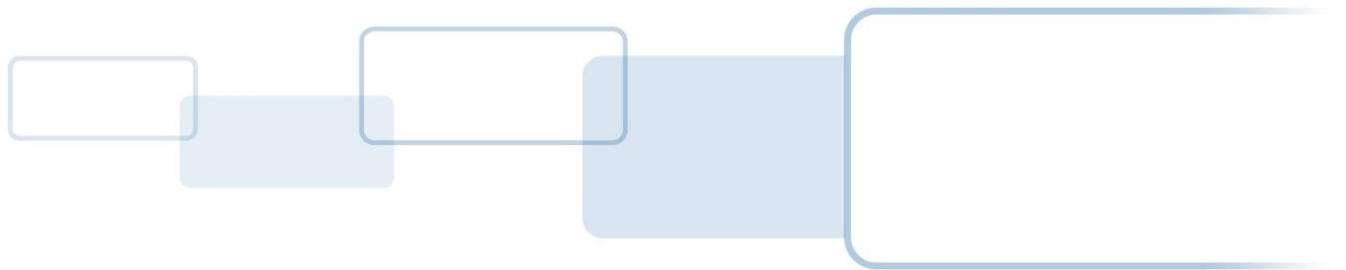




HID® CRESCENDO® DEVICES

IDENTITY AND ACCESS MANAGEMENT SOLUTIONS

How to Order Guide, PLT-04939 Rev.B.0
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Revision History

Date	Description	Version
July 2020	Crescendo C2300 and Key	A
December 2020	Crescendo C2300 DESFire	B

Contacts

For additional offices around the world, see www.hidglobal.com corporate offices.

North America

611 Center Ridge Drive
Austin, TX 78753
USA
Phone: 866-607-7339
Fax: 949-732-2120

Asia Pacific

19/F 625 King's Road
North Point, Island East
Hong Kong
Phone: 852 3160 9833
Fax: 852 3160 4809

Europe, Middle East and Africa

Haverhill Business Park Phoenix Road
Haverhill, Suffolk CB9 7AE
England
Phone: 44 (0) 1440 711 822
Fax: 44 (0) 1440 714 840

Brazil

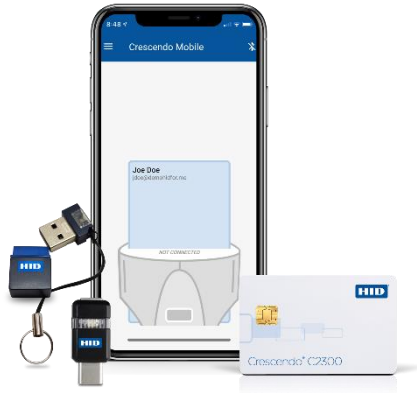
Condomínio Business Center
Av. Ermano Marchetti, 1435
Galpão A2 CEP 05038-001
Lapa - São Paulo/SP
Brazil
Phone: 55 11 5514-7100

HID Global Customer Support: www.hidglobal.com/support

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1 Crescendo Portfolio



Crescendo authenticators are the most secure credentials from HID Global that can be used to protect access to computers, networks and data and optionally be used also for secure access to physical spaces and facilities using state of the art access control technologies.

The latest version of these credentials includes the Crescendo Key, Crescendo C2300 and Crescendo Mobile models and are recommended for all new deployments. The previous generation of credentials is available to ensure continued operations for customers with existing installations or who require specific capabilities that are not yet available in the latest models.

	Crescendo Key	C2300	ActivKey SIM	Crescendo FIPS ¹	C1100
Communications					
USB	●		●		
NFC	●	●			
ISO7816		●		●	●
Protocol Support					
PIV	●	●	○ ²	○	○
FIDO	●	●			
OATH	●				
Physical Access					
Seos		●		●	●
MIFARE		●		●	●
iCLASS		○ ³		●	●
Prox		●		●	●
Security Evaluation					
FIPS 140-2			●	●	
Common Criteria	●	●	●	●	●

¹ There are also Crescendo PIV dual interface configuration using the same platform suitable for FIPS 201 PIV deployments, see the Crescendo FIPS section for details

² When used with ActivID CMS these devices can be configured with a PIV card edge for PKI operations

³ The C2300 with iCLASS physical access is a contactless only card

2 Ordering Details

The sections below specify the part numbers, and if available, the programming and marking options that need to be specified when placing an order. In addition to standard part numbers that are typically in stock, it is possible to define and order custom part numbers that are built-to-order and that can include custom graphics or initialization profiles.

When you send your order for devices to HID Global, you must specify the part number and required programming information for the different technologies as specified in programming column of the tables that follow for each product family. The table below can be used as a template for placing an order

Note that quantity corresponds to SKU count, in the case of Crescendo Key, you order boxes of 100 units, so one unit is one box, in the case of Crescendo cards, one unit is one card, and the minimum order quantity is 100.

SKU	Description					Quantity
Programming Details						
	Contact	Seos	iCLASS	Prox	MIFARE	
Format						
Marking	LASER UID HEX	MATCHING	MATCHING	MATCHING	MATCHING	
Card Number (CN)	N/A					
Facility Code (FC)	N/A					
Elite Key						

If the order includes a Corporate 1000 format, remember to add part number MC-1000 Corp 1000 Management Fee with the same quantity as the number of credentials, and if you request an Elite Key add the MC-0036 Elite Key Management Fee.

If there are graphical customization options, add them from Section 3.1.1 with the same quantity as the number of credentials.

2.1 Crescendo Key

Crescendo Key is a device available in USB Type A and USB Type C form factors, that delivers FIDO, PIV PKI and OATH capabilities. All models are ready-to-use FIDO USB and NFC Security Keys. Crescendo keys are available with two profiles:

- Standard. This profile supports a wide combination of capabilities:
 - FIDO, with any FIDO2 compliant browsers and applications
 - PIV / PKI, initialized using a stand-alone installation of ActivClient middleware or using the HID Credential Management Service
 - OATH, managed by the stand-alone Device Initialization Tool
- ActivID CMS. This profile requires ActivID CMS for management of PIV and OATH capabilities and is suitable for larger deployments where a complete lifecycle management solution is required to synchronize data between a user directory, one or more certification authorities and the Crescendo devices assigned to users.

2.1.1 Part Numbers

SKU	Description	Programming
BKA106P100	Crescendo Key Type A Standard profile 100 units	N/A
BKA100P100	Crescendo Key Type A ActivID CMS profile 100 units	N/A
BKN106P100	Crescendo Key Type C Standard 100 profile units	N/A
BKN100P100	Crescendo Key Type C ActivID CMS profile 100 units	N/A

2.2 Crescendo C2300

Crescendo C2300 are the latest generation of multiapplication smart cards that combine logical and physical access in the same device. They exist in hardware configurations compatible with different physical access control systems. When placing an order for Crescendo C2300 smart card, a format must be specified for each of the included technologies.

For information about formats used in physical access technology, consult with your HID PACS representative or your PACS reseller. You can also read the [Understanding Card Data Formats](#) document in the HID Global Web site.

2.2.1 Part Numbers

SKU	Description	Required Programming Information
402300B	Crescendo C2300	Contact: format
402301B	Crescendo C2300 Prox	Contact: format Proximity: format, CN, FC
402360B	Crescendo C2300 DESFire EV1 8K	Contact: format DESFire: format, CN, FC – or INIT
402361B	Crescendo C2300 DESFire EV1 8K Prox	Contact: format DESFire, format, CN, FC – or INIT Proximity: format, CN, FC
402380B	Crescendo C2300 Seos 8K	Contact: format Seos: format, CN, FC
402381B	Crescendo C2300 Seos 8K Prox	Contact: format Seos, format, CN, FC Proximity: format, CN, FC
402300M	Crescendo C2300 Mag Stripe	Contact: format
402301M	Crescendo C2300 Prox Mag Stripe	Contact: format Proximity: format, CN, FC
402360M	Crescendo C2300 DESFire EV1 8K Mag Stripe	Contact: format DESFire: format, CN, FC – or INIT
402361M	Crescendo C2300 DESFire EV1 8K Prox Mag Stripe	Contact: format DESFire, format, CN, FC – or INIT Proximity: format, CN, FC
402380M	Crescendo C2300 Seos 8K Mag Stripe	Contact: format Seos: format, CN, FC
402381M	Crescendo C2300 Seos 8K Prox Mag Stripe	Contact: format

		Seos, format, CN, FC Proximity: format, CN, FC
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2.2.2 Programming Information

Field	Description	Example values
Contact		
Format	Determines enabled features and options. The most common values are CRE10006868, the standard stand-alone format for cards managed with ActivClient or the HID Credential Management Service, and CRE000000, the format used for cards managed by ActivID CMS (on premise).	CRE000000 – CMS CRE10006868 – STANDARD
Elite key	Optional end customer specific reference used to protect the card manager	
Seos		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	
Elite key	Optional end customer specific reference used to protect Seos vault access	
DESFire		
Format	Determines the structure of PAC bits, in MIFARE technologies it can be an HID format or be left as INIT for blank unprogrammed cards	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	
Elite key	Optional end customer specific reference used to protect Seos vault access	
Prox		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	

2.3 Crescendo FIPS

The Crescendo C2300 smart card is currently being evaluated by accredited security laboratories to obtain FIPS 140-2 and FIPS 201 certifications. For customers that have a strict requirement to show a current validation certificate, Crescendo FIPS is a hybrid card with a contact FIPS 140-2 certified module used for PKI operations and optional contactless technologies for physical access. The Crescendo FIPS family also includes a dual interface card compliant with FIPS 201 for issuance of US Government Personal Identity Verification PIV smart cards.

2.3.1 Part Numbers


SKU	Description	Programming
40000B-D14	Crescendo 144K FIPS	Contact: format
40020B-D14	Crescendo 144K FIPS iCLASS 32K	Contact: format iCLASS: format, CN, FC
40040B-D14	Crescendo 144K FIPS MIFARE Classic 4K	Contact: format MIFARE: format, CN, FC
40060B-D14	Crescendo 144K FIPS MIFARE DESFire EV1 8K	Contact: format MIFARE: format, CN, FC
40080B-D14	Crescendo 144K FIPS Seos 8K	Contact: format Seos: format, CN, FC
40021B-D14	Crescendo 144K FIPS iCLASS 32K Prox	Contact: format iCLASS: format, CN, FC Proximity: format, CN, FC
40041B-D14	Crescendo 144K FIPS MIFARE Classic 4K Prox	Contact: format MIFARE: format, CN, FC Proximity: format, CN, FC
40061B-D14	Crescendo 144K FIPS MIFARE DESFire EV1 8K Prox	Contact: format MIFARE: format, CN, FC Proximity: format, CN, FC
40081B-D14	Crescendo 144K FIPS Seos 8K Prox	Contact: format Seos: format, CN, FC Proximity: format, CN, FC
400821B-D14	Crescendo 144K FIPS Seos 8K iCLASS 32K Prox	Contact: format Seos: format, CN, FC iCLASS: format, CN, FC Proximity: format, CN, FC
40030M-D14	Crescendo PIV Mag Stripe	N/A
40030M-D14-TAC	Crescendo TAC Mag Stripe	N/A

2.3.2 Programming Information

Field	Description	Example values
Contact		
Format	Determines enabled features and options with only two possible value: STAND-ALONE for cards managed with ActivClient and NO-PROFILE for cards managed by ActivID CMS on premise.	NO-PROFILE - CMS STAND-ALONE - STANDARD
Elite key	Optional end customer specific reference used to protect the card manager	
Seos		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	

Elite key	Optional end customer specific reference used to protect Seos SIO	
iCLASS		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	
Elite key	Optional end customer specific reference used to restrict iCLASS memory access	
MIFARE		
Format	Determines the structure of PAC bits, can be NONE if MIFARE is not to be programmed	H10302 – HID 37 Bits
Card number	Initial card number in the order, when a format is specified	
Facility code	Optional additional field, in some formats can be a site or company code	
Prox		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	

2.4 ActivID ActivKey SIM

 The ActivKey SIM that embeds C1100 and C1150 are transitioning to End-of-Life status during 2020 and customers are encouraged to migrate to Crescendo Key and use this new platform for all new deployments.

USB key form factor with a FIPS 140-2 cryptographic module

2.4.1 Part Numbers

SKU	Description	Programming
BKS800P100	ActivKey SIM with Crescendo C1100 – CMS profile - 100 units	N/A
BKS806P100	ActivKey SIM with Crescendo C1150 – Standard Profile - 100 units	N/A
BKS900P100	ActivKey SIM 144K FIPS – CMS Profile - 100 units	N/A
BKS906P100	ActivKey SIM 144 FIPS – Standard Profile – 100 units	N/A

2.5 Crescendo C1100



The Crescendo C1100 is transitioning to End-of-Life status during 2020 and customers are encouraged to migrate to Crescendo C2300 and use this new platform for all new deployments.

Hybrid card with contact PKI and optional physical access control technologies. In this model, instead of using a format for the contact technology that allows to choose between stand-alone configuration for management with ActivClient or a no-profile configuration for CMS on premise, there are different part numbers for those configurations. For the no-profile the base part number is 401100 and for stand-alone the base part number is 401150, so the tables below have an X that in the order corresponds to either 0 for no-profile or 5 for stand-alone.

2.5.1 Part Numbers

SKU	Description	Programming
4011x00	Crescendo C11x0 contact only	N/A
4011x02	Crescendo C11x0 iCLASS 32K	iCLASS: format, CN, FC
4011x04	Crescendo C11x0 MIFARE Classic 4K	MIFARE: format, CN, FC
4011x06	Crescendo C11x0 MIFARE DESFire EV1 8K	MIFARE: format, CN, FC
4011x0Y	Crescendo C11x0 Seos 8K	Seos: format, CN, FC
4011x0A	Crescendo C11x0 iCLASS 32K Prox	iCLASS: format, CN, FC Proximity: format, CN, FC
4011x0C	Crescendo C11x0 MIFARE Classic 4K Prox	MIFARE: format, CN, FC Proximity: format, CN, FC
4011x0G	Crescendo C11x0 MIFARE DESFire EV1 8K Prox	MIFARE: format, CN, FC Proximity: format, CN, FC
4011x0Z	Crescendo C11x0 Seos 8K Prox	Seos: format, CN, FC Proximity: format, CN, FC

2.5.2 Programming Information

Field	Description	Example values
Seos		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	
Elite key	Optional end customer specific reference used to protect Seos SIO	
iCLASS		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	
Elite key	Optional end customer specific reference used to restrict iCLASS memory access	

MIFARE		
Format	Determines the structure of PAC bits, can be NONE if MIFARE is not to be programmed	H10302 – HID 37 Bits
Card number	Initial card number in the order, when a format is specified	
Facility code	Optional additional field, in some formats can be a site or company code	
Prox		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number	Initial card number in the order	
Facility code	Optional additional field, in some formats can be a site or company code	

3 Customization Options

3.1 Options for smart cards form factors

HID Global offers a wealth of options to make secure and personalized credentials. You can learn more from your HID Global Account Manager and from the [Identity on Demand Success Guide](#) available online.

3.1.1 Artwork

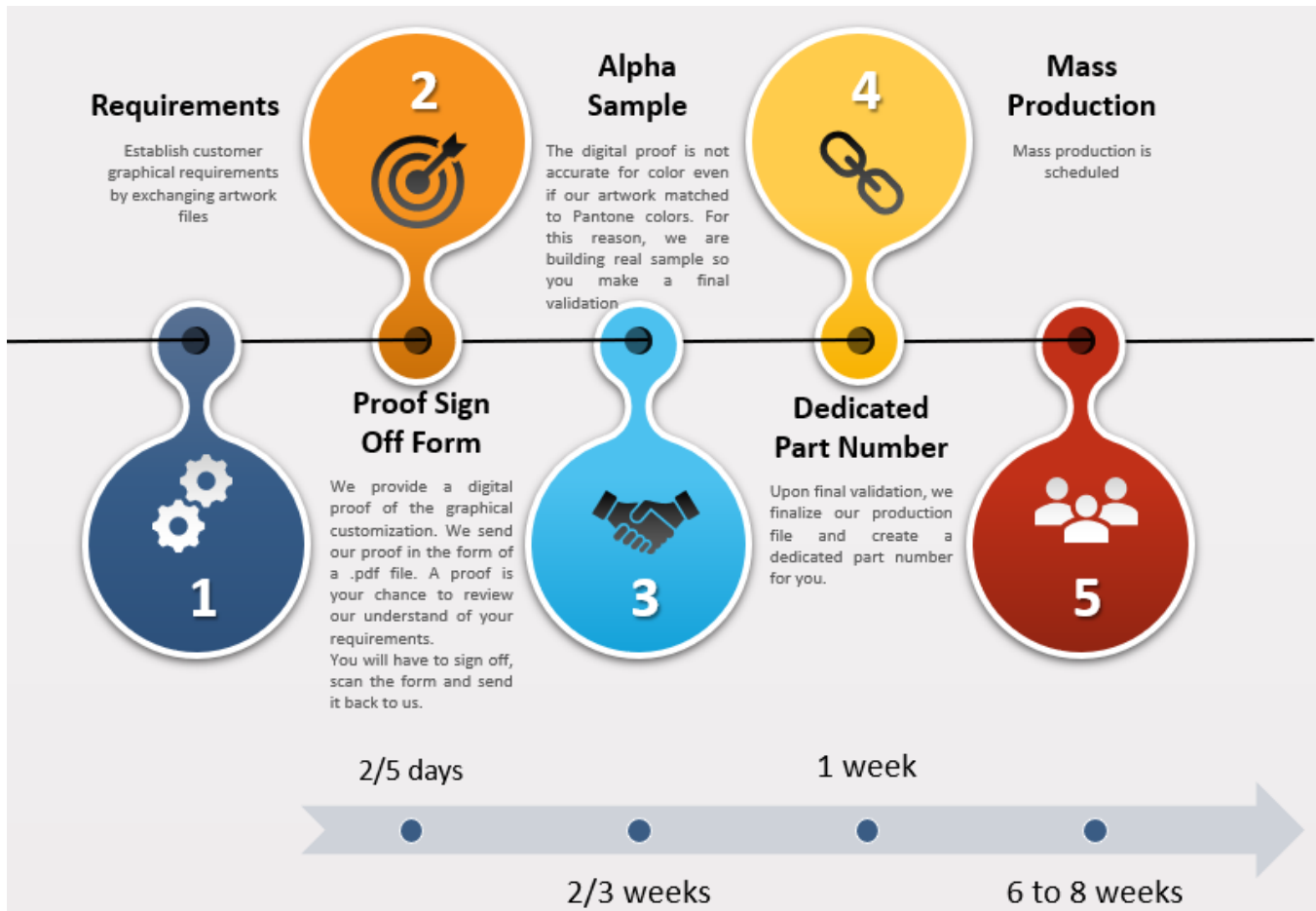
A custom artwork can be printed directly during the lamination process of the card and can include security features like holograms that can't be reproduced

3.1.2 Part Numbers

SKU	Description
LITHO-CMYK	Single side underlamine offset 4 color
LITHO-CMYK-4-4	Dual side underlamine offset 4 color
LITHO-SPOT	Spot color (Pantone)
LITHO-BLACK	Black offset printing
LC-0001	Artwork Proof
ANTI-UV	Ultraviolet static printing
HOLO-SURFACE	Surface HID Standard Hologram
HOLO-EMBEDDED	Embedded HID Standard Hologram

3.2 Options for USB Key form factors

3.2.1 Customization Process Flow



3.2.2 Graphic Requirements - HID recommendations?

- No fancy effect (shadow, fading, 50% black...); only plain pantone colors for casing and overlay.
- No metallic color.
- The logo should have a minimum height of 3mm
- Characters should have a minimum height of 1.5mm

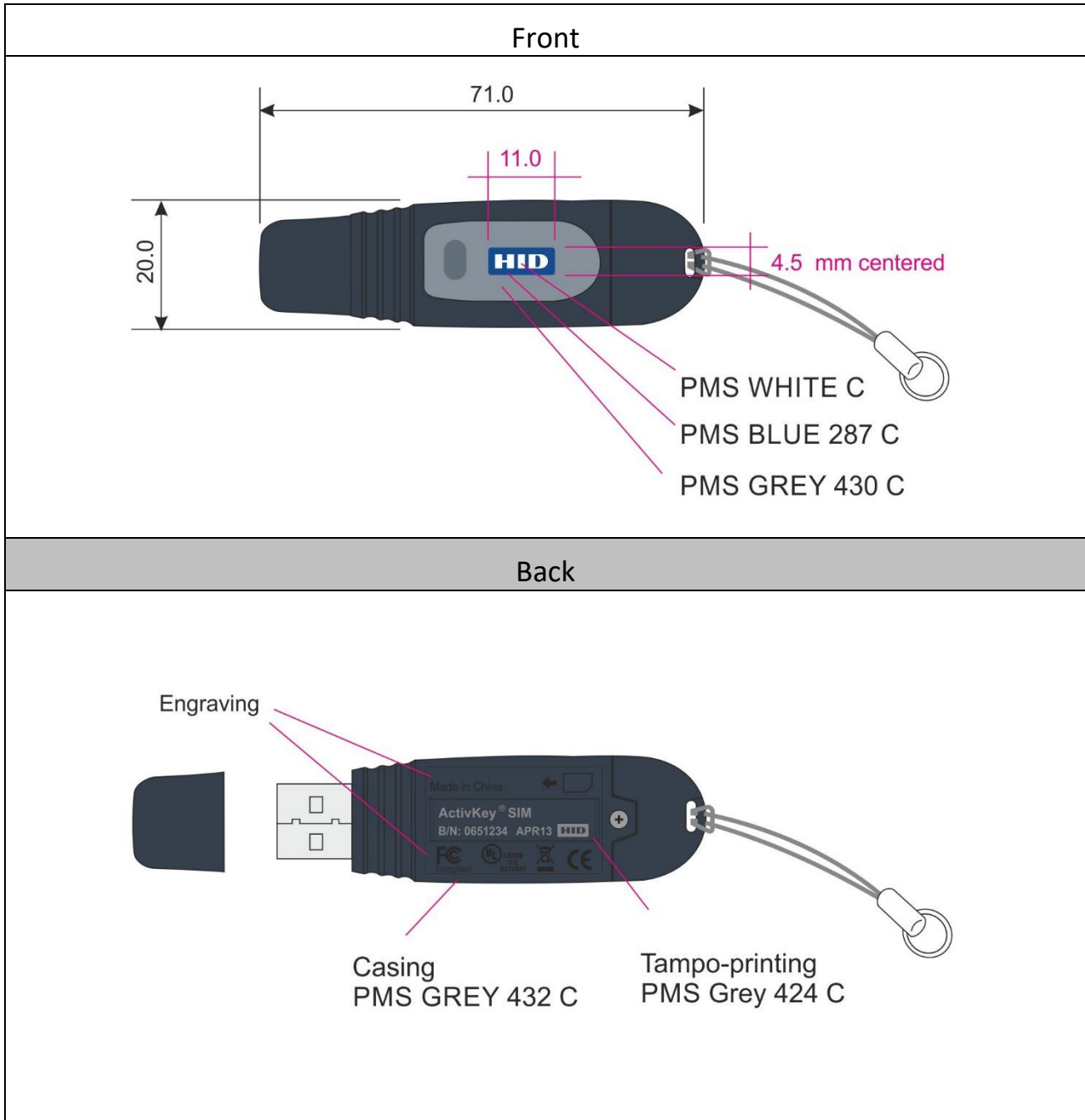
3.2.3 What is the basic information required before starting any proof validation?

- Pantone colors (drawing, text, ...)
- Font (Arial, ...)
- Font size
- Position of the logo on the windows glass (correctly adjusted, centered...)

3.2.4 Artwork file - Document format?

- All files sent to HID should be in Adobe Illustrator version CS6 or lower.

3.2.5 ActivID ActivKey SIM



3.2.6 Crescendo Key

