



General Specifications Change Notification (GSCN)

WR #	GSCN Name	Ratification Date
23-006	RCN updates	Mar 2023

Associated Work Request (WR) Number:

22-300 Deprecate mutual agreed language and x-dimension

Background:

This GSCN clarifies language around Restricted Circulation Numbers (RCNs).

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1.3.4 Carrier independence

GS1 identification keys are defined and utilised per GS1 definitions independent of data carrier (e.g., barcode, radio frequency identification (RFID), business message).

1.3.5 GS1 business messages

GS1 business messages or GS1 standards-based applications use GS1 identification keys for identification exclusive of GS1 data carrier features. Examples of data carrier features include the use of:

- Modulo 103 GS1-128 symbol check character to secure data capture.
- Function 1 Symbol Character (FNC1) in the second position of GS1-128 barcode or an Electronic Product Code (EPC) header value to discriminate between GS1 data content and data carrier overhead.
- Separator characters or EPC parsing values to parse a decoded data string into significant data parts.

! **Exception:** If an EPC user is using GS1 system and non-GS1 system headers to support an application, this policy does not apply, and advice should be sought on the use of EPC headers to provide uniqueness among multiple numbering systems.

1.4 The GS1 identification system

1.4.1 Global, open versus restricted

1.4.1.1 Global, open numbers (unrestricted distribution)

Global, open is an identification number used in unrestricted distribution which signifies that such system data may be applied on goods to be processed anywhere in the world without restraint as to such things as country, company and industry.

1.4.1.2 Restricted Circulation Numbers (RCNs)

Restricted Circulation Numbers (RCNs) are GS1 identification numbers used for special applications in restricted environments, defined by the local GS1 Member Organisation (e.g., restricted within a country, company, or industry). They are allocated by GS1 for either internal use by companies or to GS1 Member Organisations for assignment based on business needs in their country (e.g., variable measure trade item identification, coupons):

- RCN-12 is a 12-digit Restricted Circulation Number.
- RCN-13 is a 13-digit Restricted Circulation Number.
- RCN-8 is an 8-digit Restricted Circulation Number.

Restricted circulation numbers (RCNs) SHALL only be encoded in EAN-8, EAN-13, UPC-A, or UPC-E symbols. RCNs SHALL NOT be encoded using any Application Identifiers.

1.4.2 GS1 Prefix

The GS1 Prefix is a unique string of two or more digits, issued by the GS1 Global Office, and allocated to GS1 Member Organisations to issue GS1 Company Prefixes or allocated to other specific areas listed in figure [1.4.2-1](#). The main purpose of the GS1 Prefix is to allow decentralisation of the administration of identification numbers. GS1 Prefix ranges are shown in figure [1.4.2-1](#).

✓ **Note:** As the GS1 Prefix varies in length, the issuance of a GS1 Prefix excludes all longer strings that start with the same digits from being issued as GS1 Prefixes.

2.1.11 Fixed measure trade items – restricted distribution applications

This section describes applications where the item identification is defined only in a closed environment. However, within their closed environment these items may be processed along with trade items identified with Global Trade Item Numbers (GTINs) defined for open trade.

These identification numbers are known as Restricted Circulation Numbers (RCNs) and may be 8, 12 or 13 digits in length. Eight-digit numbers are known as RCN-8s, 12-digit numbers as RCN-12s and 13-digit numbers as RCN-13s.

The regulations established by GS1 Member Organisations for their country or assigned area should be observed for the allocation of these Restricted Circulation Numbers:

- When assigned to company internal use, the structure and management of the numbers represented in the element strings of this section are the responsibility of the user. Number changes and reuse of expired numbers must be managed by the user based on their requirements.
- When centrally administrated within a geographic area, the GS1 Member Organisation determines the structure and manages number allocation based on user requirements.

Restricted circulation fixed measure trade items are defined only in a closed environment. Therefore, the distribution of trade items marked in this way is restricted to a given geographic region or for use within a company. These items are either marked in the store by the retailer or are marked at the source by the supplier.

GS1 Member Organisations may assign one or several of the GS1 Prefixes 02, 20 through 29 for the identification of fixed measure trade items with RCN-13s or RCN-12s for use within a given geographic region or for use within a company.

Restricted circulation numbers (RCNs) SHALL only be encoded in EAN-8, EAN-13, UPC-A, or UPC-E symbols. RCNs SHALL NOT be encoded using any Application Identifiers.

2.1.11.1 Company internal numbering – RCN-8 Prefix 0 or 2

Application description

This element string uses an RCN-8 Prefix of 0 or 2. It provides two million identification numbers, which can be assigned for internal use in a company. When the RCN-8 Prefix is 0, the element string is sometimes called a velocity code because it is quicker to key enter.

This element string is for internal use in a company. The numbers are assigned by individual companies and do not provide unique identification if they leave the company premises.

Figure 2.1.11.1-1. Data structure RCN-8 Prefix 0 or 2

RCN-8 Prefix	Item reference						Check digit
N ₁	N ₂	N ₃	N ₄	N ₅	N ₆	N ₇	N ₈

The RCN-8 Prefixes 0 or 2 are system identifiers that show that the item identification number is under the sole control of the assigning company and that it is for internal item distribution.

The item reference is allocated by the company that uses the element string. The positions N₂ to N₇ may contain any digit.

The check digit is explained in section 7.9. Its verification, carried out automatically by the barcode reader, ensures that the number is correctly composed.

The data transmitted from the barcode reader means that one fixed measure trade item with a GTIN-8 has been captured.


- ✓ **Note:** In addition to trade item identification, this element string may be used for any purpose that is supported by the company's equipment supplier.



2.1.12 Variable measure trade items scanned at retail POS

This section describes applications for variable measure trade items that are scanned at retail point-of-sale. Two main applications exist:

- Variable measure fresh food trade items using a GTIN and additional attributes encoded with GS1 DataBar Expanded or GS1 DataBar Expanded Stacked. See section [2.1.12.1](#). During a transition period, 2D barcodes may be applied in addition to the linear barcode. For a summary of all conformance requirements for this AIDC application standard, 2D barcodes, cross-application rules and related technical specifications, see section [8.4. GTINs SHALL be encoded with AI \(01\)](#).
- Variable measure trade items using a Restricted Circulation Number (RCN) SHALL be encoded in with the EAN/UPC barcodessymbology-family. See section [2.1.12.2](#).

 ~~Note: GTINs SHALL be encoded with AI (01). Restricted Circulation Numbers (RCNs) SHALL NOT be encoded with AI (01) as RCNs are not GTINs.~~

For information on how to manage multiple barcodes see section [4.15](#).

2.1.12.1 Variable measure fresh food trade items scanned at retail POS using GTIN

Application description

Like a fixed measure trade item, a variable measure trade item is an entity with predefined characteristics, such as the nature of the product or its contents. Unlike a fixed measure trade item, a variable measure trade item has one measure that varies continuously while other characteristics remain the same. In the case of fresh food trade items variable measure may be weight, length, number of items contained, or volume. There are different ways to handle the process for variable measure fresh food. For example:

- Consumer puts loose produce items into a bag and a barcoded label is produced and attached by the consumer.
- Staff attaches a barcode label, produced in store to pre-packed loose produce trade item.
- At the POS, loose produce is weighed and the price is calculated.

It is at the discretion of the retailer how the price is calculated and which process is chosen.

Variable measure fresh food

Variable measure loose produce trade items are trade items which may be identified with a GTIN and additional data. The retailer decides how to handle Variable measure fresh food trade items sold at POS. Generally, the individual item(s) (i.e. loose produce) are put into a bag by the customer or by staff and are scanned (if a label is generated in store) or weighed at POS to generate the price. The attributes of variable measure trade items are barcoded when the trade item is weighed or measured in store. If the variable measure trade item is weighed at POS when presented to the cashier the price is generated in the register and directly added to the other products to complete the transaction.

Variable measure pre-packed fresh food trade items

These are Variable measure fresh foods trade items, either loose produce or cut from a bulk item, that are pre-packaged with differing weight or other variable measure using GTIN and attributes. The label put on the trade item encoding GTIN plus variable measure information and/or price is determined by the retailer.

GS1 key

Required

The allowed key formats for this application are:

- GTIN-12
- GTIN-13