General Specifications

Model LL1200
PC-Based Custom Computation Building Tool

GS 05G01A11-01E

General

The LL1200 PC-Based Custom Computation Building Tool is a software package used to create custom computation and custom display functions for the US1000 Digital Indicating Controller. This tool also covers the functions of the LL1100 PC-Based Parameters Setting Tool. The custom computation building function, the main function of this package, enables users to formulate computations graphically. This tool has an online help function that provides operational guidance and explanations of the computation modules.

Custom Computation Building Functions

Custom Computation Function:

Develops a custom computation for the US1000 controller by combining computation modules.

• Computation modules

[Arithmetic computations]
Addition, subtraction, multiplication, division, absolute value, reciprocal, auto-selector (min./max./average/difference), hold maximum value, hold minimum value, hold, switch, limiter, constant, and multi-selector.

[Logic operations]
AND, OR, exclusive OR, NOT, latch, greater, lesser, decremental counter, counter, equal-to, not-equal-to, range, delay, AND (long word), OR (long word), word shift, and edge-triggered counter.

[Special computations]
Sum, timer, rate-of-change limiter, 10-segment linearizer 1 and 2, inverse 10-segment linearizer 1 and 2, curve linearizer 1 and 2, ratio, first-order-lag filter, EU-range conversion, switching between two inputs, temperature and humidity calculation, square-root extraction, detection of change, loop-1 output selection 1, loop-1 output selection 11, loop-1 output selection 12, loop-1 output selection 13, loop-2 output selection 2, loop-2 output selection 21, fluid temperature compensation, fluid pressure compensation, 10-segment linearizer 3 and 4, dead time, moving average, edge-triggered timer, Detection of Change at Edge, square-root extraction 2, and flow sum.

[Special functions]
Display data unit conversion, parameter setting, data display 1, data display 2, output-1 terminal configuration, and output-2 terminal configuration.

Custom Display Function:

The function builds the US1000 controller's custom displays, according to the user-defined display function created, by configuring display elements and display sequences. Users can select operation displays from the display types provided, and set a display sequence and conditions for them.

Monitor Function:

Users can monitor and confirm the behavior of the created custom computation by setting simulated input signals from a personal computer screen.

Communication Function:

When the US1000 controller operation is stopped, users can download the created custom computation data to the US1000 and upload custom computation data from the US1000. It is also possible to compare the custom computation data created using this tool with those in the US1000 controller.

File Management Function:

This function allows users to save the custom computation data created with this tool as well as the data uploaded from the US1000 controller onto the hard disk of a personal computer or a floppy disk. It is also possible to compare the custom computation data created with those in the custom computation data files created in the past.

Printout Function:

Custom computation data can be printed out from a printer connected to a personal computer.

Parameters Setting Functions

Parameters Setting Function:

Sets and changes the control parameters of the US1000 such as the controller mode (US mode), universal input/output selection, setup parameters, and operation parameters.

Tuning Function:

This function is used to tune the PID parameters of the US1000 controller. The PID parameters can be tuned and auto-tuning function executed while the PV, SV, and MV trend graphs are being displayed on a personal computer screen.

YOKOGAWA
Yokogawa Electric Corporation

GS 05G01A11-01E

4th Edition Nov. 2006

Downloading, Uploading, and Comparing Parameters

When the US1000 controller operation is stopped, users can download the created parameter data from the controller and upload parameter data to the controller. It is also possible to compare the parameter data created using this tool with the data in the US1000 controller.

File Management Function:

This function allows users to save the parameter data created with this tool as well as data uploaded from the US1000 controller onto the hard disk of a personal computer or a floppy disk. It is also possible to compare the parameter data created with those in parameter files created in the past.

Printout Function:

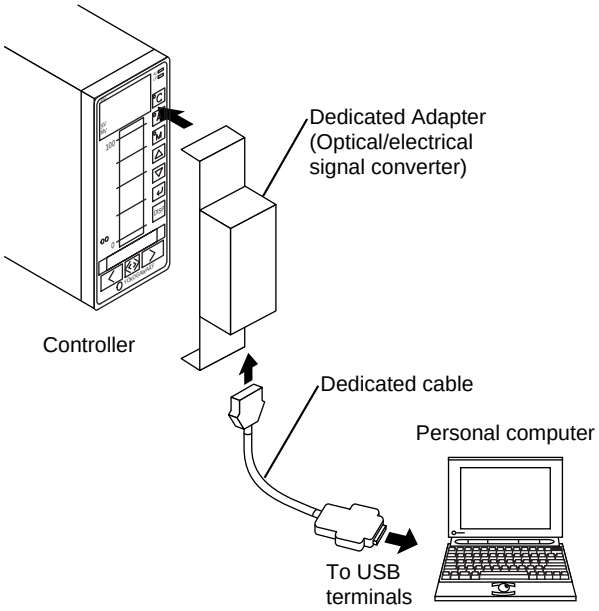
Parameter data can be printed out from a printer connected to a personal computer.

■ Connection between a Personal Computer and the US1000

[Via Dedicated Adapter]

Users can upload and download custom computation and parameter data to and from a personal computer by connecting the dedicated adapter on the US1000 front panel.

Controllers that can communicate via the dedicated adapter have the model and suffix code: US1000-xx

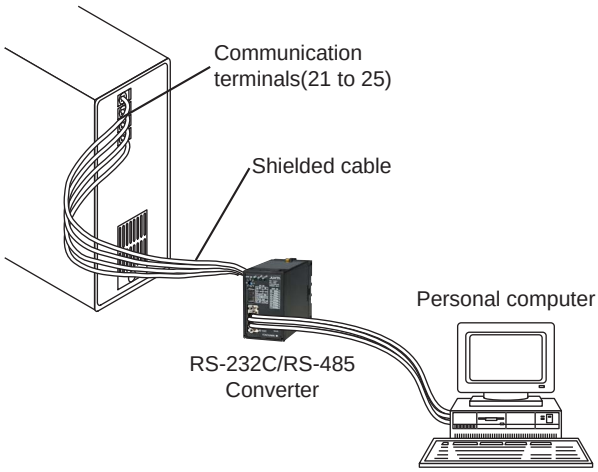


[Via US1000 Communication Terminals]

Users can upload and download custom computation and parameter data to and from a personal computer via the communication terminals on the back of the US1000 controller. An RS-232C or RS-485 converter (ML2) is needed to do this.

Controllers that can communicate via communication terminals have the model and suffix code: US1000-xx/A10

Terminals at the rear of the US1000



■ Operating Environment

Personal Computer:

Windows 2000/XP-enabled IBM PC/AT compatible machine

Operating system: Windows 2000 (Professional)/XP (Home Edition/Professional)
CPU: 300-MHz Pentium processor or superior is recommended.
Main memory: 128 MB minimum is recommended.
Hard disk: Memory space required to store the tool's programs; 9 MB
Memory space required to store the parameter data; 2 MB minimum
Memory space required to store the driver for USB-Serial converter; 1 MB
CRT display: 800 × 600 pixels or superior
Smaller fonts should be used.
Should be capable of handling at least 256 colors.
USB communication port: One channel (COM1 to COM16), with SeriesA connector, compliant with USB Specification Rev1.1.
CD-ROM drive: Required for installation.
Printer: Required for printing. Windows 2000/XP-compatible A4-size printer

Dedicated Adapter

Communication method:
Controller side; optical, contactless, bidirectional serial communication
Personal computer side; compliant with USB Specification Rev1.1
Power supply: Supplied from USB bus power (no internal battery)
Input rating; 4.4 to 5.25 V DC, 100 mA (including a dedicated cable)
* No plug for external power source, no power switch
Ambient temperature range: 0 to 50°C
Ambient humidity range: 20 to 90% RH (no condensation)
Transport and storage conditions: -20 to 65°C, 10 to 90%RH (no condensation)
Dust- and water-proof construction: Not applied.
Standard: CE Marking (EMC only)

Dedicated Cable

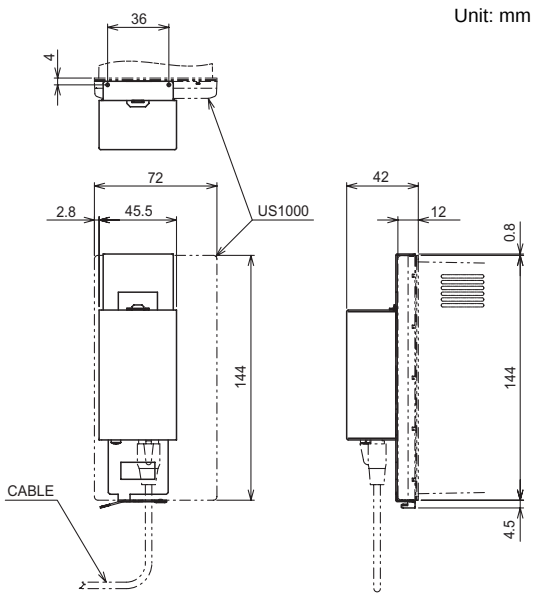
Built-in USB-Serial converter
Personal computer side: USB SeriesA plug
Adapter side: RJ45 (8-pin) plug
Cable length: Approx. 2.7 m

■ Packaged Contents

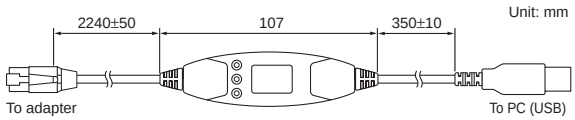
Software supplied:
CD (1 disk) LL1200/USB converter driver software
Dedicated cable and adapter:
1 set for connecting a personal computer and the US1000 optical communication part for light loader.
Instruction manuals:
PC-Based Custom Computation Building Tool manual (2 books)
PC-Based Parameters Setting Tool manual (1 book)

■ External Dimensions

Dedicated Adapter



Dedicated Cable



■ Model and Suffix Codes

Model	Suffix code	Description
LL1200		PC-Based Custom Computation Building Tool*
	-U10	Model for use with IBM PC/AT compatible machine (common to English and Japanese version), USB connection

* The LL1200 PC-Based Custom Computation Building Tool includes the same parameter setting function as the LL1100 PC-Based Parameters Setting Tool.

Trademarks

- Windows 2000/XP are trademarks of Microsoft Corporation, U.S.A.
- Pentium is a registered trademark of Intel Corporation, USA.
- Ethernet is a registered trademark of XEROX Corporation, USA.
- Other proper nouns such as trade names and company names are trademarks of their respective companies.