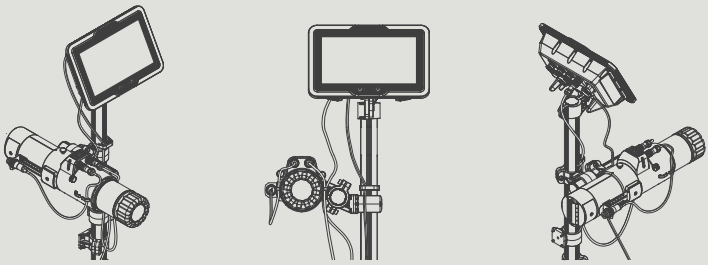
G2023/06/23_1EN

EBS® Ink-Jet Systeme

PicAS® II EBS-1600

SAFETY AND IMPORTANT INFORMATION

Industrial DROP-ON-DEMAND Printers



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You can find our user manuals at:
manual.ebs-inkjet.de

2023.10.20

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Safety and Important Information

(Original instructions)

There are icons on the device that indicate a warning of potential dangers and a reference to the instructions provided.

Before using the **PicAS® II** EBS-1600 *printer, please read carefully the documentation that accompanies the printer as well as the data sheets for the consumables (**MSDS**) that have been or will be used.*

This information brochure should be easily accessible and ready to use whenever the need to do so arises over the entire service life of the printer.

The product delivered to you corresponds to your specific order, and it may happen that the options and functionality of your printing system differ from some descriptions or illustrations. As we need to keep pace with new technological advancement and wish to meet individual requirements of our clients, we reserve the right to introduce changes in the design and construction as and when necessary. Therefore, no claims can be made regarding differences in data, illustrations or descriptions contained in the accompanying documentation. Should your printer be equipped with options or software that are not illustrated or described in the accompanying documentation or should you have additional queries after having read the documentation, please contact any **EBS Ink Jet Systeme GmbH** authorized representative for more information.

These instructions in the English language are the original instructions. In case of disputes, the English language version shall prevail. The instructions in other languages are translation of the original instructions.

The printer is accompanied by the following documentation:

- **User Manual***: it contains a description of the printer, the information on how to switch it on and off, start/pause printing, prepare a project for printing, set printing parameters, perform basic maintenance and fix problems, as well as the printer's technical data; the document can be downloaded from the **EBS** website following the link **manual.ebs-inkjet.de** or by scanning the QR code given on the first page,
- **Basic User Manual***: it contains a basic description of the printer, the information on how to switch the printer on and off, start/pause printing, prepare a project for printing, perform basic maintenance and replace an ink bottle; the document can be downloaded from the **EBS** website following the link **manual.ebs-inkjet.de** or by scanning the QR code given on the first page,
- **Safety and Important Information**: it contains any information that is necessary for safe installation, operation, transport and storage of the printer; the document is available in a printed paper copy supplied with the printer and also on the website at **manual.ebs-inkjet.de**.

** - the availability of language versions of the selected documentation and the method of its delivery with the device may vary depending on the country.*

DEFINITIONS

Ordinary person: any worker (different from an **instructed person**) who can operate the printer, have access to the printer or be near the printer.

Instructed person: a worker who has been instructed and trained by **a skilled person** or is supervised by **a skilled person**.

Skilled person: a member of the manufacturer's authorized service staff, who has specialist knowledge and experience in operating, maintaining and servicing printers.

INTENDED USE OF THE PRINTER

The **PicAS® II** EBS-1600 printer is an industrial, ink-jet **DOD** (Drop-on-Demand) printer for touchless labeling of:

- objects moving (traveling, rotating) in front of the immovable printhead,
- immovable objects by means of a moving printhead (e.g. with a separate manipulator or robot).

Any other application of the printer is forbidden. The user shall be responsible for any consequences of an undesigned application.

RESPONSIBILITY

EBS Ink Jet Systeme GmbH shall not be liable for damage or personal injury that might occur during installation, operation or servicing of **EBS Ink Jet Systeme**'s printers due to the failure to follow safety provisions as well as the industry-wide good manufacturing practices and safety standards.

EBS Ink Jet Systeme GmbH shall not be liable for any failure or damage caused by modifications to the printer or the application of the printer to purposes other than those for which it is intended. The user shall be responsible for taking any safety measures that are required each time **EBS Ink Jet Systeme**'s printers are used.

EBS Ink Jet Systeme's consumables, spare parts, accessories and cabling, hereinafter referred to as components, are designed for operation with **EBS Ink Jet Systeme**'s printers and they are tested together with these printers according to the relevant regulations and safety standards.

The application of components that are not manufactured by **EBS Ink Jet Systeme GmbH** or are not recommended by the firm for use in a particular printer may be inconsistent with the testing conditions and may affect the printer's compliance with certain standards. The use of such components may impair specified printer parameters, properties or performance, cause incorrect printer operation or lead to damage to the printer, and it will void any warranty claims.

Every user who modifies or repairs **EBS Ink Jet Systeme**'s printers using components different than those supplied by **EBS Ink Jet Systeme GmbH** or whose specifications vary from the specifications provided by **EBS Ink Jet Systeme GmbH**, shall be aware that they do this on their own responsibility and therefore shall not be entitled to make claims under the terms and conditions of warranty.

This printer comes with CE marking, FCC, ISED certificates.

EU DECLARATION OF CONFORMITY

The full text of the EU Declaration of Conformity is available at the client's request from authorized representatives of **EBS Ink Jet Systeme GmbH**s.

SAFETY RULES

This equipment is not suitable for use in locations where children are likely to be present.

The printer should be operated by **instructed persons**.

It is recommended that the printer be supervised during operation.

An ordinary person can only perform basic operations such as:

- Selecting project for printing,
- Starting/pausing printing,
- Replacing the ink bottle.

Any maintenance operations, including:

- Cleaning the nozzle plate,
- Tuning printing unit, and also
- Basic installation in accordance with **The User Manual**,
- Moving the printer into another place

can be performed by **instructed persons**.

Any service operations, including:

- Advance installation and removal of the printer,
- The operations that require that any protective covers of the printer be opened or removed

can be performed exclusively by **skilled persons**.

No efforts have been spared to design the printer diligently so that its operation is safe and reliable. However, the knowledge and observance of a few safety rules and precautions are the prerequisite for safe use of the printer.

- Do not print on objects whose temperature exceeds **100°C** (**212°F**) at the time of labeling.
- **Never** direct the printhead outlet towards persons or animals. Do not do that even if the printer is shut down.
- While performing any operations in the integrated printhead wear protective clothing, goggles and gloves that are resistant to wash-up/ink.

- While installing/replacing consumables be careful not to get splashed and not to make the printer or its surroundings dirty.
- **WARNING: Sharp elements!** While removing transport protection and also while installing/replacing consumables be careful not to get wounded with the needle that is part of the consumable connection. **Do not touch the needle!** Avoid manipulations near the needle.

- Do not use plastic vessels for washing. Metal vessels or other vessels that do not collect electric charges are recommended.
- If you need to disconnect the supply voltage, remove the power plug from the mains outlet.

- Do not use the printer if it is not fully operational.

HEALTH / HYGIENE / ENVIRONMENT

IN CASE OF ACCIDENT

When ink spills, wipe the spilled liquid with absorbent material and dispose of it following the fire and health and safety at work regulations.

Take the splashed clothes off as soon as possible.

If eyes or skin get irritated:

- **EYES** rinse with running water until the product is removed; contact an ophthalmologist
- **SKIN** wash with water and pH-neutral soap.

When swallowed, do not induce vomiting, contact a physician.

When inhaled, make sure that the sufferer has access to fresh air.

HAZARDS IN THE WORKPLACE

Pregnant women must not expose themselves to certain consumables (e.g. XI50102, XI50008, XI50001).

Certain consumables require that contact lenses should not be worn.

While cleaning with wash-up, it is advisable to wear wash-up-resistant gloves and safety goggles.

All chemicals - including inks - can be dangerous and therefore shall be handled with care.

Maximum noise level emitted by the printer **< 70 dBA**.

FIRE PREVENTION

*Follow strictly the instructions that are given in the data sheet (**MSDS**) for every type of ink and wash-up.*

The **PicAS® II** EBS-1600 printer prints with flammable inks whose physical and chemical properties are available in the relevant material safety data sheets (**MSDS**). A sheet contains the symbol, description, solvent base, min. boiling point, flash point and other properties of a given ink.

Place a fire extinguisher (designed for extinguishing electrical equipment and flammable wash-up fires) near the printer.

Do not print in the areas where an explosion hazard exists.

Do not use open flames or sparking devices in the printer work area.

Do not leave ink or wash-up in open containers.

Before coming near the printer or flammable liquids, touch a grounded metal object to dissipate the electric charge that could potentially have collected on your body.

Ensure good ventilation in the area where the printer is installed (especially near the printhead) and where consumables are stored.

If you are using inflammable inks, keep the ink bottle a minimum of **0.5 m** (**1.64 ft**) away from electrical facilities or sources of sparks or flames. When replacing ink bottle containing flammable ink, maintain a minimum distance of **1 m** (**3.28 ft**) between the ink bottle and all electrical equipment around or above the bottle, and a minimum distance of **3 m** (**9.84 ft**) between the ink bottle and all electrical equipment below the bottle.

If you are using flammable inks, keep the print head a minimum of **2 m** (**6.56 ft**) away from electrical facilities or sources of sparks or flames.

RECYCLING

The waste consumables must be managed in compliance with the local waste management and hazardous materials transportation regulations.

WORKING ENVIRONMENT

Operating temperature	**+5** to **+45°C** (**+41** to **+113°F**)
Humidity	**10** to **90% RH with no condensation**
Maximum altitude (above sea level)	**2000 m** (**6561 ft**)

The use of certain inks may limit the temperature and humidity ranges (see the data sheet for a given ink).

EUROPEAN RADIO EQUIPMENT DIRECTIVE (RED NO. 2014/53/EC) COMPLIANCE STATEMENT

Working frequency of the **IMS** (Ink Monitoring System) is **13.56 MHz**.

The magnetic field strength at 10m distance from the **IMS** is **max. -31,0 dBµA/m.**

FCC COMPLIANCE STATEMENT

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ISED CANADA COMPLIANCE STATEMENT

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions: (1) This device may not cause interference; (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The **PicAS® II** EBS-1600 printer has been designed and complies with the safety requirements for radio frequency (RF) exposure, in accordance with RSS-102, paragraph 2.5.1, as demonstrated in the RF exposure analysis.

HANDLING

The printer can be handled by **instructed persons**.

Total weight of the printer with a **1 l (33.81 fl oz)** bottle of ink	**≈ 7.6 kg (16.75 lbs)**
Weight of printer components*:	
Control unit, with power supply	**≈ 2.3 kg (5.07 lbs)**
Integrated printhead (filled with ink) with a photocell	**≈ 1.8 kg (3.97 lbs)**
Installation kit (beams, holders)	**≈ 2.5 kg (5.51 lbs)**
Bottle of ink, with a capacity of:	
1 l (33.81 fl oz)	**≈ 1 kg (2.20 lbs)**
0.5 l (16.9 fl oz)	**≈ 0.5 kg (1.10 lbs)**

*Without option and cabling.

The printer may be transported in any position. Take care not to damage the nozzle plate and the control unit screen during transportation.

INSTALLATION

The basic installation and relocation of the printer can only be done by an **instructed person** who shall follow the recommendations given in **The User Manual**.

Advanced installation (to use special types of ink, integrate the printer with a production line, work with external devices, etc.) can only be done by a **skilled person**, who will bear the full responsibility for the job.

WORKPLACE

Before use, the printer should be installed on a belt conveyor or another object that is firmly fixed to the floor, wall or another stable part of the structure with dedicated fixing elements. Dedicated racks can also be used.

The printer must be installed indoors, in a ventilated location, away from any source of heat, flames or sparks.

The integrated printhead and photocell should be installed in places where objects can be labeled conveniently; the printer should be put in a place that is free from vibration, shocks, excessive dust, dirt and aggressive or easily flammable vapors and gases.

Objects to be labeled must move in front of the face of an integrated printhead from the direction where the slide is.

The printer can be installed in any position.

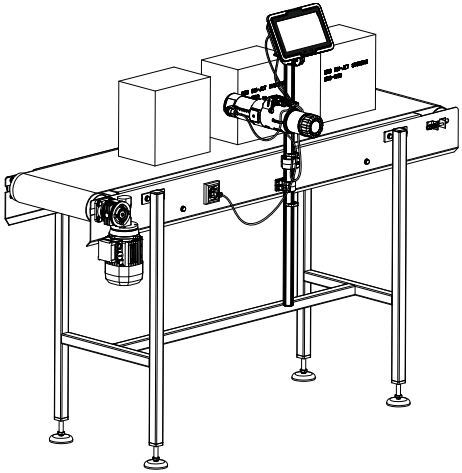
The lighting in the area where the printer is installed should conform to local regulations.

The printer installation on the production line must not generate any risks for staff.

The area that surrounds the printer should be large enough to ensure that the operators as well as the maintenance and service staff can do their jobs.

For detailed information about installation see The **User Manual**.

The drawing below shows an example of how to install the printer on a belt conveyor.



CABLING

Clamps, clips or holders are recommended for fastening running cables.

The printer should not be installed where the cables (including the power cord) may be subject to mechanical stresses. The cables must be secured against any damage. They must not dangle or lay on the floor.

The control unit can be connected to an integrated printhead with a cable, **1** to **30 m** (**3.28** to **98.42 ft**) in length. Cables longer than **3.05 m** (**10 ft**) are CMX-type cables. See also **"Requirements for the USA:" on page 9**.

The insulation of head cables is resistant to the impact of mineral oils (under CSA 22.2, 4Tage/100°C), fat or grease, UV radiation and also to abrasion.

The minimum bend radius is:

for cables of up to **3.05 m** (**10 ft**) in length:
- **51 mm** (**2 in**) - static operation
- **95 mm** (**3,74 in**) - dynamic operation

for (CMX-type) cables longer than **3.05 m** (**10 ft**):
- **32 mm** (**1,26 in**) - static operation
- **59 mm** (**2,32 in**) - dynamic operation

POWER SUPPLY

The printer is not equipped with a disconnecting device (power switch) and as such it must be plugged into a power outlet which is close to it and which is easily accessible.

The printer shall be energized from a source whose nominal voltage falls into the range given on the printer nameplate. If in doubt, contact the **EBS Ink Jet Systeme GmbH** service department.

Supply voltage	100 to 240 VAC, 50/60 Hz
Maximum power consumption	**54 W**
Overvoltage category (OVC)	**II**
Electric shock protection class	**I**

The product is intended for use with **TN** power distribution systems.

The power supply circuit of the printer must be secured with a cut-out device, whose rated current is:
- max. **13 A** for **Great Britain and Ireland**
- max. **16 A** for **the EU countries**
- max. **20 A** for **the USA and Canada**,
- for the other countries - in compliance with the applicable regulations.

The printer comes with a grounded power cord. The grounding is used for ensuring safety. **The power cord must be connected to a grounded power outlet**. Efficiency of grounding shall meet the applicable standards.

The type of plug that is part of a detachable power cord must be selected according to the type of sockets used in a given country.

Any use of extension cords is inadvisable. The use of extension cables that are not equipped with a protective wire is forbidden.

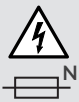
The electrical installations upstream of the printer must comply with applicable regulations.

IT POWER DISTRIBUTION SYSTEMS

This printer has been designed for connection to an IT power distribution system.

STATEMENT FOR SERVICE PERSONNEL

Power supply unit within the control unit.



CAUTION: Double pole, neutral fusing.

Before undertaking a service operation, remove the power plug from the electrical mains.

The power supply in the control unit has two unreplaceable fuses **F1**, **F2** on inner PWB.

The fuses must not be replaced and/or repaired by the user or service personnel. The control unit is a throw-away unit, when damaged. To repair, the control unit has to be returned to the manufacturing facility.

INTERFACES

Cables used for connecting the printer to an **Ethernet** network shall be:

- unshielded,
- in conformity with the **Ethernet** requirements,
- CAT 5, as a minimum,
- not more than **100 m** (**328.08 ft**) in length.

The **Ethernet** interface cable connected to the printer must not run outside the building. It must be connected to the network infrastructure inside the building.

LOCAL INSTALLATION REQUIREMENTS

Requirements for the USA:

The specific guidelines about how to run CMX cables whose lengths exceed **3.05 m** (**10 ft**) are given in sections 725.135 to 725.144 of NFPA 70 National Electrical Code® (NEC) 2017 Edition.

This Code covers the installation and removal of electrical conductors, equipment, and raceways; signaling and communications conductors, equipment, and raceways; and optical fiber cables and raceways.

Before installing the printer for use with cables of more than **3.05 m** (**10 ft**) in length, read the above-mentioned guidelines.

Requirements for the USA/Canada:

The printer is not intended for use in server rooms.

Statements for China:

The printer **is not designed** for operation at heights that exceed **2000 m** (**6561 ft**) above sea level.

仅适用于海拔2000米以下地区安全使用。

The printer **is not designed** for operation in tropical conditions.

仅适用于非热带气候条件下安全使用。

STORAGE

Store the printer in a dry place.

Consumables storage temperature	**0** to **+50°C** (**+32** to **+122°F**) optimal: **+10** to **+25°C** (**+50** to **+77°F**)
Humidity	**10** to **90% RH with no condensation**

The use of certain inks may limit the temperature range (see the data sheet for a given ink).

While storing consumables, the following should be avoided:

- direct exposure to sunlight,
- sources of heat, radiation and electrostatic charges.

The printer may be stored in any position.

When filled with ink, the printer can be stored for **3 weeks**. If the printer is to be stored for a longer time, empty it of the ink and fill it with wash-up.

With certain inks, the printer can be stored for a different period (see the date sheet for a given ink).

MAINTENANCE / FAULT FIXING

Maintenance operations should be performed by **instructed persons**, who wear suitable personal protection equipment (protective clothing, goggles, protective gloves, etc.). Any maintenance operations that are not described in **The User Manual** can be performed exclusively by **skilled persons**.

Any **service** operations that require that protective covers of the printer be opened or removed should be performed exclusively by **skilled persons**.

Disconnect the printer from the power source before commencing any intervention that involves the removal or replacement of a part. Appropriate tools should be used only.

No sharp or pointed tools must be used for cleaning or replacing the integrated printhead.

If the nozzle plate needs cleaning, use appropriate wash-up supplied by **EBS Ink Jet Systeme GmbH**. No tools must be used for cleaning the nozzle plate. The nozzle plate should be dried gently with lint-free cloth. Contact with the nozzle plate should be limited to a minimum to avoid damage. Damage to the nozzle plate can reduce printhead efficiency.

The printer has a non-replaceable lithium battery. Such a battery is potentially explosive and may release hazardous chemicals. The control unit containing the board with the damaged battery can only be opened by **a skilled person**. The battery must not be crushed, punctured or thrown to a fire or to water to reduce the risk of fire or burns.

Notes

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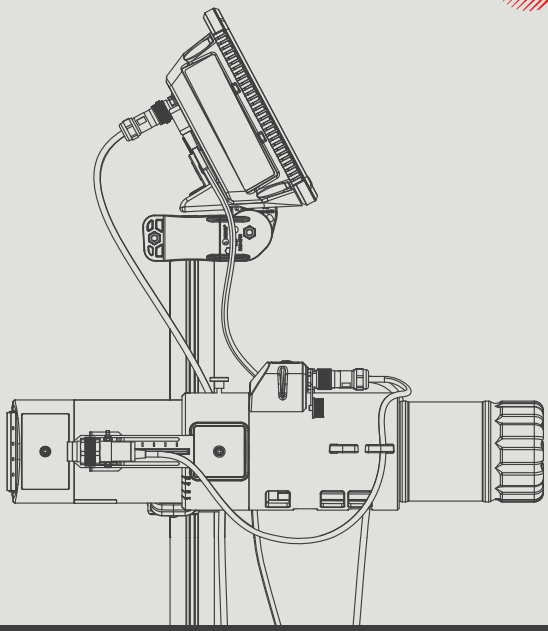

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