

# GS1 Bar Code Symbol SIZE GUIDE

The size of the bar code is known as magnification.

Magnification can vary within certain limits. If a bar code is not within these limits, it may not scan. Any reduction in magnification below the nominal size (100%) may reduce reliability. Reliability of scanning is always enhanced by selecting a magnification higher than the theoretical minimum.

Manufacturers should also consult their printer before deciding how large a bar code they will have on their pack. Until printability tests have been run the pack material concerned, it is not possible to say how large the bar code should be.

## EAN-13

The nominal size of a 100% EAN-13 digit bar code symbol including the right and left light margin area is 37.29mm wide and 25.93mm high. The bar code symbol must be in the range of 80% to 200%.



## EAN-8

EAN-8 digit bar code symbol is another option if the design of the pack or label genuinely and reasonably precludes the printing of a standard EAN-13 digit bar code symbol. The general rule is that the printable area should not be more than 8,000mm<sup>2</sup> or the product is cylindrical with a diameter less than 30mm. The nominal size of a 100% EAN-8 digit bar code symbol including the right and left

right margin area is 26.73mm wide and 21.31mm high. The bar code symbol can be printed as small as 80%.

Due to the limited number of GTIN-8 digit available, it is only allocated if deemed absolutely necessary. When applying for a GTIN-8 digit, a sample label or a copy of the actual size of the artwork should be provided.



### GS1 Malaysia

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GS1 Malaysia manages the GS1 System in Malaysia under the aegis of Federation of Malaysian Manufacturers (7907-X)

## Overall Dimensions of EAN-13 and EAN-8 Bar Codes

Dimensions of GS1 Bar Codes (mm)						
Mag. Factor	EAN-13			EAN-8		
	Width not including LM	Width including LM	Height including Interp.	Width not including LM	Width including LM	Height including Interp.
0.80	25.08	29.83	20.74	17.69	21.38	17.05
0.85	26.65	31.70	22.04	18.79	22.72	18.11
0.90	28.22	33.56	23.34	19.90	24.06	19.18
0.95	29.78	35.43	24.63	21.00	25.39	20.24
<b>1.00</b>	<b>31.35</b>	<b>37.29</b>	<b>25.93</b>	<b>22.11</b>	<b>26.73</b>	<b>21.31</b>
1.05	32.92	39.15	27.23	23.22	28.07	22.38
1.10	34.49	41.02	28.52	24.32	29.40	23.44
1.15	36.05	42.88	29.82	25.43	30.74	24.51
1.20	37.62	44.75	31.12	26.53	32.08	25.57
1.25	39.19	46.61	32.41	27.64	33.41	26.64
1.30	40.76	48.48	33.71	28.74	34.75	27.70
1.35	42.32	50.34	35.01	29.85	36.09	28.77
1.40	43.89	52.21	36.30	30.95	37.42	29.83
1.45	45.46	54.07	37.60	32.06	38.76	30.90
1.50	47.03	55.94	38.90	33.17	40.10	31.97
1.55	48.59	57.80	40.19	34.27	41.43	33.03
1.60	50.16	59.66	41.49	35.38	42.77	34.10
1.65	51.73	61.53	42.78	36.48	44.10	35.16
1.70	53.30	63.39	44.08	37.59	45.44	36.23
1.75	54.86	65.26	45.38	38.69	46.78	37.29
1.80	56.43	67.12	46.67	39.80	48.11	38.36
1.85	58.00	68.99	47.97	40.90	49.45	39.42
1.90	59.57	70.85	49.27	42.01	50.79	40.49
1.95	61.13	72.72	50.56	43.11	52.12	41.55
2.00	62.70	74.58	51.86	44.22	53.46	42.62

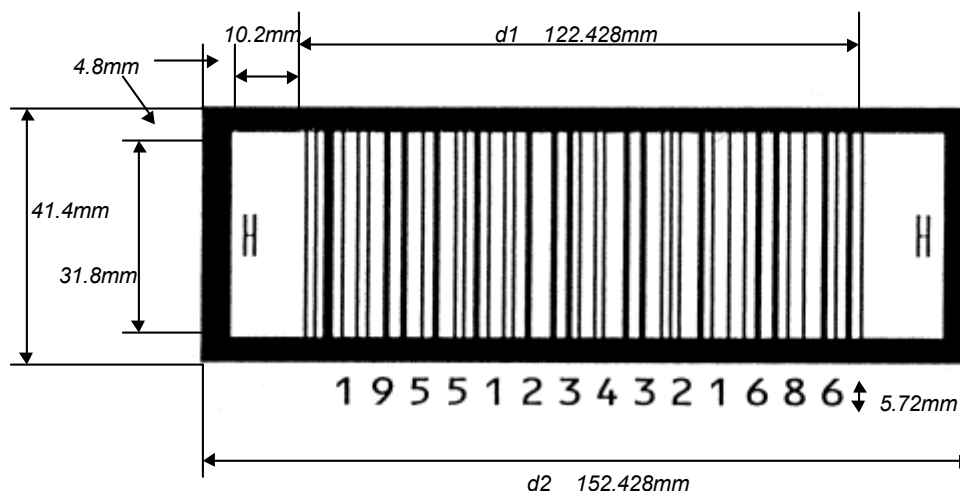
Note:

Mag. = Magnification (Size)

LM = Light Margins (Empty area before and after the bar code symbol)

Interp. = Human Readable Interpretation (The bar coded numbers below the bar code lines)

## ITF-14 Bar Code



Nominal Size (100%) ITF-14 Bar Code

## Overall Dimensions of ITF-14 Bar Code

Mag. factor	X-dimension Narrow element (mm)	Wide element (mm)	Width of Light Margins (10x) (mm)	Min. height of bars (mm)	Excluding bearer bar		Including bearer bar & LM		
					Width not incl LM (mm)	Width incl LM (mm)	Width not incl. H gauges (mm)	Width incl. H gauges (mm)	Height (mm)
0.5	0.508	1.270	5.1	32	61.214	71.41	81.01	87.01	41.6
0.625	0.635	1.588	6.4	32	76.518	89.32	98.92	104.92	41.6
0.7	0.711	1.778	7.1	32	85.700	99.90	109.50	115.50	41.6
0.8	0.813	2.032	8.1	32	97.942	114.14	123.94	129.94	41.6
0.9	0.914	2.286	9.2	32	110.185	128.59	138.14	144.14	41.6
1.0	1.016	2.540	10.2	32	122.428	142.83	152.43	158.43	41.6

Notes : In the heading of this table: Mag. = magnification, LM = Light Margins

### Dimensions of ITF-14 bar codes at various magnification factors

1. The ITF-14 bar code can be printed with a magnification factor ranging from 25% to 100%.
2. To ensure efficient reading in any environment, including conveyerised scanning, a minimum magnification factor of 50% should be used.
3. ITF-14 bar codes with a magnification less than 62.5% should not be printed directly on corrugate with conventional (plate based) processes.

## GS1-128 Bar Code



Sample GS1-128 bar code

### GS1-128 Bar Code Dimensions for Numeric Data

Number of characters including AI	Dimensions (mm) including light margin areas				
	MF 0.25	MF 0.4	MF 0.6	MF 0.8	MF 1.0
4	22.0	35.2	52.8	70.4	88.0
6	24.8	39.6	59.4	79.2	99.0
8	27.5	44.0	66.0	88.0	110.0
10	30.3	48.4	72.6	96.8	121.0
12	33.0	52.8	79.2	105.6	132.0
16	38.5	61.6	92.4	123.2	154.0
20	44.0	70.4	105.6	140.8	—
30	57.8	92.4	138.6	—	—

Note 1: One code A or code B character is included in these calculations. If you use more than one code A, B, C, or shift characters, the bar code width will be larger.  
 Note 2: Calculate widths for other encoded numbers using the formula  $11N + 66$ .

**GS1-128 bar code dimensions for numeric data**

### Overall Dimensions of GS1-128 Bar Code

1. For general distribution, the *height* for a GS1-128 is 32mm.
2. Where space constraints do not allow the bar code to be printed at the minimum recommended height, in no case shall it be lower than 13mm in height.