

## Debug Features

The capabilities of FTSolution for APT® do not end after downloading a project to the PLC. FTSolution for APT includes standard and expanded Debug Mode features to monitor and troubleshoot programs in running processors.

### ► Standard Debug Mode

- Watch Windows – Like Charts in APT, Watch Windows display the extension values of selected objects and allow you to take a snap shot of these values by manually sampling them. Configure custom Watch Windows by specifying which extensions or PLC addresses are read from the PLC.
- Trender – Real-time values of extensions and specific PLC addresses from custom Watch Windows can be graphed in the Trender. Customize graph properties, such as time span, line color, and value scaling.
- SFC Animation – The execution path between Steps is highlighted in the SFC editor in real-time. Clear indications of multiple loops through the same steps are improved over APT.
- SFC Breakpoints – The SFC editor clearly indicates breakpoints in steps. All breakpoints through the entire PLC project are also identified in a convenient, consolidated list. Jump directly to any breakpoint from this list. These capabilities eliminate the need to manually search for breakpoints in every SFC, which is required by APT.
- SFC Single Step – Manually control SFC execution with Single Step to regulate when the SFC transitions from one Step to the next.
- SFC Activate – Manually select an SFC step to execute and continue running the program from that point.

### ► Expanded Debug Mode

For a more powerful online experience, expanded features allow you to:

- View source code while debugging.
- Open multiple programs in Debug Mode at the same time.
- Directly select objects in the editor to chart within Debug Mode with editor-integrated chart monitoring, sampling, and logging.
- Create, view, update, and delete custom charts without entering Debug Mode.
- Identify SFC breakpoint steps whether active or not, in normal execution and single-step modes.
- Navigate, view, and clear SFC breakpoints without opening SFCs.
- View and disable SFCs in single-step mode without opening SFCs.
- Edit parameters and values faster and easier.

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