

Pro-Star® AVW200 Card Reader Option

Installation and Operation Manual

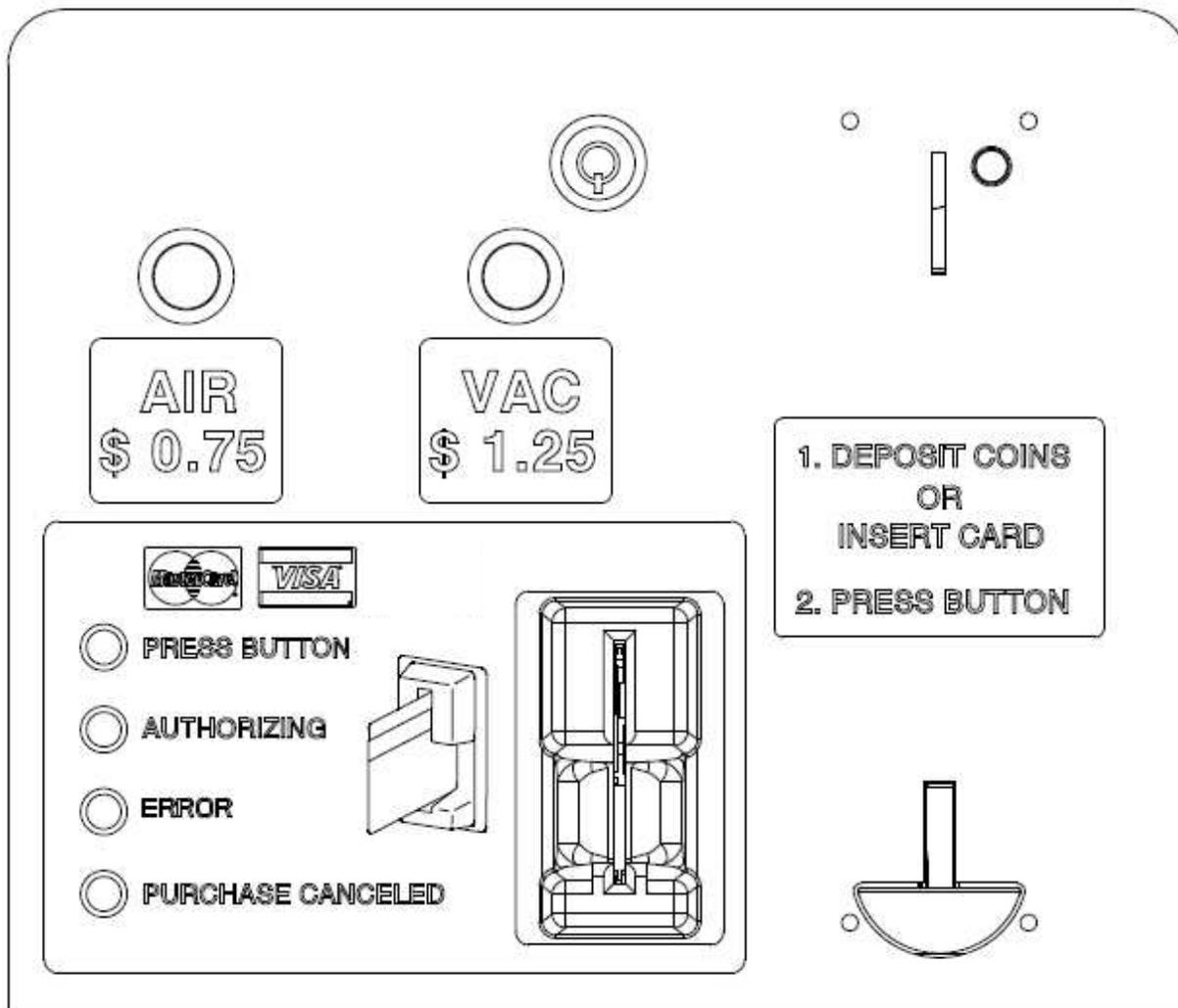


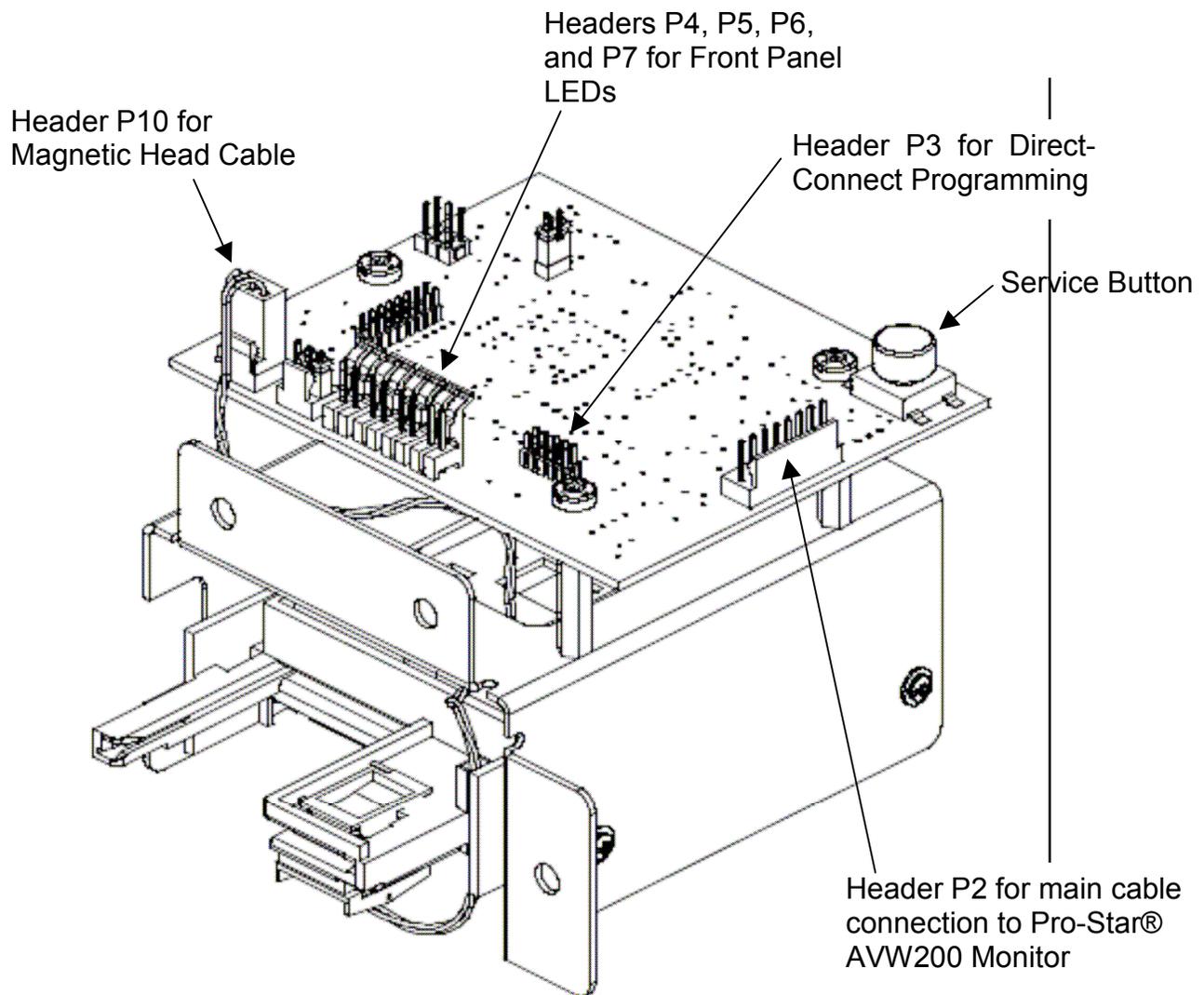


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1 Card Reader Option

The Pro-Star® AVW 200 Controller & Monitor has an optional card reader that can be used as an alternative payment method in addition to coin payment, and the card reader will accept Visa or MasterCard credit cards and debit cards. The card reader attaches to the Pro-Star® AVW200 Controller via a single cable. To keep the user interface simple, feedback for the card reader is provided via three or four LEDs.



2 IVS Configuration

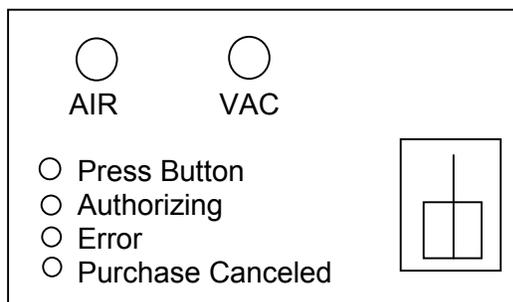
Both the Pro-Star® AVW200 Monitor and the card reader must be setup for operation in IVS, and this data entry must be completed before attempting to install a card reader. For the card reader, this includes the Card Reader Configuration that is entered in IVS by Protel at the request of a customer. When a card reader is installed, the Pro-Star® AVW200 Monitor must call Protel to get the card reader configuration data, or the card reader will not work.

IMPORTANT: Card Reader and Monitor must be setup in IVS before field installation!

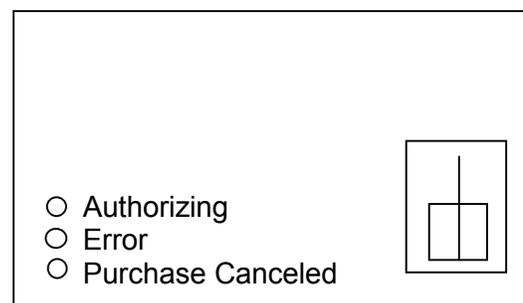
3 Single vs. Dual Machines

Examples of single function machines are air-only machines and vacuum-only machines. An air and water machine is considered a single function machine if a single relay turns on both the air and water at the same time. Single function machines do not require selection buttons because there is only one service provided by the machine. Thus, there is no “Press Button” light on single function machines. Dual function machines provide two independent services, and an example of a dual function machine is an air/vacuum machine. Dual function machines require selection buttons for the card reader along with the associated “Press Button” light.

Dual Function Machine



Single Function Machine



4 Description of Operation:

4.1 Card Reader for Single Function Machines

To make a card purchase at a single function machine, such as an air-only machine or a vacuum-only machine, a user fully inserts a card in the card slot and quickly removes the card. The Authorizing LED will flash while the card is being checked, the Authorizing LED will then turn off, and the machine will turn on.



4.2 Card Reader for Dual Function Machines

To make a card purchase at a dual function machine, such as an air and vacuum machine, a user fully inserts a credit card in the card slot and quickly removes the card. The Press Button LED will flash which prompts the user to press a selection button. The user then presses a select button such as AIR or VAC. The Press Button LED will turn off, the Authorizing LED will flash while the card is being checked, the Authorizing LED will turn off, and the machine will turn on.

5 Buttons and LEDs:

5.1 Selection Switches (Dual Machines Only):

Two stainless steel push buttons are used on dual function machines for a user to select a service such as Air or Vacuum. Selection buttons are not used on air-only machines or vacuum-only machines.

5.2 Red Service Button

There is a red Service Button on the card reader circuit board (not to be confused with the red Service Button on the Pro-Star® AVW200 Monitor). This button is not available to machine users, and only service personnel can gain access to the Service Button by using a key to open the machine or enclosure. The Service Button can be used to erase card reader memory, check the status of the card reader, instruct the card reader to settle all current card transactions, and reset the card reader. Refer to the steps in the "Initialization of Card Reader" section below for details on using the Service Button.

5.3 Green LEDs on Card Reader Circuit Board

There are four small LEDs along the edge of the card reader circuit board near the eight position header P2. The LEDs are labeled LED1, LED2, LED3, and LED4. These LEDs are associated with the red card reader Service Button.

5.3.1 LED1: Card Reader Status Request

When the red card reader Service Button is pressed, LED1 turns on. Release the Service Button while LED1 is on to request card reader status. See section 5.4.3.2 for details on card reader status.

5.3.2 LED2: Manual Settlement

Press and hold the red card reader Service Button. LED1 turns on. After 2 seconds, LED1 turns off, and LED2 turns on. Release the Service Button while LED2 is on to manually start settlement of credit card transactions. LED2 will stay on solid while the communication is established. When communication is established, LED2 will start blinking indicating communication is occurring. If LED2 stays on solid, never blinks, and then turns off, that indicates the communication failed. Note that during a successful card reader authorization or settlement, LED2 on the card reader circuit board and



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LED3 on the Pro-Star® AVW200 Monitor will both blink indicating communication is occurring.

5.3.3 LED3: Card Reader Test Mode

Press and hold the red card reader Service Button. LED1 turns on. After 2 seconds, LED1 turns off, and LED2 turns on. After 2 more seconds, LED1, LED2, and LED3 all turn on. Release the Service Button while LED1, LED2, and LED3 are all three on to put the card reader in test mode. The three LEDs will continue to blink indicating the card reader is in test mode. During test mode, credit/debit cards can be used to operate the machine, but the card will not be charged. To exit the card reader test mode, momentarily press the red card reader Service Button.

CAUTION: Do not rely solely on the card reader test mode when installing a card reader for the first time at a new location. Test mode does not verify that the card reader is configured in IVS and at the card processing bank (currently HPS).

5.3.4 LED4: Card Reader “Heartbeat” and Reset

During normal operation, LED4 blinks indicating the card reader is operational (“heartbeat”). When the card reader Service Button is in use, LED4 does not blink.

To reset the card reader, press and hold the red card reader Service Button. LED1 turns on. After 2 seconds, LED1 turns off, and LED2 turns on. After 2 more seconds, LED1, LED2, and LED3 all turn on. After 2 more seconds LED1, LED2, and LED3 turn off and LED4 turns on. Release the red card reader Service Button to cause a card reader reset. When card reader reset occurs, LED1, LED2, LED3, and LED4 on the card reader circuit board blink once in sequence. The red card reader front-panel LEDs also blink in sequence when reset occurs (Press Button, Authorize, Error, and Purchase Canceled).

Note that if you continue to hold down the red card reader Service Button, the card reader LEDs will cycle through all four modes, all LEDs will turn off, and nothing will happen.

5.4 Front Panel LEDs:

5.4.1 “Press Button” LED

This LED is only used on dual function machines such as Air/Vac machines, and it flashes to prompt the user to press a selection button (AIR or VAC). Normally, this LED starts flashing as soon as a user inserts and removes his credit or debit card. If an error condition exists, the Press Button LED will not come on, and instead the Error LED will flash (see below).



5.4.2 “Authorizing” LED

This LED flashes to let the user know his card is being checked. If a card reader is programmed in IVS for off-line operation, the Authorizing LED will flash for one or two seconds. If the card reader is programmed in IVS for on-line operation, the Authorizing LED will flash for 10 to 20 seconds. If a cellular connection is used, Authorization could take up to 45 seconds in rare circumstances.

5.4.3 “Error” LED

The Error LED is used to indicate various error conditions. When a card is inserted and removed, the number of Error LED flashes indicates what error occurred. Also, the red Service Button on the card reader can be pressed for less than one second to get the status of the card reader, and the status is indicated by a long flash (or series of flashes) of the Error LED.

5.4.3.1 Error Flashes Resulting From A Card Insert:

- Two flashes: Card read error. User should try again.
- Three flashes: Card was read, but it is not Visa or MasterCard.
- Four flashes: Card is expired.
- Five flashes: The card reader is busy doing a settlement. The user must wait until the communication is complete. This usually only occurs late at night.
- Six flashes: The card reader is out of service. This could be due to a card reader failure, a configuration error, or a transaction settlement problem. The error condition can be determined by a technician (see Trouble Shooting section).

5.4.3.2 Error Status Conditions Obtained Using Card Reader Service Button:

Note that more than one of the error conditions listed below can exist at the same time. A long flash is about one second, and a short flash is about 1/4 second. A long LED flash indicates the presence of an error condition.

Examples of Error flash sequences:

Only Error 1 = long

Only Error 6 = short, short, short, short, short, long

Only Error 14 = short, long.

Error 1 & Error 6 = long, short, short, short, short, long

Error 1 & Error 14 = long, short, long

Errors 1 & 6 & 14 = long, short, short, short, short, long, short, short, short, short, short, short, short, short, long

Error List

Error 1: The card reader is not configured, or the configuration data is not valid.



- Error 2: The card reader configuration data is not compatible with the firmware.
- Error 3: (should never occur)
- Error 4: (should never occur)
- Error 5: (should never occur)
- Error 6: The authorization system is not available. Multiple attempts have failed.
- Error 7: The card reader sees no communication from the Pro-Star® AVW200 Monitor.
- Error 8: An internal circuit failure has occurred.
- Error 9: The memory is full.
- Error 10: (should never occur)
- Error 11: The memory is almost full.
- Error 12: The reader does not have the current time and date.
- Error 13: Out of Service, Settlement Rejected or Duplicated.
- Error 14: A settlement of card transactions is pending.
- Error 15: (should never occur)
- Error 16: A firmware download is pending or in progress.

See Trouble Shooting section for more detail on resolving Error conditions.

5.4.4 “Purchase Canceled” LED

This LED is used to indicate to a user that his card will not be charged, and it only flashes when an error condition occurs. The number of flashes indicates the condition that caused the purchase to be canceled:

- One flash: Indicates a free-vend card purchase, and the card will not be charged.
- Two flashes: The user did not press a select button or the Pro-Star® AVW200 Monitor/Controller could not start the machine.
- Three flashes: An online authorization is required, but the card reader cannot connect to the card processor to get the authorization.
- Four flashes: The authorization was declined. The card was not approved (card is stolen, over credit limit, invalid, etc.).

6 Initialization of Card Reader

Step 1: Verify the AC power is on to the Pro-Star® AVW200 Monitor.

Step 2: Erase Memory on Card Reader

In order to insure the card reader receives new configuration data from IVS, the memory should be erased. Disconnect the 8 wire, main cable connection from header P2 on the card reader to remove power, press and hold the red Service Button on the card reader (not the one on the Monitor!), reconnect the cable to the card reader to power it up, continue holding the red Service Button until the green LEDs on the card reader circuit board turn on (about 10 - 12 seconds), and release the Service Button.



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CAUTION: Erasing the card reader memory will delete any card transactions stored in the reader (money!), so this step should never be done under normal operating conditions. See section “Change Out a Card Reader Or Remove From Service”.

Step 3: Check Status of Card Reader

Wait 10 - 15 seconds after Step 2 to allow the Pro-Star® AVW200 Monitor to send the time and date to the card reader. The TX LED on the Monitor flashes when the Monitor is ‘talking’ and the RX LED on the Monitor flashes when the card reader ‘answers’.

Momentarily press the red Service Button on the Card Reader (not the one on the Monitor) for less than 1 second, and the red front-panel Error LED will flash to indicate the status of the card reader. The Error LED should indicate one ‘long’ flash indicating the card reader has no configuration data.

Step 4: Initiate Communications Between Pro-Star® AVW200 and IVS

Press and hold the red Service Button on the Pro-Star® AVW200 Monitor (not on the card reader) until LED 3 on the Monitor turns on, and then release the button. This will cause the Monitor to call IVS and download the configuration data for the card reader. LED 3 on the Monitor will start blinking when communication with Protel servers starts, and LED 3 will turn off when the communication is complete. The card reader should receive configuration data during the communication.

Step 5: Verify the Card Reader is Correctly Configured

Momentarily press the red Service Button on the card reader (not on the Monitor), and verify the red front-panel Error LED gives two short flashes indicating the card reader is configured and ready for operation. If the Error LED gives one long flash, the card reader did not receive the configuration data it needs.

Step 6: Test Card Reader Operation

Insert and quickly remove a valid Visa or MasterCard credit or debit card to turn on the machine. If this is a dual function machine, verify the Press Button LED starts flashing. Press a selection button (AIR or VAC). The Authorizing LED will flash, and then the motor should turn on.

DO NOT USE THE CARD READER TEST MODE FOR THIS STEP. It is important to make a normal card transaction so the settlement can be verified.

Step 7: Settle The Card Transaction

The transaction can be settled after the machine has been running 15 seconds, and you don’t have to wait until the machine stops running. Press the red Service Button on the card reader (not on the Monitor), and green LED1 on the card reader circuit board will turn on. Continue to press the button. Two seconds later, LED1 will turn off and green LED2 on the card reader circuit board will turn on. Release the red Service Button on



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the card reader when green LED2 turns on. LED2 on the card reader circuit board and red LED 3 on the Monitor should both turn on indicating a call is in process to the card processor. If the card reader is set for on-line operation, a single call will occur to settle. If the card reader is set for off-line operation, two calls will occur (one for authorization and one for settlement). When settlement is complete, initiate a communication from the Pro-Star® AVW200 Monitor to call the Protel IVS server to report the settlement results. To call the Protel IVS server, press and hold the red Service Button on the Monitor (not on the card reader) until LED 3 on the Monitor turns on, and then release the button.

Step 8: Verify Settlement

Look at the Events Detail screen in IVS and verify a Credit Card Settlement event is recorded.

7 Change Out a Card Reader Or Remove From Service

If a card reader is ever taken out of service or if it is going to be replaced, the service personnel should always first attempt to settle any card transactions (see Initialization Step 7). This will insure you get paid for the transaction, and it insures the transaction does not get forgotten or deleted. It is also important for security of card data that your readers do not contain secure card data (credit card numbers) when they are not in use.

8 Protect Credit Card Transactions – It's Money!

Credit card transactions are like money for your company, and you must protect transactions accordingly. Your company only gets paid when the transactions are called in to the card processing company and settled.

It is important to keep communications working at your machines so card transactions are settled every day. If transactions are not settled within 48 hours, the settlement fees are higher. If too much time goes by and transactions are not settled, the transactions may become void.

CAUTION: Do not routinely erase the card reader flash memory as described in Initialization Step 2 because that erases all transactions in the card reader. Your company will not get paid for any card transactions that you erase.

9 Security of Credit Card Data

As a company that processes credit card data, you are responsible for maintaining security of the credit card data in your card readers. Serious fines can be levied against companies that do not maintain security.

Employees should be trained so they understand the procedures for card reader operation. In particular, they should understand the importance of following the instructions in the "Change Out A Card Reader or Remove From Service" section of this manual.



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Employees should be trained to look for anything that could be an attempt to steal credit card numbers from your equipment. They should never allow unauthorized personnel access to your credit card readers. They should never allow unauthorized modifications to the circuits on your card readers. They should never allow any unauthorized wires or wireless communications to be attached to your card readers. Employees should report anything that looks suspicious to their supervisor.

10 Trouble Shooting

10.1 Pro-Star® AVW200 Monitor to Card Reader Communications

When a card reader is connected to a Pro-Star® AVW200 Monitor, the Monitor communicates with the card reader along with other connected devices. The TX LED on the Pro-Star® AVW200 Monitor flashes when the Monitor is transmitting, and the RX LED on the Monitor flashes when the card reader is transmitting. Under normal conditions, the RX LED should flash every other time the TX LED flashes. If the TX LED does not flash, the Monitor is not attempting to communicate with external devices like the card reader, other remote Monitors, or a FreeBee. If the RX LED does not flash, the card reader is not responding. Note that the TX and RX LEDs on the Monitor will be off while a Monitor is communicating with Protel IVS servers and during call setup with a card processor.

10.2 Repeated Communication Attempts

If a Pro-Star® AVW200 Monitor communication to Protel IVS servers fails, the Pro-Star® AVW200 Monitor goes into "retry" mode, and repeated attempts will automatically be made to complete the communication. In a similar manner, when a communication with the card processing center for authorization or settlement fails, repeated attempts will automatically be made to complete the communication. The card reader is usually configured to retry the call every 5 minutes for 6 attempts, and then it will keep trying to call every three hours.

10.3 Card Reader Error Status Conditions

The status of the card reader can be checked by momentarily (less than one second) pressing the red Service Button on the card reader. Under normal conditions, the red Error LED on the front panel should give two short flashes indicating the card reader is set up correctly and ready for operation.

Other error conditions are noted by a series of flashes on the Error LED. See Section 5.5.3 "Error" LED, for a list of the error conditions and an explanation of the flash sequence. During error conditions 1, 2, 7, 8, 9, 12, 13, or 16, the card reader is out of service. Coin vends might still be functional, but card vends are not functional. During error conditions 6, 11, and 14, the card reader may or may not be functional. Error conditions 3, 4, 5, 10, and 15 are not used in AVW applications.



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10.3.1 Error 1: Card reader is not configured, or the configuration is not valid.

The card reader needs to get configuration information from Protel IVS servers. Insure the Pro-Star® AVW200 Monitor is communicating with the card reader, and insure the Pro-Star® AVW200 Monitor can communicate with Protel IVS servers.

10.3.2 Error 2: Card reader configuration is not compatible with the firmware.

This error condition should not occur. If the error condition exists, contact your company IVS expert, and they will likely need to contact Protel.

10.3.3 Error 3: (should never occur)

Not used on AVW card reader applications.

10.3.4 Error 4: (should never occur)

Not used on AVW card reader applications.

10.3.5 Error 5: (should never occur)

Not used on AVW card reader applications.

10.3.6 Error 6: Authorization system not available. Multiple attempts have failed.

If a card reader call to the card processor for an authorization fails, the card reader will automatically keep trying to call the card processor. After a certain number of failures (usually set to five), the "Authorization system not available" condition is set in the card reader, and it will be reported to IVS.

Note that an authorization call failure means the card reader did not get through to the card processor and get an answer back. It does not mean that the authorization request was denied because of a bad card.

If this error condition exists, check the communications modem (usually a GSM cellular modem) to insure it is working. See separate section on GSM cellular modem. Initiate a communication from the Pro-Star® AVW200 Monitor to Protel IVS servers to determine whether the modem will work for that call. If the modem is working for calls to IVS and the card reader is configured correctly, then the card processor is likely experiencing a problem. However, it is very unlikely for the card processor to be down.

10.3.7 Error 7: Card reader sees no communication from Pro-Star® AVW200 Monitor.

This can be confirmed by a lack of data indicated on the TX and RX LEDs on the Pro-Star® AVW200 Monitor. This error condition starts when no communication occurs for over fifteen minutes. If the TX LED on the Pro-Star® AVW200 Monitor is flashing, check the cable between the Monitor and the card reader.



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If the LED on the Pro-Star® AVW200 Monitor is not flashing, determine whether the Monitor is working normally. If not, reset the Monitor.

10.3.8 Error 8: Internal circuit failure has occurred.

Attempt a card vend to see if it will work and clear this problem. If the error condition does not clear, it indicates an internal circuit failure. Disconnect the main cable at header P2 of the card reader, wait 3 seconds, and then reconnect the card reader. This will cause the card reader to restart. Attempt another card vend. If the error condition does not clear, the card reader needs to be replaced.

10.3.9 Error 9: Memory is full.

If the card reader memory starts getting full, the “Memory almost full” error condition will occur, the card reader and Monitor will call Protel IVS servers, data will be reported, and the memory will be cleared. If communications fail, the memory will continue to fill up, and the “Memory Full” error condition will eventually occur. This error condition will only occur when a communications problem exists.

10.3.10 Error 10: (should never occur)

Not used on AVW card reader applications.

10.3.11 Error 11: Memory is almost full.

If the card reader memory starts getting full, the “Memory almost full” condition will occur, the card reader and Monitor will call Protel IVS servers and/or the card processor, data will be reported, and the memory will be cleared. If this “Memory almost full” error condition occurs, there is likely a problem that is preventing communications with Protel IVS servers.

10.3.12 Error 12: The reader does not have the current time and date.

The Pro-Star® AVW200 Monitor normally has the correct time and date, and as soon as a card reader is connected, the Monitor sends time and date to the card reader. If this error condition exists, the Monitor cannot communicate with the card reader to give it the time and date, or the Monitor does not have the time and date. If the Monitor does not have the time and date, the Monitor needs to call Protel IVS servers.

10.3.13 Error 13: Out of Service, Settlement Rejected or Duplicated.

Contact your company IVS expert, and have them contact Protel.

10.3.14 Error 14: A settlement of card transactions is pending.

Card readers are configured to automatically call the card processor and settle transactions every night. Settlements can also be requested manually at the card reader using the Service Button. If the settlement call does not complete, the card reader goes into “retry” mode and periodically attempts to call and settle. This error condition indicates the card reader is in “retry” mode and has a settlement(s) that did not



complete. Note that the card reader is not necessarily out of service when this error condition occurs.

10.3.15 Error 15: (should never occur)

Not used on AVW card reader applications.

10.3.16 Error 16: A firmware download is pending or in progress.

New firmware can be sent to the card reader from the Protel IVS servers, but the reader must first settle all existing card transactions. If this error condition exists, then the card reader needs to communicate with Protel IVS servers, but it also needs to communicate with the card processor if it has any transactions to settle.

10.4 Power Cycle

If a card reader ever appears to be in an unusual mode that cannot be corrected via the steps listed under “Card Reader Error Status Conditions” (Section 10.3), disconnect the 8 wire, main cable from header P2 on the card reader, wait 3 seconds, and reconnect the cable. This will cycle power to the card reader and cause the software to restart. Note that this will not delete any transactions from the card reader. The card reader can completely lose all power including the battery, and the encrypted transaction records will still be safely stored in flash memory.

11 GSM Cellular Modem

Card reader applications require a GSM cellular modem with encryption capability such as Protel’s ASY0000261 assembly. Customers that have non-encrypted GSM cellular modems such as ASY0000225 or HDM0142300 cannot use these modems in card reader applications.

The GSM cellular modem is used for communications to Protel IVS servers and for communications to the card processor to settle card transactions.

11.1 SIM Card

A SIM card must be installed in the GSM cellular modem, and the SIM must be activated. Before attempting to use a GSM cellular modem, always insure the SIM has been activated, and insure the SIM is properly installed in the modem.

11.2 Power LED – GSM Cellular Modem

The Power LED on the cellular modem is on when power is connected. If the power LED is not on, verify the power connection to the machine. Make sure the circuit breaker is not off. Verify the wiring to the power supply input and the wiring from the power supply output to the modem. If the GSM cellular modem has the battery backup option, make sure the modem battery is connected.



11.3 TX LED – GSM Cellular Modem

The TX LED indicates when data is sent from the Pro-Star® AVW200 Monitor to the GSM cellular modem.

11.4 RCV LED – GSM Cellular Modem

The RCV LED indicates when data is sent from the GSM cellular modem to the Pro-Star® AVW200 Monitor.

11.5 Status LED – GSM Cellular Modem

The Status LED is the key indicator for the current status of the cellular modem. When a modem is first connected, the modem goes through several states that are indicated by the Status LED.

State1: LED Off

Cellular modem is shutdown. The Pro-Star® AVW200 needs to trigger the unit to "wake up" before communication can begin.

State2: LED Steady On/Off Flash (50% duty cycle)

Cellular modem is active but not attached to GSM network.

State3: Long Pause With 1 Quick Flash

Cellular modem is active and attached to the GSM network.

State4: Long Pause With 2 Quick Flashes

Cellular modem is active, attached, and has an open Internet socket. The ASY0000261 encrypted cellular modem must be in this state before communications can occur. NOTE: This state presently does not apply to the ASY0000225 non-encrypted modem.

12 Normal First Communication Sequence:

1. Call to Protel IVS servers is initiated either by the Pro-Star® AVW200 automatically or by a service person manually via the Service Button on the Pro-Star® AVW200 Monitor.
2. LED3 on the Pro-Star® AVW200 Monitor is ON (steady).
3. Pro-Star® AVW200 Monitor will identify what type of modem is attached. During this identification process, the Pro-Star® AVW200 Monitor will activate the cellular modem placing the Status LED into [State2](#) (steady on/off flashing) and configure the modem for operation. The TX & RCV LEDs should flash in quick succession.



4. After approximately 5 - 15 seconds, the Status LED should change to [State3](#) (long pause with one quick flash). If this state is achieved, several key items are working properly:

- The communication/control lines between the Pro-Star® AVW200 Monitor and the cellular modem are working properly.
- The SIM card is installed and validated.
- The cellular modem has at least one power source.
- The cellular modem is registered on a local GSM tower.

5. After approximately 5 - 15 seconds, the Status LED should change from [State3](#) to [State4](#) indicating that the ASY0000261 cellular modem has an open Internet socket. Shortly after the modem changes to [State4](#), LED3 on the Pro-Star® AVW200 Monitor should begin to flash indicating communication is occurring with Protel IVS servers.

6. The TX LED and RCV LED on the modem should flash with approximately a 0.5 - 2s lapse between flashes during a communication. If LED3 on the Pro-Star® AVW200 Monitor continues to flash and there is no activity on the TX & RCV LEDs of the cellular modem, communications have most likely encountered an error and will have to retry. There may be up to a 90 second delay before the Pro-Star® AVW200 Monitor abandons the communications when an error occurs.

13 Glossary

Authorization – A card reader calls a card processor to determine whether a card is “good”. A card reader must obtain an authorization before a transaction can be settled and paid.

Card Processor – A company that receives card transaction data from card readers, and pays money to the owner of the card reader for those transactions. All Protel customers are initially using Heartland Payment Systems (HPS) as the card processor.

Configuration Data – Pro-Star® AVW200 Monitors and Card Readers are very flexible, and they can be programmed to operate in many different ways. This is called Configuration Data, and it is entered by IVS users.

IVS – Protel software that runs on servers (computers) located at Protel corporate offices. Pro-Star® AVW200 Monitors call into the Protel IVS servers (“call IVS”) to send data and receive configuration.

IVS Users – Protel customers that use IVS software to enter data and review reports. IVS users can logon to IVS on any computer that has access to the Internet.



LED – Light Emitting Diode. A small light that operates at a low voltage.

Pro-Star® AVW200 Monitor – The Controller, Timer, Monitor that is the “brains”, and it controls all of the electronic components in a machine. It is programmed (configured) with prices, accepts payments, and has relays that turn on the motors in a machine when a customer makes payment. The Monitor reports data and problem conditions to Protel IVS servers, and AVW machine operators use this data to run their business.

Settlement – The transfer of card transaction data from the card reader to the card processor. The result of settlement is the owner of the card reader gets paid for the transactions.

SIM Card – A small plastic card with gold contacts that contains an electronic circuit containing all of the customer specific data for a GSM cellular account. SIM stands for Subscriber Identity Module.

Transaction – A purchase made with a credit or debit card. It is electronic data that is encrypted and stored in the card reader. At the end of the day, the data is sent to the card processor (settled).

14 Revision History

<u>Issue</u>	<u>Date</u>	<u>By</u>	<u>Description of Change</u>
A	9/26/08	PRG	First Release.
B	8/24/10	PRG	Added section 5.3 and updated section 6 for operation per card reader firmware 1.01. Changed from 45 to 90 second delay in section 12, item 6.