

ABB Ability™ Symphony® Plus Gateway Software

Real-time bi-directional server-client communication



Symphony® Plus Gateway Software (SGS) is a configurable component of Symphony® Plus that provides real-time bi-directional communication between ModbusTCP devices and Symphony® Plus Controllers.

The Symphony® Plus Gateway Software (SGS) consists of two main components: Engineering Utilities and Runtime software. The Engineering Utilities of SGS provide a full function menu driven interface that simplifies configuration for startup engineering, commissioning and ongoing maintenance of the ModbusTCP interface. With first time configurations, as only minimum parameters are required, engineering hours can be reduced by using the Quick Config feature to generate the Mapping and Client Definition tables. Individual interface points can then be configured using the SGS menus.

The Runtime portion of SGS performs ModbusTCP communications to other ABB equipment (e.g. AC500, AC 800M) or 3rd party PLC's over a 100Mbps Ethernet network and remote wireless gateways.

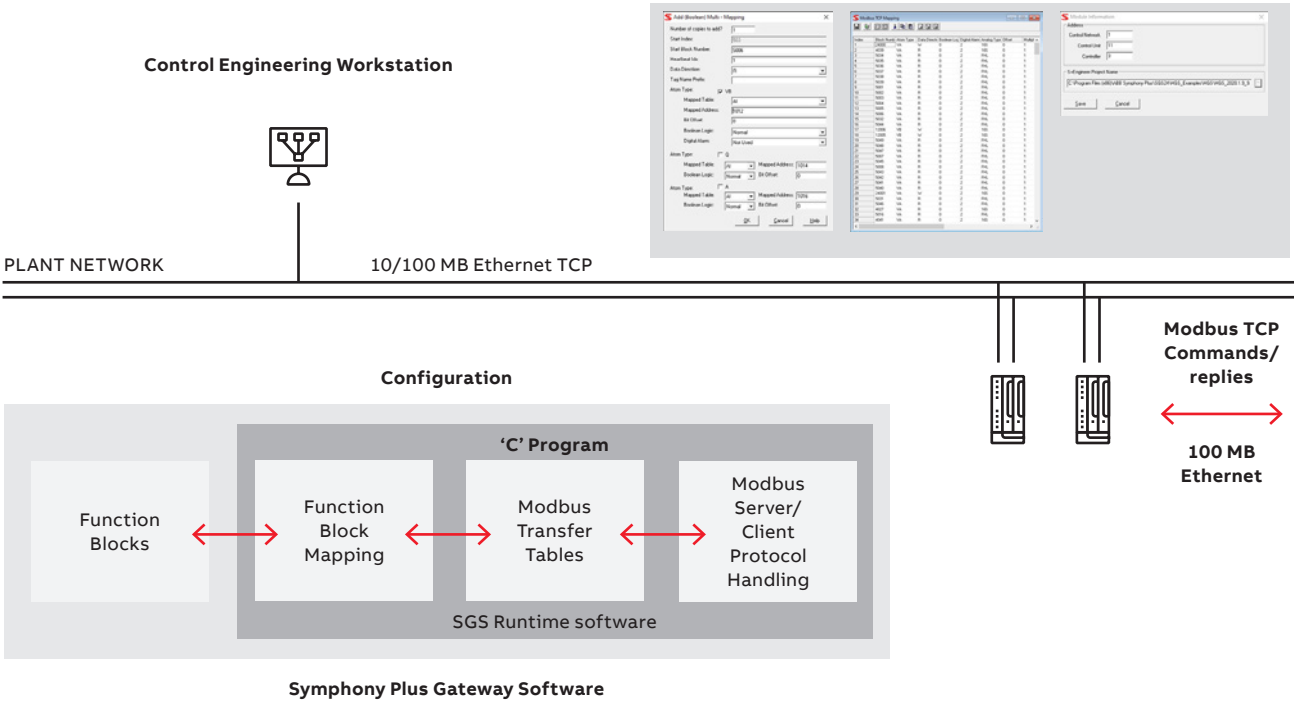
The Symphony Plus Gateway Software is licensed based on the number of function block outputs and inputs the interface exchanges. SGS uses a mapping database to define which Modbus data points are to be exchanged between the Modbus Transfer Tables and the Harmony function block in the controller's configuration. Harmony function blocks typically contain more information than an equivalent Modbus point can support, making it necessary to map more than one Modbus point to a single Harmony function block. SGS employs the use of multi-mapping to allow quality, alarms and values to be fully defined within the ModbusTCP configuration.

On the ModbusTCP network, connections between client and server devices are made through TCP sockets. Depending on the module being used, SGS can be configured to a maximum of 8 server connections to foreign Modbus clients and 128 client connections to foreign Modbus servers.

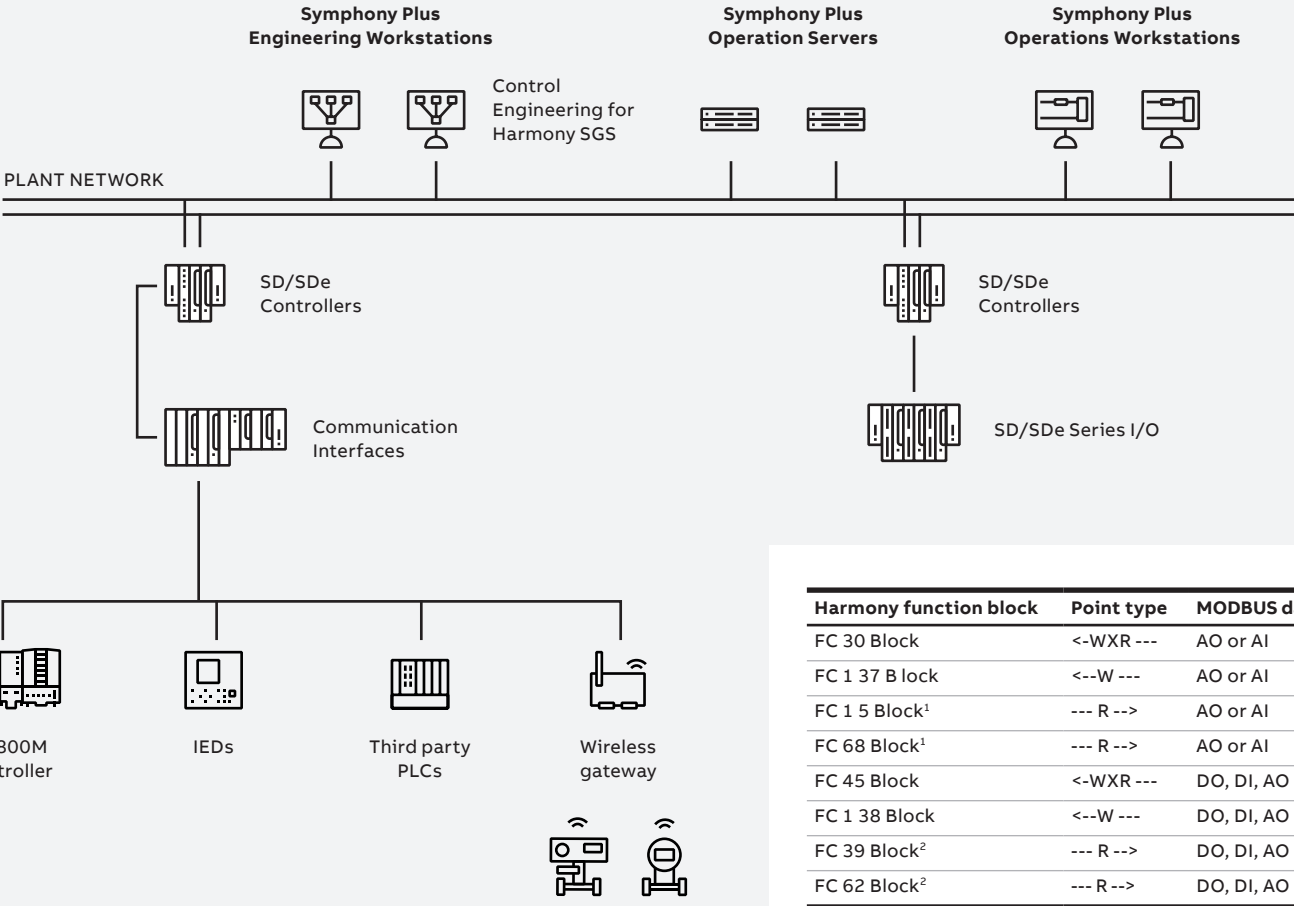
Features and benefits

- Bi-directional communication in real-time with Modbus devices
- Support for standard Modbus function codes and exception codes
- Exception and cyclic data writes
- Fully tunable communication rates
- Diagnostics enable isolation and troubleshooting of one connection
- Support of online configuration (change in function blocks of the SGS points) with redundant controllers

Property	Characteristic/value
Harmony function blocks	Up to 32,000 function block configuration (10,000 for SPC700)
License point counts	500, 1,500, 3,000, 4,000, 10,000 (100 - process panel)
Module supported	BRC410, HPC800, SPC700, SPC800, SPC810e/ev
Server/Client Modbus TCP connections	BRC410: up to 4 servers and 24 clients HPC800, SPC800, SPC810e/ev: up to 8 servers and 128 clients SPC700: up to 4 servers and 24 clients Process panel: 1 server and 1 client



Symphony Plus Gateway Software



Harmony function block	Point type	MODBUS data point
FC 30 Block	<-WXR ->	AO or AI
FC 1 37 B lock	<-W ->	AO or AI
FC 1 5 Block ¹	->R ->	AO or AI
FC 68 Block ¹	->R ->	AO or AI
FC 45 Block	<-WXR ->	DO, DI, AO or AI
FC 1 38 Block	<-W ->	DO, DI, AO or AI
FC 39 Block ²	->R ->	DO, DI, AO or AI
FC 62 Block ²	->R ->	DO, DI, AO or AI