

Carpark Configuration and Test Unit Type GP 7380 0080



- Portable Configuration and Test Unit
- Configures the Carpark sensors GP622022xx
- Configures the Carpark monitor GP34829091
- Monitors the status of Dupline® addresses
- LCD-display
- 12-key tactile keyboard
- Supplied by standard 9V battery
- Multi calibration of the Carpark sensors
- Possibility of simulating sensors

Product Description

Configuration and Test/ Simulations Unit for Carpark. The configurator configures the Carpark Sensors GP622022xx and monitor units GP34829091. Monitors the Dupline® bus in GTU mode and are able to

simulate the presence of sensors. Highly recommended for Carpark configuration, troubleshooting and maintenance

Ordering Key **GP 7380 0080 709**

Type: Dupline® _____
Type no. _____
Supply _____

Type Selection

Supply	Ordering no.
Internal battery	GP 7380 0080

Supply Specifications

Power supply	9V battery (not included)
Type	6LR61
Battery Life Time (Sleep)	Typ. 2 years

Product Specifications

Display	2 x 16 characters
Type	LCD
Height of dots	5 mm
Keyboard	Tactile keys
No. of keys	12
Channel keys	1-8
Command keys	« ← » « → » (scroll up/down) « NO », « YES », « READ/ON »
	Note: Command key 0/9 performs the function as mode/Enter in GTU mode.
Cable 1	GP73800080 to sensor or monitor
GP73800080 connector	1 6/6 modular plug
Monitor or sensor	1 6/6 modular plug
Programmer cable	GAP-CAB
Cable 2	GP73800080 to Dupline®
GP73800080 connector	3 mm jack socket
Dupline® Bus	GRIP
Test cable	GTU8-GRIB-CAB

General Specifications

Environment	
Degree of protection	IP 40
Pollution degree	3 (IEC 60664)
Operating temperature	0° to +50°C (+32° to +122°F)
Storage temperature	-20° to +60°C (-4° to +140°F)
Humidity (non-condensing)	20 to 80%
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions (l x w x d)	145 x 90 x 28 mm
Material	ABS, grey
Weight	250 g excluding battery

Mode of Operation

The Configurator has two cable slots. One slot (RJ12 plug) for programming the modules and the second slot (Jack plug) is for testing /simulating directly on the Dupline® bus.

There are two modes of operation for the Carpark Configuration unit:

1. Configuration mode and
2. GTU mode.

In Configuration mode the unit can set up the Dupline® Carpark Monitor GP3482 9091 724 module or the Dupline® Carpark Sensor GP6220 22xx 724 modules.

In GTU mode the unit can monitor the Carpark units on the Dupline® bus. Pressing the "Read/ On" button powers on the unit in either Configuration mode or the GTU mode.

The modes are entered automatically according to the connection used. If the RJ connection is used, the Configuration mode will be entered. If the jack connector is used, the GTU mode will be entered.

When the Configurator is in GTU mode, the tactile key "0 / 9" has the function as "Mode/Enter".

Explanation of the symbols in the display:

- Marks an active channel
- Marks an inactive channel
- Indicate the use of a "Lane Detection Sensor"
- Indicate the use of a "Calibration address"

When the button 1 in a given group is pushed for more than 1sec. the entire group is activated.

Activated channels in a group



Fig.1

When a selection has to be made the choices are marked as or . The current status/ selection from previous configuration is shown with active notation or .

Configuration mode:

When connected to a Carpark sensor or Carpark monitor through the RJ12 plug, Configuration mode is enabled. When activating the unit, the text "Configurator mode selected!" is shown shortly in the display, followed by the text "Config Unit begin?" When pressing the "YES" button, the Configurator will start reading the connected unit; "Reading Configuration" is shown in the display while reading is in progress.

If a Carpark sensor is connected, the user can in "Mode selection" select between "Normal" mode or "Lane" mode.

Configuration of a sensor



Fig. 2

Normal mode: Standard sensor mode detects the presence of a Car in the parking space and light the red LED and sends a signal out on the L1 bus. When the parking space is empty the LED will change to green and also send a signal out on the L1 bus.

Lane mode: The sensor is placed in the ceiling above the Lane and detects the car before it enters into the parking area. The Carpark system will count down the total amount of free places because of the moving Car, and show the reduced amount on the monitor. This is to prevent to many moving Cars in a specific Carpark area.

It is possible to see and change the status and calibration channel for the connected sensor.

See/Change status and calibration for sensors

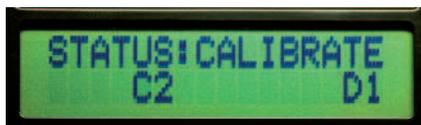


Fig. 3

If a monitor is selected, the user can in "Mode selection" select between

"Master" mode or "Slave" mode.

Configuration of master/slave



Fig. 4

Slave mode:

A slave monitor is connected directly to the sensors. Each slave monitor can handle up to 127 sensors. The bus where the sensors are connected is named the L1 bus. The communication between the Slave monitors and the Master monitor is named the L2 bus.

The maximum ID number is 480. See Fig. 5. It means that it is possible to install 480 L1 busses in a system.

In "Slave" mode the monitor can operate either in "Normal" mode or "Roof" mode. See Fig. 6.

It is possible to change/see the "calibration" address for the specific slave. The calibration address in the Configurator should be the same as the calibration address for the sensors. See fig.3 and 7.

Device ID for Slave mode



Fig. 5

Mode selection for Slave mode



Fig. 6

Calibration in Slave mode



Fig. 7

In "Normal operation Mode" the user must know if a "Lane Detector Sensor" is used on the L1 bus. If the user does

Mode of Operation (cont.)

not use a "Lane Detector Sensor, disable the address with two crosses "XX" by pressing the tactile key "8"
 If the "Lane Detector Sensor" is selected it is possible to implement an "off delay" of maximum 120 Sec. See Fig.9. When a Car moves under the "Lane Detector Sensor" the Carpark system count down the free number of parking spaces with one, in the selected amount of time. When the time runs out, the Carpark system will go back to the previous value until next time the "Lane Detector Sensor" is activated.

Lane Detection in Slave mode



Fig. 8

Off Delay Lane in Slave mode



Fig.9

The Slave monitors are monitoring the L1 bus with the maximum of 127 Sensors. In "Units on Grp" (Fig. 10) the user can see/select the channels for each connected sensor. If one of the numbers is replaced with or then the address is occupied for e.g. "Lane Detector Sensor" or "Calibration".
 The user can implement an "Offset Space" (Fig.11) from 0 to 10 Cars on each of the slave monitors. This allows the system always to have maximum 10 spaces free for each of the slave monitors. This is to prevent Car jam in the parking area and offer the user some extra free spaces.

Select/See channel for each connected sensor in Slave mode



Fig.10

Offset spaces in Slave mode



Fig. 11

In "Roof mode", the slave monitor is able to monitor up to 127 Sensors. At the entrance of the roof, a sensor detects each car passing and count down the total numbers of free spaces. The same happens at the exit, but here it counts up the total numbers of free spaces. The Input and the Output sensor are specified with their Dupline® channels. If, for some reason there is a mismatch with the correct number of free parking places, then it is possible to reset the counter, when the roof is empty (Fig. 13).

Roof Spaces in Slave mode



Fig. 12

In/Out channels and Reset channels in Slave mode



Fig. 13

Master mode:

The GP3482 9091 724 monitor can also be used in "Master mode". Select Master by press 1 (Fig.14).

Selection between Master and Slave mode



Fig.14

If the user selects "NO" in the indicator mode, then the Master is making the sync signal for the entire system. It is only possible to have one Master in a system. But several Master Indicators.

If "YES" is selected, then the Master is working as an Master Indicator. That is the same as the Master but the Master Indicator cannot generate a sync signal.

Indicator in Master mode



Fig.15

In both modes the user must select if the system is a "Small" or a "Large" system. A small system has less than 240 Slave monitor connected. If a large system is selected then there are more than 240 slave monitors connected. Maximum 480 slave monitors can be connected to the system.

System size in Master mode



Fig. 16

By inserting the ID for the "Start" address and "End" address, the Master (or Master indicator) is able to monitor a specific area in the Carpark system. If e.g. 101 and 200 are selected for the specific Master monitor, then it is possible to see available parking spaces in the area from Slave monitor number 101 to Slave monitor number 200 and all the slave monitors in between. Then it is possible to see $100 * 127 = 12700$ parking places.

ID number in Master mode



Fig. 17

It is possible to select an "Offset space" for the Master (or Master monitor). The maximum number of "Offset" is 9999.

The "Offset" is used to prevent Car jam and to make a smooth parking

Mode of Operation (cont.)

experience for the driver.

Offset spaces in Master mode

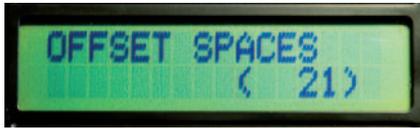


Fig. 18

When the settings are finished and ready to transfer to the unit, the Configurator will respond with "Send data to unit".

Send data to unit (Both sensor and Master/Slave unit)



Fig. 19

If the transmission of some reason fails, the Configurator will respond with "Send failed Try again".

The user must then find out what has caused the failed transmission before trying again. Please check cable or battery in Configurator as possible problems.

Message from the Configurator



Fig. 20

GTU mode:

When connecting to the Dupline® bus through the Jack plug, GTU mode is enabled. This is done by pressing the "Read / On" button on the Configurator when the Dupline® bus is connected. Then the display will show the standard GTU "Mode 1".

GTU mode 1



Fig. 21

The GTU have 4 modes.

- Mode 1 - Able to see one Dupline® group
- Mode 2 - Able to two Dupline® groups. * See note
- Latch - Able to latch any of the 128 Dupline® channels
- Calibration - Able to send the calibrate sequence on any of the 128 Dupline® channels

To change mode:

1. Press « Mode/Enter »
2. Shift between mode options by pressing either « ← » Or « → ».
3. Select mode by pressing « Mode/Enter ».

* How to select the extra group in mode 2

1. Select mode 2
2. Select the Dupline® letter (A-P) by pressing the specific tactile key
 - a. Example: We want "D" as the second Dupline® group.
 - b. Press tactile key "2" one time and the letter "D" will appear as second group

Mode 2 selected



Fig. 22

Mode 2 Extra group added



Fig. 23

Digital 1 group

Once connected to the Dupline®, the display shows the status of channel group A. Active channels are indicated by their numbers. Pressing «1», «2» ... «8» will activate the corresponding Dupline® channel in the selected channel group.

Pressing « ← » or « → » changes the channel group showing the display.

Digital 2 groups

When the mode "Digital 2 groups" is selected, the user may select an addi-

tional channel group for permanent monitoring on the bottom line of the display. The channel status of the two selected groups can now be monitored, but changing the channel status through the keys «1» ... «8» only affects the channels displayed in the upper row of the display. Even so, pressing the « ← » or « → » key only changes the channel group in the upper row of the display.

Edit Tx-latch

In this mode it is possible to "latch" the activation of one or more channels. This means that the GTU will continue transmitting on the channel(s) even though the corresponding transmission button is released.

To cancel the transmission on a channel, press the corresponding transmission button again.

The latched transmission will continue even if the channel group or mode is changed. In order to change the status of a latched transmission, it is necessary to re-enter the "Edit Tx-latch" mode.

All the latched channels are reset to normal Dupline® operation whenever the GTU becomes disconnected from the Dupline®.

Sensor Calibration

The Sensor Calibration function is carried out as a sequence of steps. The function controls one channel on the Dupline® bus.

Select calibration mode.

1. Enter this function and select the decided Dupline® group: "SELECT SENSOR CALI GROUP: X" (X = Group number). Press « Mode/Enter » when the wanted group is selected.

Select calibration group



Fig. 24

2. When Group is selected the channel within the group must be selected. "SELECT SENSOR CALI CHANNEL: XY"

Mode of Operation

(X = Group number,
Y = Channel in-group X).
Press « Mode/Enter » when the wanted channel is selected.

Select calibration channel



Fig. 25

3. When the channel has been selected, an intermediate state is entered: "PRESS ENTER TO CALIBRATE!"
Press « Mode/Enter » to start Calibrating.

Start calibration



Fig. 26

4. When « Mode/Enter » is pressed the calibration is started and a progress bar is shown in the display:
"0%: *****: 100%"

Calibration in progress

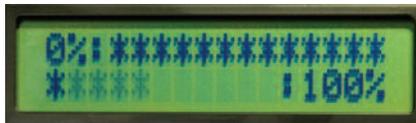


Fig. 27

Don't press anything the GTU will change state automatically.

5. When calibration is finished the following will be shown in the display: "FINISHED! PRESS « Mode/Enter » TO EXIT"

Pressing the « Mode/Enter » button is the only way to restart calibration or entering a new mode of operation!

Warning:

Do not plug in the Jack connector when it is connected to Dupline® and the configuration unit is ON. This will cause a short-circuit of the two wires.

Note:

If the Dupline® carrier is missing, the display will come up with the text shown in Fig. 28

After a few sec. the display will turn off, if nothing has been done or any buttons has been pressed

Config unit (Both Sensors, Master and Slave units)



Fig. 28

Low Battery

If, when activating the Configuration and GTU Unit, " * LOW BATTERY * " is showed in the display, it is time for changing the battery. The unit will continue to work, but it is recommended that the battery is changed. The battery is changed by dismantling the 4 screws on the back of the unit and removing the back cover. After that, take out the PCB, change the 9V battery and then reassemble the unit.

Additional Information

Scope of supply:

1 x Conf./Test unit	GP7380 0080
1 x Programmer cable	GAP CAB
1 x Test cable	GTU8 GRIP CAB