Communication with Your Slave Devices

The scanner module communicates with devices via strobe, poll, change of state, or cyclic I/O messages. It uses these messages to solicit data from or deliver data to each device. Data received from the devices, input data, is organized by the scanner module and made available to the controller. Data sent from your controller, output data, is organized in the scanner module and sent on to your devices.

- A strobe message is a multicast transfer of data that is 64 bits in length sent by the scanner module that initiates a response from each strobed slave device.

  The strobe devices respond with their data, which can be as much as 8 bytes of information. As a slave device, the scanner module does not support the strobe message.

- A poll message is a point-to-point transfer of data from 0...128 bytes sent by the scanner module to the slave device.

  The poll message also initiates a response from each poll slave. The slave device responds with its input data from 0...128 bytes.

- A change-of-state message is a transfer of data sent whenever a data change occurs.

  A user-configurable heartbeat rate allows devices to indicate proper operation during intervals between data changes.

- A cyclic message is a transfer of data sent at a specific user-configurable rate, such as every 50 ms.

IMPORTANT Throughout this document, input and output are defined from the controller's point of view. Output is data sent from the controller to a device. Input is data collected by the controller from a device.

In addition to I/O messaging, the scanner module also supports PCCC and CIP explicit messaging, defined later in this manual.

1769-SDN Scanner Module Data Tables

The scanner module uses input and output data images to transfer data, status, and command information between the scanner module and the MicroLogix controller to manage the flow of data between your controller and network devices.

Input Data Image - MicroLogix 1500

The input data image is transferred from the scanner module to the controller across the Compact I/O bus.

Word	Description	Data Type
0…65	Status structure	66-word array
66…245	DeviceNet slave inputs	180-word array

See Chapter 6 for definitions of the Status structure.

Output Data Image - MicroLogix 1500

The output data image is transferred from the controller to the scanner module across the Compact I/O bus.

Word	Description	Data Type
0 and 1	Module command array	2-word array
2…181	DeviceNet slave outputs	180-word array