

Operating manual Ex p Slot-Printer

Pressurized Cabinet



Operating Instructions

Exp Slot printer
APEX Pressurised Cabinet
Type 07-3704-2222/900*

ATEX / IECEx zone 1

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1 Information with regard to this User's Manual



Read carefully before using the device.
Observe the corresponding user's manual.

This user's manual shall contain the information required for the intended use of the control unit. It shall be aimed technically qualified personnel.

Knowledge of, as well as the technically correct implementation of the safety instructions and warning notes contained within this user's manual are prerequisites for a safe installation and start-up. Only qualified personnel have the necessary specialist knowledge to correctly interpret the general safety notes and warnings in this user's manual, as well as to put them into practice.

This user's manual shall form an integral part of the scope of delivery, even if, for logistical reasons, separate orders and deliveries were chosen as an option.

- ▶ Should you require any further information, please request the required information from your local or responsible BARTEC representative. Please read the user's manual and particularly the safety instructions carefully before using the device.
- ▶ Please retain this user's manual for the entire service life of the device.
- ▶ Please make the brief instructions available to all persons entrusted with handling the device.

1.1 Highlighted sections within this document

1.1.1 Warning notices

Warning notices are used within this user's manual in order to warn of any hazards which could potentially cause property damage and personal injury.

- ▶ Always read and note these warning notices.

Warning notices are particularly highlighted in this user's manual and identified by specific symbols:

DANGER

DANGER indicates a hazardous situation which can lead to death or serious injuries with permanent damage, if the safety measures are not observed.

WARNING

WARNING indicates a hazardous situation, which can lead to serious injuries without permanent damage.

CAUTION

CAUTION indicates a hazardous situation that could cause minor injuries, if the safety measures are not observed.

ATTENTION

ATTENTION indicates a hazardous situation which could cause property damage, if the safety measures are not observed.

Explanation regarding the structure of warning notices:

WARNING WORD

Stipulation of the source, cause or type of danger

This may have consequences if the described safety measure is not observed.

- ▶ Safety measure

Example of a warning notice


DANGER

Operation of the control unit in the event of damage!

Death or serious bodily injury.

- ▶ Shut down the control unit and secure it to prevent it from being switched on again.

1.1.2 Symbols and means of illustration

Symbol	Explanation
	Important notes and information for the effective, efficient and environmentally compatible use of the product.

1.2 Technical changes

The current versions of the data sheets, operating instructions, certificates and EU declarations of conformity, as well as information on new accessories can be downloaded from www.bartec.de under “Products & Solutions” in the “Control and Connection Technology” product area or may be requested directly from BARTEC GmbH.

1.3 Languages

The original user manual is written in German. All other available languages are translations of the original user manual.

The user manual is available in German and English. If any other languages are required, this must be requested from BARTEC or specified when placing the order.

1.4 Target group of this user's manual

The target group of this user's manual are individuals who need to carry out regular maintenance, set-up work or any adjustments on the printer or those who may have to rectify any problems which potentially may occur.

2 Safety

2.1 Intended use

2.1.1 Exclusive use

The Exp slot printer shall serve exclusively as a label printer within explosion group II, category 2G by means of the explosion protection principle “pressurised enclosure” according to EN/IEC 60079-2.

The permissible operating data of the used device must be observed.

2.1.2 Improper use

Any other use shall be considered as improper and could potentially lead to damages and accidents. The manufacturer shall not be liable for any use beyond the exclusive purpose.

2.2 Safety information

2.2.1 General

- ➔ Do not dry wipe or clean devices in potentially explosive areas!
- ➔ Do not open devices in potentially explosive areas.
- ➔ General legal regulations or guidelines on occupational safety, accident prevention regulations and environmental protection laws must be observed, e.g. Industrial Safety Ordinance (BetrSichV) or nationally applicable ordinances.
- ➔ Suitable clothing and footwear must be worn due to the risk of dangerous static electricity build-up.
- ➔ Any effects of heat outside the specified temperature range shall be prevented (see Chapter on “General technical data”).
- ➔ Any impacts from moisture must be avoided.

2.2.2 Operational safety information

Installation

- ➔ Prior to the installation, it must be ensured that all components and documents are available.

Inspection

- ➔ According to EN / IEC 60079-17, the operator of electrical systems in potentially explosive areas shall be obliged to have them checked for proper condition by a qualified electrician.

Repairs

- ➔ The relevant installation and operating regulations must be observed in terms of the electrical systems (e.g. RL 99/92 / EC, RL 2014/34 / EU, BetrSichV or the nationally applicable regulations EN / IEC 60079-14 and the DIN VDE 0100 series)!
- ➔ Please observe the national waste disposal regulations for disposal.

Maintenance

- ➔ If the device is operated properly and the installation instructions and ambient conditions are followed accordingly, no constant maintenance is required.
- ➔ BARTEC recommends performing annual maintenance and testing.

The Chapter “Maintenance and Care” must be read carefully.

Repairs

- ➔ The relevant installation and operating regulations must be observed for electrical systems (e.g. RL 99/92 / EG, RL 2014/34 / EU, BetrSichV or the nationally applicable regulations EN / IEC 60079-14 and the DIN VDE 0100 series)!
- ➔ Any repairs must be carried out in accordance with EN / IEC 60079-19.

2.2.3 Safety instructions to ensure the safe use of systems and devices

- ▶ The user shall be obliged to take all necessary precautions before using the bypass system.

2.3 Warranty

WARNING

UNAUTHORIZED MODIFICATIONS AND/OR CHANGES TO THE EXP SLOT PRINTER.

The explosion protection, as well as the stress and safety-oriented construction and production shall no longer be covered by the guarantee.

- ▶ Before any changes and modifications to the device are carried out, the manufacturer must be contacted in order to request a written approval for these intended tasks.
- ▶ Original and replacement wear parts must be exclusively used.



Assumption of guarantee services

The manufacturer assumes full guarantee only and exclusively for spare parts that have been ordered from him.

In principle, our “General Terms and Conditions of Sale and Delivery” shall apply. These shall be available to the operating company at the latest upon conclusion of the contract. Any warranty and liability claims for personal injury and property damage shall be excluded, if these can be linked to one or more of the following causes:

- ➔ Improper use of the Exp slot printers.
- ➔ Improper assembly, commissioning, operation and maintenance of the Exp slot printers.
- ➔ Failure to observe the instructions in the “User’s Manual” regarding transport, storage, assembly, commissioning, operation and maintenance.
- ➔ Unauthorised structural changes to the Exp slot printer.
- ➔ Inadequate monitoring of parts that are subject to wear.
- ➔ Any repairs have been carried out incorrectly!
- ➔ Disasters caused by the effects of foreign bodies and force majeure.

We shall grant a guarantee period of one year from the date of delivery to the Bad Mergentheim plant on the Exp slot printer and its accessories.

This warranty shall cover all parts of the delivery and shall be limited to the free replacement or repair of the defective parts in our Bad Mergentheim plant. For this purpose, the packaging supplied must be kept, providing that this is possible. Where required, the goods must be sent to us after agreeing the same in writing. There shall be no right to a rectification of defects at the place of installation.

2.4 Avoidance of property damage

2.4.1 Short circuit due to improper connection

An incorrect supply connection leads to the destruction of the electronics and invalidates the warranty claim.

2.4.2 EMV-compliant connection

In order to ensure the safe functioning of the Exp slot printer, it is important that the wiring is EMC-compliant. This shall also include the provisions of chapter “Electrical Connections“ in terms of EMC-compliant wiring and inductive loads.

2.4.3 Storage at excess temperature

The Exp slot printer shall be stored at the intended storage temperature, because otherwise the electronics or seals may become damaged. Adequate air conditioning must be provided at high storage temperatures.

2.4.4 Aggressive cleaning agents

When choosing the right cleaning agent, it must be ensured that it is suitable, because otherwise seals and connections may become damaged. Flammable products shall be generally not permitted.

2.4.5 Danger to health in the event of improper disposal

According to the European WEEE directive, electrical and electronic devices shall not be disposed of with household waste. Their components must be recycled or disposed of separately because toxic and hazardous components can cause lasting damage to health and the environment if not properly disposed.

According to the Electrical Law (ElektroG), consumers shall be obliged to return electrical and electronic devices at the end of their service life to the manufacturer, the point of sale or to public collection points set up for this purpose. Details on this can be found in the respective state law. The symbol on the product, the operating instructions and/or the packaging refers to these provisions. By separating the material, as well as recycling and disposing of old devices, you are making an important contribution towards protecting our environment.

2.5 Obligations of the operator

The operator undertakes to only permit employees to work with and at the EX p slot printer who:

- are familiar with the basic regulations on safety and accident prevention and have been instructed in the use of the EX p slot printer;
- has read and understood the documentation, the safety chapter and the warning notices.
- The operator shall ensure that the safety and accident prevention regulations which are applicable in the respective application, are complied with.

2.6 Instructions for use

- Overvoltage category II of the non-intrinsically safe circuits according to IEC 60664-1 must be observed

2.7 Additionally applicable documentation

The Ex p slot printer is constructed and wired according to customer requirements. Since this user's manual does not cover all technical details, the following documents are considered as additionally applicable documentation.

Therefore, the complete documentation received with the Ex p slot printer is subject to retention and must be checked for completeness upon receipt.

- User's manual for the control unit APEX^{PX}
- User's manual for the Ex p slot printer
- Test report
- Delivery note
- EU Declaration of Conformity of the Ex p control unit APEX^{PX} and the Ex p slot printer (part of the corresponding user's manual)

2.8 Further documentation



The internal printer of the Ex p slot printer corresponds to a ZEBRA ZT 220. All drivers, utilities and instructions available for the printer can be used for setting parameters and inserting print ribbons.

<https://www.zebra.com/de/de/support-downloads/printers/industrial/zt220.html>

2.9 Marking and test certificate

The Exp slot printer has been approved for the following areas:

2.9.1 Exp slot printer, type 07-3704-2222/900*

ATEX (Europe)	
Marking	⊕ II 2G Ex pxb IIC T4 Gb
Test certificate	BVS 20 ATEX E 060 X
IECEX (International)	
Marking	Ex pxb IIC Gb
Test certificate	IECEX BVS 20.0048X

2.10 Compliance with standards

2.10.1 Exp slot printer, type 07-3704-2222/900*

Standard	Description
EN 60079-0:2018 IEC 60079-0:2017	Explosive atmosphere – Part 0: General provisions
EN 60079-2:2014 IEC 60079-2:2014	Explosive atmosphere – Part 2: Equipment protection through pressurised enclosure “p”
EN 60529:1991 / A2:2013 / AC:2019 IEC 60529:1989 / AMD2:2013/COR1:2019	Protection classes by housing (IP code)
EN 61000-6-4:2019 IEC 61000-6-4:2018	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – emitted interference for industrial areas
EN 61000-6-2:2019 IEC 61000-6-2:2016	Electromagnetic compatibility (EMC) – Part 3-2: Limit values – limit values for harmonic currents (device input current ≤ 16 A per conductor)

3 Product description

3.1 General

The type of protection Ex p, called “pressurised enclosure”, is based on the measure that explosive gases present in a closed volume are flushed out and then an overpressure is generated and maintained in relation to the surrounding atmosphere. Due to the higher pressure inside the housing compared to the atmosphere, explosive gases cannot penetrate the inside of the housing at any time. This creates an explosion-free area in which electrical devices can be installed and operated, which are not themselves explosion-proof.

The Ex p slot printer described in this user’s manual operate using the “pressurised enclosure with compensation of leakage losses” technology. In detail, this refers to the maintaining of an overpressure in the housing by supplying purging gas in order to compensate for any leakage losses that occur in the housing.

The housing must be purged with purge gas prior to starting up, so that the explosive atmosphere (gas) that has penetrated during downtime does not become a hazard. The amount depends on the flow rate determined during the initial start-up.

3.2 Exp slot printer



The BARTEC Ex p slot printer in combination with the Ex p control unit APEX^{px} and the label printer Zebra ZT220 is a complete printer for the use in Ex Zone 1 and 2.

After installation, cabling and integration into the local network, it is immediately ready for use.

The Ex p control unit APEX^{px} mounted on the Ex p slot printer regulates the purging gas flow and enclosure pressure during the purging phase. When the operating phase is initiated, the APEX^{px} control unit automatically activates the Zebra ZT 220 label printer mounted in the pressurised enclosure.

The enclosure pressure of the pressurised enclosure is automatically maintained during the operating phase and any leakage losses that occur are compensated for.

3.2.1 Structure of the Exp slot printer

Front view



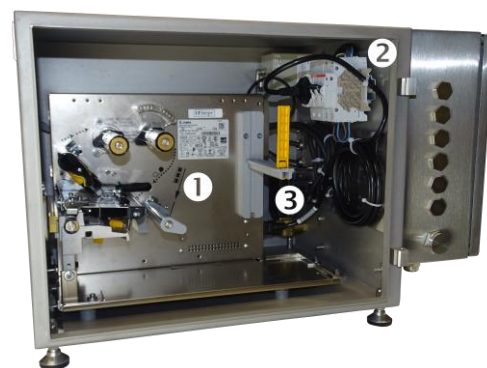
Position	Component
1	Exp slot printer
2	Media cabinet door
3	Control panel
4	Ejection of printed media
5	Levelling feet

Rear view



Position	Component
1	Exp control unit
2	Exp pressure switch
3	Purge gas supply

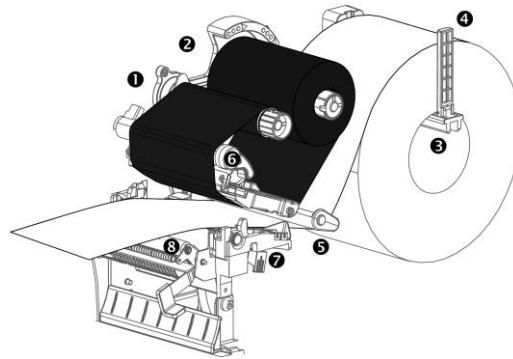
Interior view



Position	Component
1	Printer
2	Fuse and socket
3	Purge valve

3.2.2 Printer assemblies

Printer unit



Position	Component
①	Ribbon take-up spindle
②	Ribbon supply spool
③	Media supply bracket
④	Media supply guide
⑤	Media winding tension
⑥	Lever for opening the print head
⑦	Print head unit
⑧	Support roller

Control panel



Position	Component
①	Status display
②	Pause display
③	Data display
④	Stock display
⑤	Network display
⑥	Pause button
⑦	Feed key
⑧	Cancel key

3.3 Accessories

3.3.1 Programming approval



Programming switch, type 05-0003-0089

The programming switch must be connected to the control unit and activated in order to change parameters and switch values.

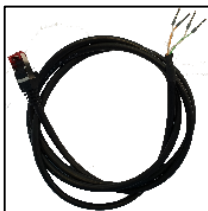
Values that are changed without a connected programming bridge are not accepted by the APEX control unit.

Changes to the purging parameters are not permitted, as this would interfere with the Exp slot printer's Ex safety.

For further information on handling, please see the separate user's manual for the control unit.

The programming switch is included in the scope of delivery.

3.3.2 Programming cable of the Exp control unit



Programming cable, type 03-9828-0062

The programming cable is used to connect the Exp control unit to the PC. This must be connected to the control unit and PC in order to change parameters and switch values

Changes to the purging parameters are not permitted, as this would interfere with the Exp slot printer's Ex safety.

For further information on handling, please see the separate user's manual for the control unit.

The programming switch is included in the scope of delivery.

3.3.3 p Operator panel



p-Operator panel, type 17-51P5-*111

The p operator panel is a visualisation unit for the APEX control unit. It can be connected optionally and is used to display the system states, as well as to parameterise the control units

Using mounting brackets, this can be either used as a structure or as an installation in the basic version.

It can be connected or disconnected during operation, and it is therefore not necessary for it to be constantly connected to the control unit.

The utilisation for the p operator panel is described in a separate operating manual.

The p operator panel is not included in the scope of delivery.

4 Transport and storage

4.1 Scope of delivery



Missing parts or damage must be reported immediately in writing to the freight forwarder, the insurance company or BARTEC GmbH.

Please check the completeness of the scope of delivery by using the delivery notes.

As standard, each Exp slot printer is shipped with the following scope of delivery:

- Exp slot printer
- Parameterisation cable LAN, Programming approval
- USB cable for printer configuration
- Operating manuals

4.2 Packaging

The Exp slot printer is delivered packed in foil, on a pallet and/or in cardboard boxes.

- Please dispose of the packaging materials at designated disposal points. Observe the applicable national regulations for disposal

4.3 Transport



WARNING

RISK OF DEATH OR INJURY FROM FALLING HEAVY LOADS

- ▶ Never stand under suspended loads.
- ▶ Secure the Exp slot printer with a suitable attachment (e.g. straps) before transport.

ATTENTION

AVOID HARD IMPACTS, E.G. FROM FALLING OR HARSH PUTTING DOWN

The Exp slot printer could become damaged.

- ▶ Only use hoists and load handling devices with sufficient load-bearing capacity.
- ▶ The permissible lifting weight of a lifting device must not be exceeded.
- ▶ Put the Exp slot printer down slowly.

Pay attention to the volume of the goods to be transported and choose an adequate transport device.

4.4 Storage

Store the Exp slot printer in horizontal position and at a temperature between -25 ° C and +60 ° C in the original packaging. The environment must be dry, dust-free and low-vibration.

Store the Exp slot printer for a maximum of 2 years.

For warehouse logistics, we recommend the "first in - first out" principle.

4.5 Disposal



The applicable national regulations for disposal must be observed.



The Exp slot printer is mostly recyclable. The printer's main board contains a battery that must be disposed of properly.

Do not dispose of printer components in household waste. Recycle the battery and other printer components properly according to local regulations.

5 Installation

5.1 Setting up



Place the Exp slot printer at the intended location. Slight unevenness can be compensated by means of the locking feet.

5.1.1 Requirements with regards to the installation site

The following requirements in terms of the installation site must be observed for the Exp slot printer:

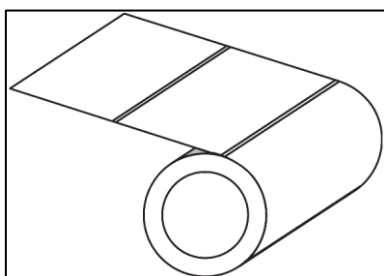
- ➔ Compressed air supply, network connection and power supply must be available within the immediate vicinity.
- ➔ Floor space: A firm, level floor space of sufficient size and load-bearing capacity is required for the printer at the selected installation location.
- ➔ There must be sufficient space at the front to ensure that the printout can be removed safely.
- ➔ The right-hand side panel is designed as a door for refilling the print media. Therefore, the right side should be freely accessible so that the print media can be refilled easily.
- ➔ The rear side should be accessible for any connection work.

5.2 Media



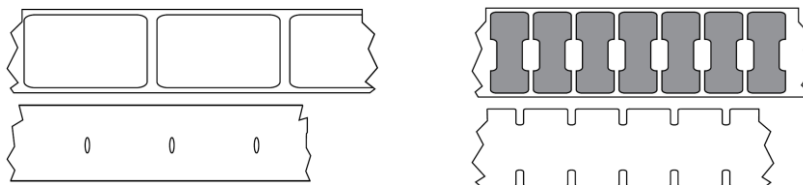
BARTEC strongly recommends the use of Zebra brand media to ensure consistent print quality. A wide range of paper, polypropylene, polyester and vinyl media is specifically designed to enhance the printer's printing performance and protect the print head from premature wear. Accessories are available at: <http://www.zebra.com/howtobuy>.

5.2.1 Media type



Roll media is wound on a 76 mm (3 inch) diameter roll core. Roll media is wound on a core that can be 25 to 76 mm (1 to 3 inches) in diameter. Individual labels or tags are separated from each other by one or more of the following methods:

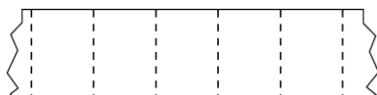
- For media with liner tape, the labels are divided by spaces, perforations and cut-outs ..



- For media with black markings, labels are divided by black markings pre-printed on the back.



- Perforated media has perforations that allow labels or tags to be easily detached. This media may also have black markings or some other form of division between the labels or tags.



5.2.2 Ribbons



If the ribbon is narrower than the media, the print head is partially unprotected and therefore subject to premature wear.

An ink ribbon is a thin ribbon coated on one side with wax or resin. In thermal transfer printing, this coating is transferred to the media. The print media determines whether a ribbon must be used and the width of the ribbon.

If a ribbon is used, it must be at least as wide as the media used. If the ribbon is narrower than the media, the print head is partially unprotected and therefore subject to premature wear.

Application of ribbons

Media for thermal transfer printing requires the use of ribbons for printing,

Media for direct thermal printing does not. In order to determine whether a particular media requires the use of ribbon, perform a media scratch test.

In order to perform a media scratch test, please carry out the following steps:

1. Scratch the print surface of the media with your fingernail in a quick motion.
2. Do you see a black mark on the media?

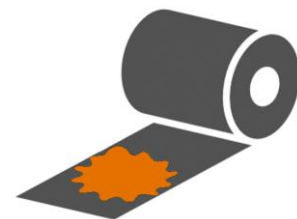
If ...	then the media ...
there is no black mark visible on the media, ...	is suitable for thermal transfer printing. This means that a ribbon is required.
a black mark appears on the media, ...	is suitable for direct thermal printing. No ribbon is required.

Coated side of the ribbon

Ribbons can be wound with the coating on the inside or on the outside. This printer can only use ribbon that is coated on the outside. Perform an adhesive test or ribbon scratch test if you are not sure which side of the ribbon is coated.



Exterior side



Interior side

5.3 Inserting media and ribbons

DANGER

DEATH OR SERIOUS PERSONAL INJURY FROM WORKING ON LIVE VOLTAGE PARTS

Danger to life from electrical current.

- ▶ When working near an open print head, remove rings, watches, necklaces, ID badges or any other metallic objects which could come into contact with energised parts.

5.3.1 Inserting the ribbon

This section applies only to printers using the thermal transfer option.



Use ribbons that are wider than the media to protect the print head from unnecessary wear. Ribbons must be coated on the outside.

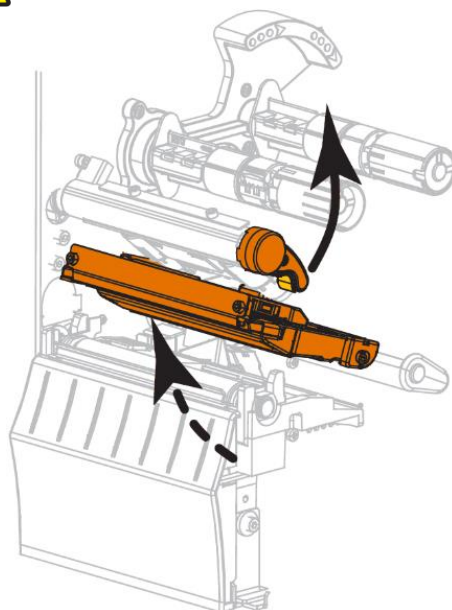
A ribbon is only used with thermal transfer labels. Do not load a ribbon into the printer for direct thermal labels.

Inserting the ribbon

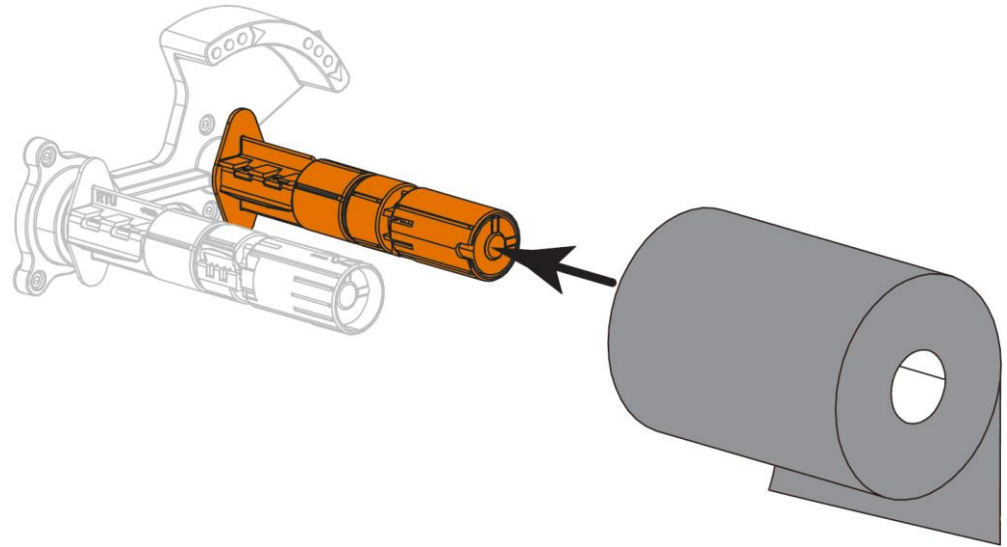
1. Switch off the Exp printer.
2. Open the Exp slot printer by using the cam locks on the door.
3. The print head unit can be opened by turning the print head opening lever.



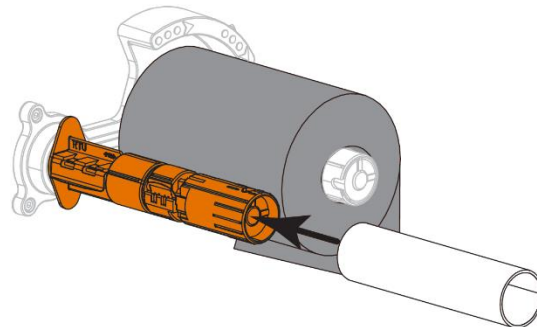
Caution • The print head can become very hot and can cause severe burns when touched. Therefore, allow the print head to cool down first.



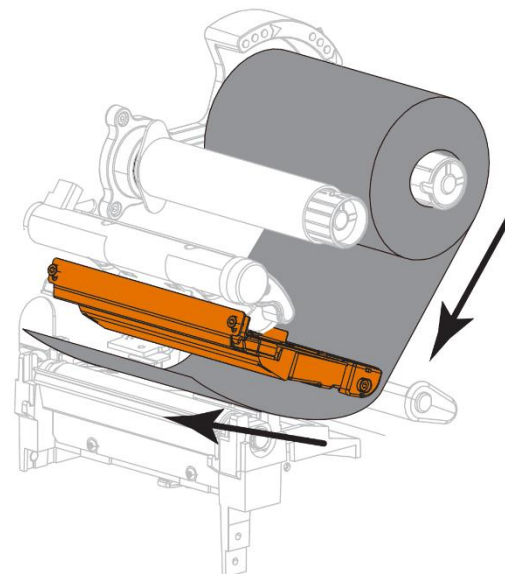
4. Place the ribbon roll on the ribbon supply spool so that the loose end unwinds as shown. Push the roll as far back as possible.



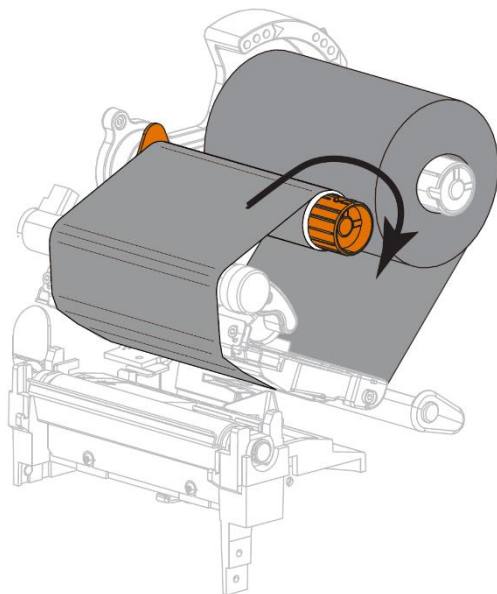
5. The printer is supplied with an empty ribbon core on the ribbon take-up spindle. If this core is no longer there, place an empty ribbon core on the ribbon take-up spindle. Slide the core as far back as possible.



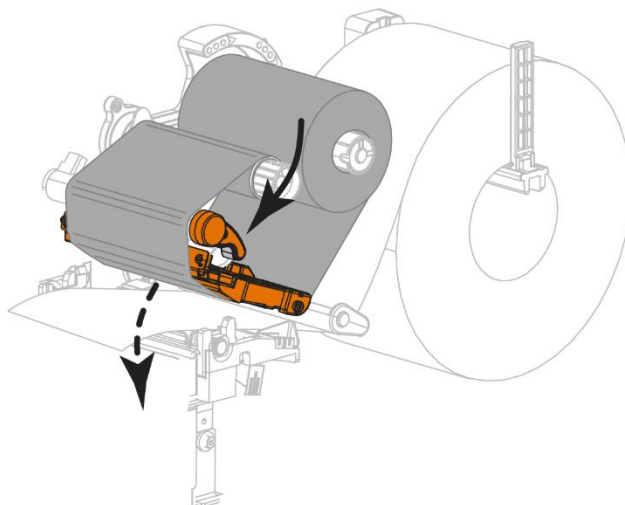
6. Slide the ribbon under the print head assembly (see illustration).



7. Rotate the spool a few times in the direction indicated to tighten and align the ribbon.



8. If media is already loaded, rotate the print head opening lever down until the print head clicks into place. Otherwise, continue with loading media.



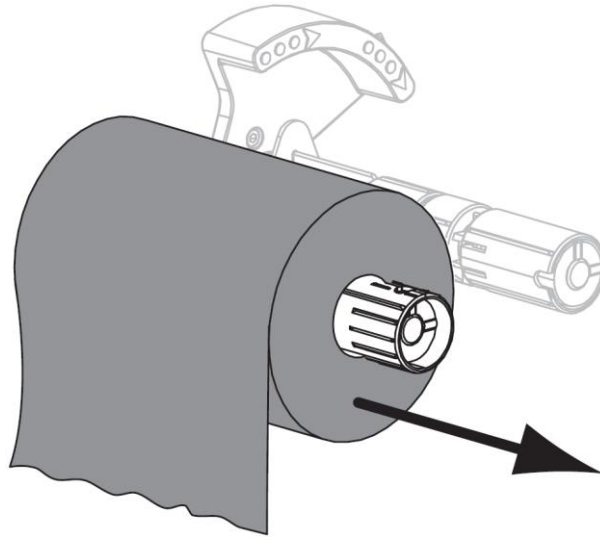
9. Close the Exp slot printer.

5.3.2 Remove used ribbon

Remove the used ribbon from the take-up spindle each time you replace the ribbon roll.

Remove used ribbon

1. Pull the core with the used ribbon from the ribbon take-up spindle.



2. Dispose of the used ribbon. You can reuse the empty core from the ribbon supply spindle by placing it on the ribbon take-up spindle.
3. Reload the ribbon. Follow the instructions in Chapter 5.3.1. Loading the ribbon.

5.3.3 Inserting of media

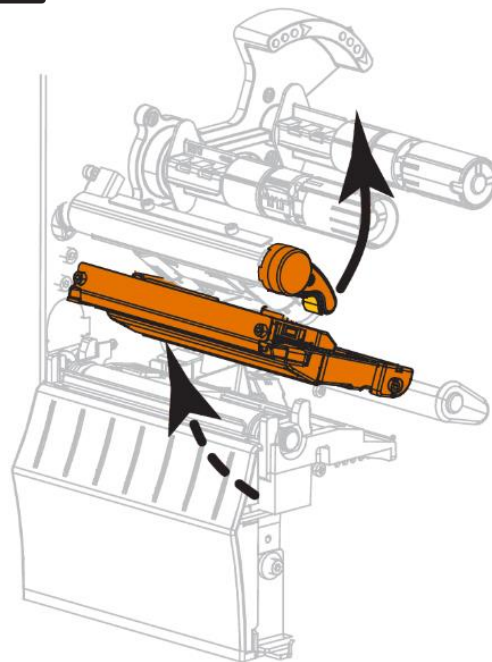
In order to load rolled or folded media in any print mode, please follow the instructions in this section.

Inserting of media

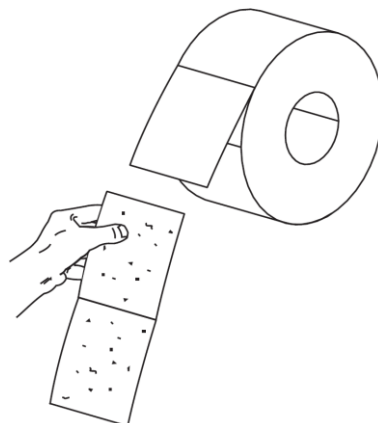
1. Open the Exp slot printer by using the cam locks on the door.
2. Open the print head unit by turning the print head opening lever.



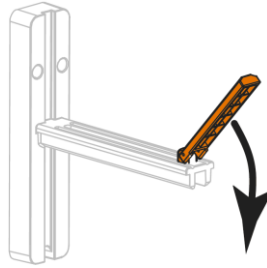
CAUTION – The print head can become very hot and can cause severe burns when touched. Therefore, allow the print head to cool down first.



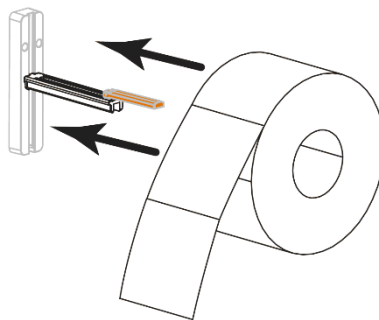
3. Inserting media into the printer:
 - a. Remove any tags or labels that are dirty or have been attached with adhesives or tape.



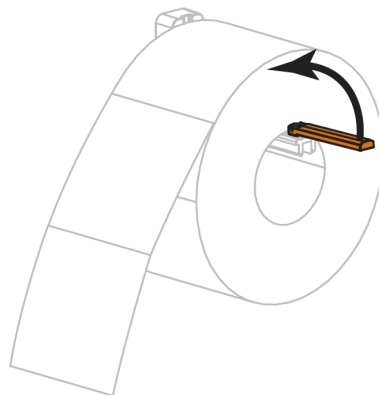
- b. Pull out the media feed guide and fold it down.



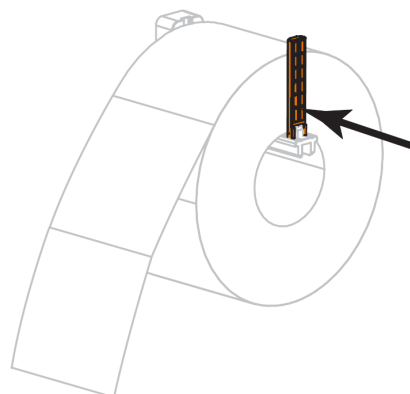
- c. Position the media roll on the media supply bracket. Push the roll back as far as it will go.



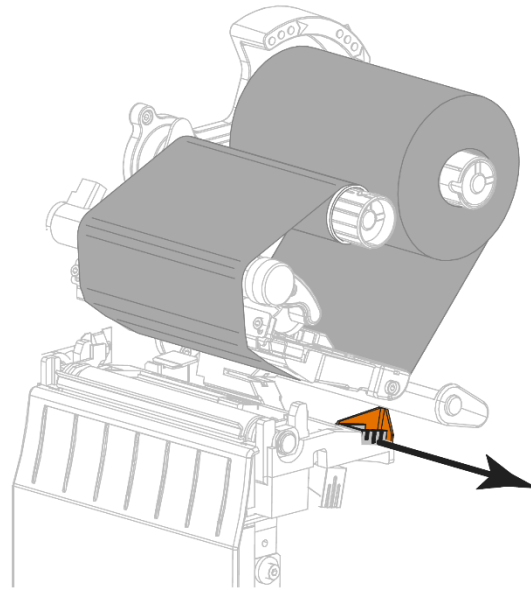
- d. Flip up the media supply guide.



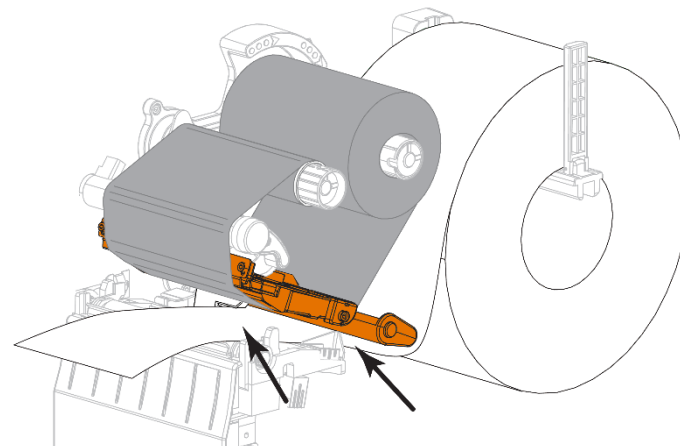
- e. Push the media supply guide in until it touches the outer edge of the media roll.



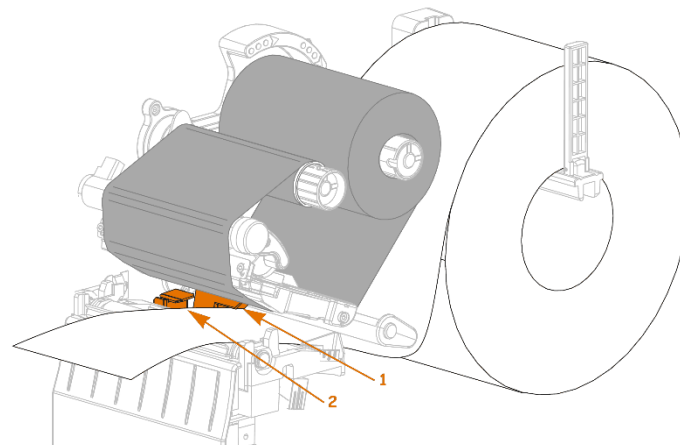
4. Pull out the outer media edge guide completely.



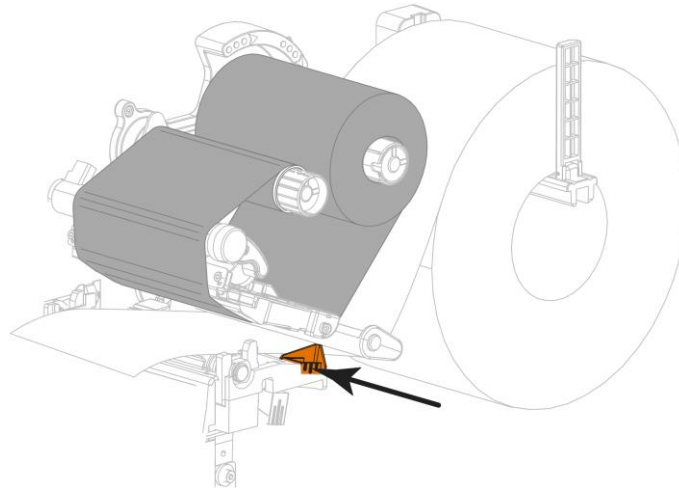
5. Slide the media under the media dancer unit and the print head unit. Push the media through until it protrudes from the front of the printer.



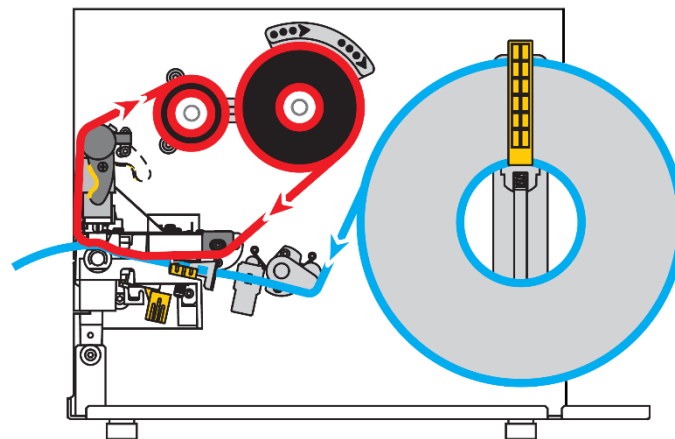
6. Make sure that the media has passed through the slot in the transparency sensor (1) and under the inner media edge guide (2). The media should just touch the back end of the slot on the transmitted light sensor.



- Slide the outer media edge guide in until it touches the edge of the media.



- Ribbon and media should be fed through the Exp Slot printer in the same way as it is shown in the following figure.

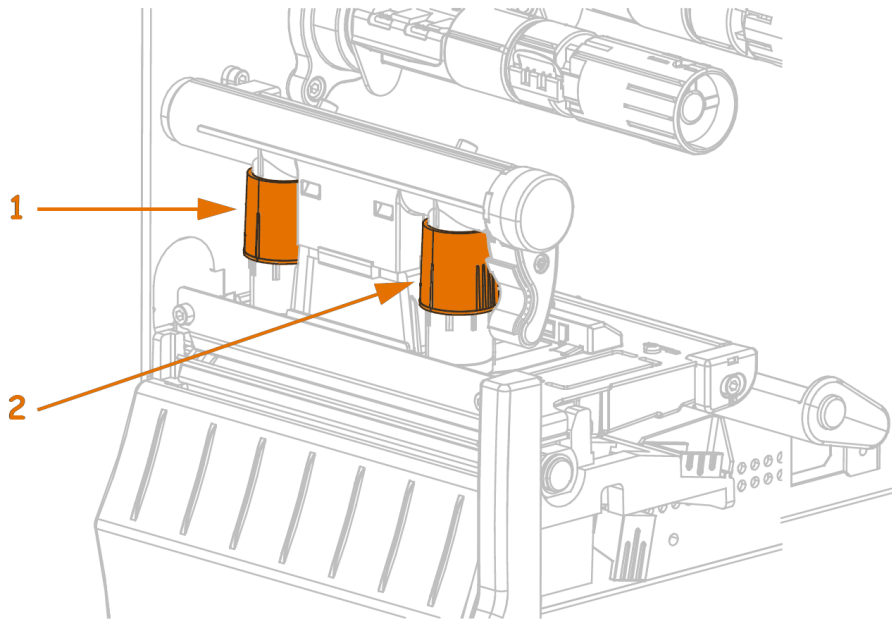


- Close the Exp slot printer.

5.4 Print head adjustment

If the printout is too light on one side, or if very thick media is printed, or if the media shifts sideways during the printing process, a pressure adjustment of the print head may be necessary. Use the lowest possible print head pressure that will produce a good print result.

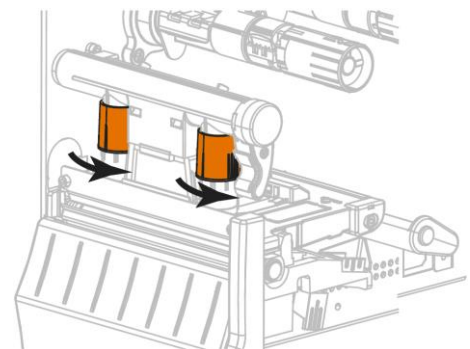
The print head pressure adjustment knobs have possible settings from 1 to 4 in half steps.



Position	Designation
①	Inside switch
②	Outside switch

If necessary, change the print head setting for print adjustment as follows:

If the media...	then...
requires a higher pressure in order to achieve good printing results,	move both dials up by one position.

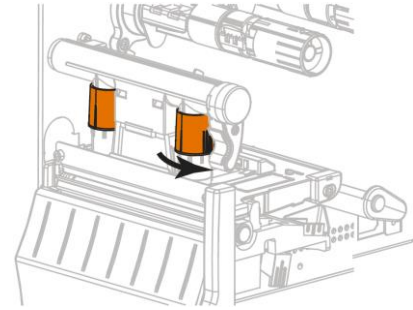


If the media...

slips to the left when printing,

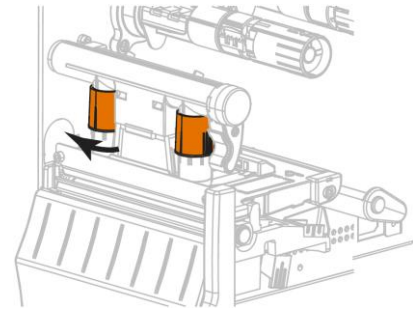
then...

turn the outside rotary switch up by one position.



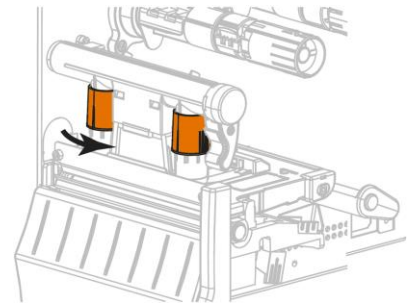
OR

turn the inside rotary switch lower by one position.



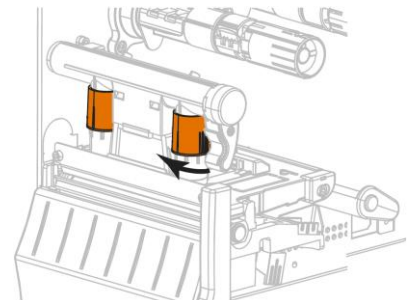
slips to the right when printing,

turn the inside rotary switch higher by one position.



OR

turn the outside rotary switch lower by one position.

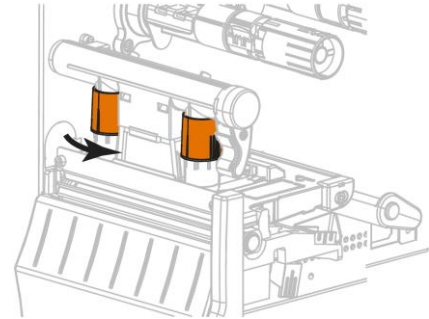


If the media...

on the left side of the label is printed too bright,

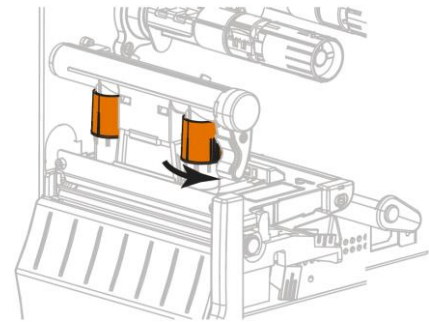
then ...

the inside rotary switch shall be set higher by one position.



on the right side of the label is printed too bright,

the outside rotary switch shall be set higher by one position .

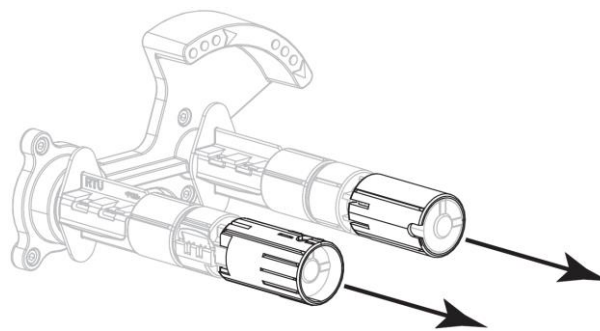


5.5 Adjusting the ribbon tension

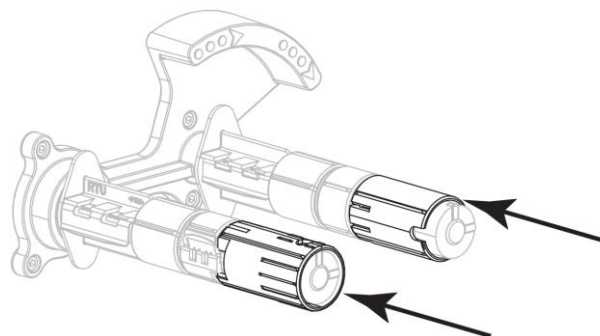
For the printer to work properly, the ribbon supply spindle and ribbon take-up spindle must be used with the same tension setting (normal or low tension). For most applications, use the normal tension. If you are using a narrow ribbon or experiencing ribbon problems, you may need to set the ribbon to a lower tension.

Adjusting the ribbon tension

Adjusting the normal tension To adjust the ribbon spool to the normal position, pull out the spool end cover until it clicks into place, as shown in the following illustration. Use these settings for most applications.



Low tension setting: To set the ribbon spool to the low tension position, slide the spool end cover onto the spool until it clicks into place, as shown in the following figure. Use this setting only if necessary, for example, if the ribbon at the beginning of a roll shows signs of abrasion or jams at the end of the roll at normal tension.



5.6 Purge gas supply

INSUFFICIENT PURGE GAS FLOW DUE TO UNDERSIZED PURGE GAS SUPPLY LINE.



A pressurized enclosure cannot be put into operation due to an insufficient flow of purge gas.

- ▶ It must be ensured that enough purge gas can flow through the purging gas supply line.

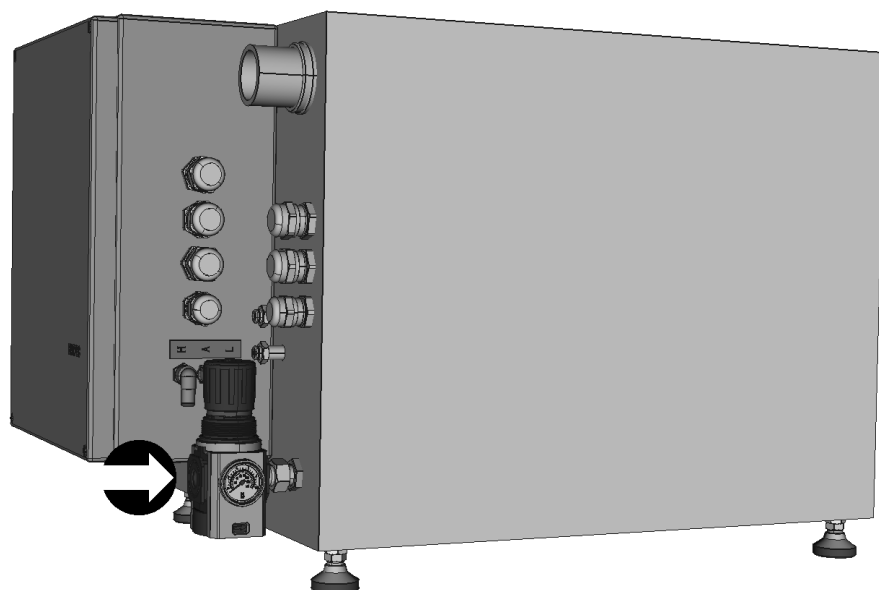
The purging gas supply consists of a pressure reducer, a purging gas valve and a purging gas nozzle.

The following table shows the configuration of the Exp system on the Exp slot printer.

Protected volume	Pre-pressure	Pressure reducer	Pressure switch	Purge gas nozzle	Supply line
60 Liter	2 bar	¼"	15 mm	3.9 mm	10 mm

The pressure reducer for reducing the supplied purging gas pressure is mounted on the outside of the Exp slot printer. Inside the pressurised enclosure, the proportional purging gas valve is mounted, which releases the purging gas. The purge gas nozzle limits the maximum flow of the purge gas and thus prevents the maximum pressure rise inside the pressurised enclosure in the event of a defect in the purge gas valve.

The purging gas supply is established at the pressure reducer by means of a G ¼" inch connection.



5.7 Electrical connections

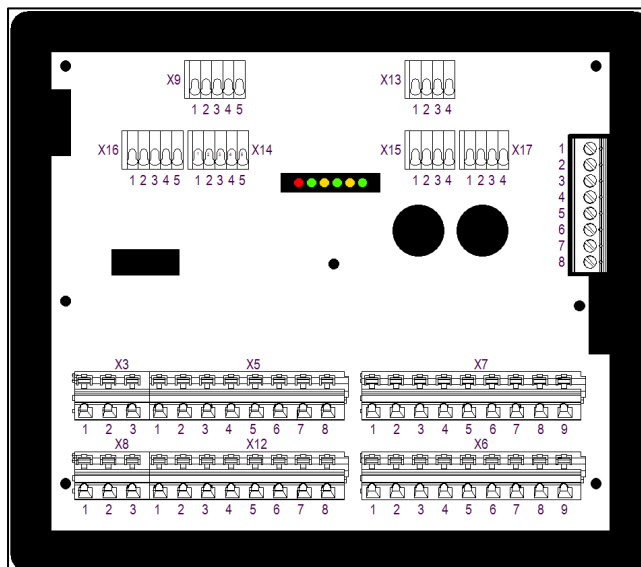
DANGER

DEATH OR SERIOUS PERSONAL INJURY FROM WORKING ON LIVE VOLTAGE PARTS.

Danger to life from electrical current.

- ▶ Observe the 5 safety rules for working on electrical systems: disconnect; secure against being switched on again; determine the absence of tension; earth and short-circuit; cover or cordon off neighbouring live parts

The connection terminals with type of protection “Ex e” or “Ex i” are located on the connection board of the Exp control unit.



	Terminal row	Function
Ex e	X3	Power supply Exp slot printer
	X5	2x signal relays, each 1x CO
	X12	LAN connection
	X7	Connection of unused LAN wires

5.7.1 General

DANGER

DEATH OR SERIOUS PERSONAL INJURY DUE TO OPENING THE COVER OF THE APEX CONTROL UNIT IN AN EXPLOSIVE ATMOSPHERE.

Risk of explosion.

- ▶ Before opening the housing cover, check the atmosphere for any explosive gases.

ATTENTION

SHORT CIRCUITS THROUGH LOOSE OR PROJECTING CABLES IN THE APEX CONTROL UNIT.

The APEX control could be damaged.

- ▶ Connect all core cables, including those not required, to the terminal.
- ▶ Lay cables only in the space between the shield bus and the connection terminal.
- ▶ Check that no cables are loose or protrude.

AVOID DAMAGE TO THE SEAL.

Cancellation of the Ex protection concept.

- ▶ Visual inspection of the seal when closing the APEX control unit (cleanliness, fit and intactness).



Recommendation for securing active parts

The Ex e terminals should be protected against contact by a protective cover.

The following describes the procedure for attaching connecting cables to the Exp control unit:

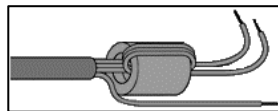
Procedure:

- ▶ Establish the electrical connections as per the terminal assignment. The clamps are designed using tension spring technology. A suitable tool must be used for this.

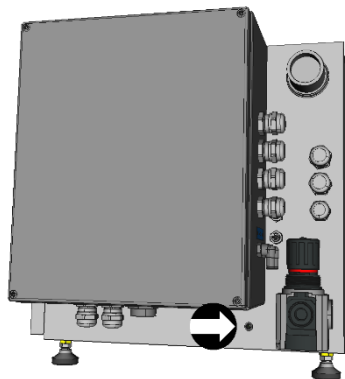
5.7.2 Lines and connections

Please note the following points:

- ▶ Divide the lines into groups.
 - ➔ Power cables (power supplies)
 - ➔ Data lines, shielded
- ▶ When wiring the LAN connection, make sure that the twisting is routed to just before the connection point.
- ▶ Avoid the formation of current loops
 - If possible, lay short cables. This ensures that coupling capacities and inductance can be avoided.
- ▶ Use ferrite cores for the inserted cables.
- ▶ In this procedure, the individual conductors must be routed through the ferrite core in a loop.



5.7.3 Grounding



The grounding of a system fulfils protective and functional measures.

Please note the following points:

- ▶ Grounding lines should be as short as possible.
- ▶ Avoid ground loops.
- ▶ Use ground straps with a width of at least 10 mm.

5.7.4 Backup fuse

ATTENTION

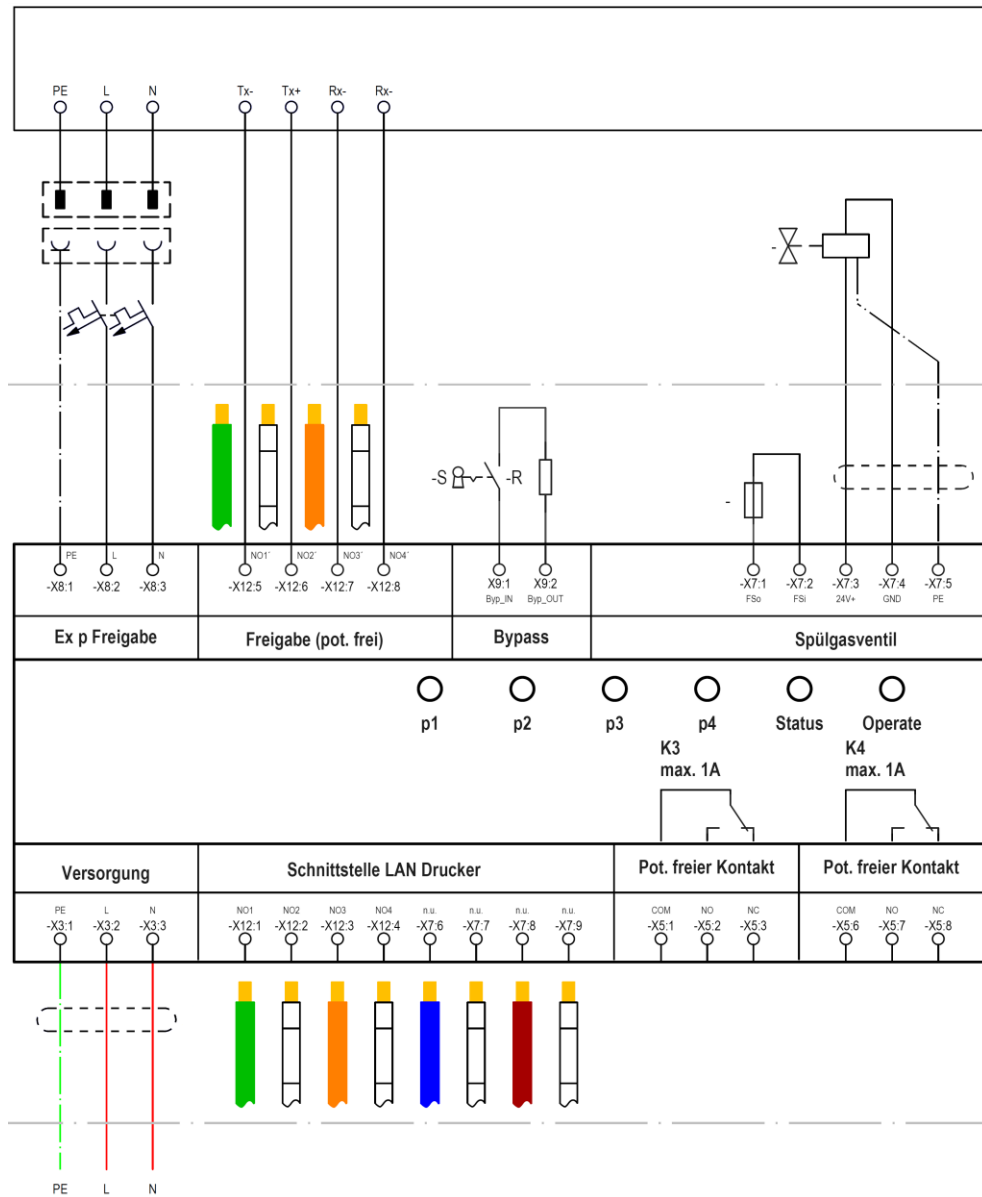
NOTE THE NOMINAL CURRENT OF THE ENABLING CIRCUIT (K1) AND ADD THIS TO THE FOLLOWING DATA. THE FOLLOWING VALUES ARE FOR THE EXP CONTROL UNIT ONLY.

If the dimensions are too small, the Exp control unit could be destroyed.

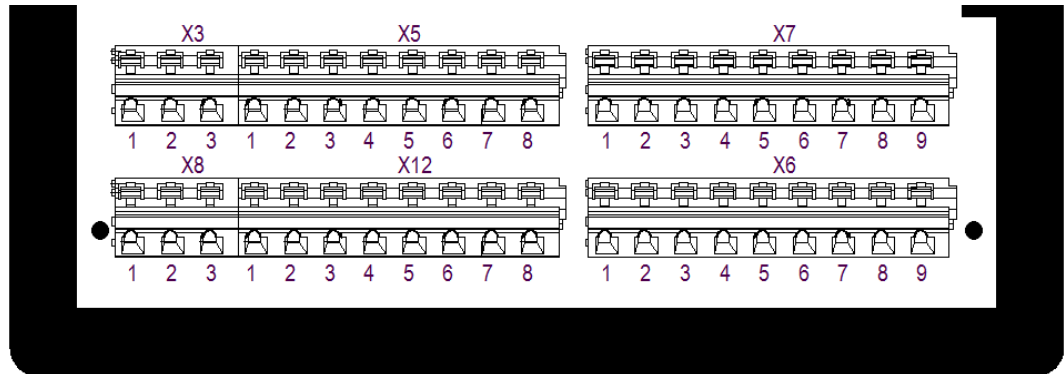
- ▶ Nominal current (controller) + nominal current enabling circuit (K1).

Variant	APEX, AC
Nominal current control unit	≥ 2 A
Nominal voltage control unit	≥ 277 V AC
Response time	Delayed
Breaking current	$\geq 1,5$ kA
Melting integral	9.7... 14.7 A ² s

5.7.5 Electrical wiring APEX



5.7.6 Customer connection points



5.7.6.1 Terminal row “X3” – Supply voltage

ATTENTION

PROPERTY DAMAGE CAUSED BY INCORRECT SUPPLY VOLTAGE

The internal electronics of the control unit could be destroyed.

- ▶ Before activating the supply voltage, compare the value of the supply voltage with the value printed on the control unit.

Active protective measure

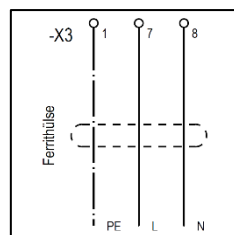
- ▶ As an active protective measure, the supply voltage must be protected by a fuse (min. 1500 A breaking capacity) and an FI circuit breaker.

EMC-compliant wiring

Internal electronics can be disturbed by missing EMC measures and may cause unforeseen shutdowns.

- ▶ Loop the supplied ferrite sleeve into the power supply.
- ▶ Please refer to “EMC-compliant wiring“.

The supply voltage is connected to terminal row X3.



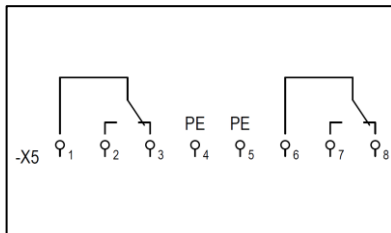
▲ Mounting of the ferrite sleeve

Procedure:

- ▶ Loop the “L” and “N” conductors once through the ferrite sleeve.
- ▶ Connect the “L” and “N” conductors to the respective terminals.

Terminal	Connection	Function
1	PE	PE power supply
2	L (+)	Phase (+ conductor) power supply
3	N (-)	Neutral (GND) power supply

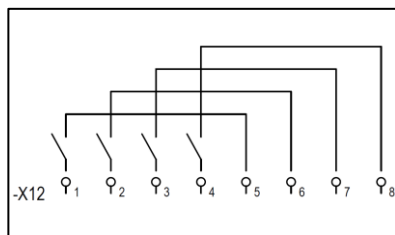
5.7.6.2 Terminal row “X5”- Messages



A potential-free changeover contact K3 and K4 is available on the Exp control unit for reporting and processing signals. The associated switching function can be set in the Exp control unit via the WEB interface and is freely programmable. The maximum switching current is 1 A.

Terminal	Connection	Function
1	K3 – COM	Foot contact
2	K3 – NO	Make contact
3	K3 – NC	Break contact
4 / 5	PE	
6	K4 – COM	Foot contact
7	K4 – NO	Make contact
8	K4 – NC	Break contact

5.7.6.3 Terminal row “X12” – LAN connection to the printer



The terminal row X12 with the terminal points 1 to 4 is used to connect the LAN data cable.

Terminal	Connection	Function	Color
1	K2_1 - NO	GN	Green
2	K2_2 - NO	GNWH	Green/White
3	K2_3 - NO	OG	Orange
4	K2_4 - NO	OGWH	Orange/White
5	K2_1' - NO	GN	Green
6	K2_2' - NO	GNWH	Green/White
7	K2_3' - NO	OG	Orange
8	K2_4' - NO	OGWH	Orange/White

5.7.6.4 Terminal row “X7”

The terminal row X7 with the terminal points 6 - 9 is intended for holding the unused wires of the LAN connection cable.

Terminal	Connection	Function
6	L1 BU	Taking up unused cores of the LAN cable
7	L2 BUWH	Taking up unused cores of the LAN cable
8	L3 BNWH	Taking up unused cores of the LAN cable
9	L4 BN	Taking up unused cores of the LAN cable

6 Operation

The following chapters describe the operation of the Ex p control unit for the end user. The configuration and setting description is available in a separate operating manual.

The complete solution is self-starting after connection of purge gas supply and supply voltage. System states can be queried via the WEB interface.

6.1 Operating the Ex p control unit

For details regarding the operation of the Ex p control unit, please refer to the relevant user's manual of the control unit.

6.2 Operating the Ex p slot printer

6.2.1 Control panel of the Ex p slot printer



Position	Component
①	Status display
②	Pause display
③	Data display
④	Stock display
⑤	Network indicator
⑥	Pause key
⑦	Feed key
⑧	Cancel key

Indicator lights

The indicator lights show the current status of the printer. For more information, please see the relevant section "Meaning of the status indicators" in the Appendix.

Operating keys

“Pause” key: Pressing the “Pause” key starts or stops the individual printer operation.

“Feed” key: When the “Feed” key is pressed, the printer feeds one blank label at a time.

“Cancel” key: By means of the “Cancel” key, label formats can be cancelled as soon as the printer has stopped.

- ➔ If the “Cancel” key is pressed once, the next label format will be cancelled.
- ➔ If the “Cancel” key is pressed and held for 2 seconds, all label formats will be cancelled.

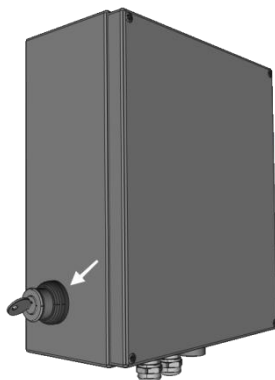
6.2.2 Bypass key switch

DANGER

DEATH OR SERIOUS PERSONAL INJURY DUE TO START-UP WITH BYPASS KEY SWITCH IN EXPLOSIVE ATMOSPHERE.

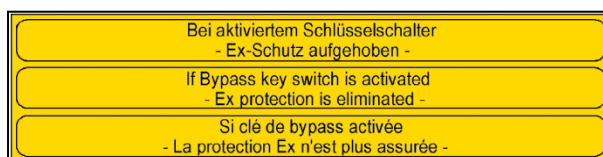
Risk of explosion.

- ▶ Commissioning with bypass key switch must be approved by the plant manager or his authorised representative. Permission may only be granted if it is ensured that no explosive atmosphere is present for the period of commissioning or if necessary protective measures against the risk of explosion have been taken (fire permit).
- ▶ A marking on the bypass key switch that the Ex protection is cancelled when the key switch is activated must be affixed in the direct area of the key switch.



The bypass key switch integrated on the Exp control unit helps to set up the printer. Usually, IP addresses and other settings are not carried out at the installation site. The bypass key switch is integrated so that this can also be done without a compressed air supply. This cancels the explosion protection measure and activates the integrated printer even without a supply of purge air. Thus, the intended adjustment work can be carried out on the opened Exp slot printer.

The bypass key switch is labelled according to the following label and is located in the immediate vicinity of the bypass key switch.



7 Commissioning



A label offset of approx. 8.3 mm must be set in the printer driver

7.1 General

We recommend the following procedure for commissioning the Exp slot printer:

- ➔ Unpacking and checking the Exp slot printer entirely for proper function.
 - Unpack the printer immediately after receipt, and check it for any potential transport damages.
 - Keep all packaging material.
 - Inspect all external surfaces for any damage.
 - Open the Exp slot printer and check the interior whether there any damaged components.

Providing that you become aware of any transport damages during your inspection, you shall be obligated to take the following actions:

- Please notify the logistics company immediately and file a damage report.
- Keep all packaging material to be inspected by the logistics company.
- Please notify your authorised BARTEC dealer and inform him accordingly.



BARTEC shall not be responsible for any damage which may result from the shipment of the device. Any repairs of such damages shall not be covered by the warranty.

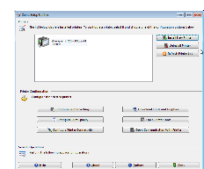
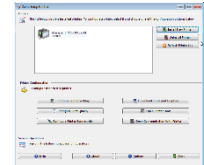
- ➔ Provide power supply to the Exp slot printer.
- ➔ Establish a direct connection via USB between the set-up PC and the Exp slot printer.
- ➔ Activate the bypass key switch.
- ➔ Carry out all necessary settings, such as IP address, gateway, etc.
- ➔ Disconnect the USB connection and replace it with an Ethernet connection via the Exp control unit.
- ➔ Check the print function via the network.
- ➔ Deactivate the bypass key switch.
- ➔ Set up the Exp slot printer at the intended location.
- ➔ Provide power supply to the Exp slot printer.
- ➔ Provide connection to the Ethernet network.
- ➔ Check the print function via the network.

7.2 Setting up the Exp slot printer

The following steps describe in detail what exactly is required to prepare the Exp slot printer for the intended installation site.

Setting up the Exp slot printer

- ➔ Installing the ZEBRA Setup Software
 - Software: Zebra Setup Utilities
 - Download: www.zebra.com/setup
 - Simply follow the installation instructions of the ZEBRA software.
- ➔ Provide power supply to the Exp slot printer
 - Connect the power supply to the control unit -X3.
- ➔ Establish a USB connection between the Exp slot printer and the setup PC.
 - For this purpose, please use a USB cable USB-A (PC) to USB-B (printer).
- ➔ Activate the bypass key switch.
 - The Exp slot printer is activated.
- ➔ Carry out the intended settings using the ZEBRA Setup Utilities software.
- ➔ Check the settings



7.3 Setting up and commissioning

- ➔ Set up the printer at the intended location.
- ➔ Carry out the installation as described in the chapter “Installation”
 - Purge gas supply
 - Power supply
 - Network connection
- ➔ Function test
 - Purging process
 - Automatic activation of the Exp slot printer
 - Test print

8 Exp function test and procedure

8.1 Safety during operation

! DANGER

DEATH OR SERIOUS PERSONAL INJURY DUE TO A DAMAGED EXPLOSION PROTECTION MEASURE. The safe operation of the control unit is no longer possible.

Explosion hazard

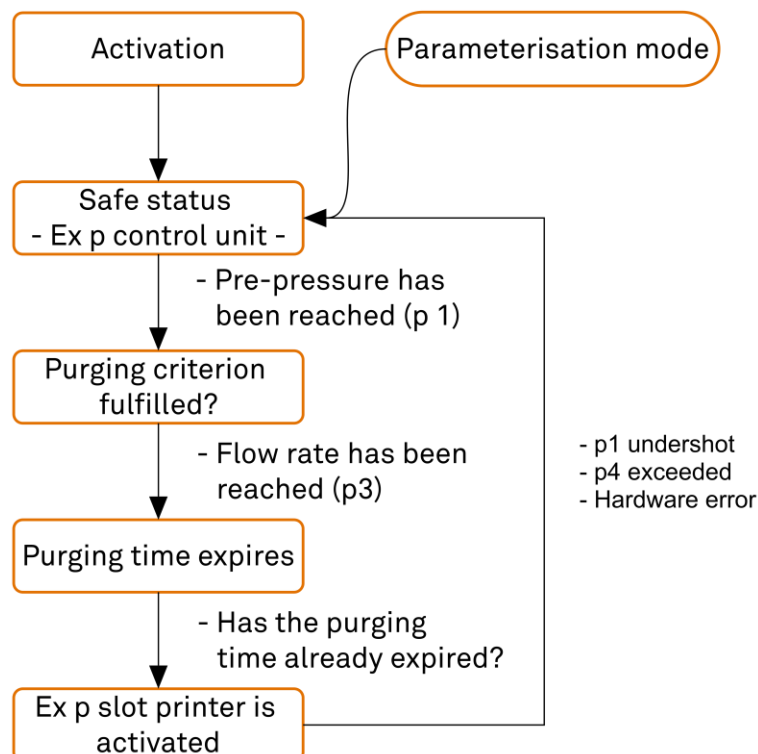
- ▶ The Exp slot printer must be taken out of operation and secured against being switched on again.

8.2 Exp function flow chart of the Exp slot printer

The operation of the Exp slot printer can be divided into the following three phases:

1. Initialisation phase Exp slot printer:
 - Activation of purge gas and power supply
2. Purging phase Exp slot printer:
 - The housing of the Exp slot printer is purged and cleaned with the required quantity of purging gas.
3. Operating phase Exp slot printer:
 - An overpressure is maintained inside the Exp slot printer by compensating the leakage losses and the integrated printer is activated.

The Exp control unit executes the following sequence during commissioning:



9 Maintenance and repair



BARTEC is not responsible for any damage caused to this printer by the use of cleaning agents.

Regular preventive maintenance is an essential part of normal printing operations. By taking care of your printer, you can minimise the occurrence of potential problems while achieving and maintaining the desired print quality.

Over time, the movement of media or ribbon across the print head will wear away the protective ceramic coating, exposing and possibly damaging the print elements (dots). This is how wear and tear may be avoided:

- Clean the print head regularly.
- Minimise the pressure of the print head and the firing temperature (blackening level) settings by optimising the balance between both of them.
- When using thermal transfer printing, ensure that the ribbon is at least as wide as the media or wider to prevent the print head elements from being exposed to the more abrasive label stock.

9.1 Maintenance work

9.1.1 Visual inspection

Perform a visual inspection on a regular basis:

- ▶ Check the enclosures, cable entries and cables for any damage.
- ▶ Check for any impurities

9.1.2 Cleaning

Special cleaning procedures are described on the following pages. The intervals are intended as guidelines only. You may need to clean more frequently depending on your application and the media used.

Recommended cleaning schedule:

Component	Cleaning method	Interval
Print head	Solvent *	Direct thermal mode:
Platen roller	Solvent *	After each roll of print media.
Print media sensor	Airstream	Thermal transfer mode:
Ribbon sensor	Airstream	
Media guide	Solvent *	After each ribbon roll.
Ribbon guide	Solvent *	
Pinch roller	Solvent *	
Sensor label guide	Solvent *	Every six months.

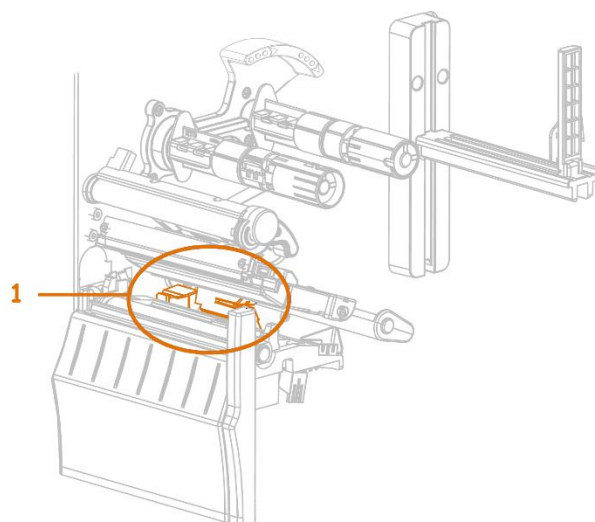
Zebra recommends using the maintenance kit (Part No. 47362). Instead of the maintenance kit, you can use a clean swab dipped in a solution of isopropyl alcohol (minimum 90%) and de-ionised water (maximum 10%).

9.1.2.1 Cleaning of outside surfaces, media compartment and sensors

Over time, dust, dirt and other debris may accumulate on the outside and inside of your printer, especially in a harsh operating environment.

Exterior surfaces of the printer: If necessary, you can clean the exterior surfaces of the printer with a damp cloth and some mild detergent. Do not use any harsh or abrasive cleaners or solvents.

9.1.3 Media compartment and sensors



Use a soft brush, compressed air or a vacuum cleaner to remove accumulated paper lint and dust from the media guide and ribbon guide.

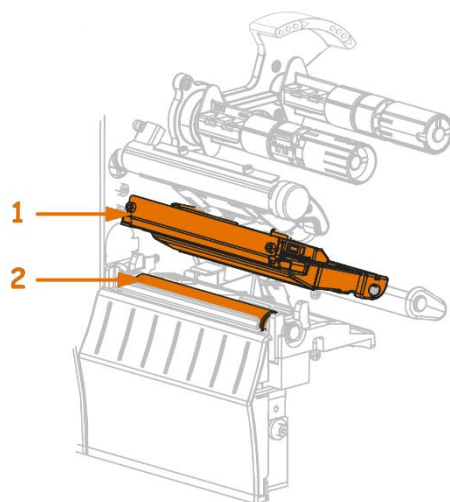
Use a brush, air blast or vacuum cleaner to remove accumulated paper lint and dust from the sensors (1).

9.1.3.1 Cleaning of print head and platen roller



For printers with a peel-off unit, it is recommended to keep the peel-off unit closed while cleaning the platen roller in order to avoid bending the tear-off/peel-off bar.

Inconsistent print quality, such as gaps in the barcode or graphics, may indicate a contaminated print head.



Position

Component

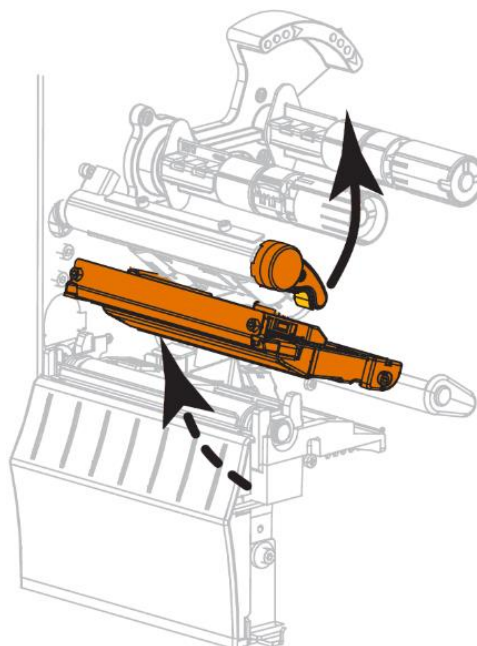
①

Print head assembly

②

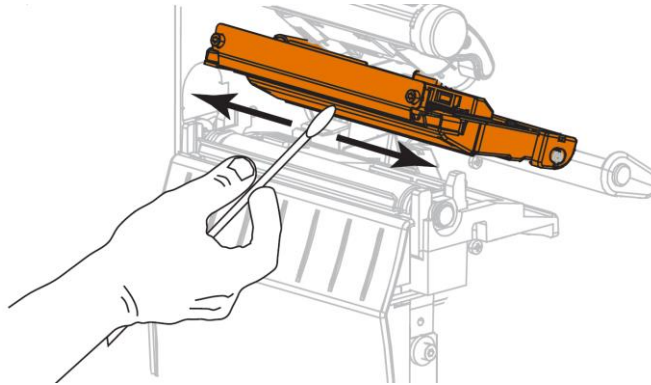
Platen roller

- Open the Exp slot printer
 - Turn the opening lever upwards in order to release the print head along with the print head assembly

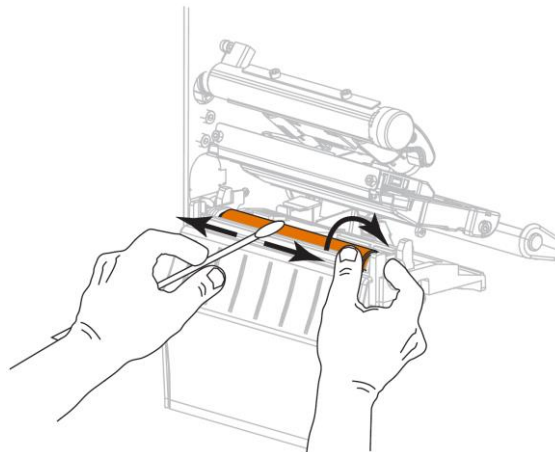


- Remove ribbon and media

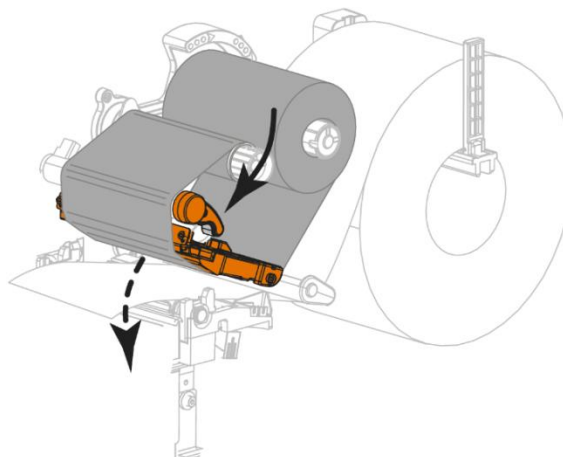
- Take a swab from the Zebra maintenance kit and wipe back and forth between the ends of the brown bar on the print head assembly. Instead of using the maintenance kit, you can use a clean cotton swab dipped in 99.7% isopropyl alcohol. Wait until the solvent has evaporated.



- Turn the platen roller manually and clean it thoroughly with the swab. Wait until the solvent has evaporated.



- Load the ribbon (if it is used) and the media. For further information, please refer to Chapter 5.3.
- Turn the print head opening lever downwards until the print head locks into place.



- Close the Exp slot printer.

9.1.4 Regular maintenance Exp monitoring

Depending on the purity of the purge air used, the inlet and outlet of the control unit must be inspected regularly for any contamination (e.g. oil, dust, etc.) or corrosion.

In the event of any abnormalities, the operator should weigh up the possibility of a timely and appropriate cleaning at BARTEC GmbH against a spontaneous failure of the control unit.

Furthermore, the function of the entire system should be checked. In this regard, the correct sequence of the purging phase and operating phase should be checked.

9.2 Repair work

Any repairs to the control unit and the accessories may only be carried out by BARTEC GmbH.

9.3 Faults and troubleshooting

CAUTION

A CHANGE IN OPERATING BEHAVIOUR MAY ALREADY BE AN INDICATION OF PRE-EXISTING DAMAGE TO THE CONTROL UNIT.

- ▶ Do not put the Exp system back into operation until the cause of the fault has been eliminated.

It is assumed that the connection of all external electrical and mechanical devices has been carried out correctly. Therefore, the proper setup and connection of the electrical equipment should be checked first.

9.3.1 Replacement of printer components

Some printer components, such as the print head and platen roller, can wear out over time and can be easily replaced. The life of these components can be extended by ensuring regular cleaning.

9.3.2 Ordering of spare parts

In order to achieve optimum print quality and proper printer performance with all our products, BARTEC recommends that only genuine Zebra accessories are used. Especially the ZT220 printer has been developed for the use of original Zebra print heads only. This is the only way to ensure maximum safety and print quality.

For more information on ordering spare parts, please contact your authorised BARTEC dealer.

10 Technical data

Parameter	Technical details
Product	Exp slot printer
Type	07-3704-2222/900.
EU Type Examination Certificate	BVS 20 ATEX E 060 X
IECEX certification	IECEX BVS 20.0048X
ATEX marking	Ⓜ II 2G Ex pxb IIC T4 Gb
IECEX marking	Ex pxb IIC Gb
Operating ambient temperature range	+5 °C to +40 °C @T4
Storage and transport	-25 °C to +60 °C
Humidity	5% bis 85%, non-condensing
Mains voltage AC (Variant)	100 Vac to 230 Vac, +/- 10%
Power consumption electronics	< 4 A
Max. Power consumption	< 50 W
Release relay K1 (Exp control unit)	Release of power supply for integrated printer
Release relay K2 (Exp control unit)	Release of LAN interface
Signal relay K3 and K4 (Exp control unit)	Potential-free, 1x changeover contact, 230 Vac @ 1 A, 24 Vdc @ 1 A
Pressure range	0 ... 25 mbar
Purge time	< 10 minutes
Purge gas valve	Proportional
Connecting terminal "Ex e"	0.08 ... 2.5 mm ² (28 ...12 AWG)
With wire end ferrule / plastic collar	0.25 ... 1,5 mm ²
Connecting terminal "Ex i"	0.20 ... 2.0 mm ² (20 ...14 AWG)
With wire end ferrule / plastic collar	0.25 ... 0.75 mm ²
Housing material	Stainless steel V4A
Screwed cable glands	2x M20 nickel-plated brass (clamping range: 4 - 12 mm) For power supply and LAN connection
Ingress Protection (IP) Rating	IP 4x in accordance with IEC/EN 60079-0 IP 44 in accordance with IEC/EN 60529
Dimensions	375 (W) x 380 (H) x 581 (D) mm
Weight	35 kg









































11 Order numbers































11.1 Exp slot printer

Exp slot printer, LAN, 203 dpi	07-3704-2222/9001
Exp slot printer, USB, 203 dpi	07-3704-2222/9002
Exp slot printer, LAN, 300 dpi	07-3704-2222/9003

12 Appendix

12.1 Meaning of the individual status displays

Display	Meaning
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS light permanently green</p> <p>(other lights remain yellow for 2 seconds during switch-on)</p> <p>The printer is ready for operation.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>PAUSE light permanently yellow.</p> <p>The printing process is interrupted.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS indicator lights continuously red</p> <p>SUPPLY indicator lights continuously red</p> <p>An error has occurred in the media supply. Printer operation can only be resumed by user intervention.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS indicator lights up continuously red</p> <p>SUPPLY light flashes red</p> <p>An error has occurred in the ribbon supply. The printer operation can only be resumed by user intervention.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS indicator lights up continuously yellow</p> <p>SUPPLIES light flashes yellow</p> <p>The printer is in direct thermal mode, which does not require any ribbon. However, a ribbon is loaded in the printer.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS indicator lights up continuously red</p> <p>PAUSE indicator lights up continuously yellow</p> <p>The print head cover is open. Printer operation can only be resumed by user intervention</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS indicator lights up continuously yellow</p> <p>The temperature of the print head is too high.</p>
     STATUS PAUSE DATA SUPPLIES NETWORK	<p>STATUS light flashes yellow</p> <p>The flashing of the indicator can have one of the following causes:</p> <ul style="list-style-type: none"> •The temperature of the print head is too low. •The temperature of the power supply is too high.

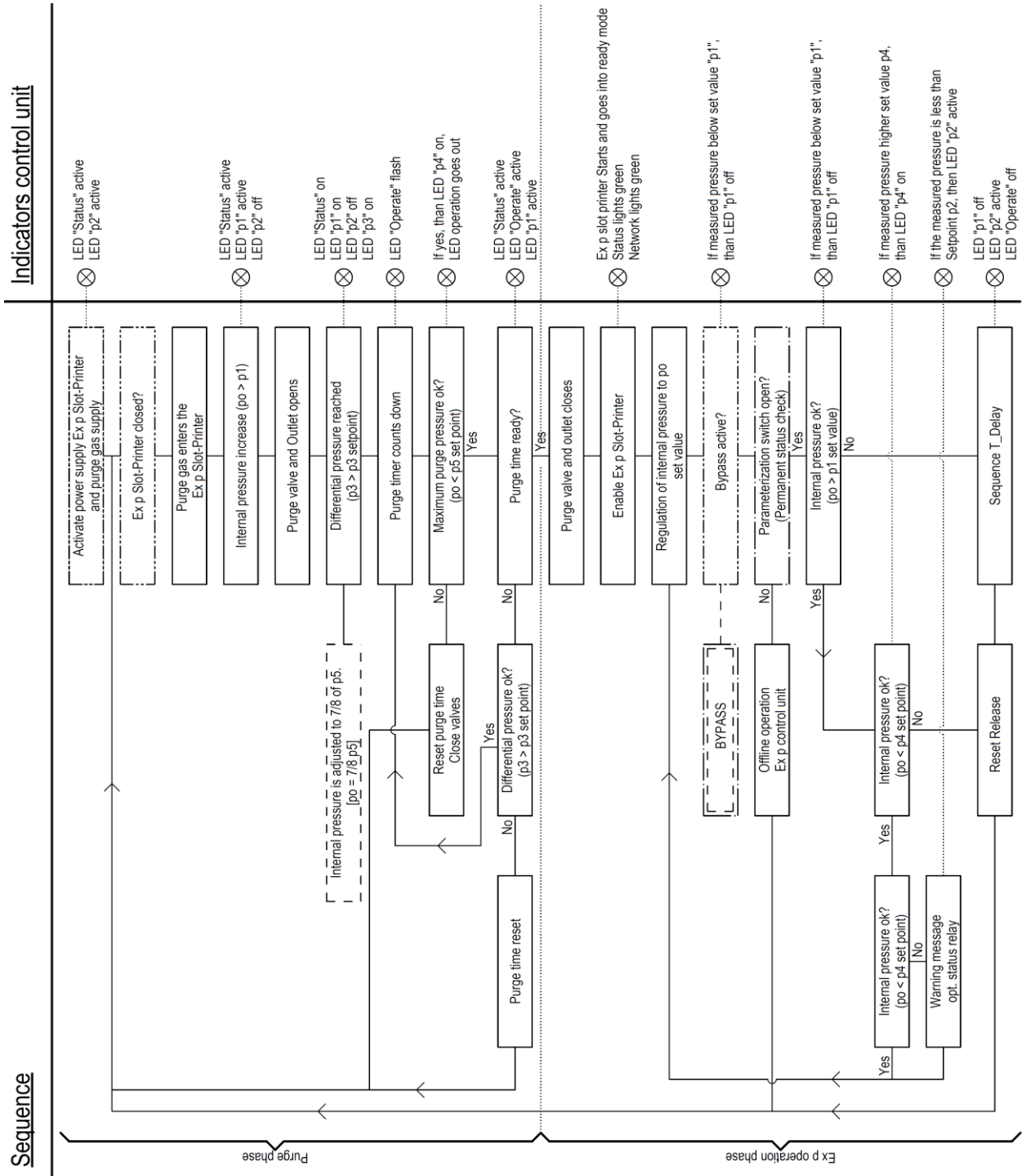
		•The temperature of the circuit board is too high.
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>STATUS indicator lights up continuously red.</p> <p>PAUSE light continuously red</p> <p>DATA light continuously red.</p> <p>The print head has not been replaced with a genuine Zebra print head. Install a genuine Zebra print head.</p>
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>The STATUS light flashes red.</p> <p>The printer cannot read the DPI setting of the print head.</p>
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>The NETWORK light remains off.</p> <p>No Ethernet link is available.</p>
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>NETWORK lights continuously green.</p> <p>A 100Base-T link has been found.</p>
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>NETWORK lights continuously yellow.</p> <p>A 10Base-T link has been found.</p>
 STATUS	 PAUSE	 DATA
 SUPPLIES	 NETWORK	<p>NETWORK lights continuously red.</p> <p>There is an Ethernet error. The printer is not connected to the network.</p>

12.2 Types of purge gas

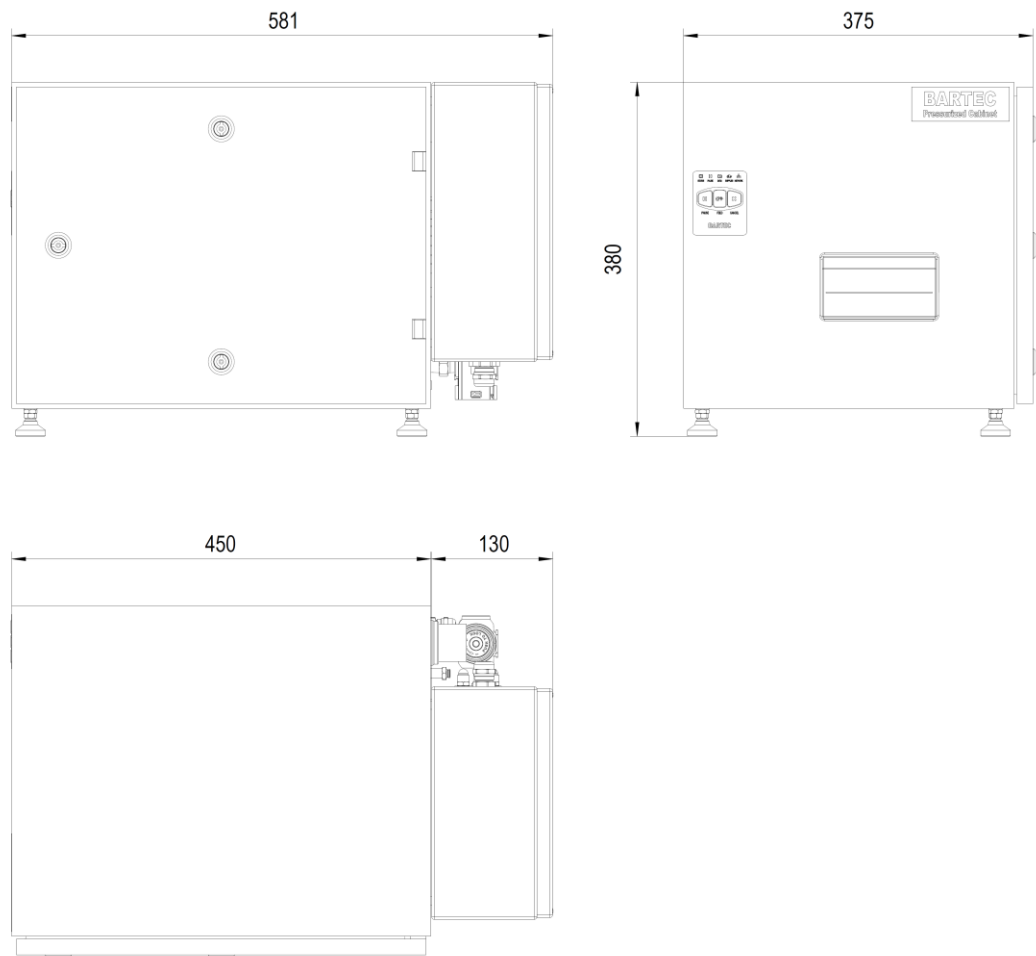
Purified and dry instrument air is permissible as purge gas. In any case, a filter must be installed upstream if the quality is not guaranteed with regard to foreign particles. The following quality characteristics of the purge gas should be fulfilled:

- ➔ Residual dust: < 40 µm
- ➔ Residual water: Dew point +3 °C
- ➔ Residual oil content: 1 mg/m³

12.3 Flow chart



12.4 Dimensions



This representation is not true to scale.

13 EU Declaration of Conformity

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité
N° 01-3704-7C0001

BARTEC

Wir	We	Nous
BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
APC – APEX Pressurized Cabinet		

Typ 07-3704-****/****

auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht	to which this declaration relates is in accordance with the provision of the following directives (D)	se référant à cette attestation correspond aux dispositions des directives (D) suivantes
ATEX-Richtlinie 2014/34/EU	ATEX-Directive 2014/34/EU	Directive ATEX 2014/34/UE
EMV-Richtlinie 2014/30/EU	EMC-Directive 2014/30/EU	Directive CEM 2014/30/UE
RoHS-Richtlinie 2011/65/EU	RoHS-Directive 2011/65/EU	Directive RoHS 2011/65/UE
RoHS-Richtlinie 2015/863/EU	RoHS-Directive 2015/863/EU	Directive RoHS 2015/863/UE
WEEE-Richtlinie 2012/19/EU	WEEE-Directive 2012/19/EU	Directive WEEE 2012/19/UE
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN IEC 60079-0:2018

EN 61000-6-2:2019

EN 60079-2:2014

EN 61000-6-4:2019

EN 60079-11:2012

EN 60529:1991 + A1:2000 + A2:2013

EN 62208:2011

EN 60445:2017

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
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BVS 20 ATEX E 060 X

0158, DEKRA Testing and Certification GmbH, Dinnendahlstrasse 9, 44809 Bochum, DE

CE 0044

Bad Mergentheim, 21.08.2020

i.V. Jens Schurwanz
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14 Notes

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