Sequence of Events Recording (SER) Export Events to CSV File

Summary

Trystar SER-3200/2408 Event Recorders maintain an event log with status changes of all monitored inputs, time-stamped to 1ms. Event records can be exported as a comma delimited (csv) file for further analysis in tools such as Microsoft Excel.

This document describes the process to export event data, including suggested Excel format changes to allow powerful analysis of event data with ms precision for date/time values.

Introduction

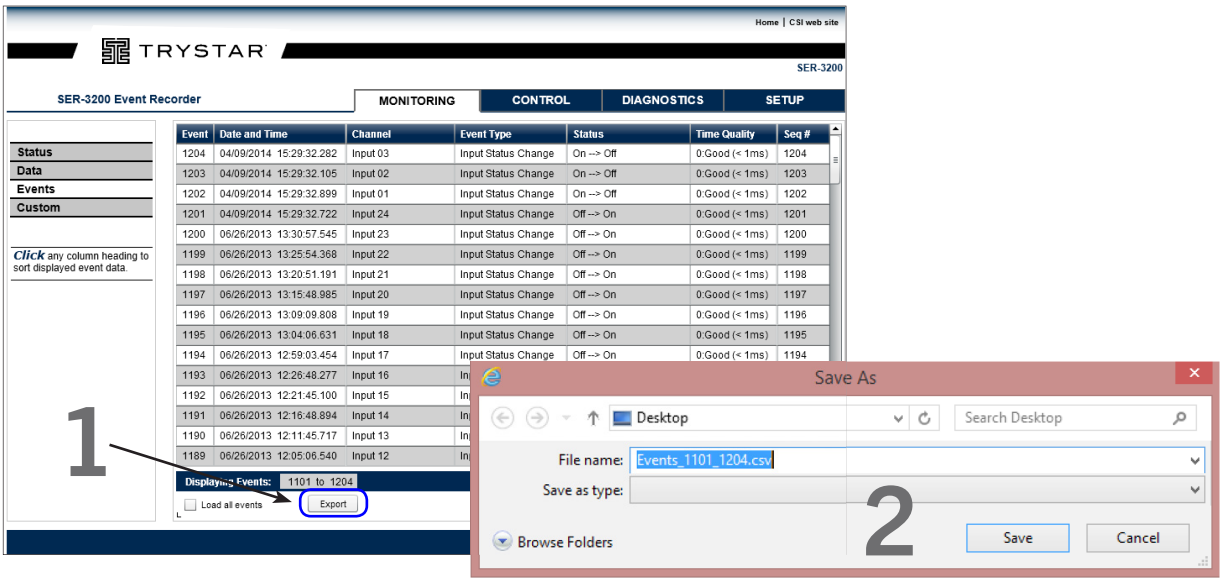
Sequence of Events Recording (SER) systems are an essential part of Electrical Power Monitoring Systems (EPMS) for "critical power" applications, such as data centers, hospitals, and micro-grids. Trystar SER-3200/2408 Event Recorders include an "export" function in which event records may be saved to a file for further analysis. This provides a quick and easy way to analyze data, complementing EPMS software or allowing stand-alone applications of SER devices.

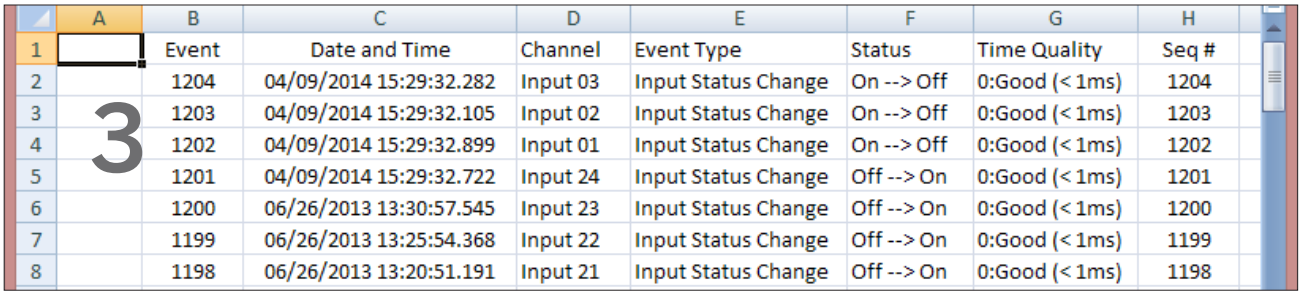
Export procedure (overview)

From the Events page,

1. Click the Export button to save all events currently in memory.
2. Save the file (csv format) to desired location on your PC.
3. Open in Excel (or other software) and adjust date/time format for ms.

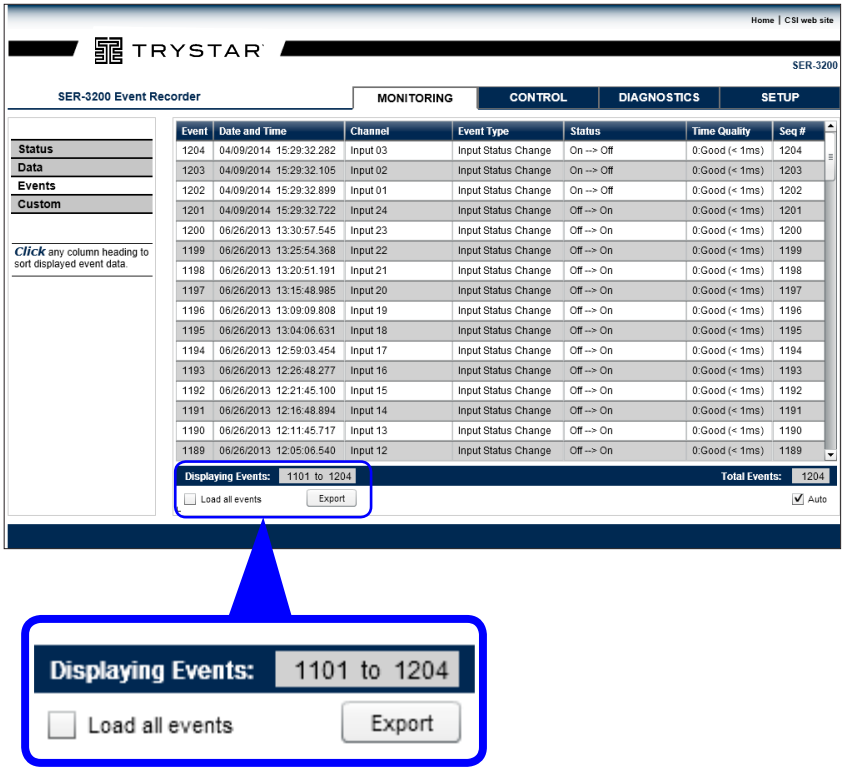
Event data can now be combined with similar data from additional SER devices, sorted, filtered, and correlated with other key information, such as captured waveforms, weather occurrences, or other external conditions.





EXPORT EVENTS FEATURE

From the Monitoring Status page, clicking “Events” brings up the Events web page:

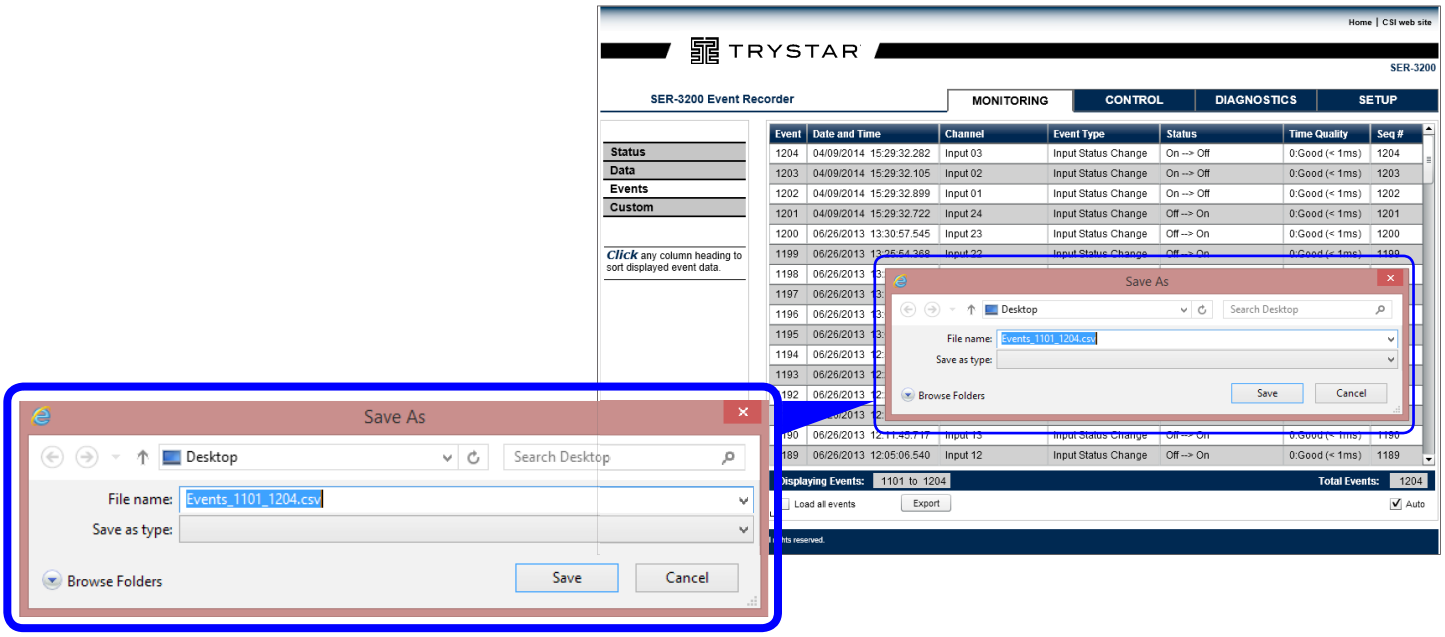


Note: The Export feature is included with Trystar SER-3200/2408 firmware v.2.02 and later.

The Events web includes an Export button as shown. The Export feature only exports the events currently loaded by the web page typically the latest 100 events. To export ALL events, first click the “Load all events” checkbox to load all events into memory; then click Export.

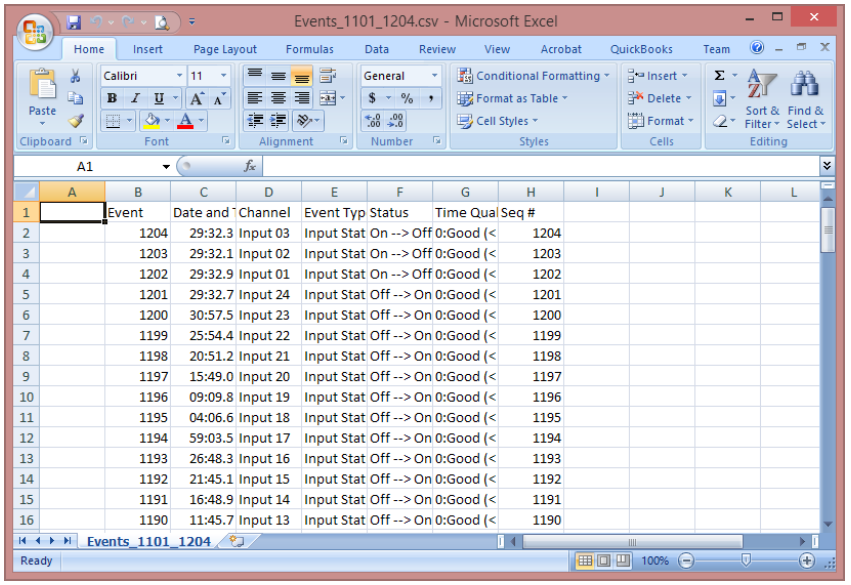
EXPORT EVENTS (SAVE TO CSV FILE)

Click the Export button to export desired event records. A “Save As” dialog box will appear, allowing the user to choose a location to save the events csv file. The default file name includes the first and last sequence number of events to be saved. This name may also be changed at this time. Click “Save” to complete this process.



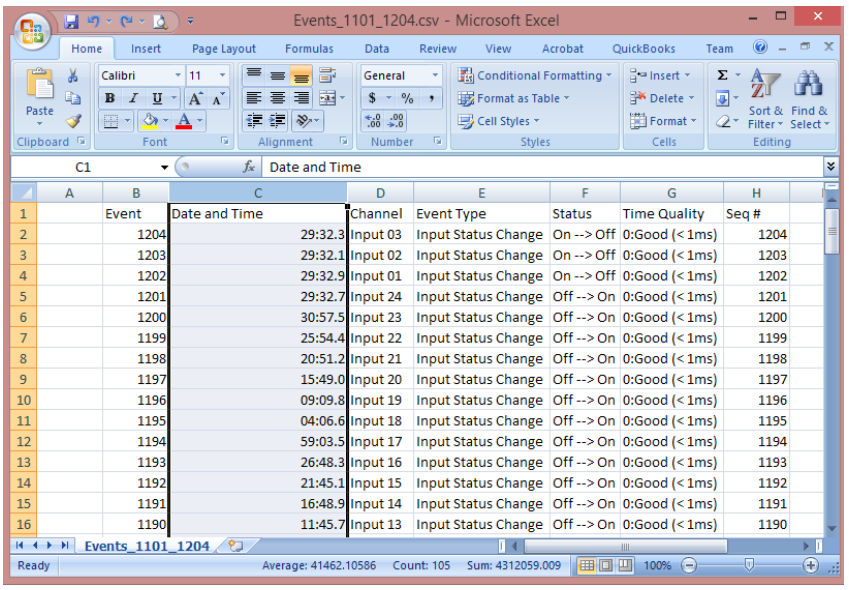
EXPORTED DATA (CSV)

Open the csv file in Excel (or other spreadsheet software). The “raw data” is shown below. (Excel 2007 is shown).
The header row contains the same titles as the Events web page. An empty column is included at left, reserved for future use. The data for channel names and on/off descriptive text reflect any customization by the user.
Because csv does not store data formatting, the correct date/time format must be applied to the time stamp values for proper display.



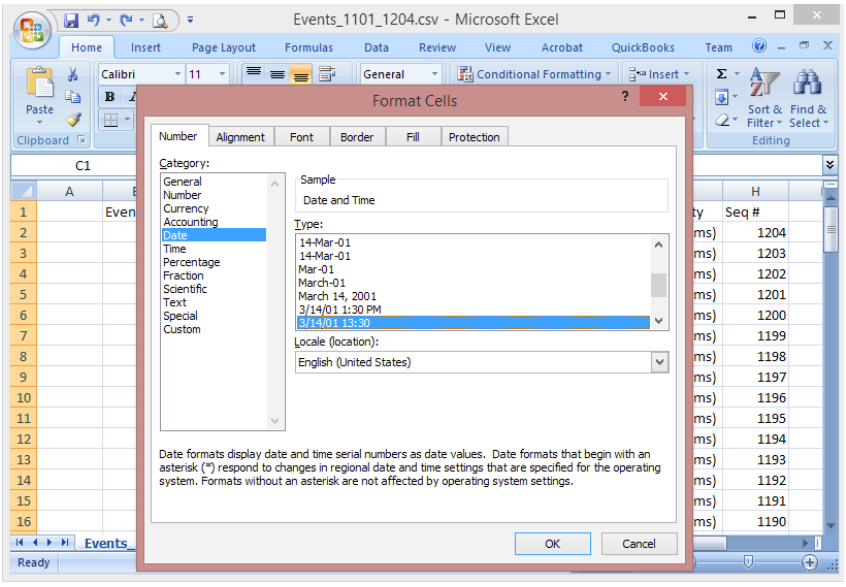
FORMAT DATE/TIME for MS

Click the top of the date/time column to highlight all cells, as shown below. You may also want to increase the column width, depending on your default font type and size. (Column width = 24 pixels is shown in the example below.)



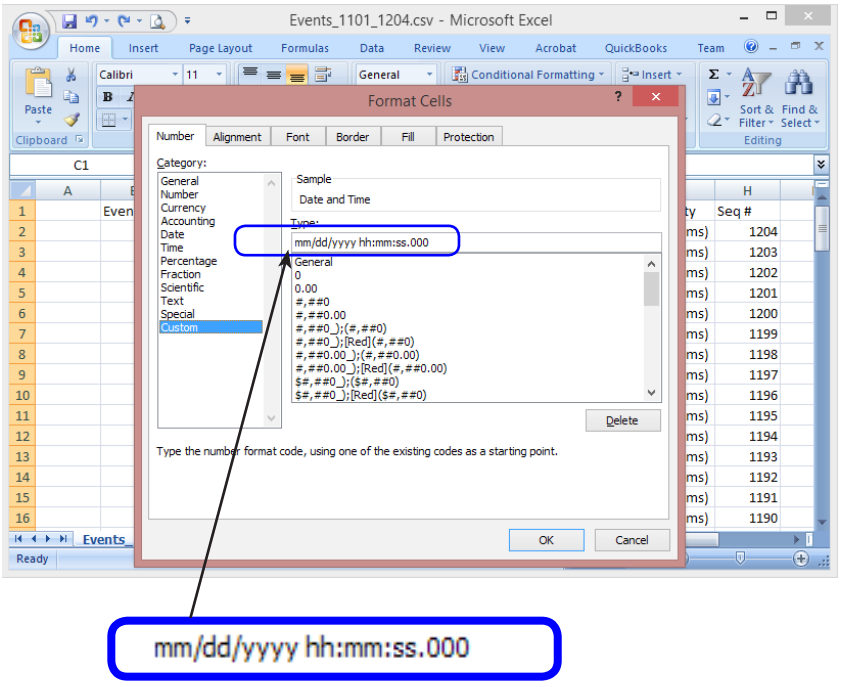
	A	B	C	D	E	F	G	H
1		Event	Date and Time	Channel	Event Type	Status	Time Quality	Seq #
2		1204	29:32.3	Input 03	Input Status Change	On --> Off	0:Good (< 1ms)	1204
3		1203	29:32.1	Input 02	Input Status Change	On --> Off	0:Good (< 1ms)	1203
4		1202	29:32.9	Input 01	Input Status Change	On --> Off	0:Good (< 1ms)	1202
5		1201	29:32.7	Input 24	Input Status Change	Off --> On	0:Good (< 1ms)	1201
6		1200	30:57.5	Input 23	Input Status Change	Off --> On	0:Good (< 1ms)	1200
7		1199	25:54.4	Input 22	Input Status Change	Off --> On	0:Good (< 1ms)	1199
8		1198	20:51.2	Input 21	Input Status Change	Off --> On	0:Good (< 1ms)	1198
9		1197	15:49.0	Input 20	Input Status Change	Off --> On	0:Good (< 1ms)	1197
10		1196	09:09.8	Input 19	Input Status Change	Off --> On	0:Good (< 1ms)	1196
11		1195	04:06.6	Input 18	Input Status Change	Off --> On	0:Good (< 1ms)	1195
12		1194	59:03.5	Input 17	Input Status Change	Off --> On	0:Good (< 1ms)	1194
13		1193	26:48.3	Input 16	Input Status Change	Off --> On	0:Good (< 1ms)	1193
14		1192	21:45.1	Input 15	Input Status Change	Off --> On	0:Good (< 1ms)	1192
15		1191	16:48.9	Input 14	Input Status Change	Off --> On	0:Good (< 1ms)	1191
16		1190	11:45.7	Input 13	Input Status Change	Off --> On	0:Good (< 1ms)	1190

Right-click to open a context-sensitive menu and click “Format cells...” to open the “Format Cells” dialog box. Then click “Date” for the “Category” and select a date/time format with both date and time fields, as shown in the example below.



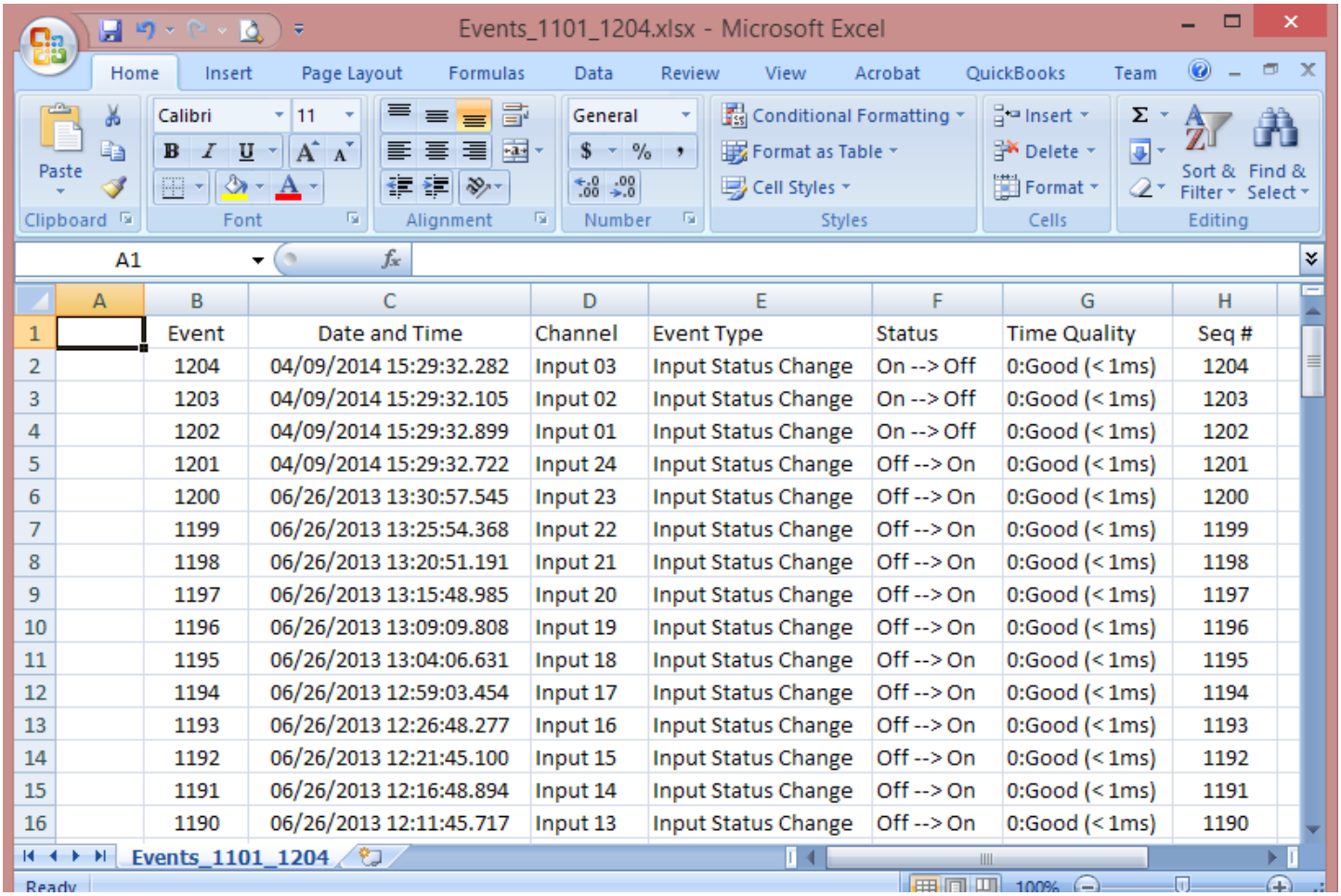
Now click the Category called “Custom” to further refine the date/time format. Specify fields for hours, minutes, seconds and ms.

You may also specify leading zeros for months and days and 4-digit years if desired, as shown below. Finally, click OK to apply this format.



FORMATTED DATA IN EXCEL

The final data is ready for analysis. You can add a column to calculate the elapsed time between events, sort by channel name, filter system events, etc. The empty column (column A) is reserved for the SER equipment name if desired, allowing files from multiple units to be combined and compared.



	A	B	C	D	E	F	G	H
1		Event	Date and Time	Channel	Event Type	Status	Time Quality	Seq #
2		1204	04/09/2014 15:29:32.282	Input 03	Input Status Change	On --> Off	0:Good (< 1ms)	1204
3		1203	04/09/2014 15:29:32.105	Input 02	Input Status Change	On --> Off	0:Good (< 1ms)	1203
4		1202	04/09/2014 15:29:32.899	Input 01	Input Status Change	On --> Off	0:Good (< 1ms)	1202
5		1201	04/09/2014 15:29:32.722	Input 24	Input Status Change	Off --> On	0:Good (< 1ms)	1201
6		1200	06/26/2013 13:30:57.545	Input 23	Input Status Change	Off --> On	0:Good (< 1ms)	1200
7		1199	06/26/2013 13:25:54.368	Input 22	Input Status Change	Off --> On	0:Good (< 1ms)	1199
8		1198	06/26/2013 13:20:51.191	Input 21	Input Status Change	Off --> On	0:Good (< 1ms)	1198
9		1197	06/26/2013 13:15:48.985	Input 20	Input Status Change	Off --> On	0:Good (< 1ms)	1197
10		1196	06/26/2013 13:09:09.808	Input 19	Input Status Change	Off --> On	0:Good (< 1ms)	1196
11		1195	06/26/2013 13:04:06.631	Input 18	Input Status Change	Off --> On	0:Good (< 1ms)	1195
12		1194	06/26/2013 12:59:03.454	Input 17	Input Status Change	Off --> On	0:Good (< 1ms)	1194
13		1193	06/26/2013 12:26:48.277	Input 16	Input Status Change	Off --> On	0:Good (< 1ms)	1193
14		1192	06/26/2013 12:21:45.100	Input 15	Input Status Change	Off --> On	0:Good (< 1ms)	1192
15		1191	06/26/2013 12:16:48.894	Input 14	Input Status Change	Off --> On	0:Good (< 1ms)	1191
16		1190	06/26/2013 12:11:45.717	Input 13	Input Status Change	Off --> On	0:Good (< 1ms)	1190

Exported event data shown in Excel, formatted for analysis

For More Information
Trystar SER-3200/2408 Users Guide
Trystar SER Reference Guide

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