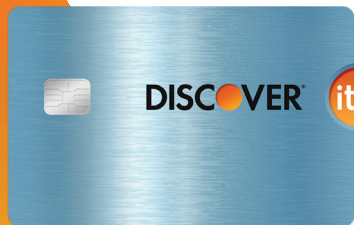


Best Practices for Processing Automated Fuel Dispenser Chip Transactions



In the United States, as the petroleum industry continues to enable chip technology, Discover® Global Network is committed to providing best practices for successfully integrating chip payments into your current payment processing environment at Automated Fuel Dispensers (AFDs).

The purpose of this document is to highlight specific insights and best practices related to AFD certification and implementation, terminal configurations, authorization processing and additional resources that are available.

This document is intended for petroleum merchants, acquirers and terminal providers who are planning deployment of chip terminals at AFDs and provides best practices and guidance only and is not intended as a legally binding document.

Certification and Implementation

D-Payment Application Specification (D-PAS) provides the Discover technical requirements for chip cards, chip card terminals and chip card transactions based on EMV specifications. Discover offers program documents such as Implementation Guides and Technical Addenda to aid in understanding the necessary requirements for enabling all of the EMV products supported by Discover Global Network.

Overall, AFD EMV certification follows a similar process as indoor or standalone terminals.

- ✓ **Host certification** includes authorization and settlement (clearing) file certification when applicable.
- Merchants or acquirers connecting directly to Discover are assigned the standard EMV certification test cases to assess their ability to support contact and contactless chip card payments. A few additional test cases are assigned for AFD support, along with the standard EMV host certification.



Note: Merchants or acquirers that use a processor should contact their processor to obtain guidance on the requirements to support AFD chip card transactions.

- ✔ **Terminal Certifications** (also known as terminal end-to-end or level 3 certification) includes the standard EMV test cases, as well as specific AFD pre-authorization test cases. In addition, an optional AFD pre-authorization test case is strongly suggested.



As part of D-PAS enablement, contactless EMV certification at the AFD is worth consideration. Welcoming contactless payments allows merchants to support contactless chip cards and NFC-enabled mobile devices. Supporting contactless EMV offers convenience to consumers and benefits merchants by reducing transaction times. Consumers may prefer merchants offering contactless payments over their competitors not offering this option.

Application Identifiers

Discover Global Network advises enablement of the following Application Identifiers (AIDs):

Specification Names	AIDs	Description	Territories
D-PAS	A0000001523010	D-PAS contact and contactless AID used by Discover Card, Diners Club® and network-to-network partners (BC card, DinaCard, Elo, Interswitch, etc.)	All
D-PAS	A0000001524010	Discover U.S. common debit AID	U.S.*
J/Smart	A0000000651010	JCB AID	U.S.
UICS	A000000333010102	UnionPay credit cards AID	U.S., Mexico, Bahamas
UICS	A000000303010103	UnionPay quasi credit cards AID	U.S., Mexico, Bahamas
UICS	A000000333010101	UnionPay debit cards AID	U.S., Mexico, Bahamas
UICS	A000000333010108	U.S. UnionPay common debit AID	U.S.

* The U.S. is defined within the *Merchant or Acquirer Operating Regulations*.

→ **Note:** The D-PAS Certification Manual offering general host and end-to-end certification information is available for acquirers (merchants) that have a direct processing relationship with Discover®. Please contact your Discover Global Network Account Executive or Processor for further certification details.

→ **Note:** Discover Global Network operating regulations state that if merchants enable contactless payments for another card brand, they must also support contactless payments for Discover Global Network.



Discover® Global Network AID Recommendation

Specific enablement considerations include:

- ✔ **Debit:** Support of the Discover U.S. Common Debit AID allows merchants to maintain routing choices for debit transactions.

For additional insights, refer to the U.S. Payment Forum white paper *U.S. Debit EMV Technical Proposal*.

- ✔ **IIN ranges:** Support of Discover, Diners Club®, JCB and UnionPay requires the proper enablement of all Discover Global Network IIN Ranges.

Cardholder Verification Methods

The following cardholder verification methods (CVMs) are available for support at AFDs:

- ✔
Online PIN
- ✔
Offline PIN
- ✔
CD CVM
- ✔
No CVM

Discover Global Network Recommendation

Discover Global Network suggests merchants support online PIN, offline PIN, CD CVM and “No CVM”. Since AFDs are considered unattended terminals, AFD operators must ensure support of the “No CVM” cardholder verification method.

Prior to EMV, the use of “Debit” and “Credit” prompts at terminal devices allowed the customer to select the CVM applicable for their transaction. If the customer selected Debit, the terminal would prompt for PIN. Conversely, when the customer selected credit, a signature was obtained. Now in an EMV environment, the use of “Debit” and “Credit” prompts is no longer necessary as the interactions between the card and terminal quickly determine the appropriate CVM.

→ **Note:** Discover Global Network requires merchants or acquirers who support PIN for other global payment brands to also support PIN for Discover Global Network. If a merchant or acquirer chooses to support PIN, then both online and offline PIN must be supported.

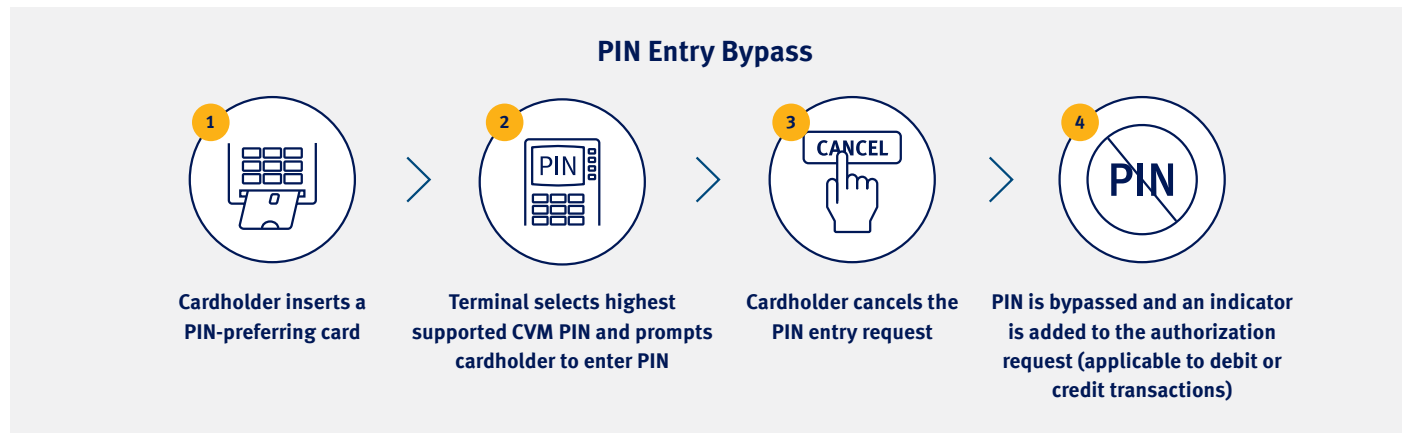
Merchants currently using the process of address verification (e.g., zip code) can continue to support it when implementing acceptance of chip card transactions.

PIN Support

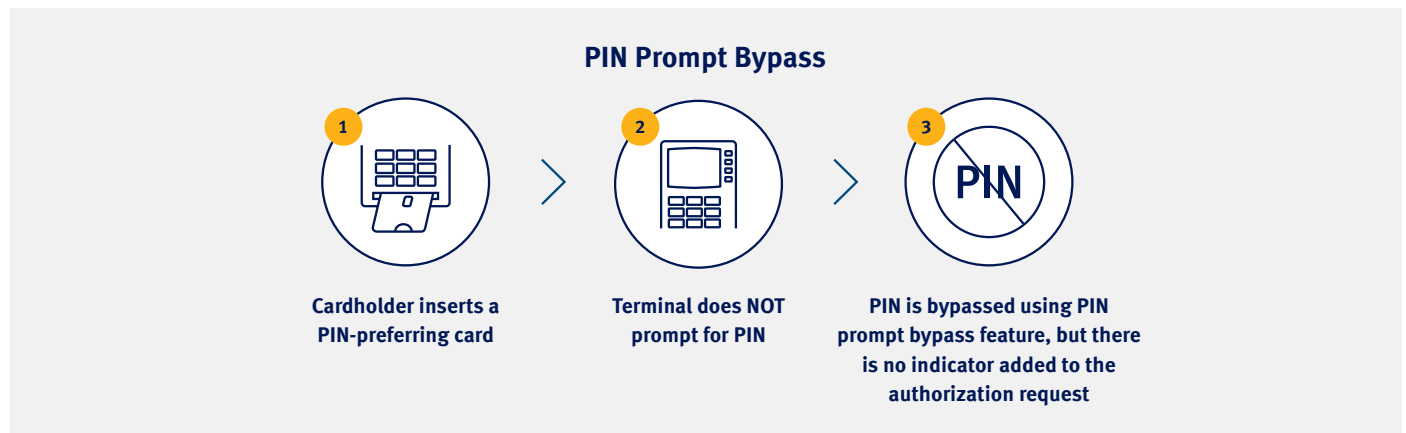
When supporting PIN, two scenarios should be considered:

1. **PIN Entry Bypass**—PIN entry bypass allows cardholders to circumvent a PIN request from a terminal device and complete the transaction using another CVM. The decision to approve or decline a chip transaction is based on the issuer’s internal risk parameters and the terminal indicators they receive in the authorization message.

When PIN entry bypass is used, the capability of the terminal is shown as “PIN”, which will be indicated in the authorization request.



2. **PIN Prompt Bypass**—Merchants can opt to set up their terminal devices to avoid PIN entry for transaction where a PIN would otherwise be requested.



Discover® Global Network Recommendation

Merchants should carefully evaluate the use of PIN bypass. PIN entry bypass is recommended because it allows an issuer to:

- Receive applicable EMV-related authorization data; and
- Understand that the merchant had the capability to collect the PIN but it was bypassed by the cardholder

Conversely, PIN prompt bypass is not recommended, because the applicable EMV-related authorization data cannot indicate to the issuer whether or not the merchant’s terminal supported PIN.

Authorizing Processing

Full-Service Authorization Processing

Merchants with full-service stations should be aware of the difference when a station attendant pumps the gas and processes the transaction on behalf of the customer. Today, debit magnetic stripe transactions at full-service stations are typically processed as signature debit transactions because in most instances the customer is not able to enter their PIN. When the outdoor terminal at the station supports PIN and the card is PIN-preferring, PIN bypass can be used—resulting in an alternative CVM such as “No CVM.”

Unattended AFD Authorization Processing

When migrating to EMV, any merchant accepting magnetic stripe or chip card payments using Merchant Category Code (MCC) 5542 should use a pre-authorization process at AFDs. After the pre-authorization is complete, an authorization advice message must be sent for the actual amount of the card sale within 60 minutes of fuel delivery.

During the pre-authorization process, the terminal should retain the necessary data elements for use when the sale is completed with an advice message and clearing record. These elements include:



Chip card-related data



Account Number



Expiration Date

Because the Payment Card Industry Security Standards Council (PCI SSC) restricts retention of the full contents of Track 2 data, the terminal should be set to extract and retain only necessary chip data.

For merchants and acquirers with direct connectivity to the Discover® Global Network, it’s important that all submitted sales data files contain the final sale amount and chip card-related data.

In situations where an approved AFD pre-authorization transaction is cancelled for any reason, Discover Global Network requires merchants to submit a completion advice with a zero-dollar amount within 60 minutes of the pre-authorization. As an alternative, inside the store, a full reversal may be submitted within 24 hours.

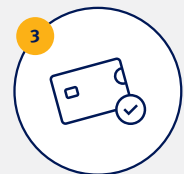
Chip Card Payments Using Merchant Category Code 5542



Terminal completes a \$1 pre-authorization—retains cryptogram, account number and expiration date



Cardholder begins fueling



Terminal sends an authorization advice message for full purchase amount within 60 minutes of fuel delivery



Discover® Global Network Recommendation

Merchants should use the pre-authorization process to ensure the card account has adequate funds, by completing a one-dollar pre-authorization. Use of other pre-authorizations amounts below \$100 such as \$50 or \$75 are also acceptable.

The authorization advice message (processed within 60 minutes) will ensure that the actual amount purchased at the AFD is properly applied to the card account.

Issuer Authorization Processing Awareness for Merchants and Acquirers

The “Amount Authorized” (Tag 9F02) value in Field 55 (chip card data) may differ from the “Transaction Amount” in Field 4 of an authorization advice completion message, but it must be the same within the pre-authorization request message. Merchants and acquirers should note that Discover Global Network requires its issuers to:



Use only the “Amount Authorized” (Tag 9F02) value for cryptogram validation



Use the “Transaction Amount” value in Field 4 of the authorization message for the financial authorization



Avoid using any mismatches between the “Amount Authorized” and “Transaction Amount” as the sole reason for declining an authorization request

After an initial pre-authorization is completed, merchants and acquirers should use the cryptogram from the initial authorization—within the 0120 Advice Message and Clearing Record—for transactions submitted in the sales data file.

Terminal Configuration

Transactions at AFDs must be sent online for authorization. Terminal parameters should be set in the following ways to ensure transactions are always authorized online:



Configured to act as an online-only, unattended terminal



Use a \$0 floor limit



Use the following Terminal Action Codes (TACs):

TAC values for Offline Data Authentication Supported

Terminal Action Code – Denial = ‘0010000000’

Terminal Action Code – Online = ‘FCE09CF800’

Terminal Action Code – Default = ‘DC00002000’

TAC values for Offline Data Authentication Not Supported

Terminal Action Code – Denial = ‘0010000000’

Terminal Action Code – Online = ‘FFFFFFFFFF’

Terminal Action Code – Default = ‘FFFFFFFFFF’

Fallback Processing

When a chip card experiences a technical malfunction that prevents a transaction from being processed, the terminal device will typically “fallback” to capture card data from the magnetic stripe and complete the transaction. Fallback is allowed at AFD terminals. Support of fallback is not mandatory, but merchants should evaluate the support of it during the early stages of EMV migration and re-evaluate as the market matures. Fallback processing is recommended only when a chip malfunctions or cannot be read by a terminal. In this situation, the authorization request must include the fallback indicator.

Quick Chip Processing at AFDs

Discover® *Quick Chip* modifies the EMV transaction flow by completing certain transaction processes after a chip card is removed from a terminal. Discover *Quick Chip* reduces the time that a chip card is inserted in a terminal by allowing:



The transaction to start before the card transaction amount is final; and



The chip card to be removed from the terminal before receipt of the authorization response



Note: Using Discover *Quick Chip* always requires an online authorization and has reduced EMV functionality such as no issuer script processing. For more information on Discover *Quick Chip*, please consult the *Discover Quick Chip Implementation Guide*.



Discover® Global Network Recommendation

Discover *Quick Chip* can be supported at AFDs. But if the AFD currently supports a pre-authorization and advice process, Discover *Quick Chip* becomes unnecessary because the placeholder amount for transaction processing makes the processes similar.

Addressing Connectivity Issues

If connectivity issues arise, there are options for merchants to continue acceptance of payments. The table below summarizes the available options.

Connectivity Issues: What to Do When the Network Is Down

Scenario	Definition	Best Practices for Merchants / Acquirers / VARs
Deferred Authorization	Occurs when an online authorization request is submitted to the issuer for authorization after the card or contactless device has left the terminal.	Like magnetic stripe transactions, terminals may support deferred authorizations for EMV transactions. When submitting the authorization request, the merchant must include all mandatory EMV data.
Merchant-Forced Acceptance	Occurs when a merchant processes a transaction without obtaining an issuer authorization.	Like magnetic stripe transactions, the merchant may be ultimately responsible for losses incurred for any forced post transaction when a chargeback is initiated. The dispute process follows applicable chargeback rules.

For more information, please refer to the *U.S. Payments Forum Processing During Disruptions White Paper*.

Additional Resources

With free resources and in-store signage from Discover®, you can help get your employees and customers comfortable with chip card payments at the fuel pump.

Discover® Global Network Documents



Upgrade Planning and Free In-Store Resources

<https://www.discovernetwork.com/en-us/business-resources/chip-cards-emv/>



Please consult your Discover Global Network Account Executive to obtain the documents below:

- *Discover® Contact D-PAS: Acquirer Implementation Guide*
- *Discover Contactless D-PAS: Acquirer Implementation Guide*
- *Discover® EMV: Terminal Requirements for JCB Chip Cards Technical Addendum*
- *Discover EMV: Terminal Requirements for UnionPay Chip Cards Technical Addendum*



Discover Signage and Supplies

www.DiscoverSignage.com

Industry Documents



PIN Bypass White Paper

<http://www.emv-connection.com/pin-bypass-in-the-u-s-market/>



Implementing EMV in the U.S.: How the U.S. Common Debit AIDs Facilitate Debit Transaction Routing and Ensure Durbin Compliance White Paper

<http://www.emv-connection.com/implementing-emv-in-the-u-s-how-the-u-s-common-debit-aids-facilitate-debit-transaction-routing-and-ensure-durbin-compliance/>



U.S. Debit EMV Technical Proposal

<http://www.emv-connection.com/u-s-debit-emv-technical-proposal/>



Processing During Disruptions White Paper

<http://www.emv-connection.com/merchant-processing-during-communications-disruption/>



All EMV-related Documents

<http://www.emv-connection.com/>