



G-POS

SYSTEM INFORMATION SHEET



FULLY INTEGRATED INTELLIGENT
REAL TIME LOCATION SYSTEM (RTLS)
FOR CONTAINER TERMINALS





G-POS, an RTLS for container terminal operations

What is G-POS

G-POS is a Real Time Location System (RTLS) incorporating GPS technology. It is embedded unobtrusively into the container terminals Container Handling Equipment (CHE) and automatically keeps track of every piece of mobile equipment on site. G-POS automatically monitors the storage and retrieval locations for every container handled on the terminal. It is a flexible solution and can be configured to meet the specific operational needs of any terminal with various additional modules and options.

How will G-POS help my terminal operation

G-POS helps the CHE operators by reducing/removing the need to constantly enter data in order to keep the computerised Terminal Operating System (TOS) up to date. It provides clear and concise guidance to the CHE operator to help him efficiently perform the task of moving, storing and retrieving containers.

With G-POS, automated, real-time, error free data is a reality. This allows the TOS to have a live accurate database and make the optimal storage and retrieval decisions and optimise equipment utilisation.

The elimination of data entry errors and failures to manually update positions is a pre-requisite for the reduction and elimination of many common container terminal issues.

Yard operation fully optimised?

Wasting resources looking for lost containers?

G-POS GPS TRACKING

A suite of optimisation systems for terminals and depots





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Real Operational Benefit

Improved Resource Utilisation

As well as assisting the CHE operators in their daily work, G-POS provides real-time visibility of the operation to allow the efficient deployment of the terminal resources and not waste valuable resource hunting misplaced containers or re-handling containers not correctly placed.

Position Accuracy and Visibility

The G-POS system monitors the 3 axis of the spreader in real time and is able to calculate it's exact location in terms of the container stacking coordinates. The system is based on multiple sensors including RTK (Real Time Kinematic) carrier phase Differential GPS (DGPS). This provides G-POS with the right balance for a cost effective solution with reliability and full upgrade capability. G-POS is fully integrated with your existing infrastructure and systems in a way that provide high levels of transparent automation and user friendliness.

The G-POS Advantage

- Automated data capture
- Operator friendly features
- Automated Job stepping
- Automated pick and place reporting
- Full TOS synchronicity
- Gets the best from the TOS
- Eradicates lost containers
- Reduces re-handles
- Improved end customer service





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G-POS ease of use

The G-POS system is designed to offer flexible connectivity, a customisable configuration and provides the optimal interface for the equipment operator.

G-POS touch screen option

Based on a full colour touch screen monitor the system is designed to operate as a keyless operation allowing the operator to move containers without constantly having the disruption of entering data or confirming positions.

Working in synergy with the TOS in real-time G-POS shows the CHE operator the equipment's present location, the container move instruction (or work queue) and pick and place locations, all in clear and easy to see text or graphical map formats, and in a language your CHE operators understand.

Job Step screens (for straddle carrier operation) are clear and automatically change to the next step without input from the operator. The system also manages and displays twin 20' moves and, provides the operator with pre-advice of the container length for pick-up, allowing the spreader to be pre-set.



Straddle Carrier Map View screen

In poor weather the ability for G-POS to advise the driver of his current location is invaluable in circumstances where the ground slot markings are not visible.

Basic RDT terminals

If required G-POS can also be configured without a touch screen, and instead to connect directly to an existing Radio Data Terminal (RDT) mounted in the operators cab.



Typical Straddle Carrier screen

Contenedor	Situacion De	Situacion A
TEST00000001	T001	10B25011
TEST00000002	T001	10B27011
TEST00000003	T002	10C25021
TEST00000005	T003	10B25031
TEST00000021	10B25011	T001
TEST00000022	10B27011	T001
TEST00000023	10B25021	T002
TEST00000025	10B25031	T004
TEST00000026	10B27031	T004
TEST00000041	R001	10B25011
TEST00000052	10B27011	R001

Typical RTG work list



Typical job step screen





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G-POS integration

The G-POS system is designed to offer connectivity flexibility.

Wireless connectivity

G-POS can be supplied to connect using WiFi LAN networks or Narrowband radio frequencies, some G-POS modules can also connect using GPRS. If your site has limited or unreliable connectivity ITS can supply a dedicated stable and reliable Narrowband network.

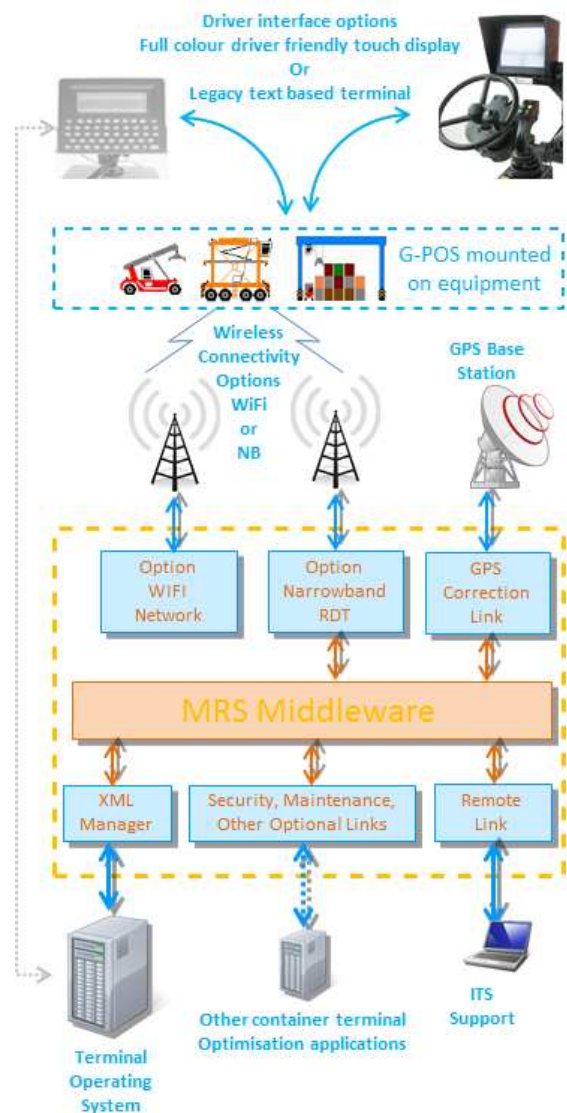
TOS Synergies

The G-POS system is connected to many leading Terminal Operating Systems (TOS) with interfaces that are fully compatible and 100% TOS compliant using XML or other protocols. The G-POS system helps you get the best out of your TOS with transparent data flow, high levels of data automation and operational optimisation.

Customisable flexibility

The G-POS system has multi connectivity capability with its middleware Message Routing System (MRS).

The middleware component allows G-POS to connect to many management and supervisory systems for security, maintenance and operational monitoring. The MRS also allows the differential GPS correction data to be transmitted directly to the CHE without the use of secondary radio frequencies.





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G-POS modular flexibility and other options

G-POS is fully integrated into the terminals operations and has several customisable modules.

Screen options

The G-POS system can be configured to use an existing RDT terminal or for greater functionality can be provided with a full colour touch screen.



D-MON security

CHE mounted card readers connect to the G-POS server to monitor and authorise equipment operators. Ensure only trained authorised users drive the CHE.



V-TRAX auto-steering

Automated gantry steering systems can be added to G-POS equipped RTG's using the same G-POS computer. A safer operational environment can be achieved for all.



E-SMART status monitoring

E-SMART equipment status visualisation and reporting allows the terminal operations and maintenance to share and report on the status of all plant and equipment.





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AVID Auto identification

Using RFID technology the Auto vehicle Identification (AVID) system allows the CHE to identify the truck carrying the container (For RTGs) or the STS crane (for Straddle Carriers) to allow fully automated data automation.



Move Compliance

The G-POS system can be installed with a move compliance module to ensure the container picked up is the correct one. the system can also be configured to allow the container to only be placed in the planned location.



Exclusion zones

With this module exclusion zones can be set up to ensure the equipment is prevented from traveling in to a danger area. This could be in an area where inadequate height clearance exists under STS cranes or other yard areas.



Job-Step automation

G-POS installed on Straddle Carriers is provided with fully automated Job step features. The system automatically confirms to the TOS when steps are complete and requests the next available work step.





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Why G-POS

ITS' roots date back to 1986, when our engineers and management were the early pioneers of Port Automation projects for crane automation and automated data capture in container terminals. Our depth of industry experience in implementing systems is second to none. We know that Ports and Terminals are a heavy industrial environment where technology must be implemented to survive the environment. G-POS is designed specifically for this environment and boasts some of the highest equipment availability figures available within the industry.



Our depth of experience has allowed us to develop useful functions and options within the G-POS system that are real operational time savers and offer tangible benefits to the terminal operator. This and our ability to customise a solution to your terminals exact needs make ITS and our G-POS system the best choice for your next terminal optimisation project.

As independent solution integrators with a proven track record in container terminals we are dedicated to your business. Being independent also ensures that we will install our systems on any manufacturers equipment on any site and connect to any TOS and will continue to do this as your terminal grows.



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