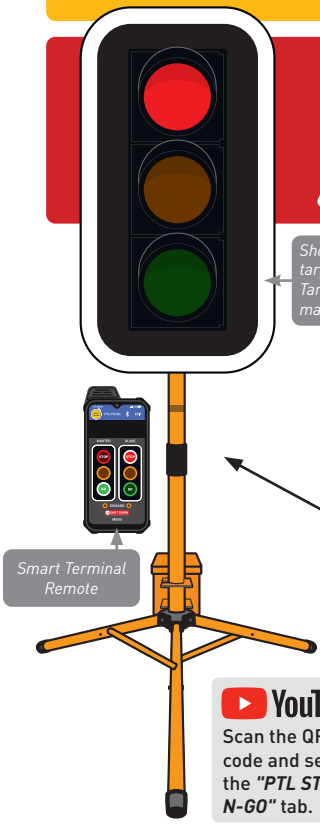
PTL-Stop-n-Go™ Operations and Maintenance Manual. PTL-TYPE-1

Your Portable Traffic Lights are lightweight traffic lights. As such correct operation for Set-up and Take-down procedure is essential. Please ensure this manual is read and understood before attempting to operate the Data Signs' Portable Traffic Lights (PTL).

Set-up and Maintenance requirements of the PTL are covered by this Manual.



CAUTION:

The Data Sign Portable Traffic Lights should only be operated by qualified traffic managers.

If you have hired out this PTL, contact the Hire Company for assistance.

The PTL-Stop-n-Go™ is used to control localized vehicular traffic flow as a safer substitute for STOP/SLOW (lollipop) signs. It does not incorporate features such as solar powered operation or remote DS-Live monitoring and vehicle detection.

It is powered by a LiPo maintenance free battery that needs to be recharged at the end of the day. It is not intended to be left unattended on site and can only be operated via the Remote Control which places a safe distance between the actual Traffic Light and the operator.

An overview of the layout of the PTL-Stop-n-Go™ equipment is provided here.

YouTube

Scan the QR code and select the ***"PTL STOP-N-GO"*** tab.

 | MAN 0011D Issue 3 | Rev: 24/03/2025

Installation - Setting Up for Operation

Step 1:

Step 2:
Take out the stand.

Step 3:
Loosen locking tab, lift the post to the pin-hole & place pin.

Step 4:
Pull out spring pin and slide the tripod legs down until the pin locks in place.

Step 5:
Release the spring pin and ensure the tripod is locked.

Step 6:
Fit Battery Box.

Step 7:
Twist and fit around the post.

Step 8:
Lock the holding bracket with a padlock or similar.

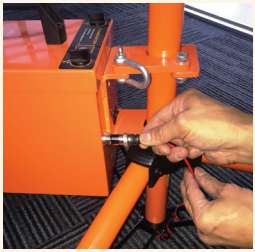
Step 9:
Remove light from carry bag and fit onto stand. Pull spring pin and lower onto post.

Release the pin into place.

Step 10:
Line up and Connect the power connector to the Socket.

Step 11:
Push in and Screw Nut to lock it in.

Step 12:
Select light operation mode via switch on the light.



Step 13:
Connect plug to the battery pack, lock Screw Nut.

Last Step:
Press the Power switch to the ON position, the LED will come on.

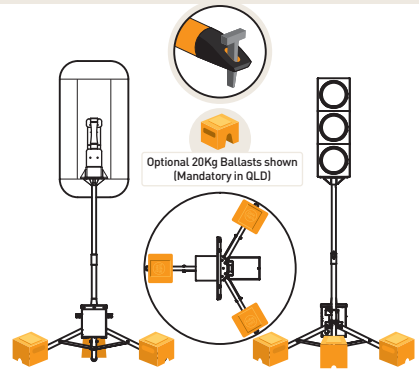
Refer to manual to operate lights using Remote.

To dismantle the unit use reverse process.

WIND LOADING

RATING FOR 20M/SECOND (72 Kph)

The PTL is fitted with Peg Feet.
Where suitable you can secure it with pegs instead of weights.

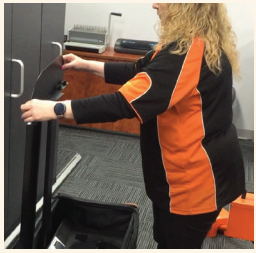


Note: Your PTL has a TILT sensor which will indicate on the PTL-Remote if the unit is tilted by more than 20 degrees ***(i.e. It has fallen over)***.

Installation - Target Board Setup

Step 1:
Remove the four parts from the side pocket.

Step 2:
Assemble this way.



Step 3:
Align and assemble top section to the 2 sides.

Line up tick marks.

Step 4:
Place the assembled sections over the lamps as shown

Step 6:
Now, assemble the bottom panel as shown.

Step 7:

PTL-Stop-n-Go™ PTL-TYPE-1

This QuickStart Guide covers the PTL TYPE-1 Operation as per QLD *MRTS264, TSI-SP-049-050-062,* Australian Standards *AS-4191:2015* and Various State Authority requirements.

Ensure the units are setup as described in the first section of this booklet. This User Manual applies to Controllers operating on firmware 06.00.XX or later.

Contents

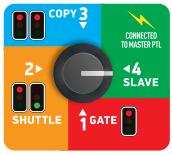
Selecting operating mode and switching lights on.

MODE SELECT:

This is done via the switch located on the back of the PTL.

NOTE: COPY MODE IS NOT PERMITTED IN QLD AND IS DISABLED BY GPS LOCATION

For security, once mode is selected and the remote is paired, the switch and button functions are disabled.



There are 4 modes of operation, explained below and in more detail later:

Switch position 1 *(fully anti-clockwise)* Gating Mode - Light operating as single unit
Switch position 2 *(+1 to the right)* Shuttle Mode - Light operating as the Master
Switch position 3 *(+2 to the right)* COPY Mode - Light operating as the Master
Switch position 4 *(fully clockwise)* Slave Mode - Light operating as the Slave

SWITCHING THE PTL ON:

When the power connectors are plugged in and the power switch is turned ON as per set-up procedure:

1. Select the light operation mode with selection switch
2. Switch on the Power (on the Battery Box)
3. Wait for Green light, then pair the remote

IMPORTANT NOTE: Once the remote is paired, use the Menu "set distance" to first set the distance between the 2 PTL units. Settings are 100, 200, 300, 400, 500 or more metres apart *(this is to set the RF signal level)*.

BUTTON STATUS LIGHT MEANING:

Start-up

Ready to pair to Remote.
You can now also change channel.

Channel number.
1 flash = Channel 1, 2 flashes = Channel 2 etc.
To change channel, press once for channel number, i.e. press x 2 to select channel 2

Remote is connected to Master.
IF this PTL is set as a Slave then BLUE means it is connected to the Master.

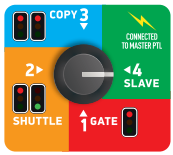
Master & Slave are connected.

Link signal is weak. (Ensure line of sight with other PTL or change Channel)

Battery low, replace or charge battery

Fault condition, check on Remote for what the fault is.
(Cycle the power to clear the fault)

SLAVE MODE / POSITION 4: *The Remote does NOT pair to this PTL.*



In this mode the PTL is under the control of the Master PTL.

It must be set to the same Channel as the Master PTL to operate.

The Channel is set as per above instructions and indicated by the number of White Pulses on the BUTTON.

The PTL Remote

YELLOW colour on the PTL Switch means the controller is starting up.

Once the PTL's power is switched on and Status light is GREEN (followed by other status indicators) you are ready to pair to the remote.

Your PTL Remote is normally set to pair to the Master PTL on startup, or see 'pairing remote the first time'.

Status screen

The top line shows date and time, if this count is active your device is paired.

The second line shows how many units are connected. i.e. 2 Unit(s).

The third line shows the Mode the PTL is operating, i.e. SHUTTLE MODE.

The fourth line shows the remaining time for the phase.

Press START UP to switch the PTL's ON

THE MAIN SCREEN

The Main screen will display the lights for the Master on the left and the Slave on the right.

If in Gating mode only one PTL will be visible.

The battery level is shown above each light.

An Alarm will indicate if the battery reaches a 'too low' level and recharging is required.

Tap the Red lamp to change to Red if the light is on Green

When BOTH lights are Red, you can tap either Green to change that light to Green.

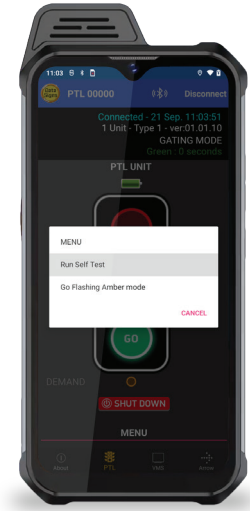
◀ STARTUP / SHUT DOWN

To Shut the lights down or Start them up again, tap the START UP / SHUT DOWN button and confirm by allowing count to continue for 5 seconds.

The Light(s) will go blank, or start up whichever the case might be.

Once the lights are BLANK, switch them off and recharge the battery for the next time. Also plug the Remote into the charger cradle.

Note: It is NOT recommended to power the remote OFF as this will result in longer pairing time to the light when switched on again. Keeping the Remote in standby will ensure a quick pairing to the light next time.



◀ SELF TEST

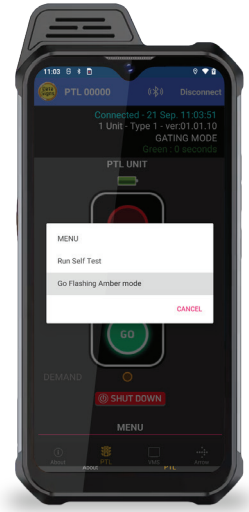
This does quick Green Amber Red Sequence to test the light.

This test can only be done while the lights are in SHUT DOWN state.

FLASHING YELLOW LIGHT ▶

You can set the Lights to Flash Yellow only.

This might serve as a caution or warning lights.



PAIRING REMOTE FOR THE FIRST TIME

Once the PTL symbol and serial# appears, press this and the pairing sequence will begin.

When the remote is paired, you can tap the START UP button to switch the PTL light(s) on.

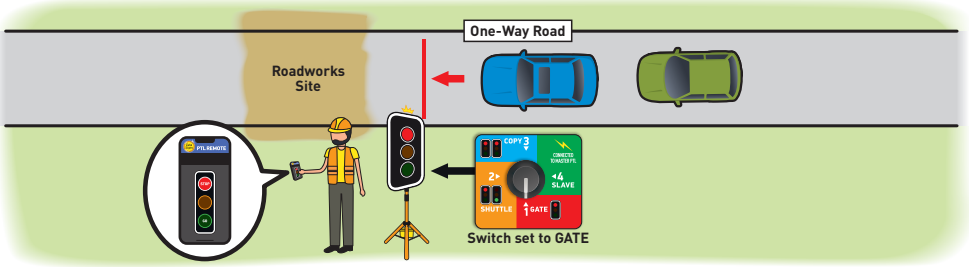
The next time the remote is used, it will pair automatically.

Gating Control Mode

Single PTL unit use only.

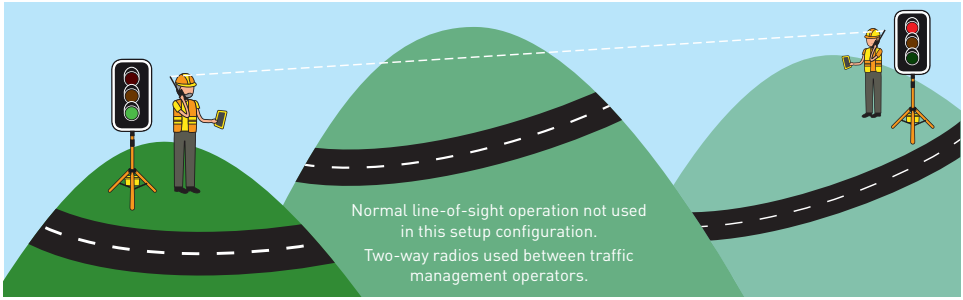
YouTube
Scan the QR code

Gating Control is used to control the flow of traffic from a single traffic flow direction only.



See also COPY MODE illustration where 2 PTL's can be used on page 12.

Gating control can also be used with 2 PTL units operating independently by two traffic operators using a Walky-Talky to communicate with each other.



Note: If using 2 PTL's in Gating Mode, each PTL must be set on its own unique channel number as there in NO radio-link communication between each unit and also to eliminate risk of possible interference between the two units.

In this mode, the line of sight or distance limit does not apply.

Note: Two independent PTL Remotes and operators are required for this operation.

Shuttle Mode – Single Lane Usage

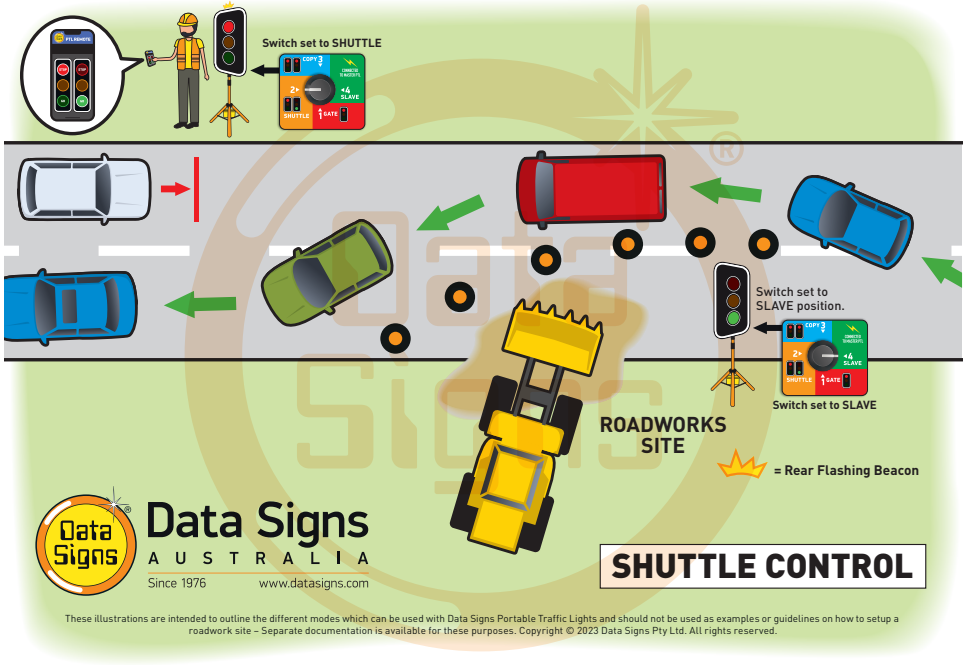
NOTE:
For SHUTTLE MODE, both lights MUST be visible to the operator.
Line of sight is essential for safety to ensure that the operator can see the site is cleared before allowing traffic to travel in the opposite direction.

Shuttle Control is a form of traffic control used where a portion of the roadway is closed so that only a single lane can be used alternatively by traffic from opposite directions.

Only one Traffic Light unit can show the Green signal phase at any time; either the Master or the Slave.

The diagram below illustrates the traffic control scenario where Shuttle control would typically be used.

Note: This diagram should not be used as a guideline for setting up a roadwork site, it is provided as an example only.



Each PTL unit will go to the Green signal phase in turn. See timing diagram later in this manual.

Shuttle Control is active while the switch on the Master PTL is in the SHUTTLE position. Operating mode using Shuttle Control is described in more detail on the following page.

SHUTTLE MODE

A demand for Green or Red signal on the Master or Slave is entered on the Remote Control unit. For Shuttle Control, on start-up, both the Master and Slave will rest on
Red until a demand for Green is entered.

To enter a demand for either Red or Green, tap the **STOP** or **GO** buttons on the Remote Control. The DEMAND indicator is activated indicating a demand for either the Master or Slave.

To enter a demand for Green for either the Master or the Slave, both Master and Slave MUST be at Red. Then the Green can be selected.

LIGHT CHANGE SEQUENCE EXAMPLE

Master Green

Both Red

Slave Green

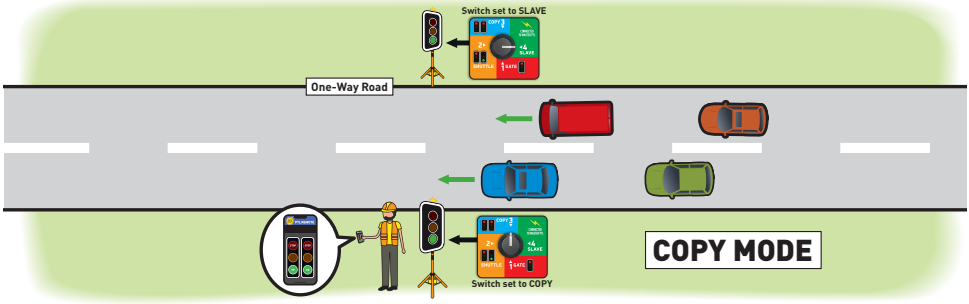
REAR BEACON LAMP:

The Beacon Lamps mounted behind the Traffic Lights flash on each unit when the Red Lights are ON. This is useful for the operator to know the Lamp is on RED phase when behind the actual lights. It also acts as a Caution indicator for Vehicles.

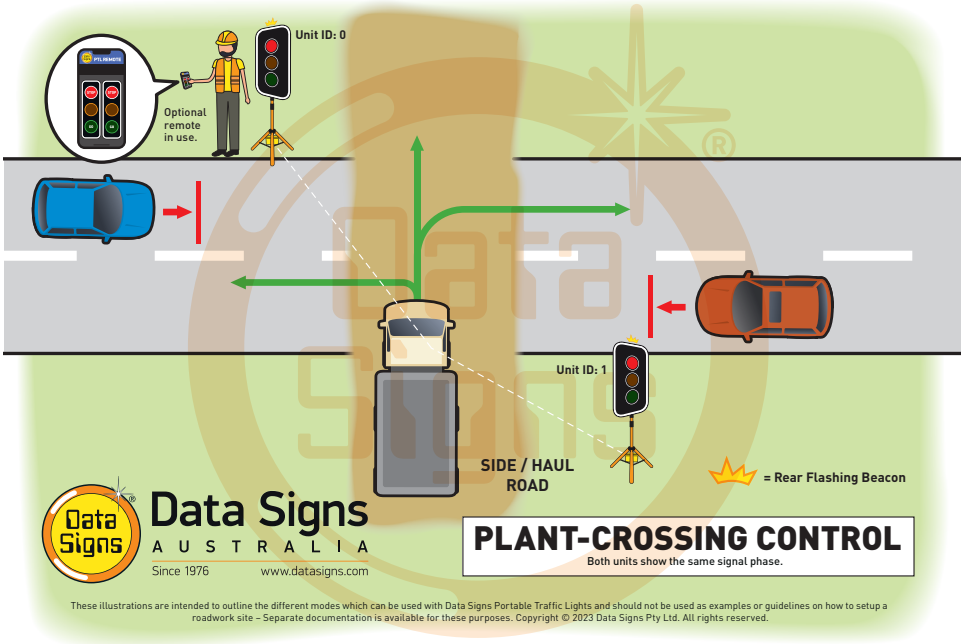
Copy Mode

This scenario of COPY Mode makes use of both light facing the same direction as showing the same signal.

YouTube
Scan the QR code



NOTE: COPY MODE IS NOT PERMITTED IN QLD AND IS DISABLED BY GPS LOCATION



REAR BEACON LAMP

The Beacon Lamps mounted behind the Traffic Lights flash on each unit when the Red lights are ON.

COPY MODE.

On start-up, the Master is Red and the Slave copies this and is also RED.

The operator can enter a demand for Red signal using either **STOP** buttons on the Remote. Both the Master and Slave units will then cycle to Yellow and the Red signal phase.

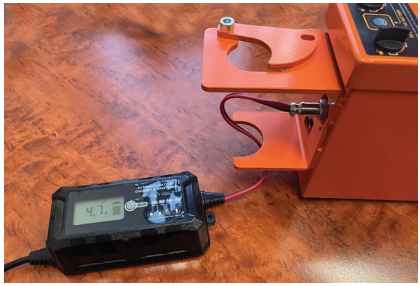
To change back to Green signal, tap either the Master: **GO** or Slave: **GO** buttons.

Copy Control example:

1. Both the Master and Slave are on Green.
2. Tap either the Master: **STOP** or Slave: **STOP** buttons

3. To resume traffic flow, tap either **GO** button.

Battery Charging



Step 1:
Plug the battery charger into the Battery Pack.
Switch the power switch to ON.

Step 2:
Turn on the Battery charger.
Ensure it is set to LIPO Function

Wireless Link Explained

Each Traffic Light is fitted with an RF Communications module. This will provide Wireless Radio communication between the PTL units; however, the units still need to be positioned in line-of-sight to each other.

The maximum distance between the Master and Slave PTL's is about 800m, depending on surrounding environment.

The radio link module fitted to the PTL unit communicates on one of eight channels. This must be set to the same channel on each unit to maintain wireless communication. This applies to the Master and Slave.

The channel can be changed if the link is unreliable due to local interference.

Radio Link Operation

If the radio link between the Master and a Slave is disrupted for an extended time, all units will revert to Red and the system will restart, however if the radio link is lost for more than 1 minute the, system will restart in Startup Mode and all lights will be blanked.

Fault Conditions

If any fault conditions occur as discussed throughout this document, the Fault is displayed on the Remote and if critical the Lights will go to RED. When the fault is cleared, normal operation is resumed

Troubleshooting Guide

This section contains some tips on handling some of the issues that may arise when using the Traffic Lights. If you cannot resolve the issue you are experiencing using the information below, please contact Data Signs on the Help Desk at datasigns.com.au/help.

Turning the Controller On

If the POWER light does not come on when the switch is turned ON**:**

- Check that the power connector is inserted properly.
- Check the fuse of the Controller that is inside the light housing (behind the Green lamp) and inside the battery box.
- Ensure the battery is charged using the charger provided.

Radio Wireless Link failure

If the radio wireless link fails regularly, try changing the Channel set on both lights, as some interference may be occurring on the operating channel.

Check that the units are situated as visible to each other. i.e. line of sight. Hills or buildings are obstructions and will cause radio link difficulties or failures.

Lights Not Working

Check the connections on the controller or the lights.

If you need to ship the Controller or parts back to Data Signs for repair, contact the Help-Desk at datasigns.com.au/help

The SD Card

The PTL Controller is fitted with a SD card.
This is used for Software upgrades. If required, Data Signs will advise process to be used.

Maintenance / Handling

1. **Battery level.** Always ensure unit is fully charged for a full days work. Charge overnight, including the PTL-Remote.
2. **Keep Clean.** Always keep the light lenses clean.
3. **Cables.** Ensure cable are secured and not frayed or loose from the connectors.
4. **Test and Tag Battery Charger.** Use an authorised service provider to regularly test and tag the battery charger.

Lipo Battery Handling

Safe handling of lithium batteries

The following instructions relate to the manual handling of lithium batteries as used in the Data Signs products. Lithium Ion batteries are perfectly safe so long as they are handled using the following guidelines.

Charging
The lithium Ion batteries MUST only ever be charged using the charger supplied by Data Signs. This charger must not be modified or used for any other purpose.

Handling
In the event a battery needs to be replaced please contact Data Signs. The lithium ion batteries are generally very reliable and replacement is unusual. It is possible there are other operational issues.

For full safe handling description download document from
https://datasigns.com.au/ServiceSupport/HelpDesk

Glossary of Terms and Abbreviations

Aspects
The actual lights or housing that contains the Lights.

CHN
Chanel Number used for the Radio Link.

HRC
Hand-Held Radio Controller.
This term is interchangeable with PTL Remote.

Lights
Actual Traffic signal Lamps.
Red, Yellow and Green.

LiPo
Lithium Iron Phosphate.
A lightweight high energy density battery that powers the PTL.

Main PTL
Also as referred to as Master.

PTL
Portable Traffic Light.

PTL Remote
This term in interchangeable with HRC. This is the Hand Held Remote that is used to control all the PTL Signal changes, control the Lights ON/OFF function as well as other functionality as described in this Manual.

PTSU
Portable Traffic Signal Unit.
This term is interchangeable with PTL.

RF
Radio Frequency used for the Radio Link.

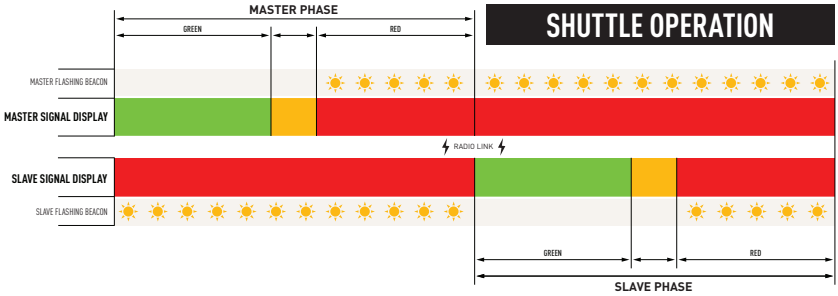
SIG
Signal Strength used for the Radio Link.

SD
Storage Device Memory Card. Used for setup, fault logs, firmware upgrade, Bluetooth PIN.

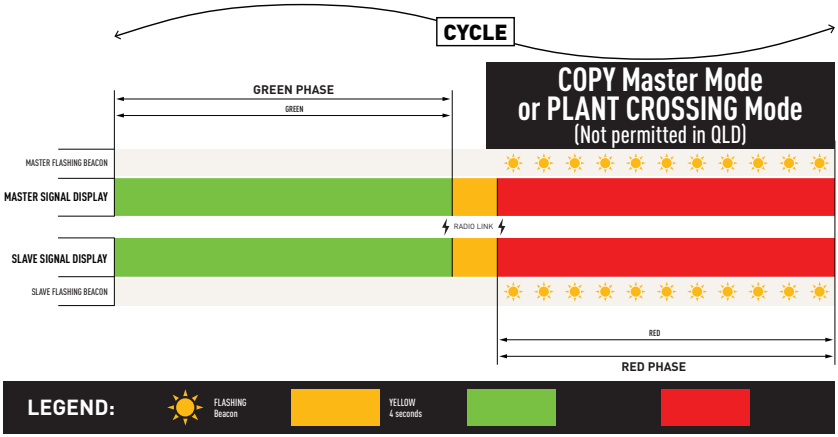
Secondary PTL
Also referred to as Slave PTL.

APPENDIX A

Cycle and Phase Intervals for Shuttle and Copy Master Modes



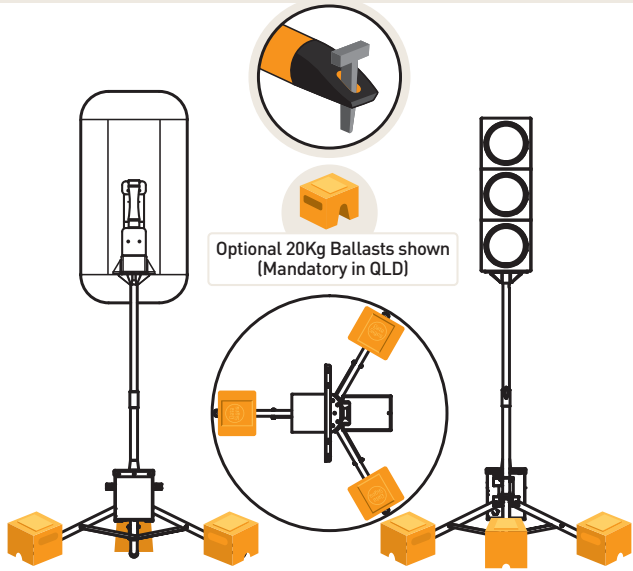
NOTE: COPY MODE IS NOT PERMITTED IN QLD AND IS DISABLED BY GPS LOCATION



WIND LOADING

RATING FOR 20M/SECOND (72 Kph)

The PTL is fitted with Peg Feet.
Where suitable you can secure it with pegs instead of weights.



Note: Your PTL has a TILT sensor which will indicate on the PTL-Remote if the unit is tilted by more than 20 degrees ***(i.e. It has fallen over)***.

This manual complies with the Specification *MRTS264 Type-1 Portable Traffic Signals* and TSI-SP-062,049 and 50 where relevant *AS4191-2015 Portable Traffic Signals.*

Suggestions & Improvements
Data Signs develops its products with the end users in mind. As such, we are always open to suggestions for product improvement. Contact Data Signs, Head Office in Australia at: datasigns.com.au/help

Disclaimer
The information contained in this document is proprietary information of Data Signs Pty Ltd unless otherwise indicated. Data Signs Pty Ltd make every effort to ensure the quality of the information it makes available. Notwithstanding the foregoing, Data Signs Pty Ltd does not make any warranty as to the information contained herein and does not accept any liability for any injury, loss or damage of any kind incurred by use of or reliance upon the information.

Data Signs Pty Ltd reserves the right to make modifications, additions and deletions to this document at any time and without notice.

The Data Signs logo is a registered trademark of Data Signs Pty Ltd in Australia, New Zealand, United Kingdom, India and United States of America, and a trademark in other countries.