

# Advanced PLC Training System (Rockwell Automation) 588969 (3355-00)

# FESTO

LabVolt Series

Datasheet



Festo Didactic  
en  
11/2024

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## General Description

Programming a PLC efficiently requires a strong familiarity with the specifics of the programming environment and languages. This is exactly the purpose of the Advanced PLC Training System with high-end products from Rockwell Automation.

This training system allows students to acquire hands-on experience with industrial control equipment. Realistic examples are used to motivate students. These examples are displayed on the graphic terminal, and correspond to real PLC applications that can be interfaced with the trainer.

The system comprises industrial components of the latest technology: a CompactLogix 5370 controller, a PanelView Plus 7 graphic terminal, and a Stratix 2000 industrial Ethernet switch. Several inputs (16 digital and 4 analog inputs) and outputs (16 digital and 2 analog outputs) and are accessible from the front panel using 2-mm test leads. Controls and lights can also be connected. Eight switches allow the addition of electrical faults during troubleshooting exercises. A SysLink interface allows connection to Modular Production System (MPS) stations from Festo.

## PLC applications developing students' understanding



PLC Applications, Series 8075, aim to further develop the students' understanding of PLC programming. These small-scale systems are typical of what can be found in the industry. The systems' training capabilities are enhanced by their modularity and their instructor-inserted faults.

The modules of the PLC Applications Series can be interconnected with

those of other Festo training systems for interdisciplinary training applications. The PLC Applications series is divided into seven systems, each system covering a specific topic related to PLC controls:

- Traffic Lights
- Electro-Pneumatics
- Electro-Mechanical – DC Motor
- Electro-Mechanical – Stepper Motor
- Wind Turbine
- Level Process Control
- Bottling Process

The exercises provided with the Advanced PLC Training system are inspired by the Traffic Lights, Electro-Pneumatics, and Level Process Control applications. Students can connect these additional components while developing their programs or simulate the inputs and outputs instead.

## Topic Coverage

- Familiarization with Studio 5000 and FactoryTalk View Studio
- Understanding PLC operation and addressing

- PLC programming in four different IEC 61131 languages: Ladder Logic (focus), Sequential Function Chart, Function Block, and Structured Text
- Designing human-machine interfaces
- Troubleshooting

## Features & Benefits

- The system uses Rockwell software and hardware that are used in actual factories.
- Comprehensive curriculum with hands-on exercises accompanies each system.
- The system is mounted in a rugged suitcase with casters.
- The system can be used alone or in conjunction with existing PLC applications.
- Communication between devices using either an industrial Ethernet switch, Sys-Link connectors, or 2-mm jacks.

## List of Manuals

Description	Manual number
PLC and HMI Programming (Workbook)	589134 (20922-00)
PLC and HMI Programming (Workbook (Instructor))	589135 (20922-10)

## Table of Contents of the Manual(s)

### PLC and HMI Programming (Workbook) (589134 (20922-00))

- 1 A Working Application (Demonstration)
- 2 Clamp and Stamp Application (LAD)
- 3 Traffic Light Application (HMI)
- 4 Traffic Light Application (LAD and SFC)
- 5 Water Level Application (LAD and FB)
- 6 Box Filling Application (LAD and ST)

## Additional Equipment Required to Perform the Exercises (Purchased separately)

Qty	Description	Model number
1	Studio 5000 Logix Designer Lite Edition	587890 (5935-00) <sup>1</sup>
1	FactoryTalk View Studio ME	587898 (5937-00) <sup>2</sup>

## Software

Qty	Description	Model number
1	Studio 5000 Logix Designer Full Edition	587895 (5935-10) <sup>3</sup>
1	Studio 5000 Logix Designer Lite Edition (Commercial)	587892 (5935-A0)
1	Studio 5000 Logix Designer Full Edition (Commercial)	587894 (5935-B0)
1	FactoryTalk View ME Station	587901 (5937-10) <sup>4</sup>
1	FactoryTalk View Studio ME (Commercial)	587899 (5937-A0)

<sup>1</sup> Software needed to program the PLC. This is the Educational license version but a Commercial license version is also available. There is also a "mini" version but it only allows ladder programming so it is not suitable for this product.

<sup>2</sup> Software needed to program the HMI. This is the Educational license version but a Commercial license version is also available. If only running the HMI is preferred, select the Station version instead.

<sup>3</sup> Can replace Studio 5000 Logix Designer Lite Edition. This is the Educational license version but a Commercial license version is also available.

<sup>4</sup> Allows only viewing the HMI which is not enough to follow the exercises of this system. This is the Educational license version but a Commercial license version is also available.

**Model number**

**Qty Description**

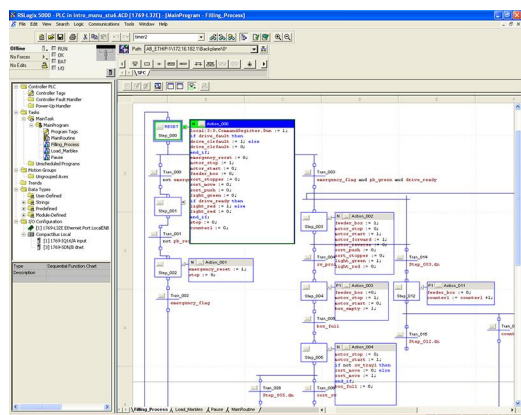
1 FactoryTalk View ME Station (Commercial) \_\_\_\_\_ 587900 (5937-B0)<sup>5</sup>

**Specifications**

Parameter	Value
<b>Scope of delivery</b>	
Includes:	Twenty (20) 2 mm safety laboratory cables, one (1) paper copy of the Student Manual and the Instructor Guide, one (1) resource DVD, one (1) Ethernet cable, one (1) power cord and one (1) multimeter

**Module Options Description**

**Studio 5000 Logix Designer Lite Edition 587890 (5935-00)**



Studio 5000 Logix Designer is a Windows-based application, produced by Rockwell Software™, used to build programs for CompactLogix PLCs.

Studio 5000 Logix Designer provides a powerful integrated interface allowing users to easily build programs using four programming languages: relay ladder, structured text, sequential function chart, and function block diagram. The software allows students to concentrate on the logic aspects of PLC programming instead of spending time on complex syntax. It also features drag-and-drop editing, search-and-replace functions, and tools for verifying programs before running them on a PLC. Studio 5000 Logix Designer can be used to program a

PLC via the built-in RS-232 port or via an Ethernet link. The software comes with RSLinx lite which provides the functionality required to support RSLogix and RSNetWorx.

The following versions are available:

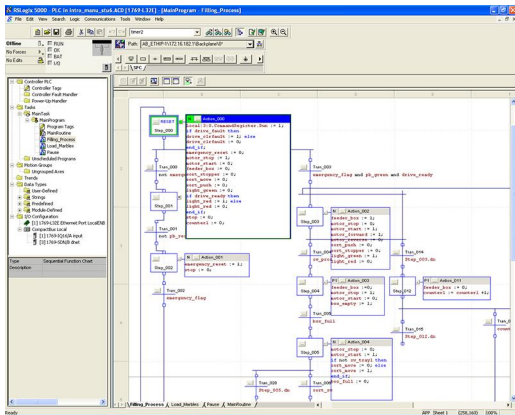
- 5935-0: Studio 5000 Logix Designer Lite Edition (Educationnal)
- 5935-A: Studio 5000 Logix Designer Lite Edition (Commercial)
- 5935-1: Studio 5000 Logix Designer Full Edition (Educationnal)
- 5935-B: Studio 5000 Logix Designer Full Edition (Commercial)

**Specifications**

Parameter	Value
<b>Included Software</b>	RSLogix 5000 and RSLinx Lite
<b>Available Languages</b>	Relay ladder, structured text, sequential function chart, and function block diagram.
<b>Computer Requirements</b>	A currently available personal computer running under one of the following operating systems: Windows® 7 or Windows® 8.

<sup>5</sup> Allows only viewing the HMI which is not enough to follow the exercises of this system.

## Studio 5000 Logix Designer Full Edition 587895 (5935-10)



Studio 5000 Logix Designer is a Windows-based application, produced by Rockwell Software™, used to build programs for PLCs.

Studio 5000 Logix Designer provides a powerful integrated interface allowing users to easily build programs using four programming languages: relay ladder, structured text, sequential function chart, and function block diagram. The software allows students to concentrate on the logic aspects of PLC programming instead of spending time on complex syntax. It also features drag-and-drop editing, search-and-replace functions, and tools for verifying programs before running them on a PLC. Studio 5000 Logix Designer can be used to program a

PLC via the built-in RS-232 port or via an Ethernet link. The software comes with RSLinx lite which provides the functionality required to support RSLogix and RSNetWorx.

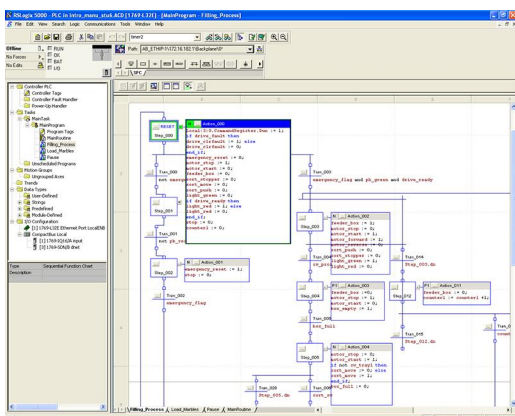
The following versions are available:

- 5935-0: Studio 5000 Logix Designer Lite Edition (Educationnal)
- 5935-A: Studio 5000 Logix Designer Lite Edition (Commercial)
- 5935-1: Studio 5000 Logix Designer Full Edition (Educationnal)
- 5935-B: Studio 5000 Logix Designer Full Edition (Commercial)

## Specifications

Parameter	Value
Included Software	RSLogix 5000 and RSLinx Lite
Available Languages	Relay Ladder, structured text, sequential function chart, and function block diagram.
Computer Requirements	Pentium IV 2.8 GHz, 1 GB of RAM, at least 16 GB of free hard disk space, and a 1024 x 768 True Color graphics device. Recommended: Intel i5 2.4 GHz processor, 8 GB of RAM, 20 GB of free hard disk space, and DirectX 9 graphics device with WDDM 1.0 or higher. Compatible operating systems: Windows XP Professional with SP3, Windows 7 Professional (64-bit) with SP1 or Home Premium (64 or 32-bit) with SP1.

## Studio 5000 Logix Designer Lite Edition (Commercial) 587892 (5935-A0)



Studio 5000 Logix Designer is a Windows-based application, produced by Rockwell Software™, used to build programs for CompactLogix PLCs.

Studio 5000 Logix Designer provides a powerful integrated interface allowing users to easily build programs using four programming languages: relay ladder, structured text, sequential function chart, and function block diagram. The software allows students to concentrate on the logic aspects of PLC programming instead of spending time on complex syntax. It also features drag-and-drop editing, search-and-replace functions, and tools for verifying programs before running them on a PLC. Studio 5000 Logix Designer can be used to program a

PLC via the built-in RS-232 port or via an Ethernet link. The software comes with RSLinx lite which provides the functionality required to support RSLogix and RSNetWorx.

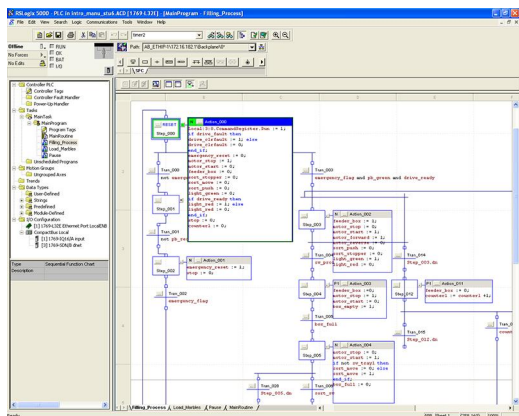
The following versions are available:

- 5935-0: Studio 5000 Logix Designer Lite Edition (Educationnal)
- 5935-A: Studio 5000 Logix Designer Lite Edition (Commercial)
- 5935-1: Studio 5000 Logix Designer Full Edition (Educationnal)
- 5935-B: Studio 5000 Logix Designer Full Edition (Commercial)

### Specifications

Parameter	Value
Included Software	RSLogix 5000 and RSLinx Lite
Available Languages	Relay ladder, structured text, sequential function chart, and function block diagram.
Computer Requirements	A currently available personal computer running under one of the following operating systems: Windows® 7 or Windows® 8.

### Studio 5000 Logix Designer Full Edition (Commercial) 587894 (5935-B0)



Studio 5000 Logix Designer is a Windows-based application, produced by Rockwell Software™, used to build programs for PLCs.

Studio 5000 Logix Designer provides a powerful integrated interface allowing users to easily build programs using four programming languages: relay ladder, structured text, sequential function chart, and function block diagram. The software allows students to concentrate on the logic aspects of PLC programming instead of spending time on complex syntax. It also features drag-and-drop editing, search-and-replace functions, and tools for verifying programs before running them on a PLC. Studio 5000 Logix Designer can be used to program a

PLC via the built-in RS-232 port or via an Ethernet link. The software comes with RSLinx lite which provides the functionality required to support RSLogix and RSNetWorx.

The following versions are available:

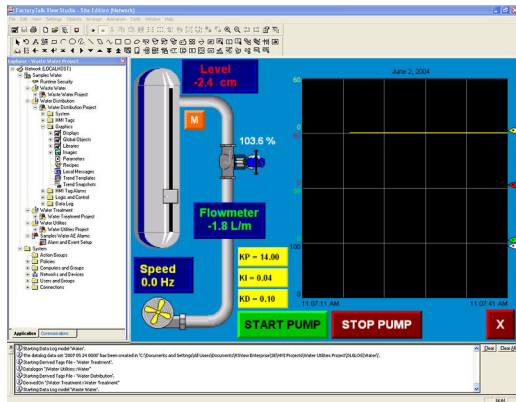
- 5935-0: Studio 5000 Logix Designer Lite Edition (Educationnal)
- 5935-A: Studio 5000 Logix Designer Lite Edition (Commercial)
- 5935-1: Studio 5000 Logix Designer Full Edition (Educationnal)
- 5935-B: Studio 5000 Logix Designer Full Edition (Commercial)

### Specifications

Parameter	Value
Included Software	RSLogix 5000 and RSLinx Lite
Available Languages	Relay Ladder, structured text, sequential function chart, and function block diagram.
Computer Requirements	Pentium IV 2.8 GHz, 1 GB of RAM, at least 16 GB of free hard disk space, and a 1024 x 768 True Color graphics device. Recommended: Intel i5 2.4 GHz processor, 8 GB of RAM, 20 GB of free hard disk space, and DirectX 9 graphics device with WDDM 1.0 or higher. Compatible operating systems: Windows XP Professional with SP3, Windows 7 Professional (64-bit) with SP1 or Home Premium (64 or 32-bit) with SP1.



## FactoryTalk View Studio ME 587898 (5937-00)

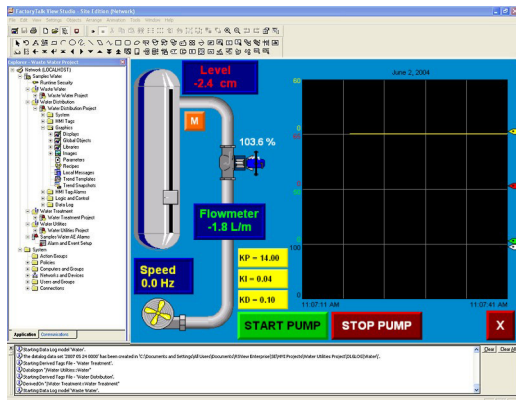


FactoryTalk View Studio ME is a Windows-based application, produced by Rockwell Software, allowing the creation of graphic interfaces for the Touch Screen Graphic Terminal, Model 5922. Using programs developed with FactoryTalk View Studio ME, data available over the network can be displayed on the screen and commands can be sent over the Ethernet network.

## Specifications

Parameter	Value
Computer Requirements	A currently available personal computer running under one of the following operating systems: Windows® 7 or Windows® 8.

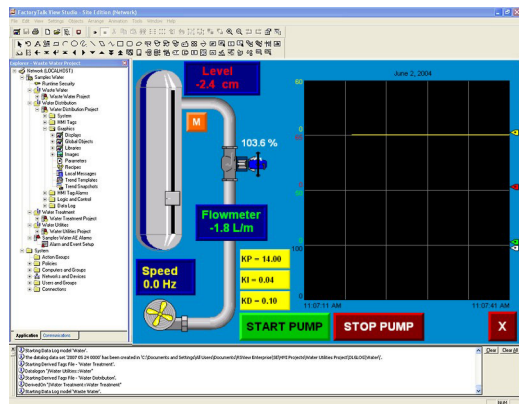
## FactoryTalk View ME Station 587901 (5937-10)



FactoryTalk View ME Station is a Windows-based application, produced by Rockwell Software, allowing the creation of graphic interfaces for the Touch Screen Graphic Terminal, Model 5922. Using programs developed with FactoryTalk View ME Station, data available over the network can be displayed on the screen and commands can be sent over the Ethernet network.

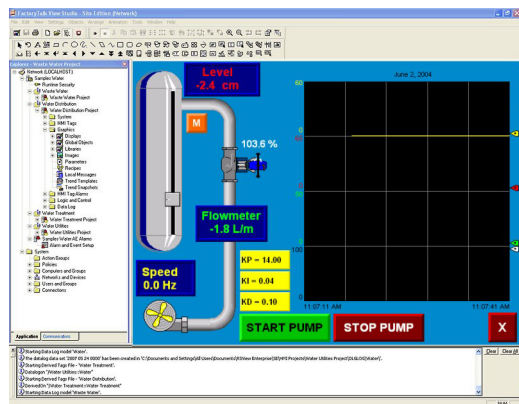


## FactoryTalk View Studio ME (Commercial) 587899 (5937-A0)



FactoryTalk View Studio ME (Commercial) is a Windows-based application, produced by Rockwell Software, allowing the creation of graphic interfaces for the Touch Screen Graphic Terminal, Model 5922. Using programs developed with FactoryTalk View Studio ME (Commercial), data available over the network can be displayed on the screen and commands can be sent over the Ethernet network.

## FactoryTalk View ME Station (Commercial) 587900 (5937-B0)



FactoryTalk View ME Station (Commercial) is a Windows-based application, produced by Rockwell Software, allowing the creation of graphic interfaces for the Touch Screen Graphic Terminal, Model 5922. Using programs developed with FactoryTalk View ME Station (Commercial), data available over the network can be displayed on the screen and commands can be sent over the Ethernet network.

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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**Festo Didactic SE**

Rechbergstrasse 3  
73770 Denkendorf  
Germany

P. +49(0)711/3467-0  
F. +49(0)711/347-54-88500

**Festo Didactic Inc.**

607 Industrial Way West  
Eatontown, NJ 07724  
United States

P. +1-732-938-2000  
F. +1-732-774-8573

**Festo Didactic Ltée/Ltd**

675 rue du Carbone  
Québec QC G2N 2K7  
Canada

P. +1-418-849-1000  
F. +1-418-849-1666

**[www.labvolt.com](http://www.labvolt.com)**

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