

LED Information Display

GSO

GSO series information displays are digital LED information displays specially designed for public transport stops and terminals. The full matrix LED displays provide a flexible solution for passenger information systems providing up-to-date information to passengers. Designed without front cover glass for maximum colour reproduction. Various mounting options.



Features

LED Technology

LED full-matrix technology allows freely configurable display layout. Full graphical display with fine pixel pitch 2.5 or 3.9 mm perfectly displays text, graphic symbols, images, videos, websites and live broadcasts.

- High brightness display guarantees excellent readability even in direct sunlight.
- Fully graphic display shows public transport information, train and bus departures, general passenger information as well as advertising messages and other multimedia.

Information System

Possibility of making the display as an autonomous display element or as part of larger information system.

- Management by an external master computer makes tracking and controlling easier.
- Power and runtime data are automatically monitored.

Mechanical Design

- Stable construction made of laser-cut and bent aluminium sheets and profiles, frame color on customer's request.
- Without front glass for excellent contrast and color reproduction, complete reduction of reflections, better cooling and lower weight.
- Flexible dimensions.
- Ceiling, wall bracket or wall surface mounting. Customized solution on request.
- Single sided or double sided design.
- Possibility to implement extra digital clock, analogue clock, platform number or fixed description.
- Cooling is ensured by inner temperature active cooling with fans with fault detection.
- Smooth LED surface for "19g" variant.
- Easy access to all internal modules after tilting front panel makes easier to check up and replace internal parts.

Operation

- The display is designed for reliable usage 24/7 in outdoor conditions.
- Choose from two types of modes according displays usage.

Text-to-Speech Module

Specially developed module for visually handicapped person.

- The module provides the necessary information via synthetic voice output from 8W speakers.

Various Areas of Use



Public Transport
and Bus Stops



Train Stops
and Stations



Railway Stations



LED
Technology



Full Color
RGB Display



Usage 24/7



Brightness up
to 5 500 cd/m²



Management
and Monitoring System



Integrated
Temperature Control



Option WiFi, LTE
or Fiber Optics



Text-To-Speech
Module



Suitable for
Outdoor Use

Technical Parameters

GSO.		19g	25	25a	39
Module Specifications	pixel pitch [mm]	1.95	2.5		3.9
	resolution [px]	128 × 128	100 × 100	128 × 64	64 × 64
	size [mm]	250 × 250		320 × 160	250 × 250
	brightness	4 000 cd/m²	4 500 cd/m²	5 000 cd/m²	5 500 cd/m²
	viewing angle	±70° × ±60°			
	frame frequency	50 Hz			
	refresh rate	3 400 Hz	1 920 Hz		
	color depth	22 bit	24 bit		
	contrast	3 000:1			
	life span	≥100 000 hours (70% brightness)			
Mechanical Construction	frame	laser-cut and bent aluminium sheets			
	glass	without front glass			
	service access	tilting front panel secured by industrial locks			
	cooling	inner temperature-controlled active cooling, fans with fault detection			
	dimensions [mm]	by screen size, see Indicative dimensions table			
	protection degree	IP 54			
	max. size of active display area [m] W × H	2.5 × 1.25	2.75 × 1.25 ¹	2.88 × 1.28	2.75 × 1.25 ¹
	noise level	max. 57 dB – at maximum cooling system power			
Temperature Management	temperature	-20 to +40 °C			
	humidity	10 to 90 % (without condensing)			
	max. intensity of solar radiation	1 120 W/m²			
Power	power voltage	100–240 VAC, 50–60 Hz			
	max. power consumption	45 W/ module MAX, 15 W/ module AVG	30 W/ module MAX, 10 W/ module AVG		27 W/ module MAX, 7 W/ module AVG
Mounting	standard	ceiling suspension, wall bracket, wall surface mounting			
	on request	customized solution			

Note

¹ Possibility to make information display without cover glass made of cabinets, where there is no size limit. Dimensions must be in multiples of 0.5 x 0.5 m.

Basic Font Set

GSO.19g

Name	Standard 5/7	Bold 6/7	Narrow 4/7	Standard 6/10	Narrow 6/12	Arial 9/11	Arial 11/13	Arial 15/17	Arial 17/19	Arial 25/27
Max. character size (including gaps) [px] A × B	6 × 10	7 × 10	5 × 10	7 × 14	7 × 10	8 × 14	12 × 18	16 × 27	18 × 30	26 × 42
Height of capital letter [mm] C	14.6	14.6	14.6	20.4	24.3	22.4	26.3	34.1	38.0	53.6
Readability DIN1450 [m]	6	6	6	9	10	9	11	14	16	22
Readability TSI-PRM [m]	4	4	4	6	7	6	7	9	10	14
Number of characters per line (1 module)	21.3	18.2	25.6	18.2	18.2	16.0	10.6	8.0	7.1	4.9
Max. number of rows per module	12.8	12.8	12.8	9.1	12.8	9.1	7.1	4.7	4.2	3.0

Possibility to add font on customer's request

GSO.25

Name	Standard 5/7	Bold 6/7	Narrow 4/7	Standard 6/10	Narrow 6/12	Arial 9/11	Arial 11/13	Arial 15/17	Arial 17/19	Arial 25/27
Max. character size (including gaps) [px] A × B	6 × 10	7 × 10	5 × 10	7 × 14	7 × 10	8 × 14	12 × 18	16 × 27	18 × 30	26 × 42
Height of capital letter [mm] C	18.8	18.8	18.8	26.3	31.3	28.8	33.8	43.8	48.8	68.8
Readability DIN1450 [m]	8	8	8	12	13	12	14	18	20	28
Readability TSI-PRM [m]	5	5	5	7	8	7	8	11	12	17
Number of characters per line (1 module)	16.7	14.3	20.0	14.3	14.3	12.5	8.3	6.3	5.6	3.8
Max. number of rows per module	10.0	10.0	10.0	7.1	10.0	7.1	5.6	3.7	3.3	2.4

Possibility to add font on customer's request



Basic Font Set

GSO.25a

Name	Standard 5/7	Bold 6/7	Narrow 4/7	Standard 6/10	Narrow 6/12	Arial 9/11	Arial 11/13	Arial 15/17	Arial 17/19	Arial 25/27
Max. character size (including gaps) [px] A × B	6 × 10	7 × 10	5 × 10	7 × 14	7 × 10	8 × 14	12 × 18	16 × 27	18 × 30	26 × 42
Height of capital letter [mm] C	18.8	18.8	18.8	26.3	31.3	28.8	33.8	43.8	48.8	68.8
Readability DIN1450 [m]	8	8	8	12	13	12	14	18	20	28
Readability TSI-PRM [m]	5	5	5	7	8	7	8	11	12	17
Number of characters per line (1 module)	21.3	18.3	25.6	18.3	18.3	16.0	10.7	8.0	7.1	5.0
Max. number of rows per module	6.4	6.4	6.4	4.6	6.4	4.6	3.5	2.4	2.1	1.5

Possibility to add font on customer's request

GSO.39

Name	Standard 5/7	Bold 6/7	Narrow 4/7	Small 4/6	Standard 6/10	Narrow 6/12	Arial 7/9	Arial 9/11	Arial 15/17	Arial Bold 9/11
Max. character size (including gaps) [px] A × B	6 × 10	7 × 10	5 × 10	5 × 7	7 × 14	7 × 18	8 × 14	10 × 18	16 × 27	10 × 18
Height of capital letter [mm] C	25	25	25	22	37	45	33	41	64	41
Readability DIN1450 [m]	10	10	10	9	15	18	13	16	26	16
Readability TSI-PRM [m]	6	6	6	6	9	11	8	10	16	10
Number of characters per line (1 module)	10.7	9.1	12.8	12.8	9.1	9.1	8.0	6.4	4.0	6.4
Max. number of rows per module	6,4	6,4	6,4	9,1	4,6	3,6	4,6	3,6	2,4	3,6

Possibility to add font on customer's request



Indicative Dimensions Table

GSO.19g

Number of Modules Horizontally / Pixels

2 128	3 384	4 512	5 640	6 768	7 896	8 1024	9 1152	10 1280
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Number of Characters per Line (Font Standard 5/7)

No. of Modules Vertically / Pixels	1 128
	2 256
	3 384
	4 512
	5 640

No. of Lines (Font
Standard 5/7)

		42.6	63.9	85.2	106.5	127.8	149.1	170.4	191.7	213
12.8		500 250	750 250	1000 250	1250 250	1500 250	1750 250	2000 250	2250 250	2500 250
25.6		500 500	750 500	1000 500	1250 500	1500 500	1750 500	2000 500	2250 500	2500 500
38.4		500 750	750 750	1000 750	1250 750	1500 750	1750 750	2000 750	2250 750	2500 750
51.2		500 1000	750 1000	1000 1000	1250 1000	1500 1000	1750 1000	2000 1000	2250 1000	2500 1000
64.0		500 1250	750 1250	1000 1250	1250 1250	1500 1250	1750 1250	2000 1250	2250 1250	2500 1250

GSO.25

Number of Modules Horizontally / Pixels

2 200	3 300	4 400	5 500	6 600	7 700	8 800	9 900	10 1000	11 1100
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Number of Characters per Line (Font Standard 5/7)

No. of Modules Vertically / Pixels	1 100
	2 200
	3 300
	4 400
	5 500

No. of Lines (Font
Standard 5/7)

		33.3	50	66.7	83.3	100	116.7	133.3	150	166.7	183.3
10.0		500 250	750 250	1000 250	1250 250	1500 250	1750 250	2000 250	2250 250	2500 250	2750 250
20.0		500 500	750 500	1000 500	1250 500	1500 500	1750 500	2000 500	2250 500	2500 500	2750 500
30.0		500 750	750 750	1000 750	1250 750	1500 750	1750 750	2000 750	2250 750	2500 750	2750 750
40.0		500 1000	750 1000	1000 1000	1250 1000	1500 1000	1750 1000	2000 1000	2250 1000	2500 1000	2750 1000
50.0		500 1250	750 1250	1000 1250	1250 1250	1500 1250	1750 1250	2000 1250	2250 1250	2500 1250	2750 1250

Indicative Dimensions Table

GSO.25a

Number of Modules Horizontally / Pixels

2 256	3 384	4 512	5 640	6 768	7 896	8 1024	9 1152
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Number of Characters per Line (Font Standard 5/7)

No. of Modules Vertically / Pixels	1 64
	2 128
	3 192
	4 256
	5 320
	6 384
	7 448
	8 512

No. of Lines (Font Standard 5/7)		42.6	63.9	85.2	106.5	127.8	149.1	170.4	191.7
6.4		640 160	960 160	1280 160	1600 160	1920 160	2240 160	2560 160	2880 160
12.8		640 320	960 320	1280 320	1600 320	1920 320	2240 320	2560 320	2880 320
19.2		640 480	960 480	1280 480	1600 480	1920 480	2240 480	2560 480	2880 480
25.6		640 640	960 640	1280 640	1600 640	1920 640	2240 640	2560 640	2880 640
32.0		640 800	960 800	1280 800	1600 800	1920 800	2240 800	2560 800	2880 800
38.4		640 960	960 960	1280 960	1600 960	1920 960	2240 960	2560 960	2880 960
44.8		640 1120	960 1120	1280 1120	1600 1120	1920 1120	2240 1120	2560 1120	2880 1120
51.2		640 1280	960 1280	1280 1280	1600 1280	1920 1280	2240 1280	2560 1280	2880 1280

GSO.39

Number of Modules Horizontally / Pixels

2 128	3 192	4 256	5 320	6 384	7 448	8 512	9 576	10 640	11 704
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Number of Characters per Line (Font Standard 5/7)

No. of Modules Vertically / Pixels	1 64
	2 128
	3 192
	4 256
	5 320

No. of Lines (Font Standard 5/7)		21.4	32.1	42.8	53.5	64.2	74.9	85.6	96.3	107	117.7
6.4		500 250	750 250	1000 250	1250 250	1500 250	1750 250	2000 250	2250 250	2500 250	2750 250
12.8		500 500	750 500	1000 500	1250 500	1500 500	1750 500	2000 500	2250 500	2500 500	2750 500
19.2		500 750	750 750	1000 750	1250 750	1500 750	1750 750	2000 750	2250 750	2500 750	2750 750
25.6		500 1000	750 1000	1000 1000	1250 1000	1500 1000	1750 1000	2000 1000	2250 1000	2500 1000	2750 1000
32.0		500 1250	750 1250	1000 1250	1250 1250	1500 1250	1750 1250	2000 1250	2250 1250	2500 1250	2750 1250

Order Reference

1 Model

GSO.19g	19g
GSO.25	25
GSO.25a	25a
GSO.39	39

2 Number of Pixels Horizontally

GSO.19g (128 px per module)	256–1280
GSO.25 (100 px per module)	200–1100
GSO.25a (128 px per module)	256–1152
GSO.39 (64 px per module)	128–704

3 Number of Pixels Vertically

GSO.19g (128 px per module)	128–640
GSO.25 (100 px per module)	100–500
GSO.25a (64 px per module)	64–512
GSO.39 (64 px per module)	64–320

4 Display Color

Full color RGB display	RGB
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5 Design

Single sided	N
Double sided	D

6 Mounting

Ceiling suspension	S
Ceiling suspension with additional fastening on side of the display	SB
Ceiling suspension with additional fastening on left side of the display	SL
Ceiling suspension with additional fastening on right side of the display	SR
Wall surface mounting	N
Wall bracket	B
Wall bracket with additional fastening on left side of the display	BL
Wall bracket with additional fastening on right side of the display	BR
Customized solution on request	Z

7 Cover Glass

Without front glass	O
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8 Options

(if more than one options is selected, include the extension code in order indicated separated by dot)

Fixed description (number indicates specific design)	Px
Digital clock	CLK
Analogue clock	ACLK
Analogue clock with seconds hand	ACLKS
Platform number	Nb
Text-to-Speech module with 8W speaker and receiver for visually handicapped	TTS
Interface Ethernet	LAN
Interface RS 485	RS485
Interface WiFi	WiFi
Interface LTE	LTE
Interface LTE with short-term power backup	LTEB
Interface fiber optics	FO
Tamper switch	ST
Remote device restart trigger option	RR
Power outage notification	PFN
Auxiliary security lock	ASL

9 Frame Color

Matte black	RAL9005
Light grey	RAL7040
Blue	RAL5003
Frame color on request	RALxxxx

Order example:

GSO.25.1000.200.RGB.N.N.O.CLK.TTS.RS485.RAL5003

	1	2	3	4	5	6	7	8	9
GSO									
	Model	Number of Pixels Horizontally	Number of Pixels Vertically	Display Color	Design	Mounting	Cover Glass	Options	Frame Color

Accessories

Holders:

1 Holder

Wall holder

WH.F

2 Model

GSO.19g

GSO.19g

GSO.25

GSO.25

GSO.25a

GSO.25a

GSO.39

GSO.39

3 Number of Pixels Horizontally

GSO.19g

256-1280

GSO.25 (100 px per module)

200-1100

GSO.25a (128 px per module)

256-1152

GSO.39 (64 px per module)

128-704

4 Number of Pixels Vertically

GSO.19g (128 px per module)

128-640

GSO.25 (100 px per module)

100-500

GSO.25a (64 px per module)

64-512

GSO.39 (64 px per module)

64-320

5 Options

Fixed header (number indicates specific design)

Px

Digital clock

CLK

Platform number

Nb

6 Frame Color

Matte black

RAL9005

Light grey

RAL7040

Blue

RAL5003

Frame color on request

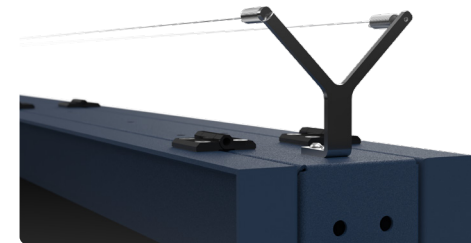
RALxxxx

Other:

Accessories

Protection against birds

GSO.BP



Order example
for display GSO.25.1000.200.RGB.N.N.O.CLK.TTS.RS485.RAL5003:

WH.F.GSO.25.1000.200.CLK.RAL5003

1

2

3

4

5

6

Holder

Model

Number of Pixels Horizontally

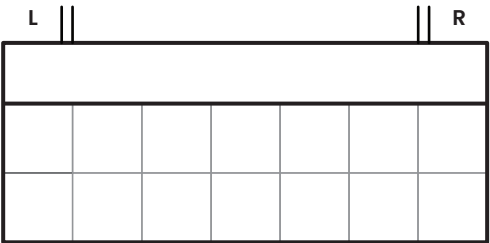
Number of Pixels Vertically

Options

Frame Color

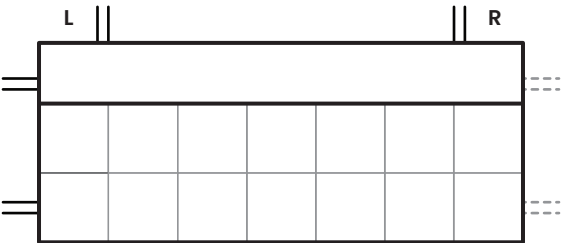
Mounting

Ceiling Suspension



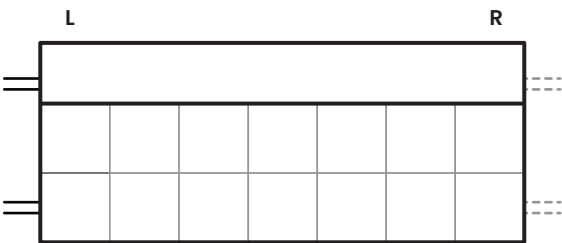
Order reference: **S**

Ceiling Suspension
with Additional Fastening on Side of the Panel



Order reference for Single Sided: **SL / SR**
Order reference for Double Sided: **SB**

Wall Bracket
(with Additional Fastening on Side of the Panel)



Order reference for Single Sided: **BL / BR**
Order reference for Double Sided: **B**

Get in Touch

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LE-801329.13-GSO Outdoor LED Full Matrix Information Display-260723

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We are a traditional Czech company operating in the field of timekeeping and display technology. Our success is evidenced by our continuous growth, both in terms of company size and expansion of our product range or export abroad.

Since 1995 we have been a member of the international holding MOSER-BAER AG and our products under the prestigious MOBATIME brand are exported all over the world.

