# EA3600 Firmware Release Notes: Version CAADRJ00-001-R06

## 1. PLC I/O Format

The I/O format for the PLC interfaces has been modified to include new scanner and battery status information. The new bar code input format is defined as follows:

| Data Parameter | Data Type | Description |
|---|---|---|
| Status Register | INT | Bit string indicating the current status of the scanner interface and<br>barcode data transfer. See the bit assignment details in the next<br>table |
| Update Counter | INT | Incremented by 1 each time a new data is loaded into the Data<br>field. This indicates to the controller that the data has been<br>updated.<br>Normal range is 1-65535.<br>0 indicates that a transfer error has been detected and the<br>controller must resynchronize. |
| Barcode Type | INT | Type of barcode contained in the Data field. |
| Number of Attached Scanners | SINT | The number of scanners attached to the EA3600 |
| Battery State of Charge | SINT | The state of charge of the battery for a cordless scanner (0%-100% ) |
| Battery Voltage | INT | The battery voltage of a cordless scanner (millivolts) |
| Battery Temperature | INT | The battery temperature of a cordless scanner (°C) |

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|---|---|---|
| Battery Date of Manufacture | SINT[8] | The battery Date of Manufacture for a cordless scanner (DDMMMYY) |
| Reserved | INT | Set to 0. |
| Length | INT | The length of the Data field to follow in bytes. |
| Data | SINT[472] | |

The Status Register bits are defined as:

| Bit | Name | Description |
|---|---|---|
| 0 | Barcode Transfer | Status of Barcode Transfer bit |
| 1 | Handshake Mode | Status of Handshake Mode bit. |
| 2 | Fragmentation Mode | Status of Barcode Fragmentation Mode bit. |
| 3 | Barcode Cache Overflow | Set when the Barcode Cache is full and a new barcode is received from the<br>scanner. This bit indicates that one or more barcodes have been lost.<br>This bit is cleared by setting the Clear Faults bit in the Output Control<br>Register. |
| 4 | Input Data Overflow | Set if Fragmentation Mode is not enabled and the current barcode data does |

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|---|---|---|
| | | not fit in the Data field of the Input Data buffer. The current barcode has been<br>truncated to fit in the Data field.<br>This bit is not used if Fragmentation Mode is enabled. |
| 5 | Waiting for Handshake | Internal state indicating that the scanner is waiting for the update/ACK<br>Counter handshake.<br>Set when the scanner is waiting for the ACK Counter to be updated by the<br>controller for the current barcode.<br>Cleared when the ACK Counter has been set to match the Update Counter.<br>This bit is not used when Handshake Mode is disabled. |
| 6 | Trigger State | Set when the trigger button on the scanner is physically pressed. Cleared<br>when the trigger button is released.<br>This bit is not used if using multi-point EA3600 SKU; it is only activated when<br>using point-to-point EA3600 SKUs. |
| 7 | Scanner Type | 0=Corded Scanner 1=Cordless Scanner |
| 8 | Barcode Fragmented | Set if the current barcode data is larger than the Data field and is being sent in<br>blocks.<br>Cleared if the current barcode data fits in the Data field.<br>This bit is not used if Fragmentation Mode is disabled. |
| 9 | First Fragment | Set on the first block of a fragmented barcode transfer.<br>This bit is not used if Fragmentation Mode is disabled. |

| | | |
|---|---|---|
| 10 | Middle Fragment | Set on all blocks of a fragmented barcode transfer except the first and last.<br>This bit is not used if Fragmentation Mode is disabled. |
| 11 | Last Fragment | Set on the last block of a fragmented barcode transfer.<br>This bit is not used if Fragmentation Mode is disabled. |
| 12-15 | Reserved | |

## 2. Scanner Status

A new feature was added to report the scanner connection status to the EA3600. There are two values reported:

- Scanner Type:
  - 0 = Corded
  - 1 = Cordless
- The number of scanners attached
  - A value of 0 with a Scanner Type value of 1 means a cordless base is attached to the EA3600 but no scanners are connected to the base.

The scanner type and number of connected scanner information is reported through the PLC interface as defined in the table structure in section 1 above.

## 3. Battery Status

A new feature was added to report the battery status of a cordless scanner.

The exposed attributes are:

- Battery State of Charge
- Battery Voltage
- Battery Date of Manufacture
- Battery Temperature

The battery status information is reported through the PLC interface as defined in the table structure in section 1 above.

## 4. Bar Code Programming

The ability to configure certain EA3600 settings via formatted bar codes was added. The settings that can be configured through bar codes are:

- Industrial Ethernet Protocol
  - 0 = Profinet
  - 1 = Ethernet/IP
  - 2 = Modbus TCP
- Enable DHCP with Timeout
  - Values 0 – 300000 (milliseconds)
- Use Static IP
  - String representing the static IP address (e.g. “192.168.1.100”)
- Use Static IP with Subnet
  - String representing the IP configurations subnet
- Use Static IP with Gateway
  - String representing the IP configurations gateway
- Set Profinet Name
  - String representing the device Profinet name
- Send Length and Code Type over standard TCP/IP
  - 0 = Send Length and Code Type bytes
  - 1 = Do Not Send Length and Code Type bytes
- TCP/IP Port
  - Values 1-65535

## 5. Standard TCP/IP Formatting

When communicating to the Industrial Ethernet Configuration Utility or other network communication clients (e.g. Telnet client), the EA3600 connects and transmits data over a standard TCP/IP socket interface. By default, the EA3600 sends a 2 byte length and 1 byte code type preceding the barcode data. This can cause visually unpredictable results for applications that simply display the transmitted data as the first three bytes will most likely be unprintable characters. A feature has been added to strip off the length and barcode type bytes before transmitting to the host.