

## EmvCard

Type II/III unattended payment terminal DLL programming interface

### 1. General

The EmvCard module provides embedded payment card handling functionality, including on-line card verification and file transfer to all Finnish banks. At the moment EmvCard supports Dione Secura and Ingenico 9500 series unattended terminals.

EmvCard communicates with other applications through an ActiveX module **EmvSecura.Dll**. The module has one class named "Task" and it can be linked to all applications that support ActiveX technology, for example those encoded with Visual Basic, C++, Delphi, FoxPro, PowerBuilder or Access.

### 2. Input properties to the module

#### setAmount as integer (mandatory)

- The amount being debited or credited
- Given without decimal separator (for example 1000 = €10,00)

#### setLanguage as integer (optional)

- Pre-selection of the user interface language
- Allowed values:
  - 1 = Finnish
  - 2 = Swedish
  - 3 = English

#### setArchive as string (mandatory for Cancel and Final Amount transactions)

- Defines the archive identifier
- There may be several pre-verified transactions in process simultaneously, and the identifier distinguishes them

#### setReceipt as boolean (optional)

- If True then the calling application is responsible for printing the customer receipt (see property *getReceipt*)
- If False then EmvCard prints the customer receipt by default

#### setDebug as Boolean (optional)

- If True, the process is recorded in a detailed log for testing

#### setBacklight as integer (optional)

- Sets the brightness of the screen on a scale of 1 to 10

#### setDisplay as string

- Lines to be displayed on PinPad
- Formatted markup strings, see programming example below

setPath as string

- Optional, default is current path
- Allowed value is the local path containing the EmvCard installation to which the task is given

3. Return properties from the module

getArchive as string

- Retrieves the archive identifier for the current transaction

getReceipt

- Retrieves the receipt for printing by the calling application
- See *setReceipt*

getData(x) as Integer

- Retrieves detailed payment data by fields
- The numbering of the fields and their information content follows the standard description of EMV compliant payment terminals as presented by Finnish Bankers Association

getDebug as String

- Retrieves the name of the file containing log information
- If *setDebug = False* returns an empty string

4. Methods given to the module

doPay(x) as boolean

- Returns **true** if the card was accepted, **false** in other cases
- If the card is accepted the module provides detailed information, see **getData**
- Required argument **x** contains one of the following:
  - 1 = Purchase (type II terminals only)
  - 2 = Withdraw (type II terminals only)
  - 3 = Cancel (type II and III terminals)
  - 4 = Pre-verification (type III terminals only)
  - 5 = Final amount (type III terminals only)

doSelect (Title As String, List As String, Timeout As Long) As Integer

- To make a selection with PinPad from a given list of choices

Title	<p>This will be displayed to the user before the MenScreen. It is a Markup Formatted String. If this string is not empty it will be displayed and the user will have to press a key. If an empty string is passed there is nothing displayed and the user does not have to press a key. eg</p> <pre>&lt;p clearscreen j=c row=1&gt;Please&lt;/p&gt;&lt;p j=c</pre>
-------	--

	<p>row=2&gt;Select Option&lt;/p&gt;&lt;p j=c row=4&gt;Press Any Key&lt;/p&gt;</p>
List	<p>Comma (,) delimited string holding the options for the menu. The Dione device allows a Max of 8 items per menu. 4 Items can be displayed on screen at a time. If there are more than 4 Items the user can press the ENT button to scroll between screens. Eg.</p> <p>"One,Two,Three,Four,Five,Six,Seven,Eight"</p> <p>would be displayed as</p> <p>1)One 2)Two 3)Three 4)Four</p> <p>1)Five 2)Six 3)Seven 4)Eight</p>
Timeout	How long to wait before the Function Times out and control is returned.
Return value	Index of the option selected (1-8) Return of 0 signifies a Timeout

doAmount (Title As String, Row1ID As Integer, Row2ID As Integer, Row3ID As Integer, Numbers As Integer, Decimals As Integer, Default As String, Timeout As Long) As String

- To type amount or other numeric values with PinPad

Title	<p>This will be displayed to the user before the GetAmount Screen. It is a Markup Formatted String. If this string is not empty it will be displayed and the user will have to press a key. If an empty string is passed there is nothing displayed and the user does not have to press a key. eg</p> <p>&lt;p clearscreen j=c row=1&gt;Please&lt;/p&gt;&lt;p j=c row=2&gt;Enter Amount&lt;/p&gt;&lt;p j=c row=4&gt;Press Any Key&lt;/p&gt;</p>
Row1ID	Index of Language file to Display on Row 1
Row2ID	Index of Language file to Display on

	Row 2
Row3ID	Index of Language file to Display on Row 3
Numbers	The Number of digits to be allowed to be entered before the Decimal point (Left hand Side). If Decimals is not 0 then Numbers + Decimals cannot exceed 15. If Decimals is 0 then Numbers cannot exceed 19. The minimum value for Numbers is 1
Decimals	The Number of digits to be allowed to be entered after the Decimal point (Right hand Side).
Default	<p>Initial number to display on PINPad which user can append to or Edit. Default should not have any decimal point as the values used in Numbers and Decimals will apply, Decimals taking precedence. Eg...</p> <p>Numbers = 4 Decimals = 2 Default = "12345"</p> <p>The number 123.45 will be displayed as the initial value.</p> <p>If you do not want an initial Number pass an empty string</p>
Timeout	How long to wait before the Function Times out and control is returned.
Return value	String holding value entered by user. On failure or timeout 0 will be returned.

- Language file to be used for display will be provided by Dione. The default language file index is as follows:

- 0 =
- 1 = 7816 - EMV Level 2
- 2 = Welcome to the Store
- 3 = Processing Transaction
- 4 = Please Wait...
- 5 = Authorising
- 6 = REQUEST REJECTED
- 7 = ICC Client Ready
- 8 = ICC Client Disabled
- 9 = Insert Card
- 10 = Remove Card
- 11 = Processing
- 12 = Processing Complete
- 13 = Enter Card PAN
- 14 = Enter Card Expiry

15 = Enter Card CVV2  
16 = Enter Gratuity (tip)  
17 = Enter Cash-back Amount  
18 = Please enter your  
19 = Phone Number  
20 = (6 to 8 digits)  
21 = Bank ID  
22 = (6 digits)  
23 = Account Number  
24 = (8 to 10 digits)  
25 = loyalty number  
26 = card's Expiration Date  
27 = as MM.YY  
28 = Enter Sale Amount  
29 = Please Enter Vehicle  
30 = Please Enter Coupon  
31 = Mileage  
32 = Registration  
33 = Identifier  
34 = Enter Alias Name  
35 = Please Wait...  
36 = Searching  
37 = Pairing  
38 = Please Enter  
39 = BlueTooth Pass Code  
40 = Enter Country Code  
41 = Enter Phone Number  
42 = Enter Transaction No  
43 = \* Invalid Trans No \*  
44 = Re-Enter or CNL  
45 = Please Enter Gratuity  
46 = \* Gratuity Too High \*  
47 = Please Re-Enter  
48 = Gratuity?  
49 = \$Revisiton: 1.13 \$

doStatus As Long

- Card state detection
- Enumerated return values
  - 0 = No card
  - 1 = Card present in front gate
  - 2 = Card present in rear gate
  - 4 = Card seated
  - 8 = Card transporting
  - 16 = Icc powered
  - 32 = Icc busy
  - 64 = Card latched
  - 128 = Magnetic stripe read
  - 256 = Error
  - 512 = PinPad not connected

## 5. Events

### gotStripe (Stripe As String)

- Event will be fired in the following cases
  - If no chip detected and magnetic stripe data is available in doPay method
  - If magnetic stripe data is available in doStatus method
- Non EMV card can be approved by the calling application by setting Stripe = "True"

## 6. Programming example (Visual Basic)

```
EmvCardSecural.setBacklight = 10  
EmvCardSecural.setAmount = 1000
```

```
If EmvCardSecural.doPay(1) = True Then  
    MsgBox "approved with archive " + EmvCardSecural.getArchive  
Else  
    MsgBox "declined"  
End if
```

```
EmvCardSecural.setDisplay = "<c screen><p row=1 justify=center>  
Tervetuloa</p><p row=3 justify=center>Välkommen</p><p row=4  
justify=center>Welcome</p>"
```

```
EmvCardSecural.setBacklight = 0
```