

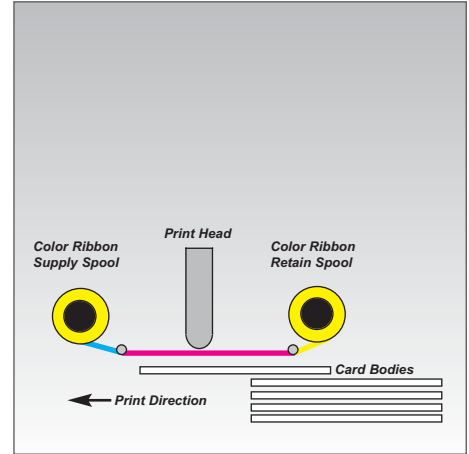
*digital  
identification  
solutions*

**EDISecure**®

*Printer Program*



**Professional Line**



### The versatile EDIsecure® Professional Line

The EDIsecure® Professional Line consists of four top-of-the-line printers that handle the most demanding ID card applications, where image quality, speed, reliability and versatility are a must.

The new, industrial design, double-sided, edge-to-edge EDIsecure® DCP 360i Professional Direct-Card Printer supplements the next generation of EDIsecure® XID Re-Transfer Printer portfolio: the XID 570i, the XID 580i and the XID 590i.

### Direct-Card-Printing technology

Direct-Card-Printing technology is most commonly used in desktop ID systems to print images and data directly onto the surface of a plastic card.

This process of dye sublimation printing uses a dye-based ribbon that is partitioned into a number of consecutive color panels. The panels are grouped in a repeating series of colors – Yellow, Magenta, Cyan, and a Carbon (or Resin) Black (YMCK) – along the length of the ribbon. During printing, a print head containing hundreds of thermal elements heats the dyes on the ribbon, which vaporize and permeate the surface of the card. A separate pass is made for each of the three dye-sub color panels. By combining the colors and varying the heat used to transfer them, the printer is able to produce up to 16.7 million colors.

If you want to print sharp black text and crisp bar codes, which can be read by both infrared and visible-light scanners, you should use the resin thermal transfer method. This process transfers images with the monochrome, carbon black ribbon panel in a way similar to the dye sublimation process. Instead of the color dispersing into the card surface, the resin or carbon black is transferred directly onto the card surface as opaque dots.



## EDISecure® DCP 360i

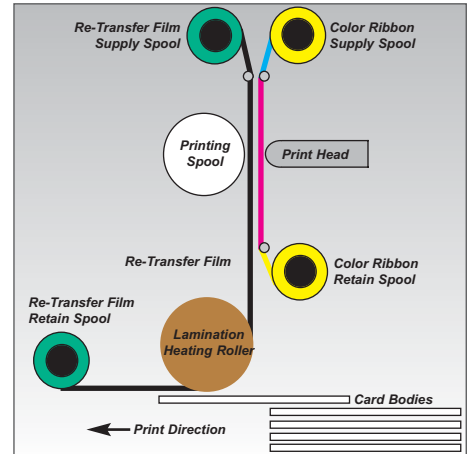
The double-sided, edge-to-edge EDISecure® DCP 360i Professional Direct-Card Printer was developed for industrial needs and is prepared for plug and play inline lamination. With its versatility and state-of-the-art features, it is the most powerful Direct-Card printer in the world.

### Speed and ease of use

The EDISecure® DCP 360i Professional Direct-Card Printer has the first portrait mode printing engine in its class, making it the fastest full-color Direct-Card printer on the market. A print speed of 19 seconds per 4-color side is extremely impressive and allows you to print more than 180 full-color cards per hour. A front loadable color ribbon cartridge system makes daily handling of the printer very easy. The ribbons have the highest capacity of any desktop Direct-Card printer in the industry. A powerful printer driver with a graphical user interface similar to the versatile EDISecure® XID printer driver helps you to route and control your print jobs. Ongoing development of the printer driver ensures that you are always working with the latest features in this state-of-the-art product. The card dispenser holds a hundred standard CR80 cards with a 30mil thickness, while the output hopper receives the same number. This allows for easy use, even overnight without operator supervision.

### Powerful options

An EDISecure® DCP 360i Professional Direct-Card Printer is a long-term investment due to the field-upgradeable optional encoder for magnetic stripes (HiCo and LoCo). The professional encoding module holds the card tight while the magnetic head moves along the magnetic stripe. This provides for highest quality, scratch- and jitter-free encoding. In addition, the printer is prepared for easy upgrade to various contact and contactless chip encoding options such as Legic, Mifare or HID. Cards which cannot be encoded are ejected through an extra reject slot. Absolutely unique on the market is the plug and play lamination option with the EDISecure® Inline Lamination Unit (ILU), ready for single- and double-sided lamination. Please see separate EDISecure® ILU brochure for further details. Even when printing double-sided in full color and laminating on both sides, it takes less than 80 seconds to complete the job. If you use the thermal OVD laminating film, this same process takes less than one minute. The DCP 360i is ready to grow with your demands and raises you to a higher quality of ID card printing for projects like access control or time and attendance.



**The history of the Re-transfer technology**

Victor Data Systems (VDS), a subsidiary of the JVC Group in Japan, introduced the world's first Re-transfer printer for producing ID cards in 1996. In 1998, the company introduced a second-generation Re-transfer printer that greatly improved production speed and lowered operational cost. The second-generation model was widely embraced by the ID marketplace and garnered a reputation as a reliable solution for printing high-quality images on cards containing electronic circuitry. In 2002, VDS released a third-generation model that made Re-transfer printing affordable for nearly everyone, and Re-transfer printers began to be used in a broad range of industries and applications. In October 2003, the Digital Identification group of companies introduced a fourth-generation of Re-transfer printers based on the well-designed and highly reliable VDS platform. This fourth generation offers several models at varying price levels, providing the marketplace with printers that have both pricing and performance more suited to meet a client's specific needs.

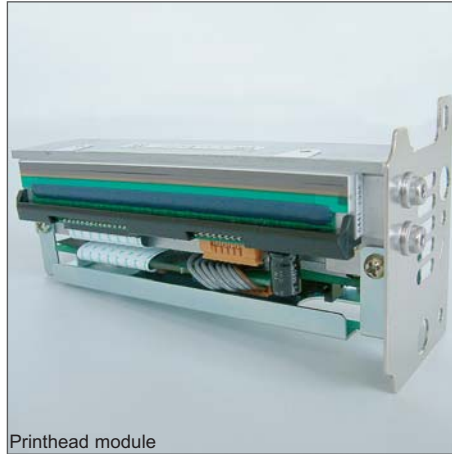
The Digital Identification Solutions group of companies emphasizes on offering state-of-the-art printer solutions which always meet the current needs of the market. For this reason the fifth generation of EDISecure® XID Re-transfer printer models comes with enhanced encoding options and a huge variety of new features which help to ease the daily use of these powerful ID card printers.

**The innovative Re-transfer technology**

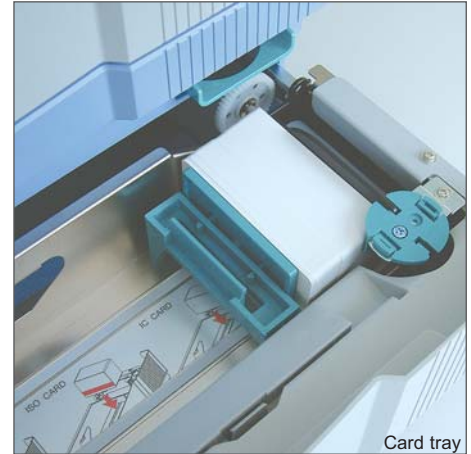
One of the key advantages of Re-transfer ID card printing technology is the increased abrasion resistance - information printed with a Re-transfer printer lasts longer! This enhanced wear-protection results from first transferring information to be printed onto a card to the underside of a clear ribbon (the initial dye transfer), then transferring the printed information from that ribbon onto a card in such a manner that the information on the card appears under a protective "release layer" of the clear ribbon (the "Re-transfer" step).

The process works like this: in addition to a color YMCK-type ribbon that all dye sublimation direct-to-card printers use, Re-transfer printers include a second clear polyester-based Re-transfer ribbon, often referred to as the Re-transfer "film". Instead of transferring dye directly from the YMCK-type ribbon onto a card, which leaves the dyes exposed and prone to wear from ordinary abrasion, Re-transfer printers transfer, or sublimate, the dyes onto the clear Re-transfer film, then transfer this film to the card.

The sublimation, or dye transference, is accomplished by converting electronic information from a PC (the print job) to heat impulses in the printer's thermal printhead. As tiny points on the thermal printhead are heated, the dye is sublimated, or released, from the color ribbon to form pixels of color. This dye transfer process is done for each patch of color on the ribbon - that is, first, all of the required yellow dye is transferred,



Printhead module



Card tray

then all of the required magenta dye, and so on for cyan and carbon black. Various combinations of the dyes yield the full color spectrum, and once a completed card image has been transferred to the clear Re-transfer film, the image is re-transferred to a card using a heated and specially coated lamination roller. The combination of heat and pressure applied by the roller causes the printed image to be released, or transferred, from the polyester film to the ID card. However, the dyes comprising the image are fused into the card body beneath the protective "release layer" of the Re-transfer film, which enhances the durability of the printed information.

The total time required to print one full-color card side using this process is between 29 and 32 seconds depending on the EDISecure® XID printer model.

### Best solutions for heavy duty operations

The past few years of field experience have demonstrated that all EDISecure® XID Re-transfer printer models are extremely reliable. There are several installations all over the world at large-scale enterprises, card service bureaus or government projects still using EDISecure® XID Re-transfer printers that have well over one hundred thousand prints or more per printer.

The main reason for this outstanding performance in continuous operation is the durable, high-quality printhead.

**And as evidence that XID printer solutions are built for the long-haul, all models include a lifetime warranty on the printhead provided you use our recommended supplies.**





## EDISecure® Re-Transfer Printer Solutions

The Digital Identification group of companies offers a complete product line of Re-transfer ID card printers and related lamination and encoding accessories. You can start with the very reasonably priced *EDISecure®* XID 570i and obtain results superior to virtually any direct-to-card printer. Or move up to the *EDISecure®* XID 580i for increased speed and support for numerous encoding and lamination options. And for the utmost in flexibility, step up to the *EDISecure®* XID 590i to obtain the performance you need to manage even central issuance-type production volumes. Take a glance at the basic highlights:

- 300 dpi resolution
- real edgeless printing
- single- and double-sided printing
- prints on nearly all card materials as PVC, PVH, ABS, 100 % PET and Polycarbonate
- field up-gradeable on higher versions
- print speed varies between 100 and 840 single-sided, full-color cards per hour, depending on the printer model
- various encoding options
- versatile lamination options

## Ease of Use

Despite the high performance, *EDISecure®* XID printer solutions are very easy to operate. The printers feature a smart LCD display that provides printer status information using both text messages and traffic light-type changes in the color of the LCD display (green = go/OK, yellow = warning, red = problem/stop).

Blank card stock is loaded into a pull-out drawer that can accommodate 300 standard 30 mil CR80 cards, and the cards can be added while the printer is printing. Different card thicknesses are reliably accommodated via a quick rotation of thickness selector built into the card supply drawer. If you frequently alternate between various card types, you can simply order extra card drawers and interchange them as often as required.

Spools of the standard YMCK color ribbon and Re-transfer film can print up to 1,000 single-side cards before requiring replacement, which is simplified by the use of color-coded cartridges.

The powerful, DIS inhouse developed printer driver comes with a very user-friendly graphical user interface for simple and quick operation.

## Investment protection

All *EDISecure®* XID printers can be upgraded at a later date to provide even more functionality. For example, start with an *EDISecure®* XID 570i today and you can upgrade to an *EDISecure®* XID 580i or *EDISecure®* XID 590i later, so that you have support for encoding or lamination options that you did not originally think you would need.



## EDISecure® Re-Transfer Printer XID 570i

The EDISecure® XID 570i is the entry-level Re-transfer printer that produces near offset printing quality. Standard features include the ability to print the front and back of a card in a single pass, true over-the-edge printing with no adverse impact on the printhead life. Discover the highlights:

- **Color-coded ribbon and Re-transfer film cartridges**  
- easy change of supplies
- **Automatic color ribbon detection**  
- the printer automatically detects its type and comes up with the proper settings
- **Low ribbon detection**  
- prompts user when approx. 2 % of color ribbon is remaining
- **Auto Cleaning notification**  
- prompts user after 1,000 prints in order to start cleaning process
- **Enhanced Driver / GUI features**  
- extended graphical display sets you in complete control over all printer functions
- **Interface**  
- factory build-in USB 2.0 connector and as an option Ethernet compliant
- **Encoding options**  
- factory build-in or field up-gradeable option for magnetic stripe encoding
- **Lamination options**  
- single-sided inline lamination with the EDISecure® ILU

## EDISecure® Re-Transfer Printer XID 580i

The EDISecure® XID 580i is the recommended choice when lamination or chip encoding is required. In addition to all of the features of the EDISecure® XID 570i, the EDISecure® XID 580i provides extended functionality as:

- **Pre-selection of five different card type profiles**  
- recommended printer settings for EDISecure® standard card materials will be automatically loaded when installing the DIS XID printer driver
- **Encoding options**  
- either factory build-in or field up-gradeable encoding options for magnetic stripe and fast chip encoding (contact and contact-less)  
- enhanced RFID encoding options: Legic®, Mifare, Desfire, iCode and HID iclass  
- prepared for LaserCard encoding incl. OptiChip  
- new high performance chip controller
- **Lamination options**  
- single-sided inline lamination with the EDISecure® ILU  
- single- and/or double-sided lamination with the versatile EDISecure® OLM program
- **EIP Enhanced Image Quality**
- **Printer Look-Up tables**

## EDISecure® Re-Transfer Printer XID 590i

The EDISecure® XID 590i is the very peak of the product family and the ideal solution when a maximum hourly output is desired. In addition to all of the features and options of the EDISecure® XID 580i, the EDISecure® XID 590i provides high performance functionality as:

- **Advanced IPM Intelligent Printer Management**  
- using this feature it is possible to reach an impressive maximum hourly output capacity of 840 single side, full color ID cards with connecting up to seven EDISecure® XID 590i printers to one PC  
- this feature includes NETencoding Management which permits a PC to route a print job and the accompanying encoding data to the correct printer in a network environment
- **Printer Password**  
- optional the EDISecure® XID 590i printer can be protected with a password



**Encoding ID cards can be this simple**

Access rights, time & attendance, cashless canteen billing and many other functions can all be combined on just one card, using different encoding technologies as necessary. Whatever the system, from barcode to magnetic stripe or smartcard (contact or contactless), *EDISecure®* XID Re-transfer ID card printers print and encode in one single step. Even cards with multiple encoding technologies can be personalized and ready for use in one simple process. Using re-transfer printing technology, both contact and contactless smart cards can be effortlessly encoded and printed to the highest standards on the front and rear, quickly and reliably.

**Contactless Encoding Technologies (RFID)**

RFID (Radio Frequency Identification) cards store data in a chip that is embedded in the card body. For communication between the embedded chip and a reader, an antenna is also embedded in the plastic card. The advantage of this technology is that the exchange of information does not require any contact between the card and the reader. Storage capacity typically varies between 256 bytes to 72 kilobytes. The most common technologies are Legic®, Mifare, Desfire, iCode and HID iclass. Also encoding of chips with ISO 14443 A & B protocols is possible.

**Contact Chip Technologies**

Contact chip technology exchanges data, which is stored in a small Integrated Circuit (IC) embedded in the card body, via a field of contacts on one surface of the card. The two most common types of contact chip cards are the memory card and the processor card. The memory card can only store data with a capacity that varies from 256 bytes to 128 kilobytes. A processor card can store data and even perform computer-type operations.

**Magnetic Stripe Technology**

Magnetic stripe technology is one of the oldest methods used to store data on a card. Basically, two types of magnetic stripes are used. High-coercivity (HICO) stripes are encoded at 2750 or 4000 Oersteds, and low-coercivity (LOCO) stripes are encoded at 300 Oersteds. The stripes are divided into 3 tracks. Per ISO standard 7811, track one of the stripe can store 76 characters and is designed as read only (not re-writable) after the first encoding. Track two can store 37 numeric characters and is designed as read only. Track 3 can store up to 104 numeric characters and is both readable and rewritable.

**Advanced encoding with the *EDISecure®* XID Re-transfer printer family**

The high quality, high resolution print results of the *EDISecure®* Re-transfer printers predestine them to enter the popular world of 1D and 2D Barcode encoding.

To keep customers as flexible as possible with their encoding issues all encoding options for the XID printer family are either available factory build-in or field up-gradeable.

If the application demands added card functionality step over to the magnetic stripe encoding. This module is optional provided by the XID 570i, XID 580i and XID 590i.

For the *EDISecure®* XID 580i and XID 590i a high performance chip controller board ensures a wide range of smart card encoding options incl. RFID. Advanced chip encoding framework and enhanced RFID encoding options provide for fast instant encoding of the most common chip types.

To connect further encoding modules, i.e. Lasercard encoders or for the use of pre-encoded cards, the printer can be switched to a manual card feeding mode.





### Combination with the EDISecure® Inline Lamination Unit

Printed cards can be laminated to increase visual card security and protect the surface from physical damage.

The EDISecure® ILU can be easily connected to the EDISecure® DCP 360i Professional Direct-Card printer and all of the EDISecure® XID Re-transfer printers.

All industry standard card materials such as PVC, PVH, ABS, 100% PET and Polycarbonate are perfectly applicable with the EDISecure® ILU. The EDISecure® ILU uses lamination materials including thin holographic overlays, 0.5 mil and 1 mil patch laminates, clear, custom and generic. Unlike any other card laminator, the EDISecure® ILU laminates in portrait mode, allowing it reach impressive speeds.

Please see the EDISecure® ILU brochure for additional details.

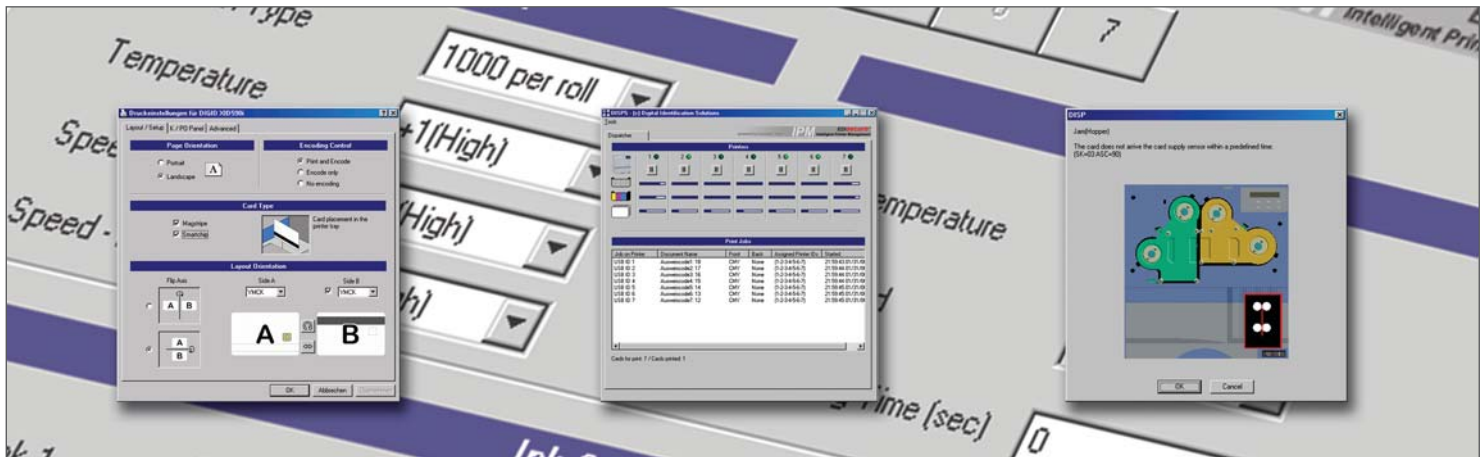
### Maximum Flexibility with the EDISecure® XID Family and OLM

EDISecure® XID Re-transfer technology makes it possible to print onto a variety of card materials with outstanding results, including cards made of PVC, PVH, ABS, Polycarbonate and pure PET. Equally important, when printing onto cards containing electronic circuitry, the EDISecure® XID Re-transfer printing process produces spectacular results compared to direct-to-card printers. Even Digicards and Lasercards can be personalized with the EDISecure® XID printer solutions.

The EDISecure® XID 580i and EDISecure® XID 590i also support a wide range of lamination options, including:

- Single-side lamination
- Double-side lamination using a single lamination module
- fast double-side lamination using two lamination modules for increased throughput and the ability to choose different lamination materials for the front and back of the card
- Double lamination (two different lamination materials) on both sides of the card using two lamination modules

Reference the EDISecure® XID OLM brochure for additional details.



All *EDISecure*® XID printers come with a very powerful sophisticated printer driver.

### Features

- Generic printer driver for Windows 2000 and XP Operating Systems
- Runs with any Windows application software
- Offers complete control over all printer features
- Advanced error handling ensures that no print job is lost
- Look-Up Table downloadable for color corrections
- Printer Password protection for highest security
- Smart (contact & contactless) and magstripe encoding, also over network
- Overlapping download in Batch Print Mode for high speed printing
- Intelligent Printer Management on one workstation. Up to 7 printers can be driven by 1 computer and will allow an output capacity of up to 840 cards per hour.
- Build-In Interface for custom chip encoding. External function calls to the printer driver allow the loading and unloading of a card into the smart chip encoding position within the printer. These function calls are documented and do allow any system integrator with programming capabilities to do smart chip encoding with the *EDISecure*® XID printer.

- Printer status can be queried at any time from custom application. This allows any Windows application to synchronize the encoding and printing process.
- Read pre-encoded cards (chip & magnetic stripe) before printing
- Intuitive User Interface
- Fully configurable K plane usage for any layout objects
- Optimised color ribbon usage (intelligent ordering of front & back printing)
- Visual display of card-type, orientation and layout sides for hassle-free post print processing (lamination)
- Configurable offset for perfect layout positioning from any application
- Peel-Off\* areas (e.g. to prevent printing on signature panels) can be defined visually
- Printer status monitor displays printer queue and status of current operation
- Automatic logging of complete print process for support purposes
- Easy import and export of device driver's settings
- Printer redistribution: if more than one *EDISecure*® XID Printer is connected to your PC and a print job fails to reach one specific printer the print job is automatically routed to another printer.

\* requires special ribbon

Some of the listed features are available for *EDISecure*® XID 580i and *EDISecure*® XID 590i printers only.

### Advanced Intelligent Printer Management: IPM

- From one PC up to seven printers simultaneously for high-performance card throughput.
- features NETencoding Management, which permits a PC to route a print job and the accompanying encoding data to the correct printer in a network environment
- "No-operator" mode
- Fault-tolerant error recovery on printer failure or ribbon shortage
- Automatic job redistribution to next available device (already with two printers). Each additional printer adds even more reliability and throughput in unattended printing.
- Detailed feedback to custom application about each single job.

### Advanced Chip encoding framework

The *EDISecure*® XID printer driver is able to control the print data and the encoding data in one print job. Hence, this feature allows chip encoding via a print server and supports batch jobs with encoding data. It is now possible to encode data from nearly all applications, which allow variable field data in a layout. The *EDISecure*® XID driver will accept generic DLL's, which can be easily customized for the requested encoding. DIS will provide ready to use chip encoder plug-ins, as well as development templates to create own plug-ins. This printer driver feature is available for the *EDISecure*® XID 580i and XID 590i.



**Consumables for EDISecure® DCP 360i Professional Direct-Card Printer**

- Monochrome true black ribbon K (in preparation)
- 5 patch color ribbon Y/M/C/K/OP for 750 prints
- 6 patch color ribbon Y/M/C/K/OP/K for 600 prints

To make the change of a color ribbon as easy as possible, the EDISecure® DCP 360i Professional Direct-Card Printer possesses automatic ribbon detection: after insertion of a color ribbon the printer detects automatically its type and comes up with the right settings.

A cleaning roller is also available to remove particles that could scratch cards, damage printheads or diminish print quality. This roller can be easily cleaned by the operator himself. An extra cleaning kit is available as an accessory.

**Consumables for the EDISecure® XID Printer family**

- 4 patch color ribbon Y/M/C/K for 1,000 prints
- 5 patch color ribbon Y/M/C/K/K for 750 prints
- 5 patch color ribbon Y/M/C/K/PO (peel off) for 750 prints
- EDISecure® XID Re-transfer Film ribbon for 1,000 prints
- Box with 500 EDISecure® XID ABS cards
- Box with 500 EDISecure® XID ABS cards with HiCo Magnetic stripe
- Box with 500 EDISecure® XID Premium PET cards
- Box with 500 EDISecure® XID Premium PET cards with HiCo Magnetic stripe
- Box with 500 EDISecure® XID Elite Polycarbonate cards

EDISecure® XID ABS and Polycarbonate cards are on request optional available with contact chip.

## EDISecure® Professional Line feature list

	DCP360i	XID 570i	XID 580i	XID 590i
Direct-Card printing technology:	●			
Re-transfer printing technology:		●	●	●
300 dpi resolution:	●	●	●	●
Printable area:	edge-to-edge	edgeless	edgeless	edgeless
Single-side print:	●	●	●	●
Double-side print:	●	●	●	●
Printable materials:	PVC, PVH	PVC, PVH, ABS, 100 % PET and Polycarbonate		
Up-gradeable on higher versions:	–	●	●	–
Extended card material versatility:		●	●	●
Pre-selection of 5 different card type profiles:		–	●	●
Auto ribbon detection with automatic parameter settings:	●	●	●	●
Low ribbon detection 2% before ribbon end:	–	●	●	●
Extended ribbon portfolio:				
YMCK	●	●	●	●
YMCKK	●	●	●	●
YMCKPO (Peel-Off)	–	○	○	○
YMCKPOK	○	–	–	–
Print speed (single-side, full-color card):	more than 180/h	100/h	120/h	up to 840/h*
6 seconds faster for "on-demand" single side card printing as XID 4xx printers:		●	●	●
PC Interface:	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Ethernet compliant:	–	○	○	○
Encoding:				
Magnetic Stripe	○	○	○	○
Contact Chip	○	–	○	○
Contactless Chip (RFID)	○	–	○	○
Field up-gradeable Encoding options:				
Magnetic Stripe	○	○	○	○
Contact Chip	○	–	○	○
Contactless Chip (RFID)	○	–	○	○
Prepared for LaserCard Encoding (incl. OptiChip):	–	–	●	●
Faster IC encoding:	–	–	●	●
Advanced chip encoding framework:	–	–	●	●
Enhanced RFID encoding options:	–	–	●	●
High performance Chip controller:	–	–	○ USB or Serial	○ USB or Serial
Manual card feeding:	–	–	●	●
Chip encoder plug-ins:	–	–	○	○
Lamination options:				
Inline Lamination ILU	○	○	○	○
Multiple Standard OLMs	–	–	○	○
Multiple DS OLMs	–	–	○	○
OLM-Printer communication	–	–	○	○
Faster double side lamination:	–	–	●	●
EIP = Enhanced Image Processing:	–	–	●	●
Advanced IPM = Intelligent Printer Management:	–	–	–	●
Printer Password:	–	–	–	●
Printer Look up tables:	–	–	●	●
Auto Cleaning notification:	–	●	●	●
Enhanced Driver / GUI features:	–	●	●	●

– not available    ○ optional available    ● available

\* using IPM = Intelligent Printer Management

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