



## **EDISecure®** Maximum Security for Your ID Documents

### COMBINED TECHNOLOGIES AND MULTI-FUNCTIONALITY FOR MAXIMUM SECURITY

- Unrivalled variety of first and second level security features making credential forgery and manipulation all but impossible
- Secure multi-functionality to fight against alteration, forgery and duplication
- The *EDISecure®* LCP 9000 Laser Color Personalization System is built from 3 individual components: the XID 9330 for full color printing in the highest quality, the LEU 9000 for laser engraving, and the ILM Inline Lamination Module for overlamination with clear and secure foils
- Fast, cost-effective production of highly secure credentials with the *EDISecure®* LES 900 standalone system for black and white laser engraving only
- Rely on our extensive field expertise and security know-how in the high-secure ID business
- Our solutions and technologies empower you to create maximum security

In today's world, it's important to stay one step ahead of counterfeiters – especially with ID documents. Therefore, documents have to be protected against forgery by the most powerful means available. An important trend is the growing use of combined technologies. Hence, more and more government and corporate organizations are aiming for more secure multi-functionality in their applications. There is no ultimate security feature, which makes the credential safe on its own, but the combination of various features does.

The *EDISecure®* LCP 9000 Laser Color Personalization System is an innovative desktop system which blends the best security features together to provide unrivaled protection against alteration, duplication and forgery. Thanks to the modularity of the system, a wide selection of security features can be combined flexibly to meet your precise needs.

The *EDISecure®* LES 9000 Laser Engraving System is a standalone system for black and white laser engraving only and allows for the fast, cost-effective production of highly secure credentials. The LES 9000 may be set up to create a range of security features and effects which require a strong line of defense against fraud, forgery and duplication.

To meet your requirements and security expectations, we can provide proper consultation to you based on our extensive experience and expertise in the ID and high-security industry. Benefit from our knowhow and seasoned professionals in terms of card preprint, construction and manufacturing, as well as the right choice of card materials.

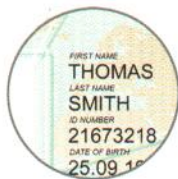
Let us help you find the perfect security feature combination for your ID application!



**THERE IS ONE FOR EVERYBODY**



# SECURITY FEATURES



## PERSONAL DATA – PRINTED OR LASER ENGRAVED

High resolution laser engraving prints crisp, clear personal data that is easily readable but difficult to change or erase. Laser engraved text is the result of a chemical reaction to the heat of the laser. Once personalized, data cannot be changed without damaging the card. This prevents counterfeiters from changing important data like the expiration date, date of birth, employee number, etc. as the engraving is done inside of the card and not on top of the surface.



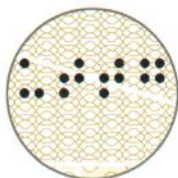
## MICRO TEXT – PRINTED OR LASER ENGRAVED

To the naked eye, micro text looks like fine lines, but is really made up of small letters that can be read under magnification. This makes the card even harder to duplicate, because the text is so small it cannot be reproduced by copying or scanning.



## TACTILE LASER EFFECT

Tactile laser engraved effects can be felt, not just seen. When applied to text or graphics, the images are slightly raised, making them easy to identify, even in low-light environments. If you rub your fingertips over elevated data or images, you can feel the security!



## BRAILLE

Braille can be seen as the world's first binary encoding scheme for representing the characters of a writing system. Braille consists of special raised elements on a card. This feature is dependent upon the card composition.



## MRZ – PRINTED OR LASER ENGRAVED

A machine readable zone (MRZ) on a document (such as a passport or card) refers to a specific physical area on the document or card where data is encoded in a machine-readable format. The laser engraved MRZ is infrared readable.



## CLI AND/OR MLI

Two of the most effective anti-counterfeiting measures for laser engraved data pages are CLI (Changeable Laser Image) and/or MLI (Multiple Laser Image). These are security features that are impossible to reproduce without special personalization equipment. When the card is tilted from side to side (vertical or horizontal), CLI and MLI show one image one way and a different image the opposite (e.g. card holder information such as images/text).



## UV PRINTED UNIQUE MACHINE CODE

A covert "machine-code" that cannot be modified or removed is printed in the corner of the UV printed card every time one is issued to identify the exact personalization system on which the card has been created. This allows you to spot forgeries quickly and easily, as the number will be different for cards issued from any other printer. With that true anti-counterfeiting tool, you have absolute control of your card distribution process, which is unique for each system.



## UV PRINTED IMAGE/DATA

This revolutionary UV printing technology allows the finest tone scale reproduction for the "on demand" personalization of invisible images, logos, symbols, etc., of highest quality when issuing the card, a feature unparalleled in the ID industry. A higher individual level of true security is provided with this feature, because the individual image or text is not visible at daylight; it's only visible by the use of a simple UV light source.



## GHOST IMAGE

Ghost Images are entry level card security features. Essentially, a ghost image is a smaller version of the original primary photo image on an ID card and is generally printed semi-transparent. A benefit of this type of card security is that it does not generally add to the cost of your printed card. It is easy to create the ghost image, and it is a cheap and effective security feature.



## IPI™

A high-security feature to improve protection against alteration and replacement of the cardholder's photo is IPI™ (Invisible Personal Information by Jura JSP), which links the encrypted photo to the owner and to the ID document, and therefore, adds greater security against counterfeiting to the complete credential. This information is not detectable to the naked eye, but can be made visible by use of a simple decoding Fresnel lens. This lens does not require any power or electronic device, but the use of IPI™ requires an additional license agreement.



## LETTERSCREEN™

LetterScreen™ (by Jura JSP) is an overt security feature designed to protect ID documents against tampering and unauthorized personalization. LetterScreen™ generates the cardholder's photo from a special micro text screen, comprising personal data, such as owner's name and document number. It may be printed as a background picture, or underneath other elements.





#### LPI®

Laser Protected Image LPI® (registered trademark of G&D) is an easily detectable first and second level security feature. It allows customers to enjoy the visual benefits of color photos as well as the high-resolution and counterfeit protection of laser technology due to a physical separation of layers. The ID cardholder's picture is first separated into color and grayscale components. The color components are then applied to the ID documents. Finally, the grayscale components are securely engraved into the card body. The sequence of these two steps can also be switched. Lastly, a secure laminate is added to protect the color photograph. LPI® is the way to keep your identity on documents secure, unique and colorful.



#### FUSE®-ID

FUSE®-ID (registered trademark of G&D) secures personal information such as the document holder's portrait (the "primary image") by adding a copy (the "secondary image") to the data page at another location. Both images are laser engraved. The secondary image is engraved in an area printed with optically variable ink (OVI) where the ink will be removed. The result is a reversed ghost image engraved on OVI area. With FUSE®-ID, forgers can't manipulate the primary photo and the secondary image in a way that leaves them looking identical.



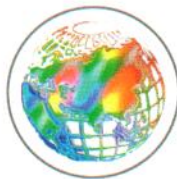
#### tru/window™ LOCK

The tru/window™ LOCK (trademark by Trüb AG) security element offers a new dimension of photo-protection. Any manipulation of the cardholder portrait after issuance by means of additional laser engraving can be prevented. tru/window™ LOCK implements an inverse personalized ghost image into a metal foil which is integrated into a transparent window. It prevents simultaneous manipulation of the primary and secondary images and is easy to verify by holding to any light source.



#### OVI

To further prevent counterfeit cards from being produced, certain security elements can be preprinted into the card body. Optically variable ink (OVI) is a high-security feature showing different colors as the angle of view changes. It provides a particularly high degree of protection, especially against color-copy forgery. The symbol shows that the card has an integrated contactless chip (e-ID).



#### HOLOGRAPHIC FOIL

Holographic foils and laminate patches can be added to the top layer of the card after printing and engraving to secure the card surface against tampering. Holograms can be utilized in conjunction with patch laminate to protect the color-printed surface of the card from fading or wear and tear while preventing unauthorized changes to the data and images on the card.



#### CHIP ENCODING

Smart cards (contact chip cards) refer to any plastic card containing an embedded, integrated circuit microchip or an on-board microprocessor. Data encoded on standard smart cards are accessed by having the smart card directly contact a smart card reader. Like standard smart cards, contactless smart cards have either electronic microchips or microprocessors. Unlike standard smart cards, they also have embedded antenna that allow the card to communicate with an antenna/coupler unit without making direct physical contact.



#### 1D OR 2D BARCODES

A conventional linear barcode has a single row of bars, and all data is encoded horizontally. A matrix code (2D barcode) is a two-dimensional way to represent information. It is similar to a 1D barcode, but can represent more data per unit area. 2D barcodes make use of the vertical dimension to pack in more data. Barcode systems provide an array of benefits, including operational efficiency, better customer service, and improved visibility of key business information to management. 1D or 2D barcodes are also machine readable.



#### MAGSTRIPE ENCODING

A magnetic stripe card is a type of card capable of storing data by modifying the magnetism of tiny iron-based magnetic particles on a band of magnetic material on the card. The major key features are that magnetic stripe cards are cost effective, easy to use and its encoded data can be rewritten. Furthermore, they provide a higher data capacity than a simple barcode.



## SECURITY FEATURE LIST

			
	XID 9330	LES 9000	LCP 9000
UV Printed Image/Data	●	---	●
UV Printed Unique Machine Code	●	---	●
MRZ (Machine Readable Zone)	●	●	●
Ghost Image	●	●	●
Micro Text	●	●	●
LetterScreen™	●	●	●
IPI™ (Invisible Personal Information)	●	●	●
Machine Readable Barcode (1D+2D)	●	●	●
Magnetic Stripe Encoding	●	●	●
Contact Chip Encoding	●	●	●
Contactless Encoding	●	●	●
Preprinted OVI (Optically Variable Ink)	●	●	●
CLI (Changeable Laser Image) and/or MLI (Multiple Laser Image)	---	●	●
Braille	---	●	●
Tactile Laser Effect	---	●	●
tru/window™ LOCK	---	●	●
FUSE ID®	---	●	●
LPI® (Laser Protected Image)	---	---	●
Holographic Foil	---	---	●

● = optional      --- = not available

In addition, we provide consulting with regards to various available holographic security features, card preprinting, construction, manufacturing and materials to fulfill your requirements and meet your security expectations.

For detailed customization, please contact our professional project management team:  
[projectmanagement@diso-ag.com](mailto:projectmanagement@diso-ag.com).

IPI™ (Invisible Personal Information) and LetterScreen™ are trademarks of Jura JSP.  
 FUSE®-ID and LPI® are registered trademarks of G&D.  
 tru/window™ LOCK is a trademark of Trüb AG.

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