# General Specifications

Model LHS1100, LHM1101
Standard Operation and Monitoring Function

CENTUM VP

**GS 33K05D10-50E**

***[Release 5]***

## ■ GENERAL

*Standard Operation and Monitoring Function has various functions required to monitor plant operation. A variety of special views can be used according to a purpose of operation and monitoring. For alarm management, Consolidated Alarm Management Function (CAMS for HIS) can be selected in addition to a regular alarm management. By selecting the CAMS for HIS it is possible to manage alarms in further advanced approach.*

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Tel.: 81-422-52-5634 Fax.: 81-422-52-9802

GS 33K05D10-50E

11th Edition Nov. 27, 2015(YK)

# ■ FUNCTION SPECIFICATIONS

## ● Operation Screen Mode

HIS provides two operation screen modes. In each mode, HIS displays views such as the Graphic View or the Trend View.

**Full-Screen Mode**

In this mode, HIS displays a frame that consists of several views assigned for a certain function or purpose. On HIS, a number of tabbed frames can be displayed and overlapped in full-screen mode. In this mode, a Pop-Up Window such as a Faceplate View can be displayed in front of the frame.

Number of Frames: Maximum 5 per monitor
Number of Pop-Up Window:
Maximum 4 per HIS.
If LHS4600 Multiple-Monitor Support package is installed in the computer, maximum is 8 per HIS.

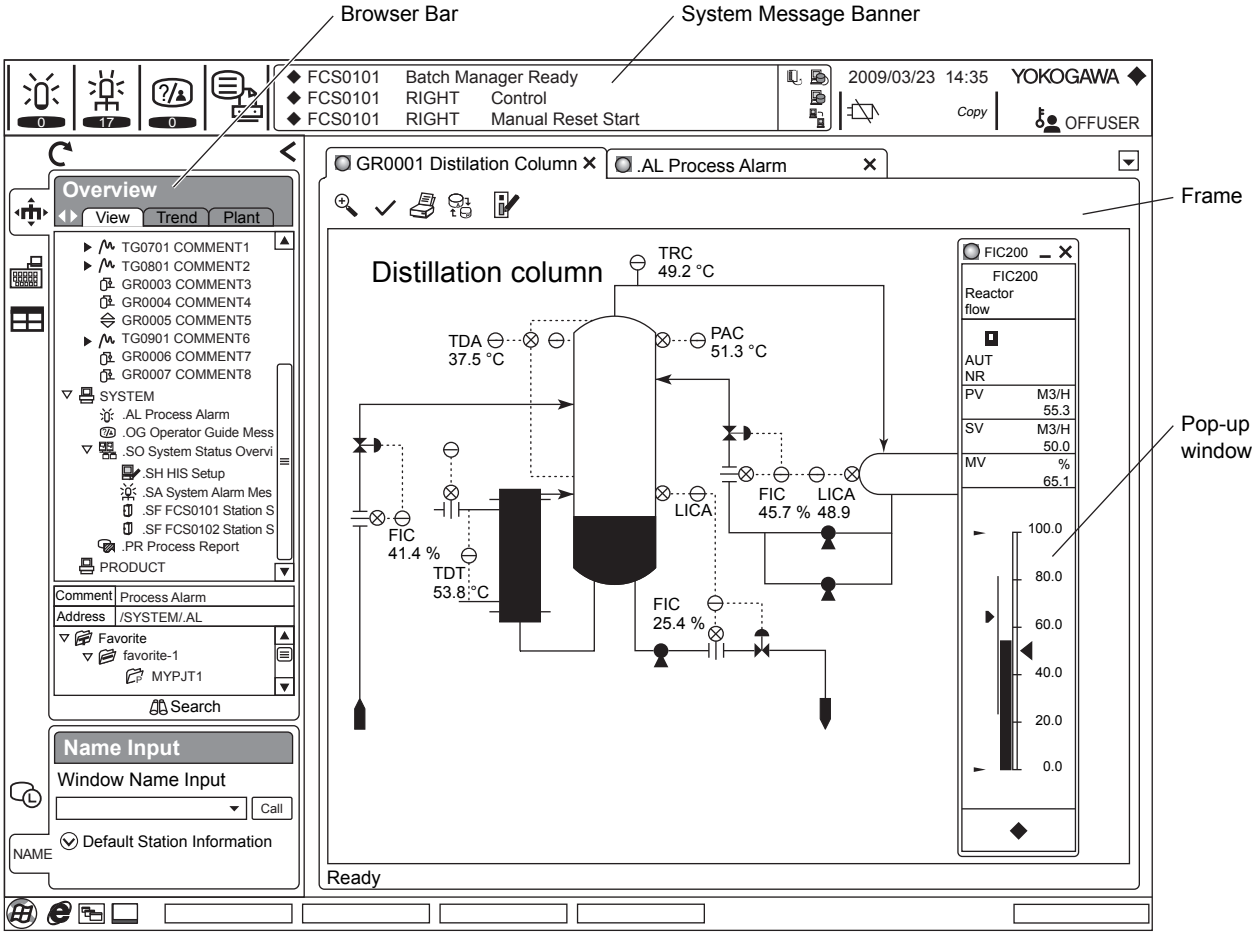


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**Figure Display in Full-Screen Mode**

**Window Mode**

In this mode, several windows can be displayed in cascade style of Microsoft Windows so that the windows are overlapped. Each window contains only one view.

Number of Windows: Maximum 5.

If LHS4600 Multiple-Monitor Support package is installed in the computer, maximum is 12.

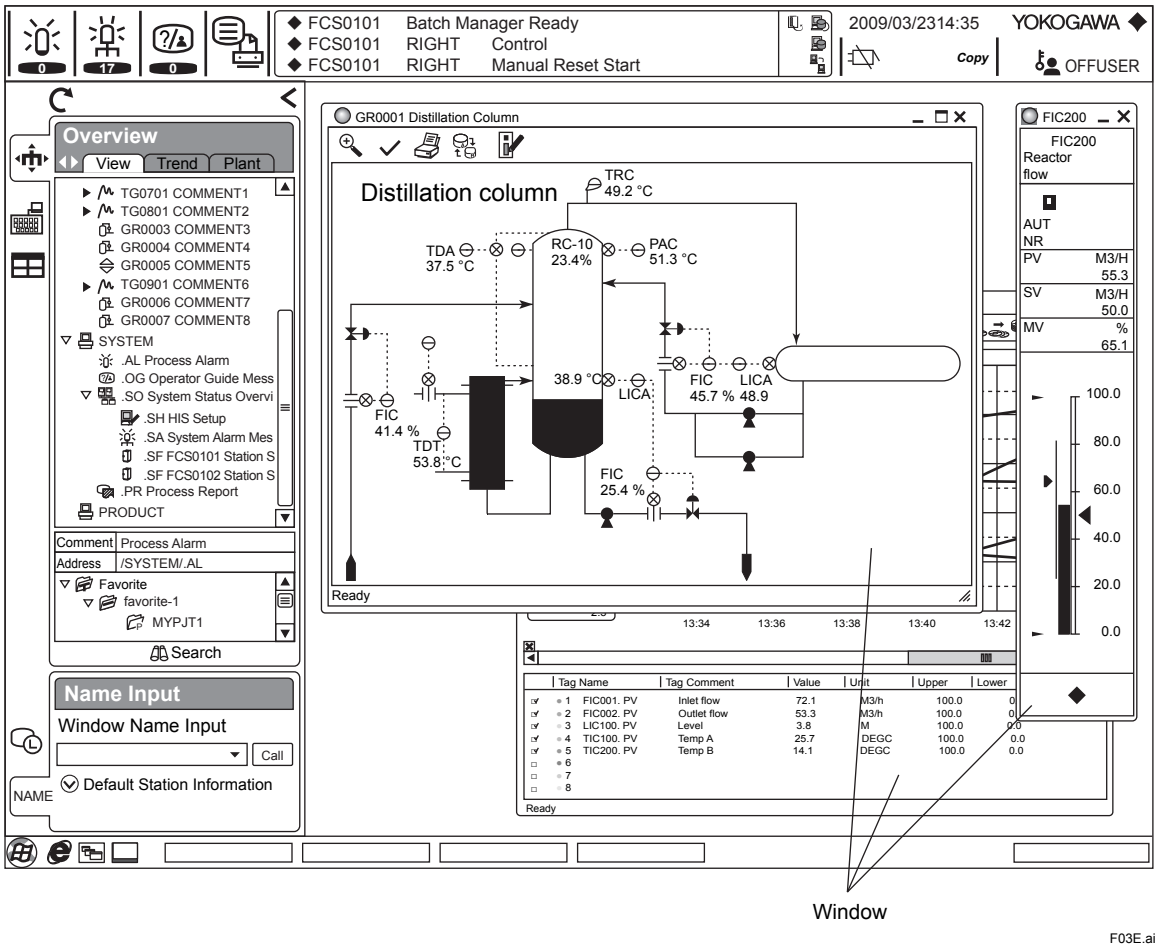


**Figure Display in Window Mode**

The System Message Banner is always displayed at the top of the display, and expresses the alarm occurrence status visually. The Browser Bar is displayed in the left or right side of the screen, and has the role as the launcher to call up various operation and monitoring windows.

## ● Operation and Monitoring Windows

**Graphic View**
Displays graphics and display format of user-defined process data.

Displayed Process Data: Up to 400 data per view (including modifiers)
Data Display Format: Numerical data, graphs and faceplates, etc.
Modifiers: Up to 200 data per view
Types of Modifiers: Color change, flashing, reverse video, character string change, etc.
Display Colors: True Color

- Graphic Attribute
  Display process data along with a process flow chart or to call up various views that are targets of operation and monitoring.
- Overview Attribute
  Displays a process status list, checks alarm status and calls the related views.
  Number of Elements to be Monitored: Up to 64 per view
- Control Attribute
  Displays the status of function blocks and elements as instrument faceplates, from which you can operate and monitor them.
  Number of Instrument Faceplates: Up to 16 per view

**Trend View**
Displays trend data acquired by the Trend Recording Functions.

Number of Displayed Pens: Up to Eight pens per view
Number of Views: Up to 800 per HIS

**Trend Point View**
Displays one of pens assigned on the Trend View.

Number of Displayed Pens: One pen per view.
Number of Views: Up to 6400 per HIS

**Tuning View**
Displays and monitors an instrument faceplate of a function block or element and parameters.

Number of Instrument Faceplates: One per view

- Tuning Trend
  When the Tuning View is displayed, tuning trend data acquisition starts. When closed, data acquisition stops. To continue data acquisition after the view is closed, use the Reserve function.

**Table Tuning Trend Specifications**

| Items | | Specifications |
|---|---|---|
| **Recording Data** | | PV (CPV), SV, MV, FV, SW |
| **Acquisition Cycle** | | 1 sec |
| **Reserve Function** | **Points** | 16 points |
| | **Recording Time** | 48 min (2880 data per point) |
| | **Acquisition Method** | Continuous-Rotary Type |

**Operator Guide View**
Displays the latest operator guide message on top.

Saved Messages: 40 messages per HIS.

**Process Alarm View**
Displays the latest process alarm and annunciator message occurred in an operation group on top.

Saved Alarm: 200 alarms per HIS

**Sequence Table View**
Displays the process status and condition true/false status of sequence tables in different color.

**SFC View**
Displays the process status of SFC blocks and unit instruments.

**Table Views**

| View name | Max. No. of Views |
|---|---|
| **Graphic View**<br>**Graphic Attribute**<br>**Overview Attribute**<br>**Control Attribute** | 4000 (*1) |
| **Trend View** | |
| **Trend Point View** | 6400 |
| **Tuning View** | 100000 |

*1: Trend View can use up to 800 of 4000.

**Data Update Period**
Standard: 1sec.
The update period can be defined for each Graphic View (integer only).

## ● Trend Recording Functions

Acquires process data and displays them on the Trend View and Trend Point View. The Trend View displays eight points, and the Trend Point View displays one of the points assigned on the Trend View.

**Trend Recording Blocks**
Block: Minimum “unit” for trend recording.
Number of Acquisition Points: 128 per trend recording block
Number of Acquisition Data: 2,880 per acquisition point
Recording Time: See Table “Trend Recording Specifications.”

**Number of Trend Recording Blocks**
Up to 50 blocks per HIS, but up to 34 blocks for local HIS

**Number of Other HISs’ Trend Recording Blocks that can be Displayed**
Up to 50 blocks, including local HIS blocks

**Number of Trend Recording Input Points**
Up to 4,352 points (34 trend recording blocks), including one- and ten-second trend acquisition points

**Number of One- and 10-second Trend Acquisition Points**
Up to 2,048 points (16 trend recording blocks) (*1)
*1: One-second trend acquisition points per FCS
For AFV30□/AFV40□: 1024 points
For other FCS: 256 points

**Data Acquisition Scan Period**
Specify same data acquisition period for all 128 points in a block.

**Table: Data Acquisition Method**

| Data acquisition method | How to start data acquisition | When memory is full | How to stop data acquisition |
|---|---|---|---|
| **Continuous-Rotary Type** | Acquires trend regularly after HIS starts | Old data is overwritten with new data | Data acquisition cannot be stopped |
| **Batch-Stop Type** | By acquisition start command | Acquisition stops | Send data acquisition stop command. When memory is full, data acquisition stops. |
| **Batch-Rotary Type** | By acquisition start command | Old data is overwritten with new data | Send data acquisition stop command |

**Trend Save**
You can save the data acquired by the Trend Recording function in a specified file. The saved data can be displayed on the Trend View.

**Table: Trend Recording Specifications**

| Scan Period | Recording Time |
|---|---|
| 1 sec (*1) | 48 min |
| 10 sec | 8 hours |
| 1 min | 2 days |
| 2 min | 4 days |
| 5 min | 10 days |
| 10 min | 20 days |

*1: The process data of μXL can not be acquired and displayed at 1 sec period.

## ● Tag Name Specifications

Number of Tags:
Up to 100000 per system (When using LHS4000, up to 1000000 per system). (If LHS1100 is used)
Up to 8000 per system (LHS4000 Million Tag Hardling Package is not available). (If LHM1101 is used)
Tag Name: Std. 8 characters, max. 16 alphanumeric characters (capital letters only for the English alphabet), [ _ ] (underscore) and [-] (hyphen).
Tag Comment: Max. 24 characters

## ● Operation Support Functions

**Process Report**
- Tag Status Report
  Displays and prints the status of function blocks and tag-based common switches in the FCS.
- I/O Report
  Displays and prints the bit map image of annunciator, common switches, and digital input/output.

**Historical Message Report**
Displays and prints up to about 50,000 (10 MB) past alarms and operation history.

140 Byte / 1 Historical Message

**Hard Copy Function**
Prints the displayed data on a printer and saves it in a file.

**Security**
Protects system by restricting access with the following security functions:
authentication of authorized individuals by user name and password; setting the validity of password; setting the number of break-ins (alert when wrong operations for authentication are performed continuously more than the number of times set previously, and so on); and automatic user shut-out function (automatically shutting user out when keyboard or mouse is not used at the time set previously. Up to 250 users can be registered.

**Windows Desktop Environment Change**
Hides icons and other items from an Windows desktop to provide appropriate desktop as an HMI of DCS.

## ● System Maintenance Functions

Displays the operating status of system components such as HIS or FCS. System maintenance functions include:
- System Status Overview
- FCS Status Display
- System Alarm Message Display
- HIS Settings:
  equalization function
  operation mark settings
  function key assigment and definitions
  etc
- Time Setting

## ● Buzzer Sounds

The HIS produces the following types of buzzer sounds. (The speaker built in the operation keyboard is used as the output device by default; however, the speaker in the computer or the output of the installed sound card can also be used.) By using these buzzer sounds, alarms and contents of messages (alarm types, priority levels, and alarm sources) can be distinguished aurally.

Buzzer sound: Alarms, message sounds
Operation sound: Key/touch panel operation sounds

**Table: Buzzer Sounds**

| Classification | Alarm Types |
|---|---|
| System Alarm | System Alarm |
| Process Alarm | Process Alarm High Priority |
| | Process Alarm Medium Priority |
| | Process Alarm Recover |
| Message | Operation Guide |
| | Reconfirmation |
| | Mis-Operation |

## ● Access Administrator (FDA: 21 CFR Part 11 compliant)

By using both the security functions and historical message report functions described above, a system can be compliant with “Personnel Authentication” and “Audit trail” that the requirement of an operator management stated in FDA: 21 CFR Part 11.

For details of the compliance with FDA: 21 CFR Part 11, refer to CENTUM VP System Overview (GS 33K01A10-50E) and LHS5170 Access Administrator Package (FDA: 21 CFR Part 11 compliant) (GS 33K10D40-50E).

## ■ CONSOLIDATED ALARM MANAGEMENT SOFTWARE FUNCTION (CAMS for HIS)

The Consolidated Alarm Management Software (CAMS for HIS) integratively manages various alarm and event messages and displays them in a single window. In case a lot of alarms and events are generated it selectively displays only necessary alarm and event messages, which enables operators to manage them efficiently. Customization of operator notifications and definitions of alarm behaviors that CAMS for HIS processes can also be defined through engineering work.

The CAMS for HIS acquires various kinds of real-time alarms and events which occur in the CENTUM VP and other systems connected to the CENTUM VP. Those alarms and events are notified to operators with identifiers used for sorting such as purposes, user name, time allowed for response, and alarm priorities; and additional information such as cause of alarms and how to handle them. Operators sort a wide variety of alarms and events occurred in the plant by the identifiers, using the CAMS for HIS filtering and sorting, so that the alarms are delivered to the operators at the right timing. As a result, operators are able to perform safer, more efficient operation.

The CAMS for HIS conforms the specifications defined by EEMUA (Engineering Equipment and Materials Users' Association) No. 191 that contains a set of guidelines for alarm management.

The CAMS for HIS can be enable or disable during operation.

Major Functions of the CAMS for HIS are shown in the following:

**Acquire a Wide Variety of Alarms and Events**
Alarms and events generated by the CENTUM VP can be acquired as well as the systems connected to the CENTUM VP, and integrates them on HIS.

**Scope of Comprehensive Management**

| System | Acquisition Route |
|---|---|
| CENTUM VP (*1)<br>ProSafe-RS (*1)<br>CENTUM CS 3000<br>CENTUM CS 1000<br>CENTUM CS | Via control bus |
| PRM<br>STARDOM | Via OPC A&E server |

*1: The attributes of the alarms and events can be defined.

**Define Alarms and Events Attribute**
For acquired alarms and events, the attributes can be defined as the additional information (e.g., cause of alarms and countermeasures) and the identifiers (e.g., purposes, alarm priority and allowed time for response) for filtering and sorting the message.

**Suppress Alarms and Events**
Unnecessary alarms and events can be suppressed. So, they do not appear on the CAMS for HIS Message Monitor. Alarm suppression is done all at once when those are generated during the plant equipment's maintenance or changeover.

**Supervise Alarm and Event Messages**
By using the CAMS for HIS, operators can integrate process alarms, system alarms and operation guide messages, which used to be supervised on different windows, on one window (CAMS for HIS Message Monitor). In order to enable operators to monitor only necessary information for themselves in the most suitable timing out of a great variety of alarms and events given out from plants, the CAMS for HIS Message Monitor has the following functions:

- Filtering
  A function to filter (narrow down) displayed/monitored messages by each identifier (user name, plant hierarchy title, purpose alarm priority, etc.) included in messages.
- Sorting
  A function to sort messages to be displayed/monitored by each identifier (time of occurrence, allowed time for response, alarm priority, etc.) included in messages.
- Eclipsing
  A function to fold and display a number of alarm messages given out from one same tag in the most important alarm message. It is effective to limit the display of repeated alarms (HI alarm chattering, etc.) and less important alarms (HI alarms during HH alarm issuance, etc.).
- Shelving
  A function to move messages with low priority to another folder to shelve them temporarily or for a certain period of time. By specifying the shelving time, it is possible to clear alarms out of main A&E Message Pane collectively.
- Load Shedding
  A function to automatically activate filtering specified beforehand to prevent floods of alarms and events in order to reduce operators' monitoring load and to prevent overlook of important alarms and false operation, in case a number of alarms and events happen to be given out in a short period of time.

**Design Check for Alarm System (EEMUA No. 191 Compliance)**
A function to give out virtual alarms and events to test if an alarm system is designed properly or not.

**Alarm and Event Historian Saving**
A function to save alarm and event as a historical file for a certain period of time including attributes added by CAMS for HIS. The CAMS for HIS operation history including suppression, shelving, confirmation and manual recovery is also saved as event messages.

**Alarm Setpoint Management of CAMS for HIS**
The CAMS for HIS has functions for supporting the alarm setpoint management.

- Alarm setpoints can be defined using CAMS for HIS Alarm builder, and all the alarm setpoints can be set in one operation to each FCS.
- CAMS for HIS compares and manages the difference of alarm setpoint values between FCS and the CAMS for HIS Alarm builder.

## ● HIS Operation with Effective CAMS for HIS

In the effective CAMS for HIS, windows related to alarms and events are aggregated into the CAMS for HIS Message Monitor. The following is the difference from ineffective CAMS for HIS.

**Operation to Call Various Message Windows**
When a process alarm view, system alarm view and operation guide view shown below is called, the CAMS for HIS Message Monitor is always called.

- Call from System Message banner
  When a call button for process alarm view, system alarm view and operation guide view is pressed, the CAMS for HIS Message Monitor is called with filters for each alarm and event selected.
- Call from Operation Keyboard
- Window Call from Function Key
- Call by Direct Specification of Window
  Parameter specification such as window size and position specification shall be ineffective.

**Display of Alarms and Events**
When the CAMS for HIS is enabled, the following views are to reflecting the alarm status displayed on the CAMS for HIS Message Monitor.

- System Message Banner
- Instrument Faceplate, Tuning View
- Graphic View

**Message Printing**
When an alarm is issued, every message is printed out regardless of the CAMS for HIS Message Monitor operation.

## ● CAMS for HIS Specification

The CAMS for HIS major specifications are shown below:

Number of HIS: Maximum 100 units/project
Number of alarms stored: Maximum 2000
Disk capacity for historical data: 20GB

## ● Note

In order to use LHS4700 Advanced Alarm Filter Package, the CAMS for HIS needs to be disabled.

## ■ OPTIONAL SOFTWARE PACKAGES

The following optional software packages are available to add on to Standard Operation and Monitoring Function.

LHS1140 Eight-loop Simultaneous Operation Package (for AIP831) (*1)
LHS2411 Exaopc OPC Interface Package (for HIS)
LHS2412 CENTUM Data Access Library
LHS4000 Million Tag Handling Package (If LHS1100 is used)
LHS4100 Configured information Reference Package
LHS4150 Recorder Output Package
LHS4190 Line Printer Support Package
LHS4200 Consolidated Historical Message Viewer (Meeting FDA)
LHS4410 Control Drawing Status Display Package (If LHS1100 is used)
LHS4420 Logic Chart Status Display Package (If LHS1100 is used)
LHM4410 Control Drawing Status Display Package (If LHM1101 is used)
LHM4420 Logic Chart Status Display Package (If LHM1101 is used)
LHS4450 Multiple Projects Connection Package
LHS4600 Multiple-monitor Support Package
LHS4700 Advanced Alarm Filter Package
LHS5427 HIS Simulator Package
LHS6510 Long-Term Data Archive Package
LHS6530 Report Package
LHS6660 Process Management Package (VP Batch) (If LHS1100 is used)
LHS6710 FCS Data Setting / Acquisition Package (PICOT) (If LHS1100 is used)
LHM6660 Process Management Package (VP Batch) (If LHM1101 is used)
LHM6710 FCS Data Setting / Acquisition Package (PICOT) (If LHM1101 is used)

*1: When using AIP831 Operation Keyboard for Eight-loop Simultaneous Operation, LHS1140 is required.

# ■ OPERATING ENVIRONMENT

## ● Hardware Requirements

Hardware requirements for LHS1100, LHM1101 Standard Operation and Monitoring Function package are described in this section.

As to the hardware requirements for LHS1150, LHM1150 Server for Remote Operation and Monitoring Function package (GS 33K05D20-50E), and LHS5100, LHM5100 Standard Builder Function package (GS 33K10D10-50E), see the corresponding General Specifications.

The Standard Operation and Monitoring Function runs on a computer which meets the following requirements:

**For Windows 7**

| | | |
|---|---|---|
| CPU | Required | Core2 Duo minimum 2.13 GHz<br>Xeon dual core minimum 2.0 GHz |
| Main memory | Required | 6 GB |
| Hard disk | Required | Free space of minimum 40 GB (*1) |
| | Recommended | Free space of minimum 60 GB (*1) |
| Display | Required | Minimum SXGA (1280x1024) resolution, True Color (min. 16.77 million colors) |
| | For wide screen | Minimum WXGA+ (1440x900) resolution, True Color (min. 16.77 million colors) |
| Graphics | Required | DirectX 9-class GPU (Graphics Processing Unit) that supports<br>• A WDDM(Windows Driver Display Model) Driver<br>• Pixel Shader 2.0 in hardware<br>• 32 bits per pixel<br>• 128 MB Graphics memory |
| Expansion slot | Required | 1 slot is used for control network interface (*2) |
| Mouse | Required | |
| Optical disc drive | Required | DVD-ROM |

*1: When the optical software package (Long-term Data Archive Package) is used, see also the GS Long-term Data Archive Package (GS 33K05J10-50E).
When SOE Server Package is used, see also the GS SEM Sequence of Events Manager (GS 33K30D10-50E or GS 33K30D20-50E).

*2: VI702 or VF702 is required for control network interface card.

**For Windows Vista**

| | | |
|---|---|---|
| CPU | Required | Core2 Duo minimum 2.13 GHz<br>Xeon dual core minimum 2.0 GHz |
| Main memory | Required | 4 GB |
| Hard disk | Required | Free space of minimum 40 GB (*1) |
| | Recommended | Free space of minimum 60 GB (*1) |
| Display | Required | Minimum SXGA (1280x1024) resolution, True Color (min. 16.77 million colors) |
| | For wide screen | Minimum WXGA+ (1440x900) resolution, True Color (min. 16.77 million colors) |
| Graphics | Required | DirectX 9-class GPU(Graphics Processing Unit) that supports<br>• A WDDM(Windows Driver Display Model) Driver<br>• Pixel Shader 2.0 in hardware<br>• 32 bits per pixel<br>• 128 MB Graphics memory |
| Expansion slot | Required | 1 slot is used for control network interface (*2) |
| Mouse | Required | |
| Optical disc drive | Required | DVD-ROM |

*1: When the optical software package (Long-term Data Archive Package) is used, see also the GS Long-term Data Archive Package (GS 33K05J10-50E).
When SOE Server Package is used, see also the GS SEM Sequence of Events Manager (GS 33K30D10-50E or GS 33K30D20-50E).

*2: VI702 or VF702 is required for control network interface card.

### For Windows Server 2008

| | | |
|---|---|---|
| CPU | Required | Xeon dual core minimum 2.93 GHz |
| Main memory | Required | 4 GB |
| Hard disk | Required | Free space of minimum 40 GB (*1) |
| | Recommended | Free space of minimum 70 GB (*1) |
| Display | Required | Minimum SXGA (1280x1024) resolution, True Color (min. 16.77 million colors) |
| | For wide screen | Minimum WXGA+ (1440x900) resolution, True Color (min. 16.77 million colors) |
| Graphics | Required | DirectX 9-class GPU (Graphics Processing Unit) that supports<br>• A WDDM (Windows Driver Display Model) Driver<br>• Pixel Shader 2.0 in hardware<br>• 32 bits per pixel<br>• 128 MB Graphics memory |
| Expansion slot | Required | 1 slot is used for control network interface (*2) |
| Mouse | Required | |
| Optical disc drive | Required | DVD-ROM |

Note: When the OS is Windows Server 2008, note the following restrictions.
• It takes longer time than Windows 7 or Windows Vista to call up graphic views.
• Operation keyboard is required to issue a buzzer.

*1: When the optional software package (Long-term Data Archive Package) is used, see also the GS Long-term Data Archive Package (GS 33K05J10-50E).
When SOE Server Package is used, see also the GS SEM Sequence of Events Manager (GS 33K30D10-50E or GS 33K30D20-50E).

*2: VI702 or VF702 is required for control network interface card.

### For Windows Server 2008 R2

| | | |
|---|---|---|
| CPU | Required | Xeon dual core minimum 2.93 GHz |
| Main memory | Required | 8 GB |
| Hard disk | Required | Free space of minimum 40 GB (*1) |
| | Recommended | Free space of minimum 70 GB (*1) |
| Display | Required | Minimum SXGA (1280x1024) resolution, True Color (min. 16.77 million colors) |
| | For wide screen | Minimum WXGA+ (1440x900) resolution, True Color (min. 16.77 million colors) |
| Graphics | Required | DirectX 9-class GPU (Graphics Processing Unit) that supports<br>• A WDDM (Windows Driver Display Model) Driver<br>• Pixel Shader 2.0 in hardware<br>• 32 bits per pixel<br>• 128 MB Graphics memory |
| Expansion slot | Required | 1 slot is used for control network interface (*2) |
| Mouse | Required | |
| Optical disc drive | Required | DVD-ROM |

Note: When the OS is Windows Server 2008, note the following restrictions.
• It takes longer time than Windows 7 or Windows Vista to call up graphic views.
• Operation keyboard is required to issue a buzzer.

*1: When the optional software package (Long-term Data Archive Package) is used, see also the GS Long-term Data Archive Package (GS 33K05J10-50E).
When SOE Server Package is used, see also the GS SEM Sequence of Events Manager (GS 33K30D10-50E or GS 33K30D20-50E).

*2: VI702 or VF702 is required for control network interface card.

## ● Software Requirements

Software requirements for LHS1100, LHM1101 Standard Operation and Monitoring Function package are described in this section.

As to the software requirements for LHS1150, LHM1150 Server for Remote Operation and Monitoring Function package (GS 33K05D20-50E), and LHS5100, LHM5100 Standard Builder Function package (GS 33K10D10-50E), see the corresponding General Specifications

### Windows OS

| The relations between Windows and CENTUM VP | Windows 7 Professional | Windows Vista Business Edition | Windows Server 2008 Standard Edition | Windows Server 2008 R2 Standard Edition |
|---|---|---|---|---|
| | 64-bit | 32-bit | 32-bit | 64-bit |
| | SP1 | SP2 | SP2 | SP1 |
| R5.01 | Yes | Yes | Yes | Yes |
| R5.02 | Yes | Yes | Yes | Yes |
| R5.03 | Yes | Yes | Yes | Yes |
| R5.04 | Yes | Yes | Yes | Yes |

Note: Service Pack is abbreviated as SP (Example: SP1 stands for Service Pack 1).
Yes: Compatible
No: Incompatible

The following software is required for some packages used with LHS1100, LHM1101 Standard Operation and Monitoring Function package.

As to the required versions for respective software, refer to the tables below.

### Windows Internet Explorer

| The relations between Internet Explorer and CENTUM VP | Internet Explorer | | |
|---|---|---|---|
| | 8.0 | 9.0 | 11.0 |
| R5.01 | Yes | Yes | Yes |
| R5.02 | Yes | Yes | Yes |
| R5.03 | Yes | Yes | Yes |
| R5.04 | Yes | Yes | Yes |

### Microsoft Visual Studio

| The relations between Microsoft Visual Studio and CENTUM VP | Microsoft Visual Studio | |
|---|---|---|
| | 2008 SP1 | 2012 |
| R5.01 | Yes | No |
| R5.02 | Yes | No |
| R5.03 | Yes | No |
| R5.04 | Yes | Yes |

### Microsoft Excel

| The relations between Microsoft Excel and CENTUM VP | Microsoft Excel | | | | | |
|---|---|---|---|---|---|---|
| | 2007 | | 2010 | | | 2013 |
| | 32-bit | | 32-bit | | | 32-bit |
| | SP2 | SP3 | without SP | SP1 | SP2 | SP1 |
| R5.01.00 | Yes | No | Yes | Yes | No | No |
| R5.01.10 | Yes | No | Yes | Yes | No | No |
| R5.01.20 | Yes | Yes | Yes | Yes | No | No |
| R5.02 | Yes | Yes | Yes | Yes | No | No |
| R5.03.00 | Yes | Yes | Yes | Yes | Yes | Yes (*1) |
| R5.03.20 | Yes | Yes | No | Yes | Yes | Yes (*1) |
| R5.04 | No | Yes | No | No | Yes | Yes (*2) |

*1: In case the Report Package is used with Microsoft Excel 2013, please contact Yokogawa for more details.
*2: In case of using Microsoft Excel 2013, please use a Microsoft Open License.

### Adobe Acrobat

| The relations between Adobe Acrobat and CENTUM VP | Adobe Acrobat | | | | |
|---|---|---|---|---|---|
| | 9.4 | 9.5 | X (10.1) | XI (11.0) | DC |
| R5.01 | Yes | Yes | Yes | No | No |
| R5.02 | No | Yes | Yes | No | No |
| R5.03 | No | Yes | Yes | Yes (*1) | No |
| R5.04 | No | Yes | Yes | Yes (*1) | Yes (*2) |

*1: Adobe Acrobat XI (11) does not support Windows Vista.
*2: Adobe Acrobat DC performs on Microsoft Windows OS that is Windows 7 and Windows Server 2008 R2 or later.

## ■ MODEL AND SUFFIX CODES

**Standard Operation and Monitoring Function (for New Installation)**

| | | Description |
|---|---|---|
| **Model** | LHS1100 | Standard Operation and Monitoring Function for New Installation [Media model: LHSKM50-V11] |
| **Suffix Codes** | -V | Software License |
| | 1 | For computer |
| | 1 | English Version |
| **Option Codes** | /N0001 | The total control station is 1 station |
| | /N0003 | The total control stations is 3 stations or less |
| | /N0004 | The total control stations is 4 stations or less |
| | /N0099 | The total control stations is 5 stations or more |

Note: Specify optional code " /N□□□□" which determines the number of FCSs that can be operated and monitored.
Count the number of all the FCSs in the same project. The number of SCSs (Safety Control Stations) can be ignored as those can be operated and monitored without counting. When LHS5450/LHS4450 Multiple Project Connection Package (GS 33K05K20-50E) is applied, the FCSs in other projects can be operated and monitored without counting as well.

| | | Description |
|---|---|---|
| **Model** | LHM1101 | Standard Operation and Monitoring Function for New Installation (for CENTUM VP Entry Class) [Media model : LHSKM50-V11] |
| **Suffix Codes** | -V | Software License |
| | 1 | For computer |
| | 1 | English Version |
| **Option Codes** | /N0003 | The total control stations is 3 stations or less |
| | /N0005 | The total control stations is 5 stations or less |
| | /N0010 | The total control stations is 10 stations or less |
| | /N0064 | The total control stations is 11 stations or more |
| **No Option Code** | | The total control station is 1 station |

Note: Specify optional code " /N□□□□" which determines the number of FCSs that can be operated and monitored, or only one FCS is applicable when no option code is specified.
Count the number of all the FCSs in the same project. The number of SCSs (Safety Control Stations) can be ignored as those can be operated and monitored without counting. When LHS5450/LHS4450 Multiple Project Connection Package (GS 33K05K20-50E) is applied, the FCSs in other projects can be operated and monitored without counting as well.

**Standard Operation and Monitoring Function (for Expansion)**

| | | Description |
|---|---|---|
| **Model** | LHS1100 | Standard Operation and Monitoring Function (for Expansion) [Media model: LHSKM50-V11] |
| **Suffix Codes** | -E | Software license for the number of stations added |
| | 3 | To add the number of stations (for computer) |
| | 1 | English Version |
| **Option Codes** | /N0103 | From 1 station to 3 stations or less |
| | /N0104 | From 1 station to 4 stations or less |
| | /N0199 | From 1 station to 5 stations or more |
| | /N0304 | From 3 stations or less to 4 stations or less |
| | /N0399 | From 3 stations or less to 5 stations or more |
| | /N0499 | From 4 stations or less to 5 stations or more |

Note: Order the above model to increase the number of FCSs to be operated and monitored.
Count the number of the FCSs in the same project and specify the option code. Make sure that the description of the option code matches the number of the FCSs when LHS1100 Standard Operation and Monitoring Function (for New Installation) is used. The number of SCSs (Safety Control Stations) can be ignored as those can be operated and monitored without counting. When LHS5450/LHS4450 Multiple Project Connection Package (GS 33K05K20-50E) is applied, the FCSs in other projects can be operated and monitored without counting as well.

| | | Description |
|---|---|---|
| **Model** | LHM1101 | Standard Operation and Monitoring Function (for Expansion) (for CENTUM VP Entry Class) [Media model: LHSKM50-V11] |
| **Suffix Codes** | -E | Software license for the number of stations added |
| | 3 | To add the number of stations (for computer) |
| | 1 | English Version |
| **Option Codes** | /N0103 | From 1 station to 3 stations or less |
| | /N0105 | From 1 station to 5 stations or less |
| | /N0110 | From 1 station to 10 stations or less |
| | /N0164 | From 1 station to 11 stations or more |
| | /N0305 | From 3 stations or less to 5 stations or less |
| | /N0310 | From 3 stations or less to 10 stations or less |
| | /N0364 | From 3 stations or less to 11 stations or more |
| | /N0510 | From 5 stations or less to 10 stations or less |
| | /N0564 | From 5 stations or less to 11 stations or more |
| | /N1064 | From 10 stations or less to 11 stations or more |

Note: Order the above model to increase the number of FCSs to be operated and monitored.
Count the number of the FCSs in the same project and specify the option code. Make sure that the description of the option code matches the number of the FCSs when LHM1101 Standard Operation and Monitoring Function (for New Installation) is used. The number of SCSs (Safety Control Stations) can be ignored as those can be operated and monitored without counting. When LHS5450/LHS4450 Multiple Project Connection Package (GS 33K05K20-50E) is applied, the FCSs in other projects can be operated and monitored without counting as well.

## ■ NOTE

If you want to run general Windows application software on the HIS, ask Yokogawa's sales office about compatibility issues.

## ■ ORDERING INFORMATION

Specify model and suffix codes.

## ■ TRADEMARKS

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