

PCS300 Universal IP Reporting Module V2.1

P ▲ R ▲ D O X™



Reference and Installation Manual

Patents: One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, and RE39406 and other pending patents may apply. Canadian and international patents may also apply.

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Chapter 1: Introduction

The PCS300 Universal IP Reporting Module provides security control panels with wireless communication capabilities to report system events via IP, as well as GSM and/or GPRS (using the GPRS Plug-In Communicator Module). System events can be reported to up to two Paradox IPR512 GPRS/IP Monitoring Receivers.

Configuring and monitoring the status of the PCS300 is done using the PCS300 Web Interface page (via a web browser). From the PCS300 Web Interface page, the module's reporting sequence can be set. Systems that use multiple reporting methods can be programmed for either serial (sequential) or parallel (simultaneous) reporting. With serial reporting, each reporting method can be programmed to perform a specific number of attempts before switching to alternate backup reporting methods. When the system is set for parallel reporting, the module reports on all channels simultaneously.

The PCS300 can also be programmed to send SMS text notifications when an input is activated or deactivated and/or when a trouble occurs. The PCS300's firmware can be upgraded on-site (IP) or remotely through IP or GPRS (via the GPRS Module) using the In-Field Paradox Upgrade Software application.

Features

- Report events via IP, GSM or GPRS (requires GPRS Plug-In Communicator Module)
- Report in conjunction with landline or as a backup
- Supports two IPR512 GPRS/IP Monitoring Receivers
- Module configuration and status via the PCS300 Web Interface
- Support for up to two inputs with report activation capability including SMS notification
- Firmware upgrades via IP, or GPRS
- Supports standard GSM provider SIM cards
- Report via SMS (up to 8 cell phone numbers)
- Supports multiple languages for both the Web Interface and SMS
- 256-bit (AES) encryption for GPRS/IP reporting and Web Interface

Included Items

- Phillips screws for top cover (4x)
- Green 4-pin removable connector
- Black 4-pin removable connector
- Rubber grommet

GPRS Plug-In Communicator Module (optional)

- GPRS Module
- GSM Quad-Band antenna
- Lock washer
- Washer

Required/Optional Items

- Active standard GSM provider SIM card (required for GPRS and GSM reporting)
- Antenna extension (optional when using the GPRS Module)
- 12 Vdc external power source (required)

Compatibility

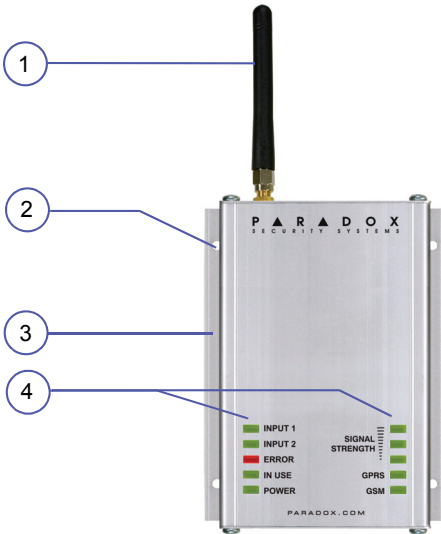
Compatible with all security system control panels that support CID reporting.

Chapter 2: Overview

This section provides an overview of the PCS300 Universal IP Reporting Module. It covers technical specifications, light-emitting diode (LED) functionality, and an overview of the PCS300 system components.

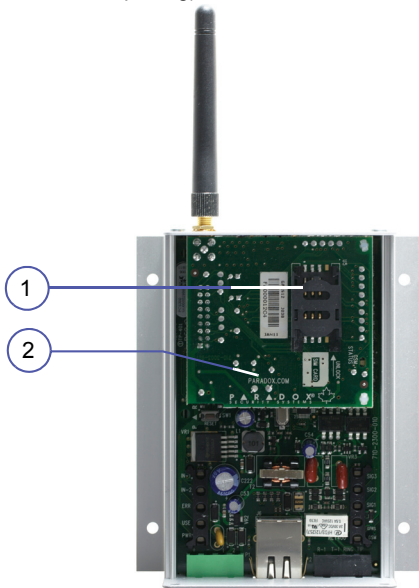
Module Components - Front View

- 1) GSM Quad-Band antenna: required when using the GPRS Plug-In Communicator Module
- 2) Mounting holes
- 3) Durable aluminum casing
- 4) Module Status Indicator LEDs



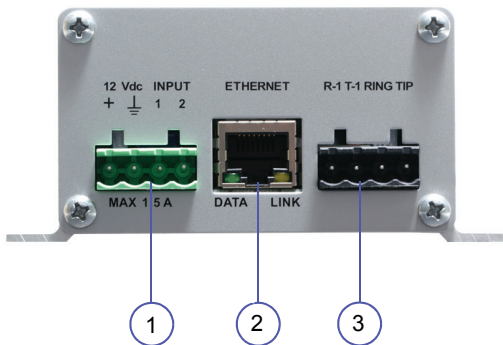
Module Components - Inside View

- 1) SIM Card slot: supports standard GSM provider SIM cards
- 2) GPRS Plug-In Communicator Module (required for GPRS and GSM reporting)



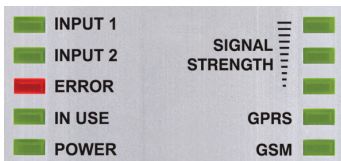
Module Components - Bottom View

- 1) Power/Input Terminals: used to connect the PCS300 to an external power supply such as the PS817 (optional) and to connect up to 2 inputs
- 2) Ethernet connector: used to connect the PCS300 to the IP network
- 3) R-1/T-1 and Ring/Tip Terminals: used to connect the PCS300 to the control panel and to the Telco, respectively



LED Feedback

The following table provides a description of the PCS300 LEDs.



Front View LEDs



Bottom View LEDs

LED	Description
Input 1	Green: Input 1 has been activated
Input 2	Green: Input 2 has been activated
Error	Red: an error has occurred on the module
In Use	Green: module is reporting
Power	Green: power is present
Signal Strength	Indicates the quality of the signal 1 LED lit: weak signal (relocate module or use an antenna extension) 3 LEDs lit: strong signal
GPRS	Green: established a GPRS connection on the GSM network
GSM	Green: connected to the GSM network
Data	Green flashing: module is communicating
Link	Yellow: established a connection on the Ethernet network

Specifications

The following table describes the technical specifications for the PCS300.

Type	Detail
Power	Class 4 (2W) @ 850/900 MHz Class 2 (1W) @ 1800/1900 MHz
Antenna Bandwidth	70 / 80 / 140 / 170 MHz
Antenna	Gain <3dBi; impedance 50 ohm Input power >2W peak power
Power Input	12 Vdc (from control panel or external power supply)
Consumption	Standby: 150 mA Average: 300 mA Peak: 1.4A (during GPRS/GSM transmission)
Dimensions	12 X 10.2 X 4.8 cm (4.7 X 4 X 1.9 in.)
Operating Temperature	0°C to 50°C (32°F to 122°F)
Encryption	128-bit (MD5 and RC4) or 256-bit (AES)
SMS Protocol	8-bit (ISO 8859-1, Latin-1 character set) or 16-bit (UCS2 ISO/IEC 10646)

Chapter 3: Connections

The following sections guide you through the steps required to connect the PCS300 Universal IP Reporting Module prior to mounting the unit.

GPRS Plug-In Communicator Module

If you will be reporting via GPRS or GSM, the GPRS Module is required. The GPRS Module is mounted directly onto the PCS300's PCB. When using GPRS/GSM reporting, certain parameters must be defined in the PCS300 Web Interface page. For more information on system configurations, refer to "PCS300 Web Interface Page" on page 25.

To Install the GPRS Module

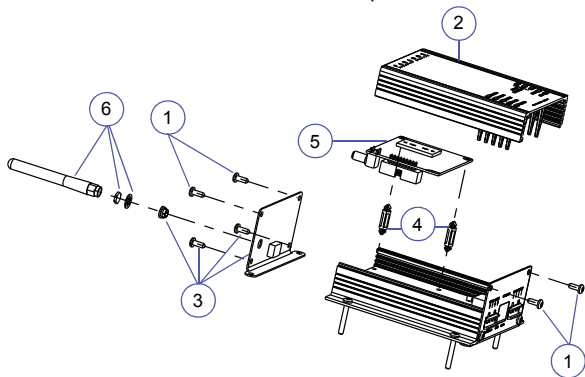
The following instructions are to be used only if you are installing the GPRS Module because it was purchased separately.

NOTE: Before installing the GPRS Module, disconnect all power to the unit.

- 1) Unscrew the two top and two bottom screws holding the top cover of the PCS300 into place.
- 2) Lift and remove the front cover of the PCS300.
- 3) Remove the two remaining screws holding the top plate into place and remove the top plate. Remove rubber grommet from the top plate.
- 4) Insert the plastic mounting rods over the holes located on the PCS300's PCB.
- 5) Place the GPRS Module directly onto the PCS300 plastic mounting rods and align with the 18-pin female connector and snap into place. Slide the top plate over the antenna connector and secure with screws. Place back the PCS300 cover and secure with screws.

- 6) Insert lock washer over the antenna connector, followed by the washer; tighten using pliers - turn approximately 1/8 of a turn. Screw the antenna securely into place.

Once the GPRS Module and the antenna have been installed, re-assemble the PCS300 and connect power to the unit.



GPRS Module SIM Card Connection

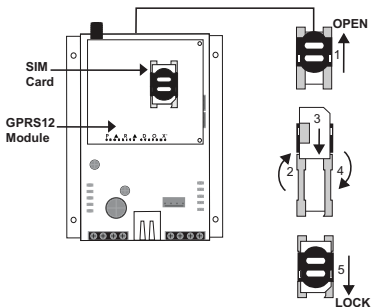
The PCS300 connects to your control panel providing wireless communication capabilities to report system events to the IPR512 Receiver. The PCS300 supports standard GSM provider SIM cards. The SIM card contains all your cellular telephone account information. In order to activate your SIM card, you must contact your local GSM network provider.

Note: Prior to setting up your PCS300, it is important that the Personal Identification Number (PIN) of the SIM card be disabled. Refer to your cellular phone's manual for more information on how to disable the PIN.

To install the SIM card

Before installing the SIM card, remove the front cover of the PCS300. If the cover is not installed, proceed to Step 1.

- 1) Slide the SIM card tray towards the top to unlock it.
- 2) Flip the SIM card tray open away from you. Open the SIM card tray slowly to avoid damage to the tray.
- 3) Slide the SIM card into the tray with the cut-off corner towards the top right.
- 4) Flip the SIM card tray closed towards you.
- 5) Slide the tray down to lock it into place.



Connections for Reporting

All required connections to the PCS300 are located at the bottom of the unit. The PCS300 provides connections for an external DC power source as well as connections for up to two inputs. These inputs can then be configured via the PCS300 Web Interface page, please refer to the PCS300 Operations Manual for more information. Additionally, connections to provide reporting are also made from the bottom of the unit.

There are three different reporting connections that can be made. These connections include the following:

1. GPRS / GSM Reporting

If GPRS or GSM reporting is required, ensure that the PCS300 is equipped with the GPRS Module. If the GPRS Module has been purchased separately, please refer to “GPRS Plug-In Communicator Module” on page 12 for installation instructions. To connect the module for GPRS / GSM reporting, ensure that the Ring/Tip terminals of the control panel are connected to the R-1/T-1 of the PCS300.

Note: The trigger telephone number defined in the PCS300 Web Interface page and the telephone number of the control panel number must match.

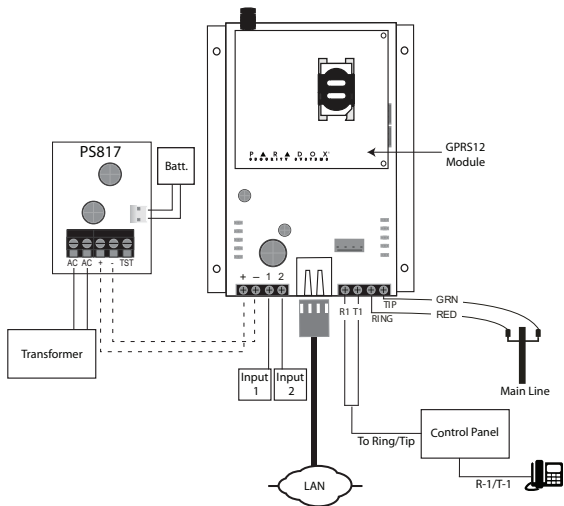
2. IP Reporting

If IP reporting is required, connect the Ethernet cable into the Ethernet port and the other end into the network LAN. Ensure that the LAN has access to the Internet.

3. Landline

In order to provide reporting via a conventional landline, connect the Ring/Tip of the control panel to the R-1/T-1 of the PCS300, and connect Ring/Tip of the PCS300 to the Telco line.

Note: The trigger telephone number defined in the PCS300 Web Interface page and the telephone number of the control panel number must match.



Optional Power Supply Connections

The PCS300 can be powered by the control panel (ensure that the control panel can provide enough current). However, if you want the PCS300 to function even if the control panel's battery is low, or if power failures are anticipated, an external power supply with a backup battery (PS817) is highly recommended. For more information on connecting to an external power supply visit paradox.com.

Chapter 4: Installation

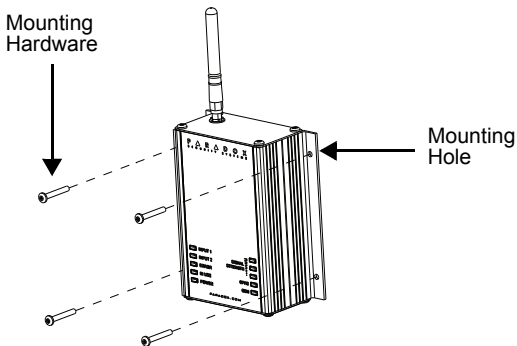
The following sections guide you through the steps required to install the PCS300 Universal IP Reporting Module and how to mount and connect the antenna.

Wall-Mount Installation

The PCS300 must be securely mounted on a wall or similar type surface. It is important to mount the metal box as far away as possible from any electronic equipment and that the metal box is mounted as high as possible to ensure protection from interference and to maximize signal quality.

To mount the PCS300

- 1) Use the module as a template to mark the four holes onto the mounting surface.
- 2) Drill the holes.
- 3) Align the PCS300 and secure into place using the appropriate hardware.

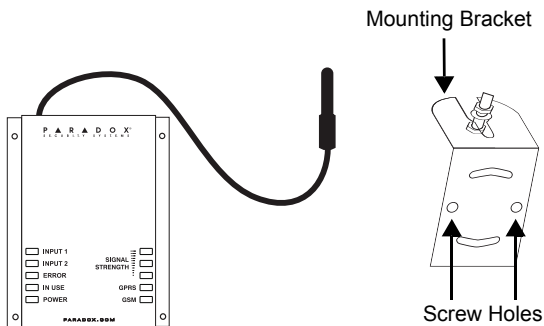


Antenna Extension Installation

Antenna extensions are available to help improve reception. The antenna extensions are optional for use with the GPRS Module. The antenna extension is sold with a wall-mounting bracket.

To Install the Antenna Extension

- 1) Use the mounting bracket to mark the holes onto the mounting surface.
- 2) Drill the holes and insert the antenna extension in the bracket until it snaps into place.
- 3) Align the bracket and secure into place using the appropriate mounting hardware.



Chapter 5: Firmware Upgrades

The following sections guide you through the steps required when upgrading the PCS300 Universal IP Reporting Module's firmware. Firmware can be upgraded either on-site with a connection to the network (IP) or remotely via the IP or GPRS network using the GPRS Module.

The firmware is upgraded using the In-Field Paradox Upgrade Software application. From this application, you can specify the PCS300 Module to upgrade and which software version to install. When you confirm the update, the PCS300 will be upgraded with the selected version within minutes.

Accessing the In-Field Paradox Upgrade Software Application

In order to access In-Field, the application must first be installed on your hard drive. In-Field is available for download from the Paradox website at www.paradox.com.

To Access In-Field

- 1) Locate the InField.exe file on your PC or double-click the In-Field icon from your desktop.
- 2) If the icon is not on your desktop, double-click on the executable file to launch the In-Field application.

The In-Field application will then be displayed on the screen.

On-Site Firmware Upgrade (IP)

To upgrade the firmware of the PCS300 on-site, a connection to the network is required.

To Connect to the LAN Port of the PCS300

- 1) Connect a CAT5 network cable to the Ethernet port on the PCS300.
- 2) Connect the other end of the cable to the router of the network.

Once the connection has been established, you can now use In-Field to upgrade the PCS300's firmware.

To Upgrade the Firmware of the PCS300 via In-Field

The following steps describe how to upgrade the firmware of the PCS300 using the In-Field application.

Step 1: Define Communication Settings

- 1) Select the **Internet** tab.
- 2) Enter the IP address of the PCS300 you wish to upgrade. If you do not have this information, then press the Search button and select the product from the list.
- 3) Define the Port. This must match the configured software port number in the PCS300 Web Interface page.
- 4) Enter the IP Password. The IP Password is the password used to log into the PCS300 Web Interface page.

Note: If you have modified the default password in the PCS300 Web Interface page, enter the new password.

- 5) Proceed to Step 2: Select Devices.

Step 2: Select Device(s)

- 1) Click the **Connect/Refresh** button. A Progress dialog box will appear. The progress dialog box detects the connection to the network.
- 2) Select the Product to update from the list.
- 3) Proceed to Step 3: Select Firmware.

Step 3: Select Firmware

- 1) Select the firmware version from the list.
- 2) Click **Browse** to locate a file in another location (upgrade files have a “.puf” extension).
- 3) Select the file from the Browse window. When the file is selected, it will be displayed in the Select Firmware window. You can also click on Get from Paradox.com to download the latest firmware files directly from the Paradox website.

Note: If you select a firmware version that is older than the one currently installed on the PCS300, the system will display a warning stating that you are about to transfer an older firmware version. If you want to proceed, confirm the message.

- 4) Proceed to Step 4: Transfer.

Step 4: Transfer

- 1) Click the **Start Transfer** button. The system will then display a Progress dialog box.
- 2) Exit the application.

Once the firmware upgrade is complete, the PCS300 Module will reboot. This may take a few minutes.

Remote Firmware Upgrade (GPRS)

The PCS300 can be upgraded remotely via the GPRS network using the GPRS Module. For instructions on how to install the GPRS Module, refer to “GPRS Plug-In Communicator Module” on page 12.

In order to connect to the GPRS network (public and private), a connection to the PCS300 must first be initiated by sending an SMS text message to the module, refer to “Step 2: Select Device(s)” on page 23. Sending the message will place the PC into wait mode until a response is received from the PCS300 Module, thus allowing you to begin the firmware upgrade process.

Note: It is important that your router be set up for port forwarding to ensure proper system functionality.

To Upgrade the Firmware of the PCS300 via In-Field

The following steps describe how to upgrade the firmware of the PCS300 using the In-Field application.

Step 1: Define Communication Settings

- 1) Select the **GPRS** tab.
- 2) Enter the GPRS Password. The GPRS Password is the password used to log into the PCS300 Web Interface page.
Note: If you have modified the default password in the PCS300 Web Interface page, enter the new password.
- 3) Define the Port. This must match the configured software port number in the PCS300 Web Interface page.
- 4) Enable the “Wait for GPRS call back (Local IP Port)” radio button.
- 5) Proceed to Step 2: Select Devices.

Step 2: Select Device(s)

- 1) Click the **Connect/Refresh** button. A dialog box will appear. The dialog box provides the information required to initiate the connection to the PCS300. In order to initiate the connection to the PCS300, you will require a cellular telephone and the PCS300's SIM card phone number. For more information on the SIM card phone number, please refer to the PCS300 Operations Manual.
- 2) Enter the SMS text information to be sent to the PCS300 as it is displayed on the screen using a cellular phone.
e.g., Pparadox.A10.10.1.100.P10001
Once the connection has been established the dialog box will close automatically.

Code	Description
P	Defines the login password used when logging into the PCS300 Web Interface page.
A	Defines the IP address of the PC used to initiate communication.
P	Defines the Port of the PC used to initiate communication.

- 3) Select the PCS300 Module to update from the list.
- 4) Proceed to Step 3: Select Firmware.

Step 3: Select Firmware

- 1) Select the firmware version from the list.
- 2) Click **Browse** to locate a file in another location (upgrade files have a “.puf” extension).
- 3) Select the file from the Browse window. When the file is selected, it will be displayed in the Select Firmware window. You can also click on Get from Paradox.com to download the latest firmware files directly from the Paradox website.

Note: If you select a firmware version that is older than the one currently installed on the PCS300, the system will display a warning stating that you are about to transfer an older firmware version. If you want to proceed, confirm the message.

- 4) Proceed to Step 4: Transfer.

Step 4: Transfer

- 1) Click the **Start Transfer** button. The system will then display a Progress dialog box.

Note: Once the firmware update via GPRS has been completed a “Transfer completed successfully” message will appear. In order to display the new version, a system refresh must be performed. To do so, another SMS message must be sent to the PCS300. Press **Yes** if you wish to proceed or **Cancel** to cancel the operation. If you continue with the refresh, the PCS300 Module will reboot. This may take a few minutes.

- 2) Exit the application.

Chapter 6: PCS300 Web Interface Page

This now completes the installation for the PCS300 Universal IP Reporting Module. The next step is to configure the PCS300 via the PCS300 Web Interface page. From the PCS300 Web Interface page you will:

- Configure the PCS300
- Register the PCS300 to the IPR512 GPRS/IP Monitoring Receiver
- Define reporting sequences
- Configure inputs and set SMS notifications
- Define additional configuration settings

In order to begin the configuration of the PCS300, a connection to a computer on the network that has access to the Internet is required. Once the configuration of the PCS300 has been defined through the PCS300 Web Interface page, the PCS300 module is ready for reporting. For more information on how to configure the PCS300 via the PCS300 Web Interface page, please refer to the PCS300 Operations Manual.

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The whole Paradox team wishes you a
successful and easy installation.

For support, please contact your local distributor, or dial
1-800-791-1919 (in North America) or
+1-450-491-7444 (outside North America),
Monday to Friday, from 8:00 a.m. to 8:00 p.m. EST.
You may also e-mail us at support@paradox.com.
Additional information can be found at PARADOX.COM