Ink Jet Printer

UX *Series*

THE WORLDWIDE

The world leader in coding

Hitachi, which manufactured the first Japanese industrial inkjet printer in 1975, has boasted of a high achievement worldwide ever since, not to mention the Japanese market, as a reliable and leading brand of coding.

Hitachi industrial IJ printer UX Series is a global model with highly evolved "Reliability", "Simplicity", and even "Eco-friendly" performance.

We will change the coding scene of the world.

Higher functionality and easier installation for a variety of printing needs. Its evolution has also realized ease of use and maintainability.

Hitachi industrial IJ printers are high-speed printers adopting a non-contact type of printing method, in which the drops of ink fly in the air. It can print on a variety of products manufactured on production lines, which are made of metals, plastics, films, papers, etc. Its speed, flexibility, reliability, and durability are really impressive. Durability in harsh environment and ease of use have also been greatly improved. We are bringing excitement to the coding and marking industry.

RELIABILITY

信

High reliability,
and reassured maintenance
and service networks

ECOLOGY

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Environmentally friendly while
realizing a low running cost

USABILITY

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Simple touch panel operation and
maintainability

THE WORLDWIDE

ECOLOGY

**Environmentally friendly while realizing a low running cost**

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Hitachi original "Makeup fluid consumption reduction system" has Significantly-reduced running cost.
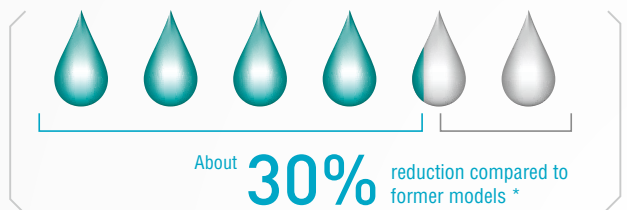
The ink recovery control and device temperature control provided by the new technology of "Makeup fluid consumption reduction system" suppress the amount of makeup vapored and achieve industry-leading levels of makeup consumption.

Reduction of makeup fluid consumption

*With 1067K ink at 20°C.

■ UX-E

About **50%** reduction compared to former models *
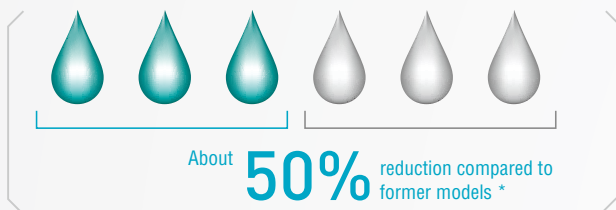
■ UX-B, UX-D (UX-D110W is excluded.)

About **30%** reduction compared to former models *

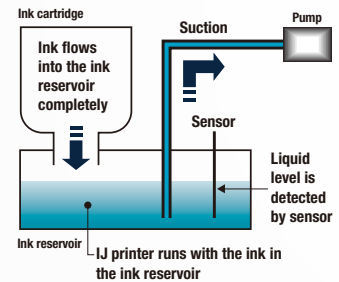**Eco-friendly because the ink and the makeup fluid in the cartridge can be consumed right up to the last drop.**

It is not necessary to stop the production line to replace the cartridges. An eco-system of a simple cartridge-type bottle can be replaced after the ink or makeup fluid is completely consumed and is also easily disposed of.

Ink cartridge
Suction
Pump
Ink flows into the ink reservoir completely
Sensor
Liquid level is detected by sensor
Ink reservoir
IJ printer runs with the ink in the ink reservoir

Each part can be replaced separately, and filter replacement is also easy.

The IJ printer is so designed that the minimal part or module can be replaced rather than replacing the whole unit. The ink filter can also be removed and replaced easily without any tools just by rotating the joint.

One-touch replacement
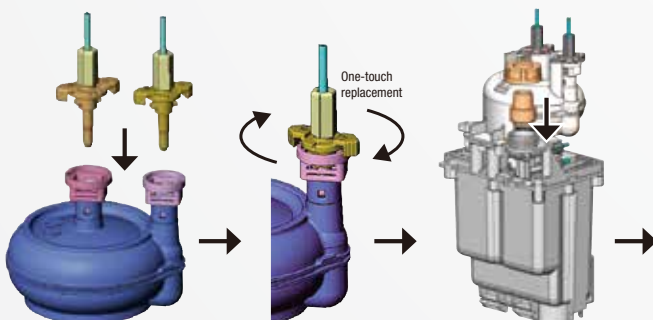
RELIABILITY

High reliability, and reassured maintenance and service networks

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RFID function to prevent installing the wrong cartridge

IC tags are adopted for the ink and makeup fluid cartridges. Installation of the wrong cartridge can be prevented by simply passing the cartridges over the main unit which is equipped with RFID* (Radio Frequency Identification) function. A message appears on the screen if the wrong cartridge is scanned.
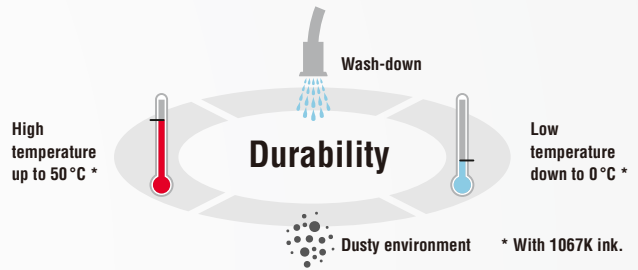
* Some geographic areas are excluded.

Hitachi Industrial Equipment Systems Co.,Ltd. declares that the IC tag reader is in compliance with the essential requirements and other relevant provisions of the FCC Part15 subpart C, EN 301 489-1/-3, EN 300 330-1/-2.

Designed for harsh environments

The stainless steel cabinet offers IP65 and allows a wash-down with pressured water and industrial detergent, to meet any environment and hygiene requests. The UX Series with IP65 protection is the ideal choice for applications in the meat and dairy sectors.

Wash-down

High temperature up to 50 °C *

Durability

Low temperature down to 0 °C *

Dusty environment   * With 1067K ink.

Automatic nozzle cleaning / Nozzle backwash

Automatic cleaning starts by one press of a button and there is no need to wait for its completion since the power turns off automatically when it is finished. Even if the nozzle gets clogged, it can be easily recovered by the nozzle backwash function that is opposite of the normal ink ejection, in which the fluid is sucked through the nozzle.
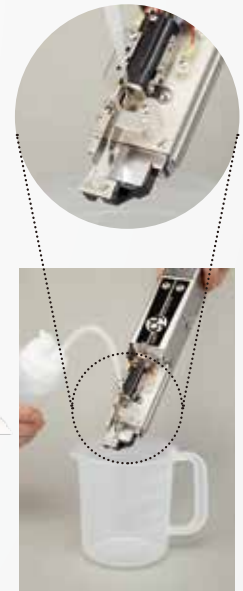
■**Automatic nozzle cleaning**

Press [STOP]

Shutting down.

Proc.time: Approx. 4 minutes

Automatic cleaning starts and then the power turns off automatically when cleaning completes.

■Operation screen of nozzle backwash

Process : Nozzle backwash

Proc.time: Approx. 1 minute

Made in Japan

Hitachi industrial IJ printers are manufactured with the know-how and technology that have been accumulated since 1975 in Hitachi City where Hitachi was first founded.
After production, all printers have to pass Hitachi's strict quality management before shipment. We provide quality products to our customers worldwide.

HITACHI IJP

USABILITY

Simple touch panel operation and maintainability

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Totally-new user interface!

Intuitive operations with a new readily-understandable screen design is now adopted. Most of the operations can be completed on one screen with a simplified and well-arranged design. Complicated operations are not required to obtain the necessary information thereby improving usability.

Troubleshooting and maintenance guides using plain illustrations

The necessary operations will be displayed on the screen using illustrations when the ink filter needs replacement or when troubleshooting or maintenance is needed. Comprehensive illustrations help to maintain the quality.
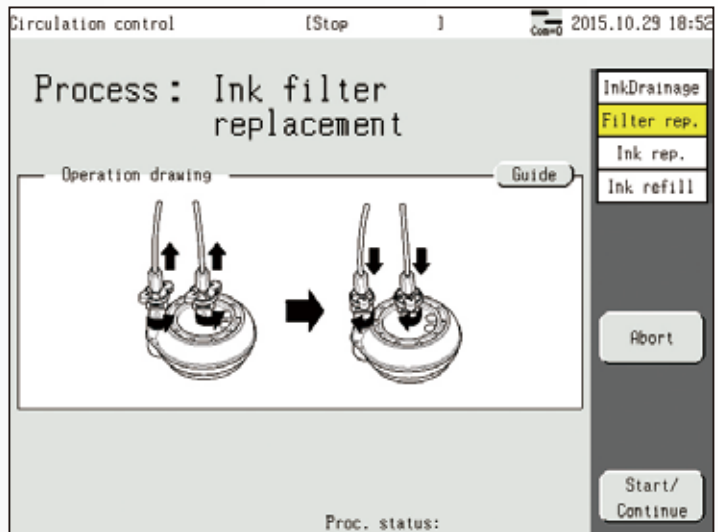
IC Card* with RFID function

With IC cards, login information and print data can be managed. * Optional

User login
By scanning IC card, only the registered user can log-in and each user operation can also be limited. It prevents any incorrect operation.

Print data selection
By scanning IC card, the registered print data can be accurately called up. It prevents the incorrect data from being called up which may happen with manual operation.

* Use of IC card (RFID function) requires Radio Law approval in each country.

Log-in by passing IC card over RFID reader

Enhanced network functionality by improving compatibility with the host system

Configuration of an IoT* system can be smoothly realized using simple wiring because of the standard Ethernet feature and open network compatibility. By collectively managing multiple devices from the host system, the information gathering and operations become more efficient.

* Internet of Things

Host system

Network

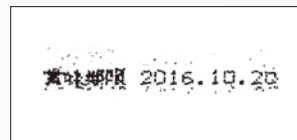*UX* Series *UX* Series *UX* Series
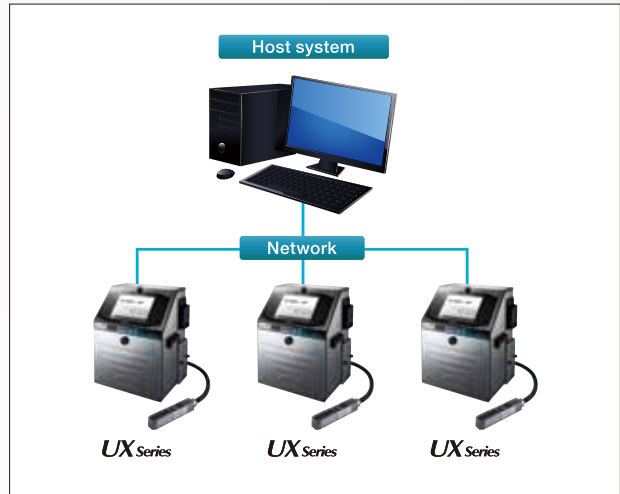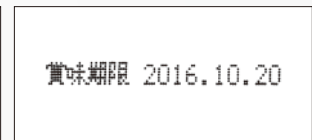
Note: UX-B is excluded.

Ink conditioning management to maintain print quality

By monitoring both the ink viscosity and the ink consumption, the ink viscosity is always kept in the best condition.

Print sample without ink conditioning

Print sample with ink conditioning

Excellent printhead shape

Tapered shape at the tip of the printhead reduces the distance between the work and the printhead. Printing to the lower position is now made possible. The printhead with anti-corrosion plating keeps working in severe environment.

* Corresponding models: For small characters and high-speed printing

Reduced printing distance

Printing to a lower position
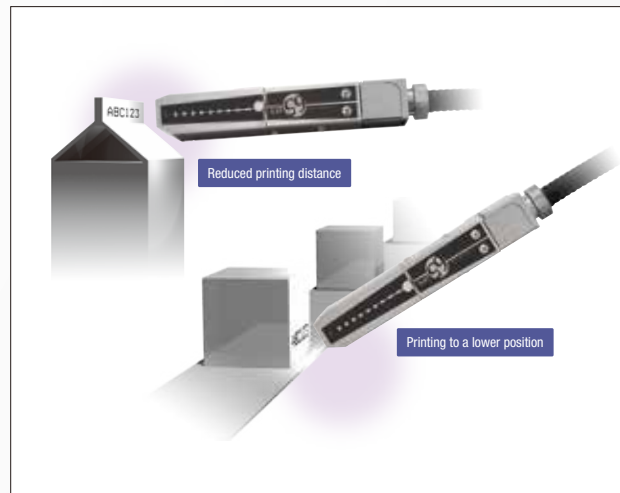
New printing technology, "6-line print" compatible for a wider variety of needs

6-line print from one printhead is made possible.

Even with multiple print lines, Hitachi original interlaced-print-control system makes each printed character appear clearly.

For single-line high-speed printing, its print quality is improved with the new print control system.

* Corresponding models: For small characters

Standard print samples (Approx. full scale)

■ Small characters (65µm)

Font (Horizontal x Vertical)			UX-B160W			UX-E160W / UX-D160W
UX-B160W	5×5	1LINE / 2LINE / 3LINE				6LINE
	5×7	1LINE / 2LINE / 3LINE				4LINE
	7×10	1LINE / 2LINE / 3LINE				
	10×12	1LINE / 2LINE				
	12×16	1LINE				2LINE
	18×24	1LINE				
UX-E160W / UX-D160W	24×32	1LINE				
	30×40	1LINE				
	36×48	1LINE				

■ Print samples

■ High-speed printing (55μm)

Font (Horizontal × Vertical)	UX-D150W	
5×7	1LINE	0123456789ABCDEFGHIJKLMN
	2LINE	0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMNOPQRSTUVWX
	3LINE	0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMNOPQRSTUVWX 0123456789ABCDEFGHIJKLMN
	4LINE	0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMNOPQRSTUVWX 0123456789ABCDEFGHIJKLMN ABCDEFGHIJKLMNOPQRSTUVWX

■ Print samples

■ Larger Small-size characters (100μm)

Font (Horizontal × Vertical)	UX-D110W	
	Standard	Bold
18×24	O1A O1A	O1A O1A
24×32	O1A	O1AO1A

■ Print samples

151025/IES
生産地:／日立市多賀町

12345ABCDE

■ Micro characters (40μm)

Font (Horizontal × Vertical)	UX-D140W			
5×5	1LINE 0123456789	2LINE 0123456789 KLMNOPQRST	3LINE 0123456789 IJKLMNOPQR 0123456789	4LINE 0123456789 IJKLMNOPQR 0123456789 IJKLMNOPQR
12×16	1LINE 01234ABCDEアイウエオ		2LINE 01234 ABCDE	

■ Print samples

8

Standard Specification

Item		Small characters		
		UX-B160W	**UX-D160W**	**UX-E160W**
Nozzle size		65μm		
Max. print line number		Up to 3 lines	Up to 6 lines	Up to 6 lines
Maximum number of print characters		Up to 240 characters	Up to 240 characters (Option: Up to 1,000 characters)	Up to 1,000 characters
Font (Horizontal × Vertical)	4 × 5	✓	✓	✓
	5 × 5	✓	✓	✓
	5 × 7(8), 9 × 7(8)	✓	✓	✓
	7 × 10	✓	✓	✓
	11 × 11	✓ (Chinese only)	✓ (Chinese only)	✓ (Chinese only)
	10 × 12	✓	✓	✓
	12 × 16	✓	✓	✓
	18 × 24	✓	✓	✓
	24 × 32	—	✓	✓
	30 × 40	—	✓	✓
	36 × 48	—	✓	✓
Character height		2 - 10 mm		
Display & input device		WYSIWYG design Display: TFT LCD (10.4" color), backlight provided Input device: Touch panel, input sound provided		
Screen language (2 languages selectable)		English, Chinese, Korean, Thai, Vietnamese, German, French, Dutch, Italian, Spanish,Portuguese, Swedish, Danish, Greek, Russian, Czech, Polish, Arabic, Serbian, Turkish, Hungarian, Bulgarian, Catalan, Romanian, Finnish, Norwegian, Slovenian		
Maximum print rate (Characters per second) (Font 5x5, space 1, 1 line)		Up to 1,148 (Option: Up to 1,281 *1)	Up to 1,148 (Option: Up to 2,563 *1)	Up to 2,296 (Option: Up to 2,563 *1)
Standard characters		Alphanumeric (A-Z, a-z, 0-9) , symbols (27) and space: Total 90		
User pattern		50 patterns each for dot matrix	200 patterns each for dot matrix (50 patterns for 30×40 and 36×48 fonts)	
Print functions		Calendar, Count, Font mixture		
Barcode printing		—	code39, ITF, NW-7, EAN-13, EAN-8, UPC-A, UPC-E, code128/EAN-128, GS-1 DataBar	
2D code printing		—	Data Matrix (Alphabet: 49 characters/Numerals: 98 characters), QR, Micro QR code	
Message storage capacity		150 messages	300 messages [Option: Up to 2,000 messages (Depends on data content)]	2,000 messages (Depends on data content)
Input signal		Print target detection Rotary encoder pulse (NPN/PNP Selectable)	Print target detection, Printing stop, Rotary encoder pulse, Reciprocative printing,Remote control (Run, Stop, High-voltage ON/OFF, Reset), (NPN/PNP Selectable)	
Output signal		Print ready, Fault, Warning (NPN Only)	Print in progress or Print complete, Online (NPN/PNP Selectable), Print ready, Fault, Warning (NPN Only)	
Data interface		Option (RS-232C at baud rates selectable up to 115,200bps)	RS-232C at baud rates selectable up to 115,200bps	
Ethernet (Modbus communication)		—	IEEE802.3 , 100BASE-T	
External memory		USB for user data storage		
Printhead cable length / angle		4m (in-line/90 degrees)		
Operating temperature range		0-50℃ (1067K Ink)		
Operating humidity range		30-90% RH (no condensation)		
Power supply (Automatic voltage selection)		AC100-120/220-240V±10% 50/60Hz 120VA		
Approval		CE, UL, cUL, RCM, FCC, ICES		CE, RCM
Dimensions (Width x Depth x Height)		400 x 320 x 527 mm		
International protection		IP55	IP65	
Approximate weight		27kg		

*1 Ink types and temperature are limited.

UX-B160W

UX-D160W

UX-E160W

Item		High-speed printing	Larger Small-size Characters	Micro Characters
		UX-D150W	**UX-D110W**	**UX-D140W**
Nozzle size		55µm	100µm	40µm
Max. print line number		Up to 4 lines		
Maximum number of print characters		Up to 1,000 characters		
Font (Horizontal × Vertical)	4 × 5	✓		
	5 × 5	✓		
	5 × 7(8), 9 × 7(8)	✓		
	7 × 10	✓		
	11 × 11	—		✓ (Chinese only)
	12 × 16	✓		
	18 × 24	✓ *2	✓	
	24 × 32	—	✓	
Character height		2-8mm	3-15mm	1-5mm
Display & input device		WYSIWYG design Display: TFT LCD (10.4" color), backlight provided Input device: Touch panel, input sound provided		
Screen language (2 languages selectable)		English, Chinese, Korean, Thai, Vietnamese, German, French, Dutch, Italian, Spanish, Portuguese, Swedish, Danish, Greek, Russian, Czech, Polish, Arabic, Serbian, Turkish, Hungarian, Bulgarian, Catalan, Romanian, Finnish, Norwegian, Slovenian		
Maximum print rate (Characters per second) (Font 5x5, space 1, 1 line)		Up to 3,173	Up to 468	Up to 3,030
Standard characters		Alphanumeric (A-Z, a-z, 0-9), symbols (27) and space: Total 90		
User pattern		200 patterns each for dot matrix		
Print functions		Calendar, Count, Font mixture		
Barcode printing		code39, ITF, NW-7, EAN-13, EAN-8, UPC-A, UPC-E, code128/EAN-128, GS-1 DataBar		
2D code printing		Data Matrix (Alphabet: 49 characters/Numerals: 98 characters), QR code*2, Micro QR code		
Message storage capacity		2,000 messages (Depends on data content)		
Input signal		Print target detection, Printing stop, Rotary encoder pulse, Reciprocative printing, Remote control (Run, Stop, High-voltage ON/OFF, Reset), (NPN/PNP Selectable)		
Output signal		Print in progress or Print complete, Online (NPN/PNP Selectable), Print ready, Fault, Warning (NPN Only)		
Data interface		RS-232C at baud rates selectable up to 115,200bps		
Ethernet (Modbus communication)		IEEE802.3 , 100BASE-T		
External memory		USB for user data storage		
Printhead cable length / angle		4m (in-line/90 degrees)		
Operating temperature range		0-40°C (1067K Ink)	0-35°C (1067K Ink)	
Operating humidity range		30-90% RH (no condensation)		
Power supply (Automatic voltage selection)		AC100-120/220-240V±10% 50/60Hz 120VA		
Approval		CE, UL, cUL, RCM, FCC, ICES		
Dimensions (Width x Depth x Height)		400 x 320 x 527 mm		
International protection		IP65		
Approximate weight		27Kg		

*2 Please consult your nearest sales representative when "18×24 font" or "QR code" is required with UX-D for High-speed printing.

UX-D150W

UX-D110W

UX-D140W

Ink lineup

Specialty printing is possible with wide array of ink types.

■ Highly adhesive `Metal` `Paper` `Plastic`

Suitable for containers made from PP (polypropylene) or PE, or two-piece can, three-piece can in the industries of food, medicine, cosmetics, etc.

1072K, 1028K, 1088K, 1114K, 1304K, 3127K

■ Ethanol ink `Metal` `Paper` `Plastic`

Suitable for applications where MEK-based ink is not acceptable such as food, pharmaceutical and cosmetics.

Can   Paper   PET bottle

3112K, 3127K, 3128F, 3111K

■ Quick-drying `Film`

Suitable for food packaging film and applications where quick-drying is required such as pillow packaging machines.

Time [s]	2086K	Former model
0.3	19.12.16	19.12.16
0.5	19.12.16	19.12.16
1.0	19.12.16	19.12.16

2086K

■ Solvent resistant `Film` `Plastic`

Suitable for food packaging and processing in which containers are cleaned by ethanol. This ink is resistant to wiping with ethanol in the sterilization process.

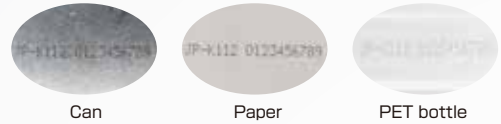| Status	1087K	Former model
Right after printing	2019.8.18 OPS	2019.8.18 OPS
Wiping with alcohol	▼	▼
After being wiped with alcohol	2019.8.18 OPS	2019.8.18 OPS

1087K

■ Ultraviolet luminescence `Can` `Plastic`

Suitable for manufacturing control, etc.
This ink emits blue light when irradiated by UV light.

After printing (invisible)   When irradiated by UV light (Luminescence)

Irradiation by UV light

1092F, 1063F, 3128F

■ UV curing `Electronic parts`

Suitable for PCB and electronic parts.
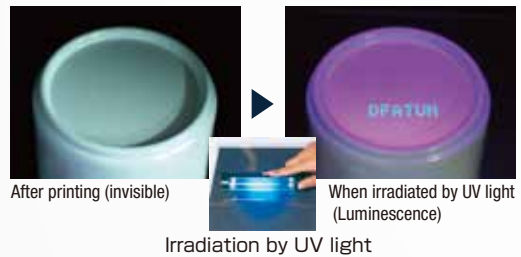Curing by UV light makes the printed ink resistant to oils and solvents.

01234 JP-K65

1065K

■ Color ink `Metal` `Paper` `Plastic`

Suitable to identify the work printed.

01234ABCDE
1027R

01234ABCDE
1085B

01234ABCDE
1027G

1027R, 1085B, 1095B, 1027G

Alkali-soluble	**Metal**	**Paper**	**Glass**	1026K 3111K

Transfer-resistant	**Plastic**	**Steel plate**	1033K 1119K

Flexibility	**Plastic**	1061K 1304K

Condensation-resistant	**Film**	**Glass**	1062K

*1 Regarding ink for each model, please contact your nearest sales representative.
*2 For SDS, please download it from our website or contact your nearest sales representative.
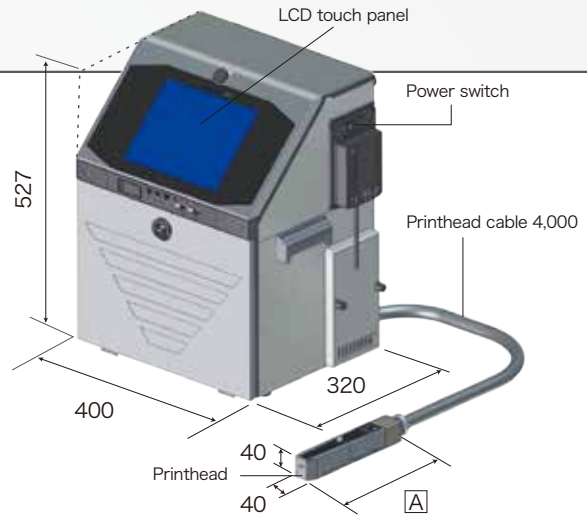
●Download SDS from here

Dimensions of main unit (Unit: mm)

Main unit

LCD touch panel

Power switch

Printhead cable 4,000

527

400

320

40

40

Printhead

A

A Dimension of each model

Model	Dimension (mm)
For small characters	235
For high-speed printing	235
For larger small-size characters	243
For micro characters	219

Note : Main unit dimensions do not include any projections.

Software options

IJ printer features can be extended with a range of software options.

■ Linking with Vision system

• Inspection item on Vision system changes corresponding to the print item on the IJ printer.
• Vision system corresponds to the change of IJ printer-printed characters.
• Clocks can be synchronized.
• Vision system receives the print content output each time when the IJ printer completes printing, which can be set as Vision system's inspection characters.

IJ printer

RS-232C connection

Vision system

■ Barcode reader connection function

Setting print content

Barcode content read by the barcode reader is transmitted as "Character strings" and set as print content.

Calling up print data

Barcode content read by the barcode reader is treated as "Call up code" and the print data corresponding to the "Call up code" will be called up.

■ Special communication functions and External signal functions

Function	Detail
Print content output	Outputs "Print content" to an external device via serial communication when the printer receives an "Inquiry about print content" from an external device or right after completion of printing.
Print completion code output	Outputs "Print completion code" to an external device right after completion of printing.
Status output	Outputs IJ printer status to an external device when operation status changes or an "Inquiry about status" from an external device is received.
External signal count	Update count according to the external signal. 0000 → 0001 0001 → 0002 → 0002 (Count signal) (Count signal)

Function	Detail
Print content switching	Print content, which is sent via communication and stored temporarily, will be printed at the time of external signal input.
Output on calendar update	Outputs signal when the print content is updated by the calendar.
External signal reset	Print content of the count digit is set to a reset value at the input of an external signal. 0123 → 0124 → 0125 → 0000 → 0001 Count update at each printing Reset signal (When the reset value is set to 0000)
Calling up print data	Calls up registered print data by external signal.
Output notifying completion of signal imput	When an external signal of the count, reset, print content switching or print data call up is input, signal will be output.

Related products

CO₂ Laser Marker [LM-C300 Series]

meets a wide variety of industrial coding requirements

Simple and intuitive operation. Stable operation by new cooling system is realized. In protection structure, IP54 is equipped as standard.

Europe

Germany, Switzerland, Austria,
France, UK, Italy, Spain, Portugal,
Netherlands, Belgium, Luxembourg,
Sweden, Czech Republic,
Slovak Republic, Ukraine, Greece,
Turkey, Cyprus, Poland, Bulgaria,
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Dusseldorf

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⑤ Hitachi Industrial Equipment Systems
 (China) Co., Ltd.

⑥ Taiwan Hitachi Asia Pacific Co., Ltd.
Taipei, Taiwan

Africa

Nigeria, Cameroon, Congo, etc.
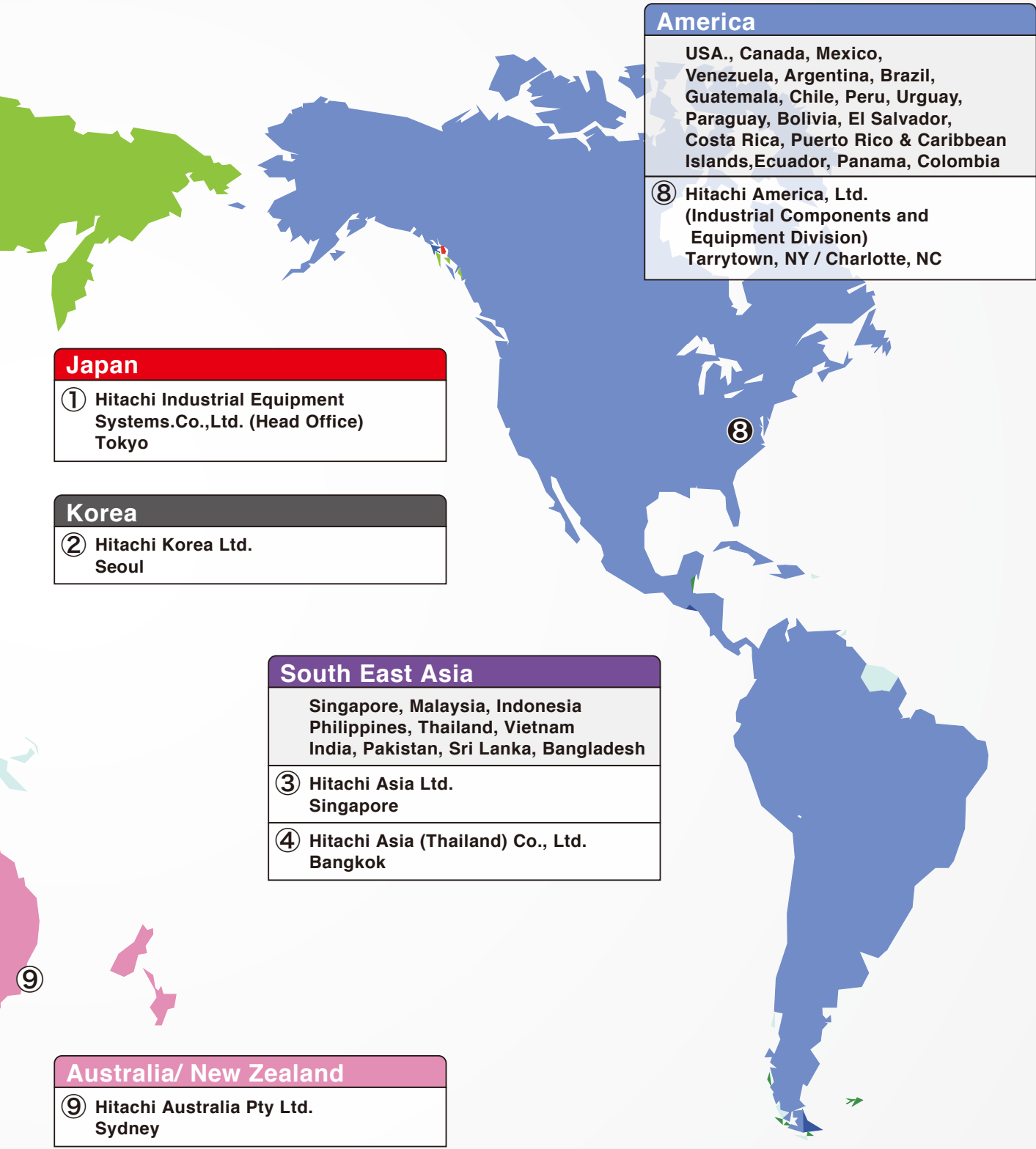
(For other areas,
please contact to Hitachi Europe)

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Dusseldorf

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UAE, Oman, Qatar, Kuwait, Bahrain

③ Hitachi Asia Ltd.
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⑧ Hitachi America, Ltd.
(Industrial Components and
Equipment Division)
Tarrytown, NY / Charlotte, NC

⑧
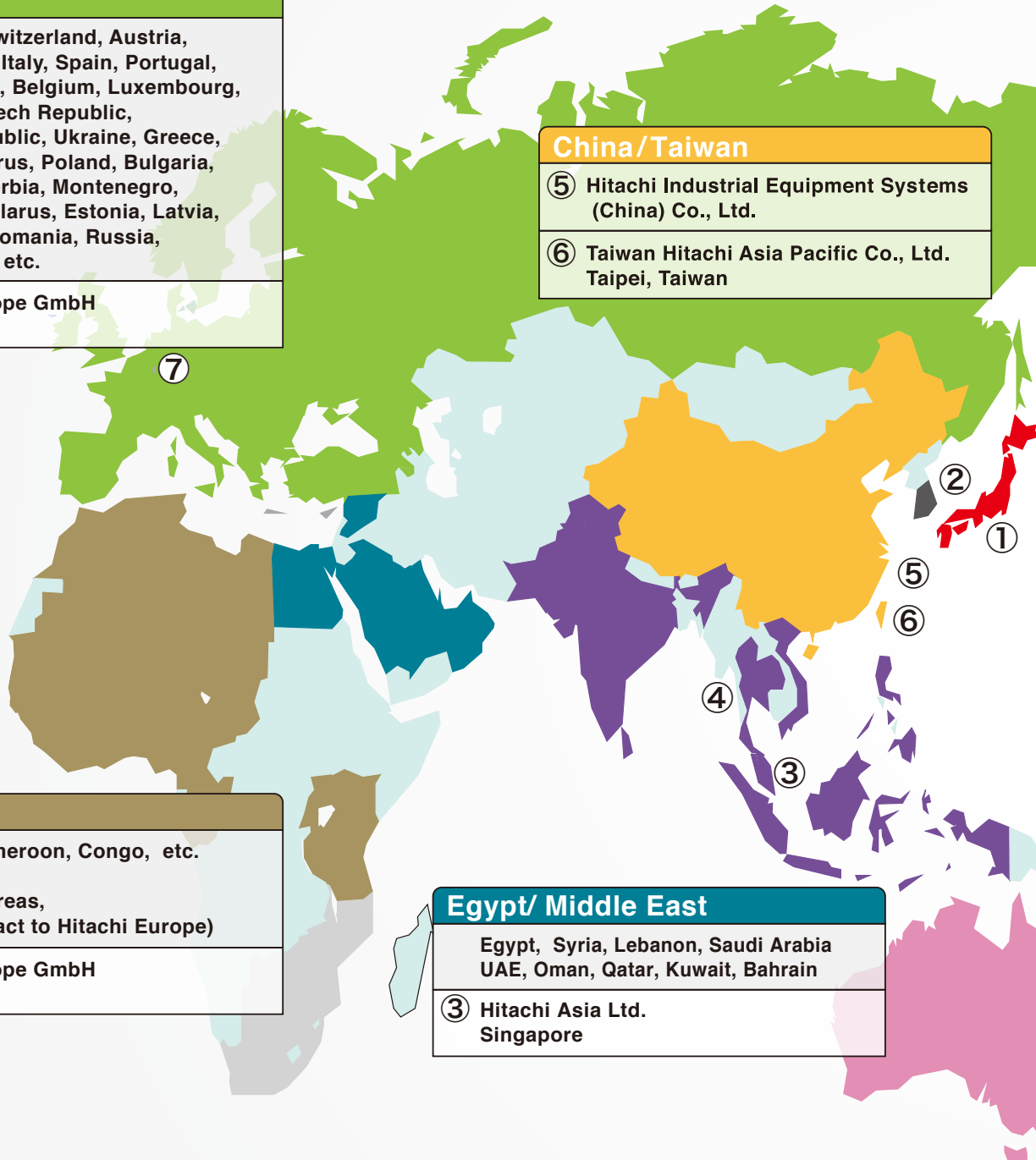
Japan

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For further information, please contact your nearest sales representative.

Printed in Japan (D) **SX-E152P-01** 0716