

# The Advantages of Direct Part Marking

## Summary

### Industry

Industrial

### Product

SR61HD DPM

### Region

North America

### Typical Applications

- Lifetime Identification
- Track & Trace
- Maintenance Management
- Warranty Service
- Product Authentication

### Customer Benefits

- Lifetime item identification and traceability
- Greater visibility into assets and components
- Improved asset, inventory and maintenance management
- Enhanced product and channel protection
- Meet AIAG, Spec 2000, DoD UID, FDA IUD and other industry requirements and guidelines



## Industry Need

Components and parts don't just need to perform, they need to tell a story:

*Who am I? Where have I been? When was I made? How am I configured? What is inside me? When was I last serviced? and When should I be retired?*

Billions of parts and components used in cars, airplanes, medical devices, electronic devices, military equipment and other critical assets tell these stories to maintenance professionals, technicians and inspectors every day. They tell their stories accurately and instantly through one-or two-dimensional bar codes created by direct part marking (DPM).

Direct part marking puts a lifetime identification mark permanently into an item. The ID is typically a serial number or other information that uniquely identifies that item, which paves the way for total lifecycle traceability. Direct part marking with a Data Matrix or other bar code symbology makes it practical to identify almost anything, including small, hard-to-label items. DPM also makes it practical to instantly access essential information about the item throughout its life cycle and throughout the supply chain – even in challenging environments where traditional bar code systems won't work.

## APPLICATION BRIEF

With DPM, expensive and/or mission critical parts and components can be encoded with their serial number, lot code, configuration information or other essential data. Companies are creating new business processes to take advantage of accurate, unique serialization. The processes, capabilities and benefits that direct part marking enable include:

- Complying with industry standards or requirements. Many industries have direct part marking and/or unique identification requirements, including aerospace (ATA Spec 2000), automotive (AIAG B11), defense (DoD Unique Item Identification, or UID), medical device (FDA Unique Device Initiative, or UDI) and others;
- Automatically creating build records and component manifests by bar code scanning;
- Tracking items in high-temperature, sterilized, outdoor, and other harsh environments that traditional bar code labels can't withstand;
- Increasing visibility into assets and operations;
- Preventing errors in just-in-sequence production;
- Eliminating manual data collection for inspection, inventory, maintenance and audit reports;
- Providing remote access to configuration and service information to save time for technicians and improve first-time-fix rates;
- Creating lifetime traceability;
- Enabling track-and-trace programs that can support pedigrees, chain-of-custody records and protect against diversion;
- Providing the foundation for authentication processes that can protect products in the field and throughout the supply chain, leading to counterfeit detection, improved warranty management and service fraud prevention;
- Supporting more comprehensive inventory management;
- Enabling efficient predictive maintenance through lifetime identification and duty cycle tracking;
- Creating confidence in knowing all parts and assets can be accurately identified and accounted for in maintenance management and asset management systems

Direct part marking enables information to be captured in ways and places where it hasn't been captured before. But it all depends on the quality and ease-of-use of your DPM reader.

Direct part marks can be very challenging for bar code equipment to process. Bar code readers rely on the contrast between dark and light elements to recognize bar code symbols and decode the data. Direct part marks often have very little contrast, because they are stamped or etched directly onto metal and may be covered by grease, dirt or wear marks. A light source from the reader can create shadows, or may make the symbol too bright to read if the surface is reflective. The reader has to be adaptive for a range of conditions, because if it can't work quickly and reliably, it defeats the purpose of automated bar code tracking. Product performance is a key component of a successful direct part marking program.

### The Intermec by Honeywell Solution

While direct part marking to create 2D bar codes is becoming common, it requires uncommon capabilities in a bar code reader. Factors like low contrast, small symbol sizes and the many physical challenges in industrial environments require highly capable imagers that are optimized for DPM. imagers are ideal for reading DPM bar codes, because they are extremely tolerant of low contrast and poor symbol quality, and have powerful image processing capabilities that can quickly read and decode obscured and damaged bar codes.

Intermec by Honeywell imagers are fast at reading Data Matrix and other symbologies used for direct part marking, and are very fast when used to read 1D codes and other symbols traditionally used in industrial operations, including shelf labels, job tickets, container codes and shipping labels. Intermec by Honeywell imagers can meet all your scanning needs in a single device. They can process difficult-to-read 2D DPM symbols, seamlessly recognize multiple 2D and 1D symbologies, and in some cases, even scan documents and capture video and still images.

## Product

The Intermec by Honeywell SR61HD DPM handheld scanner is optimized for reading DPM bar codes in industrial environments. It uses advanced imaging technology that is sensitive enough to quickly read



small, high-density, low-contrast bar codes that may be etched or stamped on metal parts, yet it also has the flexibility to read many other bar code symbols of different types and sizes on more traditional media like paper. This makes SR61HD DPM a truly multi-function scanner. Not only does it accurately and reliably scan DPM marks, but it also performs as a very capable traditional bar code scanner. And thanks to omni-directional scanning capability, the SR61HD DPM can read a mark at any angle. Unlike more expensive, specialized DPM readers from competitors, it offers snappy performance and does not require the scanner to be in contact with the mark.

Like the rest of the SR61 family, the SR61HD DPM is rugged enough to withstand environments where direct part marking is used. For example, it will work after multiple 6.5-foot drops to concrete or steel, is built to withstand the vibration and shocks common in forklift operations, works in temperatures ranging from -20°C to +50°C (-4°F to +122°F), and is IP54 rated to withstand dust and liquids. An aiming beam makes it easy for users to locate and read codes and marks, provides illumination to read low-contrast symbols, and can even be configured to capture video and still images.

The SR61HD DPM is available in a tethered version or with Bluetooth for a wireless connection to a mobile computer. It can easily interface with many devices and systems used for inventory control, service and maintenance, asset management, quality assurance, work-in-process tracking and other operations.

The SR61HD DPM is the perfect tool to help your items tell their own unique story.

## The Intermec by Honeywell Advantage

Intermec by Honeywell has been developing solutions for automatic identification and industrial automation for more than 40 years and has helped numerous organizations implement direct part marking systems. In the 1980s, Intermec by Honeywell invented the first portable linear imager, and in the 1990s, introduced the first handheld 2D imager.

Today Intermec by Honeywell is helping many companies, industry associations and other organizations design and develop their direct part marking programs and remains a leading worldwide leader in providing data capture and information management solutions at the interface between mobile workers, assets, and customers.

## For More Information

Because of the wide range of quality, contrast, and reflectivity brought on by different substrate materials and manufacturing processes, there is no single DPM scanner that will work for all applications. It is always best to test a DPM scanning solution before purchase.

Intermec by Honeywell and our PartnerNet community are here to help you validate a DPM scanning solution. For help with your application, call us at 800-347-2636 or visit [www.honeywellaidc.com](http://www.honeywellaidc.com).

## APPLICATION BRIEF

**For more information:**

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