

HID[®] Crescendo[®] Devices

Identity and Access Management Solutions
How to Order Guide

PLT-04939, Rev B.4
June 2023





Copyright

© 2020 - 2023 HID Global Corporation, part of ASSA ABLOY. All rights reserved.

This document may not be reproduced, disseminated, or republished in any form without the prior written permission of HID Global Corporation.

Trademarks

HID GLOBAL, HID, the HID Brick logo, the Chain Design, ActivID, ActivClient, Crescendo, iCLASS, iCLASS SE and Seos are trademarks or registered trademarks of HID Global, ASSA ABLOY AB, or its affiliate(s) in the US and other countries and may not be used without permission. All other trademarks, service marks, and product or service names are trademarks or registered trademarks of their respective owners.

MIFARE, MIFARE Classic, MIFARE DESFire, MIFARE DESFire EV1, MIFARE PLUS and MIFARE Ultralight are registered trademarks of NXP B.V. and are used under license.

Contacts

For technical support, please visit: <https://support.hidglobal.com>.

What's new

Date	Description	Revision
June 2023	Updates for the new HID Crescendo 144K with the support of MIFARE DESFire EV3, description of the main Logical access parameters and associated values included in the profile	B.4

A complete list of revisions is available in [Revision history](#).



HID Crescendo Portfolio	4
1.1 HID Crescendo Key	6
1.2 HID Crescendo 2300	6
1.3 HID Crescendo FIPS	6
Ordering Details	7
2.1 Overview	8
2.1.1 Ordering USB Key Form Factors	8
2.1.2 Ordering Smart Card Form Factors	8
2.2 HID Crescendo Key Series	9
2.2.1 Part Numbers	9
2.3 HID Crescendo 2300	10
2.3.1 Profile Definitions	12
2.3.2 Codification and Part Numbers	13
2.3.3 Programming Information	14
2.4 HID Crescendo 144K FIPS	15
2.4.1 Part Numbers	15
2.4.2 Programming Information	16
2.5 Ordering Form	17
Customization Options	18
3.1 Options for USB Key Form Factors	19
3.1.1 Customization Process Flow	19
3.1.2 Graphic Requirements - HID Global recommendations?	19
3.1.3 What is the basic information required before starting any proof validation?	20
3.1.4 Artwork file - Document format?	20
3.2 Options for Smart Card Form Factors	20
3.2.1 Artwork	20
3.2.2 Part Numbers	20

Section 01

HID Crescendo Portfolio



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

The latest version of these credentials includes the HID Crescendo Key and HID Crescendo 2300 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 144K FIPS ¹	Crescendo 2300 Contact and Contactless	Crescendo 2300 Contactless Only	Crescendo 2300 FIPS	Crescendo Key	Crescendo Key FIPS
Communications						
USB					●	●
ISO 14443 Type A (NFC)		●	●		●	●
ISO7816	●	●		●		
Applications						
PIV/PKI	●	●	●	●	●	●
FIDO		●	●		●	
OATH					●	
Physical Access						
Seos	●	●	●			
MIFARE	●	●				
iCLASS	●		●			
Prox	●	●	●	●		
Security Certification						
FIPS 140-2	●			●		●
Common Criteria	●	●	●	●	●	●

¹ There is also an HID Crescendo PIV dual interface configuration using the same platform suitable for FIPS 201 PIV deployments. See [Overview](#) for details.

1.1 HID Crescendo Key



The HID 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.

HID Crescendo Keys are available with the following configurations or profiles:

- Standalone Profile supporting a wide combination of capabilities:
 - FIDO, with any FIDO2-compliant browsers and applications
 - PIV/PKI initialized using a standalone installation of ActivID ActivClient® middleware or using the ActivID Credential Management solutions
 - OATH, managed by a standalone HID tool such as the HID Crescendo Management Tool, HID Crescendo Authenticator Tool or by leveraging the HID Crescendo API
- Secure Managed Profile requiring ActivID Credential Management solutions (HID WorkForceID™ Management) for management of PIV and OATH capabilities in a more secure way.

It 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 HID Crescendo devices assigned to users.

For more information, go to <https://www.hidglobal.com/products/crescendo-key>

1.2 HID Crescendo 2300



HID Crescendo 2300 are the latest generation of multi-application 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 HID Crescendo 2300 smart card, a format must be specified for each of the included technologies.

For information about formats used in physical access technology, contact your HID PACS representative or your PACS reseller.

For more information, go to <https://www.hidglobal.com/products/crescendo>

1.3 HID Crescendo FIPS



For customers that have a strict requirement to show a current validation certificate, HID Crescendo FIPS are hybrid cards or USB Secure Key with a contact FIPS 140-2 certified module used for PKI operations and optional contactless technologies for physical access.

The HID Crescendo FIPS family also includes a dual interface card compliant with FIPS 201 for issuance of US Government Personal Identity Verification PIV smart cards.

Section 02

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.

2.1 Overview

2.1.1 Ordering USB Key Form Factors

When you send your order for devices to HID Global, the part number includes already all the details related to the graphical and programming information.

Part Number of the USB Key:

BKAxx or BKNxxx or BKSxx

Note: The quantity corresponds to SKU count. In the case of HID Crescendo Key, you order boxes of 100 units, so one unit is one box.

2.1.2 Ordering Smart Card Form Factors

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.

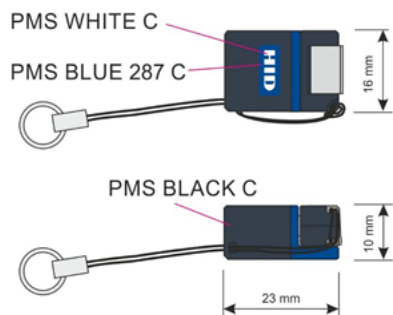
Part Number of the smart card: 40xxxxxx	Programming information for Logical Access: CRExxxx	Programming information for Physical Access: Hxxxx
--	--	---

Guidelines:

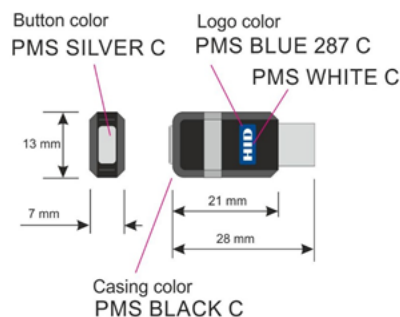
- If there are graphical customization options, add them as described in [Customization Options](#), with the same quantity as the number of credentials.
- The quantity corresponds to SKU count, in the case of smart card one unit is one card, and the minimum order quantity is 100.
- If the order includes a Corporate 1000 format, remember to add part number MC-1000 Corp 1000 Management Fee with the same quantity as the number of credentials.
- If you request an Elite Key, add the MC-0036 Elite Key Management Fee.

2.2 HID Crescendo Key Series

USB Type-A



USB Type-C

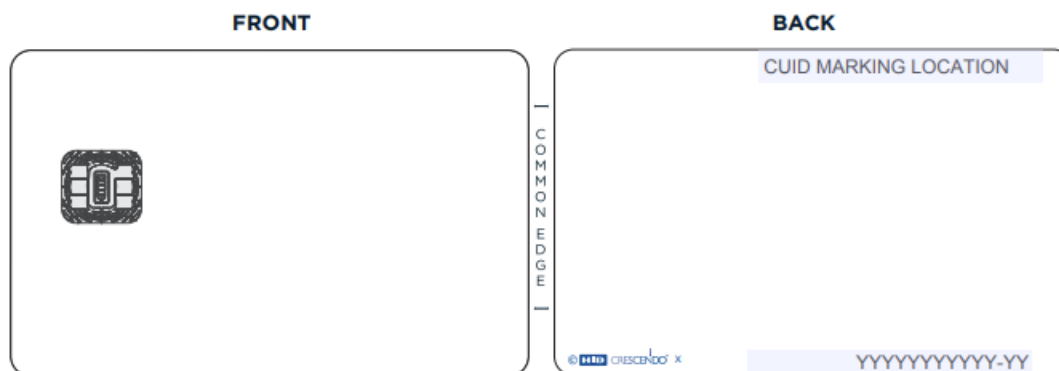
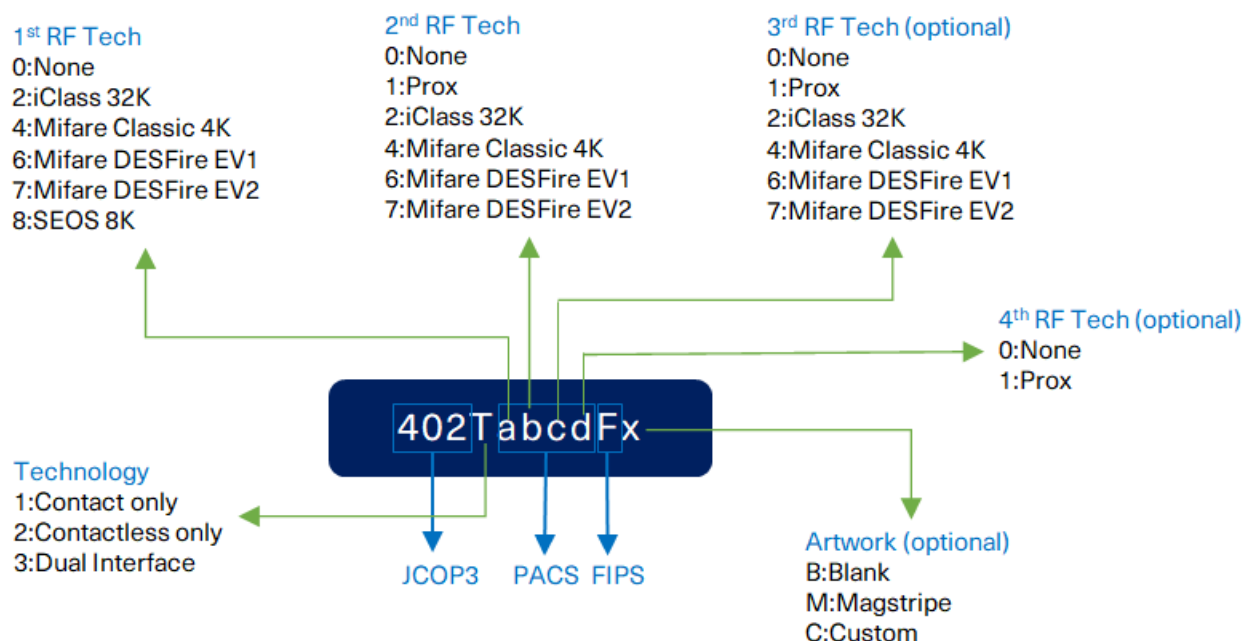


2.2.1 Part Numbers

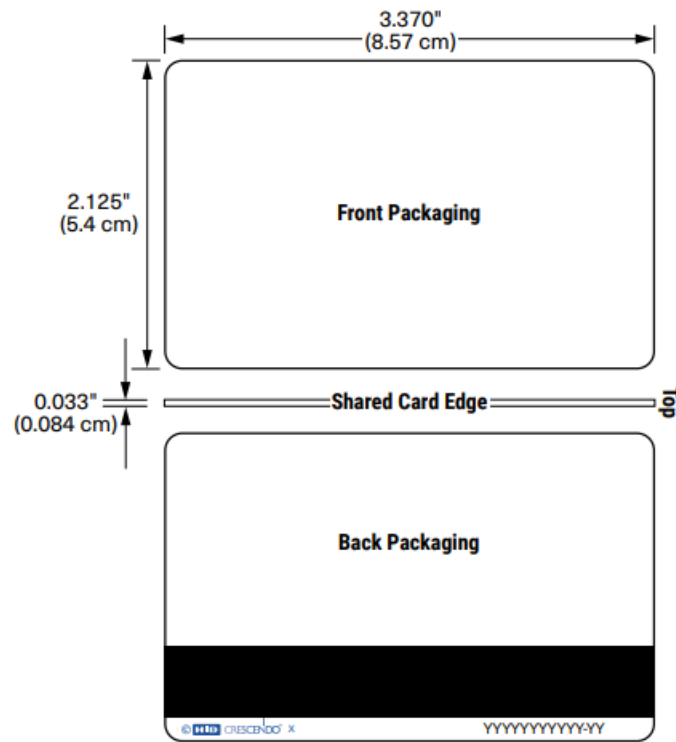
Part Number	Description
BKA100P100	HID Crescendo Key – USB Type A – CMS Profile – 100 Units
BKA106P100	HID Crescendo Key – USB Type A – Profile PKI and FIDO – 100 Units
BKA107P100	HID Crescendo Key – USB Type A – Profile Full PKI – 100 Units
BKA1F0P100	HID Crescendo Key FIPS – USB Type A – CMS Profile – 100 Units
BKN100P100	HID Crescendo Key – USB Type C – CMS Profile – 100 Units
BKN106P100	HID Crescendo Key – USB Type C – Profile PKI and FIDO – 100 Units
BKN107P100	HID Crescendo Key – USB Type C – Profile Full PKI – 100 Units
BKN1F0P100	HID Crescendo Key FIPS – USB Type C – CMS Profile – 100 Units

2.3 HID Crescendo 2300

The following diagram explains the codification of the smart card based on the part number, programming information and customization options.



- YYYYYYYYYY-YY represents the Sales Order Number.
- A blank card is delivered with the marking positioned in top right-hand corner on the back of the card.
- The printed card number, sales order reference and additional programming designators are placed in the bottom right-hand corner on the back of the card.
- Cards ordered with plain white front and back packaging, with no HID artwork or with custom artwork, will still have a small "HID logo" and reference number printed in the lower left-hand corner.



2.3.1 Profile Definitions

The following tables described the core profiles that determine the enabled features and options associated to the logical access part of the product.

Reference	Description	PKI Certificates	FIDO Resident Key	PIN Settings							
				Alphanumeric	Shared	Default value	Change on first use	Minimum digits	Maximum digits	Maximum tries	Maximum unlock tries
CRE00000000	Secure Managed profile	Personalization is defined and injected with ActivID CMS									
CRE10006868	Standalone profile PKI/FIDO	5	5			000000		6	8	6	8
CRE10204868	Standalone profile PKI/FIDO	5	5	●		000000		4	8	6	8
CRE40204868	Standalone profile Full PKI	9	0	●		000000		4	8	6	8

Where:

- Shared - allows sharing the same PIN with the different applications (FIDO and PKI/OATH)
- Change on first use - require the end user to change the PIN on the first use of the product
- Maximum tries - number of wrong PINs allowed before the card is locked
- Maximum unlock tries - number of attempts to unlock the device after it is locked

2.3.2 Codification and Part Numbers

Part Number	Technology	Description	Required Programming Information
402300x	Contact and Contactless	Crescendo 2300	Contact: format
402301x	Contact and Contactless	Crescendo 2300, Prox	Contact: format Proximity: format, CN, FC
402340x	Contact and Contactless	Crescendo 2300, MIFARE Classic 4K	Contact: format MIFARE Classic: format, CN, FC
402341x	Contact and Contactless	Crescendo 2300, MIFARE Classic 4K, PROX	Contact: format MIFARE Classic: format, CN, FC Proximity: format, CN, FC
402360x	Contact and Contactless	Crescendo 2300, DESFire EV1 8K	Contact: format DESFire: format, CN, FC – or INIT
402361x	Contact and Contactless	Crescendo 2300, DESFire EV1 8K, Prox	Contact: format DESFire: format, CN, FC – or INIT Proximity: format, CN, FC
402380x	Contact and Contactless	Crescendo 2300, Seos 8K	Contact: format Seos: format, CN, FC
402381x	Contact and Contactless	Crescendo 2300, Seos 8K, Prox	Contact: format Seos: format, CN, FC Proximity: format, CN, FC
402300Fx	Contact and Contactless	Crescendo 2300 FIPS	Contact: format
402301Fx	Contact and Contactless	Crescendo 2300 FIPS, Prox	Contact: format Proximity: format, CN, FC
402220x	Contactless	Crescendo 2300 CL iCLASS SR	Crescendo: format iCLASS: format, CN, FC
402221x	Contactless	Crescendo 2300 CL iCLASS SR, Prox	Crescendo: format iCLASS: format, CN, FC Proximity: format, CN, FC
4022821x	Contactless	Crescendo 2300 CL iCLASS SR, SEOS, Prox	Crescendo: format iCLASS: format, CN, FC Seos: format, CN, FC Proximity: format, CN, FC

Where:

- x can be B(Blank) or (M)Magstripe or (C)Custom
- INIT = PACS technology not initialized

2.3.3 Programming Information

Field	Description	Example values
Crescendo		
Format	Determines enabled features and options. The most common values are: <ul style="list-style-type: none"> CRE10204868 - the standalone format for cards to be used out of the box CRE00000000 - the managed format to be used in combination with ActivID CMS (on-premise) 	CRE00000000 – Secure Managed Profile CRE10204868 – Standalone profile with PKI and FIDO features CRE40204868 – Standalone full PKI profile (no FIDO)
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 (CN)	Initial card number in the order	
Facility code (FC)	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 (CN)	Initial card number in the order	
Facility code (FC)	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 (CN)	Initial card number in the order	
Facility code (FC)	Optional additional field, in some formats can be a site or company code	
iCLASS		
Format	Determines the structure of PAC bits	H10302 – HID 37 Bits
Card number (CN)	Initial card number in the order	
Facility code (FC)	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	



2.4 HID Crescendo 144K FIPS

2.4.1 Part Numbers

Part Number	Description	Required Programming Information
40000x-D14	Crescendo 144K FIPS	Contact: format
40020x-D14	Crescendo 144K FIPS iCLASS 32K	Contact: format iCLASS: format, CN, FC
40040x-D14	Crescendo 144K FIPS MIFARE Classic 4K	Contact: format MIFARE: format, CN, FC
40070x-D14	Crescendo 144K FIPS MIFARE DESFire EV3 8K	Contact: format MIFARE: format, CN, FC
40080x-D14	Crescendo 144K FIPS Seos 8K	Contact: format Seos: format, CN, FC
40021x-D14	Crescendo 144K FIPS iCLASS 32K Prox	Contact: format iCLASS: format, CN, FC Proximity: format, CN, FC
40041x-D14	Crescendo 144K FIPS MIFARE Classic 4K Prox	Contact: format MIFARE: format, CN, FC Proximity: format, CN, FC
40071x-D14	Crescendo 144K FIPS MIFARE DESFire EV3 8K Prox	Contact: format MIFARE: format, CN, FC Proximity: format, CN, FC
40081x-D14	Crescendo 144K FIPS Seos 8K Prox	Contact: format Seos: format, CN, FC Proximity: format, CN, FC
400821x-D14	Crescendo 144K FIPS Seos 8K iCLASS 32K Prox	Contact: format Seos: format, CN, FC iCLASS: format, CN, FC Proximity: format, CN, FC

Where:

- x can be B(Blank) or (M)Magstripe or (C)Custom



2.4.2 Programming Information

Field	Description	Example values
Contact		
Format	Determines enabled features and options with only two possible values: <ul style="list-style-type: none">STANDALONE for cards managed with ActivClientNO-PROFILE for cards managed by ActivID CMS on-premise	STANDALONE - STANDARD NO-PROFILE - CMS
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 (CN)	Initial card number in the order	
Facility Code (FC)	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 (CN)	Initial card number in the order	
Facility Code (FC)	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 (CN)	Initial card number in the order, when a format is specified	
Facility Code (FC)	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 (CN)	Initial card number in the order	
Facility Code (FC)	Optional additional field, in some formats can be a site or company code	



2.5 Ordering Form

This form can be used as a template for placing an order.

After selecting the required configuration, save or print the form as a PDF. Then attach it to your order sent to HID Global.

Note: To complete the form manually, select the blank options in the drop-down lists before printing.

HID Crescendo Key or HID Crescendo 2300

Select the required part number and description and enter the quantity.

Part Number and Description	Quantity

Part Number and Description	Quantity

Programming Details

For Smart Card Form Factors Only

Select the required programming features corresponding to the type of smart card selected above.

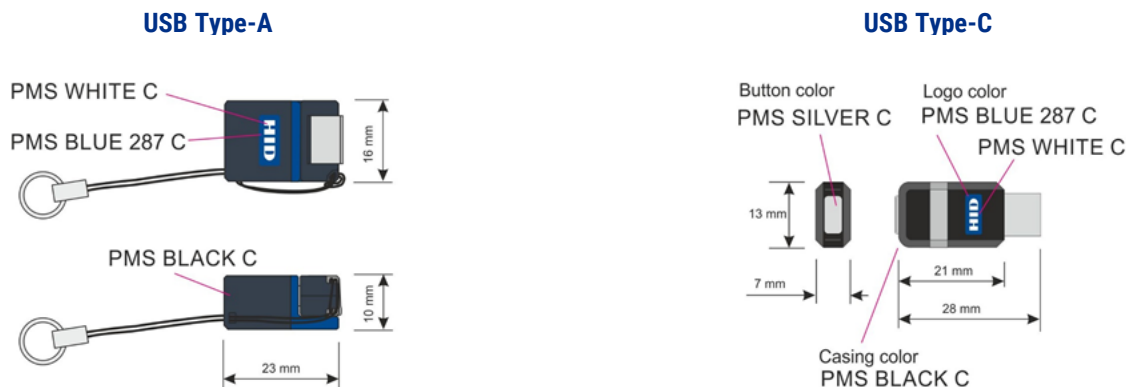
	Contact/Crescendo ¹	Seos	iCLASS	Prox	MIFARE
Format					
Marking					
Card Number (CN)	Not applicable				
Facility Code (FC)	Not applicable				
Elite Key				Not applicable	

¹ The technology that enables FIDO, PKI and OATH is called Crescendo in contactless cards (4022xx) and Contact in dual interface card (4023xx).

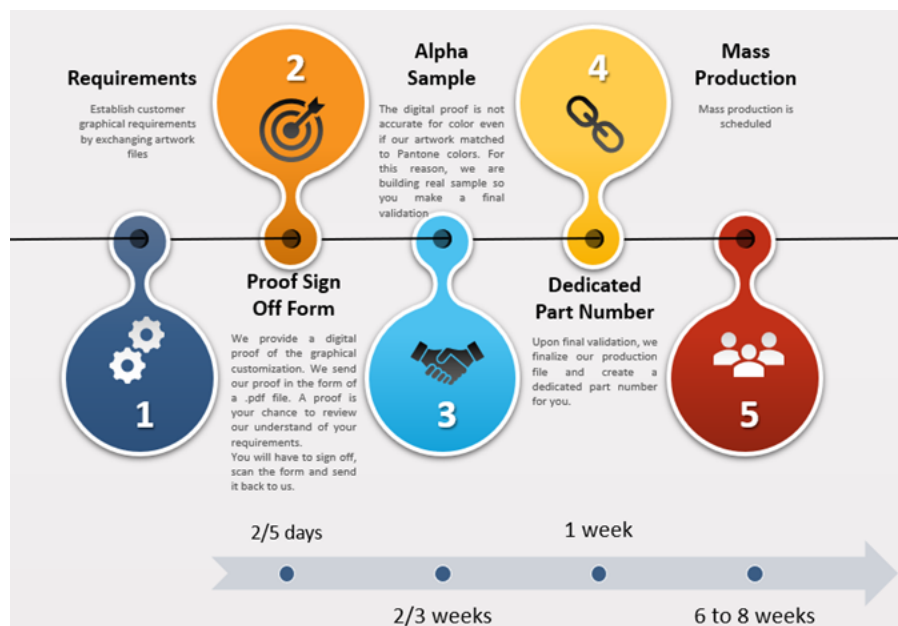
Section 03

Customization Options

3.1 Options for USB Key Form Factors



3.1.1 Customization Process Flow



3.1.2 Graphic Requirements - HID Global 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 3 mm
- Characters should have a minimum height of 1.5 mm

3.1.3 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...)

3.1.4 Artwork file - Document format?

- All files sent to HID Global should be in Adobe® Illustrator® version CS6 or earlier

3.2 Options for Smart Card Form Factors

HID Global offers a wealth of options to make secure and personalized credentials. For further information, contact your HID Global Account Manager.

3.2.1 Artwork

A custom artwork can be printed directly during the lamination process of the card and can include security features such as holograms that cannot be reproduced.

3.2.2 Part Numbers

Part Number	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



Revision history

Date	Description	Revision
June 2023	Updates for the new HID Crescendo 144K with the support of MIFARE DESFire EV3, description of the main Logical access parameters and associated values included in the profile	B.4
February 2022	Updates for HID Crescendo 2300 w/MIFARE Classic	B.3
November 2021	Updates for HID Crescendo C1100 EOL	B.2
September 2021	Updates for HID Crescendo 2300 FIPS and iCLASS	B.1
December 2020	Updates for HID Crescendo 2300 DESFire	B.0
July 2020	Updates for HID Crescendo 2300 and Key	A.0



hidglobal.com

For technical support, please visit: <https://support.hidglobal.com>

© 2020 - 2023 HID Global Corporation, part of ASSA ABLOY

All rights reserved.

PLT-04939, Rev B.4