



Specifications

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Device Types, Application

AP 4.4

- Monotone printing of labelling materials for thermal and thermotransfer processes
- Printing on different materials, e.g. cardboard or self-adhesive labels
- Processing roll and fan-folded material
- Resolution: 200 dpi
- Print speed up to 200 mm/sec (8"/s)
- Print width up to 105 mm
- Interfaces: RS -232, USBCentronics, and connection for foot switch

AP 5.4

The AP 5.4 *additionally* offers the following equipment features:

- Resolution: the AP 5.4 is *optionally* available with 203 or 300 dpi resolution
- There are three different versions of the AP 5.4 to choose from:
 - *Basic*
Like the AP 4.4, but additionally equipped with the following: Keyboard connection, slot for CF card, Ethernet port
The following options can be integrated:
 - Reflex sensor
 - I/O board
 - *Peripheral*
Like the AP 5.4 basic, but with capability to add the following extra option:
 - External cutter
 - External rewinder
 - Internal rewinder
 - *Peripheral with internal winder*
Like the AP 5.4 peripheral with additional built-in internal rewinder. In connection with an optional dispensing edge, this printer can also be used as a dispenser.

Options

The optional features – with the exception of the foot switch – can only be integrated into the AP 5.4.

Internal Options

...should be factory-fitted or installed by a service engineer:

- *Reflex Sensor Kit*: Light barrier fitting that apart from the transmission sensor, also contains a reflex sensor.
- *Internal rewinder kit*: To retrofit the internal rewinder; contains the rewinder as well as the driver board and material guide
- *I/O board*: RS-422/485 interface, signal interface

External Options

...do not require any special alterations to the printer, however, the printer must be prepared for the use of peripheral devices:

- *Cutter*
- *Rewinder* for material rolls with 38 mm (1.5"), 75 mm (3") or 100 mm (4") cores
- *Keyboard* for offline operation
- *Foot switch* for foot-operated label dispensing (printer must additionally be equipped with an I/O board)
- *Dispensing edge* (only for dispensing versions)

Technical Specifications

Dimensions

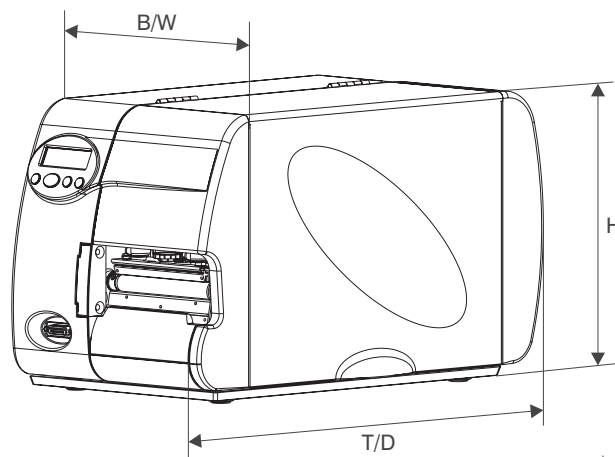


Fig. 1: Dimensions of the AP 4.4 and AP 5.4.

H: 272 mm

W: 260 mm (including cover grip)

D: 462 mm

Weight

Printer	Weight
AP 4.4	14 kg
AP 5.4 basic / peripheral	14 kg
AP 5.4 dispenser / internal rewinder	16 kg

Tab. 1: Printer weight

Performance Data

Print Technology

Thermodyrect and thermotransfer printing

Printer Head Type

- “Flat Head” type (ceramic thin film flat head)
- 8.0 dot/mm (203 dpi): Kyocera KPA 104
- 11.8 dot/mm (300 dpi): Kyocera KPA 106

Printhead Characteristics

Printer	Resolution dot/mm	Resolution dpi	Printspeed mm/s	Printspeed inch/s	Max. print-width / mm
AP 4.4	8.0	203	50-200	2-8	104
AP 5.4	8.0	203	50-200	2-8	104
	11.8	300	50-150	2-6	105

Tab. 2: Important printhead data.

Punch sensor

Transmission sensor, adjustable from the left side about half of the material width (0-60 mm) (see Fig. 2).

Sensor type	Setting range (Size c)	Punch length (Size b)	Punch width (Size a)
Transmission sensor (Standard)	0–60 mm	0,8–14 mm	min. 4 mm
Reflex-sensor (optional)	6–66 mm	4 mm (recommended)	12 mm (recommended)

Tab. 3: Required punch measures.

Reflex sensor

- The *Reflex sensor* for AP 5.4 is optionally available (for reflex marks on the material underside)
- Adjustable from the left side about half of the material width (6-66 mm)

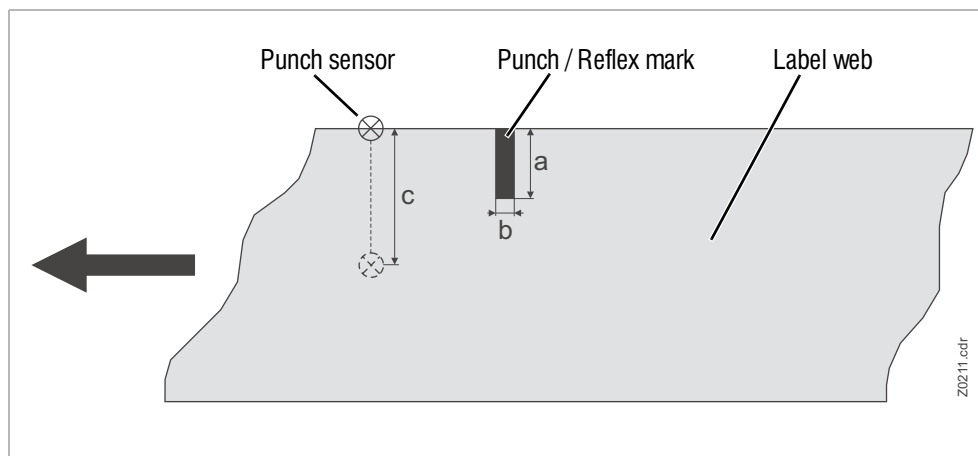


Fig. 2: Measures and setting range of the punch / reflex mark.

Max. print length

Printer	Resolution	Max. printing length
AP 4.4	8.0 dot/mm (203 dpi)	approx. 3810 mm
AP 5.4	8.0 dot/mm (203 dpi)	approx. 11226 mm
AP 5.4	11.8 dot/mm (300 dpi)	approx. 6207 mm

Tab. 4: Maximum printing length of the different printer types.

Zero line

Offset of the material zero line to the print zero line: 1 mm

Fonts

- 17 Fixsize fonts , including OCR-A and OCR-B
- 2 scalable fonts (Speedo fonts)
- Truetype fonts are supported
- Optionally can Truetype, Speedo and Fixsize fonts be stored on a CF-card

Modifying Fonts

- Up to factor 8 scaling in x/y direction
- Rotation by 0, 90, 180 and 270 degrees

Impression accuracy

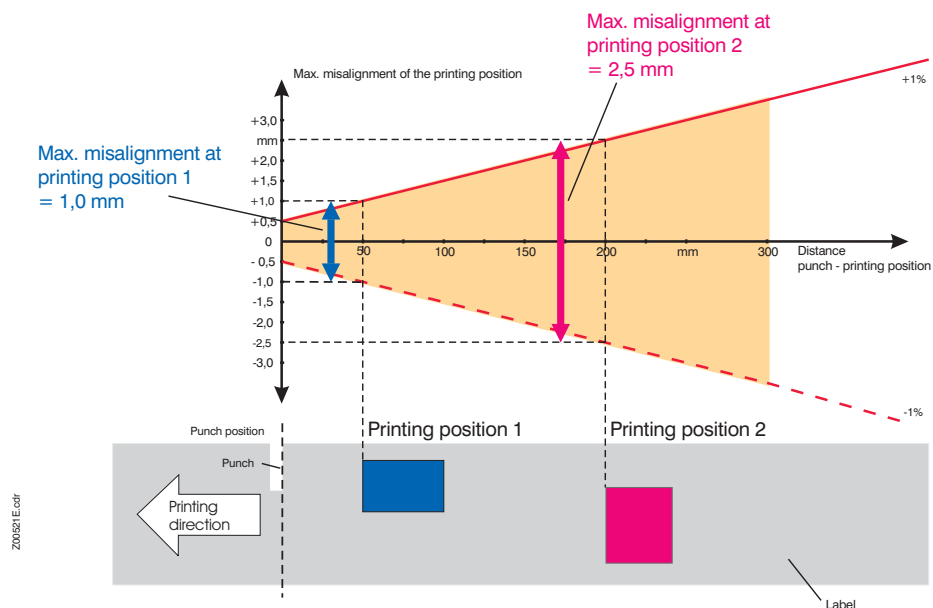


Fig. 3: The impression accuracy depends on the print position on the label: the further away the printing is from the punch, the less accurate is the impression.

Image formats

BMP, PCX, JPEG, TIFF, GIF, Easy Plug logos

Bar codes

EAN 8 and EAN 13 with Add-On 2 and 5, UPC-A, UPC-E, Code 39, Code 39, Ratio 3:1 and Ratio 2.5:1, Code ITF, Codabar, Code 128, Code 2/5, Code 2/5 1, Code 2/5 5, Code 2/5 Interleaved Ratio 1:3, Code 2/5 Matrix Ratio 1:2.5; Code 2/5 Matrix Ratio 1:3; Code MSI, Code EAN 128; Postcode (sort and ID code), UPS Code 128

All barcodes are scalable in height and 16 different widths

2-D bar codes

Data Matrix Code, Maxi Code, PDF 417, Codablock F, Code 49

RSS & CC bar codes

Reduced Space Symbology (RSS) and Composite Component (CC) bar codes: RSS-14, RSS-14 truncated, RSS-14 stacked, RSS-14 stacked omnidirectional, RSS limited, RSS expanded, UPC-A + CC-A/CC-B, UPC-E + CC-A/CC-B, EAN 13 + CC-A/CC-B, EAN 8 + CC-A/CC-B, UCC/EAN 128 + CC-A/CC-B, UCC/EAN 128 + CC-C

Labelling Material

Material Types Thermodirect material, thermotransfer material, synthetic ribbons: PE, PP, PVC, PA in rolls or fan-folded.

Material Thickness *Self-adhesive labels:* 60 - 160 gsm
Cardboard labels: max. 240 gsm

Material Width

Printer type / Application	Material width
AP 4.4, AP 5.4 basic, AP 5.4 peripheral	15-120 mm
AP 5.4 with internal rewinder	15-120 mm
AP 5.4 dispenser	30-110 mm
AP 5.4 dispenser, if a footswitch is used instead of the label sensor to trigger the printer	15-110 mm

Tab. 5: Admissible material width of the different printer types.

Label Length 5 mm up to max. print length, or 15- 200 mm with dispenser operation

Gap size Gap size between the labels on the backing material:

- min.: 1.0 mm
- max.: Label length -15 mm

Label Roll

- *Winding Direction:* Labels facing inward or outward, internal rewinder: labels facing outwards
- *Roll diameter:*

Roll / Conditions	Roll Ø
Label roll for normal printing operation	max. 210 mm
Label roll for dispensing operation (with 100 mm core-Ø)	max. 190 mm
Take-up roll for winding/dispenser operation	max. 125 mm

Tab. 6: Diameter of material and winding roll

- *Core diameter:* 38.1 mm (1.5"), 76.2 mm (3") oder 101.6 mm(4"); cores with 76.2 (3") or 101.6 mm (4") can be applied with the core adapter supplied with the printer.
- *Material width:* 12 to 120 mm, for dispenser version: 15 to 110 mm

Thermotransfer Ribbon

Ribbon Roll

- *Winding Direction:* Colour-side preferably rolled inwards (colour side facing outwards can be used)
- *Roll measurements:*

External Ø	max. 80 mm
Core Ø	25 mm (1")
Width	25 - 114 mm
Length	max. 500 m

Tab. 7: Measurements of the ribbon roll

Connections, Interfaces

Mains Voltage

100-240 V (AC)

Mains

50-60 Hz

Frequency

Power

- Max. 250 W

Consumption

- In standby mode depending on the equipment 30-40 W

Current

max. 3.2A

Consumption

Interfaces

Interface	AP 4.4	AP 5.4	Details
Centronics	X	X	Bi-directional; conforms with IEEE 1284; nibble mode; connector at the printer: type C
RS-232	X	X	Baud: 1200-115200, 8- bit; suitable connection cord: 1:1 D-Sub 9 extension lead (connector-jack)
RS-422/485		O	Baud: 1200-115200, 8- bit
Ethernet		X	10/100 Base T, LPD, RawIP printing, DHCP, HTTPD, FTPD, SMTP, NTP
USB slave V1.1	X	X	Transmission rate 12 Mbps. If the printer is connected to a host running under Windows, the hosts OS will search for a matching printer driver.
Keyboard Connector		X	PS/2
Connector for Additional Devices		X	

Tab. 8: X =present; O=optionally available

- You can find detailed information on the interfaces in the Service Handbook, under the “Service Electronics” heading in the section on “CPU Boards”, “Plug Connectors”.

Electronic Configuration

Characteristic	AP 5.4	AP 4.4
Processor	32- bit IDT with 32- bit data bus	
SDRAM	16 MB	8 MB
ROM	4 MB Flash	2 MB Flash
Plug-in Cards	A slot for Compact Flash cards of type T1 with up to 64 MB	--
Real-time Clock	Present; printout of date and time possible	--
Control Panel	4 buttons; LCD graphics display with 122x32 pixels; typically used to display two text lines with 16 characters each.	

Tab. 9: Electronic Configuration

Specifications only for AP 5.4 dispenser / int. rewinder

- Speed, while the rewinding-Ø is calculated: 75 mm/s (3"/s)
- Speed, while the material is fed back: 75 mm/s (3"/s)
- Distance dispensing edge - print zero line: 25 mm
- Distance punch sensor - print zero line: 71 mm

Environmental Conditions

Operating Temperature	4 to 38°C
Storage Temp.	-4 to 60°C
Relative Humidity	30- to 85% (non-condensing)

Noise

<70dB(A)

Test Marks

CE

The devices fulfil the requirements of the following EC directives:

- Machinery Directive (98/37/EC)
- EMC Directive (89/336/EC)
- Low Voltage Directive (73/23/EC)

Further information on CE conformity and relevant documentation is available from the manufacturer.

GS

GS test mark: German 'Safety Tested' mark

TÜV

TÜV test mark: German test mark; tested according to IEC/EN 60950

FCC

FCC Part 15B : 2002 (Class B)

CAN/CSA

Class 3862 10 - Information Technology Equipment - Certified to Canadian Standards
C22.2 No 60 950-00 - 3rd Edition

ANSI/UL

Class 3862 90 - Information Technology Equipment - Certified to US Standards
60950-2000 - 3rd Edition

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