MAGELLAN TECHNOLOGY

PIMS

PJM Implant Management System

Total Orthopaedic Loan Kit Management

Error free dispatch

Faster returns reconciliation

Item level traceability

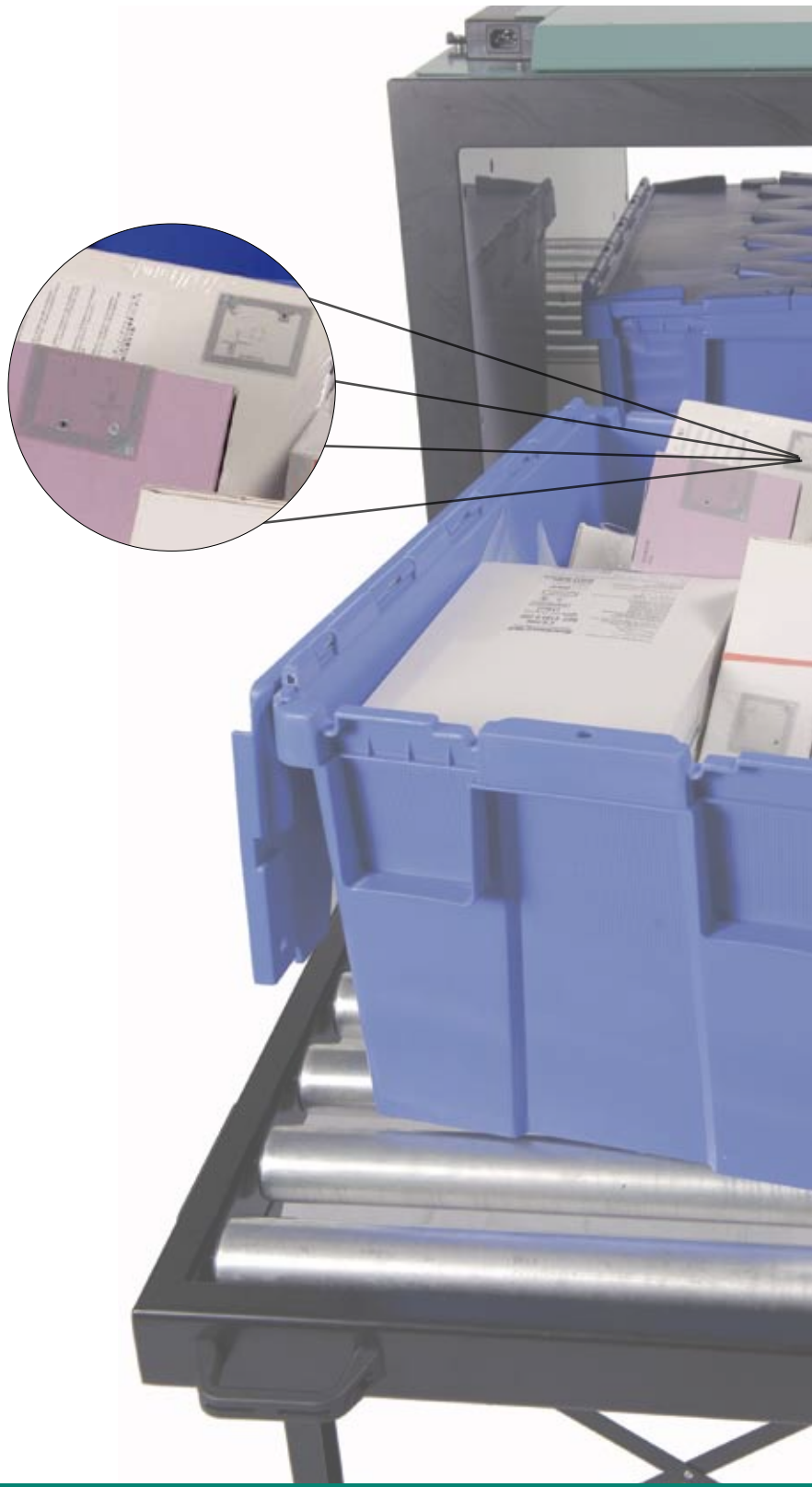
Magellan is the market leader in RFID where high performance and 100% accuracy is required when processing multiple RFID tags, even when closely stacked or touching.

Founded in 1985, Magellan has been at the forefront of the research and development of RFID solutions for over 15 years and is the creator and manufacturer of Phase Jitter Modulation (PJM) RFID technology.

ISO/IEC: 18000-3 Mode 2, the International Standard for Magellan's PJM RFID technology, was published in 2004.

Magellan is committed to maintaining technology leadership in RFID and invests substantially in expanding its intellectual property base through ongoing and substantial research and development.

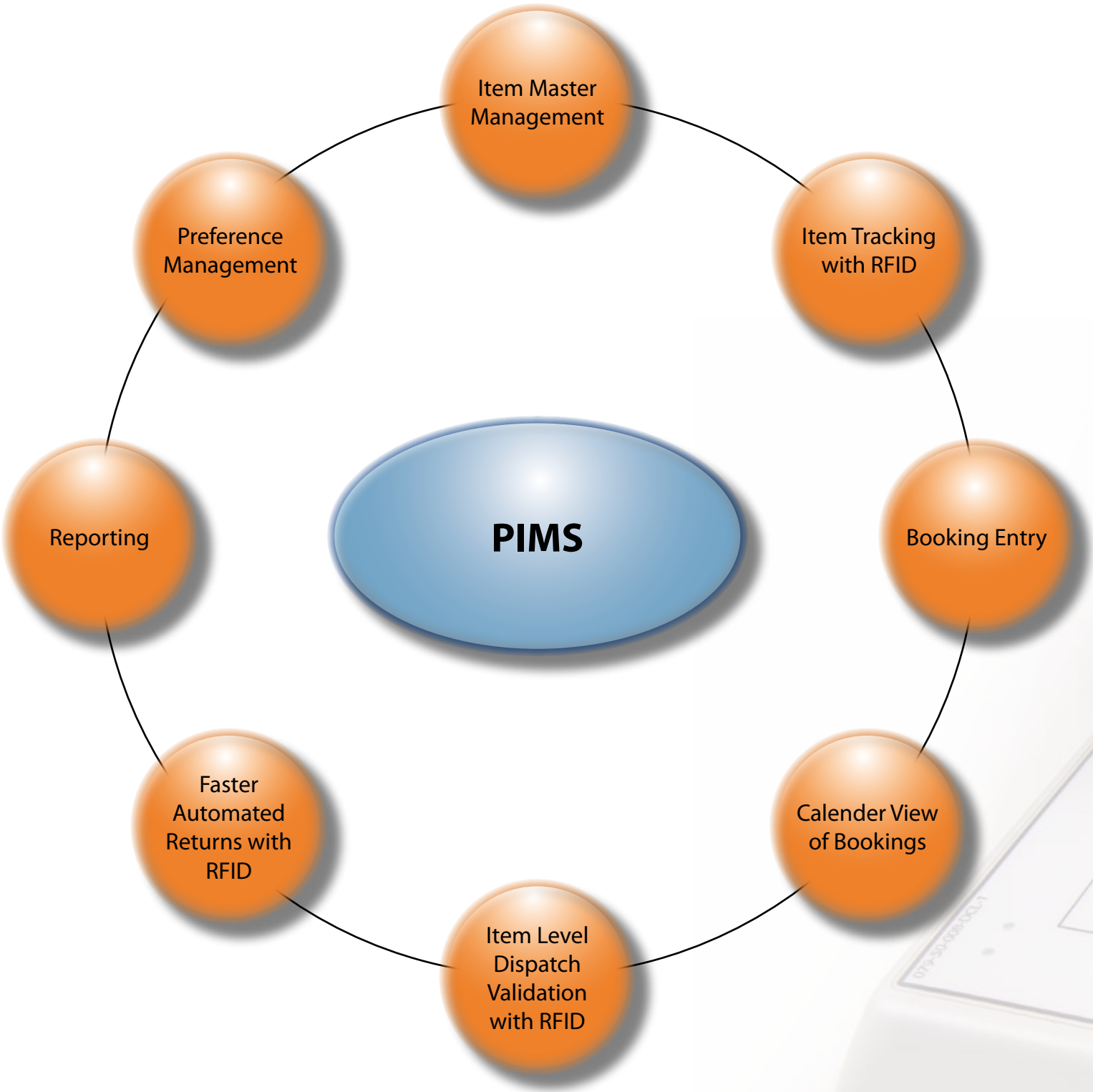
Our primary business is providing high performance and robust PJM RFID solutions to Healthcare markets where reliable 100% accuracy in demanding environments is an absolute requirement.



Magellan is the leading supplier of RFID solutions for orthopaedic implant loan kits, supplying its PJM RFID technology to global orthopaedic implant companies since 2006.

Magellan's PJM Implant Management System provides these companies with dramatic cost savings, improved customer service and enhanced patient safety.

Market leaders in orthopaedics



PJM RFID

Saving you time

Saving you money

BENEFITS

Error free dispatch

Patient safety is improved by validating all items are correct for the procedure and that no items are missing.
Each item's expiry date is validated - notification of an expired or close to expired item is given.

Faster returns reconciliation

Every item returned is resolved to the booking it was dispatched on.
Faster and automated returns reconciliation results in lower labour costs.

Real time item level traceability

Improved visibility of each product means faster product cycle times and reduced stock levels.
Better response time to deliver trauma kits.

Flexible hospital and surgeon preference management

Define generic procedures and create specialised preferences based on the specific needs of each surgeon and hospital.
Customise the selected preference at the time of the booking.

Implant Tagging

A PJM RFID StackTag® is applied to the packaging of each implant.

The item code, lot number and expiry date is acquired by scanning the barcodes on the implant box. *PIMS* decodes HIBC barcodes and intelligently handles HIBC exceptions.

The item code, lot number and expiry date is written to the tag using the MDR-3021 PJM RFID encoder.

Using the tag's unique 32-bit identifier, a unique instance of the implant is created in the application database - enabling item level tracking.

Loan Kit Dispatch

PJM tagged implants are picked and packed into containers.

The loan kit booking is verified by passing each container through a PJM RFID Tunnel. Within a few seconds all items are validated against what is required on the booking.

If there is any variation, such as an incorrect item, expired item or recalled item, the user is prompted to resolve the discrepancy.

Once corrective action is taken, the container is passed through the tunnel for final verification and approval for shipping.

PIMS, developed in cooperation with leading global orthopaedic implant suppliers, is the only complete system designed from the ground up to run your RFID enabled orthopaedic loan kit operations.

Loan Kit Return

Perhaps most importantly, *PIMS* provides fast and accurate reconciliation of returned loan kits.

Because each implant item now has a unique PJM RFID serial number, and is assigned to a specific loan kit booking, when a returned implant is scanned through the PJM RIFD tunnel, it is automatically reconciled against its assigned booking.

The automated reconciliation of returned loan kits can save many hours of labour each day, improve loan kit turnaround time, reduce inventory levels and customer disputes.

Sorting mixed up returned loan kits to identify consumed implant items is now a thing of the past.

Complete management of your orthopaedic company's short term consignment business - from booking entry to dispatch and returns reconciliation.

PJM IMPLANT MANAGEMENT SYSTEM (*PIMS*)

KEY FEATURES

Developed specifically for orthopaedic loan kit management.

Import your existing item code catalogue, hospital, surgeon, procedure and preference data from your existing ERP system or database.

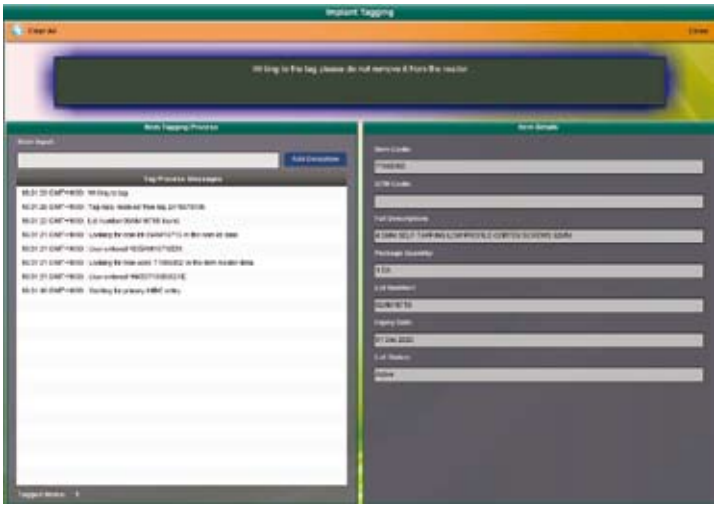
Familiar calendar interface provides visibility of all your loan kit bookings.

Easy to use implant tagging process - HIBC decoding and HIBC exception handling.

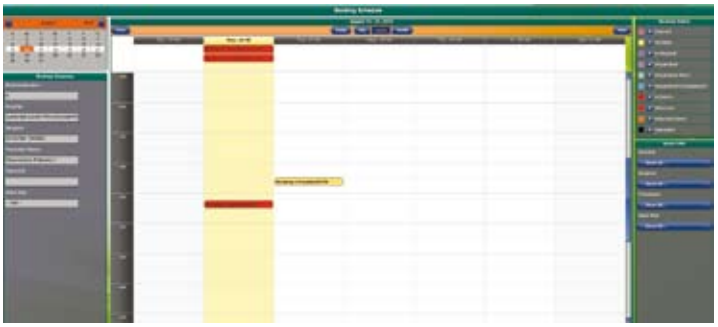
Comprehensive reports available in Excel format.

Encrypted communication and user authentication keeps your data safe, secure and maintains patient privacy.

Web based application available anywhere, anytime.



Item code, lot number and expiry date decoded from the HIBC barcode and written to the tag.



Familiar calendar interface to manage bookings.

Item level validation of item code, lot number and expiry date ensures correct and valid items are dispatched.

Software

Group implants into implant modules and create modularised preferences.

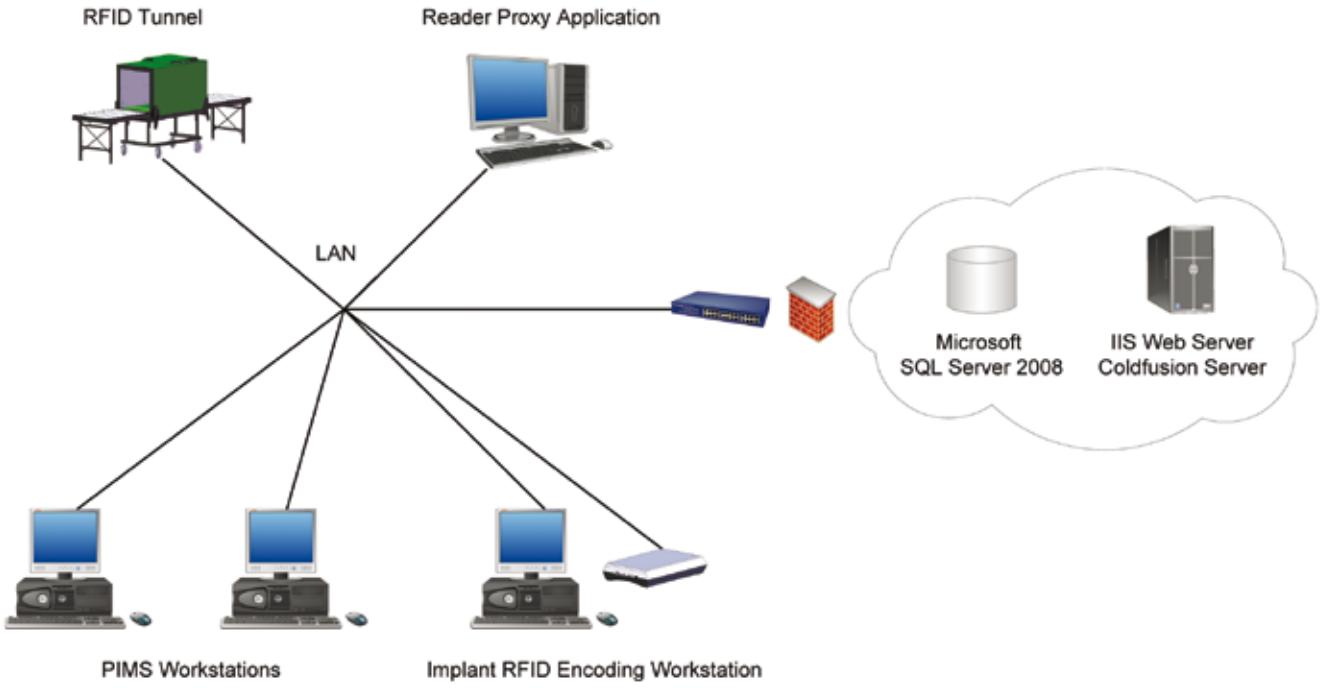
Handle instrument trays and non-RFID tagged products, such as procedure literature.

Reconcile items from different bookings, even from different hospitals, within seconds.

Easily handle in-field replenishment - transfer items between bookings or hospitals.

Item substitute definition handled transparently during dispatch and return.

Maintain authorisation levels by defining individual user access rights.



TUNNELS

Magellan's RFID tunnels are our flagship products. With the unique ability to read closely stacked tagged items at high speed in any orientation, they are able to process large numbers of loan kits in a fraction of the time.

The rugged slimline design and electronic shielding mean they can be used in both warehouse and hospital environments.

With both 500x500mm and 640x 640mm apertures available, we provide the flexibility to meet your container size requirements.

The tunnels are able to read and write at exceptionally high speed, reading unique ID's at a rate up to 400 tags per second.

Items can be placed in any possible orientation within the tunnel, without any impact on performance.

ENCODERS

Magellan's desktop encoding reader is designed for the sole purpose of encoding tags attached to orthopaedic implant devices.

To ensure that the correct tag, and only the correct tag, is programmed at the time of encoding, we have developed a special RFID reader with a carefully controlled encoding area.

The integrated and high performance shielded antenna prevents the programming of adjacent tags, ensuring only the selected tag is encoded.

Our MDR-3021 is compact and simple to use.

TAGS

In real world applications it is difficult to stop RFID tags and labels being placed next to each other and subsequently overlapping. With Magellan's unique PJM StackTag®, this is no longer a problem and it is possible to quickly read thousands of closely stacked tags without error.

This means implants do not need to be placed in any particular orientation or placed with separation between tags, eliminating the need for slow packing procedures - an advantage when dispatching kits in a hurry.

With the option of 10kbit and 1kbit memory available, along with a variety of label configurations, it is easy to accommodate customer requirements.

The option of printable labels allows for human readable information to accompany the RFID data.

SPECIFICATIONS

Readers	MDR-3021	MSTRP-5050	MSTRP-6464
Electrical			
Operating Frequency	13.56MHz		
ISO/IEC Compliance	ISO 18000-3 Mode 2		
Command Data Rate	424 kbit/s		
Reply Date Rate	106 kbit/s per channel		
Number of Reply Channels	2	8	8
Number of Axes	1	3	3
Operating Range	Marked read/write area	Internal Volume	
Power Supply	12 VDC	110 – 240 VAC @ 50/60Hz	
Power Consumption	18W	75 W	100 W
Performance			
Recommended tags	LMP7 [38 x 42 mm], CC5 [50 x 80 mm]		
Identification rate at 100% accuracy	Up to 150 tags/s	Up to 600 tags/s (host limited)	
Identify and read 96 bits data at 100% accuracy	NA	250 tags/s	
Identify write and read back 96 bit data at 100% accuracy	NA	50 tags/s	
Conveyor belt speed	NA	Up to 5 m/s	
Host			
Host Interface	USB, Ethernet		
Minimum Host Requirements	Windows XP SP2 / 500 MHz CPU / 128 MB RAM		
Environmental			
Operating Environment	Indoor use		
Temperature Range	0°C to +40°C ambient		
Humidity	10% to 80% (non-condensing)		
Mechanical			
External Dimensions (L x W x H)	330 x 250 x 73 mm	1010 x 610 x 710 mm	1350 x 750 x 960 mm
Net Weight	3 kg	120 kg	160 kg
Net Volume	0.006m3	0.44 m3	0.97 m3
Shipping Dimensions (L x W x H)	NA	1220 x 1000 x 1030 mm	1500 x 1010 x 1230 mm
Shipping Weight	NA	180 kg	230 kg
Shipping Volume	NA	1.25 m3	1.86m3
Certifications			
USA	Complies with FCC Part 15 Low Power Communication Device and EN 55022 Class B		
Canada	Complies with RSS-210 EMI regulations		
Europe (CE Mark)	EN55022, EN 301 489-1 V1.6.1, EN 301 489-3 V1.4.1, EN 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11, EN 60950.1, EN 300 330-1 V1.3.1, EN 300 330-2 V1.3.1, EN 50364, EN 50357, RoHS		
Australia	AS/NZS CISPR 22(2006), EN55022, AS/NZS 4268 (2003), AS/NZS 60950, RPS3 (ARPANSA)		
Other Features			
Operation	Powerful processing platform allowing for stand-alone reader operation		
Calibration and Tuning	No manual calibration or tuning required		
Shielding Methods	Field Cancellation	Field cancellation and ferrite shielding	
Reader Placement	Can be placed next to each other		

PIMS Software

Client workstation specifications:	
Browser:	IE6, Firefox 3.0, Chrome, Safari
Minimum screen resolution:	1280 x 1024
Flash player:	10.1 or better
Operating system:	Windows XP, Vista or 7, MacOS 10.6, Linux
Server Components:	
Operating System:	Windows Server 2008 Standard.
Database:	Microsoft SQL Server 2005 or better.
Webserver:	Internet Information Services (IIS) 6 or better
Coldfusion Server Version:	9.
Adobe AIR Runtime:	2.0.2 or better

Tags

Format:	Transparent or paper backed adhesive label
Nominal Label Dimensions:	50x80mm
Turns:	5
Chip Type:	PJM StackTag®
Memory:	8kb

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