

## Qbit Carton Data Web-Service Protocol REST / JSON

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### 1 – Overview

The Qbit software can be configured to send Carton Data in real time to a web-service using http POST (or to an open socket). The payload is a JSON-formatted packet representing the available details for the carton. The URL (or socket IP address) is configurable. The web-service interface supports https secure connections and authentication in the header.

### Sample Packets for Carton Data Post

Following are examples of the Carton Data Post and Carton Data Response packets (transferred in the http body). (This example assumes the presence of a barcode scanner, dimensioning equipment, and a scale.)

Carton Data Post packet example	Carton Data Response packet example for successful post		
<pre>{ "Command": "Carton Data Post", "CartonID": "CL41238221", "Barcode2": "", "Barcode3": "", "Barcode4": "", "Barcode5": "", "Sequence": 1234, "Length": "23.00", "Width": "9.00", "Height": "6.00", "Weight": "3.00", "DimUOM": "in", "WeightUOM": "lb", "ScanStatus": "0", "DimStatus": "0", "WeightStatus": "0", "SiteID": "OAK" }</pre>	<pre>{ "Command": "Carton Data Response", "CartonID": "CL41238221", "Sequence": 1234, "StatusCode": 0, "Message": "Carton Data Received", }</pre>		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #cccccc;">Carton Data Response packet example for failed post</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> <pre>{ "Command": "Carton Data Response", "CartonID": "CL41238221", "Sequence": 1234, "StatusCode": 1, "Message": "Error: CartonID not found", }</pre> </td> </tr> </tbody> </table>	Carton Data Response packet example for failed post	<pre>{ "Command": "Carton Data Response", "CartonID": "CL41238221", "Sequence": 1234, "StatusCode": 1, "Message": "Error: CartonID not found", }</pre>
Carton Data Response packet example for failed post			
<pre>{ "Command": "Carton Data Response", "CartonID": "CL41238221", "Sequence": 1234, "StatusCode": 1, "Message": "Error: CartonID not found", }</pre>			

## 2. Carton Data Post Process

For the **web-service interface**, the Qbit software uses HTTP POST to send the JSON-formatted carton data (in the POST Body) to the server and await a response. If the web application successfully received the request, the HTTP response should always be 200/OK, with the processing status (success or error) indicated in the StatusCode and Message fields of the response body.

For the **socket interface**, the Qbit software (as client) attempts to open the configured socket at start-up and keeps it open. When new carton data is available, it sends the JSON-formatted Carton Data Post packet over the open socket. The server processes the data and sends the Carton Data Response packet over the same open socket. The Qbit software can be configured to transmit a periodic “keep-alive” message to keep the socket open, if necessary. If the Qbit software detects a socket disconnect, it will periodically try to re-open the socket connection.

The structures of the JSON Post and Response packets are described in detail here. Examples of packet content are shown above in section 1 – Overview.

Carton Data Post Fields	
Field Name	Field Content
Command	This field identifies the packet as a Carton Data Post packet, and is the fixed string "Carton Data Post".
CartonID	This is the Carton Identifier provided by the barcode scanner, used to identify the carton to the web service.
Barcode2 Barcode3 Barcode4 Barcode5	These are optional fields which may contain additional barcodes detected by the scanner. These are simply passed along as additional information to the web-service. The scanner must be configured to recognize and return relevant barcodes in the expected fields.
Sequence	This is the ID number for the related record in Qbit’s Carton table. It provides for positive matching of the Carton Data Response packet to this particular Carton Data Post packet.
Length	These optional fields are the dimensions of carton, provided by the dimensioning equipment. Format is <b>99.99</b> . The value may be blank if the installation does not include dimensioning equipment.
Width	
Height	
Weight	This optional field is the weight of carton provided by the scale. Format is <b>99.99</b> . The value may be blank if the installation does not include a scale.
DimUOM	This optional field is the Unit-of-Measure for the dimension fields. Configurable in the Qbit software. Content is one of <b>in</b> , <b>mm</b> , or <b>cm</b> .
WeightUOM	The optional field is the Unit-of-Measure for the weight field. Configurable in the Qbit software. Content is one of <b>oz</b> , <b>lb</b> , <b>gr</b> , or <b>kg</b> .
ScanStatus	These optional fields flag the potential in-validity of reported data. If the value is “0”, then the related data is valid. If the value is non-zero, the related data may not be valid.
DimStatus	

WeightStatus	For example, if the ScanStatus is "1", there was a problem scanning the CartonID, and so the value contained in that field may not be reliable.
SiteID	This is the optional and configurable ID of the installation providing the Carton Data. If there are multiple installations providing carton data to the same web application, this field can be used to identify which installation provided this data.

Carton Data Response Fields	
Field Name	Field Content
Command	This field identifies the packet as a Carton Data Response, and is the fixed string "Carton Data Response".
CartonID	This required field is the value of CartonID field from the Carton Data Post packet. This is used to match this response to the related Carton Data Post packet.
Sequence	This field is the ID number for the related record in Qbit's Carton table. This number must be copied from the Carton Data Post packet.
StatusCode	This required field indicates the result of the request. A value of "0" is reserved to mean that the Carton Data Post packet was processed successfully. Any other value means there was an error processing the request, and that the Message field may contain an error message
Message	This optional field is a descriptive message about the status of the Carton Data Post processing, meant to be a human-readable version of the StatusCode field.

### 3. Appendix

#### 7.1 Revision History

Date	Revision	Comments
2020-04-03	1.0	initial release
2020-04-15	1.1	added ScanStatus, DimStatus, and WeightStatus to Carton Data Post fields.
2020-08-03	1.2	Add REST to title; clarify purpose of Sequence field.
2020-08-25	1.3	Added new fields in the label-request JSON packet: Barcode2 ... Barcode5.
2021-10-15	n/a	Changed to revision tracking by date.