Lapis Drucktechnologie GmbH

LP4000

High performance color inkjet passport printer

Personalization data

Personalization	ICAO 9303 compliant booklets Offset registration to ensure very precise printing positioning Color and monochrome inkjet printing on, page 2 & 3, one pass Chip encoding and chip reading (data verification) Data capture through camera to allow data consistency check and data verification Field upgradable with laser engraving module aimed at supporting transition from paper-based passport program to polycarbonate-based passport program
Personalization throughput	Printing & encoding: • Mobile antenna (standard): up to 180[1] booklets per hour (data page and simultaneous chip encoding, chip located within the back cover of the booklet) • Fixed antenna (option): up to 120[1] booklets per hour (sequential data page and chip personalization, chip located within the front cover of the booklet) ICAO page-2 printing time, printing only without booklet handling: • Normal quality approx. 7sec • High quality < 25sec

Personalization devices & consumables specifications

Print technology	4-color thermal inkjet printing
Print resolution	4800dpi (1200 nozzles per inch per color, 4 colors) • Black: 1200 x 1200 dpi • Color: 2400 x 1200 dpi per color
Print mode	Text and Photo mode aimed at speeding-up printing process
RFID reader/ encoder	USB 2.0 Full speed (12Mbps), USB CCID protocol, PC/SC 2.01 USB bus powered, normal operating current 200mA, 1 SAM slot, baudrate up to 848Kbps ICAO 9303 compliant (MRTD), ISO14443 Part 1 to 4 type A/B, T=CL & Mifare • Suitable for biometric data personalization as per ICAO 9303 Two types of antenna mounting depending on booklet characteristics: • Mobile antenna (standard offering): encoding while printing (chip within booklet back cover) • Fixed antenna (option): encoding before/ after printing (chip within booklet front cover or other cases to be evaluated)
Digital camera	2M pixel color CMOS sensor, fixed focus USB 2.0 Offset registration, data capture (full page) and verification
Illumination system	Software selectable White, Red, Blue, Green, UV and Infra-red LEDs system Helps separating visible/ invisible colored frames, improving elements' contrast for accurate data separation and recognition
Available inks	P4000p: pigmented Ink: C, M, Y, K (standard offer) P4000d: dye Ink: C, M, Y + Pigmented K (optional)
Cartridge capacity	Up to 8,000 booklets, 1 cartridge per color C, M, Y, K depending on booklet design and printer's use and operation (check with your LAPIS contact) One set of C, M, Y, K ink supplied with the machine C, M, Y: 26ml K: 78.4ml
Printing head	Hot swap replaceable printing head, independent from the ink cartridges (to be replaced approx. every 50,000 booklets while printing ICAO page 2, depending on operating conditions)
Laser engraving Unit	**To be launched very soon**

Booklet	ICAO 9303 compatible Booklet page to remain between 124.8mm to 125.2mm Depending on the booklet characteristics, from 24 up to 96 pages (Must specified by ordering) Sample may be requested by LAPIS production to adjust the device according to the booklet characteristics Automatic booklet detection and insertion once properly fed into the printer

Connectivity and Integration

LCD	Graphical monochrome LCD aimed at managing daily operations such as: ▪ Printer's status ▪ Ink cartridge level display to ease users' monitoring ▪ Fully automated print head alignment procedure ▪ Language selection: English, Spanish, German, French, Italian
Interface	Single connection, High-speed USB 2.0, B-type connector Internal USB Hub (all slots allocated) USB cable, 1.8 meter length supplied
Operating system	Windows 10 (32 & 64 bits), Windows 7 (32 & 64 bits)
Computer requirements	Recommended: from i5 processor (or equivalent), RAM 8GB, HD 1TB.
Device integration	Lapis SDK including API and DLL for application software integration: printer, RFID, digital camera (offset positioning & data verification) and illumination system Programming language: C $^{\#}$
Printer language	HP PCL Level 3 enhanced
Printer service tool	Aimed at checking printer status and testing main features, Windows 10-based.

Size, weight and main characteristics

Printer dimensions	Height: 26.5cm; Width: 51.5cm; Depth: 52cm (H 10.43 " ; W 20.26 "; D 20.47 ")
Weight	16 kg (35.27 Lbs)
Packaging	Carton box with printer's protective foam and accessories box Height: 34,5cm; Width: 62cm; Depth: 60cm (H 13.60 " ; W 24.41 "; D 23.62 ") 18 kg (39.68 Lbs)
Shipping kit	External power supply Power cord EU, 1,80m (other cord upon request) USB cable, 1,80m CD-Rom, drivers and documentation (incl. CE declaration of conformity within the User Manual) One set of Ink (C, M, Y, K) Printing head pre-installed in the machine
Power consumption	32W (as per ISO 10561 letter pattern) Approx. 4W when idle
Input voltage	100/ 240 V AC (±10%), 4A EU power cord, 1.8 m included Other power cord upon request
Input frequency	50 to 60 Hz (±3Hz)
Internal battery	Located on main board for parameter storage Lithium 3V, CR2032

Environment, certification, compliance

Operating conditions	15°C to 35°C (59°F to 95°F) non-condensing
Printer's storage conditions	–20°C to 70°C (–4°F to 158°F) 20% to 80% relative humidity, non-condensing
Ink tank storage and use conditions	Ink cartridge storage should not exceed 12 months from the manufacturing date (indicated on the ink tank label) Ink cartridge installed in a printer (open cartridge) is valid for a period not exceeding 6 months after installation
Noise level	ISO 9296 Best mode: LwAd 5,3 B(A) Sound pressure: LpAm 39.6 dB(A)
Certification & compliance	WEEE, RoHS CE
Warranty	Printer & factory mounted options: 12 months
Country of origin	Designed and assembled in Germany (EU)
Customs category	84433210