GS1 DataBar at Point-of-Sale
Fact Sheet

There are four different GS1 DataBar barcodes that can be scanned at Point-of-Sale (POS) and which one you choose depends on the application as explained in the information below.

Note: As of 2014 GS1 DataBar became an open global standard, however companies should check with their trading partners prior to implementing the use of this symbology.

General features of GS1 DataBar

- GS1 DataBar barcodes are used to identify small and hard-to-mark items like fruit, jewellery, and cosmetics.
- In Australia GS1 DataBar is mainly used on loose unpackaged fruits.
- GS1 DataBar can encode a GTIN-13, GTIN-12 or GTIN-8, but as the GTIN data field is 14 digits long, one, two or five filler zeroes respectively must be added before the GTIN to make up the 14 digits.
- GS1 DataBar can encode a GTIN-14, but a GTIN-14 must not be encoded in a GS1 DataBar barcode that will be scanned at POS.
- There are no Quiet Zones.

GS1 DataBar barcodes that encode a GTIN only

Use either a GS1 DataBar **Omnidirectional** or a GS1 DataBar **Stacked Omnidirectional** barcode if you need to encode a GTIN only. The choice between the two depends on what shape best suits the space available for the barcode. These barcodes are suitable for small hard-to-mark products and for fresh foods.

Figure 1. GS1 DataBar Omnidirectional

Figure 2. GS1 DataBar Stacked Omnidirectional
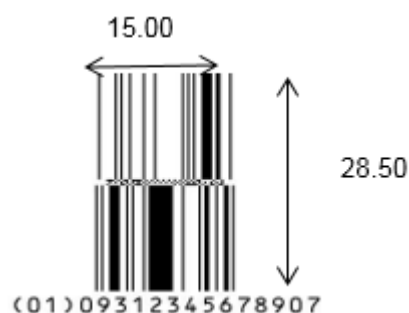
Note: Figures are not to scale. Measurements are in millimetres.

- The measurements in Figures 1 and 2 are for symbols with an X-dimension of 0.30mm. For sizes at the full range of allowable X-dimensions, see Table 1.

Table 1: GS1 DataBar Omnidirectional and GS1 DataBar Stacked Omnidirectional width and height at different X-dimensions

X-dimension (mm)	GS1 DataBar Omnidirectional		GS1 DataBar Stacked Omnidirectional	
	Width (mm)	Height (mm)	Width (mm)	Height (mm)
0.26	25.34	12.14	13.20	25.08
0.28	26.88	12.88	14.00	26.60
0.30	28.80	13.80	15.00	28.50
0.31	29.76	14.26	15.50	29.45
0.33	31.68	15.18	16.50	31.35
0.35	33.60	16.10	17.50	33.25
0.36	34.56	16.56	18.00	34.20
0.38	36.48	17.48	19.00	36.10
0.40	38.40	18.40	20.00	38.00
0.41	39.36	18.86	20.50	38.95
0.43	41.28	19.78	21.50	40.85
0.45	43.20	20.70	22.50	42.75
0.46	44.16	21.16	23.00	43.70
0.48	46.08	22.08	24.00	45.60
0.50	48.00	23.00	25.00	47.50
0.51	48.96	23.46	25.50	48.45
0.53	50.88	24.38	26.50	50.35
0.54	51.84	24.84	27.00	51.30
0.56	53.76	25.76	28.00	53.20
0.58	55.68	26.68	29.00	55.10
0.59	56.64	27.14	29.50	56.05
0.61	58.56	28.06	30.50	57.95
0.63	60.48	28.98	31.50	59.85
0.64	61.44	29.44	32.00	60.80
0.66	63.36	30.36	33.00	62.70

Note: GS1 DataBar symbols do not have Quiet Zones

GS1 DataBar barcodes that encode a GTIN plus additional information

Use a **GS1 DataBar Expanded** or a **GS1 DataBar Expanded Stacked** barcode if you need to encode data in addition to the GTIN such as serial number, weight, use-by date or batch/lot number. The choice between the two depends on which shape best suits the space available for the barcode. Examples of products for which these barcodes are suitable are variable measure fresh food items such as loose produce and prepacked fresh foods.

Figure 3. GS1 DataBar Expanded

Figure 4. GS1 DataBar Expanded Stacked

10.20

21.30

Note: Figures are not to scale. Measurements are in millimetres.

- The barcodes in Figures 3 and 4 encode a GTIN and weight.
- The heights are for symbols with an X-dimension of 0.30mm but the width varies depending on the amount of data represented.
- For heights at the full range of allowable X-dimensions, see Table 2.

Table 2: GS1 DataBar Expanded and GS1 DataBar Expanded Stacked height at different X-dimensions

	GS1 DataBar Expanded	GS1 DataBar Expanded Stacked
X-dimension (mm)	Height (mm)	Height (mm) of a two-row symbol
0.26	8.98	18.74
0.28	9.52	19.88
0.30	10.20	21.30
0.31	10.54	22.01
0.33	11.22	23.43
0.35	11.90	24.85
0.36	12.24	25.56
0.38	12.92	26.98
0.40	13.60	28.40
0.41	13.94	29.11
0.43	14.62	30.53

0.45	15.30	31.95
0.46	15.64	32.66
0.48	16.32	34.08
0.50	17.00	35.50
0.51	17.34	36.21
0.53	18.02	37.63
0.54	18.36	38.34
0.56	19.04	39.76
0.58	19.72	41.18
0.59	20.06	41.89
0.61	20.74	43.31
0.63	21.42	44.73
0.64	21.76	45.44
0.66	22.44	46.86

Notes:

- The width of a GS1 DataBar Expanded or Expanded Stacked barcode varies depending on the amount of data encoded.

- The maximum number of rows in a GS1 DataBar Expanded Stacked barcode is eleven, however more than seven rows is not recommended due to the effect on scanning performance and five or more rows will cause reduced scanning performance at higher X-dimensions.

- GS1 DataBar symbols do not have Quiet Zones.

Concatenation

Concatenation (stringing data elements together) is an effective means for presenting multiple element strings in a single barcode. The GTIN and GTIN attributes shall be concatenated in GS1 DataBar Expanded and GS1 DataBar Expanded Stacked barcodes to ensure accurate data association (see Figures 3 and 4).

Human Readable Interpretation (HRI)

The HRI should be placed below the barcode, must show all digits encoded in the barcode and be grouped together wherever physically possible.

A clearly legible font shall be used such as OCR-B or Sans serif font types such as Arial are preferred. Bold, italics, light or narrow versions of a font should not be used.

Parentheses shall surround AIs in HRI as shown in Figures 1 to 4 but are not encoded in the GS1 DataBar barcode.

X-dimension

The specified X-dimension range for GS1 DataBar barcodes being scanned at retail POS is 0.26 to 0.66mm.

- For on demand (e.g., thermal, laser) print processes an X-dimension between 0.25 and 0.26 mm is permissible.

- For loose produce being weighed at the Point-of-Sale (POS) using GS1 DataBar Stacked Omnidirectional a minimum X-dimension of 0.203 mm is permitted but may produce scanning performance reduction.

- When printing a minimum symbol with any method of printing, the symbol height shall never be truncated below the minimum.