

payShield 10K Product Options

An overview of the sales order options



Overview

When you place an initial order for a payShield 10K HSM, two mandatory line items are required on the sales order form, one in each of the following categories:

- > Hardware
- > Package

payShield Manager smart cards, smart card readers and/or LMK component smart cards also need to be ordered if you are deploying Thales payment HSMs for the first time.

In addition there are two optional categories that supplement the core product functionality:

- > Optional licenses
- > Accessories

The Software details that you need to confirm with the order are as follows:

- > To ensure you receive the latest base software available, please add the phrase **'latest software'** as a note on the order
- > If you require a different base or custom software then the appropriate firmware number (in the format HFnnnn-00nn) must be specified as an additional note on the order form
- > If no software details are provided via a note on the order, by default the latest base software will be provided

Warning – If you require a different base or custom software, you must specify this on the order as described above.

After initial deployment it is also possible to upgrade the product in two distinct ways to supplement the initial functionality:

- > Package upgrade
- > Optional license upgrade

Ordering a payShield 10K

1. Select the appropriate hardware:

e.g. PS10-S - Standard Model

2. Select the appropriate package:

e.g. PS10-PRM-x - Premium Package with performance "x"

3. If required, select any optional license(s):

e.g. PS10-LIC-RMGT - Remote payShield Manager license

e.g. PS10-LIC-LEGACY - Legacy Commands license

4. If required, select any additional accessories:

e.g. PS10-RMGT-KIT1 - payShield Manager Starter Kit

e.g. Transceivers (Required for all PS10-D and PS10-F orders – see later section)

5. Select Maintenance and Professional Services

A. Quote the appropriate maintenance level as a percentage of the list price

B. Quote professional services or installation support

Note: The following items are included in each payShield 10K hardware box:

- HSM-RAIL-1000 - Slide rail kit for payShield 10K
- 2x IEC male-to-female power cords (see Accessories for optional country-specific power cords)
- PS10-UC2A - USB-C to USB-A console cable

***** No smartcards are supplied unless ordered separately *****

payShield 10K Packaging / SKU Structure

Hardware	PS10-S payShield 10K Standard Build PS10-S payShield 10K Special Edition Hardware Platform PS10-D payShield 10K Data Center Build (10Gbps Ethernet Hardware Platform) PS10-F payShield 10K FICON Hardware Platform	
Software	Standard Base Software Platform HF1500-00nn (v1.x)	
Packages <i>See note below on Hardware compatibility with Packages</i>	Classic Package Options PS10-CLA-L (25 cps) PS10-CLA-S (60 cps) PS10-CLA-M (250 cps) PS10-CLA-H (1000 cps) PS10-CLA-X (2500 cps)	Premium Package Options PS10-PRM-L (25 cps) PS10-PRM-S (60 cps) PS10-PRM-M (250 cps) PS10-PRM-H (1000 cps) PS10-PRM-X (2500 cps) PS10-PRM-Y (10000 cps)
Package Upgrades <i>See note below on Hardware compatibility with Packages</i>	PS10U-CLA-L2S (25 to 60 cps) PS10U-CLA-S2M (60 to 250 cps) PS10U-CLA-M2H (250 to 1000 cps) PS10U-CLA-H2X (1000 to 2500 cps) PS10U-CLA2PRM (package upgrade)	PS10U-PRM-L2S (25 to 60 cps) PS10U-PRM-S2M (60 to 250 cps) PS10U-PRM-M2H (250 to 1000 cps) PS10U-PRM-H2X (1000 to 2500 cps) PS10U-PRM-X2Y (2500 to 10000 cps)
Optional Licenses	PS10-LIC-RMGT (Remote payShield Manager license) PS10-LIC-LMKx2 (payShield LMKx2 license) PS10-LIC-LMKx5 (payShield LMKx5 license) PS10-LIC-LMKx10 (payShield LMKx10 license) PS10-LIC-LMKx20 (payShield LMKx20 license) PS10-LIC-VDSP (Visa Data Secure Platform license) PS10-LIC-LEGACY (Legacy commands license) PS10-LIC-FF1 (Format preserving encryption algorithm license) PS10-LIC-HHSM (Hosted HSM functionality license)	
Optional License Upgrades	PS10U-LMK2-5 (Upgrade from 2 LMKs to 5 LMKs) PS10U-LMK5-10 (Upgrade from 5 LMKs to 10 LMKs) PS10U-LMK10-20 (Upgrade from 10 LMKs to 20 LMKs)	

Compatibility of Hardware with Packages

- > PS10-S payShield 10K Special Edition Hardware Platform – **only compatible with packages with performance levels 25, 60 and 250 cps**
- > PS10-F payShield 10K FICON Hardware Platform – **only compatible with the PS10-PRM-X (2500 cps) package**
- > Other models are compatible with all packages

The sections below contain additional details of the order code options available in each of the categories.

Hardware models

The following hardware models are currently supported for the payShield 10K platform - further hardware variants may be introduced in the future.

Product Code	Model	Description	Notes
971-700035-001	PS10-S	payShield 10K Standard Build	Standard product
971-000109-001	PS10-S	payShield 10K Special Edition Hardware Platform	Only compatible with packages with performance levels 25, 60 and 250 cps
971-000055-001	PS10-D	payShield 10K Data Centre Build	With 10Gbps Ethernet host interfaces. 4 x Transceivers MUST be ordered together with this product for compatibility reasons.
971-700027-001	PS10-F	payShield 10K hardware platform, FICON host interface	Only compatible with the PS10-PRM-X (2500 cps) package 1 x FICON Transceiver MUST be ordered together with this product for compatibility reasons.



Software variants

By default, payShield 10K is shipped with the latest base software available at the time.

A different version of base or custom software can be installed on payShield 10K, but this MUST be specified on the order as shown above.

Custom software can be developed for payShield 10K to meet your specific requirements. Please contact your local Thales account manager or reseller for further information.

Product code	Name	PCI HSM v3 certified
971-701195-001	HF1500-0008 base software V1.0b	no
971-701196-001	HF1500-0010 base software V1.0c	yes
	HF1500-0020 base software V1.0d	yes
971-703140-002	HF1500-0021 base software V1.0e	no
971-703140-003	HF1500-0022 base software V1.0f	yes
971-703140-004	HF1500-0023 base software V1.1a	yes
971-703140-005	HF1500-0024 base software V1.2a	yes
971-703140-010	HF1500-0029 base software V1.3d	no
971-703140-011	HF1500-0030 base software V1.4a	pending

Packages available

A range of packages at various performance levels is available.

Package	Details
Classic	<p>Standard processing package containing all the core functionality necessary to route and validate payment transactions.</p> <ul style="list-style-type: none"> • Key Management • Magnetic Stripe Issuing • Magnetic Stripe Transaction Processing • EMV Transaction Processing • Data Protection
Premium	<p>Premium issuing and processing package containing all core functionality available for the payShield 10K platform.</p> <ul style="list-style-type: none"> • Premium Key Management (<i>includes AS2805 and payment credential issuing key management not available in the Classic package</i>) • Magnetic Stripe Issuing • Magnetic Stripe Transaction Processing • EMV Chip, Contactless & Mobile Issuing (<i>not available in the Classic package</i>) • EMV Transaction Processing • Premium Data Protection (<i>includes User Authentication functions not available in the Classic package</i>)

Only one package configuration from the table below can be applied to any given HSM at any point in time. It is possible to upgrade to a different package and/or performance permutation after initial deployment.

Product Code	Name	Description
971-701614-001	PS10-CLA-L	Classic package – 25 calls per second (cps)
971-701616-001	PS10-CLA-S	Classic package – 60 cps
971-701615-001	PS10-CLA-M	Classic package – 250 cps
971-701613-001	PS10-CLA-H	Classic package – 1000 cps
971-701617-001	PS10-CLA-X	Classic package – 2500 cps
971-701627-001	PS10-PRM-L	Premium package – 25 cps
971-701629-001	PS10-PRM-S	Premium package – 60 cps
971-701628-001	PS10-PRM-M	Premium package – 250 cps
971-701626-001	PS10-PRM-H	Premium package – 1000 cps
971-701630-001	PS10-PRM-X	Premium package – 2500 cps
971-000070-001	PS10-PRM-Y	Premium package – 10000 cps

The calls per second or cps rating refers to the number of distinct functional calls that the host application can make to the host interface each second. This could be functions all of one type or a mixture of different types including:

- > PIN block translations per second using a Key Block compliant key (e.g. 168 bit 3DES)
- > RSA signatures using up to 4096 bit keys

Package upgrades

After initial deployment it is possible to migrate to a higher value package in terms of functionality and/or performance. The following table provides details of the options currently available:

Product Code	Name	Upgrade Details
971-701633-001	PS10U-CLA2PRM	Upgrade from the Classic package to the Premium package – the same performance level is maintained
971-701635-001	PS10U-CLA-L2S	Classic package performance upgrade - 25 to 60 cps
971-701637-001	PS10U-CLA-S2M	Classic package performance upgrade – 60 to 250 cps
971-701636-001	PS10U-CLA-M2H	Classic package performance upgrade - 250 to 1000 cps
971-701634-001	PS10U-CLA-H2X	Classic package performance upgrade - 1000 to 2500 cps
971-701644-001	PS10U-PRM-L2S	Premium package performance upgrade - 25 to 60 cps
971-701646-001	PS10U-PRM-S2M	Premium package performance upgrade – 60 to 250 cps
971-701645-001	PS10U-PRM-M2H	Premium package performance upgrade - 250 to 1000 cps
971-701643-001	PS10U-PRM-H2X	Premium package performance upgrade - 1000 to 2500 cps
971-000088-001	PS10U-PRM-X2Y	Premium package performance upgrade - 2500 to 10000 cps

Additional notes:

- > PS10-S payShield 10K Special Edition Hardware Platform cannot be upgraded above 250 cps
- > PS10-F payShield 10K FICON Hardware Platform cannot be upgraded

Optional licenses

To supplement the functionality available in the packages, various optional licenses are available:

Product Code	Name	License Details
971-701620-001	PS10-LIC-LMKx2	Multiple LMKx2 cryptographic isolation
971-701622-001	PS10-LIC-LMKx5	Multiple LMKx5 cryptographic isolation
971-701619-001	PS10-LIC-LMKx10	Multiple LMKx10 cryptographic isolation
971-701621-001	PS10-LIC-LMKx20	Multiple LMKx20 cryptographic isolation
971-701623-001	PS10-LIC-RMGT	Remote payShield Manager
971-701618-001	PS10-LIC-LEGACY	Miscellaneous commands to provide backwards compatibility with legacy applications and security processes
971-000067-001	PS10-LIC-HHSM	Hosted HSM functionality
971-701624-001	PS10-LIC-VDSP	Visa Data Secure Platform
971-703169-001	PS10-LIC- FF1	Enables the use of the FF1 Format Preserving Encryption (FPE) algorithm within the M0, M2 and M4 host commands.

Only one of the various Multiple LMK optional licenses can be applied to any given HSM. In the event that the number of LMKs required exceeds the initial license purchased, the appropriate optional license upgrade detailed in the next section should be ordered.

Please note that the Remote payShield Manager license (PS10-LIC-RMGT) is not required if payShield Manager is only used in local mode.

Optional license upgrades

The following upgrade options are available to increase the multiple LMK capacity of any individual HSM:

Product Code	Name	Upgrade Details
971-701641-001	PS10U-LMK2-5	Multiple LMK upgrade from LMKx2 to LMKx5
971-701642-001	PS10U-LMK5-10	Multiple LMK upgrade from LMKx5 to LMKx10
971-701638-001	PS10U-LMK10-20	Multiple LMK upgrade from LMKx10 to LMKx20

Optional licences for special software versions

The following optional licences are available to meet regional requirements for special versions of software only:

Product Code	Name	Upgrade Details
971-000072-001	PS10-LIC-ITALIAN	Legacy Italian commands (requires software 1081-00xx)
971-000063-001	PS10-LIC-TAIWAN	Taiwan command set (requires software 1533-00xx for the Standard Variant or 1163-00xx for the NEC Variant)
971-000071-001	PS10-LIC-XPRINT	Extended character printing command (requires software 1522-00xx)

payShield Manager

The payShield Manager local mode capability is included automatically as part of the base package. If you wish to operate payShield Manager in remote mode, you will need to order the 'Remote payShield Manager' optional license (PS10-LIC-RMGT) together with at least one smart card reader and a suitable pack of smart cards (minimum recommended quantity is 30 smart cards). The various accessories for use with the local or remote mode of payShield Manager are summarized in the table below.

Product Code	Name	payShield Manager Accessory Details
971-700006-001	HSM-RMGT-KIT1	Starter kit for payShield Manager comprising of 2 smart card readers and 30 smart cards
971-700008-001	HSM-RMGT-RDR2	Smart card reader required for use with payShield Manager – a minimum of one reader is required for each remote location that you intend to use for remote management
971-700012-001	HSM-RMGT-PM6	Pack of 6 smart cards for use with payShield Manager
971-700007-001	HSM-RMGT-PM30	Pack of 30 smart cards for use with payShield Manager

Accessories

The table below provides details of the main accessories and replacement parts that are available for the payShield 10K HSM.

Product Code	Name	Description	Notes
971-700025-001	PS10-CARD6PK	LMK Component Cards (6 blank smart cards)	LMK Component smart cards are required for use locally when using the Console instead of payShield Manager. These are identical to the LMK smart cards supplied with payShield 9000 and are NOT compatible with payShield Manager.
971-000042-001	PS10-D-XCV-OPT	payShield 10K 10 GbE Transceiver SPF+ Short Range 1GbE/10GbE Optical (1 off)	Either four optical transceivers or four copper transceivers must be ordered with each PS10-D payShield 10K Data Center Build (10Gbps Ethernet Hardware Platform).
971-000043-001	PS10-D-XCV-CPR	payShield 10K 10 GbE Transceiver SPF+ 10GbE RJ-45 Copper (1 off)	
971-000074-001	PS10-FICXCV-L	payShield 10K Long wave FICON transceiver	Either one long wave transceiver or one short wave transceiver must be ordered with each PA10-F payShield 10K FICON hardware platform.
971-000075-001	PS10-FICXCV-S	payShield 10K Short wave FICON transceiver	
971-700031-001	PS10-PWRCORD-1	Power cord Qty 2 - US	Order these power cords when a country-specific power cord instead of the IEC Male to Female power cords supplied with the payShield 10K is required. <i>These parts can only be ordered together with the payShield 10K – they are not available separately</i>
971-700032-001	PS10-PWRCORD-2	Power cord Qty 2 - UK	
971-700033-001	PS10-PWRCORD-3	Power cord Qty 2 - Continental European	
971-700034-001	PS10-PWRCORD-4	Power cord Qty 2 - Australia	
971-000021-001	PS10-PWRCORD-5	Power cord Qty 2 - Japan	

Product Code	Name	Description	Notes
971-000022-001	PS10-PWRCORD-6	Power cord Qty 2 - India	
971-700036-003	PS10-SPARES-KIT	PS10-PSU - payShield 10K Replacement PSU - PS10-S Model Only	The payShield 10K Spares Kit consists of: > Replacement FAN Tray x 2 > Replacement PSU x 1
971-700028-001	PS10-FAN	payShield 10K Replacement Fan Tray	Spare replacement Fan Tray for all models
971-700030-003	PS10-PSU	payShield 10K Replacement PSU - PS10-S Model Only	Spare replacement PSU for PS10-S model only
971-000091-001	PS10-PSUP	payShield 10K Replacement PSU - PS10-D and PS10-F Models Only	Spare replacement PSU for PS10-D and PS10-F models only
971-700004-001	HSM-RAIL-1000	payShield 10K Rack Mount Kit – 1000mm	Spare rack mount kit
971-700039-001	PS10-UC2A	USB-C to USB-A	Spare console cable
971-700038-001	PS10-U2PC	USB to Parallel Centronics	One of these cables is required if the payShield 10K is to be used for secure printing (e.g. PIN Mailers or Key Components).
971-700037-001	PS10-U2P25	USB to Parallel 25 pin D-type	
971-700029-001	PS10-K002	payShield 10K Keys for 2 Locks (4 Keys)	Replacement keys

Comparison with payShield 9000

The table below summarizes the key differences between payShield 9000 and payShield 10K to assist existing users of payShield 9000 in choosing which product options to select with the newer model.

Category	Key Differences
Hardware models	With payShield 9000 the performance level is bundled with the hardware model resulting in multiple hardware order code permutations. payShield 10K adopts a slightly different approach by decoupling the performance level from the hardware model and associating it with the package instead.
Performance levels	payShield 10k offers higher performance across all comparable models. Performance is now specified in terms of calls per second (cps) instead of tps but this is a name change only and measure the same characteristic. At the low end the new entry level is 25 cps (up from 20 tps) and at the high end the current maximum is 2500 cps (up from 1500 tps). Performance now is ordered as an integral part of the package rather than the hardware.
Packages	Fewer package options are available on the payShield 10K to reflect the fact that the vast majority of payShield 9000 customers purchase the 'Premium' package.
Optional licenses	All functionality has been retained but some additional optional licenses have now been bundled as part of the 'Premium' package. <i>Please be aware that the 'legacy' optional licence (PS10-LIC-LEGACY) contains over 100 miscellaneous commands that previously appeared in some of the payShield 9000 base packages – they do not appear in any of the payShield 10K packages. It is advisable to double check the list of host commands in the</i>

Category	Key Differences
	'payShield 10K Legacy Host Commands' document (available on request from Thales) to determine whether or not you require this license.
Software and license upgrades	No change – the ability to upgrade the performance, package, Multiple LMKs and add optional licenses at any time is retained
LMK cards	Blank LMK cards are no longer supplied with each new HSM purchased – you may need to order one or more packs of 6 cards (PS10-CARD6PK). Please note that this type of smart card is required for the Console interface.
Rail kits	A rail kit is now automatically included as part of the payShield HSM hardware supplied – with payShield 9000 the equivalent rail kit was a separate item at additional cost. The rail kit used for payShield 9000 is not compatible with payShield 10K and vice versa.



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