General Specifications

Model LHS6530
Report Package

CENTUM VP

GS 33K05J20-50E

[Release 5]

■ GENERAL

The Report Package imports process data, trend data and closing data of the Human Interface Station (HIS) into Microsoft Excel spreadsheets to generate and print a report. To import data, LHS2411 Exaopc OPC Interface Package (for HIS) is used. When used with LHS5170 Access Administrator Package (FDA: 21 CFR Part 11-compliant) this package enables access control and audit trail management for users to gain access to create and modify any report format. The Report Package is applicable for the following types of report:

Type	Usage	Read data
Hourly report	Exactly on the every hour, the operation result of the past one hour is printed.	Hourly closing data or trend data
Shift report	At the shift change (or number closing) time, the operation result of the past eight hours is printed.	Closing data
Daily report	At the daily closing time of the day, the operation result of the past one day is printed.	Hourly closing data or daily closing data
Weekly report	At the daily closing time of the day at the end of every week, the operation result of the past one week is printed.	Daily closing data
Monthly report	At the daily closing time of the day at the end of every month, the operation result of the past one month is printed.	Daily closing data or monthly closing data
Yearly report	At the daily closing time of the day at the end of every year, the operation result of the past one year is printed.	Monthly closing data
Snapshot report or on-demand report	The operation status upon a print request is printed.	Snapshot of the process variables
Alarm report	Alarm event messages generated within the given period of time that are related on to the specific function block are printed.	Alarm event message
Batch report	The operation result of batch plant processes is printed at the end of batch processes or upon request.	Batch data, trend data, snapshot of process data and alarm or event messages.

● Data Accessed

The Report Package acquires the following data:

Data Type	Data Value	Data Status (*1)	Time of Data	Time When Data Were Generated
Closing data	X	X	X	Periodically at the specified close time
Trend data	X	X	X	Periodically at the specified time of data acquisition
Historical message	X	X	X	Periodically at the specified time of data acquisition
Tag information	X			At the time of printing
Process data (instantaneous values)	X	X		At the time of printing
Batch data	X		X	At the end of batch processes

X: Data to be acquired
*1:   Normal value (GOOD), abnormal value (BAD), questionable value (QUESTIONABLE), no data (NOTHING)

Closing data (*2):   Instantaneous value, average, total, maximum, minimum, maximum occurrence time, minimum occurrence time
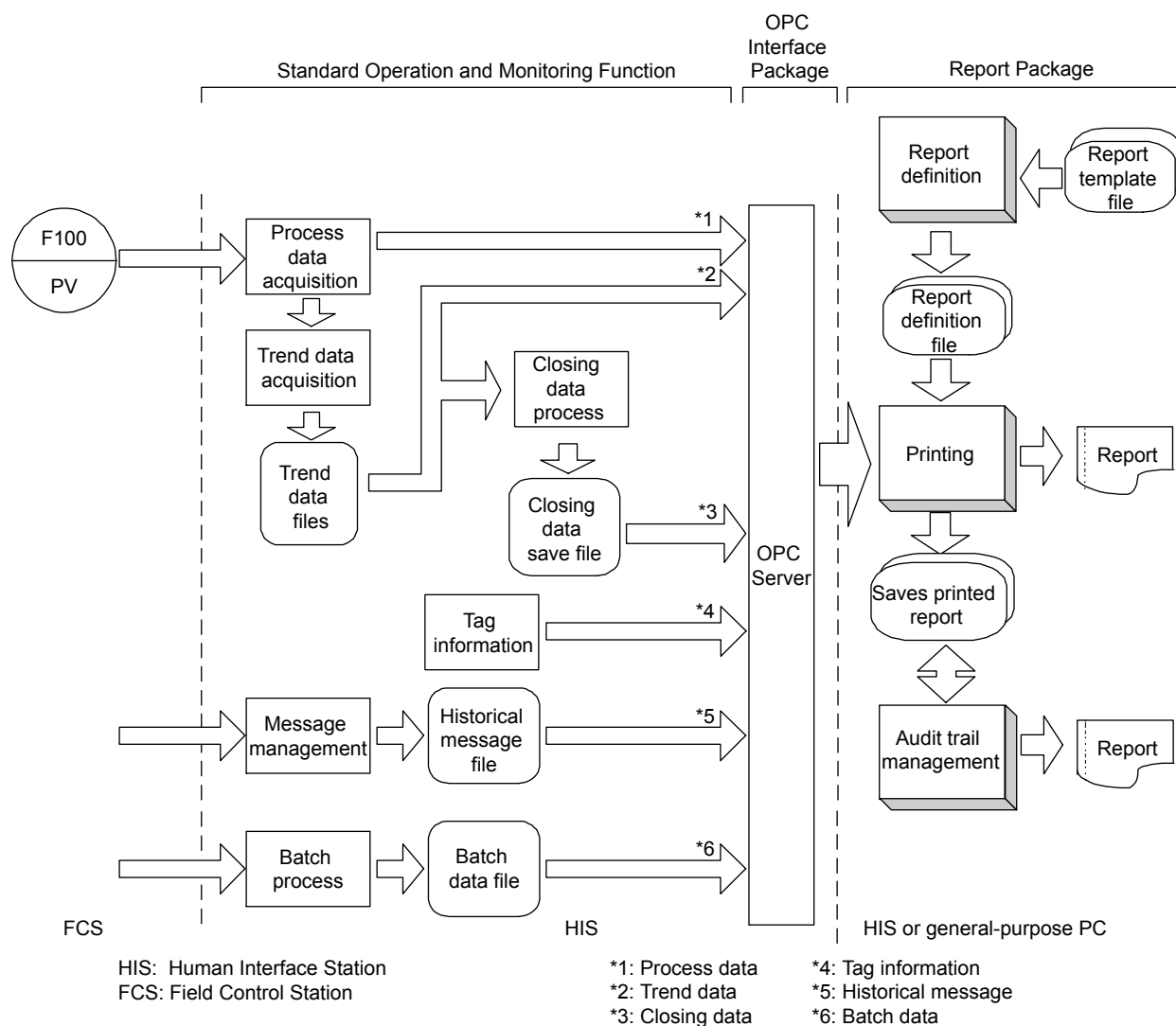Trend data (*2):   Instantaneous value
Historical message (*2): Message
Tag information: Tag name, tag comments
Process data: Instantaneous value
Batch data: Instantaneous value, recipe name, recipe comment, common block data

*2:   Long-term data kept in LHS6510 Long-Term Data Archive Package are included.

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Figure Flow of Report Data

HIS: Human Interface Station
FCS: Field Control Station

*1: Process data
*2: Trend data
*3: Closing data
*4: Tag information
*5: Historical message
*6: Batch data

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Note: Batch reports are printed at the end of batch processes on the HIS where LHS6660 Process Management Package (GS 33K05L15-50E) is installed.

■ FUNCTION SPECIFICATIONS

● Report Definition

Reports are defined on the Microsoft Excel by using the following methods:

 • Use a template
 • Edit a template
 • Define by a user
 • Edit an existing definition file

Up to 1000 reports can be defined including the templates.

The following templates are available.

Type of report	Template	Number of data item	Tag comment engineering unit	Approver's signature space	Average	Total	Max./min.	Max./min. occurrence time	Remarks
Snapshot report	SnapshotReport	36	X	**Upper right**	-	-	-	-	
	SnapshotReport2	200	-	**-**	-	-	-	-	
Hourly report	HourlyReport	12	X	**Upper right**	X	X	X	X	
	HourlyReport2	24	X	**Upper right**	X	X	X	X	Displayed in two columns
Shift report	ShiftReport	12	X	**Upper right**	X	X	X	-	
	ShiftReport2	24	X	**Upper right**	X	X	X	-	Displayed in two columns
Daily report	DailyReport	12	X	**Upper right**	X	X	X	X	
	DailyReport2	12	X	**Lower right**	X	X	X	X	
	DailyReport (row)	12	X	**Upper right**	X	X	X	X	No line
	DailyReport (column)	20	X	**Upper right**	X	X	X	X	Horizontal report with comment column
	DailyReport (graph)	12	X	**Upper right**	X	X	X	X	With line graph
Weekly report	WeeklyReport	12	X	**Upper right**	X	X	X	-	
	WeeklyReport2	24	X	**Upper right**	X	X	X	-	Displayed in two columns
	WeeklyReport (graph)	12	X	**Upper right**	X	X	X	-	With circle graph
Monthly report	MonthlyReport	12	X	**Upper right**	X	X	X	X	
Yearly report	YearlyReport	12	X	**Upper right**	X	X	X	-	
Alarm report	Alarm report	-	-	**-**	-	-	-	-	
Trend report	TrendReport	12	X	**Upper right**	X	X	X	-	
	TrendReport (graph)	12	X	**Upper right**	X	X	X	-	With graph
Batch report	BatchReport	-	X	**-**	-	-	-	-	
	BatchReport (message)	-	X	**-**	-	-	-	-	

● **Report Printout**

Category	Printout method	Definition	Service
Auto Print	Print command from scheduler periodically or at specified times	Scheduler builder	Hourly, daily, monthly report etc.
	Print command from Sequnce-message-request	Sequence message request builder	Snapshot report etc.
	Batch (recipe, Unit recipe)	Process management definition builder	Batch report
Manual Print	Print command from Function Key	Function Key assignment builder	Snapshot report etc.
	Print command from a touch target on graphic view	Graphic builder	Snapshot report etc.
Others	Print request from application programs	–	Snapshot report, Batch report etc.

Simultaneous printing: Up to 10 sheets
Printing request: To print press a function key on which the report print start is assigned.

● **Audit Trail Management**

When you save the printed report,

• The report can be seen on the report audit trail management window on Microsoft Excel.
• The report can be reprinted by manual on the Report Audit Trail Management Window.
• The report can be revised on the Report Audit Trail Management Window.
When the number of saved image files exceeds the specified numbers, the oldest image file is replaced by a new one.
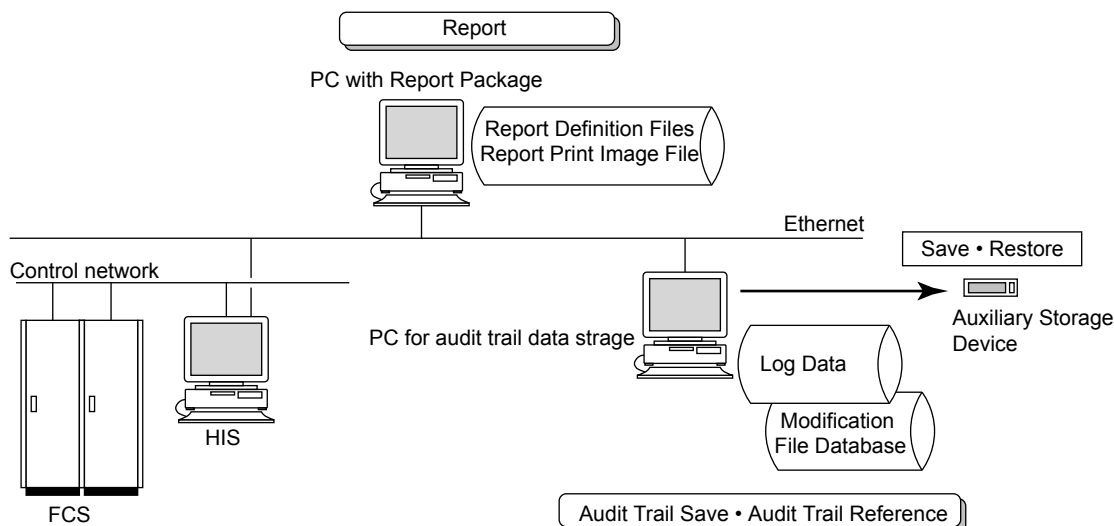
■ COMPLIANCE WITH FDA'S 21 CFR PART 11

By installing LHS5170 Access Administrator Package (FDA: 21 CFR Part 11 compliant) on a PC with the report package, it provides functions that complies with FDA's 21 CFR Part 11. For instance, system engineers are able to perform access control and audit trail management functions for the creation and modification of the reports.

The FDA: 21 CFR Part 11-related features of the report package are highlighted in this section. As for overall FDA-compliant functions of the CENTUM VP, refer to LHS5170 Access Administrator Package (FDA: 21 CFR Part 11) (GS 33K10D40-50E) for details.

FDA: U. S. Food and Drug Administration
21 CFR Part 11: Code of Federal Regulations Title 21 Part 11

● **An Example of System Configuration**

Figure An Example of System Configuration

A PC dedicated for storing the audit trail data is required. Functions such as report function, operation and monitoring function, recipe management function, and engineering function cannot be installed on the same PC. Depending on the total number of PCs installed with builder function or recipe management package, a Windows Server OS is required for the PC to store audit trail data. For details, refer to CENTUM VP system overview (GS 33K01A10-50E and GS 33K01A20-50E).
Both engineering and recipe management functions can be performed by the PC for audit trail data storage.

● **System Administrator**

An initial setting is required before start using the access control and audit trail functions. This setting can only be done by the system administrator who has the authority over the PC administration, and not by the engineers who use the report function. The roles of the system administrator are shown as below:

Roles of system administrator
• Network administration
• Specifying and editing of the engineer security file
• Registration of engineers' names
• Assigning and changing of the audit trail management database location
• Start/stop audit trail management
• Data backup when the audit trail management database is full, and delete the report definition files and report print image files
• Viewing the current audit trail management database

● **Managing Report Users**

Access control
When the report package is used with LHS5110 access control package or LHS5170 access administrator package (FDA: 21 CFR Part 11 compliant), the access control is performed by the PC. When there are multiple numbers of PCs that require access control, licenses for LHS5110 or LHS5170 are required for each PC.

Scope of access control
Access control for the report package is applicable to all the report definition files and the report print image files. It cannot be configured for each one of the report definition files or report print image files.

User groups
The rights to access the report files are determined by the user group to which the Report Package user belongs. There are two user groups: operator group and manager group. Report Package users belong to one of these groups.

Types of authority
The following describes the types of authority.

- For report definition files
  Create: Users can create and delete report definition files
  Write: Users can modify and load report definition files
- For report print image files
  Create: Users can delete report print image files
  Write: Users can modify and print report print image files, convert them to PDF files, and save them on a PC for audit trail data. However, it is not allowed for them to delete the print image files.

  Note: Read authority is not available for the report files. Users with the write authority can open and read report files. The authority of the manager group and the operator group for report files are fixed as shown in the following table and that cannot be changed.

User Group	Authority	Report Definition File	Report Print Image File
Manager	Create	Granted for all files	Granted for all files
	Write	Granted for all files	Granted for all files
Operator	Create	Not granted	Not granted
	Write	Not granted	Granted for all files

User authentication and verification of authority of the report package
The user authority is verified upon logging on to the report package, and the scope of operation is granted in accordance with the user's authority. All the operations are granted for the users in the manager group. The user authentication of the report package is performed when the package is launched or a user performs an operation that influences the result of print out or file output.

Audit trail
When the report definition data is changed, it is saved in the specified database. Details of the changes, such as "when," "how," and "who" changed "what," can be recorded at the same time by registering the historical log. The past report definition files and report print image files are also stored. Report print image files are automatically saved when those are printed. Print image files can also be selected from the historical dialog box and saved to the database.

Preventing alteration of report print image files
On a PC where Adobe Acrobat is installed, the report print image files can be converted into the PDF format so that the files cannot be altered. Those files can also be output in PDF format automatically when those are printed. Or, the files can be converted to PDF files after those are output in CSV (*1) or Excel formats.

*1:   CSV (Comma Separated Value) format is a data format that uses commas (,) as delimiters to separate fields in a record.

Association between electronic recording and signature
On a PC where Adobe Acrobat is installed, authentication can be performed for the report print image files in the same manners as the electronic signature functions of the Acrobat when it is used with LHS5170 Access Administrator Package (FDA:21 CFR Part 11 compliant).

■ OPERATING ENVIRONMENTS

The Report Package runs on an HIS or a PC (IBM PC/AT-compatible machine) where the acquired process data are available via an OPC server (Exaopc OPC interface), and either one of these conditions must be met for this purpose.

• The Report Package runs on an HIS equipped with LHS2411 Exaopc OPC Interface Package (for HIS).
• The Report Package runs on an HIS (without LHS2411) or a PC, which is connected to an HIS equipped with LHS2411 Exaopc OPC Interface Package (for HIS).

● Hardware Requirement

Conforms to the operating environment of LHS1100/LHM1101 Standard Operation and Monitoring Function

● Software Requirement

Conforms to the operating environment of LHS1100/LHM1101 Standard Operation and Monitoring Function
Necessary software:
Microsoft Excel
Adobe Acrobat (when LHS5170 Access Administrator Package (FDA: 21 CFR Part11compliant) is used.)

For the supported software versions of Microsoft Excel and Adobe Acrobat, refer to General Specifications of LHS1100, LHM1101 Standard Operation and Monitoring Function (GS 33K05D10-50E).

■ APPLICATION CAPACITY

Number of definition data
500 data items/report
When defining the same data item in several times in a report, each one of the data item must be counted.
   Note: Up to 256 samples/item of a trend data (in chronological order) can be defined.
Report definition file
   The number of definition files depends on the hard disk capacity.
Printed report image file
   Maximum No. of printed report image files: Up to 999 images/report

■ MODEL AND SUFFIX CODES

		Description
Model	LHS6530	Report Package [Media model: LHSKM50-V11]
Suffix Codes	-V	Software license
	1	Always 1
	1	English version

   Note: To use the Package, order software licenses which correspond to the number of platforms where the Package is installed.

■ ORDERING INFORMATION

Specify model and suffix codes.

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