



cVEND -- Contactless Payment

cVEND plug

OEM Terminal for Contactless Payment & Ticketing



The image shows a black, square-shaped cVEND plug terminal with a circular contactless payment symbol on its front. Next to it is a blue credit card with a world map background. The card displays the number 4012 7496 2390 5185, the name CARDHOLDER NAME, and the expiration date 00/00. The terminal and card are set against a dark blue background.



American Express
VISA
MasterCard
Discover

- Designed for contactless open loop credit cards & closed loop public transport tickets
- Flush integration into validators, on board computers and other devices
- Small footprint
- Flexible secure Linux platform to develop own applications
- EMVCo and PCI approved

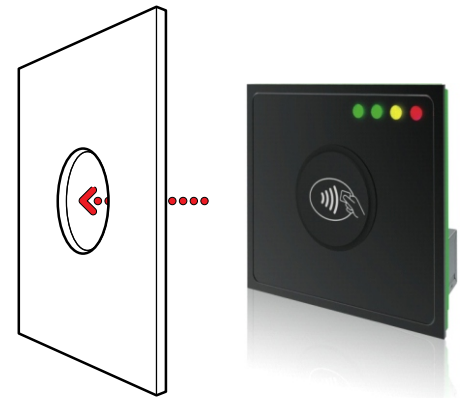


cVEND plug is a member of the cVEND terminal family and brings contactless card reading, financial transaction processing and secure communications technologies together in a single, flexible product platform.

It fulfills the latest functional and security related payment card industry standards and supports contactless MasterCard, VISA, American Express and Discover credit cards as well as closed loop application like mifare, ITSO, VDV-KA, calypso and cipurse.

It's innovative security concept supports symmetric and asymmetric encryption, key-derivation and remote key loading mechanisms and makes cVEND capable for P2PE solutions and PSP or regional proprietary security solutions like FirstData TransArmor, EP2 and other common payment protocols.

cVEND plug is designed for flush and almost invisible integration into non conducting housings for public transport applications like validators, ticket printers or on board computers and can be used for various other cashless devices, too.



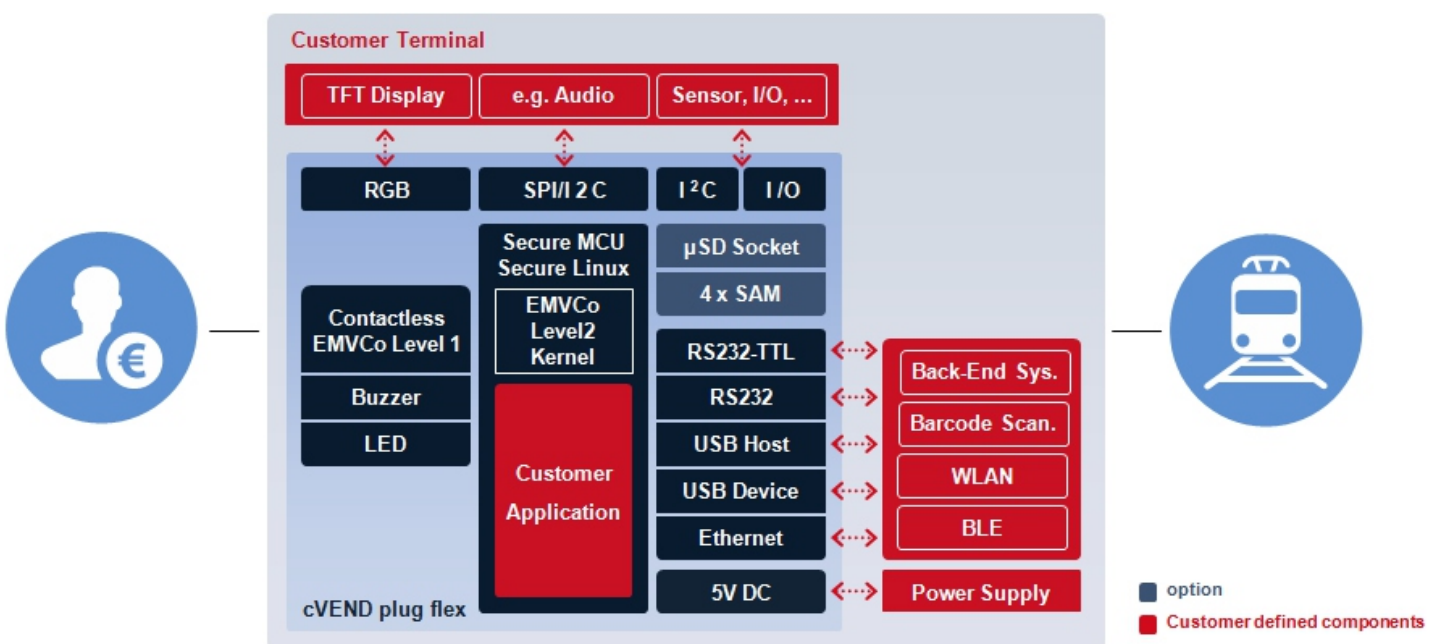
cVEND SDK

The cVEND terminal family is a flexible secure platform to develop own payment and closed loop software solutions. Due to the variety of interfaces and the open trusted SDK, cVEND has the potential to become the core element of your terminal solution.

The SDK gives full access to all hardware features and provides easy and secure application development. With the PCI approved security mechanisms and the EMVCo contactless Level 2 kernel, fast payment transactions can be realized.

Direct connection of color or monochrome displays, touch screens, external scanners or other peripheral components is possible.

Functional range of cVEND



Technical Data cVEND plug

Dimensions (W x H x D)	79 mm x 70 mm x 37 mm
Dimensions visible	Ø 28.5 mm
Housing	non, plastics front element with back-lit contactless symbol
Protection Class (Front Side)	IP 65
Impact Protection Class	IK 10 (installed in equivalent robust housing)
Vibration / Shock Proved	IEC 60068-2-6 / IEC 60068-2-27 class 5M3
Temperature Range	-30 °C up to +70 °C ambient temperature -30 °C up to +80 °C storage
Humidity	5% to 95% (non condensing)
Supply Voltage	5 V DC
Power Consumption (operation)	typ. < 1 A, peripherals excluded
Standby Mode	< 35 mA, full operation after wake-up ≤ 1 sec.
Contactless Interface	ISO/IEC 14443-A/-B, 13.65 MHz, in NFC reader/writer mode, JIS X 6319-4 (Sony Felica) Hardware enabled for NFC IP1 (P2P), NFC card emulation 106 kBit/s to 847 kBit/s supported
Supported Transponders	ISO/IEC 14443-4 compliant smart cards, NFC devices in card emulation mode (Tag Type 1, 2, 3, 4), mifare classic, mifare ultralight, ultralight C, mifare DESFire family
Peripheral Interface	Ethernet, RS232 (V.24), RS232-LVTTL, USB 2.0 Host, USB 2.0 Device, SPI, I ² C, 24-Bit RGB-bus interface for external TFT displays
User Interface	6 LEDs (4 green, 1 yellow, 1 red); illuminated contactless payment logo; multiple frequency Buzzer,
CPU and Security	Secure ARM 9 CPU (384 MHz) Tamper protected and side channel attack resistant, true random number generator, cryptographic hardware acceleration supports SHA, DES, AES RAM MByte 128 (optional 256 MByte) FLASH MByte 256 (optional (512 MByte) Real time clock - battery backed



Compliance

Payment Certifications	
- PCI	PCI PTS 4.x, SRED incl. Open protocol
- EMVCo Level 1	EMVCo Contactless Level 1
- EMVCo Level 2	American Express Expresspay, Discover D-PAS, MasterCard contactless, VISA Paywave (MSD&qVSDC)
Radio Approval	- Europe: EN 300 330 - USA: FCC 47 CFR Part 15 - Canada: IC RSS-Gen, RSS-210
EMC	EN 301 489
Safety and Health	EN 60950, EN 50364
Hazardous Substances	RoHS - 2011/65/EC

cVEND plug SAM Extension Board (optional)

Piggyback module for cVEND plug	
Dimensions (W x H x D)	74 mm x 43 mm x 9 mm
Removal memory	µSD socket (SDIO/SD, V 2.0)
SAM Interface (ISO7816)	4 x SAM socket for ID000 format (SIM-Card)

