

# Command Reference: CheckTimeSeries()

## Check time series data values against criteria and optionally take action

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The `CheckTimeSeries()` command checks time series data values against criteria, for example to identify missing, erroneous, or extreme data values. A warning is generated for each match and time series values optionally can be flagged, which allows annotation on graphs and reports. Values that meet the check criteria also can be removed (if irregular interval), or set to missing. The `WriteCheckFile()` command can be used to write a summary of the warnings. The `CheckTimeSeriesStatistic()` command checks a statistic for the entire time series (e.g., missing value count). See also the `Delta()` command, which creates new time series as the change between each value – this command may be necessary in cases where data periodically reset to a starting value, prior to using a performing a `Change>` check, for example.

The following dialog is used to edit the command and illustrates the command syntax.

**Edit CheckTimeSeries() Command**

Check time series data values for critical values (see also the `CheckTimeSeriesStatistic()` command).  
A warning will be generated for each case where a value matches the specified condition(s).  
Use the `WriteCheckFile()` command to save the results of all checks.  
Specify dates with precision appropriate for the data, use blank for all available data, `OutputStart`, or `OutputEnd`.

TS list:  Optional - indicates the time series to process (default=AllTS).

TSID (for TSList=AllMatchingTSID):

EnsembleID (for TSList=EnsembleID):

Check criteria:  Required - may require other parameters.

Value1:  Optional - minimum (or only) value to check.

Value2:  Optional - maximum value in range, or other input to check.

Analysis start:  Optional - analysis start date/time (default=full time series period).

Analysis end:  Optional - analysis end date/time (default=full time series period).

Problem type:  Optional - problem type to use in output (default=check criteria).

Maximum warnings:  Optional - maximum # of warnings/time series (default=no limit).

Flag:  Optional - flag to mark detected values.

Flag description:  Optional - description for flag.

Action:  Optional - action for matched values (default=no action).

Command:  
`CheckTimeSeries(TSList=AllMatchingTSID,TSID="ts2",CheckCriteria="Missing",Action=Remove)`

CheckTimeSeries

**CheckTimeSeries() Command Editor**

The command syntax is as follows:

```
CheckTimeSeries( Parameter=Value, ...)
```

#### Command Parameters

Parameter	Description	Default
TSList	Indicates the list of time series to be processed, one of: <ul style="list-style-type: none"> <li>AllMatchingTSID – all time series that match the TSID (single TSID or TSID with wildcards) will be processed.</li> <li>AllTS – all time series before the command will be processed.</li> <li>EnsembleID – all time series in the ensemble will be processed.</li> <li>FirstMatchingTSID – the first time series that matches the TSID (single TSID or TSID with wildcards) will be processed.</li> <li>LastMatchingTSID – the last time series that matches the TSID (single TSID or TSID with wildcards) will be processed.</li> <li>SelectedTS – the time series selected with the SelectTimeSeries( ) command will be processed.</li> </ul>	AllTS
TSID	The time series identifier or alias for the time series to be processed, using the * wildcard character to match multiple time series.	Required if TSList=*TSID.
EnsembleID	The ensemble to be modified, if processing an ensemble.	Required if TSList=EnsembleID.
CheckCriteria	The criteria that is checked, one of the following. Missing values are skipped except for cases where the statistic is specific to missing values. <ul style="list-style-type: none"> <li>AbsChange&gt; – check for absolute change from one value to the next value &gt; Value1</li> <li>AbsChangePercent&gt; – check for absolute change in percent from one value to the next value &gt; Value1.</li> <li>Change&gt; – check for change &gt; Value1.</li> <li>Change&lt; – check for change &lt; Value1.</li> <li>InRange – check for value &gt;= Value1 and &lt;= Value2.</li> <li>OutOfRange – check for value &lt; Value1 or &gt; Value2.</li> <li>Missing – check for missing values.</li> <li>Repeat – check for Value1 repeating values (i.e., if Value1=2, then the check will detect 2 adjacent values that are the same). If the flag or action are</li> </ul>	None – must be specified.

Parameter	Description	Default
	<p>specified, values Value1+ in the sequence are modified (i.e., if Value1=2, the 2<sup>nd</sup> and subsequent repeating values will be modified by the action).</p> <ul style="list-style-type: none"> <li>• &lt; – check for values &lt; Value1.</li> <li>• &lt;= – check for values &lt;= Value1.</li> <li>• &gt; – check for values &gt; Value1.</li> <li>• &gt;= – check for values &gt;= Value1.</li> <li>• == – check for values equal to Value1.</li> </ul>	
Value1	A parameter that is used for specific CheckCriteria values.	
Value2	A parameter that is used for specific CheckCriteria values.	
AnalysisStart	The date/time to start analyzing data.	Analyze full period.
AnalysisEnd	The date/time to end analyzing data.	Analyze full period.
ProblemType	The problem type that will be shown in warning messages.	CheckCriteria
MaxWarnings	The maximum number of warnings to list for each time series, useful if analysis results in many warnings.	List all warnings.
Flag	A string to use for a flag on values that are detected during the check, which will be shown in the HTML summary report.	No flag.
FlagDesc	Description for the flag.	No description.
Action	<p>Action to take for matched values, in addition to generating warnings:</p> <ul style="list-style-type: none"> <li>• Remove – remove the values. For irregular interval time series the values will be removed. For regular interval time series the values will be set to missing.</li> <li>• SetMissing – set the values to missing.</li> </ul>	No action is taken.

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