9. Connect using the console

The console terminal is pre-configured to communicate with the HSM via the USB-C to USB-A cable.

- Use the supplied USB-C to USB-A cable to connect the USB-C port on the front of the payShield 10K to your laptop

  NOTE: If your laptop has a USB-C port, instead of a USB-A port, you will need to order or provide a standard USB-C to USB-C cable.

- Select the COM port with the name "PI USB to Serial" to communicate with the payShield 10K

  NOTE: If your version of Windows does not have a PI USB to Serial device driver, you will be prompted to install one. The drivers are availble from the Microsoft Update Catalog: www.catalog.update.microsoft.com/Search.aspx?q=PI%20USB%20to%20serial

  - Look for "PI USB to Serial" in the list and download the one that matches your operating system. You may need to be signed in with an administrator account to install drivers
  - If you are not automatically prompted for the driver expand the "Other devices" section of the Device Manager and look for "Gadget Serial v2.4". Right click on that and select the option to install the driver

- Using a standard terminal emulation program, select the set up for serial terminal emulation and configure it as follows:
  - Baud Rate: 9600 bps
  - Word Length: 8 bits
  - Parity: None
  - Stop Bits: 1 bit

Test the connection:

- Press the <Return> key on the console/laptop keyboard

  The HSM should respond by displaying "Online>", "Offline>", or "Secure>" based on the position of the keys.

  The appearance of this prompt indicates that the correct communications between the console and the HSM have been established, but that no command has been entered.

10. Connect cables for payShield Manager

payShield Manager provides a secure GUI interface with an authenticated, encrypted connection allowing a full remote or local management of the payShield 10K.

Remote payShield Manager requires an Ethernet cable from the Management Port into your network.

If you are not using DHCP, then you may need to use the console to set up the static IP address for payShield Manager.
(See the *payShield 10K Manager Quick Start*.)

11. Configure payShield Manager

- Follow the instructions provided in the payShield Manager Quick Start to complete the configuration of payShield Manager

12. Configuring the host ports

Depending upon the configuration connection required between the Host and the payShield 10K, you may require additional information from your Network or Systems Support Group in order to complete this step.

- Using either the console or payShield Manager, configure the Host ports to suit your system requirements
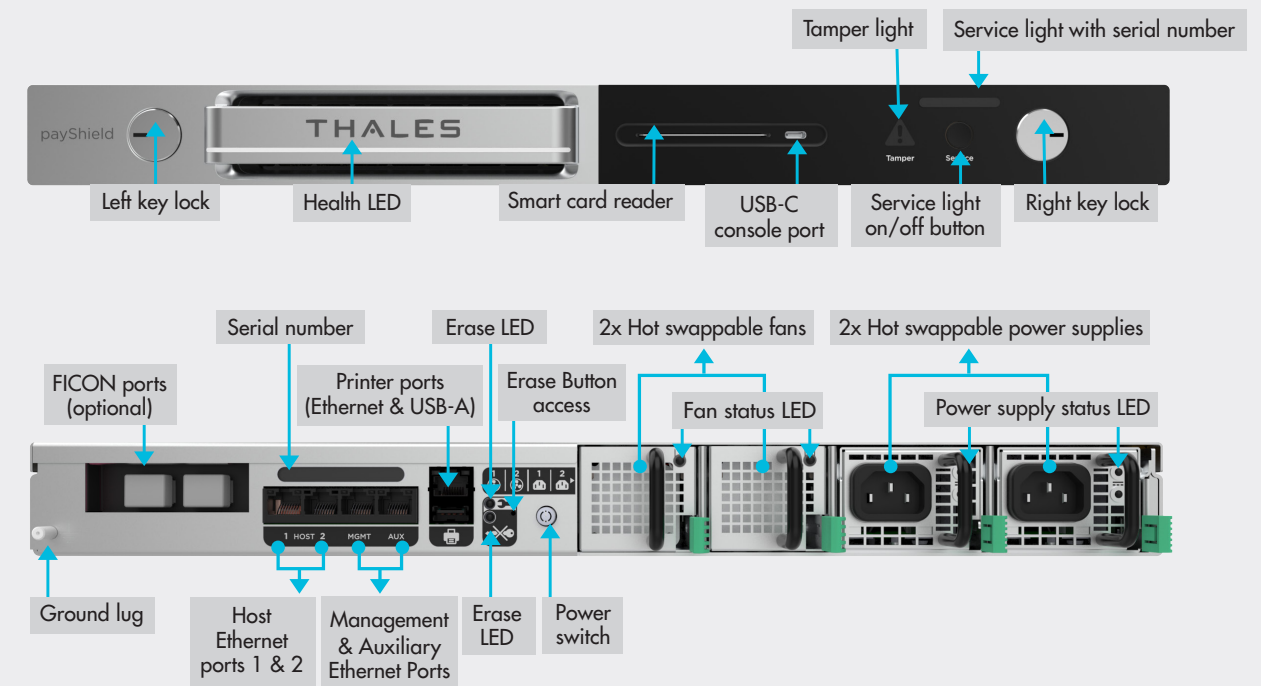
The parameters you need to enter will vary, depending upon the type of communications to be used.

Test the connection:

- The way in which you do this will vary, depending upon your system configuration; for example: Ethernet environment – issue a PING command (both from the payShield 10K to the Host, and from the Host to the payShield 10K)

Device Overview

- Tamper light
- Service light with serial number
- Left key lock
- Health LED
- Smart card reader
- USB-C console port
- Service light on/off button
- Right key lock

- FICON ports (optional)
- Serial number
- Printer ports (Ethernet & USB-A)
- Erase LED
- Erase Button access
- 2x Hot swappable fans
- Fan status LED
- 2x Hot swappable power supplies
- Power supply status LED
- Ground lug
- Host Ethernet ports 1 & 2
- Management & Auxiliary Ethernet Ports
- Erase LED
- Power switch

User Documentation

The payShield 10K user manuals are available for download from the Thales eSecurity support website:
www.thalesesecurity.com/services/support/contact-support

- Save the user manuals in accordance with your organization's security policies
- Review the protocols documented in the *payShield 10K Security Manual* and pay particular attention to the section covering the Initial Inspection Procedure
- Retrieve the *payShield 10K Regulatory User Warnings & Cautions Manual* from the box containing the payShield 10K and review all warnings and cautions

NOTE: This product incorporates various third party open source software and is distributed in accordance with the terms of the applicable license.
A listing of the open source software and the corresponding licenses may be found here: www.thalesesecurity.com/services/support/contact-support

1. Assure Safety

- Before installing, and using this product, please read the Warnings and Cautions in the following document: *payShield 10K Regulatory User Warnings & Cautions*.

  Vor der Installation und Verwendung dieses Produktes lesen Sie bitte die Warnhinweise in den folgenden Dokument: *payShield 10K Regeln Benutzer Warnungen und Vorsichtshinweise*.

2. Unpack

1. Verify the shipment's contents:
- payShield 10K HSM
- 2 AC power cables
- 4 security keys (2 copies – 4 total keys)
- USB-C to USB-A cable (for console connectivity)

2. Remove unit from the packaging

3. Remove the accessories from the Accessories box (i.e., the large thin box on top)
- Locate the serial number on the key tag and verify that it matches the serial number on the unit
- Locate the manufacturer's number etched on the physical keys
- Log all serial numbers and manufacturer key numbers in accordance with your company's security policy

3. Gather additional equipment

For host and printer ports
- 2 Host Interface Ethernet cables for communications with the Host via TCP/IP or UDP protocols
- Printer Interface Cable (Optional) – Printer communication is via USB peripheral cable

For the console terminal
- A display monitor (i.e., dumb terminal) or laptop using terminal emulation software

For payShield Manager
- A management interface standard Ethernet cable
- A standard desktop PC or laptop with web browsers Internet Explorer, Chrome or Firefox

NOTE: Based on your order, additional items may be included in your shipment.

In certain circumstances, the security keys and smart cards may be delivered under separate cover to the two designated keyholders.

Optional accessories
- USB to 25 pin parallel printer cable
- payShield Manager smart cards
- payShield Manager Starter Kit
- payShield Manager Reader

4. Determine your location

To ensure that temperature ranges are not exceeded, consider airflow and temperature when installing the HSM in the rack. Once installed, ventilation holes must not become obstructed, as that would reduce the air flow through the unit.

Operating temperature	0 – 40°C
Storage temperature	-5°C to 45°C
Transportation temperature	-25°C to 70°C
Operating humidity	5 – 85% (Relative non-condensing at 30°C)
Storage humidity	5 – 93% (Relative non-condensing at 30°C)
Transportation humidity	5 – 93% (Relative non-condensing at 40°C)
Altitude	-100m to 2000m AMSL (Above Mean Sea Level)
Overall rack dimensions (WxDxH)	1U rack 19" x 29" x 1.75" (482.6mm x 736.6 mm x 44.5mm)
Maximum Operating Power Consumption	60W

NOTE: Ensure that the location of the rack provides easy access to the unit's front panel, to allow insertion and removal of the security keys and smart cards, and to the unit's rear panel, to allow cables to be connected and a USB stick to be inserted in the event that it is required.

5. Mount the rack

1. Unpack the Thales box containing the Thales Universal Rack Mount Kit. The Mount Kit contains 2 rails and 10 M4 x 6 mm screws.

   NOTE: The 1U 1000 mm Universal Rack Mount Kit is pre-assembled for use with square hole and unthreaded round hole racks. This rack kit is suitable for racks and cabinets where the depth between front and rear posts is in the range 685.8mm – 939.8mm.

2. Remove inner rail from rack mount assembly.
   - Slide the inner rail until the safety catch locks
   - Depress the safety catch and continue sliding to separate the inner and outer rails

3. Attach inner rail to the chassis.
   - Position the inner rail on the side of the product with the safety catch toward the rear
   - Align the rear hole of the rail with the rear hole on the chassis and attach using the M4 x 6mm screws provided
   - Align the other 4 holes with the counter sink in the rail with the corresponding holes in the chassis, insert the M4 x 6mm screws, and tighten all the screws
   - Repeat this to attach the second inner rail to the other side of the chassis

4. Adjust rail length. (The rails support a range of rack mounting depths.)
   - Loosen the two rear retaining plate screws to enable the rear bracket to be extended

6. Install outer rails into the rack.
   - Align the bracket marked "FRONT" with the holes in the front post
   - Once aligned, push the bracket forward until the snap mechanism engages
   - Slide the rear bracket towards the rear post of the rack
   - Align the bracket with the holes in the rear post at the same vertical position used for the front and snap it in
   - Tighten the two rear retaining screws

   IMPORTANT: Slide the bearing retainer all the way forward to avoid damaging the rail kit when the product is installed.

7. Insert product into the outer rails.
   - With both the left and right bearing retainers moved the entire way forward, align the inner rails mounted on the product with the outer rails mounted in the rack
   - You may need to apply gentle pressure to the ends of the inner rails to align them with the outer rails
   - Slide the product into the rack until the safety latches engage
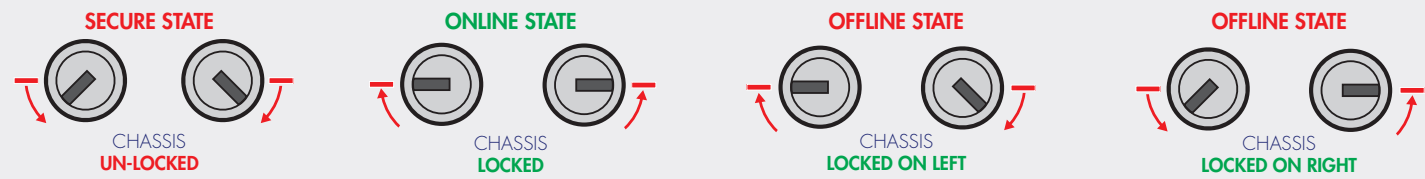
8. Push the safety catches in on both sides and slide the product fully into the rack. When sliding the unit into the rack for the first time, the last few inches of travel may experience some resistance as the bearing retainers meet their backstops. The resistance can be overcome by applying slightly more force to the front of the unit to achieve full insertion into the rack.

6. Lock the unit into the rack

The payShield 10K is physically locked into the rack via the two key locks located on the front of the unit.

NOTE: Each lock has its own key and each key is owned by a security officer.

To physically lock the unit into the rack, each key holder inserts their key into their respective lock and turns the lock to the locked position.

SECURE STATE
CHASSIS **UN-LOCKED**

ONLINE STATE
CHASSIS **LOCKED**

OFFLINE STATE
CHASSIS **LOCKED ON LEFT**

OFFLINE STATE
CHASSIS **LOCKED ON RIGHT**

7. Connect the power cable and turn the unit on

- Connect the power supplies
- Push the on/off power button located on the back of the unit; the unit has power when the power button is pressed in

NOTE: When power is applied to the unit, there is a period of time before the unit is operational and either the console or payShield Manager is available.

- Wait for the health LED to turn solid white or solid red before proceeding

8. Configuring the payShield 10K

The payShield 10K can be configured via payShield Manager or via the console terminal.

NOTE: For payShield Manager and Host operation, the payShield must be ONLINE, i.e., the front panel keys are in the locked position.

- Refer to the *payShield Manager Quick Start* or the *payShield 10K Installation and User Guide*