

Diamond PGS – Numeric display

General description

The main purpose of any Parking Guidance System is to assist drivers in finding their way to an available parking space, preferably as close as possible to the destination of the driver.

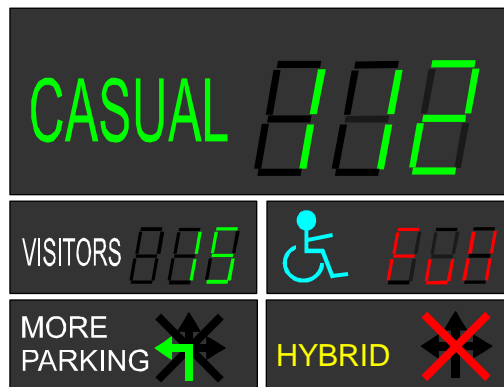
Numeric displays, placed on main intersections, provide the best method of way finding aid. They give the driver a real time picture of all the parking options, enabling drivers to make an informed decision based on the availability and destination.



This document must be read in conjunction with the “PGS Terminology.Pdf”. Another recommended document is the ”PGS Way finding issues.Pdf”. Both documents are available on our website (www.jves.co.za).

1.1 Main features

- The Diamond PGS Numeric Displays are system-dedicated displays designed to easily integrate with the system. Large number of displays, showing availabilities of various sections and allocations can be supported without any commissioning effort.
- The Diamond PGS Numeric displays are available in 2, 3 or 4 digits.
- The Diamond PGS Numeric displays are available in 100mm or 200mm digit height.
- Each display has two areas:
 - Static display with fixed message.
 - Dynamic display with seven segment numbers.
- Both static and dynamic areas are remotely dimmable.
- The static display area is used to describe the applicability of the numeric display.
 - LED back illumination.
 - Messages and shapes cut to customer requirements.
 - Available in any colour.
- The dynamic display area is used to display the actual availability figure.
 - Bicolour LED creating green orange and red colour coded messages.
 - Displaying the word “Full” for zero parking available.
- Modular system – Large signs with a few numeric display can be easily constructed.



- Communication options:
 - RS232 for array connection.
 - RS485 for multi-drop connection.
- Lightning protection on all communication inputs.
- IP56, powder coated steel enclosure.
- Low cost.

2. Detailed description

2.1 Set-up

The Numeric display can be set-up using a set of jumpers.

2.1.1 END Jumper

The ZoneBuffer reads the status of the END jumper during MAP operation. If installed the Numeric display marks an end of a section.

2.1.2 Numeric allocation jumpers

The ZoneBuffer reads the status of the END jumper during MAP operation. The status of the set jumpers determines the data that will be sent to the Numeric display as follows:

SET1	SET2	SET3	Function
OUT	OUT	OUT	Section allocated
IN	OUT	OUT	Allocation 1 Normally used for paraplegic
OUT	IN	OUT	Allocation 2 Normally used for reserved parking
IN	IN	OUT	Allocation 3 Normally used for Hybrid bays
OUT	OUT	IN	Allocation 4
IN	OUT	IN	Allocation 5
OUT	IN	IN	Allocation 6
IN	IN	IN	Total count

2.1.3 REM Jumper

The ZoneBuffer reads the status of the REM jumper during MAP operation. If installed, the ZoneBuffer will relay the status upstream, passing the control of the Numeric display to the upstream device, usually a BlockBuffer. The ZoneBuffer will then wait for the numeric data to be received before it will update the Numeric.

Using this logic, a Numeric display can be connected to the existing ZoneBuffer array without the need to add a special wire to the upstream device.

2.1.4 DIG0 DIG1 Jumpers

The DIG0 and DIG0 are used to indicate to the system the number of digits of the numeric display as follows:

DIG1	DIG0	Function
OUT	IN	2 Digits display
IN	OUT	3 Digits display
IN	IN	4 Digits display

2.1.5 485 Jumper

This jumper is a communication protocol selector as follows:

Jumper out – The Numeric display applies the RS232 daizzy chain protocol.

Jumper in - The Numeric display applies the RS485 multi-drop protocol.

2.1.6 Setting RS485 address.

If no action is taken, the RS485 address is by default set to 0. If more than one display unit needs to be connected to the same bus, each will have to be given a unique address. The address space must be continuous, i.e. 0,1,2,3 ... up to 15. If an address is skipped, the units with an address higher the last, before the gap, will not be recognised.

The address is set during commissioning and stored in EEPRPOM as follows:

1. Remove both DIG0 and DIG 1 jumpers. This indicates no digits, which is an illegal state.
2. Set the RS485 address as required with jumpers in DES/A0, DES/A1 and DES/A2 and REM/A3 as follows:
3. Apply power to the unit.
4. The LED will rapidly blink Red/Green.
5. The address will be displayed on the main numeric display.
6. Switch off the power.
7. Apply the DIG0 and DIG1 as per the original setting.
8. Apply allocation jumpers as required.

2.2 Status indicator

2.2.1 Status LED

Each PGS Numeric Display is fitted with Red/Green bi-colour status indicator LED. The status indicator is located inside the MSB of the main display.

The status indicator provides information regarding the operation of the unit using three blips as follows:

Blip 1:

- Green – Communication is received but the unit finds no applicable numeric data.
- Red – The unit receives no communication of any sort.

Blip 2:

- Green – Numeric data is received.
- Red – No numeric data is received.

Blip 3:

- Green – No internal fault is detected.
- Red – Internal fault is detected.

2.2.2 Fault indication using the display

The display is also used to indicate fault as follows”

1. Red bars – The unit receives no communication of any sort.
2. Orange bars – Communication is received but the unit finds no applicable numeric data.

3. Application examples





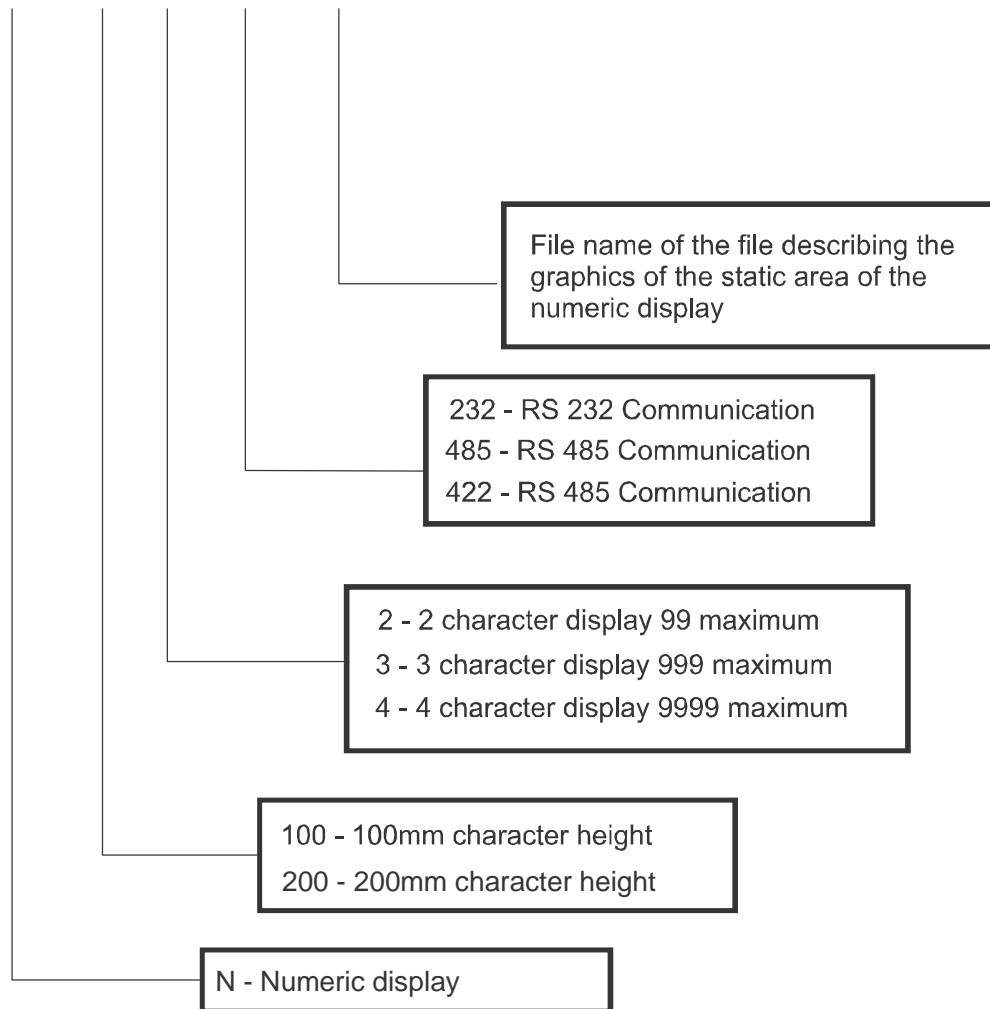
4. Numeric Displays specifications

The following specifications are applicable to all the versions.

Power supply – System	15V-25V
Power consumption - System	Less than 200mW
Main supply	85VAC-250VAC
Main supply – Backlight and 3 Digits displaying 888	25W
Communication protocol	Daisy chain RS232
Communication protocol	Multi-Drop RS485
Housing type	Powder coated mild steel
Housing rating	IP55
Operating temperature	-20 ^o to +70 ^o
Storage temperature	-40 ^o to +85 ^o
Safety Standard	IEC 60950-1
RFI/EMI Standard	IEC 61000

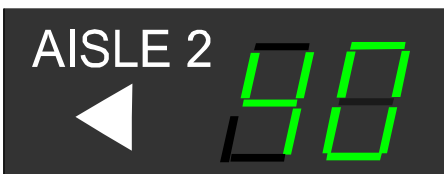
5. Ordering information

PGS/N/100/3/232/File



File – The static area of the display is cut as per the customer requirements. The production process is as follows:

- The customer provides us with a basic design.
- JVES produces a file for approval.



- Once approved, the sign is manufactured.