

## Convert SC200 configuration to SC300 using ICE

Last updated	24 May 2021
Applicable products	SC300 System Controller Version 1.14 or later
Audience	Eaton DC Product Channel Partners and Integrators
Related documents	SC300 System Controller Operation Handbook
For more information	Contact Product Manager, Simon Sloane ( <a href="mailto:SimonSloane@eaton.com">SimonSloane@eaton.com</a> )

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## Summary

This application note shows how to use the ICE configuration tool to convert an SC200 configuration file to suit an SC300. This applies to a configuration file (.dcc) or a snapshot file (.dcf).

This conversion is required if a DC system is to be updated to use an SC300 rather than SC200, or an SC200 is to be replaced by an SC300.

The application note is intended for use by channel partners or integrators with experience in configuration of Eaton DC power systems using ICE.

## Applicable controller versions

This process applies to these configuration file versions:

- **SC200** Version 4.04 (MIB 66) or V5.01 (MIB 76).
- **SC300** Version 1.14 (MIB 92).

*Other versions use the same process, but there may be more configuration differences.*

## Pre-requisites

### ICE

- ICE version 2.10.9
- MIB 92 interface file, sc200-MIB-92.xml (loaded into the ICE Program Data folder).

*Contact your Eaton DC channel partner or the product manager as above to obtain the latest ICE software and interface files.*

### SC200 Configuration File

The configuration file includes all the SC200 settings except IP addresses on IO Board mappings. Please use one of these options to obtain the SC200 configuration file:

#### a) Extract using DCTools locally

- Connect to it using DCTools and the USB cable.
- Go to the menu and select File > ICE Backup / Restore.
- Click on Backup, Next.
- Save the file.

#### b) Extract using DCTools remotely

- Connect to the SC200 by DCTools using Ethernet .
- Go to the menu and select File > ICE Backup / Restore.
- Click on Backup, Next.
- Save the file.

#### c) Extract using web remotely

- Connect to the SC200 by web .
- Go to the menu and select Tools > Backup Tool Launch > Configuration (or Snapshot, if appropriate).
- Click on Proceed.
- Save the file when the backup is complete.

#### d) Use archived configuration file

Your organisation may store configuration files after installation of systems.

#### e) Contact Eaton

If the configuration file cannot be extracted this way, connect Eaton with details of the customer, system, and controller type to enable Eaton to locate a suitable configuration file.

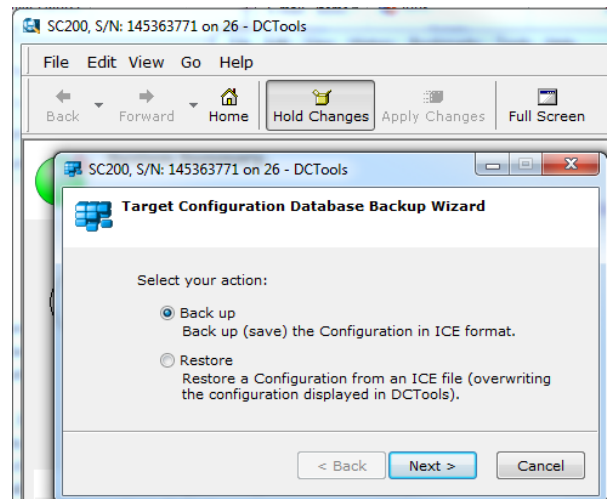
### SC300 Base configuration file

This file is used as a base for the new SC300 configuration.

This may be any valid configuration file for the appropriate SC300 interface version.

For instance, either of the two options below may be used:

#### SC300 Master Configuration File



*Note: the Master Configuration Files are re-issued for each SC300 production firmware release. Ensure you have the appropriate file for your SC300 version. E.g. SC300 V114 requires MIB14 MCFs.*

The SC300 MCF may be obtained from one of:

- Eaton DC Sales Web [http://dcsalesweb.eaton.com/Product\\_Support/Configuration\\_files.asp](http://dcsalesweb.eaton.com/Product_Support/Configuration_files.asp) (registered users only)
- Channel Partners
- Product Manager as above

**OR**

### **Factory configuration file**

This file may be extracted from any new SC300 of the *same software version as the SC300 to be configured*.

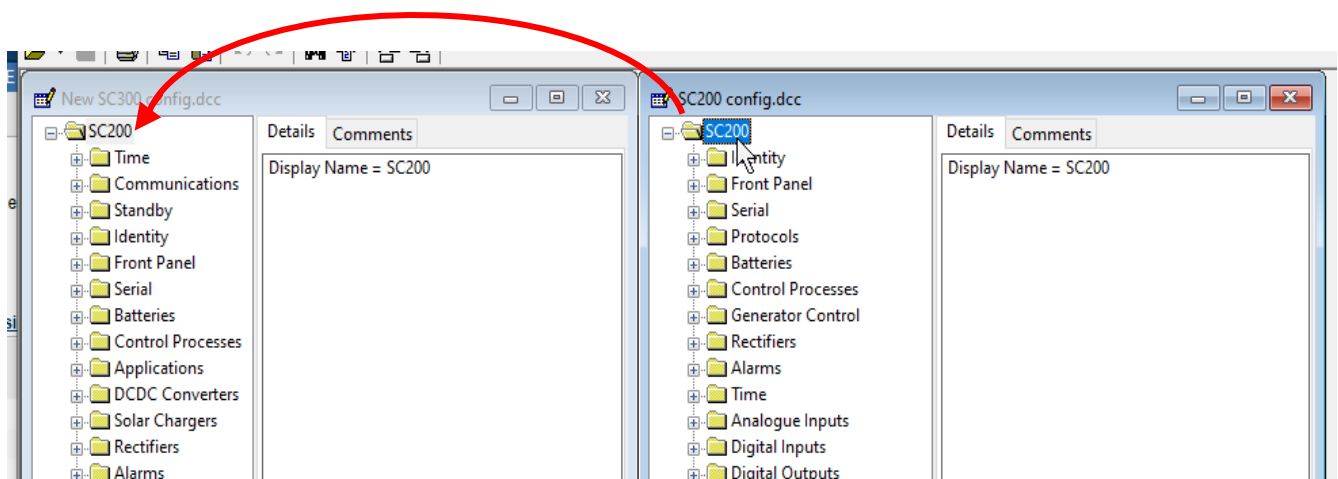
Use web or DCTools to extract the SC300 configuration file as usual.

## **Update process**

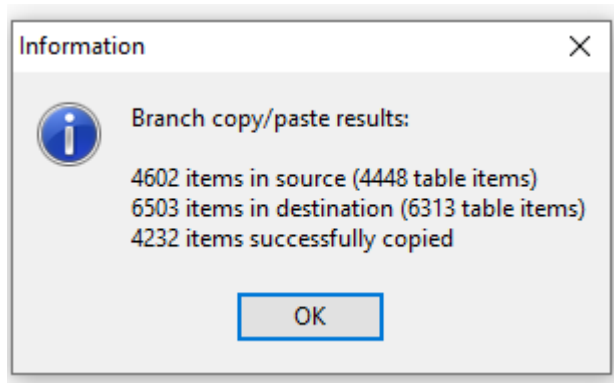
### **Copy configuration**

- a) Open ICE.
- b) Load the appropriate SC300 Base configuration file.
- c) Save this file as a new SC300 configuration, e.g. "SC300 DV2-xyz ver1"
- d) Load the SC200 configuration file to be converted into SC300 format.
- e) From the ICE menu, select Window > Tile Vertically. This shows the two configuration files side by side.
- f) In the SC200 configuration window, select "SC200" at the top of the tree. Click and hold, then drag this over to "SC200" on the SC300 configuration.

*Note that ICE shows "SC200" at the top of the SC300 tree.*



- g) ICE will open an Information box showing the items copied over. It will be similar to this:



This shows that most of the settings were successfully copied, except for new items in the SC300, and some items that do not copy across. These need to be manually checked and updated as necessary.

- h) Save the SC300 configuration file with an appropriate name.

We recommend this name include the interface version and date created (or version number). For instance "SC300 MIB92 site XYZ 2-5-2021".

## Update items

- a) Refer to Appendix 1.
- b) Check all items that are not shaded and ensure the settings are correct. If necessary, copy the original settings across from the SC200 configuration.
- c) As required, configure new items (shown shaded)th.

## Save and test

- a) Save the new configuration file.
- b) In ICE, compare the SC300 configuration file to the original SC200 file:  
Edit > Compare (or select it from the toolbar).
- c) Review the comparison, and check all differences are correct and as expected.
- d) Load the file into a test SC300.
- e) Check the SC300 operation is as expected; test new features.

## Appendix 1 Items to update manually

Check and edit as necessary new items and items that do not copy across

The following table includes both items that are not copied as above, and items that are new to the SC300.

Note that many items (such as smart alarms) are disabled by default and can safely be left at defaults once it has been checked that they are not enabled in the SC200 configuration.

**Shaded items** are new items and **can safely be left at the default setting**. Recommended action is set at “None”. Refer to the SC300 manual for full details.

New Item	Description	Location (as viewed in ICE)	Recommended action
Web user password	All web user passwords	Communications > Protocols > HTTP > Web User Table	<ul style="list-style-type: none"> <li>If any web users have been configured, the passwords need to be re-entered.</li> <li>Otherwise <i>None</i>.</li> </ul>
LVD Name	The name for an LVD. This is for user identification only and is not used by the SC300.	Control Processes > LVD > LVD Table	<ul style="list-style-type: none"> <li>Enter a name for this LVD if appropriate.</li> <li>Otherwise <i>None</i>.</li> </ul>
New Alarms	A number of new alarms have been added.	Alarms > System Alarms > Alarm Table New alarms: <ul style="list-style-type: none"> <li>Peak Load Reduction</li> <li>Site Backup Time Remaining</li> <li>DC Input Fail</li> <li>Solar Fail</li> <li>System Overload B</li> <li>Battery End of Life</li> <li>RTC Low Battery <i>Enabled by default</i>.</li> <li>Battery Test Cancelled</li> <li>Solar Comms Lost</li> <li>Multiple Solar Comms Lost</li> </ul>	<ul style="list-style-type: none"> <li>If any of these alarms are required, enable and configure them as needed.</li> <li>Otherwise <i>None</i>. These new alarms are disabled by default unless otherwise stated.</li> </ul>

New Item	Description	Location (as viewed in ICE)	Recommended action
		<ul style="list-style-type: none"> <li>Unstable Rectifier AC</li> <li>RIP Comms Lost</li> </ul>	
Source Alarm Table, Alarm Invert Column	This item tells whether the logic for this alarm source is inverted	Alarms > Smart Alarms > Source Alarm Table	<ul style="list-style-type: none"> <li>If any Source Alarm entries are enabled, and the SC200 table has "NOT" in the Alarm Logic field, then enter "True" in the Alarm Invert field for that source.</li> <li>Otherwise <i>None</i>.</li> </ul>
Source Alarm Table, Alarm Trigger Type Column	The trigger type for this source alarm (Level, Edge Set, Edge Reset or Edge Latch)	Alarms > Smart Alarms > Source Alarm Table	<ul style="list-style-type: none"> <li><i>New item to SC300.</i></li> <li>Change the trigger type if required.</li> <li>Otherwise <i>None</i>.</li> </ul>
Source Schedule Table, Schedule Invert Column	This item tells whether the logic for this schedule source is inverted	Alarms > Smart Alarms > Source Schedule Table	<ul style="list-style-type: none"> <li>If it is required to invert the logic of any schedule (i.e. the Smart Alarm will be inactive rather than active in the selected time), set Schedule Invert to True.</li> <li>Otherwise <i>None</i>.</li> </ul>
Source Schedule Table, Schedule Trigger Column	The trigger type for this Schedule Source (Level, Edge Set, Edge Reset or Edge Latch)	Alarms > Smart Alarms > Source Schedule Table	<ul style="list-style-type: none"> <li><i>New item to SC300.</i></li> <li>Change the trigger type if required.</li> <li>Otherwise <i>None</i>.</li> </ul>
Source Manual Table, Manual Trigger Type	The trigger type for this manual source (Level, Edge Set, Edge Reset or Edge Latch)	Alarms > Smart Alarms > Source Manual Table	<ul style="list-style-type: none"> <li><i>New item to SC300.</i></li> <li>Change the trigger type if required.</li> <li>Otherwise <i>None</i>.</li> </ul>

New Item	Description	Location (as viewed in ICE)	Recommended action
Source Manual Table, Manual Invert Column	This item tells whether the logic for this manual source is inverted. Called Manual Logic in SC200.	Alarms > Smart Alarms > Source Manual Table	<ul style="list-style-type: none"> <li>• If any Source Manual entries are enabled, and the SC200 table has “NOT” in the Alarm Logic field, then enter “True” in the Alarm Invert field for that source.</li> <li>• Otherwise None.</li> </ul>
Source Manual Table, Manual Period Column	If this item is not zero, the manual input will oscillate at the period set by this item.	Alarms > Smart Alarms > Source Manual Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• Change if required.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Value Source Table, Alarm Mapping	The smart alarm that this system value source drives	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• This item is <b>not copied across correctly</b> from the SC200 configuration. <sup>1</sup></li> <li>• If this setting is used in the SC200, manually copy the Smart Alarm System Value Source mappings across from the SC200 to the SC300. E.g. use cut and paste.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Value Source Table, Value Source Value Index	Where this source is part of a table (e.g. energy meter), this item specifies the table index.	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• If this system value source is enabled, and the Value Source Value requires an index, use it here.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Value Source Table, Value Source Trigger Type	The trigger type for this system value source (Level, Edge Set, Edge Reset or Edge Latch)	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• Change the trigger type if required.</li> <li>• Otherwise <i>None</i>.</li> </ul>

<sup>1</sup> Applies to SC300 V1.14. Fixed in later versions

New Item	Description	Location (as viewed in ICE)	Recommended action
System Value Source Table, Value Source Invert	This item tells whether the logic for this system value source is inverted	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• If it is required to invert the logic of the system value source (i.e. the Smart Alarm will be inactive rather than active when the source is active), set to True.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Value Source Table, Value Source Active Count	Used to make this Smart Alarm work as a counter. See manual for more details.	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• Change if this feature is needed.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Value Source Table, Value Source In Active Count	Used to make this Smart Alarm work as a counter. See manual for more details.	Alarms > Smart Alarms > System Value Source Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• Change if this feature is needed.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Analog Input Table, Function Index	Where analogue input function is part of a table (e.g. Smart Analog), this item specifies the table index.	Analogue Inputs > Analog Input Table	<ul style="list-style-type: none"> <li>• <i>New item to SC300.</i></li> <li>• If this analogue input is enabled, and the function requires an index, use it here.</li> <li>• Otherwise <i>None</i>.</li> </ul>
SNMPv3 Authentication Password	The authentication password if using SNMPv3.	Communications > Protocols > SNMP	<ul style="list-style-type: none"> <li>• If SNMP V3 is used, this password has to be re-entered.</li> <li>• Otherwise <i>None</i>.</li> </ul>
SNMPv3 Privacy Password	The privacy password if using SNMPv3.	Communications > Protocols > SNMP	<ul style="list-style-type: none"> <li>• If SNMP V3 is used, this password has to be re-entered.</li> <li>• Otherwise <i>None</i>.</li> </ul>



New Item	Description	Location (as viewed in ICE)	Recommended action
Data Log Intervals	The interval settings for all data logs.	Logs > Data Log > Log items table	<ul style="list-style-type: none"> <li>Check all the log interval values in the SC300 and copy across as appropriate from the SC200.</li> <li>Otherwise <i>None</i>.</li> </ul>
Data Log Off Normal Interval		Logs > Data Log	<ul style="list-style-type: none"> <li>Check and copy from SC200 if needed.</li> <li>Otherwise <i>None</i>.</li> </ul>
Data Log Off normal Offset Voltage		Logs > Data Log	<ul style="list-style-type: none"> <li>Check and copy from SC200 if needed.</li> <li>Otherwise <i>None</i>.</li> </ul>
Standby Mode At Startup	New feature: When standby mode is used (two or more SC300s running together), this setting specifies which SC300 starts as the standby unit.	Standby	<ul style="list-style-type: none"> <li>If standby mode is to be used, choose which SC300 is to start in standby and set its setting to “Yes” (so the other SC300 is the active unit).</li> <li>Otherwise <i>None</i>.</li> </ul>
Solar Shutdown Smart Alarm	New feature: this smart alarm can be used to shut down any solar chargers in the system.	RXP > Solar Chargers	<ul style="list-style-type: none"> <li>Set this only if this feature is required.</li> <li>Otherwise <i>None</i>.</li> </ul>
Solar Power Share Offset	New feature: when solar chargers and AC rectifiers are present, the AC rectifiers can be set at a lower voltage than the solar chargers.	RXP > Solar Chargers	<ul style="list-style-type: none"> <li>Set this only if this feature is required.</li> <li>Otherwise <i>None</i>.</li> </ul>
Site Backup Time	This new feature produces an alarm a configured time after AC fails.	Batteries > Battery Time Remaining	<ul style="list-style-type: none"> <li>Set this only if this feature is required.</li> <li>Otherwise <i>None</i>.</li> </ul>

New Item	Description	Location (as viewed in ICE)	Recommended action
Prevent Battery Test	<p>New feature:</p> <p>This setting specifies whether a Battery Fuse Fail alarm prevents a battery test from starting.</p>	Control Processes > Battery Test	<ul style="list-style-type: none"> <li>• Default behaviour is the same as SC200 (Battery Fuse Fail Alarm prevents battery test). Change only if necessary.</li> <li>• Otherwise None.</li> </ul>
LVD Remote Manual Reconnect Timeout Period	<p>New feature:</p> <p>The LVD can be remotely disconnected. This feature automatically reconnects after the configured time.</p>	Control Processes > Low Voltage Disconnect	<ul style="list-style-type: none"> <li>• Change only if this needs to be changed from the default setting.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Generator on AC Peak Load Reduction	<p>This new feature can start the generator to reduce the peak grid load requirement.</p>	Generator control	<ul style="list-style-type: none"> <li>• Set this only if this feature is required.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Rectifier Shutdown Smart Alarm	<p>New feature: a Smart Alarm can be used to shut down rectifiers.</p>	Rectifiers	<ul style="list-style-type: none"> <li>• Set this only if this feature is required.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Redundancy	<p>New feature: This settings specifies how many rectifiers are left running by LBRS.</p>	Rectifiers	<ul style="list-style-type: none"> <li>• Change only if necessary.</li> <li>• Otherwise <i>None</i>.</li> </ul>
New alarm settings	<p>These alarm settings have been added.</p>	<p>Alarms &gt; System Alarms</p> <p>Low Rectifier Capacity Threshold</p> <p>Low Rectifier Capacity Alarm Threshold</p> <p>Low rectifier Capacity Load Threshold</p> <p>Low Rectifier Capacity Recognition Period</p>	<ul style="list-style-type: none"> <li>• If the related alarms have been enabled, configure these settings as needed.</li> <li>• Otherwise <i>None</i>.</li> </ul>
System Overload B settings (Threshold B, Type B)	<p>A second system overload alarm has been added; settings work the same as the normal System Overload alarm.</p>	Alarms > System Alarms	<ul style="list-style-type: none"> <li>• Change only if necessary.</li> <li>• Otherwise <i>None</i>.</li> </ul>

New Item	Description	Location (as viewed in ICE)	Recommended action
Smart Analog Table	New feature: provides the ability to add / multiply / min / max analogue input values.	Analog Inputs > Smart Analog Table	<ul style="list-style-type: none"> <li>• Change only if necessary.</li> <li>• Otherwise <i>None</i>.</li> </ul>
DO Control Timeout Period	New feature: sets a DO automatically back to normal condition after this timeout.	Digital Outputs	<ul style="list-style-type: none"> <li>• Change from the default if required.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Peak Load Reduction settings	New feature: allows the system to run on battery or generator during peak periods of AC grid load.	Peak Load Reduction	<ul style="list-style-type: none"> <li>• If PLR is needed, configure as required.</li> <li>• Otherwise <i>None</i>.</li> </ul>
Energy meter settings	New Feature: measures and logs selected input or load energy and power.	Meters	<ul style="list-style-type: none"> <li>• If energy metering is needed, configure as required.</li> <li>• Otherwise <i>None</i></li> </ul>
Fan controller settings	New feature: controls an external fan controller using RXP.	Fan Controller	<ul style="list-style-type: none"> <li>• If fan controllers are fitted in the system, configure as required.</li> <li>• Otherwise <i>None</i></li> </ul>

## Appendix 2 SC200 items not required in SC300

The following configuration items are no longer required and have not been included in the SC300.

Item removed	Notes
CSP4 access	CSP items have all been removed
Enabled CSP2 stack	
TPE Mode	
Time Zone offset	
CSP2 Alarm Report IP Address	
CSP2 Alarm Report IP Port	
CSP2 Key	
TPE ID	
CSP3 Access	

END

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