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System Overview

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1.1 System Overview

1.1.1 Scanner Capabilities

The SST-PB3-CLX-RLL is the PROFIBUS scanner for the 1756 (ControlLogix) backplane and Honeywell PlantScape system. It enables communication between a CLX processor and DP remote I/O devices on a PROFIBUS network, acting as a PROFIBUS DP remote I/O scanner. It:

- DP Master and Slave Certified (with Profibus Firmware Revision 7.25)
- Supports up to 15 listen-only connections plus 1 output connection
- As a Master supports Sync and Freeze commands
- Supports Rockwell's RSLogix 5000 Add-on-Profile (AOP)
- Can scan up to 125 slaves
- Supports and scans up to 122 words of input data and 122 words of output data per slave
- Can reside in any slot in the local or remote CLX chassis. You can have up to 8 scanners in a rack.
- Supports all standard PROFIBUS baud rates (9600, 19200, 31.25k, 45.45k, 93.75k, 187.5k, 500k, 1.5M, 3M, 6M, 12M)
- Supports the following DPV1 Master services:
 - Class 1: MSAC1_Read, MSAC2_Write
 - Class 2: MSAC2_Initiate, MSAC2_Read, MSAC2_Write, MSAC2_Idle, MSAC2_Abort
- Can handle up to 16 Class 1 and 16 Class 2 commands simultaneously
- Can handle up to 16 Class 2 connections (to 16 Class 2 DPV1 Slaves) when using DPV1 Class 2 Communication only
- Can act as a DPV0 slave
- Allows for simultaneous operation of PROFIBUS Master and Slave (up to 12M)
- As a Master, supports a maximum of 1984 bytes of input data and 1968 bytes of output data with in 4 I/O pages
- As a Master, supports configurations with up to 256 I/O modules

1.1.2 Configuring the Scanner

Use the SST PROFIBUS Configuration Tool to configure the scanner. You can have up to 4 pages of 248 words of input data and 4 pages of 246 words of output data.

The Tool also allows you to configure I/O on the DP network, enabling you to download the configuration to the scanner via the serial port or an RSLinx driver. The scanner stores this configuration in its flash memory, so you don't need to download it every time you start the CLX.

The input and output data for the slaves is mapped into the ControlLogix 5550 Controller's I/O Data arrays, starting at byte offset 4. The mapping depends on the addresses you assign in your Master configuration.

1.1.3 Scanning Network and I/O Status

The scanner maintains the following status information about the network and the I/O modules on the network:

- Active Slave Station Bit table
- Configured Slave Station Bit table
- Network diagnostic counters
- DP master diagnostic counters

1.1.4 Operating Modes

The SST-PB3-CLX operates in Asynchronous Mode. The Module starts scanning as soon as the card comes online; PB3-CLX does not wait for an RPI to trigger the Profibus scan like the PFB-CLX does. This is the only behavior difference between SST-PFB-CLX and SST-PB3-CLX after the card has gone online.