

# General Specifications

## Models SSS5700, SSS6700 Fieldbus Communication Functions (R5)



GS 33Y05P10-33E

### ■ GENERAL

With the Fieldbus Communication Function, a field control station (FCS) can be connected via the ACF11 or ALF111 Fieldbus Communication Module installed in an I/O module nest to fieldbus-ready sensors and valves. The GS covers the following communication functions:

- Fieldbus Feature
- Fieldbus Communication Specifications Overview
- SSS5700 Engineering Tool for Fieldbus
- SSS6700 Device Management Tool for Fieldbus

### ■ FUNCTION SPECIFICATIONS

#### ● Fieldbus Feature

A fieldbus is a digital, bidirectional and multi-drop connection communication bus that connects field devices to control systems, and which replaces conventional 4-20 mA communication. Its specifications have been standardized by the Fieldbus Foundation. A fieldbus digitally transmits various data such as tuning data and diagnostic data on field devices as well as PVs and MVs. A fieldbus ensures interoperability between diverse vendors' products.

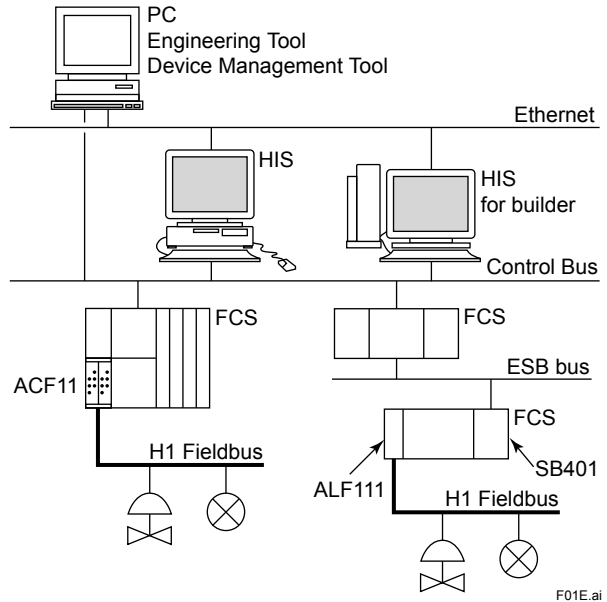


Figure Fieldbus Configuration of CENTUM VP/CS 3000/CS 1000

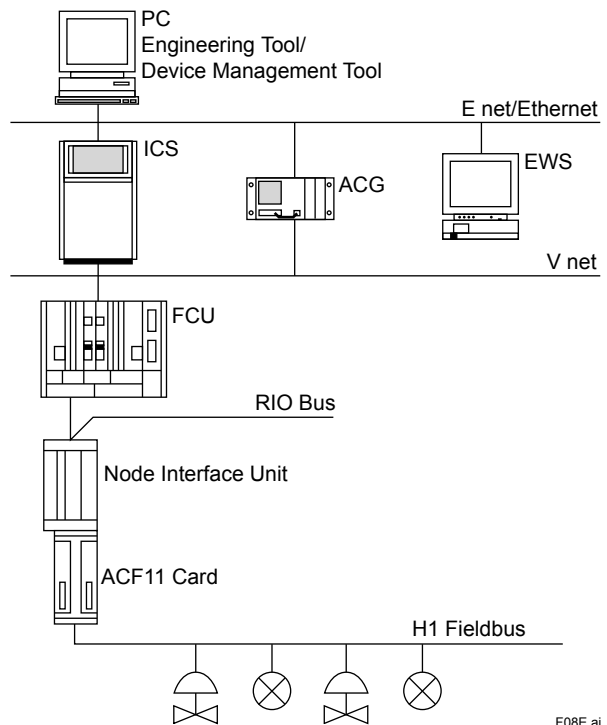


Figure Fieldbus Connection Configuration of CENTUM CS

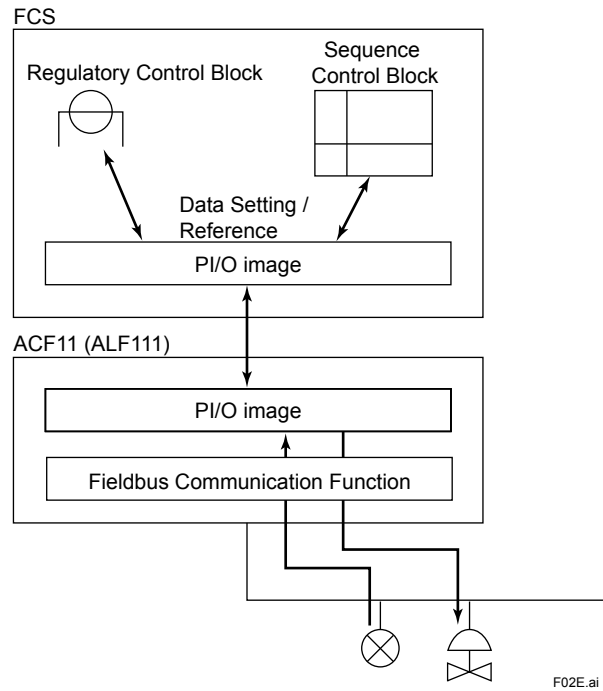
● **Fieldbus Communication Specifications Overview**

**Communications with function blocks**

The fieldbus-ready field devices are connected through the ACF11 (ALF111) installed in the FCS I/O module nest. Field devices' data is stored in the PI/O image area in the ACF11 (ALF111) and sent to the PI/O image area in the FCS. The data is then sent to the I/O terminals of function blocks like analog/digital I/O signals.

See the GS Foundation Fieldbus Communication Package for ACF11 or Foundation Fieldbus Communication Package for ALF111 about Fieldbus communication specifications.

Other fieldbus specifications are the same as those of FOUNDATION Fieldbus.



**Figure Process Data Flow of Fieldbus Communication**

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● **Model SSS5700 Engineering Tool for Fieldbus**

**Specifications**

The Engineering Tool is used for fieldbus engineering, such as defining a part of ACF11 function and fieldbus compliant field devices. It runs on a personal computer connected to a control bus or HIS for builder in the CENTUM VP/CS 3000/CS 1000 systems; it runs on a personal computer connected to the E net/Ethernet of the CENTUM CS systems. With the tool, the users can graphically define a device's parameters, inter-instrument data connections, the sequence and period of data connections.

If the tool is connected with CENTUM CS, it can send and automatically map the setting data made by the tool to the builders in CENTUM CS. This will facilitate the connection between Fieldbus devices and function blocks on an FCU.

If an ALF111 is used in a CENTUM VP/CS 3000 system, you can use Fieldbus Builder provided with Standard Builder Function for engineering the fieldbus, therefore the tool is not needed.

**Features**

The Engineering Tool for Fieldbus consists of the following features:

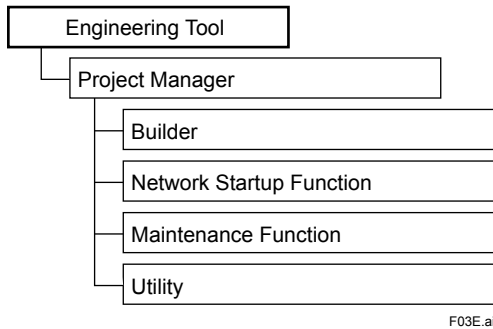


Figure Engineering Tool for Fieldbus

**Project Manager**

Manages all elements and functions of Engineering Tool.

**Builder**

Creates the setting data of field devices' function block application function and ACF11's communication function. It is used to:  
 Register fieldbus devices;  
 Define network configuration;  
 Create function blocks of fieldbus devices;  
 Set parameters of function blocks of fieldbus devices and communication scheduling.

**Network Startup Function**

Downloads the builder-defined data to field devices and ACF11.  
 Executes Tag Assignment and Address Assignment.

**Maintenance Function**

Uploads parameters such as fieldbus function blocks from fieldbus devices.

**Utility**

Provides print and security functions.

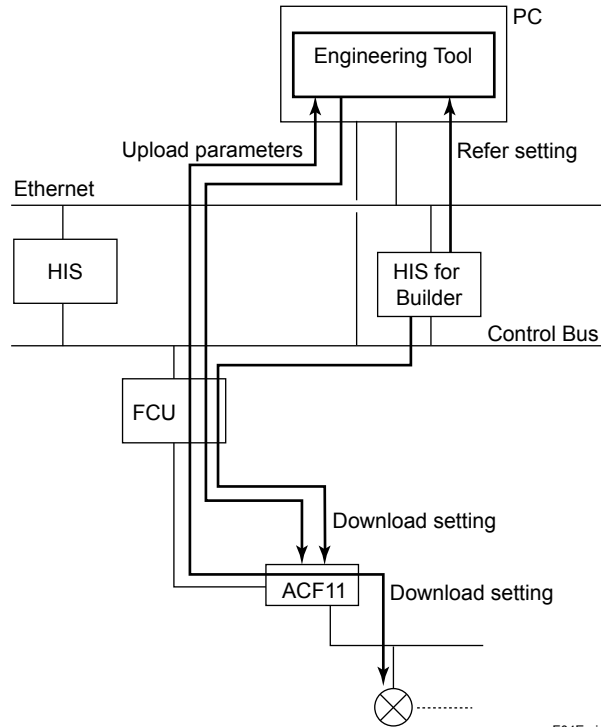


Figure Data Flow in Engineering Tool of CENTUM VP/CS 3000/CS 1000

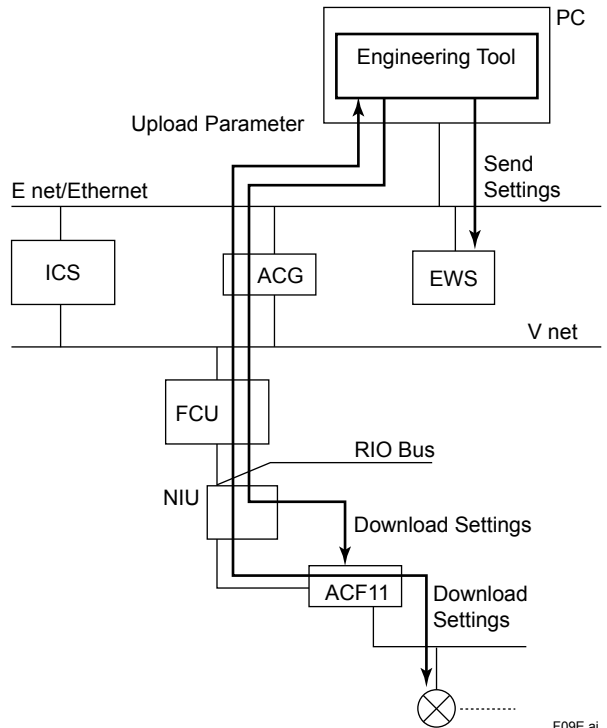


Figure Data Flow in Engineering Tool of CENTUM CS

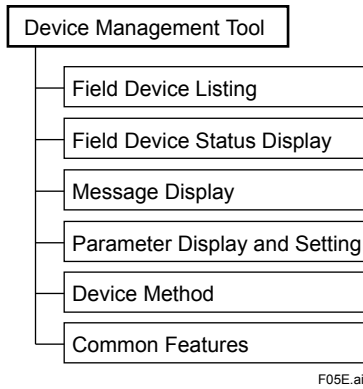
**● Model SSS6700 Device Management Tool for Fieldbus**

**Specifications**

The Device Management Tool monitors and manages the fieldbus-connected devices. It runs on a personal computer connected to a control bus or HIS for builder in the CENTUM VP/CS 3000/CS 1000 systems; it runs on a personal computer connected to the E net/Ethernet of the CENTUM CS systems. With the tool, the users can monitor, manage field devices (sensors, positioners and analyzers) on a fieldbus, display, define and maintain parameters. The tool also has the function to automatically read messages from field devices on a fieldbus via HIS (ICS), which allows total management of fieldbus devices.

**Features**

The Device Management Tool for Fieldbus consists of the following features:



**Figure Device Management Tool for Fieldbus**

**Field Device Listing**

Manages field devices and lists the defined data for devices.

**Field Device Status Display**

Displays field device status, READY/NOT\_READY.

**Message Display**

Displays messages from field devices and ACF11 or ALF111 by acquiring alarms and events of field devices from HIS (ICS) historical message files.

**Parameter Display and Setting**

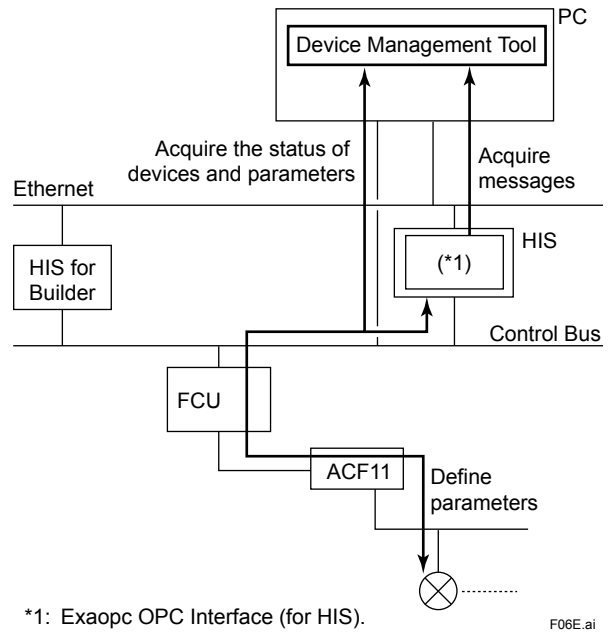
Displays the parameters of function blocks in field devices and changes them if possible. Tuning parameters are also displayed and changed.

**Device Method**

Runs control procedures configured by the device vendors. It describes procedures to run specific features for the device such as calibration and reset.

**Common Features**

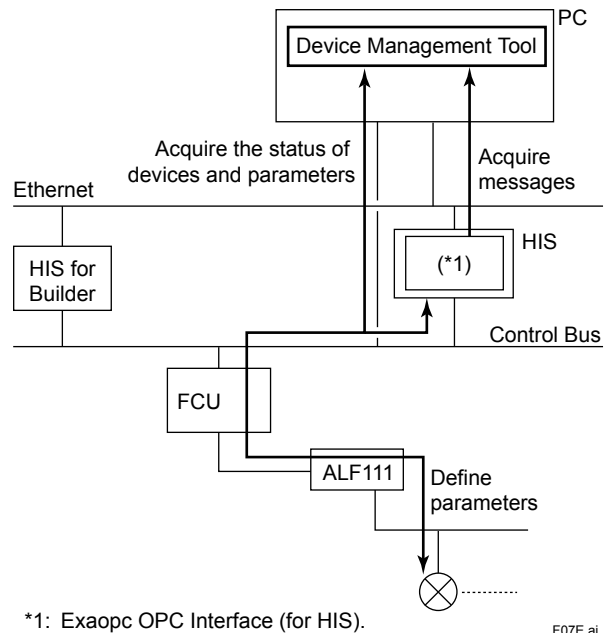
Displays the device management history of field devices, prints reports, and provides security function.



\*1: Exaopc OPC Interface (for HIS).

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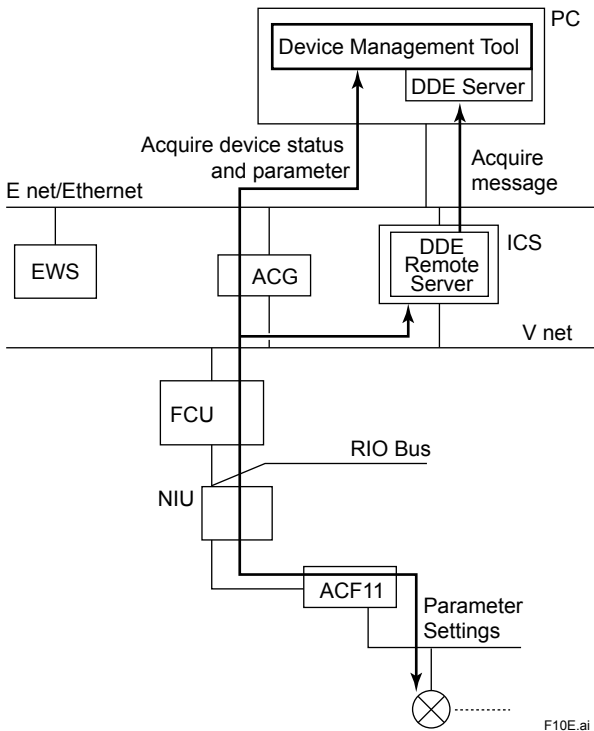
**Figure Data Flow of Device Management Tool of CENTUM VP/CS 3000/CS 1000 (For using ACF11)**



\*1: Exaopc OPC Interface (for HIS).

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**Figure Data Flow of Device Management Tool of CENTUM VP/CS 3000/CS 1000 (For using ALF111)**



**Figure Data Flow of Device Management Tool of CENTUM CS**

## ■ OPERATING ENVIRONMENT

### ● Hardware Requirements

PC: IBM PC/AT-compatible  
 Main memory: 1 GB or larger  
 Hard disk space: 40 GB or bigger  
 (1 GB or bigger free space)  
 CPU: Pentium III 1 GHz or faster  
 Interface card: Ethernet card  
 For CENTUM VP/CS 3000/CS 1000:  
 Control bus interface card (VF701, VI701)

### ● Software Requirements

Windows Vista Business Edition SP1  
 Windows XP Professional SP2  
 Windows XP Professional SP3  
 Windows Server 2003 R2 Standard Edition SP2  
 Windows Server 2003 Standard Edition SP2

All of the above support only 32 bit OS.

### ● Supported Device Files

- DD file: Version 5
- Capabilities file: Version 1.8

### ● Others

To use the Device Management Tool, the following packages are required:

#### For CENTUM VP/CS 3000/CS 1000:

LHS2411/PHS2411 Exaopc OPC Interface Package (for HIS)

#### For CENTUM CS:

- SHW5860, SIH5860 or SIU5860 DDE Communication Builder
- SIH2410 or SIU2410 DDE Remote Server Package
- SSS2410 DDE Server Package

**■ MODELS AND SUFFIX CODES**

		Description
<b>Model</b>	SSS5700	Engineering Tool for Fieldbus [Media model: SSSSM01-C11]
<b>Suffix Codes</b>	-S	Basic Software License
	-C	Multiple Software License (for 2 or more computers)
	1	Always 1
	1	English version

		Description
<b>Model</b>	SSS6700	Device Management Tool for Fieldbus [Media model: SSSSM01-C11]
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**■ ORDERING INFORMATION**

Specify model and suffix codes.

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