



GS1 US Data Hub® | Product
Working with Variable Measure
Trade items
User Guide

Version 5.0
November 9th, 2020

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Variable Measure Trade Items

In this guide, you'll learn how GS1 US Data Hub | Product enables you to create products that are NOT scanned at retail checkout and vary in measure/quantity.

Is Your Product a Variable Measure Trade Item?

As noted in the GS1 General Specifications, fixed measure trade items are those that are always produced in the same version and composition (size, weight, contents and design). For example, a jar of tomato sauce, a 12 pack of soda, a two-pound chocolate bar). Even if there are slight weight variations during production (such as overfill), this still does not make the product a variable measure trade item. The declared net weight to the consumer is always the same, regardless of overfill.

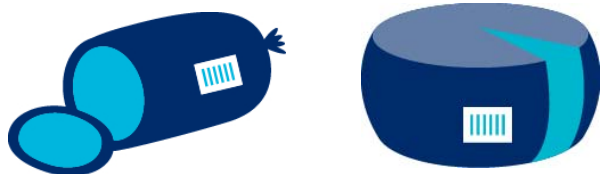
Unlike a fixed measure trade item, a variable measure trade item has at least one characteristic that varies, and the item may be sold at any point in the supply chain **without** one of these characteristics predefined:

- Weight
- Dimension (size)
- Quantity contained
- Volume information

Here are examples:

Examples of Variable Measure Trade Items:

- A wheel of cheese (not intended for Point-of-Sale) is ordered by a GTIN-14 and includes the indicator digit 9. It's cut and packaged in variable weight packages in the deli department and sold by weight.
- Bulk lunch meat (not intended for Point-of-Sale) is ordered by a GTIN-14 and includes the indicator digit 9. It is then packaged into individual variable weight packages and sold by weight.



Items that ARE Not Variable Measure Trade Items:

- Tomato sauce that is sold in three "varied" jar sizes (20 oz., 40 oz., and 60 oz.) – each jar is a fixed measure trade item and would receive its own GTIN.
- T-shirts sold in "varied" sizes or colors (gray, blue, red); each t-shirt "variation" is a fixed measure trade item and would receive its own GTIN.

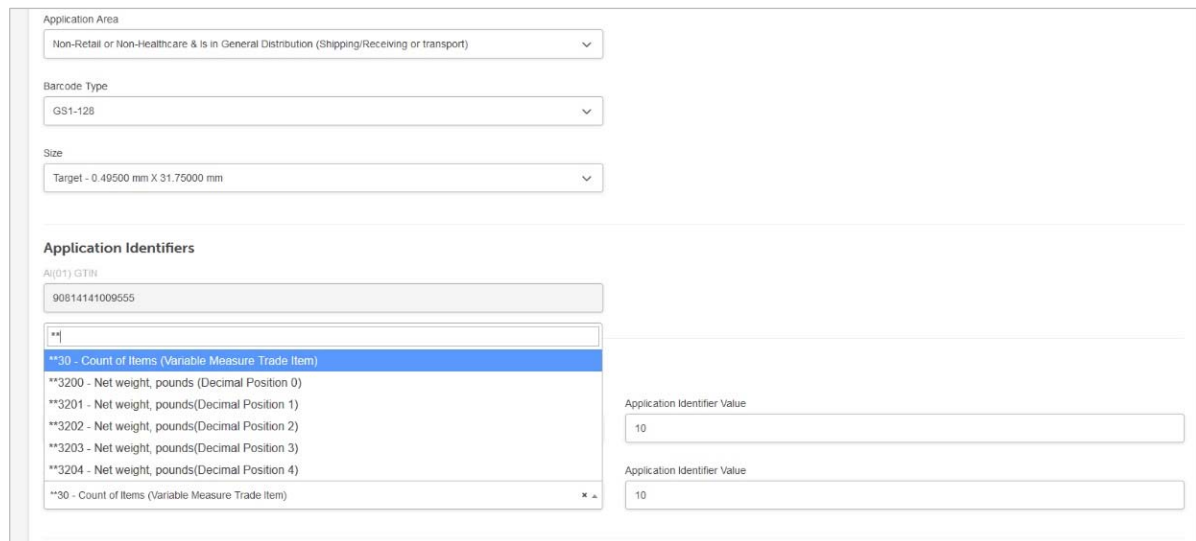


Variable Measure Trade Items

In many business situations, a variable measure trade item may have fixed dimensional attributes when sold to a retailer (such as wire or fabric) and identified with a GTIN, but then sold in pieces to the consumer, so the unit of measure at the consumer level will often vary. The retailer uses commercially available equipment to weigh items and print the appropriate weight and pricing information on the bar code label.

A variable measure trade item consists of both an identification number (GTIN) and information about the variable data (which is provided via Application Identifiers).

In GS1 US Data Hub, after you assign the GTIN to the product, you can click the “Barcode” tab to then apply the variable measure trade item characteristics to the barcode for this product.



Application Area
Non-Retail or Non-Healthcare & is in General Distribution (Shipping/Receiving or transport)

Barcode Type
GS1-128

Size
Target - 0.49500 mm X 31.75000 mm

Application Identifiers

Ai(01) GTIN
90814141009555

**|

- **30 - Count of Items (Variable Measure Trade Item)
- **3200 - Net weight, pounds (Decimal Position 0)
- **3201 - Net weight, pounds(Decimal Position 1)
- **3202 - Net weight, pounds(Decimal Position 2)
- **3203 - Net weight, pounds(Decimal Position 3)
- **3204 - Net weight, pounds(Decimal Position 4)
- **30 - Count of Items (Variable Measure Trade Item)

Application Identifier Value
10


Application Identifier Value
10



Please refer to the GS1 General Specifications for more details, including the main types of variable measure trade items (Figure 2.1.10-2)

Packaging Levels

GS1 US Data Hub supports Variable Measure Trade Items that are NOT scanned at retail checkout. In other words, the tool will NOT enable you to check the box for “Is this item purchased by the consumer” AND the check the box for “Is this item variable measure?”. While you can apply the “Each” packaging level to a variable measure trade item, here are the most frequently used packaging levels.

| Packaging Level | Description | Examples of use |
|--|---|--|
| Case as Each  | Used by industries, such as foodservice, that need to designate the case as its lowest orderable unit. The contents inside are neither assigned GTINs, nor are they sold at checkout or online. This is different than a multipack, which is a retail unit. | Bag of Donut holes, a cheese wheel, 25 lb. pack of bulk mushrooms, case of chicken parts |
| Mixed Case | A mixed case contains more than one type of “each,” and must contain more than one GTIN. | A cheese wheel and salami meat, both variable measure items. |
| Pallet | A shipping unit that contains either cases, inner packs, or “eaches.” It must contain one GTIN regardless of the number of items in the grouping. | 18 cheese wheels (variable measure) shrink wrapped together |
| Mixed Pallet | A shipping unit that can contain any combination of cases, inner packs, and/or “eaches” and must contain more than one GTIN. | 9 cases of meat and 9 cheese wheels, shrink-wrapped together. |

Constructing the GTIN (Global Trade Item Number)

The GTIN-14 for a variable measure product can be created by following four steps:



- 1. Add an Indicator Digit:** The indicator digit 9 indicates a variable measure trade item. GS1 US Data Hub automatically assigns “9” to the variable measure trade item.
- 2. Use the GS1 Company Prefix:** The GS1 Company prefix is assigned to the brand owner by GS1 US or another GS1 Member Organization. The Prefix is a global unique number that identifies a company in the supply chain.
- 3. Assign the Item Reference Number:** Assigned by the holder of the GS1 Company Prefix to uniquely identify the variable measure product.
- 4. Calculate the Check Digit:** Modulo 10 calculation based on previous 13 digits. Position 14 is reserved for a check digit for the entire GTIN. The GS1 Check Digit Calculator is available at www.gs1us.org/checkdig.



Example: GTIN-14 Structure



NOTE: If you click the “Auto assign GTIN” option, and you have checked the “Is this item variable measure?” button, GS1 US Data Hub | Product assigns the structure automatically. Refer to this structure when assigning the GTIN manually.

Creating a Variable Measure Product

In GS1 Data Hub | Product, after selecting **Product -> Create**, complete the following to create a new variable measure product:



1

Enter the Product Description, Brand Name, and Product Industry.

Product Description - Describes your product to a buyer. *There is a 200-character limit.*

Brand Name - Indicates the name of the product line used with consumers. *There is a 75-character limit.*

Product Industry - The primary industry where the product is sold.

Note: The **GS1 Company Prefix** field will be grayed out until the GTIN has been assigned. Once the GTIN is assigned, this field will display the GS1 Company Prefix used to create the GTIN.

2

Select the **Packaging Level** and check the box for **Is this item variable measure?** You will not be able to check the box for **Can this item be purchased by the consumer?**

3

Optional: Enter your internal "Stock Keeping Unit" number in the **SKU** field

4

Click **Save**. This product is saved with the **Draft** status.



Creating a Variable Measure Product (Continued)

5 → Auto Assign GTIN Assign GTIN From Reserved Assign GTIN Manually

GTIN
Required to Change Status
N/A

Status
Draft

Cancel Sales Sheet Clone Delete Save



5 You can now assign the GTIN, which will move the product to **PreMarket** status after you save. After you take this step, and decide at a later date to delete this product, you can “retract” the GTIN, and it will not be available again for 12 months.

Auto Assign GTIN– Creates the GTIN-14 in sequential order from the designated company prefix. If your company has more than one prefix, you will be prompted to select the prefix to use.

Assign GTIN from Reserved – Select a specific GTIN from your reserved GTINs and assign it to this product. Since this is variable measure, the system will assign “9” to the reserved GTIN.

Assign GTIN Manually – Type the desired GTIN in yourself and assign it to this product. When assigning manually, the GTIN must begin with “9”; followed by your licensed GS1 Company Prefix, Item Reference Number, and Check Digit. *Refer to page 6 if needed.*

6 Click Save. The GTIN-14 is assigned. The first digit is 9 followed by the GS1 Company Prefix, Item Reference Number, and Check Digit. Since the product is not being sold at the register or on-line, the GTIN-12 (U.P.C.) is not applicable.



NOTE: Since dimensions and weights vary product to product, it is not necessary to enter them in the Additional Information tab, as they must be entered as Application Identifiers in the GS1-128 barcode. When finished, click **Save** or skip to the next step.

Creating a Variable Measure Product (Continued)

PreMarket (90814141004871) - JB's Green Beans

Product Detail | Additional Information | Hierarchy | History | Barcode

Product Description *
JB's Green Beans

Language
en - English

Brand Name *
Jacob Ben Farm Fresh

Language
en - English

Product Industry
General

SKU
Optional

Packaging Level
Case as Each

Is this item variable measure?
 Can this item be purchased by the consumer?

Retract PreMarket GTIN

GTIN
90814141004871

GTIN-12 (U.P.C.)
N/A

GS1 Company Prefix
081414100 (4901,000)

Status
PreMarket

Walk Me Through

Status Change to In Use

You are updating this item to In Use. Once an item is In Use, it is shared with all Data Hub | Product View/Use subscribers. Do you wish to continue?



7 After you have confirmed all the product details are correct, and you are ready to share this product with the marketplace, click the **Status** drop-down and select **In Use**. If at a later date you decide to discontinue this product, you can “archive” the product detail record. In other words, this product cannot be deleted, and the GTIN is permanently assigned to the product. A product in the **Archived** status cannot be viewed by GS1 US View/Use Subscribers.

8 Click **Save**.

9 The **Status Change to In Use** dialog box opens. Click **Continue** to update the product to In Use. You can now generate a scannable barcode.



Creating the GS1-128 Barcode

After you assign the GTIN, and the product is in the **PreMarket** status, you can click the Barcode tab to generate a “For Placement Only” barcode for packaging design purposes. This barcode can not be used in the marketplace. After you change the status to **In Use**, you can then generate a scannable barcode.

The GS1-128 barcode uses Application Identifiers so additional information, such as Count of Items, Net Weight, Package Date, etc., can be included. Depending on your variable measure trade item product, you may want to assign variable measure trade item Application Identifiers to your barcode, such as (30), which indicates the number of items contained in this item.

The screenshot shows the 'Barcode' configuration screen for a product. A red box highlights the 'Barcode' tab and the three dropdown menus: 'Application Area', 'Barcode Type', and 'Size'. Red arrows with numbers 1 and 2 point to the 'Barcode' tab and the dropdown menus respectively. A 'START' button is visible on the left side of the page.

1 Click the **Barcode** tab to open the barcode screen.

2 Select the Application Area, Barcode Type, and Size.

Application Area - Where the barcode is going to be scanned. The list of available choices is based on your product details.

Note: Available choices correspond to barcode size in the GS1 General Specifications.

Barcode Type - Select the type of barcode symbol for this product. Choices default to the most likely option based on the application area you selected. In this example, the dropdown choice is GS1-128.

Size - Select the size of the barcode symbol. Choices default to the most likely option based on the application area and the barcode type you selected.



Creating the GS1-128 Barcode (Continued)

The screenshot shows a web interface for creating a GS1-128 barcode. It is divided into several sections:

- 3** **Application Identifiers**: A text input field containing "9081411004871".
- Variable Measure Application Identifiers**: A section with a dropdown menu for "Application Identifier Code" and a text input for "Application Identifier Value".
- 4** **Additional Application Identifiers**: A section with multiple rows, each containing a dropdown for "Application Identifier Code" and a text input for "Application Identifier Value".
- 5** **Buttons**: "Preview Barcode" and "Export Definition" buttons.

At the bottom, there is a green bar with a checkmark and the text "View List of GS1 Standards, Professional Barcode Image and Print Vendors".

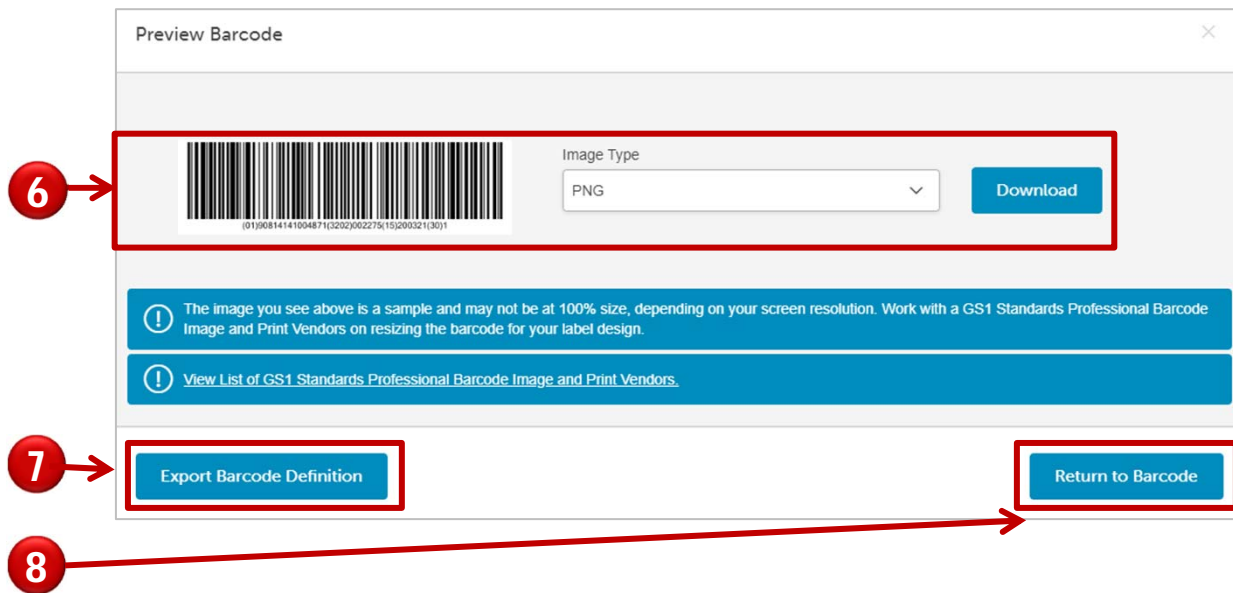


- 3** Now you can enter **Application Identifiers**. AI (01) for GTIN is automatically added. Select one of the **Application Identifiers** related to Variable Measure Trade Items, such as count, weight, height and more.
- 4** You can also enter other **Application Identifiers** as needed. In this example, three **Application Identifiers** were selected: AI (30) Count of Items, AI (3202) Net weight in pounds with 2 decimal position (22.75 lbs. is entered as 002275), and AI (15) Best Before Date. Please see "Partial List of Application Identifiers" in this user guide for more details.
- 5** Click **Preview Barcode**. This opens an image of the GS1-128 barcode.



NOTE: To see the list of most common **Application Identifiers** for Variable Measure Products, **type **** in the space provided. Refer to Section 3 of the GS1 General Specifications for a full list and explanation of the AI formats.

Creating the GS1-128 Barcode (Continued)



- 6** **Download** - save the barcode image as a PNG file to your computer to share with print vendors.
- 7** **Export Barcode Definition** - download the barcode symbol specifications to be shared with your print vendors.
- 8** **Return to Barcode** - click to return to the Barcode tab.



NOTE: The Application Identifier values are not saved with the product detail record. But you have a record of the specific values you entered when you click the Export Barcode Definition button

Partial list of Application Identifiers

- Refer to Section 3 of the [GS1 General Specifications](#) for a complete listing and an explanation of the AI formats. In the AI column, the “n” or fourth digit of the GS1 Application Identifier indicates the implied decimal point position. For example:
- 3100 Net weight in kg would be used if there is no decimal point; for example, 25 kg would be entered as 000025
 - 3102 Net weight in kg would be used if there are two decimal points; for example, 22.75 kg would be entered as 002275

| AI | Data Content | Format * | FNC1 Required | Data Title |
|------|--|----------|---------------|-----------------|
| 30 | Count of Items (Variable Measure Trade Item) | N2+N..8 | (FNC1) | VAR. COUNT |
| 310n | Net weight, kilograms (Variable Measure Trade Item) | N4+N6 | | NET WEIGHT (kg) |
| 311n | Length or first dimension, metres (Variable Measure Trade Item) | N4+N6 | | LENGTH (m) |
| 312n | Width, diameter, or second dimension, metres (Variable Measure Trade Item) | N4+N6 | | WIDTH (m) |
| 313n | Depth, thickness, height, or third dimension, metres (Variable Measure Trade Item) | N4+N6 | | HEIGHT (m) |
| 314n | Area, square metres (Variable Measure Trade Item) | N4+N6 | | AREA (m2) |
| 315n | Net volume, litres (Variable Measure Trade Item) | N4+N6 | | NET VOLUME (l) |
| 316n | Net volume, cubic metres (Variable Measure Trade Item) | N4+N6 | | NET VOLUME (m3) |
| 320n | Net weight, pounds (Variable Measure Trade Item) | N4+N6 | | NET WEIGHT (lb) |
| 321n | Length or first dimension, inches (Variable Measure Trade Item) | N4+N6 | | LENGTH (i) |
| 322n | Length or first dimension, feet (Variable Measure Trade Item) | N4+N6 | | LENGTH (f) |
| 323n | Length or first dimension, yards (Variable Measure Trade Item) | N4+N6 | | LENGTH (y) |
| 324n | Width, diameter, or second dimension, inches (Variable Measure Trade Item) | N4+N6 | | WIDTH (i) |
| 325n | Width, diameter, or second dimension, feet (Variable Measure Trade Item) | N4+N6 | | WIDTH (f) |
| 326n | Width, diameter, or second dimension, yards (Variable Measure Trade Item) | N4+N6 | | WIDTH (y) |
| 327n | Depth, thickness, height, or third dimension, inches (Variable Measure Trade Item) | N4+N6 | | HEIGHT (i) |
| 328n | Depth, thickness, height, or third dimension, feet (Variable Measure Trade Item) | N4+N6 | | HEIGHT (f) |
| 329n | Depth, thickness, height, or third dimension, yards (Variable Measure Trade Item) | N4+N6 | | HEIGHT (y) |
| 364n | Net volume, cubic inches (Variable Measure Trade Item) | N4+N6 | | VOLUME (i3) |
| 365n | Net volume, cubic feet (Variable Measure Trade Item) | N4+N6 | | VOLUME (f3) |
| 366n | Net volume, cubic yards (Variable Measure Trade Item) | N4+N6 | | VOLUME (y3) |

*The first position indicates the length (number of digits) of the GS1 Application Identifier, and the second position refers to the length of the data content; N4 = four numeric digits, and N..8 = up to eight digits.