Embedded Technology Solutions How to Order Guide

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Document History

Date	Author	Description	Version
6/1/16	M Butler	SI Solutions updates	C.2
2/24/16	M Butler	Updates to the Mobile Access section, VeriCLASS, e ID Solutions, Cashless Payment Solutions.	C.1
10/12/15	M Butler	Added a iCLASS SE Reader Module Accessory (iCLASS SE Reader Module HF + LF Antenna)	C.0
7/6/15	M Butler	Removed iCLASS & multiCLASS OEM150 Module items	B.9
4/9/15	M Butler	OMNIKEY Smart@Link update	B.8
3/17/15	M Butler	OMNIKEY updates	B.7
01/21/15	M Butler	OMNIKEY 5321, update model numbers,	B.6
12/30/14	M Butler	OEM75 EOL	B.5

Contents

Overview

Welcome to Embedded Modules and Transponders by HID.

HID offers developers a variety of reader boards and embedded modules designed to meet a variety of requirements for form, fit, and function. Use the *Product Selector Guide - Secure Identity & General Purpose Applications,* page 4, or speak with one of our integration specialists (refer to the following email addresses) to find the board or module that best meets your requirements across a number of design and use criteria.

Integration Specialist Contact:

EMEA	Americas	APAC
EMEA Connect_Europe@hidglobal.com	AMERICAS Connect_Americas@hidglobal.com	Connect_APAC@hidglobal.com

Embedded card solutions allow third-party application providers to utilize HID transponder technology (for example, coils) to implement transponder-driven applications. Choose small-sized coils in a variety of technologies (for example, 125 kHz proximity and 13.56 MHz contactless smart card), sizes, and configurations.

This How to Order Guide provides information for embedded modules and transponders designed to meet the requirements for various major application sectors described in detail in each relevant section

Secure Identity and General Purpose Solutions

HID Global is the trusted, worldwide leader in providing RFID solutions for the delivery of Secure Identity. The HID Connect embedded solutions provide OEM's with a unique platform to extend the use of HID technology beyond traditional access control to include applications in banking, cashless payment, biometrics, alarm system control, HVAC, medical devices, laptops, secure print and much more. We offer a wide range of reader boards and embedded modules designed to meet a variety of requirements for form, fit and function.

Logical Access/PC Applications

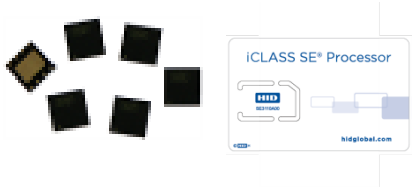
Logical access encompasses a number of PC- and network-related applications including secure authentication and/or log-in to the PC or network, secure email, data encryption, file/folder encryption, single sign-on and remote VPN access. By collaborating with IT industry leaders, HID Global has complemented its physical access control offerings with an extensive portfolio of logical access offerings enabling a wide range of logical/physical convergence solutions.

Contactless Embedded Transponders

iCLASS eUnit - The HID iCLASS® 13.56 MHz transponder can be used in diverse tagging applications such as long-range gate transmitters, containers and key fobs. The iCLASS eUnit is easy to add to any device by gluing, molding or fastening the eUnit Tag transponder to any non-metallic housing.

eProx Tag - HID's eProx® 125 kHz transponder assists third party manufacturers with embedding HID proximity technology into applications such as gate transmitters, key heads, and badges. The eProx transponder comes in a number of form factors with and without a clear poly covering, depending on the coil diameter. The transponder can be easily glued, molded or fastened into any non-metallic housing.

Product Selector Guide - Secure Identity & General Purpose Applications

13.56 MHz Contactless & Contact Reader Technology				
DTK	3134ANM0000	N/A		3134ANK0000
Embedded Module	iCLASS SE® Reader Module	MIFARE® Easy Reader Core	MIFARE Easy Reader Board	iCLASS SE Processor
Features	iCLASS SE Reader Platform Ultra Low Power for Battery Applications	MIFARE Smart Cards		iCLASS SE Reader Platform
Image				
Interface(s)	TTL, UART, Wiegand, Clock-and-Data	CMOS TTL	RS-232	ISO7816 -3 (T=1)
Power	3.5 to 10VDC (HF) 5 to 10VDC (HF + LF) (4 or 6x 1.5V AA or 1 x 9V Battery / Line Power)	5 VDC + or -10% regulated		Voltage classes A, B & C (5V, 3V & 1.8V respectively) supported
Current	<10µA during sleep <120mA during card read	150mA <10mA in power down mode		< 10mA at 10 MHz internal clock frequency at 5.5V supply Typical 25mA at 66MHz internal clock
Antenna(s)[1]	Single External HF, off-the-shelf Single External LF, off-the-shelf	Single External	Single Integrated	N/A
Contact Slot	None	None	None	N/A
Protocol	Wiegand, HID Custom and Pass-through	Custom ASCII and Binary Protocol		ISO7816 -3 (T=1)
Integration Difficulty	Medium Embedded in Host System, Antenna Optimization Required	Medium	Medium	Difficult
Size	Small Form Factor: 1.1 x 1.2 x 0.272 in 27.94 x 30.48 x 6.91 mm Medium Form Factor: 1.3 x 1.7 x 0.281 in 33.02 x 43.18 x 7.13 mm	1.0 x 1.18 x 0.19 in 2.0 x 25.5. x 30.0 mm	2.76 x 1.77 x 0.48 in 70.0 x 45.0 x 12.1 mm	ID1/ID-000 Card or 5mm x 5mm Surface Mount Device

[1] Custom tuning and custom size of antenna available -contact your HID representative for further information.

Secure Identity Solutions

iCLASS SE Reader Module

The iCLASS SE Reader Module is part of HID Global's open iCLASS SE platform that goes beyond the traditional smart card model to offer a secure, standards based technology-independent and flexible solution based on Secure Identity Object® (SIO®), a new portable and open credential methodology. Building on the success of the existing OEM modules, including OEM50, the iCLASS SE Reader Module enhances existing functionality with new features that enable the use of NFC smart phones and other devices for mobile access while also providing increased levels of security. HID's iCLASS SE Reader Module allows integrators to design third party solutions that support a full range of contactless card technologies, including Seos®, iCLASS, MIFARE and HID Prox as well as integration into U.S. Government applications. The iCLASS SE Reader Module's dual frequency capability allows the use of both high frequency and low frequency credentials with the same reader, providing a solution for mixed credential and credential migration applications.

Description	Base Part #	Current Rev #[1]	125kHz Interpreter[2]	Security[3]		Optional Config Suffix	Product Image
iCLASS SE Reader Module - Read/Write Module Standard iCLASS, iCLASS SE/SR, iCLASS Seos, SIO on MIFARE Classic, SIO on MIFARE DESFire EV1 Dimensions: 1.1" x 1.2" x 0.31" (28 x 30 x 8mm)	SE3200[4]	B	**Read/Write** 0 - HF Only P - Standard Prox L - Custom Prox **Read Only (Datamapper)[5]** 1 - HF Only S - Standard Prox T - Custom Prox	0 - Standard-V1	-	- xxxxxx	
iCLASS SE Reader Module - Read/Write Module Circuit card Assembly Standard iCLASS Seos, iCLASS (iCLASS Standard, SE and SR), SIO on MIFARE Classic, SIO on MIFARE DESFire EV1 Dimensions: 1.3" x 1.7" x 0.31" (33 x 43 x 8 mm)	SE3210[4]	B	**Read/Write** 0 - HF Only P - Standard Prox L - Custom Prox **Read Only (Datamapper)[5]** 1 - HF Only S - Standard Prox T - Custom Prox	0 - Standard-V1	-	- xxxxxx	

[1] The revision B iCLASS SE Reader Modules launched in June 2016. The previous version (Rev A) will remain an orderable part number until June 2018 (Please note, the Rev A reader does not have the Read Only or Custom Prox options available)
[2] 125 kHz Prox Interpreters:
0 = HF Only - No Prox support
P or S = Standard format support = HID Prox, AWID, EM4102, and Indala Prox (10022 - 26 bit)
L or T = Custom Prox = HID Prox, EM4102 and Indala Prox Custom (provide reader format number with order)

[3] Security Options:
0 = Standard Security (Version 1) Keyset - coupled with the Standard 13.56 MHz interpreter provides compatibility with iCLASS SE, iCLASS SR, standard iCLASS, SE for MIFARE Classic and SE for MIFARE DESFire EV1 credentials.
[4] Minimum orders of 100 pieces, supplied in trays of 20 pieces. Orders for quantities other than multiples of 20 pieces are not possible.
[5] Read Only Modules have the Datamapper application loaded which replaces the Card Edge API's that allow full Read /Write capability

iCLASS SE Reader Module Accessories

Model Description	Base Part Number
iCLASS SE Reader Module HF Antenna (Air Tuned) 34 x 48 mm (1.34 x 1.89 in) - Minimum Order Quantity 20 pieces	4090A10[1]
iCLASS SE Reader Module HF Antenna (Air Tuned) 38 x 83 mm (1.5 x 3.26 in) - Minimum Order Quantity 20 pieces	4090A11[1]
iCLASS SE Reader Module HF + LF Antenna (Air Tuned) 34 x 48 mm (1.34 x 1.89 in) - Minimum Order Quantity 20 pieces	4090A16
iCLASS SE Reader Module Antenna Cable (Pack of 20) 51mm (2in) For use with SE3200 - Antenna Connector on one end, bare wire connection on other end.	4091A10
iCLASS SE Reader Module Antenna Cable (Pack of 20) 51mm (2in) For use with SE3210 - Antenna Connector on one end, iCLASS SE Reader Module Connector on other end.	4091A11
iCLASS SE Reader Module LF Antenna 65 x 28 x 1.3 mm (2.56 x 1.10 x .050 in)	6500-101-03
iCLASS SE Reader Module Developer Tool Kit	3134ANM0000
iCLASS SE Test Card Pack Pre-programmed card set to test data output from iCLASS SE Readers	3156-700

[1]Supplied in trays of 20 pieces packed in boxes of 5 trays (100 pieces in total). Orders for quantities other than multiples of 20 pieces are not possible and orders for quantities other than multiples of 100 pieces will be subject to a re-packing surcharge

iCLASS SE & multiCLASS SE Readers with UART Interface

The iCLASS SE & multiCLASS SE® readers with UART interface are designed for integrators requiring a wall mount reader that is capable of interfacing with host Access Control systems via a UART interface. They are designed for installations that need to mount on wiring boxes and are a flush mount reader that fits single- and double-gang electrical boxes.

Description	Product Image	Part Number								
		Base Part No.	125 kHz Interpreters	13.56 MHz Interpreters	Controller Communications	Controller Hardware Connection	Product Version	Color	Security	Configuration Settings
multiCLASS SE RP10 R/W Mini-Mullion Reader		900	P = HID Prox and EM4102 Prox	T = SIO and Seos with Legacy	B=UART	N = Pigtail T = Terminal Strip	E	K = Black	0 = Standard-1	036G
multiCLASS SE RP15 R/W Mullion Reader		910								
multiCLASS SE RP30 R/W EU / Asia Square Reader		930								
multiCLASS SE RP40 R/W Wall Switch Reader		920								
iCLASS SE 95A R/W Décor Reader		95A	N = No Prox	T = SIO and Seos with Legacy	B=UART	T = Terminal Strip	E	X=No Cover	0 = Standard-1	036F

Reader Configuration Cards

Use these cards to configure iCLASS SE Platform Readers (including OMNIKEY 5x27CK Readers) with specific keysets

Description	Part Number		
	Base Part No.	Elite (E) or Standard Security (0 or 2)	Configuration Settings[1]
Elite Upgrade Cards[2] Setup iCLASS SE Platform readers for Elite credential keys or reader admin keys	SEC9X-CRD-	E = Elite Key[3]	-P000 = Standard to Elite reader admin keys
		E = Elite Key[3]	-P001 = Elite credential keys
Elite Downgrade Cards[2] Setup iCLASS SE or Platform readers for standard credential keys or reader admin keys	SEC9X-CRD-	E = Elite Key[1]	-P002 = Elite to Standard reader admin keys
		0 = Standard-1 key or standard-2 key	-P003 = Standard-1 credential keys -P004 = Standard-2 credential keys

[1] Keys
Specify Elite "E" or Standard-1/Standard-2 "0" based upon keys **ALREADY LOADED** in the reader that needs to be configured.

[2] Elite Upgrade and Downgrade Cards
Reader admin keys and reader credential keys must both be changed to upgrade or downgrade to or from Elite. A separate card is required for reader admin keys and reader credential keys. To complete an Elite upgrade or downgrade a Reader Configuration Card with specific configuration extension may also be required to modify configuration options other than Elite keys, for example modification of125 kHz or 13.56 MHz interpreters.

[3] Keys
Specify Elite "E" based upon Elite keys **TO BE LOADED** in the reader that needs to be configured.

HID Mobile Access

What is HID Mobile Access?

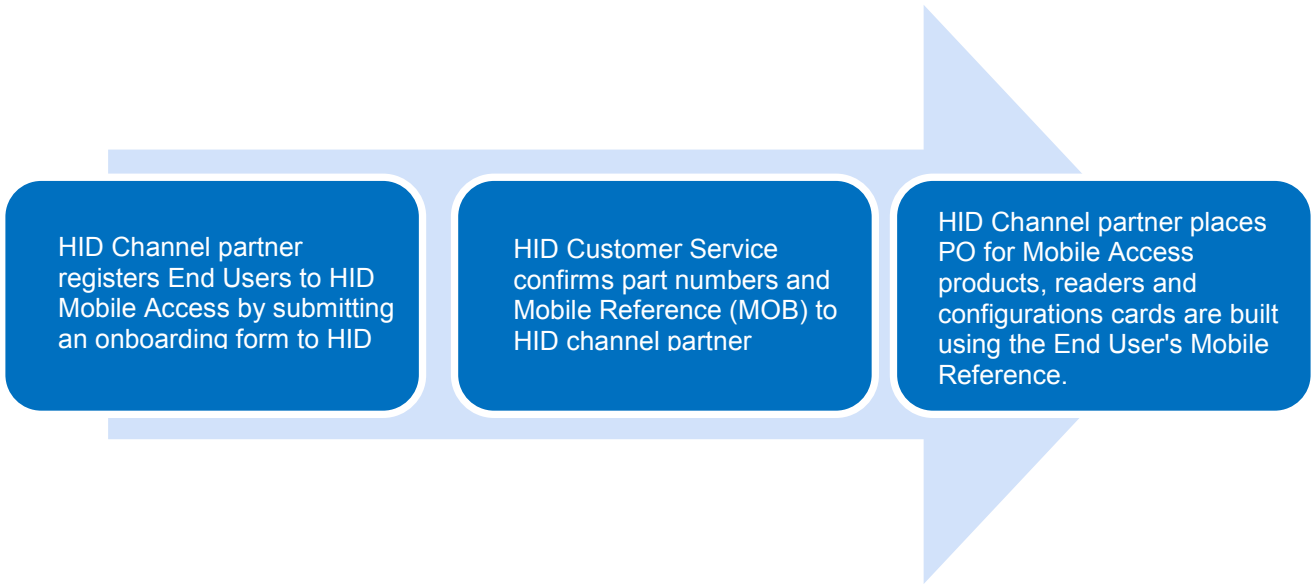
HID Mobile Access® complements your existing credentials based solution. Besides using cards or fobs, staff can now securely access facilities using their Android or iOS mobile device.

HID Mobile Access, powered by Seos, consists of the following components:

- HID Mobile Access Portal: A management portal that allows you to manage users and securely issue or revoke Mobile IDs to users' handsets. The portal is available as a hosted service.
- HID Mobile Access Application: This app is available for Android and iOS devices, free of charge
- Mobile IDs: The Mobile IDs with integrated Seos technology are for management of trusted identities.
- iCLASS SE mobile-enabled Readers.

Onboarding and Ordering

The following steps are required to complete onboarding, to be able to order products for use with HID Mobile Access



To get more information on how to register for HID Mobile Access please contact you HID Global Sales Representative or HID Global Customer Service.

Contact information is available at: http://www.hidglobal.com/customer-service

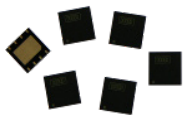
Solution Component Overview

Component	Details	Supplemental information needed for order
Mobile Reference (MOB)	Mobile References are specific to a given organization and are confirmed during account setup The correct Mobile Reference must be supplied when ordering HID Mobile Access Reader, Configuration Cards and Mobile ID's	
Mobile ID's	Mobile IDs are virtual credentials electronically delivered to the Organizations Mobile Access Portal account. Part number: CRD633ZZ-xxxxx Custom Mobile ID, xxxxx specific to organization and issued at time of part number creation	xxxxx specific to organization
Mobile-Ready Readers	Mobile-Ready readers are prepared to support HID Mobile Access, but lack the personalized configuration to read an organization's specific Mobile IDs. These readers can be ordered at any time but will require field activation after the organization has completed registration for HID Mobile Access. To support a specific organization's Mobile IDs, these readers need to be personalized using a Mobile Key Card. Mobile-Ready readers can be ordered with NFC support only, or NFC and Bluetooth Smart support.	
Mobile-Enabled Reader	Mobile-Enabled readers are fully activated and personalized to support an organization's specific Mobile IDs. These readers can only be ordered after the organization has completed registration for HID Mobile Access and assigned a Mobile Reference (MOB) or HID Elite™ Reference (ICE). MOB or ICE will be required at time of order. Mobile-Enabled readers can be ordered with NFC support only, or NFC and Bluetooth Smart support.	Mobile Reference
Mobile Key Card	Configuration card used to personalize and activate a Mobile-Ready reader; converting it to a Mobile-Enabled reader. Part number: SEC9X-CRD-E-MKYD	Mobile Reference
Mobile Admin Card	Configuration card used to enable reader to communicate with Mobile app to adjust Bluetooth range settings on Mobile-Enabled Readers. Custom part number: SEC9X-CRD-MAD-xxxx xxxx specific to organization and issued at time of part number creation.	For SEC9X-CRD-xxxx: - xxxx specific to organization

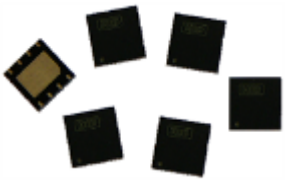
iCLASS SE Processor

The HID iCLASS SE Processor provides secure Key handling and storage for Reader Manufacturers and System Integrators. Provided are non-door reader solutions to the PACS eco system adding iCLASS and SIO compatibility. In addition, added was support for iCLASS Seos or NFC-enabled smart phones utilizing iCLASS Seos for a reader design or existing reader infrastructure. As part of the iCLASS SE Platform, the iCLASS SE Processor is a technology-independent virtualized interpreter that enables reader manufacturers, developers and system integrators to quickly and easily integrate iCLASS SE and TIP into their devices. This enhances the ecosystem security with a device and technology independent layer of additional security on top of device-specific security, acting as a digital data wrapper providing additional key diversification, authentication and encryption.

The iCLASS SE Processor supports iCLASS SE credentials based on different technologies such as iCLASS, iCLASS Elite or MIFARE Classic and can be configured to support standard iCLASS providing compatibility with existing installations or card deployments. Depending on the ecosystem requirements, the iCLASS SE Processor allows developers to easily embed it into a new reader design utilizing the surface mount technology chip, or integrate it into an existing reader design /infrastructure using the convenient pre-packaged ID-1/ID-000 card.

Model	Base Part #	Rev	1[1]	Security[2]		Option Custom Suffix	Product Image
iCLASS SE - Processor Chip Surface Mount Device, 5mm x 5mm, 8 Pin DFN (Dual Flat No-lead) Tube of 50 Chips Minimum Order Quantity (MOQ) - 1 Tube[3]	SE3100	A	0	0 - Standard-V1 E - Elite	-	xxxxx	
iCLASS SE Processor Card ID-1/000 Card - ID-1 Card with ID-000 punch out Minimum Order Quantity (MOQ) - 50	SE3110	A	0	0 - Standard-V1 E - Elite	-	xxxxx	

iCLASS SE Processor Accessories

Description	Base Part Number	Product Image
iCLASS SE Processor Chip - Developer Pack of 25 Chips	SE3100A00-SAMPLE	
iCLASS SE Processor Card - Developer Pack of 10 Cards	SE3110A00-SAMPLE	

[1] Reserved for future use.
[2] Security Options:
0 = Standard Security (Version 1) Keyset - coupled with the Standard 13.56 MHz interpreter provides compatibility with iCLASS Seos, iCLASS SE, iCLASS SR, standard iCLASS, SE for MIFARE Classic and SE for MIFARE DESFire EV1 credentials.
E = Elite reads only SE Elite™ credentials with unique matching keys. Works with iCLASS Seos, iCLASS SE, iCLASS SR, standard iCLASS, SE for MIFARE Classic and SE for MIFARE DESFire EV1 with matching Elite keys. Line item on PO requires ICE reference number.
[3] The iCLASS SE Processor Chips are supplied in tubes of 50 pieces and orders must be placed for appropriate number of tube.

Product Selector Guide – General Purpose Applications

13.56 MHz Contactless & Contact Reader Technology						
DTK	3134ANJ0000		N/A		N/A	
Embedded Module	veriCLASS VP3300 Reader Core	veriCLASS VP3500 Reader Board	Multi-ISO Reader Core	Multi-ISO Reader Board	MIFARE-Easy Reader Core	MIFARE-Easy Reader Board
Features	13.56 MHz Smart Cards, RF and Contact Payment Cards & NFC		13.56 MHz Smart Cards, RF and Contact Payment Card		13.56 MHz Smart Cards,	
Image						
Interface(s)	UART & USB2.0 PC/SC Drivers		CMOS TTL	RS-232	CMOS TTL	RS-232
Power	3 to 5 VDC +/- 10% regulated		5 VDC + or - 10% regulated		5 VDC + or - 10% regulated	
Current	200 mA (typical) @ 5 VDC	370 mA (typical) @ 5 VDC	90 - 200 mA depending on antenna (without connected SAM) < 10 mA at power down mode	< 150 mA (without SAM) < 10 mA at power down mode	90 - 150 mA depending on antenna (without connected SAM) < 10 mA at power down mode	150 mA < 10 mA at power down mode
Antenna(s)3	Single External Integrator must develop	Single Integrated	Single External Integrator must develop	Single Integrated	Single External Integrator must develop	Single Integrated
Contact Slot	Supports up to 4 external sockets	2 x Integrated ID000 Sockets	Support for single external socket	1 x integrated ID-000 socket	N/A	
Protocol	PC/SC, EMVCo and Calypso®, ISO7816 T=0, T=1		Custom ASCII and Binary Protocol		Custom ASCII and Binary Protocol	
Integration Difficulty	Difficult "SMT Board, Antenna Development"	Medium "Integrated Antenna, 2x ID-000 sockets"	Medium		Medium	
Size	2.244 x 2.165 x 0.169 in 57 x 55 x 4.29 mm	3.5 x 3.5 x 0.36 in 90 x 90 x 9.2 mm	1.0 x 1.18 x 0.19 in 2.0 x 25.5. x 30.0 mm	2.76 x 1.77 x 0.48 in 70.0 x 45.0 x 12.1 mm	1.0 x 1.18 x 0.19 in 4.8 x 25.5. x 30.0 mm	2.76 x 1.77 x 0.48 in 70.0 x 45.0 x 12.1 mm

veriCLASS - Reader Platform

Note: The veriCLASS is no longer available for new integration

veriCLASS is an embedded reader platform comprising of a complete line of interoperable contactless reader boards and modules for payment and ticketing applications.

- Supports multiple contactless technologies and credentials such as:
  FeliCa™, iCLASS, MIFARE, DESFire, NFC, ISO 14443 A/B, and ISO 15693
- Supports multiple contactless payment communication protocols, such as:
  Calypso, MasterCard® PayPass™, Visa® payWave, American Express® ExpressPaySM
- Supports both open- and closed loop payment schemes
- Pre-certified to both FCC modular and CE standards
- Comprehensive Developer Tool Kit accelerates design-in cycles and speeds products to market

Description	Base Part No	Rev	1[2]	2[2]	Optional Custom Suffix[3]	Product Image
veriCLASS 3300 Reader Core 13.56MHz ISO14443A/B 13.56MHz ISO15693 Up to Two external antennas Up to four External SAM/Smart Card Sockets Dimensions : 55mm x 57mm x 4.2 mm (2.17 in x 2.24 in x 0.17 in) Minimum Order Quantity (MOQ) - 60[1]	VP3300	A	0	0	-	
veriCLASS 3500 Reader Board 13.56MHz ISO14443A/B 13.56MHz ISO15693 Single Integrated Antenna Two integrated ID000 SAM Sockets Dimensions : 90 mm x 90 mm x 9.2 mm (3.5 in x 3.5 in 0.36 in) Minimum Order Quantity (MOQ) - 30[4]	VP3500	A	0	0	-	

[1] Order the veriCLASS VP3300A00 Reader Core in multiples of the MOQ. The Reader cores are supplied in bulk sealed vacuum packaging which is utilized to ensure compliance with Solder Profile J-STD-020C.

[2] These fields are reserved for future use and currently have no options available.

[3] The Custom Suffix is used to identify special versions for specific customers.

[4] Order the veriCLASS VP3500A00 Reader Board in multiples of the MOQ. The Reader Boards are bulk packed in protective trays to avoid damage during transit.

veriCLASS Accessories

Description	Base Part Number	Product Image
veriCLASS Reader Core Sample - Additional samples for integration verification - maximum of 3 units per order	VP3300A00-SAMPLE	
veriCLASS Reader Board Sample - Additional samples for integration verification - maximum of 3 units per order	VP3500A00-SAMPLE	

Multi-ISO - Embedded Reader Family

The family of 13.56MHz Multi-ISO Reader Boards supports one of the broadest ranges of transmission protocols and transponder ICs available on the market. Featuring integrated SAM support that enables state of the art security the highly interoperable reader boards support a wide range of industry standards including ISO 14443A/B, ISO 15693, ISO 18000-3 and EPC allowing the reader to be easily used for public transport, financial transaction and many other applications. The reader board is also optimized for maximum data throughput times on both the air and serial interface, and is available with a variety of antenna size options for easy integration in virtually any mobile or compact application.

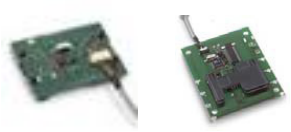
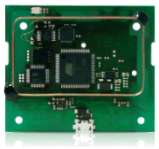
Model	Description	Part Number	Product Image
Multi-ISO Reader Core	Multi-ISO Reader Core, (F/W V1.2)	0701800159-1	
Multi-ISO Reader Board	Multi-ISO Reader Board, RS-232 (F/W V1.2)	0701800160	

MIFARE Easy Embedded Readers

The MIFARE Easy embedded readers are a convenient and cost-efficient solution for systems integrators and terminal manufacturers looking for a secure and scalable solution for use in various general purpose solutions featuring read/write capability, MIFARE Easy reader boards are designed to be easily integrated into compact terminals or mobile units, making them ideal solutions for use in Automatic Fare Collection (AFC) ticket vending machines, card validators, card printers, mobile solutions and various general purpose devices.

Model	Description	Part Number	Product Image
MIFARE-Easy Reader Core	MIFARE Easy Reader Core, TTL (F/W V1.2)	0701800133-1	
MIFARE-Easy Reader Board	MIFARE Easy Reader Board Compact (70 x 45 x 12mm), RS-232 (F/W V1.2)	0701800029	

Product Selector Guide - Logical Access/PC Applications

13.56 MHz Contactless & Contact Reader Technology		
DTK		3134ANL0000
Embedded Module	OMNIKEY 5121 & OMNIKEY 5321	OMNIKEY 5127CK and OMNIKEY 5127CK-Mini
Features	iCLASS, MIFARE & Contact USB with PC/SC	HID Prox, iCLASS, iCLASS SE, iCLASS Seos, MIFARE & DESFire EV1 CCID, Bluetooth Smart (iCLASS 5127CK-Mini) & Key Board Wedge
Image		
Interface(s)	USB 2.0 PC/SC Drivers	USB 2.0 CCID, Key Board Wedge & UART (5127CK-Mini only)
Power	USB Bus Powered	USB Bus Powered
Current	USB Bus Powered	USB Bus Powered
Antenna(s)	Integrated on Board	Integrated on Board
Contact Slot	1 x Integrated ID-1 Slot	None
Protocol	PC/SC, ISO7816 T=0, T=1 & HID Custom for iCLASS	PC/SC (ready for 2.01, in CCID mode), Human Interface Device (in Keyboard Wedge Mode)
Integration Difficulty	Easy	Easy
Size	5121 2.6 x 2.16 x 0.43 (in) 66 x 55 x 11 (mm) 5321 3.1 x 2.6 x 0.3 (in) 96 x 78 x 8 (mm)	5127CK Reader Board 2.6 x 2.2 x 0.35 (in), 66 x 56 x 9 (mm) 5127CK Mini Reader Board 1.96 x 1.38 x 0.35 (in) 50 x 35 x 8.94mm 5127CK Mini Reader Board with Industrial Housing 2.2 x 1.6 x 0.63 (in) 55 x 40 x 16mm

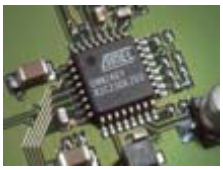
Logical Access/PC Applications

OMNIKEY Readers

OMNIKEY Embedded Readers are designed to enable integrators to build solutions for contact and contactless security, loyalty and government applications. They are ideal devices for organizations that need to integrate a highly secure contact and/or contactless PC connected smart card reader board, which in turn enables end-users to use advanced security applications to experience the convenience of contactless technology. The OMNIKEY Embedded Readers were developed as an easy design-in device; just mount the reader board in the product away from metal, connect the USB interface, build an application based on the PC/SC, CCID or Keyboard wedge standard and you are up and running in no time

Model	Description	Part Number	Product Image
5127 CK Reader Board	OK 5x27 CK contactless CCID and Keyboard Wedge Reader Board	R51270001-1 R51270001-Elite R51270001-Indala R51270001-Elite-Indala	
5427 CK Reader	OK 5427CK contactless CCID and Keyboard Wedge Housed Reader	R54270001-CON R54270001-CON-Elite R54270001-CON-Indala R54270001-CON-Elite-Indala	
5427 CK Reader Accessory	Mounting Accessory Pack for OMNIKEY 5427 CK	A50210001	
5x27 CK Reader Accessory	Cable Management Accessory Pack for OMNIKEY 5127 & 5427 CK	A54270002	
5127CK-Mini Reader Board	OK 5127CK Mini contactless CCID and Keyboard Wedge Reader Board MOQ 20 units and must be ordered in multiples of 20	R51270010 R51270010-Indala	
5127CK-Mini Reader Board	OK 5127CK-Mini contactless CCID and Keyboard Wedge Reader Board with Industrial Housing and integrated buzzer MOQ 20 units	R51270020 R51270020-Indala	
5121 Reader Board	OK 5121 contact and contactless reader board	R51210049-2	
5321 Reader Board	OK 5321 contact and contactless reader board	R53210015-2	
5321 CL SAM Reader Board	OK 5321 CL SAM contactless with SAM reader board	R53210033-2	
3111 Reader Board	OK 3111 Contact Smart Card Reader Board with Serial Interface	R31110018 (with Cable) R31110022-1 (without Cable)	
3121 Reader Board (Landing Contacts)	OK 3121 Contact Smart Card Reader Board (Landing Contacts) with USB Interface	R31210073-1 MOQ 500	
3121 Reader Board	OK 3121 Contact Smart Card Reader Board with USB Interface	R31210075-1 (with Cable) R31210129 (without Cable)	
3921 Reader Board	OK 3921 Contact Smart Card Reader Board (floppy drive bay) with USB Interface	R39210011-1 (Internal Cable) R39210013-1 (External Cable) R39210014-1 (without Cable)	
5125 Reader Board	OK 5125 125kHz Contactless Reader Board with USB Interface	R51250018-1 (with Cable) R51250017-1 (without Cable)	

OMNIKEY Embedded Technology Chipsets

Description	Base Part Number	Product Image
OMNIKEY Smart@Link Chipset (FW2.04) USB & Serial Support Pre-certified (EMV2000, CCID,HBCI) 32-pin VQFP chip Standard MOQ 2,500 pieces[1]	C30210210	

[1] Supplied vacuum packed in 2 individually vacuumed packs of 5 trays, each tray containing 250 pieces (10 trays in total). - For quantities less than the MOQ or multiples thereof an additional packing fee is applicable.

Product Selector Guide - 125 kHz Proximity Reader Technology

Embedded Reader Selector Chart- 125kHz Proximity Reader Technology			
DTK	3134BNC0000	3134AND0000	3134ANE0000
Embedded Module	MCM	ProxPoint® Plus	eProx Lock
Features	HID Prox: Board Mounted Component	HID Prox: Full Prox Reader Capabilities - Just Connect and Go	HID Prox: Low Power Operational Mode for Battery applications
Image			
Interface(s)	Wiegand Clock-and-Data	Wiegand Clock-and-Data	Wiegand Clock-and-Data F2F
Power	+4.5 - 5.5VDC Voltage Regulation	+5 - 16VDC	4 - 10VDC (4 or 6 x 1.5V AA or 1 x 9V Battery / Line Power)
Current	<150 mA	<100 mA	<30µA During Sleep <80mA during 250ms Card Read
Integration Difficulty	Difficult	Easy	Medium
Size	0.85 x 0.85 x 0.16 (in) 21.59 x 21.59 x 4.06 (mm)	2.3 x 1.4 x 0.311 (in) 58.4 x 35.6 x 7.9 (mm)	1.3 x 1.7 x 0.281 (in) 33.02 x 43.18 x 7.13 (mm)

[1] USGSA FIPS201 (PIVII) Approved

125 kHz Contactless Embedded Reader Module Ordering

ProxPoint Plus - The HID ProxPoint Plus OEM Module is a full-featured HID Proximity reader board that provides access to the industry's largest 125 kHz contactless card population. Ideal for OEM application developers who need to interface to HID proximity cards to implement third-party applications, ProxPoint Plus is HID Global's first proximity OEM Module that comes fully equipped with beeper, LED and stock antenna to deliver full reader functionality. Simple interface and installation allows OEM applications access to all HID proximity card formats, including both short and long card formats.

eProx MCM - The Multi-Chip Module (MCM) provides the functions of an HID proximity reader on a single integrated circuit. The Prox by HID technology easily integrates to an existing electronic module and is able to be surface mounted to an existing PCB. The MCM enables adding RFID technology to a wide array of electronic devices, including alarm panels, electronic door locks, biometric readers, logical access devices and process control equipment.

eProx Lock - With its small size and low power consumption, the eProx Lock can provide a keyless, card-activated lock. The module offers Wiegand, F2F and Clock-and-Data output configurations. It also recognizes card formats up to 85 bits, with over 137 billion unique codes

Card Reader Description	Base Part No.	Current Rev. No.*	Module Options	Hardware Options	Configuration Setting Options[1]	Custom[2]
Multi Chip Module (MCM)[3]	4025	A	1 = None	105 = Wiegand w/ Standard-Start-up 205 = Clock-and-Data w/ Standard Start-up 401 = Wiegand w/ Quick Start-up (Quick start disabled) 402 = Wiegand w/Quick Start-up (Quick start enabled)		XXXX Y
eProx Lock Module	4041	A	N = None	N = None	00 = Wiegand output 02 = F2F Output 04 = Clock & Data output	XXXX Y
ProxGuts™ Module with Wiegand output with Clock and Data output	4035 4038	C	A = Beeper with LED	N = None T = Terminal Strip	00 01 02 03 04 05 06 07	XXXX Y
			B = Beeper without LED L = No Beeper with LED N = No Beeper without LED	N = None T = Terminal Strip	00	XXXX Y
ProxPoint OEM Module[4] with Wiegand output with Clock and Data output	4065 4068	A	L = Board only A = Board & Antenna[5]	N = None	No beeper option with this Module. LED Options: 00 (Default) 03 05 07	XXXX Y
ProxPoint Plus OEM Module[4] with Wiegand output with Clock and Data output	4065 4068	B	L = Board only A = Board & Antenna[5]	N = LED Only B = LED and Beeper	LED/Beeper Options: 00 01 02 03 04 05 06 07	XXXX Y

*Revision numbers and availability are subject to change without notice. Some product may require a signed Non-Disclosure agreement.

[1] Configuration Setting Options for ProxGuts & ProxPoint OEM Modules are as follows (factory programmed):
00 = Beep on, LED normally red, reader flashes green on tag read 01 = Beep off, LED normally red, reader flashes green on tag read 02 = Beep on, LED normally off, reader flashes green on tag read
03 = Beep off, LED normally off, reader flashes green on tag read 04 = Beep on, LED normally red, host must flash green 05 = Beep off, LED normally red, host must flash green
06 = Beep on, LED normally off, host must flash red and/or green 07 = Beep off, LED normally off, host must flash red and/or green

[2] Consult the factory for lead times and availability - for AWID read capability use BXN01.

[3] Multi Chip Modules (MCM) are packaged in multiples of 25 or 100 pieces. Minimum order quantity is 100 pieces; orders will be accepted in multiples of 25 or 100 pieces thereafter.

[4] Only pre-existing ProxPoint customers can order the ProxPoint OEM Module Revision A (4065A and 4068A). All new customers looking to embed HID Proximity technology with a ProxPoint solution must order the ProxPoint Plus OEM Module Revision B (4065B and 4068B).

[5] OEM module board and antenna are shipped disconnected.

Note: Quick Start is disabled by default and must be enabled through a configuration card.

125 KHz Embedded Reader Module Antennas

HID 125 kHz Antennas	
40-0008-01	125 kHz, Air Tuned Antenna, 3.75 x 1.20 in (9.25 x 3.05 cm), use with eProx Lock
40-0032-02	125 kHz, Air Tuned Antenna, 2.22 x 1.43 in (5.64 x 3.63 cm), use with ProxPoint OEM & MCM

Indala Proximity

OMR Module Ordering Guide

FP5110	OMR-705+
FP5120	OMR-705+, Board w/ antenna
FP5130	OMR-705+, Board w/o antenna

13.56 MHz Contactless Embedded Transponder Ordering

207 - iCLASS eUnit Ordering Guide Part Numbers and Options

The iCLASS eUnit Contactless Smart Embedded Tag offers read/write capability.

There is a Minimum order of 100 units, and thereafter in multiples of 25.

Ensure selecting the appropriate choices and completing the full order form.

☒ *207 Base Model*

iCLASS Memory Size and Allocation (Check One)

- ☐ **0** - 2k Bits (256 Bytes) with 2 Application Areas
- ☐ **1** - 16k Bits (2k Bytes) with 2 Application Areas
- ☐ **2** - 16k Bits (2k Bytes) with 16 Application Areas
- ☐ **3** - 32k Bits (4K Bytes) Application areas 16k/2+16k/1
- ☐ **4** - 32k Bits (4K Bytes) Application areas 16k/16+16k/1

Programming (Check One)

- ☐ **C** - Configured, Non-Programmed iCLASS. Programming Information Not Required.
- ☐ **P** - Programmed iCLASS. Specify Programming Information.

Coil Option

- ☒ **N** - **Max Diameter**: 0.749 in (19.0 mm) / **Max Thickness:** 0.012 in (0.3 mm)

Packaging Option

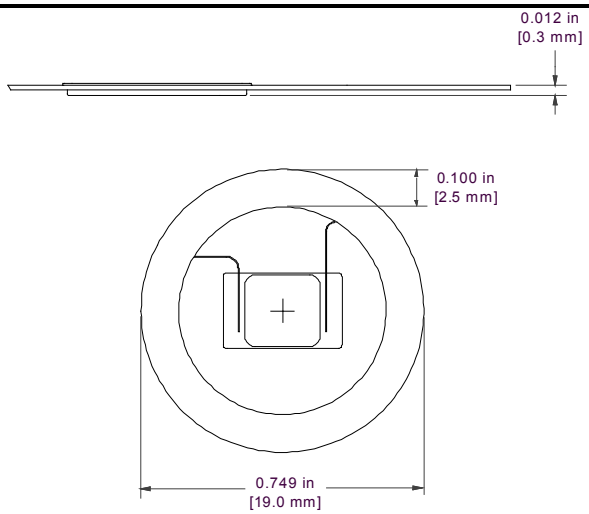
- ☒ **N** - None

Tag Numbering

- ☒ **N** - None

Hardware Option

- ☒ **N** - None



Enter your final card options from check boxes above. Example: 2071PNNNN

Final Part Number	207			N	N	N	N

iCLASS eUnit Programming Information

Bit Numbers _____ **(example: 26 bit)**
Format Number _____ **(example: H10301)**
Facility Code _____
(Custom Formats) Site Code _____ **City Code** _____ **OEM Code** _____
Internal Card No. Start _____ **Stop** _____
External Card No. Start _____**Stop** _____
PIN (2-12 digits): ☐ **Sequential: Start #** _____ **. Random: Length** _____
Special Instructions: _____.

1439/1449 - MIFARE eUnit Ordering Guide Part Numbers and Options

There is a Minimum order of 100 units, and thereafter in multiples of 25.

Ensure selecting the appropriate choices and completing the full order form.

☐ *1439 (1K) Base Model* ☐ *1449 (4K) Base Model*

Programming (Check One)

☐ **N** - Non-Programmed (13.56 MHz). Programming Information Not Required.

Coil Option

☐ **N** - 827 in (21 mm) Round Coil, Lead Frame Chip Mount (only available in 4K model)
☐ **B** - .570 in (14.5 mm) Round Coil, Lead Frame Chip Mount (only available in 1K model)

Packaging Option

☒ **N** - None

Tag Numbering

☒ **N** - No External Tag Numbering

Hardware Option

☒ **N** - None

Enter your final Tag options from check boxes above. Example: 1439NBNNN

In this example selected is MIFARE, non-programmed, .570 in (14.5mm) coil, no packaging, no external number, no hardware.

Final Part Number		**N**		**N**	**N**	**N**

Size Table

	Packaging Option N - Bare Coil	
Coil Option	**Max Diameter**	**Max Thickness**
N	.827 in (21 mm)	.006 in (0.15 mm)
B	.570 in (14.5 mm)	.009 in (0.22 mm)

13.56 MHz Tag Programming Information

Bit Numbers _____ **(example: 26 bit)**
Format Number _____ **(example: H10301)**
Facility Code _____
(Custom Formats) Site Code _____ **City Code** _____ **OEM Code** _____
Internal Tag No. Start _____ **Stop** _____
Special Instructions: _____.

1453 - MIFARE DESFire EV1 eUnit Ordering Guide Part Numbers & Options

There is a Minimum order of 100 units, and thereafter in multiples of 25.

Ensure selecting the appropriate choices and completing the full order form.

☐ *1453 (MIFARE DESFire EV1) Base Model*

MIFARE DESFire EV1 Memory Size
☒ **C** - MIFARE DESFire EV1 8K-Bytes

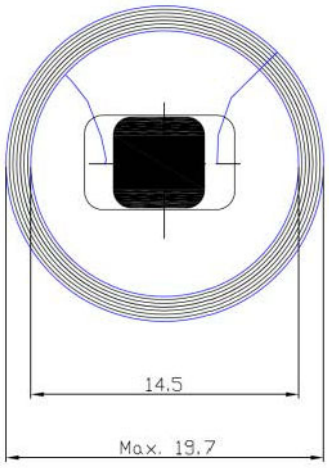
Programming (Check One)
☒ **N** - Non-Programmed (13.56 MHz). Programming Information Not Required.

Coil Option
☒ **N** - .570 in (14.5 mm) Round Coil, Lead Frame Chip Mount

Packaging Option
☒ **N** - None

Tag Numbering
☒ **N** - No External Tag Numbering

Hardware Option
☒ **N** - None



Enter your final Tag options from check boxes above. Example: 1453CNNNNN

In this example selected is MIFARE DESFire EV1, non-programmed, .570 in (14.5mm) coil, no packaging, no external number, no hardware.

Final Part Number	**1453**	**C**	**N**	**N**	**N**	**N**	**N**

Size Table

	Packaging Option N - Bare Coil	
Coil Option	**Max Diameter**	**Max Thickness**
N	.570 in (14.5 mm)	.009 in (0.3 mm)

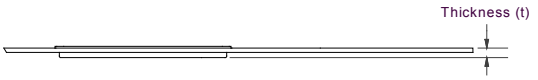
125 KHz Contactless Embedded Transponder Ordering

1390 - eProx Tag Embedded Proximity Part Numbers and Options

Ensure selecting the appropriate choices and completing the full order form.

There is a minimum order of 100 units, and thereafter in multiples of 25.

☒ *1390 Base Model*

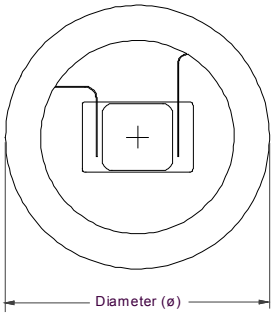


Programming (Check One)

☐ **L** - Programmed, Low Frequency (125 kHz). Specify Programming Information.
☐ **N** - Non-Programmed, Low Frequency (125 kHz). Programming Information Not Required.

Coil

☐ **N** - Standard, .866 in (22mm) Round Coil, PCB or Lead frame Chip Mount
☐ **A** - .984 in (25 mm) Round Coil, Direct Connect Chip
☐ **B** - .677 in (17 mm) Round Coil, Direct Connect Chip



Packaging

☐ **N** - None (Bare Coil)
☐ **C** - Clear Tag, Clear Polyester Covering

Tag Numbering

☒ **N** - No External Tag Numbering

Hardware Option

☒ **N** - None

Enter your final Tag options from check boxes above. Example: 1390NNNNN

Final Part Number	1390				N	N

Size Table

	Packaging Option N - Bare Coil		Packaging Option C - Clear Tag	
Coil Option	**Max Diameter**	**Max Thickness**	**Max Diameter**	**Max Thickness**
N	0.866 in (22 mm)	0.033 in (0.8 mm)	NA	NA
A	0.984 in (25 mm)	0.015 in (0.39 mm)	1.200 in (30.5 mm)	0.031 in (0.8 mm)
B	0.677 in (17.2 mm)	0.015 in (0.39 mm)	0.886 in (22.5 mm)	0.031 in (0.8 mm)
E	NA	NA	0.807 in (20.5 mm)	0.031 in (0.8 mm)

125 kHz Tag Programming Information

Bit Numbers _____ **(example: 26 bit)**
Format Number _____ **(example: H10301)**
Facility Code _____
(Custom Formats) Site Code _____ **City Code** _____ **OEM Code** _____
Internal Tag No. Start _____ **Stop** _____
Special Instructions: _____.

Appendix A - Development Tool Kits

Development Tool Kits	
3134ANK0000	iCLASS SE Processor Development Tool Kit
3134ANL0000	5x27 CK Development Tool Kit
3134BNC0000	MCM2 Development Tool Kit
3134AND0000	Prox Point Plus Development Tool Kit
3134ANE0000	eProx Lock Development Tool Kit
3134ANM0000	iCLASS SE Reader Module Development Tool Kit

iCLASS SE Reader Module - 3134ANM0000

Part List

Developer Tools

The DTK License key provides access to the Developer Centre where all Drivers, Software, Documentation and Release Notes can be downloaded.

Reader Boards & Accessories

1 - iCLASS SE Reader Module Development Board
1 - SE3200BP0 + SE3200BS0 iCLASS SE Reader Module
1 - SE3210BP0 + SE3200BS0 iCLASS SE Reader Module
1 - 4090A10 iCLASS SE Reader Module HF Antenna
1 - 4090A11 iCLASS SE Reader Module HF Antenna
1 - 4090A16 iCLASS SE Reader Module HF+LF Antenna
1 - 6500-101-03 Low Frequency Antenna
1 - 4091A10 SE3200 antenna cable
1 - 4091A11 SE3210 antenna cable
1 - USB Cable
1 - USB to RS-232 serial cable
2 - Configuration Cards

Sample Credentials

1 - iCLASS SR 2k/2
1 - iCLASS SR 32k (16k/2 + 16k/1)
1 - iCLASS SR 32k (16k/16 + 16k/1)
1 - iCLASS SE 2k
1 - iCLASS SE 32k (16k/2 + 16k/1)
1 - iCLASS SE 32k (16k/16 + 16k/1)
1 - Seos 16k
1 - MIFARE Classic 4k HID MIFARE
1 - MIFARE Classic 4k SE
1 - MIFARE DESFire EV1 8k SE
1 - HID ISO Prox II

OMNIKEY 5x27CK - 3134ANL0000

Parts

Developer Tools

The DTK License key provides access to the Developer Centre where all Drivers, Software, Documentation and Release Notes can be downloaded.

Reader Boards & Accessories

1 - 5127CK Reader Board

1 - 5427CK Reader

1 – 5127CK-Mini Reader Board

1 – 5127CK Mini Reader Board + Industrial Housing

Sample Credentials

1 - MIFARE Classic 1K Card

1 - MIFARE DESFire EV1 Card

1 - iCLASS 16K/16 Card

1 - HID ISOPROX II Card

iCLASS SE Processor - 3134ANK0000

Parts

Developer Tools

The DTK License key provides access to the Developer Centre where all Drivers, Software, Documentation and Release Notes can be downloaded.

Reader Boards & Accessories

1 - 5321 Desktop reader

5 - 3110A00 ID1/000 iCLASS SE Processor Card

10 - 3100A00 iCLASS SE Processor Chip

Sample Credentials

3 - iCLASS SE Card 2k

3 - iCLASS SE Card 16K/16

3 - iCLASS SE Card 32K

MCM - 3134BNC0000

Parts

Developer Tools

1 - USB Flash Drive

Multi-Chip Reader Modules

3 - MCM

Access Cards

3 - ISOProx II Cards
3 - Microprox Tags
3 - Proxkey II Cards
3 - Multi-technology HID Prox & iCLASS 16K/16 Programmed Cards

ProxPoint Plus - 3134AND0000

Parts

Developer Tools

1 - USB Flash Drive

Reader Boards

2 - ProxPoint Plus Modules with Antenna

Access Cards

3 - ISOProx II Cards
3 - Microprox Tags
3 - Proxkey II Cards
3 - Multi-technology HID Prox & iCLASS 16K/16 Programmed Cards

eProx Lock - 3134ANE0000

Parts

Developer Tools

1 - USB Flash Drive

Reader Modules

2 - eProx Lock Modules

Antennas

2 - 125 kHz Prox Air-Tuned Antennas

Access Cards

3 - ISOProx II Cards
3 - Microprox Tags
3 - Proxkey II Cards
3 - Multi-technology HID Prox & iCLASS 16K/16 Programmed Cards