



# Credential Programmer How to Order Guide

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## Document History

Date	Author	Description	Version
6/25/15	DD	Removal of items per 5/15/15 programmers consolidation announcement	C.3
12/16/14	HE	Agile correction.	C.2
8/28/2014	NW	Updated available programmer list and available supplementary iCLASS SE cards	C.1
12/04/2013	MB	Corrected issues under SIO Keypad (iCLASS Encoder Keypad part numbers). Added missing trademarks in statements.	B.2
09/06/2013	MB	Added iCLASS Seos (Genuine HID Seos and Third Party Seos)	B.1
08/29/12013	MB	Additional updates to the credential credit information.	A.10
07/25/2013	MB	Updated credential credit information.	A.9
06/25/2013	MB	Added iCLASS SE Encoder product information	A.8
03/22/2012	MB	Removed iCLASS Config Security Card	A.7
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09/07/2010	DD	Naming change of reader group.	A.4



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## Overview

Welcome to the Credential Programmer How to Order Guide. HID Global® offers a variety of credential programmers enabling field programming of access credentials for use with HID Global's world class access control reader portfolio. HID Global offers credential programming for technologies from 125 kHz to 13.56 MHz, including HID Prox, iCLASS®, iCLASS SE® and iCLASS Seos®. This How to Order Guide provides part numbers, pricing and ordering instructions for HID Global's Credential Programmers.

## Credential Programmer Ordering Basics

In order to provide on-going reliability, product updates and continued compatibility with ever changing contactless access control credential technology the HID ProxSmith® credential programmer is leased directly to the programmer user. The user includes any entity from the end user badge and ID facility at corporate campuses to the direct HID channel partner that provides card programming services to the end users of access control facilities. However, the iCLASS SE Encoder is available for sale without a renewable lease agreement since it now utilized a credential credit process to encode cards.

All programmer leases have an initial lease period of twenty-four (24) months. Thereafter, the lease period continues for successive 24-month renewal periods. Consult factory for pricing information and payment method.

To order a programmer, use the subsequent pages to

- Determine the correct programmer part number by matching the technology and application
- Select the programmer information
- Fill out the applicable programmer lease/sales request
- Fill out the appropriate Credential Credit and format requests in the case of the iCLASS SE Encoder

If at any time you require assistance, contact HID Global Sales at <http://www.hidglobal.com/main/sales/>

## Programmer Part Number - New Lease

Programmer Part Number new leases are applicable for Indala Prox Technology Credential Programmers.

Using the following table, determine the programmer part number and order a new programmer. If you are renewing a programmer lease, see Programmer Part Number - Renewing Lease.

Select the programmer part number by placing an **X** in the **Order** column. Enter the programmer format information and move to subsequent pages entering the applicable programmer request form.

Programmer Name or Model	Brand or Technology	Use	Part Number	Order (Check box)
ProxSmith*	Indala Prox	Program Indala® Prox access credentials for use with Indala Prox and multiCLASS® Indala Prox Readers.	AFP-1000	<input type="checkbox"/>

## Programmer Format Information - New Lease/Sale

For all ProxSmith programmers fill out the following format information:

Specify the following<sup>1,2</sup>:

<b>A-</b>	Format Number #1	
	Facility Code Range, or specific Facility Code	
	Card Number Range (Start and Stop)	
<b>B-</b>	Format Number # 2 (If required)	
	Facility Code Range, or specific Facility Code	
	Card Number Range (Start and Stop)	

<sup>1</sup> For the iCLASS SE Encoder complete the order by specifying required Encoder Credential Credits, Keysets and Format Requirements

<sup>2</sup> Consult the factory for a list of programmable RFID Transponders/Cards/Tags that can be programmed with this Programmer.

<sup>3</sup> iCLASS SE Encoder has CE and FCC approval and is for sale in all regions. It should be noted that these approvals do not meet the requirements of some countries in the APAC region where individual per country approvals are required for sale. Contact your HID representative for further information.



## iCLASS SE Encoder Credential Credits

Use the following tables to determine the part numbers required to add credential credits to you iCLASS SE Encoder. For each technology and security combination a separate set of credential credits is required and a Credential Credit Counter number specified upon ordering. Also note that credential credit part numbers are allocated for Genuine HID or Third Party Credentials, the iCLASS SE Encoder is able to determine the source of the credential during the encoding cycle and will decrement the appropriate counter accordingly.

When ordering credentials for use on the iCLASS SE Encoder the table on page 9 provides a brief guide to the correct credentials. Reference the iCLASS SE How To Order Guide for 13.56MHz High Frequency credentials and the 125kHz Proximity How To Order Guide for 125kHz Low frequency credentials for a complete list. All credentials can be encoded from these How to Order Guides so long as they are “Blank/Configured” credentials.

Base Part Number **CRDT-xx** (Select xx from the tables below)

### Default Credential Credits

To ensure that the CP1000 can operate “out-of-the-box” it is supplied with 30 Credential Credits for the most popular technology credentials. These are listed below:

Genuine HID iCLASS Credential with Standard Encoding	-	CRDT-A0
Genuine HID iCLASS Credential with SIO® Encoding	-	CRDT-A3
Genuine HID Seos Credential with SIO Encoding	-	CRDT-D3
Third Party MIFARE Classic Credential with Custom Data	-	CRDT-F5
Third Party MIFARE DESFire EV1 Credential with Custom Data	-	CRDT-G5
Configuration Card Creation	-	CRDT-K0

### iCLASS and iCLASS Seos Technology Credential Credits

Used to encode Genuine HID Standard iCLASS 2K, 16K, or 32K and credentials or Genuine HID/Third Party Seos credentials.

		Security				
Credential Type	Technology	Standard	iCLASS Elite <sup>1</sup>	SIO	iCLASS Elite <sup>1</sup> , SIO	Custom Data
Genuine HID	iCLASS	A0	A1	A3	A4	A5
Genuine HID	Seos	-	-	D3	D4	-
Third Party	Seos	-	-	H3	H4	-
Configuration Cards		J0				

Examples:

Genuine HID iCLASS Credential with Standard Encoding	-	CRDT-A0
Genuine HID iCLASS Credential with SIO Encoding	-	CRDT-A3

Credential Type	Compatible with
A0	iCLASS Rev A, B, C & iCLASS SE interpreter type “T” with keyset “0”
A1	iCLASS Rev A, B, C & iCLASS SE interpreter type “T” and matching Elite ICE keyset
A3	iCLASS SE readers only interpreter type “T” or “N” with keyset “0”
A4	iCLASS SE readers only interpreter type “T” or “N” with matching Elite ICE keyset
A5	iCLASS Rev A, B, C & iCLASS SE
D3, D4, H3 & H4	iCLASS SE readers

<sup>1</sup> Authorization is required by the end user or owner of the iCLASS Elite Keys before these can be released. Contact customer services for information on the authorization process.



## MIFARE Classic Technology Credential Credits

Use to encode Genuine HID or third party MIFARE Classic 1K or 4K credentials.

Credential Type	Technology	Security			Custom Data
		Standard	SIO	iCLASS Elite <sup>1</sup> , SIO	
Genuine HID	MIFARE Classic	B0	B3	B4	B5
Third Party	MIFARE Classic	F0	F3	F4	F5
Configuration Cards		J0			

Example:

Third Party MIFARE Classic Credential with iCLASS Elite and SIO Encoding - CRDT-F4

Credential Type	Reader Compatibility
B0, F0	HID 6055B, FlexSmart <sup>®</sup> 6071 / 6072 and Smart ID 8030DSHM & 8031DSHM (HID MIFARE Only)
B3, F3	iCLASS SE readers only (interpreter type “T” or “N”) with keyset “2”
B4, F4	iCLASS SE readers only (interpreter type “T” or “N”) with matching iCLASS Elite ICE keyset
B5, F5	iCLASS SE Migration readers only with matching custom key and mapper profile

<sup>1</sup> Authorization is required by the end user or owner of the iCLASS Elite Keys before these can be released. Contact customer services for information on the authorization process.

## MIFARE DESFire EV1 Technology Credential Credits

Use to encode Genuine HID or third party MIFARE DESFire EV1 credentials.

Credential Type	Technology	Security			Custom Data
		SIO	iCLASS Elite <sup>1</sup> , SIO		
Genuine HID	MIFARE DESFire EV1	C3	C4	C5	
Third Party	MIFARE DESFire EV1	G3	G4	G5	
Configuration Cards		J0			

Example:

Third Party MIFARE DESFire EV1 Credential with SIO Encoding - CRDT-G3

Credential Type	Reader Compatibility
C3, G3	iCLASS SE readers only (interpreter type “T” or “N”) with keyset “2” or matching custom key
C4, G4	iCLASS SE readers only (interpreter type “T” or “N”) with matching iCLASS Elite ICE keyset
C5, G5	iCLASS SE Migration readers only with matching custom key and mapper profile

<sup>1</sup> Authorization is required by the end user or owner of the iCLASS Elite Keys before these can be released. Contact customer services for information on the authorization process.



### HID Prox Technology Credential Credits

		Security			
Credential Type	Technology	SIO	iCLASS Elite <sup>1</sup> , SIO	Custom Keys SIO	Custom Data
Genuine HID	HID Prox			K0	
Configuration Cards				J0	

Credential Type	Reader Compatibility
K0	All HID Prox Readers

<sup>1</sup> Authorization is required by the end user or owner of the iCLASS Elite Keys before these can be released. Contact customer services for information on the authorization process.

**Note: MOQ for all credential credits is 100.**

**A maximum of 10,000 of each credential credit can be ordered at any one time.**

Using the tables above, enter the final Credential Credit part numbers in the following table:

			Counter Ref Number (from tables above)	Quantity	iCLASS Elite <sup>1</sup> ICE Number (if applicable)
Final Part Number	CRDT	-			
	CRDT	-			
	CRDT	-			
	CRDT	-			
	CRDT	-			

**iCLASS SE Encoder Serial Number:** \_\_\_\_\_

*Serial Number can be found on the encoder or on the printer product label if installed within a FARGO card printer*

**Email address where the Secure file should be sent:** \_\_\_\_\_

<sup>1</sup> Authorization is required by the end user or owner of the iCLASS Elite Keys before these can be released. Contact customer services for information on the authorization process.



## iCLASS SE Encoder – Keysets

Key Management is a complex subject that requires some understanding of the various technologies and how smart card applications are managed. For example, encoding data on an iCLASS or MIFARE Classic card requires, at a minimum, a single authentication key to gain access to the application area or sector. The application data may have additional security enhancements requiring additional keys. The HID Application for example, requires two DES keys, one key for authentication to the app area and another key for encryption of the application data, while the Secure Identity Object requires AES keys for encryption and signing the credential. Each technology will differ in terms of the keys that need to be created and managed. The iCLASS SE Encoder includes utilities for managing individual keys as well as grouping those keys into Keys sets for ease of deployment.

To ensure your iCLASS SE Encoder is equipped with the correct keys it is necessary to order Keysets appropriately. There are three classes of keysets available which are explained below.

### Media Keyset

Media keysets provide all the cryptographic keys necessary to set up and encode cards. The keys delivered with each part number will vary depending on the needs of the technology. For instance using the table below the part number CKEYMED-ICL-n will deliver the iCLASS media Keyset with Standard or iCLASS Elite keys for accessing the HID application area, the encryption key for the PACS data, and the key for accessing the SE application area. Additionally, this part number will deliver transport keys for unconfigured cards and public keys for other application areas.

Part number CKEYMED-MIF-n will deliver Key A and Key B for accessing the HID application on a MIFARE Classic card as well as transport keys for the MAD (MIFARE Application Directory)

Part number CKEYMED-DES-n delivers keys for accessing the HID application on a MIFARE DESFire EV1 card including the PICC master key, the application master key and the application read and write keys.

### Reader Configuration Keyset

The Reader configuration keyset provides the privacy and authentication keys necessary to create configuration cards. Typically, configuration cards are needed to push new keys and/or configuration data to the reader.

### SIO Keyset

The SIO Keyset provides the privacy and authentication keys for HID's Secure Identity Objects. Because SIOs are independent of card technology, their keys are ordered separately.

As a default the iCLASS SE Encoder is loaded with the following Keysets as standard:

- iCLASS Media Keyset – iCLASS and Seos  
– Standard (CKEYMED-ICL & CKEYMED-SEOS)
- MIFARE Keysets – MIFARE Classic & MIFARE DESFire EV1  
– Standard (KEYMED-MIF-0 & CKEYMED-DES-0)
- Reader Configuration Keyset – Standard (CKEYCFG-0)
- SIO Keyset – Standard (CKEYSIO-0)

Description	Base Part Number		Technology		Security
iCLASS Media Keyset	CKEYMED	-	ICL – iCLASS MIF – MIFARE Classic DES – MIFARE DESFire EV1 SEOS – Seos	-	0 - Standard 1 - Elite
Description	Base Part Number		Security		
Reader Configuration Keyset	CKEYCFG	-	0 - Standard	1 - Elite	
SIO Keyset	CKEYSIO	-	0 - Standard	1 - Elite	

Using the table above, enter the final iCLASS Encoder Keyset part numbers below:

			Part Number (Suffix)		Part Number (Suffix)
Final Part Number	CKEYMED	-		-	
	CKEYCFG	-		-	
	CKEYSIO	-		-	

### iCLASS SE Encoder Serial Number:

Serial Number can be found on the encoder or on the printer product label if installed within a FARGO card printer

### Email address where the Secure file should be sent:



### iCLASS SE Encoder – Formats

The iCLASS SE Encoder comes preconfigured with the basic HID Open 26 Bit Wiegand format (H10301), but can also be loaded with additional formats to provide extended support of credential requirements. To order additional Open non-tracked Proprietary<sup>1</sup> and Open Tracked<sup>2</sup>formats use the following form.

Part Number	Format Number	Facility Code3 (If applicable)	Start Number3 (If applicable)	End Number3 (If applicable)	Quantity3 (If applicable)
FRMT-J1					
FRMT-J1					
FRMT-J1					
FRMT-J1					

Common HID Open Tracked Formats
H10304 (HID 37-bit with tracked facility code and ID number) <sup>2</sup>
H10302 (HID 37-bit with tracked ID number only)

**iCLASS SE Encoder Serial Number:** \_\_\_\_\_

*Serial Number can be found on the encoder or on the printer product label if installed within a FARGO card printer*

### Corporate 1000, Format Credits

Corporate 1000<sup>®</sup>, formats are available for use on the iCLASS SE Encoder. These formats must be ordered separately from other formats to ensure uniqueness of numbers used in both the iCLASS SE Encoder and within the HID Manufacturing Facilities. Order the Corporate 1000, number ranges using the indicated base part number and by completing the form below:

**FRMT- J2 (Corporate 1000)<sup>1</sup>**     

**Quantity**                    \_\_\_\_\_

**Format Number**        \_\_\_\_\_

**Start Number**            \_\_\_\_\_

**End Number**             \_\_\_\_\_

**iCLASS SE Encoder Serial Number:** \_\_\_\_\_

**Email address where Secure file should be sent:** \_\_\_\_\_

<sup>1</sup> Authorization is required. If you are not authorized to use the format, contact customer services for information on the authorization process.  
<sup>2</sup> H10304 facility codes are automatically registered to the first user of that facility code. If you are not authorized to use the requested facility code, contact customer services for information on the authorization process. Alternatively state a facility code value of "new" to be automatically assigned and registered with unused facility code.  
<sup>3</sup> Facility Code, Start Number, End Number and quantity do not apply to Open non-tracked formats but do apply to proprietary and Open-tracked formats





## iCLASS SE Supplementary Cards

The following lists the blank iCLASS credentials for use with the iCLASS SE Encoder.

Note: To encode iCLASS SE (Secure Object only with no Standard iCLASS data) blank iCLASS SE must be used.

These cards can be ordered separately from the kit, for your iCLASS SE Encoder.

Part Number	Description
2000CGGNN iCLASS 2K/2 Configured	Blank, Configured iCLASS 2K/2 Card
2003CGGNN iCLASS 32K (16K/2 + 16K/1), Configured	Blank, Configured iCLASS 32K Card
3000VGGNN iCLASS SE SO only 2K	Blank, Configured iCLASS SE 2K (SO only) card
3003VGGNN iCLASS SE SO only 32K	Blank, Configured iCLASS SE 32K (SO only) card
3350VMSNV iCLASS 2K/2 CLAMSHELL SO only	Blank, Configured iCLASS SE 2K (SO only) clamshell card
3900VMGGNNN iCLASS 2K/MIFARE 1K SO only	Blank, Configured iCLASS SE 2K, (SO Only) MIFARE Classic 1K card
3903VKGGNNN iCLASS 32K (16K/2+16K/1)/DESFIRE EV1 SO only	Blank, Configured iCLASS SE 32K (SO Only) DESFire EV1 Card
3903VNGGGNNN iCLASS 32K (16K/2+16K/1)/MIFARE 4K SO only	Blank, Configured iCLASS SE 32K (SO Only) MIFARE Classic 4K Card
5005VGGNN iCLASS Seos 16K (blank for field encoding)	Blank, Configured iCLASS Seos 16K Card
5105VGGNNN iCLASS Seos 16K/Prox (blank for field encoding)	Blank, Configured iCLASS Seos 16K Card, Non-Programmed Low Frequency (125 kHz) HID Prox
5006VGGNN iCLASS Seos 8K (blank for field encoding)	Blank, Configured iCLASS Seos 8K Card
5106VGGNNN iCLASS Seos 8K/Prox (blank for field encoding)	Blank, Configured iCLASS Seos 8K Card, Non-Programmed Low Frequency (125 kHz) HID Prox
1586NGGNN HID ISOProx II (blank for field encoding)	Blank, Non-Programmed, Low Frequency (125 kHz) ISOProx II
1536NGGNN HID DUOProx II (blank for field encoding)	Blank, Non-Programmed, Low Frequency (125 kHz) DUOProx II
3250VNNNN iCLASS Keyfob 2K SO only	Blank, Configured iCLASS SE 2K (SO Only) Keyfob
3253VNNNN iCLASS Keyfob 32K SO only	Blank Configured iCLASS SE 32K (SO Only) Keyfob
3300VKSNN iCLASS Tag 2K/2 SO only	Blank, Configured iCLASS SE 2K (SO Only) Tag
3303VKSNN iCLASS Tag 32K SO only	Blank Configured iCLASS SE 32K (SO Only) Tag
0501500295-READER	Reader Configuration Card – Data Mapper
0501500295-ELITE	Reader Configuration Card – Elite Preparation



## **Programmer Sale/Lease Request—with Established Terms**

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For direct HID Global providers with established terms, send Programmer Part Number, Programmer Format Information and the following information directly to your HID Global Customer Service Representative.

For additional contact information, see [www.hidglobal.com](http://www.hidglobal.com) > Support > Customer Service.

<b>Contact Name</b>	
<b>Company Name</b>	
<b>Customer Number</b>	
<b>Company Address</b>	
<b>Address of Programmer Location</b>	
<b>Phone Number</b>	
<b>Fax Number</b>	
<b>Email Address</b>	
<b>Entity Type</b>	
<b>Incorporation Place</b>	
<b>Signatory Name</b>	
<b>Signatory Title</b>	

Return this form to your HID Global Sales or Customer Service Representative.



## Programmer Sale/Lease Request –without Established Terms

For customers without established terms (for example, end users) send Programmer Part Number, Programmer Format Information and the following information directly to your HID Global Sales Representative. The information is used for processing a one-time lease for the programmer previously selected. For additional contact information see [www.hidglobal.com](http://www.hidglobal.com)> [Support](#) > [Worldwide Sales](#).

<b>Company Name</b>			
<b>Billing Address</b>			
<b>Billing Address 2</b>			
<b>City, State or Province</b>			
<b>Postal Code &amp; Country</b>			
<b>Address of Programmer Location</b>			
<b>Email Address</b>			
<b>Phone No.</b>		<b>Fax No.</b>	

### Authorization

The undersigned does hereby confirm that all information stated on this application is true and accurate to the best of their knowledge. In addition, they affirm they are an **Officer** of the company for which this application is being submitted (“Applicant”).

The Applicant acknowledges receipt of a copy of the HID Global Corporation’s Worldwide Sales Policy ([www.hidglobal.com](http://www.hidglobal.com)) and agrees that all transactions between the Applicant and HID shall be governed by the terms and conditions contained therein, unless otherwise agreed in writing.

Selling terms are Cash in Advance only. Payment of the initial contract, subsequent renewals, and programmers leased in accordance with the HID Programmer Lease Agreement shall be made by Credit Card, Wire Transfer, or Check.

### A COMPANY OFFICER MUST SIGN THIS APPLICATION.

Return this form to your Customer Service Representative.

<b>Authorized Signature</b>		<b>Date</b>	
<b>Print Name (Authorized Signatory)</b>			
<b>Title</b>			

For internal use only.

<b>HID Sales Representative</b>	
<b>Customer Service Representative</b>	
<b>SO #</b>	
<b>SQ #</b>	



## Programmer Part Number - Renewing Lease

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Determine the programmer part number to order when **renewing a programmer lease**. This is done bi-annually, starting two (2) years after the initial lease of the programmer. Select the programmer part number by placing an X in the **Order** column, then fill out applicable programmer request form.

Programmer Model	Brand or Technology	Part Number	Order (Place X for Ordered Programmer)
ProxSmith	Indala Prox	MC-AFP-1000-RENEW	<input type="checkbox"/>