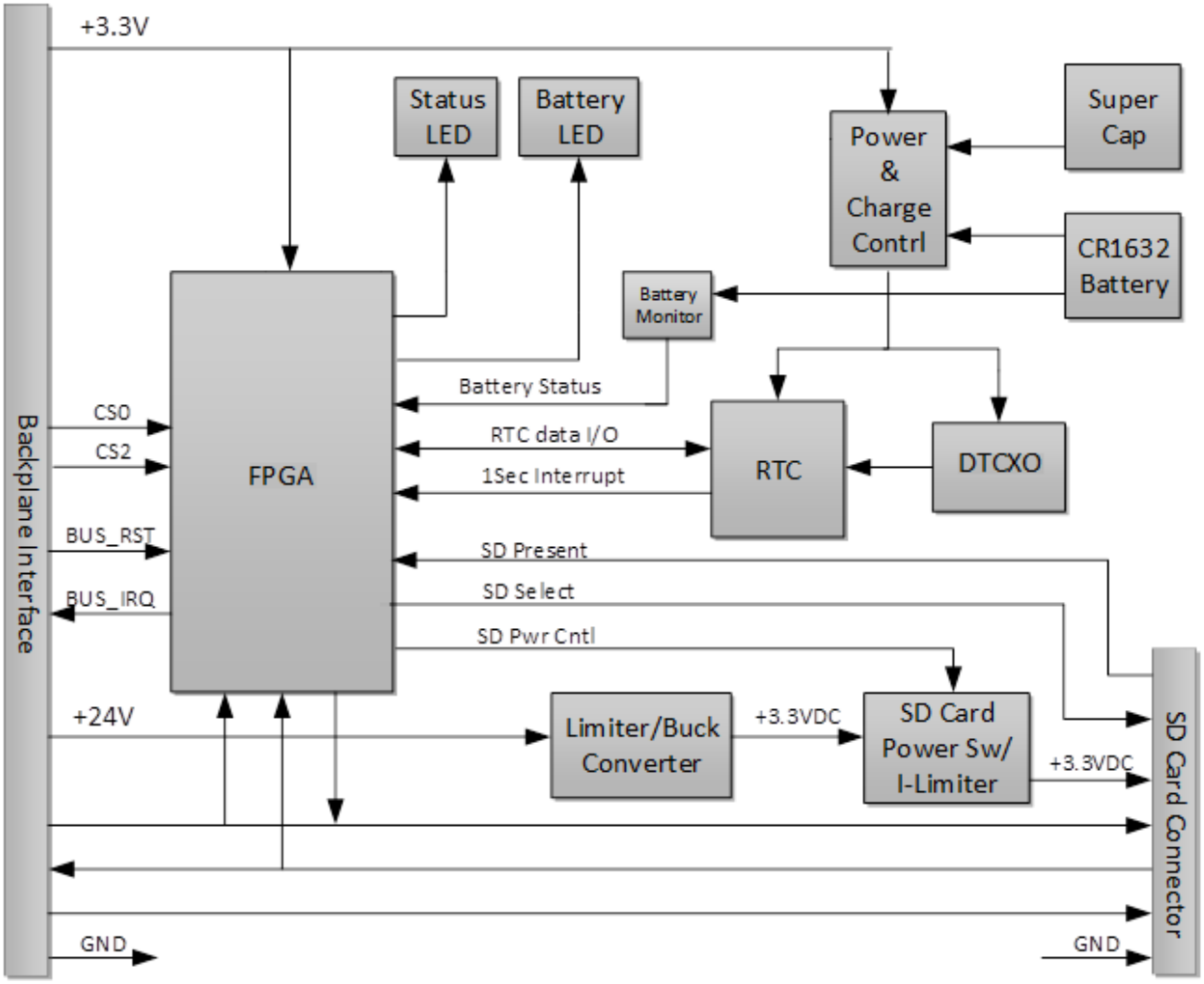
The module uses 2 LEDs to indicate the various codes. The MEM LED will be ON or OFF based on the module activity. The BAT LED will either be on solid or blink according to the following chart:



State Number	Condition	LED 1 (MEM)		LED 2 (BAT)	Comments
		RED	GREEN	AMBER	
1	SD card Data Access	OFF	Flash (2 Hz)	X[1]	
2	No Data Access with SD card present	OFF	ON	X[1]	
3	SD card Error/Faulty	ON	OFF	X	
4	No SD Card	OFF	OFF	X	
5	ConfigMeFirst file error	ON	OFF	X	
6	Battery Low	X	X	Flash (2 Hz)	Indicated only when plugged into controller
7	No Battery/Battery drained	X	X	ON	Indicated only when plugged into controller

[1] X means LED is OFF

The block diagram for the Module interface is shown below:



Chapter 2
Installation and Wiring

This chapter will cover:

- Compliance to European union directives
- Power requirements
- General considerations
- Mounting

Section 2.1 Compliance to European Union Directives

This product is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

2.1.1 EMC Directive

The 2080-SDMEMRTC modules are tested to meet Council Directive 2014/30/EU Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- IEC 61000-6-4 Electromagnetic compatibility (EMC)–Part 6-4: Generic standards–Emission standard for industrial environments
- IEC 61000-6-2 Electromagnetic compatibility (EMC)–Part 6-2: Generic standards–Immunity for industrial environments

UKCA:

- Electromagnetic Compatibility Regulations 2016
- BS EN 61131-2
- BS EN 61000-6-4
- BS EN 61000-6-2

Section 2.2 Power Requirements

The backplane power and the external field power of the device are only to be supplied by an Isolated Secondary Limited Energy Low Voltage source.

The module receives power through the bus interface from the +3.3 VDC (3.0 V to 3.6 V)/±24 VDC (19.9 V to 26.4 V) system power supply. Maximum power dissipation is 1.5 Watts.

There is no chassis (earth) ground present on the Micro800 controller. If a chassis (earth) ground connection is needed for a Plug-In Module or devices connected to a Plug-In Module, it must be provided externally.

Section 2.3 General Considerations

The 2080-SDMEMRTC module is suitable for use in an industrial environment when installed in accordance with these instructions. Specifically, this equipment is intended for use in clean, dry environments (Pollution degree 2[2]).

2.3.1 Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only. The following WARNING statement applies to use in hazardous locations.

WARNING 	**EXPLOSION HAZARD** • Substitution of components may impair suitability for Class I, Division 2; Class II, Division 2. Do not replace components or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. • Do not connect or disconnect components unless power has been switched off or the area is known to be non-hazardous. **This module should NOT be installed or removed in an explosive environment.** • This product must be installed in an enclosure. • All wiring must comply with N.E.C. article 501-4(b), 502-4(b), or 503-3(b), as appropriate for Class I, Class II, and Class III equipment.

2.3.2 Prevent Electrostatic Discharge

WARNING 	Electrostatic discharge can damage integrated circuits or semiconductors if you touch analog module card bus connector pins or the terminal block on the output module. Follow these guidelines when you handle the module: • Touch a grounded object to discharge static potential. • Wear an approved wrist-strap grounding device. • Do not touch the bus connector or connector pins. • Do not touch circuit components inside the module. • If available, use a static-safe workstation. • When it is not in use, keep the module in its static-shield bag.

[2] Pollution Degree 2 is an environment where, normally, only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is expected.

2.3.3 Remove Power

WARNING 	**This module is not designed to be hot-swapped and may be damaged if added or removed while power is applied. Remove power before removing or inserting this module.** When you remove or insert a module with power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by: • Sending an erroneous signal to your system's field devices, causing unintended machine motion. • Causing an explosion in a hazardous environment. • Causing an electrical arc. Electrical arcing causes excessive wear to contacts on both the module and its mating connector and may lead to premature failure.

2.3.4 Selecting a Location

Reducing Noise

Most applications require installation in an industrial enclosure to reduce the effects of electrical interference. Analog channels are highly susceptible to electrical noise. Electrical noise coupled to the module(s) will reduce the performance (accuracy) of the module. Group your modules to minimize adverse effects from radiated electrical noise and heat. Consider the following conditions when selecting a location for the analog module. Position the module:

- Away from sources of electrical noise such as hard-contact switches, relays, and AC motor drives.
- Away from modules which generate significant radiated heat. Refer to the module's heat dissipation specification.

In addition, route shielded, twisted-pair analog input wiring away from any high voltage I/O wiring.

Section 2.4
Mounting

NOTE	
	• This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR 11. Without appropriate precautions, there may be difficulties with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbance. • Be careful when stripping wires. Wire fragments that fall into the controller could cause damage. Once wiring is complete, make sure the controller is free of all metal fragments before removing the protective debris strip. • Do not wire more than 2 conductors on any single terminal. • If you insert or remove the expansion I/O module while power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding. • Cable length should be less than 10 meters.

2.4.1 Mounting Dimensions

WARNING	
	To comply with the CE Low Voltage Directive (LVD), all connected I/O must be powered from a source compliant with the following: Safety Extra Low Voltage (SELV) or Protected Extra Low Voltage (PELV).

WARNING	
	Pour se conformer à la Directive basse tension CE, cet équipement doit être alimenté à partir d'une source ayant les caractéristiques suivantes: très basse tension de sécurité (TBTS) ou très basse tension de protection (TBTP).

2.4.2 Parts List

Your package contains one Micro800 Memory Backup and High Accuracy RTC Plug-In Module and one Quick Start guide.

The module simply plugs into the left-most slot of a Rockwell Micro800 controller.

2.4.3 Module Description

	Description		Description
1	Mounting screw hole/mounting foot	3	SD Card Slot
2	Battery Slot	4	Status LEDs

Section 2.5 SD Card Recommendations

You can purchase a 32 Gigabyte uSD card (PN SMK-001) from Spectrum Controls along with your module order.

Rockwell Automation recommends the following SD Cards for use in this module. SD Cards not on this list may not work with the module or your controller(s):

Manufacturer	Model	Memory	Class	Series
Swissbit	SFSD1024N1BN1TO-I-DF-161-STD	1 GB	6	S-200u
Swissbit	SFSD2048N1BW1MT-I-ME-111-STD	2GB	6	S-300u
Swissbit	SFSD2048N1BN1TO-I-QF-161-STD	2GB	6	S-300u
Swissbit	SFSD4096N1BW1MT-I-DF-111-STD	4GB	10	S-300u

Spectrum Controls, Inc. recommends the following SD Cards for use in this module. SD Cards not on this list may not work with the module or your controller(s):

Manufacturer	Model	Memory	Class
Swissbit	SFSD2048N1BM1MT-E-ME-221-STD	2 GB	10
Swissbit	SFSD2048N3BM1TO-E-GE-2CP-STD	2 GB	10
Swissbit	SFSD4096N1BM1MT-E-DF-221-STD	4 GB	10

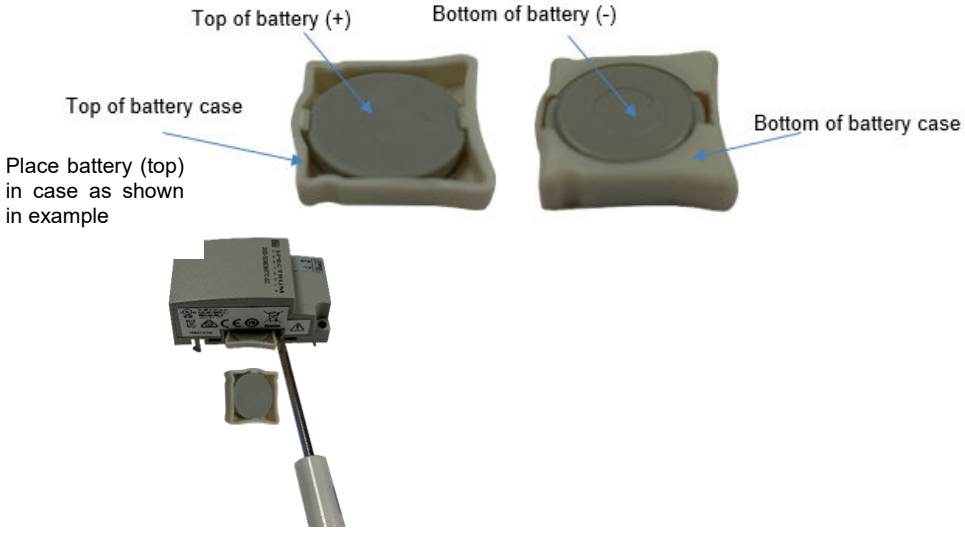
Manufacturer	Model	Memory	Class
Swissbit	SFSD4096N3BM1TO-E-GE-2B1-STD	4 GB	10
Swissbit	SFSD8192N1BM1MT-E-QG-221-STD	8 GB	10
Swissbit	SFSD016GN3BM1TO-E-HG-2CP-STD	16 GB	10
Swissbit	SFSD032GN3BM1TO-E-HG-2B1-STD	32 GB	10
Kingston	SDCIT/8GBSP	8 GB	10
Kingston	SDCIT/16GBSP	16 GB	10
Kingston	SDCIT/32GBSP	32 GB	10

Section 2.6 Install Battery in Module

The Micro800TM Memory Backup and High Accuracy RTC Plug-In Module SMK-001 Kit ships with an Industrial grade, 32-GB microSD memory card. To insert the microSD card, use the correct orientation as indicated.

Not included in the SMK-001 Kit is an optional, CR1632 3V Lithium Coin Battery. The battery is used for a long-term RTC (Real-Time-Clock) operation with power off, or if the module is not installed in a controller. The battery will keep the RTC running for a year after power goes out if you choose to install it. Otherwise, the clock will stop running quite soon after a power outage, about 24 hours.

You need to install the battery in the module before you install the module into the controller.



To install this battery:

1. Remove the battery holder. If needed, use a very small flat-head screwdriver by placing the flat tip of the blade just inside the corner of the battery holder and gently prying against the module housing by

lifting the screwdriver handle up. Do not insert the screwdriver too far into the slot.

NOTE	You may not need to use a screwdriver to remove the battery holder unless the holder has been pushed quite far into the module. The battery works normally with the battery holder extending very slightly out of the house.

2. Repeat until the holder extends far enough out for you to remove the battery and its holder using your fingers.

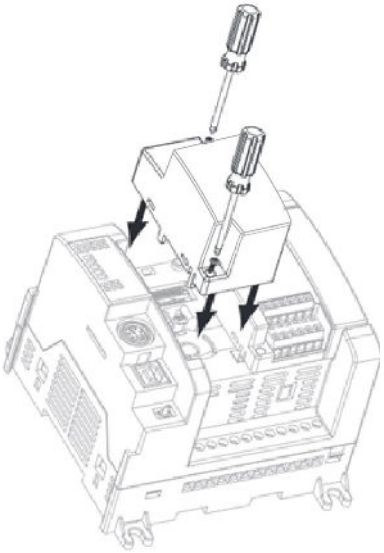
   Before removing the battery and its holder completely from the module, note the direction and placement of both battery and holder in the slot.

Section 2.7
Insert Module into Controller

WARNING 	This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR 11. Without appropriate precautions, there may be difficulties with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbance. This equipment does NOT support hot swap. Do not insert or remove the plug-in module while power is applied; otherwise, permanent damage to equipment may occur.

Follow the instructions to insert and secure the plug-in module to the controller.

1. Position the plug-in module over the left-most slot of a Rockwell Micro800 controller (slot 1). The module can only be inserted into the PLC one way.



2. Snap the module into slot 1 and carefully tighten the screws.

Chapter 3
Configuring the 2080-SDMEMRTC-SC Using CCW

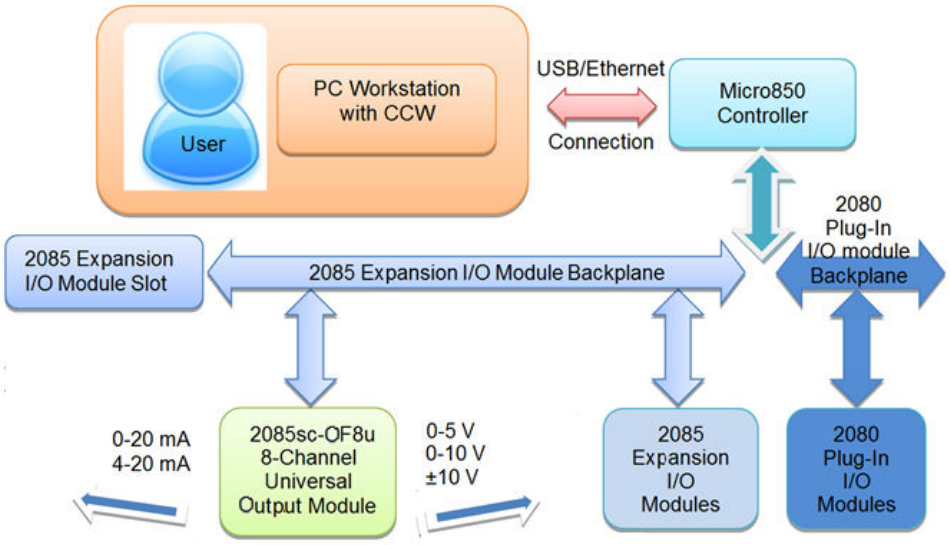
This chapter covers the following subjects:

- How to use Connected Components Workbench (CCW) to configure the Module.
- Setting configuration parameters and associated values.

Section 3.1
Introduction

The 2080-SDMEMRTC-SC Module is compatible with all controllers that have the capability to host plug-in modules, except, the Micro820 controllers that already have a built-in Micro SD memory feature.

You use CCW software (v. 12.011.05 and above) to configure the module. Your controller firmware must be at v. 12.00.00 and above as well. You then send the configuration setup to the module. Starting from CCW version 12.00.00 and later, the software also provides a module-specific SD Card Utility to configure the module.



Spectrum Controls, Inc. provides a custom configuration software utility that you may use to provide configuration settings to the profile.

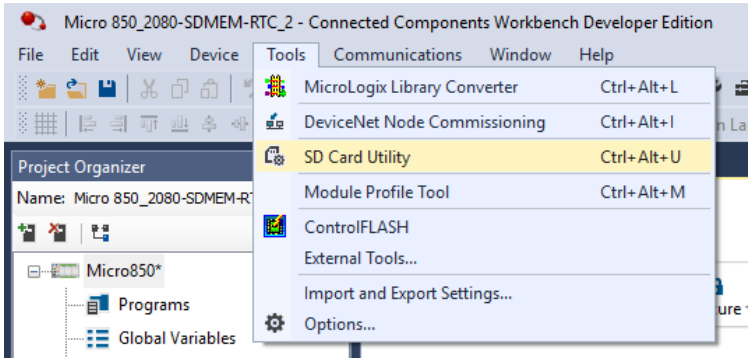
Section 3.2
2080-SDMEMRTC-SC

You use CCW's SD Card Utility on your personal computer to select an SD Card for transferring firmware for a Micro800 controller to an SD card. The utility is

available in the CCW software.

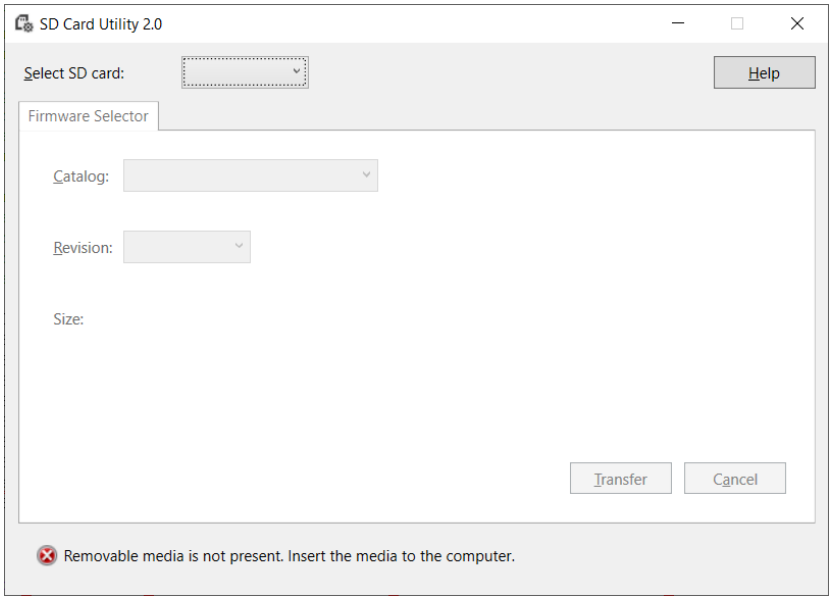
To access the utility in CCW:

1. Select the **SD Card Utility** option from the CCW Tools menu. The Utility is for use with an SD card that is accessible from your personal computer:

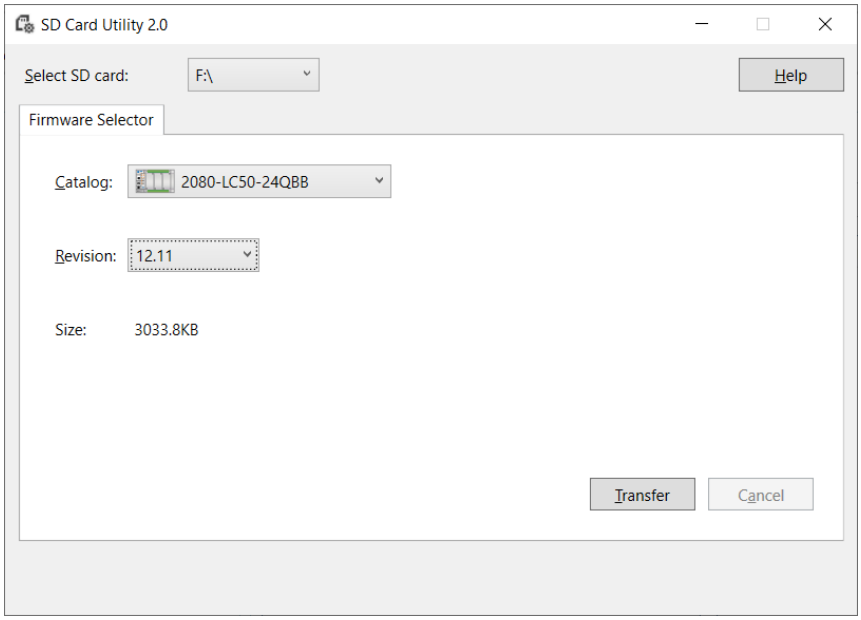


2. When prompted by Windows User Account Control, to confirm that you wish to run the program, click **Yes** button.

   The SD Card Utility 2.0 window appears (blank until a selection is made):



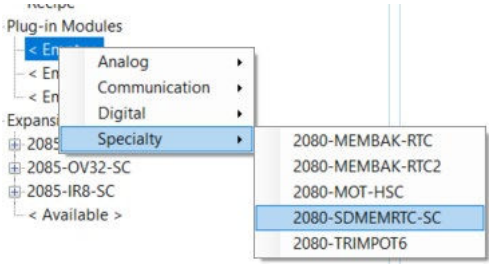
Utility window with a selection made:



3. View or specify the following options:
   - **Select SD card**. Displays the drive letter for valid SD cards inserted into the current computer. The SD card must be readable, writable, and have extra storage space to display in the list. Select the SD card that you wish to use from the list
     - Firmware Selector. Lists Micro800 controllers that support cards, revision numbers of firmware files, and associated information.
       - Catalog. Displays the catalog numbers for Micro800 controllers which support SD cards.
       - Revision. Displays the revision numbers of the firmware files.
       - Size. Displays the size of the firmware file selection.
   - **Transfer**. Click to copy the firmware file to the SD card.
   - **Cancel**. Click to stop the file transfer before it is finished.

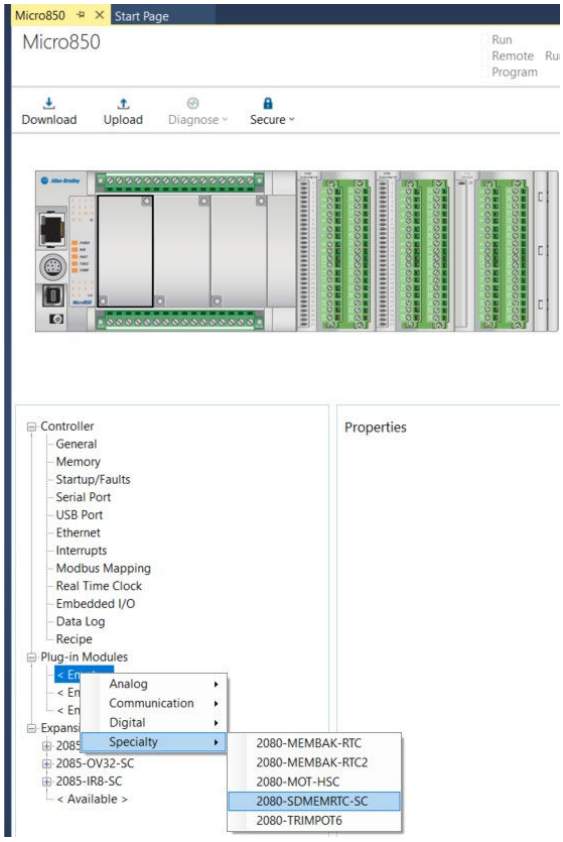
Section 3.3 CCW Configuration Tab

Before you start, if needed, install the latest version of Rockwell Automation's Connected Components Workbench (CCW) Standard Edition.

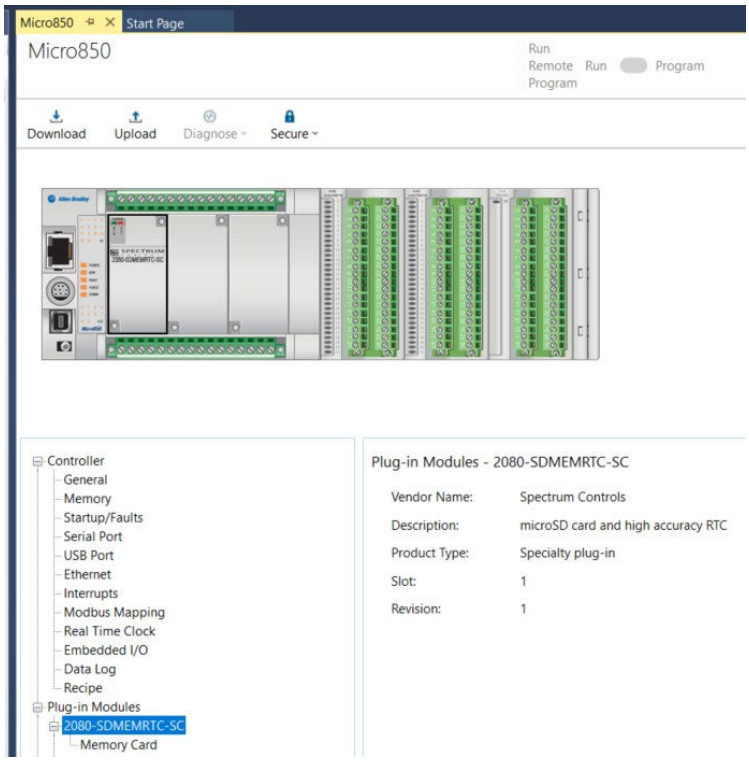
NOTE	For Version 12.00.00 and later, the module is already available as a selection from the CCW Expansion Modules drop-down menu: 

To view module information:

1. From your CCW project, load the module's Specialty listing into the first <**Empty**> slot (slot 1) in the Plug-in Modules drop-down list.



2. Once the module information is loaded, to view the module information, click the **2080-SDMEMRTC-SC** option:



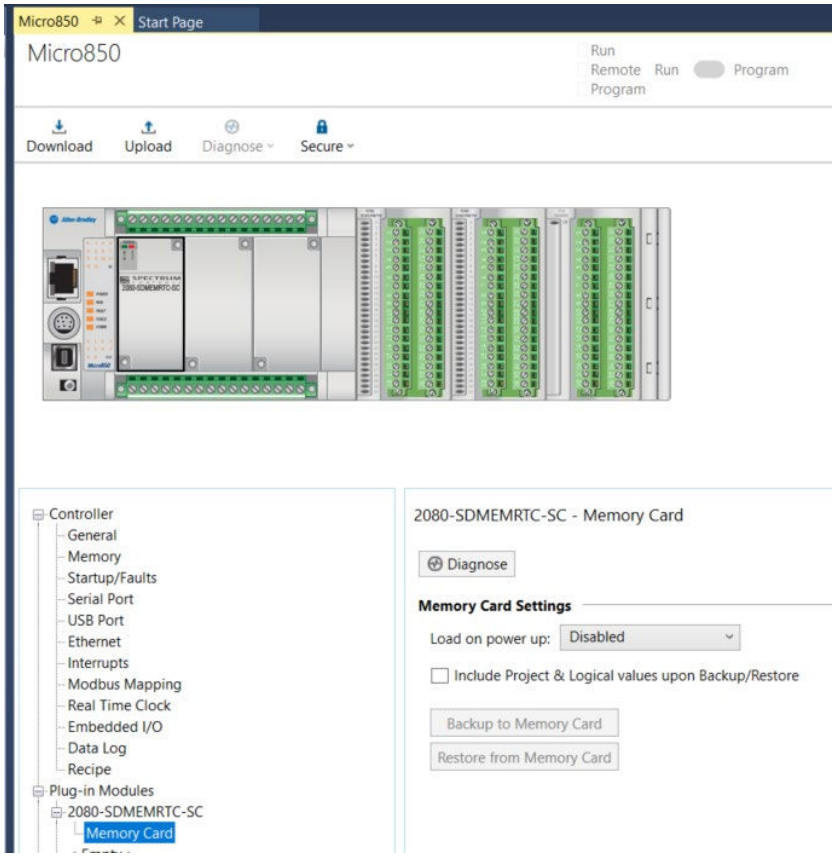
3. View the following information:
   - **Plug-in Modules**. Shows catalog name of plug-in module.
   - **Vendor Name**. Lists manufacturer of module.
   - **Description**. Describes module function.
   - **Product Type**. Describes product type.
   - **Slot.** Identifies slot in which plug-in module is installed.
   - **Revision**. Lists revision number of firmware.

Section 3.4 Configuring Module using CCW

NOTE	Backup and Restore functions are not available when your controller is in Run mode. You must switch the controller to program mode before you can access the Backup and Restore options for the module in CCW.

You configure for the module using the CCW software provided by Spectrum Controls as follows

1. Select the **Memory Card** option:



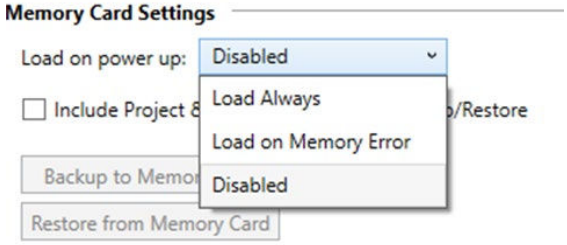
2. View or specify the following options:
   - **Diagnose**. See Diagnosing Module Issues
   - **Memory Card Settings**. See Configuring Memory Card Settings
   - **Backup to Memory Card**. Backing Up Memory Card
   - **Restore from Memory Card**. Restoring From Memory Card

3.4.1 Diagnosing Module Issues

To diagnose module issues, click the **Diagnose** button. Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on setting the real-time clock.

3.4.2 Configuring Memory Card Settings

Specify the following options:



- **Load on power up**. (Controller must be offline to access these options):
  - Load Always. Load the user program from the 2080-SDMEMRTC-SC plug-in module each time the controller is powered-up.
  - Load on Memory Error. Load user program if a memory fault occurs. (Memory faults occur when the user program in the controller is erased or unable to load.).
  - Disabled. Default. Do not load the user program from the 2080-SDMEMRTC-SC plug-in module.
- **Include Project & Logical values upon Backup/Restore**. When the check box is selected, project and controller logical values are included when uploading and downloading user programs to and from the 2080-SDMEMRTC-SC plug-in module. Default: Disabled - Cleared.

3.4.3 Backing Up Memory Card

NOTE	For steps to configure project backup and restore through the ConfigMeFirst.txt file, refer to the sections below for further information on working with the ConfigMeFirst.txt file and/or the Rockwell Automation Programmable Controller User Manual.

To back up the memory module, click the **Backup to Memory Card** button. Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on backing up the memory card.

3.4.4 Restoring From Memory Card

NOTE	For steps to configure project backup and restore through the ConfigMeFirst.txt file, refer to the sections below for further information on working with the ConfigMeFirst.txt file and/or the Rockwell Automation Programmable Controller User Manual.

To restore from the memory module, click the **Restore from Memory Card** button. Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on setting the real time clock.

3.4.5 General Configuration Rules in ConfigMeFirst.txt

NOTE	The microSD card becomes unusable until the ConfigMeFirst.txt file becomes readable using the general rules below or errors such as those listed are corrected.

General rules for entries in this file are:

- All settings must be in upper case and enclosed in brackets [ ].
- Each line must contain only one setting.
- Settings must always appear first in a line.
- Comments are started with the # symbol.
- No action related to the setting will be carried out when the setting does not exist, or a # symbol appears before the setting (example, #[PM]).

3.4.6 ConfigMeFirst.txt Errors

To restore from the memory module, click the **Restore from Memory Card** The SD status LED goes off when the microSD card is inserted during PROGRAM or RUN mode (or on powerup) and the ConfigMeFirst.txt file is either unreadable or invalid. The ConfigMeFirst.txt file will be invalid when it has the following errors:

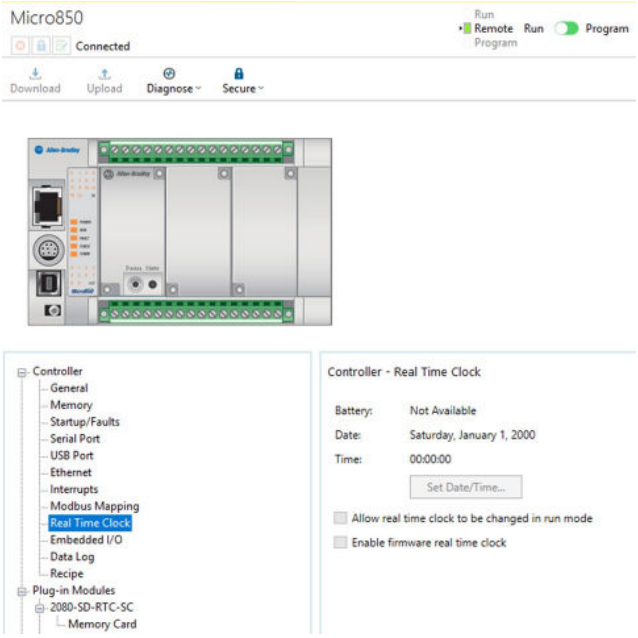
- Unrecognized setting (that is, the first three configuration rules have not been followed).
- The setting parameters after the = symbol is invalid, does not exist, or is out of range.
- The same setting exists twice or more.
- One or more non-setting characters exist within the same bracket.
- Space in between setting characters (example, [P M]), or Space in between IP address, subnet mask, and gateway address (for example, *xxx. x xx.xxx.xxx*). Only one of the network parameter settings ([IPA], [SNM], or [GWA]) is
- Assigned.
- [END] setting does not exist (even if there are no other settings in the configuration file).

3.4.7 Enabling Real Time Clock

You use the CCW Controller settings to enable the Memory Card Real Time Clock. The controller must be offline to turn on/off the **Allow real time clock to be changed in run mode** and **Enable firmware real time clock** options.

To access the settings, click the **Real Time Clock** option under **Controller** settings.

The Real Time Clock settings shown here are the default time settings if the Memory Module is not present, or an error occurred on the Real Time Clock:

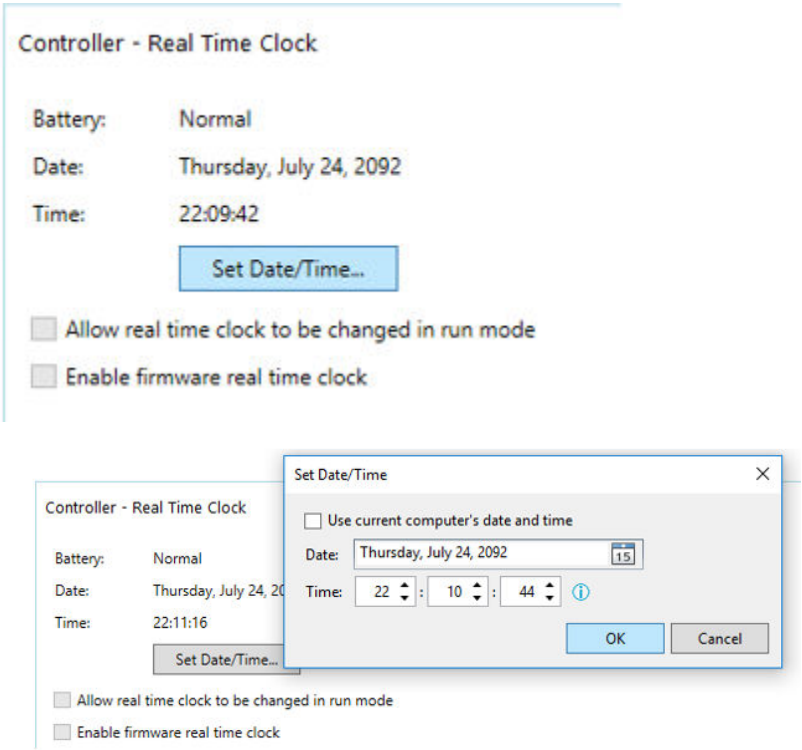


Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on enabling and setting the real time clock.

3.4.8 Setting Controller Time

To set controller time, the controller must be set to program mode.

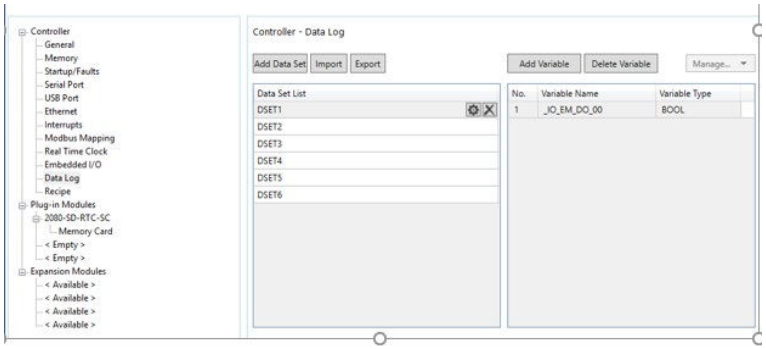
Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on setting the real time clock:



3.4.9 Changing Datalogs

To access and change datalogs, the controller must be offline.

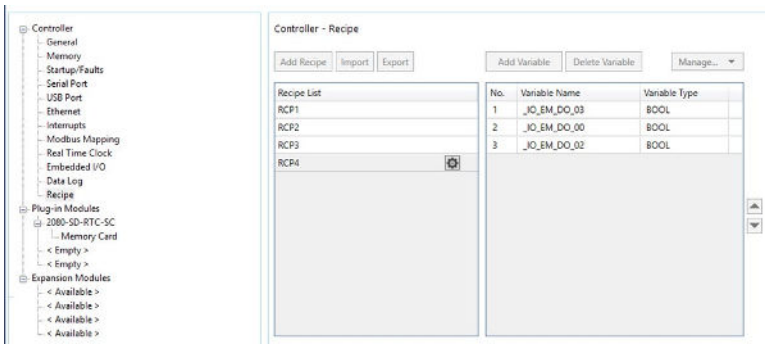
Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on accessing and changing datalogs:



3.4.10 Changing Recipes

To access and change recipes, the controller must be offline.

Please refer to your Allen-Bradley 2080 User Manual (2080-UM002) for information on accessing and changing recipes:



3.4.11 Software Versioning

The software version tracks major and minor revisions for end users.

The FPGA configuration version begins at 1.1.

Once released, the major revision is typically incremented if new features are introduced to the product. Otherwise only the minor revision is incremented.

3.4.12 Software Updates

In-field updating of the software by the end user is not supported.

3.4.13 Startup and Factory Default Conditions

After the module boots and before the initial configuration is received, the module holds the default configuration as specified in the Configuration Assembly.

Section 3.5 Technical Assistance

Note that your module contains electronic components which are susceptible to damage from electrostatic discharge (ESD). An electrostatic charge can accumulate on the surface of ordinary plastic wrapping or cushioning material**. In the unlikely event that the module should need to be returned to Spectrum Controls, please ensure that the unit is enclosed in approved ESD packaging (such as static-shielding / metalized bag or black conductive container).** Spectrum Controls reserves the right to void the warranty on any unit that is improperly packaged for shipment.

RMA (Return Merchandise Authorization) form required for all product returns.

For further information or assistance, please contact your local distributor, or call the Spectrum Controls Technical Support at:

For Rockwell Automation Compatible I/O Products:

- USA 1-440-646-6900
- United Kingdom 01-908-635-230
- Australia 1-800-809-929
- Mexico 001-888-365-8677
- Brazil 55-11-3618-8800
- Europe +49-211-41553-630

or send an email to support@spectrumcontrols.com

Section 3.6 Declaration of Conformity

Available upon request

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