General Specifications

Models VP6B1553, VP6B1653
Modbus Communication
Package (for UGS/UGS2)

CENTUM VP

GS 33J20C50-01EN

[Release 6]

■ GENERAL

This package provides Unified Gateway Station (UGS/UGS2) with a function to communicate with Modbus protocol subsystem controllers. The UGS/UGS2 and the Modbus protocol controllers can be connected via Ethernet or serial communications such as RS-232C, RS-422, or RS-485.
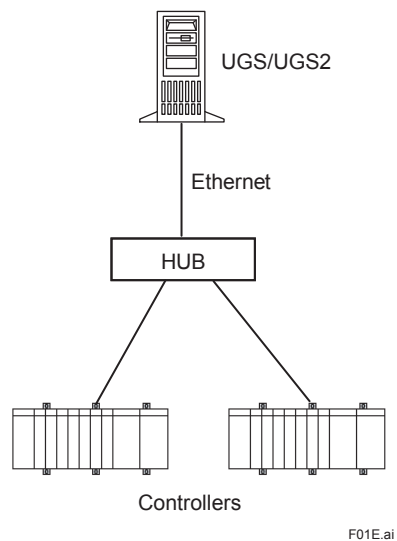
● **Ethernet communication**

F01E.ai

Figure Ethernet communication connection

● **Serial communication (RS-232C, RS-422, or RS-485)**
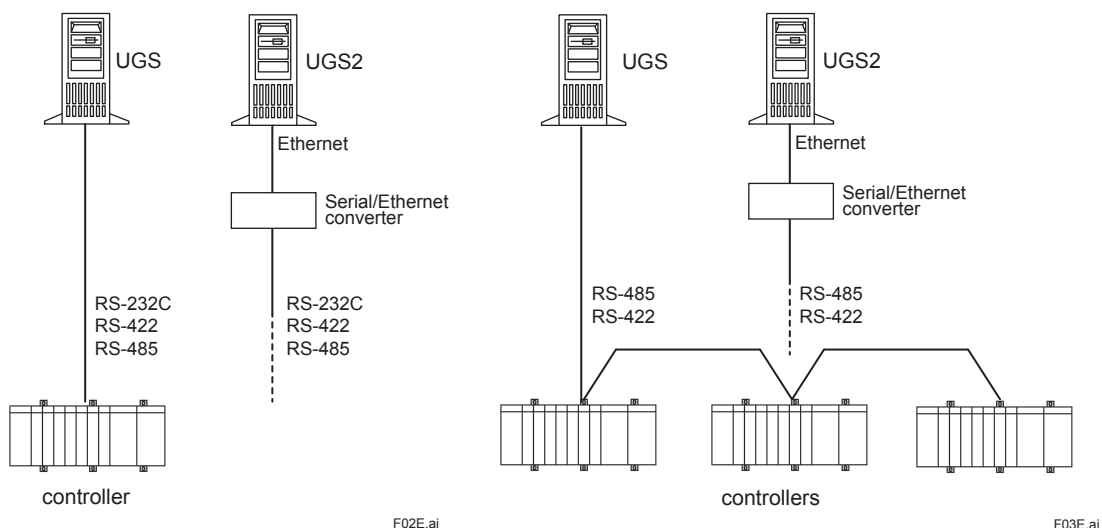

F02E.ai   F03E.ai

Figure Serial communication connection

The UGS2 does not support direct serial connection. When connecting the UGS2 with Modbus-RTU device, connect it to Ethernet via a Serial/Ethernet converter.

YOKOGAWA ◆

GS 33J20C50-01EN
©Copyright Feb. 2015 (YK)
3rd Edition Sep. 14, 2016 (YK)

■ FUNCTIONAL SPECIFICATIONS

● Communication with subsystem controllers

Subsystem controller data is assigned to the UGS/UGS2 function blocks via the Modbus communication and those data can be referred to or set from HIS and FCS. The HIS and FCS also monitors connection status among the UGS/UGS2 and controllers.
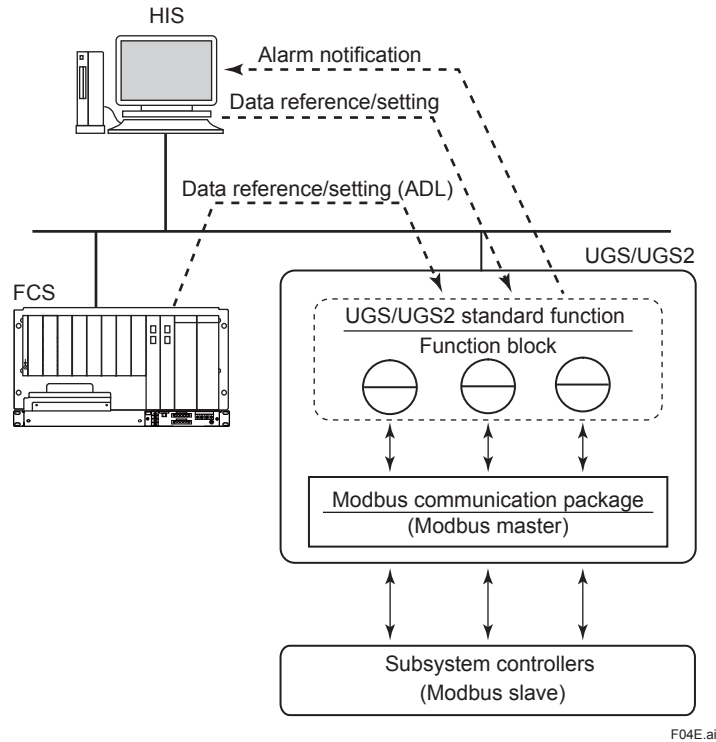

Figure Communication with subsystem controllers

● Application capacity

Number of controllers: Max. 256
Transferable internal data: Coil, Input relay, Input register, and Holding register
Number of data items that can be defined:
        Max. 2,000,000 data (for a single UGS configuration) (*1)
        Max. 1,000,000 data (for a dual-redundant UGS configuration) (*1) (*2)
        Max. 600,000 data (for UGS2) (*1) (*2)
Number of data items for communication with controllers:
        Max. 750,000 data (for UGS) (*1) (*2) (*3)
        Max. 450,000 data (for UGS2) (*1) (*2) (*3)
        (The sum of the data items of subsystem controllers)
Data update period: 100 ms to 1 hour
Data acquisition: Max. 6,400 data/sec (*1) (*2) (Number of data acquired from subsystem controllers)
Data setting: Max. 640 data points/sec (*1) (*2) (Number of data set on UGS/UGS2 from HIS and FCS)
   *1:   The number of data includes those from other UGS/UGS2's communication packages
   *2:   The max. number of data depends on the application conditions.
   *3:   The UGS/UGS2 access the controllers' data by assigning each of the controller's data into the data items in the UGS/UGS2's function block(s). Among all the definable data items, those which do not communicate with controllers can be used as a data buffer for the data which are set by other sources such as FCS. See below formula for a quick glance.
     Number of definable data items
     = Number of data items for communication with controllers + Number of data items used as a data buffer

Ethernet communication
  Protocol: Compliant with the protocol of OPEN Modbus/TCP SPECIFICATION Release 1.0, 29 March, 1999, Andy Swales Schneider Electric
  Interface: IEEE802.3 Ethernet

Serial communication
  Protocol: Modbus protocol (RTU mode)
  Interface: RS-232C, RS-422, or RS-485

■ OPERATING ENVIRONMENT

For VP6B1553, hardware and software requirements comply with VP6B1500 Unified Gateway Station (UGS) Standard Function.

For VP6B1653, hardware and software requirements comply with VP6B1600 Unified Gateway Station (UGS2) Standard Function.

■ MODEL AND SUFFIX CODES

Modbus Communication Package (for UGS)

		Description
Model	VP6B1553	Modbus Communication Package (for UGS)
Suffix Codes	-V	Software license
	1	Always 1
	1	English version

Note: When using UGS in a dual-redundant configuration, order two licenses of the VP6B1553 package.

Modbus Communication Package (for UGS2)

		Description
Model	VP6B1653	Modbus Communication Package (for UGS2)
Suffix Codes	-V	Software license
	1	Always 1
	1	English version

Note: Even when using UGS2 in a dual-redundant configuration, only one license of the VP6B1653 package is required.

■ ORDERING INFORMATION

Specify model and suffix codes.

■ TRADEMARKS

• CENTUM is a registered trademark of Yokogawa Electric Corporation.
• Other company and product names appearing in this document are trademarks or registered trademarks of their respective holders.