

Matching External Data Source Readings with Collection Plan Steps

- Readings from an external data source must, in the end, be matched with the appropriate step in a collection plan. When the data source feeds only one step, this is assured. When the data source feeds multiple steps, however, ambiguity is introduced. The most common methods for resolving this ambiguity are:
 - The Channel Number and Location Method
 - The Reasonable Limits Method
 - The Modified Single-Device Handling Method
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- **The channel number and location method**
Use this method when:
 - The external data source is actually an intermediary serial device (or text file) that itself receives readings from multiple sources. (A FlexPort gage interface is an example of such an intermediary device.) Channel number and location information is included in the data feeds from the ultimate external data sources into the intermediary device (or text file). The intermediary device (or text file) is capable of passing channel numbers and locations to WinSPC.
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- When these conditions are met, all that needs to be done to ensure readings get to the step for which they are intended is to configure the step to accept readings with the channel number and location that corresponds to the step's ultimate data source (the device or text file, in other words, that feeds the intermediary device or text file). For instructions on doing this, see [Setting Up WinSPC-->Setting Up Devices](#) and [Setting Up WinSPC-->Setting Up Collection Plans-->Setting Up Collection Plan Steps](#) in WinSPC's online Help.
The reasonable limit method
Consider using this method when:
 - A single serial device feeds data directly to WinSPC, rather than via an intermediary device (or text file), and that data contains readings for multiple steps in a collection plan or when channel number and location information is not part of the feed from an intermediary device (or text file). Reasonable limits are defined for each step configured to collect data from the same data source. The reasonable limit range—which is the range between the upper reasonable limit (URL) and lower reasonable limit (LRL)—for a step doesn't overlap the reasonable limit range of any other step that collects data from the same data source.
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- Under these circumstances, each step can be setup with a test and trigger that rejects readings outside of its reasonable limits. Since the reasonable limit ranges are non-overlapping, a reading will be acceptable to, at most, one step. (It is possible, of course, for a reading to fall outside the reasonable limits of all steps and, consequently, be completely rejected.) For instructions on defining reasonable

limits, see Setting Up WinSPCàSetting Up Parts Or ProcessesàSetting Up VariablesàSetting Up Variable Specifications (Advanced) in WinSPC's online Help. For instructions on defining tests and triggers, see Setting Up WinSPC-->Setting Up Collection Plans-->Setting Up Collection Plan Steps in WinSPC's online Help.

The modified single-device handling method

Consider using this method when:

- Channel numbers and locations cannot be used to match readings with collection plan steps. The reasonable limit ranges of steps configured for the same external data source overlap.
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- 0. When the above conditions for this method are met, it is possible that ambiguity can be resolved by modifying the routing of external data source readings. To do this, check the Modified Single Device Handling check box on the Collection Plan Options tab of the Collection Plan dialog. By default, WinSPC routes all readings from an external data source to all the steps in a collection plan configured to collect data from that source. Checking this Modified Single Device Handling check box causes WinSPC to initially route a reading from the data source to the currently active collection plan step only. If this step accepts the reading, WinSPC takes no further action. If, however, the current step rejects the reading, WinSPC searches the collection plan for a step with a random collection method (as opposed to a sequential collection method). In this case, one of three things will happen:
 - 1. WinSPC doesn't find a step with a random collection method and discards the reading. WinSPC finds only one step with a random collection method and reroutes the reading to the step which, in turn, accepts or rejects the reading. WinSPC finds more than one step with a random collection method, rejects the reading and generates an Ambiguous Reading Rejected error.
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