



General Specifications Change Notification (GSCN)

WR #	GSCN Name	Effective Date
WR 25-081	Align abbreviations for measures to UN ECE Recommendation 20, and the GS1 Style Guide, for all GS1 Application Identifiers (GenSpecs Figure 3.2-1)	May-2025

Associated Work Request (WR) Number:

n/a

Background:

For some of the original GS1 Application Identifiers for imperial measures, the Data Title abbreviation for the unit of measure is not aligned to the UN ECE Recommendation 20. The intent of this work request is to align these GS1 Application Identifiers, which only appear in a few places in section 3 of the GS1 General Specifications, with the UN ECE Recommendation 20, the GS1 Style Guide and therefore all other GS1 standards and guidelines also.

The impacted measure abbreviations are:

- Quart (q) → (qt (US))
- Troy ounce (t) → (tr oz)
- US gallon (g) → (gal (US))

ONLY the abbreviation changes. No other part of the definition is impacted.

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3 GS1 Application Identifier definitions

3.1 Introduction

This section describes the meaning, structure and function of the GS1 system element strings so they can be correctly processed in users' application programmes. An element string is the combination of a GS1 Application Identifier and a GS1 Application Identifier data field. The allowable character set to be used for GS1 Application Identifier element strings is defined in section 7.11. There are AIs that have additional syntax restrictions, e.g., numerical only; see below definition for each AI.

Automatic processing of element strings in business applications requires information about the type of transaction to which the transferred data refers. See section 7 for an explanation of this process. Element strings can be carried by GS1-128, GS1 DataBar symbology, GS1 Composite, GS1 DataMatrix and GS1 QR Code symbols. The rules for use and interrelationships between the GS1 Application Identifiers are contained in section 2 and 4.

When a predefined length GS1 key and attributes are encoded together, the GS1 key SHOULD appear before the attributes. In most cases predefined length element strings SHOULD be followed by non-predefined element strings. The sequence of predefined and non-predefined element strings should be at the discretion of the creator of the element strings.

3.2 GS1 Application Identifiers in numerical order

Figure 3.2-1. GS1 Application Identifiers

AI	Data Content	Format ⁽¹⁾	FNC1 required ⁽⁴⁾	Data title
00	Identification of a logistic unit (SSCC): AI (00)	N2+N18		SSCC
01	Identification of a trade item (GTIN): AI (01)	N2+N14		GTIN
02	Identification of trade items contained in a logistic unit: AI (02)	N2+N14		CONTENT
03	Identification of a Made-to-Order (MtO) trade item (GTIN): AI (03)	N2+N14		MTO GTIN
10	Batch or lot number: AI (10)	N2+X..20	(FNC1)	BATCH/LOT
11 ⁽²⁾	Production date: AI (11)	N2+N6		PROD DATE
12 ⁽²⁾	Due date for amount on payment slip: AI (12)	N2+N6		DUE DATE
13 ⁽²⁾	Packaging date: AI (13)	N2+N6		PACK DATE
15 ⁽²⁾	Best before date: AI (15)	N2+N6		BEST BEFORE or BEST BY
16 ⁽²⁾	Sell by date: AI (16)	N2+N6		SELL BY
17 ⁽²⁾	Expiration date: AI (17)	N2+N6		USE BY or EXPIRY
20	Internal product variant: AI (20)	N2+N2		VARIANT
21	Serial number: AI (21)	N2+X..20	(FNC1)	SERIAL
22	Consumer product variant: AI (22)	N2+X..20	(FNC1)	CPV
235	Third Party Controlled, Serialised Extension of Global Trade Item Number (GTIN) (TPX): AI (235)	N3+X..28	(FNC1)	TPX
240	Additional product identification assigned by the manufacturer: AI (240)	N3+X..30	(FNC1)	ADDITIONAL ID
241	Customer part number: AI (241)	N3+X..30	(FNC1)	CUST. PART No.
242	Made-to-Order variation number: AI (242)	N3+N..6	(FNC1)	MTO VARIANT
243	Packaging component number: AI (243)	N3+X..20	(FNC1)	PCN
250	Secondary serial number: AI (250)	N3+X..30	(FNC1)	SECONDARY SERIAL
251	Reference to source entity: AI (251)	N3+X..30	(FNC1)	REF. TO SOURCE



AI	Data Content	Format ⁽¹⁾	FNC1 required ⁽⁴⁾	Data title
253	Global Document Type Identifier (GDTI): AI (253)	N3+N13[+X..17]	(FNC1)	GDTI
254	Global Location Number (GLN) extension component: AI (254)	N3+X..20	(FNC1)	GLN EXTENSION COMPONENT
255	Global Coupon Number (GCN): AI (255)	N3+N13[+N..12]	(FNC1)	GCN
30	Variable count of items: AI (30)	N2+N..8	(FNC1)	VAR. COUNT
310n ⁽³⁾	Net weight, kilograms (variable measure trade item)	N4+N6		NET WEIGHT (kg)
311n ⁽³⁾	Length or first dimension, metres (variable measure trade item)	N4+N6		LENGTH (m)
312n ⁽³⁾	Width, diameter, or second dimension, metres (variable measure trade item)	N4+N6		WIDTH (m)
313n ⁽³⁾	Depth, thickness, height, or third dimension, metres (variable measure trade item)	N4+N6		HEIGHT (m)
314n ⁽³⁾	Area, square metres (variable measure trade item)	N4+N6		AREA (m ²)
315n ⁽³⁾	Net volume, litres (variable measure trade item)	N4+N6		NET VOLUME (l)
316n ⁽³⁾	Net volume, cubic metres (variable measure trade item)	N4+N6		NET VOLUME (m ³)
320n ⁽³⁾	Net weight, pounds (variable measure trade item)	N4+N6		NET WEIGHT (lb)
321n ⁽³⁾	Length or first dimension, inches (variable measure trade item)	N4+N6		LENGTH (in)
322n ⁽³⁾	Length or first dimension, feet (variable measure trade item)	N4+N6		LENGTH (ft)
323n ⁽³⁾	Length or first dimension, yards (variable measure trade item)	N4+N6		LENGTH (yd)
324n ⁽³⁾	Width, diameter, or second dimension, inches (variable measure trade item)	N4+N6		WIDTH (in)
325n ⁽³⁾	Width, diameter, or second dimension, feet (variable measure trade item)	N4+N6		WIDTH (ft)
326n ⁽³⁾	Width, diameter, or second dimension, yards (variable measure trade item)	N4+N6		WIDTH (yd)
327n ⁽³⁾	Depth, thickness, height, or third dimension, inches (variable measure trade item)	N4+N6		HEIGHT (in)
328n ⁽³⁾	Depth, thickness, height, or third dimension, feet (variable measure trade item)	N4+N6		HEIGHT (ft)
329n ⁽³⁾	Depth, thickness, height, or third dimension, yards (variable measure trade item)	N4+N6		HEIGHT (yd)
330n ⁽³⁾	Logistic weight, kilograms	N4+N6		GROSS WEIGHT (kg)
331n ⁽³⁾	Length or first dimension, metres	N4+N6		LENGTH (m), log
332n ⁽³⁾	Width, diameter, or second dimension, metres	N4+N6		WIDTH (m), log
333n ⁽³⁾	Depth, thickness, height, or third dimension, metres	N4+N6		HEIGHT (m), log
334n ⁽³⁾	Area, square metres	N4+N6		AREA (m ²), log
335n ⁽³⁾	Logistic volume, litres	N4+N6		VOLUME (l), log
336n ⁽³⁾	Logistic volume, cubic metres	N4+N6		VOLUME (m ³), log
337n ⁽³⁾	Kilograms per square metre	N4+N6		KG PER m ²
340n ⁽³⁾	Logistic weight, pounds	N4+N6		GROSS WEIGHT (lb)
341n ⁽³⁾	Length or first dimension, inches	N4+N6		LENGTH (in), log
342n ⁽³⁾	Length or first dimension, feet	N4+N6		LENGTH (ft), log
343n ⁽³⁾	Length or first dimension, yards	N4+N6		LENGTH (yd), log



AI	Data Content	Format ⁽¹⁾	FNC1 required ⁽⁴⁾	Data title
344n ⁽³⁾	Width, diameter, or second dimension, inches	N4+N6		WIDTH (in), log
345n ⁽³⁾	Width, diameter, or second dimension, feet	N4+N6		WIDTH (ft), log
346n ⁽³⁾	Width, diameter, or second dimension, yard	N4+N6		WIDTH (yd), log
347n ⁽³⁾	Depth, thickness, height, or third dimension, inches	N4+N6		HEIGHT (in), log
348n ⁽³⁾	Depth, thickness, height, or third dimension, feet	N4+N6		HEIGHT (ft), log
349n ⁽³⁾	Depth, thickness, height, or third dimension, yards	N4+N6		HEIGHT (yd), log
350n ⁽³⁾	Area, square inches (variable measure trade item)	N4+N6		AREA (in ²)
351n ⁽³⁾	Area, square feet (variable measure trade item)	N4+N6		AREA (ft ²)
352n ⁽³⁾	Area, square yards (variable measure trade item)	N4+N6		AREA (yd ²)
353n ⁽³⁾	Area, square inches	N4+N6		AREA (in ²), log
354n ⁽³⁾	Area, square feet	N4+N6		AREA (ft ²), log
355n ⁽³⁾	Area, square yards	N4+N6		AREA (yd ²), log
356n ⁽³⁾	Net weight, troy ounces (variable measure trade item)	N4+N6		NET WEIGHT (tr oz)
357n ⁽³⁾	Net weight (or volume), ounces (variable measure trade item)	N4+N6		NET VOLUME (oz)
360n ⁽³⁾	Net volume, quarts (variable measure trade item)	N4+N6		NET VOLUME (qt (US))
361n ⁽³⁾	Net volume, gallons U.S. (variable measure trade item)	N4+N6		NET VOLUME (gal (US))
362n ⁽³⁾	Logistic volume, quarts	N4+N6		VOLUME (qt (US)), log
363n ⁽³⁾	Logistic volume, gallons U.S.	N4+N6		VOLUME (gal (US)), log
364n ⁽³⁾	Net volume, cubic inches (variable measure trade item)	N4+N6		VOLUME (in ³)
365n ⁽³⁾	Net volume, cubic feet (variable measure trade item)	N4+N6		VOLUME (ft ³)
366n ⁽³⁾	Net volume, cubic yards (variable measure trade item)	N4+N6		VOLUME (yd ³)
367n ⁽³⁾	Logistic volume, cubic inches	N4+N6		VOLUME (in ³), log
368n ⁽³⁾	Logistic volume, cubic feet	N4+N6		VOLUME (ft ³), log
369n ⁽³⁾	Logistic volume, cubic yards	N4+N6		VOLUME (yd ³), log
37	Count of trade items or trade item pieces contained in a logistic unit: AI (37)	N2+N..8	(FNC1)	COUNT
390n ⁽³⁾	Amount payable or coupon value - Single monetary area: AI (390n)	N4+N..15	(FNC1)	AMOUNT
391n ⁽³⁾	Amount payable and ISO currency code: AI (391n)	N4+N3+N..15	(FNC1)	AMOUNT
392n ⁽³⁾	Amount payable for a variable measure trade item - Single monetary area: AI (392n)	N4+N..15	(FNC1)	PRICE
393n ⁽³⁾	Amount payable for a variable measure trade item and ISO currency code: AI (393n)	N4+N3+N..15	(FNC1)	PRICE
394n ⁽³⁾	Percentage discount of a coupon: AI (394n)	N4+N4	(FNC1)	PRCNT OFF
395n ⁽³⁾	Amount payable per unit of measure single monetary area (variable measure trade item): AI (395n)	N4+N6	(FNC1)	PRICE/UoM
400	Customer's purchase order number: AI (400)	N3+X..30	(FNC1)	ORDER NUMBER

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- ✓ **Note:** This element string must not be used to indicate the contained quantity of a fixed measure trade item. However, if this element string appears on a fixed measure trade item (in error) it should not invalidate the item identification but should be treated as redundant data.

Figure 3.6.1-1. Format of the element string

GS1 Application Identifier	Variable count of items
3 0	N ₁ — variable length —>N ₈

The data transmitted from the barcode reader means that the element string denoting a quantity (variable count of items), which can be considered part of the identification of a variable measure trade item, has been captured. This element string must be processed with the GTIN of the trade item to which it relates (see section [4.13 Data relationships](#)).

When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **VAR. COUNT**

3.6.2 Trade measures: AIs (31nn, 32nn, 35nn, 36nn)

The GS1 Application Identifiers (digits A1 to A4 – see figure below) indicate that the GS1 Application Identifier data field contains the quantity or dimension of a variable measure trade item. It also denotes the unit of measure. These element strings are used to complete the identification of a variable measure trade item. They contain information such as the weight, size, volume, or dimension of a variable measure trade item and, therefore, should never be applied alone. Several element strings are possible if the variables required are dimensions or weights expressed in kilograms and pounds.

The GS1 Application Identifier digit A4 indicates the implied decimal point position, where, for example, the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is between N5 and N6. The “applicable value” field contains the variable measure that applies to the respective trade item.

Figure 3.6.2-1. Format of the element string

GS1 Application Identifier				Applicable value					
A ₁	A ₂	A ₃	A ₄	N ₁	N ₂	N ₃	N ₄	N ₅	N ₆

The GS1 Application Identifiers used with this element string are shown in the figure below.

- ✓ **Note:** Other values of AI (3nnn) specify gross measures and logistic measures.

Figure 3.6.2-2. GS1 Application Identifiers for trade measures

A ₁	A ₂	A ₃	A ₄	Trade measure	Unit of measure
3	1	0	n	Net weight	Kilograms
3	1	1	n	Length or first dimension	Metres
3	1	2	n	Width, diameter, or second dimension	Metres
3	1	3	n	Depth, thickness, height, or third dimension	Metres
3	1	4	n	Area	Square metres
3	1	5	n	Net volume	Litres
3	1	6	n	Net volume	Cubic metres
3	2	0	n	Net weight	Pounds
3	2	1	n	Length or first dimension	Inches
3	2	2	n	Length or first dimension	Feet
3	2	3	n	Length or first dimension	Yards



A ₁	A ₂	A ₃	A ₄	Trade measure	Unit of measure
3	2	4	n	Width, diameter, or second dimension	Inches
3	2	5	n	Width, diameter, or second dimension	Feet
3	2	6	n	Width, diameter, or second dimension	Yards
3	2	7	n	Depth, thickness, height, or third dimension	Inches
3	2	8	n	Depth, thickness, height, or third dimension	Feet
3	2	9	n	Depth, thickness, height, or third dimension	Yards
3	5	0	n	Area	Square inches
3	5	1	n	Area	Square feet
3	5	2	n	Area	Square yards
3	5	6	n	Net weight	Troy ounces
3	5	7	n	Net weight (or volume)	Ounces
3	6	0	n	Net volume	Quarts (US)
3	6	1	n	Net volume	Gallons (U.S.)
3	6	4	n	Net volume	Cubic inches
3	6	5	n	Net volume	Cubic feet
3	6	6	n	Net volume	Cubic yards

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The data transmitted from the barcode reader means that the element string denoting a quantity, which can be considered part of the identification of a variable measure trade item, has been captured. This element string must be processed together with the GTIN of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the data title listed in section 3.2 SHOULD be used.

3.6.3 Logistic measures: AIs (33nn, 34nn, 35nn, 36nn)

✓ **Note:** For AI (337) refer to section 3.6.4

The GS1 Application Identifiers (A1 to A4 see figure below) indicate that the GS1 Application Identifier data field contains the logistic quantity or dimension of a logistic unit or a variable measure trade item. They also denote the unit of measure.

✓ **Note:** The GS1 system provides standards for logistic weights and measures in metric and other units of measure. In principle, a particular logistic measure SHOULD be applied in only one unit of measure on a given logistic unit. However, application of the same attribute in several units of measure does not impede the correct processing of the transmitted data.

The GS1 Application Identifier digit in field A4 indicates the implied decimal point position, where, for example, the digit 0 means that there is no decimal point, and the digit 1 means that the decimal point is between N5 and N6. The Applicable Value field represents the measures of the respective unit.

Figure 3.6.3-1. Format of the element string

GS1 Application Identifier				Applicable value					
A ₁	A ₂	A ₃	A ₄	N ₁	N ₂	N ₃	N ₄	N ₅	N ₆

The GS1 Application Identifiers used with this element string are shown in the figure below.

Figure 3.6.3-2. GS1 Application Identifiers for logistic measures

A ₁	A ₂	A ₃	A ₄	Definition of logistic measures	Unit of measure
3	3	0	n	Logistic weight	Kilograms
3	3	1	n	Length or first dimension	Metres