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**
  
  ![Ethernet communication connection](image)

  **Figure** Ethernet communication connection

- **Serial communication (RS-232C, RS-422, or RS-485)**
  
  ![Serial communication connection](image)

  **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.
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.

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.

\[
\text{Number of definable data items} = \text{Number of data items for communication with controllers} + \text{Number of data items used as a data buffer}
\]

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)

<table>
<thead>
<tr>
<th>Suffix Codes</th>
<th>Description</th>
</tr>
</thead>
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<td>-V</td>
<td>Software license</td>
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<tr>
<td>1</td>
<td>Always 1</td>
</tr>
<tr>
<td>1</td>
<td>English version</td>
</tr>
</tbody>
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Note: When using UGS in a dual-redundant configuration, order two licenses of the VP6B1553 package.

Modbus Communication Package (for UGS2)

<table>
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<th>Description</th>
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<tbody>
<tr>
<td>-V</td>
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<td>1</td>
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</tr>
<tr>
<td>1</td>
<td>English version</td>
</tr>
</tbody>
</table>

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.

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