





veriCLASS Developer Tool Kit

INNOVATIVE PLATFORM FOR OPEN- AND CLOSED-LOOP PAYMENT SCHEMES

- Exceptional Flexibility configurable for multiple contactless smart card technologies, payment protocols and both open- and closed-loop payment schemes, providing access to a wide range of applications
- Future-proof Contactless scalable platform readily supports current contactless technologies, and will accommodate tomorrow's payment technologies and functionality requirements
- Faster-to-Market global certifications secured by HID Global accelerate development cycles; reducing design, implementation and testing phases, and shortening time to revenue

veriCLASS Highlights:

- Supports multiple contactless technologies and credentials: FeliCa™, iCLASS®, MIFARE®, DESFire®, NFC, ISO 14443 A/B, and ISO 15693
- Supports multiple contactless payment communication protocols: Calypso®, MasterCard® PayPass™, Visa® payWave, American Express expresspay™
- Supports both open- and closedloop payment schemes
- Pre-certified to both FCC modular and CE standards
- Complete line includes reader modules, boards, integration tools and support
- Comprehensive Developer Tool Kit accelerates design-in cycles and speeds products to market
- Embedded Device Manager enables remote service, diagnostics and upgrades, facilitating life cycle management

veriCLASS** is a complete line of interoperable contactless reader boards and modules, augmented with extensive integration tools and support. The flexible veriCLASS embedded reader platform will accommodate universal and multiple applications. It can be configured to support nearly every contactless payment technology and credential, as well as open- and closed-loop payment schemes at the same time, making veriCLASS the ideal solution to integrate both existing and emerging technologies.

HID Global has uniquely prepared the veriCLASS platform to help developers significantly reduce development time and expense. veriCLASS embedded boards and modules have FCC and CE approvals

important for global installations, and EMVCo approvals that facilitate integration into contactless systems using MasterCard and Visa communication protocols. Even after installation, integrators can remotely service veriCLASS readers and update firmware via the Embedded Device Manager and other mass deployment mechanisms.

Compact design allows boards and modules to fit easily into equipment such as handheld and point-of-sale (POS) payment terminals used in transit and retail applications.

veriCLASS is the ideal contactless platform for automatic fare collection and ticketing, as well as POS, ATM, vending, kiosk and loyalty solutions.







Base Part Numbers		veriCLASS Reader Core	veriCLASS Reader Board
Weight Weight Operating Temperature 1.34 oz / 38g Operating Temperature 4.0° to 120° C -40 to 85° C -40 to 85° C -40 to 85° C Operating Humidity Operating Humidity Operating Humidity Power Supply 3 V to 5 VDC +/-10% regulated Current Requirements 200 mA (typical) ⊕ 5 VDC HOST INTERRACE Communication Interface USB 2.0 CCID & Serial (TTL) Transmission Speed CONTACT SMART CARD INTERFACE Standards Standards Standards Frotocols Te0, Te1 Interface Up to 4 External 2 x Integrated ID000 Sockets Supported Card Types Power to Smart Card Movement detection with auto power-off Automatic detection of smart card type / Short circuit and thermal protection CONTACT SMART CARD INTERFACE Standards Frotocols Frotocols Frotocols Anternal Supported Card Types Power to Smart Card Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACT LESS SHART CARD INTERFACE RF Transmist Frequency Smart Card Technologies Frotocols Supported Credentials & Ics NYP. MIFARE*, MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight* C, SHART-MK, Hib: ICLASS*, FWI, Ils Secure Identity Object* (SIO) Support or request Winclower Vista (22h) 6-6bit, Windows* 2 (20b) 5.00, 6.0° (20 No. 10) 6.0° (22h) 6-100, Linux Deshan 6.0° (22b) 6-100, Linux Deshan 6.0° (22b) 7.0° (Miray Per Descured Protocols Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Firmware Upgra	Base Part Numbers	VP3300A00	VP3500A00
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Storage Temperature Operating Humidity Power Supply SV to 5 VDC 4/-10% regulated Current Requirements 200 mA (typical) @ 5 VDC 370 mA (typical) @ 5 VDC 370 mA (typical) @ 5 VDC HOST INTERFACE Communication Interface USB 2.0 CCID & Serial (TTL) Transmission Speed 12 Mbps (USB 2.0 full speed) CONTACT SMART CARD INTERFACE Standards 150 7816 Protocols Tell Tell Tell Tell Tell Tell Tell Tell	Weight	0.52 oz / 15 g	1.34 oz / 38g
Operating Humidity Power Supply 3 V to 5 VDC 4/- 10% regulated Current Requirements 200 mA (typical) @ 5 VDC 370 mA (typical) @ 5 VDC 370 mA (typical) @ 5 VDC 370 mA (typical) @ 5 VDC HOST INTERFACE Communication Interface USB 2.0 CCID & Serial (TTL) Transmission Speed 12 Mpbs (USB 2.0 full speed) CONTACT SMART CARD INTERFACE Standards 150 7816 Protocols T=0, T=1 Interface Up to 4 External 2 x Integrated ID000 Sockets Supported Card Types Power to Smart Card Up to 4 External 2 x Integrated ID000 Sockets Wovement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protoction Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protoction CONTACTLESS SMART CARD INTERFACE RF Transmit Frequency 13.56 MHz Smart Card Technologies 15014443 A/B & B.P. ISO/IEC15693, FeliCa** I.N. FIC reader mode, CEPAS Protocols FMCCo, Calypso Transmission Rate Up to 848 Rb/s (depending on IC & OS) NXP: MIFARE Plus*, MIFARE DISSPIRE* 0.6, MIFARE DISSPIRE* VII, MIFARE Ultralight*, MIFARE Ultralight* C, SMARTHX, HID: ICL ASSP. PIV II, Secure Identity Object* (SiO) support on request External antenna x 2 USB version PC/SC driver: Windows* 2000 (Santya 2000 Server, 2009 Server, Windows* V(32 / 64bit), Windows* V(32 / 164bit), Windows* V(32 / 164bit	Operating Temperature	-25° to 85° C	
Current Requirements	Storage Temperature	-40° to 120° C	-40 to 85° C
Current Requirements Communication Interface USB 2.0 CCID & Serial (TTL) Transmission Speed CONTACT SMART CARD INTERFACE Standards Protocols Interface Up to 4 External Supported Card Types Power to Smart Card Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACTISSMART CARD INTERFACE Supported Card Types Power to Smart Card Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACTLESS SMART CARD INTERFACE RF Transmit Frequency ISJ6 MHz Smart Card Technologies ISO14443 A/B & B', ISO/ECI5693, FeliCa*** NFC reader mode, CEPAS Protocols Protocols FMVCo, Calypso NXP: MIFARE*, MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight*, MIFARE Ultralight*, MIFARE Ultralight*, C, SMART-MN, HID: ICLASS**, PIV II. Secure Identity Object** (SIO) support on request S/W Driver S/W Driver S/W Driver Microprocessor Firmware Upgrade Connectors Gold plated contacts for direct embedding on Microprocessor Firmware Upgrade Connectors Gold plated contacts for direct embedding on Microprocessor Industry Approvals Embedded Device Manager Lexicological Card Contacts for direct embedding on embedded readers enabling local and remote configuration, Diagnostics & firmware upgrade as thandard Internet browser Embedded Device Manager Industry Approvals	Operating Humidity	0 - 90% non	-condensing
Communication Interface USB 2.0 CCID & Serial (TTL) Transmission Speed 12 Mbps (USB 2.0 full speed) CONTACT SMART CARD INTERFACE Standards ISO 7816 Protocols T = 0, T = 1 2 x Integrated ID000 Sockets Supported Card Types Power to Smart Card Wp to 4 External Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACT SS SMART CARD INTERFACE RF Transmit Frequency ISO 7816 C158 S MHz Smart Card Technologies ISO 14443 A/B & B', ISO/IEC15693, FeliCan' INFC reader mode, CEPAS Protocols EMVCo, Calypso Transmission Rate Up 848 kb/s (depending on IC & OS) NXP: MIFARE Plus', MIFARE DESFire' 0.6, MIFARE DESFire' EVI, MIFARE Ultralight', MIFARE Ultralight' C, SMART-MX, HID: ICLASS**, PIV II, Secure Identity Object'' (SIO) support on request External artenna x 2 ISS version PC/Sc driver: Windows' 2000 (32bit), 2003 Server, 2009 Server, Windows' XP (33) / Felibit), Linux Peblan I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor Firmware Upgrade Connectors Gold plated contacts for direct embedding on application PCB Industry Approvals EMVCo V20): EMV2000 (MHCARC) and a remote configuration, diagnostics & firmware updates through a standard internet browser Industry Approvals	Power Supply	3 V to 5 VDC +/- 10% regulated	
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Transmission Speed CONTACT SMART CARD INTERFACE Standards ISO 7816 Protocols Protocols T=0, T=1 Interface Up to 4 External 2 x Integrated ID000 Sockets Supported Card Types Sy y and 18 V Smart Cards, ISO 7816 Class A, B and C Power to Smart Card Wovement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACTLESS SMART CARD INTERFACE RF Transmit Frequency ISO14443 A/B & B', ISO/IEC15693, Felica''' NFC reader mode, CEPAS Protocols EmVCo, Calypso Transmission Rate NXP: MIFARE! MIFARE Plus*, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight*, C, SMART-MX; HID: ICLASS**, PIV II, Secure Identity Object** (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 USB version PC/SC driver: Windows* 2000 (32bit/64bit), Windows* C (32bit/64bit), Windows* 7 (32bit/64bit), Windows* 7 (32bit/64bit), Windows* 7 (32bit/64bit), Windows* 7 (32bit/64bit), Unixv Openous Path (22bit/64bit), Linux Ubuntu III.04 (Sabit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) Vo 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector ARM Controller, AT9ISAM7X512 Firmware Upgrade Gold plated contacts for direct embedding on Res23/JUART Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard internet browser Embedded Device Manager Industry Approvals EMVCo V20.EMV2000, Microsoft* WHOL, USB 20 (USB II compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM		HOST INTERFACE	
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Protocols		CONTACT SMART CARD INTERFACE	
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Power to Smart Card Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACTLESS SMART CARD INTERFACE RF Transmit Frequency ISO14443 A/B & B', ISO/IEC15693, FeliCa™¹, NFC reader mode, CEPAS Protocols Protocols EMVCo, Calypso Transmission Rate Up to 848 Kb/s (depending on IC & OS) NXP: MIFARE*, MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight* C, SMART-MX; HID: iCLASS*º; PIV II, Secure Identity Object** (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 S/W Driver S/W Driver S/W Driver USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* 1 (32bit/64bit), Unioux Deploads (32bit/64bit), Linux Deposits II.4 (32bit/64bit), Linux	Interface	Up to 4 External	2 x Integrated ID000 Sockets
Smart Card Detection Movement detection with auto power-off / Automatic detection of smart card type / Short circuit and thermal protection CONTACTLESS SMART CARD INTERFACE I3.56 MHz Smart Card Technologies ISO14443 A/B & B', ISO/IEC15693, Felica ^{IIII} , NFC reader mode, CEPAS Protocols EMVCo, Calypso Transmission Rate Up to 848 Kb/s (depending on IC & OS) NXP: MIFARE*, MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight* C, SMART-MX; HID: ICLASS**; PIV II, Secure Identity Object** (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 SENERAL FEATURES USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows* 7 (32bit/64bit), Linux DeposlusE 1.14 (32bit/64bit), Linux Debian 6.0 (32bit/64bit), Linux Pedora IS (32bit/64bit), Minux OpenSUSE 1.14 (32bit/64bit), Linux Debian 6.0 (32bit/64bit), Linux Pedora IS (32bit/64bit), Minux OpenSUSE 1.14 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Linux Pedora IS (32bit/64bit), Minux OpenSUSE 1.14 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Linux DeposlusE 1.14 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Linux DeposlusE 1.14 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector ARM Controller, AT9ISAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser Embedded Device Manager Industry Approvals EMVCO V2.0*, EMV2000, Microsoft* WHQL, USB 2.0 (USB 11 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Supported Card Types	5 V, 3 V and 1.8 V Smart Cards, ISO 7816 Class A, B and C	
### Canal Detection CONTACTLESS SMART CARD INTERFACE	Power to Smart Card	Up to 60 mA	
Smart Card Technologies ISO14443 A/B & B', ISO/IEC15693, Felica"* , NFC reader mode, CEPAS	Smart Card Detection		
Smart Card Technologies ISO14443 A/B & B', ISO/IEC15693, FeliCa™ 1, NFC reader mode, CEPAS EMVCo, Calypso Transmission Rate Up to 848 Kb/s (depending on IC & OS) NXP: MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EV1, MIFARE Ultralight*, MIFARE Ultralight* C, SMART-MX; HID: ICLASS™, PIV II, Secure Identity Object™ (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 GENERAL FEATURES USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Detain 6.0 (32bit/64bit), Mindows CS (4.2 / 5.0 / 6.0), Linux Ubuntu 11.04 (32bit/64bit), Are OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT9ISAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB USB mini type B RS232/JUART I/O Connector Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0*, EMV2000, Microsoft* WHQL, USB 2.0 (USB 11 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM		CONTACTLESS SMART CARD INTERFACE	
Protocols Transmission Rate Up to 848 kb/s (depending on IC & OS) NXP: MIFARE*, MIFARE* Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EVI, MIFARE Ultralight*, MIFARE Ultralight* C, SMART-MX; HID: iCLASS*2; PIV II, Secure Identity Object** (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 SW Driver S/W Driver S/W Driver S/W Driver S/W Driver Antenna Support USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* (32bit/64bit), Windows* CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Pedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT9ISAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB USB mini type B RS232/UART I/O Connector Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0°, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	RF Transmit Frequency	13.56 MHz	
Transmission Rate Up to 848 Kb/s (depending on IC & OS) NXP: MIFARE*, MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EV1, MIFARE Ultralight*, MIFARE Ultralight*, MIFARE Ultralight*, MIFARE Ultralight*, MIFARE Ultralight*, C, SMART-MX; HID: ICLASS*; PIV II, Secure Identity Object** (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 S/W Driver S/W Driver USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows 7 (32bit / 64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit / 64bit), Linux Fedora 15 (32bit / 64bit), Linux OpenSUSE 11.4 (32bit / 64bit), Linux Ubuntu 11.04 (32bit / 64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT91SAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser Industry Approvals EMVCo V2.03, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Smart Card Technologies	ISO14443 A/B & B', ISO/IEC15693, FeliCa™¹, NFC reader mode, CEPAS	
Supported Credentials & ICs NXP: MIFARE Plus*, MIFARE DESFire* 0.6, MIFARE DESFire* EV1, MIFARE Ultralight*, MIFARE Ultralight* C, SMART-MX; HID: iCLASS*²; PIV II, Secure Identity Object™ (SIO) support on request Antenna Support External antenna x 2 Integrated antenna x 1 SEMERAL FEATURES USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Pedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT9ISAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB USB mini type B RS232/UART I/O Connector Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser Embedded Device Manager EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Protocols	EMVCo, Calypso	
Antenna Support External antenna x 2 Integrated antenna x 1 GENERAL FEATURES USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Fedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT9ISAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 11 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Transmission Rate	Up to 848 Kb/s (depending on IC & OS)	
S/W Driver S/W Driver USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Pedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector Microprocessor ARM Controller, AT91SAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser Industry Approvals EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Supported Credentials & ICs		
S/W Driver USB version PC/SC driver: Windows* 2000 (32bit), 2003 Server, 2008 Server, Windows* XP (32 / 64bit), Windows* Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Fedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O 4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector ARM Controller, AT91SAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Antenna Support	External antenna x 2	Integrated antenna x 1
S/W Driver Windows* Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Fedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04 (32bit/64bit), Mac OSX 10.5, 10.6, 10.7 (On Intel architecture) I/O		GENERAL FEATURES	
Microprocessor ARM Controller, AT91SAM7X512 Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB USB mini type B RS232/UART I/O Connector Embedded Device Manager Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser Industry Approvals EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	S/W Driver	Windows® Vista (32bit / 64bit), Windows 7 (32bit/64bit), Windows CE (4.2 / 5.0 / 6.0), Linux Debian 6.0 (32bit/64bit), Linux Fedora 15 (32bit/64bit), Linux OpenSUSE 11.4 (32bit/64bit), Linux Ubuntu 11.04	
Firmware Upgrade Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	1/0	4 x LED's - TTL (EMV or custom control), 1 x Buzzer - Open Collector	
Connectors Gold plated contacts for direct embedding on application PCB Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Microprocessor	ARM Controller, AT91SAM7X512	
Connectors Gold plated contacts for direct embedding on application PCB RS232/UART I/O Connector Integrated Web server on embedded readers enabling local and remote configuration, diagnostics & firmware updates through a standard Internet browser EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Firmware Upgrade	Local or remote upgrade of firmware providing firmware upgrade and feature enhancement capability	
Industry Approvals EMVCo V2.0³, EMV2000, Microsoft* WHQL, USB 2.0 (USB 1.1 compatible), ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Connectors		RS232/UART
ISO 7816 Part 3, CCID1 (contact interface only), USB CDC EEM	Embedded Device Manager		
Global Certification CE, FCC 47 Part 15 modular approval, RoHS, WEEE	Industry Approvals		
	Global Certification	CE, FCC 47 Part 15 modular approval, RoHS, WEEE	

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³ Penica IDM only
² Includes iCLASS* Elite and iCLASS High Security Support
³ Reader Board is EMVCo Level 1 certified to EMVCo version 2.x standard, Reader Core is EMVCo Level 1 compliant with EMVCo version 2.x standard