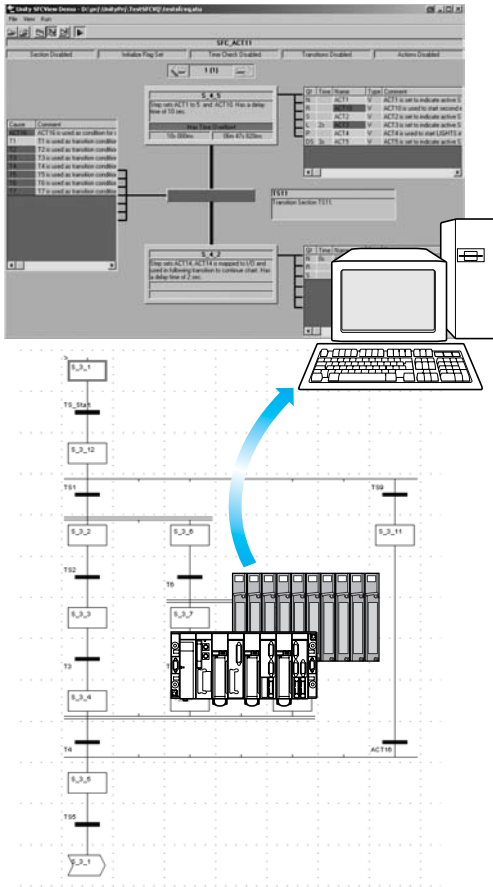


Modicon M340 automation platform

Unity SFC View software



Presentation

Unity SFC View is integrated in human/machine interface (HMI) applications for monitoring Unity Pro sequential applications written in sequential function chart language (SFC or Grafset) executed by a PLC.

Set up in the same way as an ActiveX control component, Unity SFC View is used to display status information relating to SFC charts executed by a Modicon M340, a Premium or a Quantum PLC. Installed on an HMI station, Unity SFC View monitors and controls the status of SFC charts in real time, supplying detailed diagnostic data.

Unity SFC View reads the necessary data from the Unity project database in offline mode. The PLC data is accessed online via the OFS (*OPC Factory Server*).

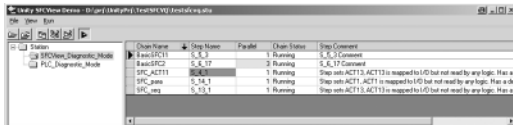
Without needing to recreate SFC charts in the HMI environment, Unity SFC View reads the structure of the SFC charts directly from the Unity project database. Modifications made to the SFC application are detected and updated at any time. In online mode, Unity SFC View accesses the PLC diagnostic data, thus enabling awareness and tracking of the occurrence of the first fault and subsequent faults. System downtime is much reduced since Unity SFC View enables maintenance staff to locate the source of the problem much more quickly.

Unity SFC View is designed for end users and system designers who wish to integrate this control into their HMI system. Unity SFC View is compatible with most HMI platforms handling ActiveX Control components such as Vijeo Look control software or Monitor Pro supervisory software or in a programming environment such as Visual Basic.

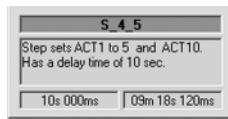
The 3 Unity SFC View views

Unity SFC View offers 3 views:

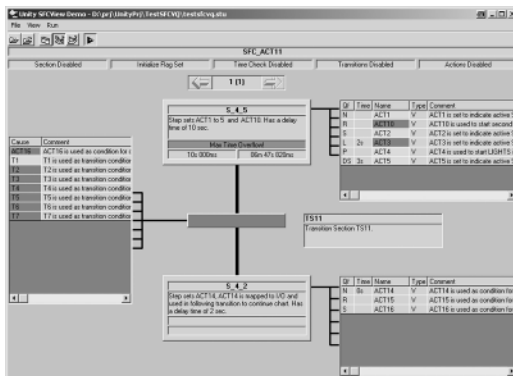
- An overview for managing selection of SFC charts
- Two detailed views presenting the status and diagnostic data of the selected SFC chart



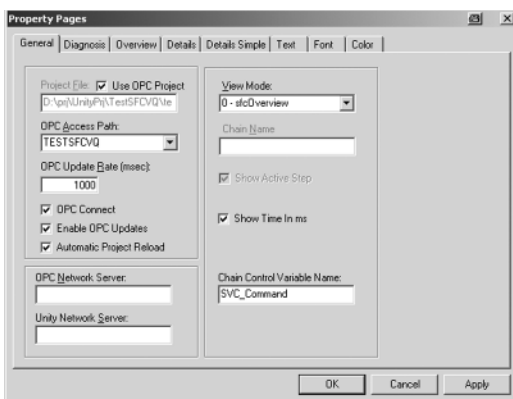
Overview



Simple detailed view



Detailed view



SFC View properties page

The overview provides a general view of all the SFC charts in a Unity project. It contains real-time data such as current step, simultaneous steps, chart error with indication of the SFC chart status. The overview makes it easy to browse through SFC charts and switch quickly to the detailed view of the desired SFC chart in the Unity Pro application.

The simple detailed view shows the elementary data on the active step (or selected step) of the SFC chart in real time. The data displayed may include the name, comment, chart and step status, as well as the activity times (min, max, actual). You can also enable the chart navigation option.

Because of the compact size of the simple detailed view, it is possible to place several instances of it on a single HMI screen relating to a certain part of the process. From this simple detailed mode, you can navigate between HMI screens with SFC View controls and display the detailed view of SFC charts.

The detailed view illustrates the details of an SFC chart in real time. The display indicates the current step, the transition awaiting activation and the next step. The actions associated with the steps are displayed along with sequence selections or parallel branches. The detailed diagnostic data includes analysis of the causes of the fault at transition level. Depending on the diagnostic mode, the error grid contains the causes of errors or all the variables assigned to the transition logic. The current state of the various variables and selected errors are identified by different colors.

Diagnostic mode

Transition logic diagnostics is a key function of Unity SFC View. It minimizes system downtimes in the event of a fault.

Two different diagnostic modes are available:

- Unity SFC View reads the data in the Unity PLC diagnostic buffer. It provides information about faulty or missing events that are preventing the transition from being enabled. This mode does not require any configuration or additional programming in the PLC program.
- Unity SFC View monitors the internal logic of the transition conditions “back to front”. This mode provides diagnostic data concerning all the inputs connected to the transition (not limited to faulty inputs). In this mode, for Premium, Atrium and Quantum platforms, Unity SFC View uses specific EFB function blocks linked to the transition conditions. The library for these blocks is supplied with the Unity SFC View software.

Customization

Unity SFC View offers a programming interface which can be used to integrate the ActiveX Control component in an HMI application and customize its functions and its operator interface.

The ActiveX Control component in Unity SFC View can be customized. It accepts properties, methods and events (all the properties have a default value). The properties pages simplify configuration. Unity SFC View accepts scripts with methods such as browsing through charts, status control of charts, and also events such as error notification or chart selection. This data can be used to launch programs or operator screens.

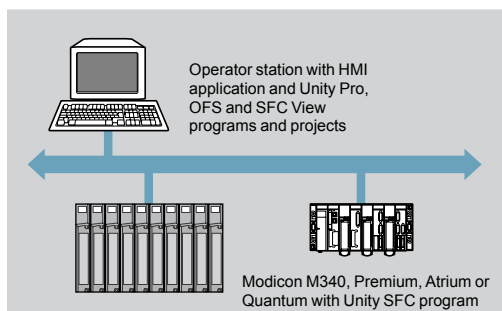
Modicon M340 automation platform

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Possible architectures

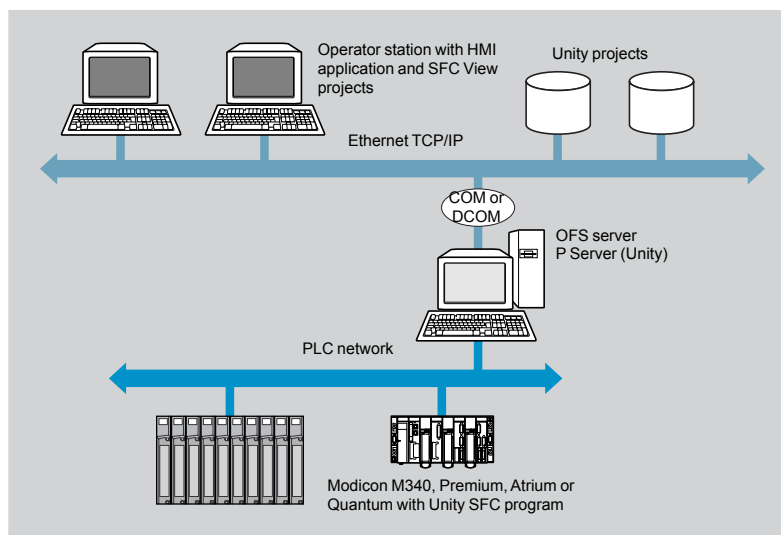
Basic architecture

Unity SFC View is used in a configuration where the OFS and Unity Pro software reside on the same PC platform as the HMI application.



Distributed architecture

In a distributed configuration, the OFS and Unity Pro software can be installed on different servers.



Modicon M340 automation platform

Unity SFC View software



References

When integrated in an HMI application, Unity SFC View can be used to monitor and control charts in applications developed in Sequential Function Chart (SFC) language running on Premium/Quantum Unity PLCs.

The HMI station, compatible with Windows 2000 or Windows XP Professional operating systems, must support ActiveX Control components. Unity SFC View V2.0 requires:

- Unity Pro V3.● XL, to be ordered separately
- OFS V3.3 data server software, to be ordered separately

Unity SFC View multilingual software, supplied on a CD-ROM, includes:

- The SFC View ActiveX Control component
- The EFB function block library for Unity Pro V3.●
- An example of how to integrate SFC View in Unity Pro projects
- The electronic documentation (English, French and German)

The Unity SFC View integration example illustrates the main possibilities offered by Unity SFC View. This is an executable program which does not need HMI software in order to run. It helps the user understand how to configure and use the Unity SFC View ActiveX Control component.

Description	Type of license	Reference	Weight kg
Unity SFC View software packages (version V2.0)	Single (1 station)	UNY SDU MFU CD20	–
	Team (10 stations)	UNY SDU MFT CD20	–
	Site (100 stations)	UNY SDU MFF CD20	–