Technology Brief

PF2i Migration Considerations For PM23c

Introduction

This document discusses migration from Intermec's PF2i to its replacement, the PM23c compact industrial printer. Intermec's PM23c (on the same platform architecture as PM43/c) includes many modern features, simplified user interfaces and powerful 1:1 device management. The PM23c is also designed for backward compatibility to the PF2i, including features like Smart Printing and media support but also improved precision printing. However, there are some differences to be considered for those upgrading from the old to the new printer. We will review each migration consideration and suggest ways to minimize any impacts.

Supported Printers

This document discusses only migration from the PF2i upgrade version printer (version D or E) to the PM23c.

Supported Command Languages

The PM23c printer supports the same printer command languages as PF2i and adds a new Smart Printing language, C#, which makes it easier to develop custom applications.

Environment

PM23c and PF2i work in the same wide range of industrial environments, as shown here.

	PM23c	PF2i
Operating Temperature	5C to 40C	5C to 40C
Storage Temperature	-20C to 70C	-20C to 70C
Humidity (%RH) Non-condensing	20% - 80%	20% - 80%

Material

The PF2i printer is mostly made of die-cast material, except for the base. PM23c uses sheet metal for its base, door, cover and back plate but has a die-cast spine.

Media Door

The PM23c features the same door options as PF2i but with the addition of a Dome Door which enables support for 8.375" media rolls.

The PF2i media door opens to the right and down and can be removed by using a Torx driver whereas the PM23c requires a spanner/wrench.

On the PM23c the hinged door opens up and to the left. A simple hinge adjustment configures the PM23c door for easy removal, a new feature.

Printer Size and Weight

The following table provides a comparison of the printer dimensions for the PF2i, and the PM23c with different door options.

	Height	Width	Depth	Weight
PF2i				
- Std	178mm	194mm	397mm	5.5kg
- Short	178mm	194mm	397mm	5.5kg
- Bubble	205mm	194mm	397mm	5.5kg
PM23c				
- Std	181mm	206mm	432mm	9.5kg
- Short	181mm	206mm	432mm	9.5kg
- Bubble	207mm	206mm	432mm	9.5kg
- Dome	245mm	206mm	500mm	9.5kg

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Supplied Manuals and Accessories

Older versions of the PF2i were supplied with a companion CD. However, when the D version was released our market research indicated that in-box CDs and manuals were no longer desired by industrial printer purchasers, so starting with that version we no longer provided them. The PM23c follows this strategy and does not include in-box user guides or a companion CD.

Intermec now provides BarTender Ultralite for Intermec instead of LabelShop as a no-cost label design application.

The Intermec Printer Network Manager (IPNM) is no longer provided. Instead use PrintSet 5, the printer's LCD panel or the printer web page to configure the printer. Use the printer web page or a device management tool such as SmartSystems to monitor the printer's status.

PrintSet 5, InterDriver™ and BarTender Ultralite for Intermec are available for download from the Intermec website at: http://www.intermec.com/products/printers_media/software/index.aspx

Mechanical Distances

The mechanical distances in the print mechanism between PM23c and PF2i printers are very similar; see table below. Due to the slight difference in distance it may be required to use a different start adjust configuration on PM23c compared to PF2i.

	PM23c	PF2i
Tear Bar -> Burn Line	15.8mm	14.9mm
Tear Bar -> LSS	65.4mm	64.1mm

Media Supply

Media routing is very similar between PM23c and the PF2i. As with the PF2i, graphical instructions on the PM23c help the user route media.

This table shows media-related specifications differences between the PM23c and PF2i.

	PM23c	PF2i
Max Media Diameter	8.375"*	8.375"*
Media Core Size	1", 1.5", 3"	1.5", 3"
Re-winder Core Size	1"	No core
Min Media Width	0.75"	1"
Max Media Width	2.7"	2.36"
Min Label Length	0.25"	0.32"
Max Label Length	180"	180"

*8.375" media roll is supported only if using short or dome door. Bubble Top door supports 7.25".

Ribbon Supply

Ribbon routing is very similar between the PM23c and the PF2i. Graphical instructions on the PM23c help the user route ribbon, same as it did in the PF2i.

Both PM23c and PF2i support rewinding a full roll of ribbon on the ribbon take-up arm. Both also feature a ribbon low feature. This table compares ribbon dimensions between the two printers.

	PM23c	PF2i
Ribbon Support	CSI/CSO*	CSI/CSO*
Max Ribbon Diameter	2.44"	2.35"
Ribbon Core Size	1"	1"
Min Ribbon Width	0.85"	1.3"
Max Ribbon Width	2.7"	2.56"
Max Ribbon Length	8660"	8858"

*Coated Side In/Coated Side Out

Fixed Media Hanger

On the PM23c there are two different fixed media hangers, one that supports 1" media core (receipt media) and one that supports 1.5" and 3" media cores. PF2i printers only support 1.5" and 3" cores.

Like the PF2i, the position of the fixed media hanger on PM23c is adjustable to encompass larger media rolls using the various door options.

Like the PF2i, the fixed media hanger on the PM23c is made of strong plastic.

Rotating Media Hanger

Both the PM23c and PF2i support a rotating media supply hanger. The rotating hanger supports 1.5" media core standard or 3" with an optional adapter.

The main advantage of the rotating hanger is to provide the ability to detect when the media on the roll is running low. It also allows the user to deploy the printer in an angled position (backward/forward).

Media Rewind

The PM23c and PF2i both feature liner rewind but the capacity of the PM23c is higher. The PM23c supports label rewind; the PF2i did not support this capability.

The table below shows the difference between the two printers; the numbers are based on media rolls with 8.375" outer diameter and 3" core (supported on short door or dome door).

	PM23c	PF2i
Liner Rewind Capacity	25%	5%
Label Rewind Capacity	5%	N/A

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Media Support
To view types of media supported by PM23c please access "Recommended Media Guide" on the PM23c printer's web page. Intermec printers and media are optimized to deliver superior performance when used together. Our rigorous testing and co-engineering ensures maximum print head service life, consistently high print quality, and proven label and tag performance in demanding real-world environments.

Self-Strip
A new feature on the PM23c is a front self-strip module with a design similar to the PM43 and PM43c. A front-installed self-strip module allows for label peel off functionality without having to rewind the liner. The self-strip module also works in conjunction with the rewinder to peel off labels with a strong adhesive.

The PM23c self-strip module requires a T-20 Torx head driver for installation. This module can be ordered as an option and is user-installable.

Printhead
In PF2i the only supported resolution is 203dpi, but the PM23c supports 203, or 300 and 406dpi. As shown in the table below, the 203 and 300dpi print heads are slightly narrower than the 406dpi print head.

TPH Width	PM23c	PF2i
203dpi	56 mm	56mm
300dpi	56 mm	-
406dpi	64 mm	-

The print head pressure on both PF2i and PM23c are adjustable. Increasing the pressure on PM23c improves the print quality and print registration. Decreasing the pressure improves the print head life time.

Configuration
The PM23c printer offers more flexibility to configure settings than the PF2i.

In the PM23c settings can be changed either remotely (e.g. modern web page or PrintSet 5 for 1:1 device configuration, or SmartSystems), using a USB thumb drive or from the LCD touch display.

Precision Print
Intermec's new PM23c compact industrial printer features Precision Printing capabilities enabling users to print on smaller labels and with narrower margins than the PF2i. Using a fixed hanger and lower print speed will result in the best print registration.

Print Speed
The PM23c has a higher maximum print speed, 12ips, compared to the maximum of 8ips on the PF2i.

Communication Interfaces
This table shows the communication interfaces available for each printer.

	PM23c	PF2i
Internal Ethernet (NIC)	Standard	Standard
Serial Port	Standard	Standard
USB Device	Standard	Standard
USB Host	Standard	Standard
Industrial Interface	Opt-Svc	Opt-Svc
Parallel Port (Centronics)	Opt-Svc	Opt-Svc
UHF RFID	Opt-Svc	Opt-Svc
Wireless 802.11/ Bluetooth	Opt-Fld	Opt-Svc*
Dual USB Host	Opt-Svc	NA

Opt-Svc: Option, service installable
Opt-Fld: Option, field installable
*= PF2i does not support Bluetooth

The RFID solutions in PF2i and PM23c are designed only for airline baggage tag applications, due to RFID antenna location.

User Interface
The PF2i features a single user interface, a two-line LCD with 22 tactile buttons.

The PM23c supports two interface options: an Icon version and a touch-screen graphical LCD with full 10-key keypad.

The Icon version provides multiple intuitive error LEDs to describe the error state in the printer. It also provides maintenance icons and a system health indicator. The LCD version provides an intuitive, multi-language user interface with functions for displaying status and printer configuration.

One minor difference between PF2iand PM23c is that PM23c will calibrate media and print test labels if holding the feed button at startup. On PF2i this feature does not exist.

Sensors
Like the PF2i, the Label Taken Sensor on PM23c requires calibration from the LCD wizard, or manually entry before it can be used. The PM23c sensor faces down, making it less sensitive to bright environments than the upwards-facing PF2i sensor.
The label gap sensor on PM23c adjusts by using a thumbwheel that moves the sensor across the print width and it features a blue LED indicating the exact sensor position. The PF2i requires a tool to change the position of the sensor and it is not as easily accessible.

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Serviceability/Installation

Tear Bar

On PM23c end users can remove the tear bar by using a T-20 Torx driver; on PF2i the tear bar was not fastened and hence removal did not require a tool.

Platen Roller

On PM23c end users can quickly replace the platen roller without using a tool. On thePF2i, platen roller replacement required removal of the electronic cover and several mechanical parts.

Thermal Print Head

The print head on PM23c has long cables that makes it very easy to change and requires no tools, while the PF2i requires a slightly more complex procedure where the print head needs to be pulled back behind the media guides. The print head is user-installable.

Option Boards

The Wireless 802.11/Bluetooth module is user-installable on the PM23c. The PF2i provided only an optional Wireless 802.11 card; Bluetooth was not available.

The PM23c wireless module supports 802.11b/g/n CCX v4, while PF2i supports 802.11b/g CCX v3.

Like the PF2i, other communication interface option boards continue to require factory or service installation with the PM23c.

Software

The PM23c supports the same languages as PF2i but has an additional Smart Printing language, C#.

There are a number of migration considerations with regards to software. Please refer to the following technology briefs, located at: http://www.intermec.com/learning/content_library/technology-briefs/index.aspx

- InterDriver Strategic Direction
- IPL Migration Considerations for PM43 and PC-Series Printers
- Fingerprint Migration Considerations
- Font Aliasing for PC series and PM43 Printers
- Font and Language Support in PM43 and PC-Series Printers
- Configuration Migration Considerations

Software Installation

The PM23c replaces the old PF2i CF card technology with USB thumb drive support, which can be used to install applications, fonts, images, and configure printer settings.

Conclusion

PM23c offers a number of technological and user interface enhancements, and is an ideal replacement for PF2i. This document described the considerations to take into account when migrating from the PF2i to the PM23c and the new printer platform.

North America
6001 36th Avenue West
Everett, Washington 98203
Phone: (425) 348 2600
Fax: (425) 355 9551

North Latin America
Mexico
Phone: (+52) 55 52 41 48 00
Toll Free NOLA:
01800 490 4990

South Latin America
Brazil
Phone: (+55) 11 3711 6770
Fax: (+55) 11 5502 6780

Europe, Middle East & Africa
Reading, United Kingdom
Phone: (+44) 118 923 0800
Fax: (+44) 118 923 0801

Asia Pacific
Singapore
Phone: (+65) 6303 2100
Fax: (+65) 6303 2199

Media Sales
EMEA: (+31) 24 372 3167
USA: (513) 874 5882
http://intermec.custhelp.com

Sales
Toll Free NA: (800) 934 3163
Toll in NA: (425) 348 2726
Freephone ROW:
00800 4488 8844

OEM Sales
Phone: (425) 348 2762

Customer Service & Support
Toll Free NA: (800) 755 5505
Toll in NA: (425) 356 1799
EMEA: intermec.custhelp.com

Internet
www.intermec.com

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www.intermec.com/locations

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