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ESM3 AUTOMATIC | MANUAL | POSITIVE



Obey local or municipal regulations for product recycling and disposal.

ABOUT THIS MANUAL

ITS PURPOSE

The purpose of this manual is to help you get the most value from your Ransburg system. It can help you to determine how to install, operate, maintain, and repair your equipment. It provides information and procedures for routine maintenance and servicing and offers diagnostic and repair procedures to follow when trouble occurs.

ITS CONTENTS

This manual is divided into Chapters, each of which is divided into consecutively numbered Sections.

Chapters will contain text, images, tables, or a combination of them.

Pages with images will have paragraphs and sentences with callout numbers that refer to their respective images, steps, and parts.

Procedures, once described in the text, are not normally repeated. When it is necessary to refer to another Chapter or Section, the reference will be given as Chapter and Section number. Cross references given without the use of the word "Chapter" apply to Sections or paragraphs in the current Chapter.

Chapter 02. Table of Contents.

Chapter 03. Declaration of Conformity – A mandatory document the manufacturer signs to declare the product complies with the EU requirements.

Chapter 04. Safety – Safety, hazard, and warning rules.

Chapter 05. Product Overview – Display of the equipment and identification of its essential components.

Chapter 06. Installation – Information on setting up and connecting the equipment.

Chapter 07. Operation – Information on operating the equipment.

Chapter 08. Appendix – Collection of configuration drawings.

Chapter 09. Manual Revisions – The revisions and changes made to this manual.

Chapter 10. Warranty – Your equipment's warranty.

WHO SHOULD USE THIS GUIDE

This guide is intended for users with different levels of knowledge and experience with this system:

- **Installers:** The person(s) who will locate and install this equipment.
- **Users:** The person(s) who will learn how to operate this equipment.
- **Servicers:** The person(s) who will service and maintain this equipment.

This guide assumes all persons who will install, use, operate, and service this equipment have some knowledge of the product and its operating system.

MANUAL DISCLAIMER

All current and applicable certifications shown in this manual confirm Binks' adherence to the strict standards met to obtain the required regulatory compliances.

This manual was prepared with the most accurate information current at the time of publishing. Binks does not accept responsibility for errors in, or omissions from, the information contained herein.

Please get in touch with your distributor or Binks Customer Service for additional service information and assistance.

ESM3 RELATED MANUALS & PUBLICATIONS

PART NUMBER	DESCRIPTION
CMS-60106	Configuration Drawing ESM3 AUTOMATIC: CMS-10002-CD.pdf
CMS-60107	Configuration Drawing ESM3 MANUAL: CMS-10003-CD.pdf
CMS-60108	Configuration Drawing ESM3 POSITIVE *: CMS-10001-CD.pdf

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

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03 DECLARATION OF CONFORMITY

03.1 EUROPEAN ATEX DIRECTIVE 2014/34/EU, ANNEX II

The instructions below apply to equipment that falls under Certificate FM 19ATEX0004X.


1. The equipment may be used with combustible dust with equipment Group II and temperature class T6.
2. The equipment shall be operated in a space with an ambient temperature of +10°C to +40°C.
3. Installation shall be performed by trained personnel in accordance with applicable regulations, such as EN 60079-14:2014. The power cable must be connected to a power source outside the classified zone.
4. Inspection and maintenance shall be performed by trained personnel in accordance with applicable regulations, such as EN 60079-17, EN 50050-2, and EN 50177.
5. Repairs shall be performed by trained personnel in accordance with applicable regulations, such as EN 60079-19.
6. Startup, use, installation, and setup of the equipment shall be performed by trained personnel in accordance with the manufacturer's documentation. Follow instructions to avoid potential hazards from electrostatic charge.

See the "Contents" section of this manual:




- Installation (⇒ Chap. 06 [▶ 20])
 - Operation (⇒ Chap. 07 [▶ 21])
 - Overview (⇒ Chap. 05.2 [▶ 15])
 - Parts identification (⇒ Chap. 08 [▶ 22])
7. Components that are integrated into the equipment or that will be used as replacement parts shall be installed by trained personnel and in accordance with the manufacturer's documentation.
 8. Equipment certification is contingent upon the following materials being used in the equipment:
If the equipment could come in contact with aggressive media, the operator shall take suitable precautions to limit the risk and maintain the equipment's degree of protection.
Examples of aggressive media include acidic fluids that can attack metals, and solvents that can attack polymers.
Suitable precautions include regular inspections and confirming chemical resistance based on specification sheets.
 - The voltage multiplier is encapsulated in a solvent-resistant epoxy.
 9. The "ATEX" section on the next page explains the certification marking.
 10. The equipment's parameters shall be specified, including data regarding electrical parameters and pressure.

During commissioning, the manufacturer shall provide the operating manual in its original language and in the official language where the equipment will be operated.

03.2 PRODUCT MARKING


- Equipment: ESM3-AUTOMATIC / ESM3 MANUAL / ESM3 POSITIVE *
- Certificate Numbers:
 - USA: FM18US0005
 - CANADA: FM18CA0001
 - ATEX: FM19ATEX0004X
- Product marking:  II (2) D

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

TYPE: ESM3-MANUAL	P/N: CMS-60107 S/N: 0000001	
POWER: 24VDC/30W		
US CERT. NO.: FM18US0005		
CANADIAN CERT. NO.: FM18CA0001		
ATEX CERT. NO.: FM 19ATEX0004X		
MARKING:  1725  II (2) D - EN50050-2		



The product marking contains the following information:

- FM** Notified body that performs the EU type-examination
- 19** Year of examination
- ATEX** Reference to ATEX Directive
- 0004** Document serial number
- X** Special conditions for safe use apply*
-  Explosion protection marking
- II** Equipment Group for explosive atmospheres
- 2** Equipment Category
- D** Type of explosive atmosphere (dust)

*SPECIAL CONDITIONS FOR SAFE USE

1. The MS control module and MS powder coating applicators for automatic and manual coating applications may not be used in an explosive atmosphere.
2. The equipment must be used in accordance with EN 50050-2 for manual applications and EN 50177 for automatic applications.

FM CONFIGURATION

These applications are FM approved when the setup is in accordance with the corresponding Configuration Drawing (see ⇒ Chap. 08 [► 22]).

04 SAFETY

04.1 SAFETY PRECAUTIONS

Before the operation, maintenance, or servicing of this Binks system; fully read and understand all technical and safety literature for your product. This manual contains information that is important for you to know and understand.

This information relates to USER SAFETY and the PREVENTION OF EQUIPMENT PROBLEMS.

To help you understand this information, we use recognizable ANSI Z535 and ISO warning boxes and symbols throughout this manual. Please obey these safety sections.

⚠ DANGER

DANGER! Indicates a hazardous situation that, if not avoided, will result in death or severe injury.

⚠ WARNING

WARNING! Indicates a hazardous situation that, if not avoided, could result in death or severe injury.

⚠ CAUTION

Caution! Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury, or equipment damage.

NOTICE

Notice: Indicates information considered important but not hazard related.

SAFETY

Safety: Indicates a type of safety instruction, or a separate panel on a placard, where specific safety-related instructions or procedures are described.

Careful study and continued use of this manual will provide a better understanding of the equipment functions and procedures.

This understanding will result in improved operation, efficiency, and longer, trouble-free service with faster and easier troubleshooting. If you need the necessary safety literature for your specific system, contact your local Binks representative or Binks directly.

NOTICE

This manual lists standard specifications and service procedures. Differences can occur between this literature and your equipment.

Differences in local or municipal codes, manufacturer or plant requirements, material delivery requirements, and more can make variations unpreventable. To find these differences, compare this manual to your system installation drawings and other applicable Binks equipment manuals.

⚠ WARNING

The user MUST read and be familiar with the Safety Section in this manual and the safety literature therein identified.

Only trained personnel can operate this equipment.


All personnel who operate, clean, or maintain this equipment MUST fully read and understand this manual! To operate and service the equipment, follow all WARNINGS and safety requirements. The user must be aware of and adhere to ALL local building and fire codes and ordinances, as well as NFPA 33 AND EN 16985 SAFETY STANDARDS, LATEST EDITION, or applicable country safety standards, before the installation, operation, or servicing of this equipment.



⚠ WARNING


The hazards shown on the pages that follow can occur during the normal use of this Binks equipment, but not all listed hazards will be applicable to your product model or equipment.



Repairs may only be performed by personnel authorized by Binks.




04.2 GENERAL SAFETY INSTRUCTIONS FOR POWDER COATING

<p>AREAS</p> <p>INDICATE POSSIBLE HAZARD OCCURENCES.</p>	<p>HAZARDS</p> <p>INDICATE POSSIBLE HAZARDS.</p>	<p>SAFEGUARDS</p> <p>PREVENTION OF POSSIBLE HAZARDS.</p>
<p>Spray Areas</p> 	<p>Fire Hazards</p> <p>Improper or unsatisfactory operation and maintenance procedures will cause a fire hazard.</p> <p>If the safety interlocks are disabled during operation, protection against accidental arcing is shut off and can cause a fire or explosion.</p> <p>Frequent Power Supply or Controller shutdown identifies a problem in the system. For this occurrence, a correction will be necessary</p>	<p>Fire extinguishing equipment must be present in the spray area. Periodically run a test to make sure the equipment stays usable.</p> <p>Keep spray areas clean to prevent the build-up of combustible residues.</p> <p>Do not smoke in the spray area.</p> <p>The high voltage supplied to the atomizer must be turned off before the equipment is cleaned, flushed or maintained.</p> <p>Spray booth ventilation must be kept at the rates as set by NFPA-33, OSHA, country, local, and municipal codes.</p> <p>If flammable or combustible solvents are used to clean the equipment, ventilate the area.</p> <p>Prevent electrostatic arcing. Maintain spark-safe work distance between the parts that get coated and the applicator. A span of one inch for every 10KV of the output voltage is necessary.</p> <p>Do an equipment test only in areas free of combustible material. The test may necessitate the high voltage to be on, but only as instructed.</p> <p>Non-factory replacement parts or unauthorized equipment modifications can cause a fire or injury.</p> <p>The key switch bypass is used only during setup operation.</p> <p>Do no production work with disabled safety interlocks.</p> <p>Set up and operate the paint procedure and equipment under NFPA-33, NEC, OSHA, local, municipal, country, and European Health and Safety Norms.</p>

<p>AREAS</p> <p>INDICATE POSSIBLE HAZARD OCCURENCES.</p>	<p>HAZARDS</p> <p>INDICATE POSSIBLE HAZARDS.</p>	<p>SAFEGUARDS</p> <p>PREVENTION OF POSSIBLE HAZARDS.</p>
<p>Spray Areas</p> 	<p>Explosion Hazard</p> <p>Improper or unsatisfactory operation and maintenance procedures will cause a fire or explosion hazard.</p> <p>If the safety interlocks are disabled during operation, protection against accidental arcing is shut off and can cause a fire or explosion.</p> <p>Frequent Power Supply or Controller shutdown identifies a problem in the system. For this occurrence, a correction will be necessary.</p>	<p>Prevent electrostatic arcing. Maintain spark-safe work distance between the parts that get coated and the applicator. A span of one inch for every 10KV of output voltage is necessary.</p> <p>Unless specifically approved for use in hazardous locations, put all electrical equipment outside of Class I or II, Division 1 or 2 hazardous areas in accordance with NFPA-33, or outside of Zone 2 or Zone 22 in accordance with EN standards.</p> <p>If equipped, set the current overload sensitivity as described in the related section of the equipment manual. If incorrectly set, the current overload sensitivity for protection against accidental arcing is turned off and can cause a fire or explosion.</p> <p>Frequent power supply shutdown indicates a problem in the system, which requires correction.</p> <p>Always turn off the control panel power before the system is flushed, cleaned, or servicing the spray system equipment. Make sure no objects are within the spark-safe work distance before the high voltage is turned on.</p> <p>The control panel must interlock with the ventilation system and conveyor in accordance with NFPA-33, EN 50177.</p> <p>Fire extinguishing equipment must be present in the spray area. Periodically run a test to make sure the equipment stays usable. Do an equipment test only in areas free of combustible material.</p>
<p>General Use and Maintenance</p> 	<p>Improper or unsatisfactory operation and maintenance procedures will cause a fire hazard.</p> <p>Personnel must be correctly trained in the operation and maintenance of this equipment.</p>	<p>Train all personnel in accordance with the requirements of NFPA-33, EN 60079-0.</p> <p>Before equipment operation, personnel must read and understand these instructions and safety precautions.</p> <p>Obey appropriate local, municipal, state, and national codes governing ventilation, fire protection, operation maintenance, and housekeeping.</p> <p>Reference OSHA, NFPA-33, EN Norms, and your insurance company requirements.</p>

<p>AREAS</p> <p>INDICATE POSSIBLE HAZARD OCCURENCES.</p>	<p>HAZARDS</p> <p>INDICATE POSSIBLE HAZARDS.</p>	<p>SAFEGUARDS</p> <p>PREVENTION OF POSSIBLE HAZARDS.</p>
<p>Spray Area High Voltage Equipment</p> 	<p>Electrical Discharge</p> <p>This equipment contains a high-voltage device that can cause an electrostatic induction on ungrounded objects. This electrical charge is capable of igniting coating materials.</p> <p>Insufficient ground will cause a spark hazard. A spark can ignite many coating materials and cause a fire or explosion.</p>	<p>Operators in the spray area and the parts to be sprayed must be sufficiently grounded.</p> <p>All conductive objects inside the spray area must be grounded.</p> <p>Hold the parts that get sprayed on conveyors or hangers that are correctly grounded. The resistance between the parts and the earth-ground must not be more than 1 MΩ. Refer to: NFPA-33, EN 50177.</p> <p>Before the equipment is operated, ground all operators. They cannot wear rubber-soled insulated shoes. Wear ground straps on wrists or legs for sufficient ground contact.</p> <p>Operators must not wear or carry ungrounded metal objects.</p> <p>When used, operators must make complete contact with the handle of the electrostatic applicator. Use conductive gloves or gloves with the palm section cut out.</p> <p>Operators must wear grounded footwear.</p> <p>NOTE: REFER TO NFPA-33 OR SPECIFIC COUNTRY SAFETY CODES FOR GUIDANCE TO CORRECTLY GROUND THE OPERATOR.</p> <p>Except for objects needed for the high-voltage process, all electrically conductive objects in the spray area are to be grounded. Supply a grounded conductive floor in the spray area.</p> <p>Always turn off the applicator voltage before the system is flushed, cleaned, or when servicing the spray system equipment.</p> <p>Unless specifically approved for use in hazardous locations, put all electrical equipment outside of Class I or II, Division 1 or 2 hazardous areas in accordance with NFPA-33, or outside of Zone 2 or Zone 22 in accordance with EN standards.</p> <p>Do not install an applicator into a fluid system if the solvent supply is ungrounded.</p> <p>Do not touch an energized applicator electrode.</p>

<p>AREAS</p> <p>INDICATE POSSIBLE HAZARD OCCURENCES.</p>	<p>HAZARDS</p> <p>INDICATE POSSIBLE HAZARDS.</p>	<p>SAFEGUARDS</p> <p>PREVENTION OF POSSIBLE HAZARDS.</p>
<p>Spray Areas</p> 	<p>Toxic Fluid or Fumes</p> <p>Toxic fluids or fumes can cause severe injury or death if splashed in the eyes or on the skin, or if inhaled or swallowed.</p>	<p>Read the Safety Data Sheet (SDS) for instructions to know and understand how to handle the specific hazards of the fluids used, and the effects of longterm exposure.</p> <p>During the spray, clean, or servicing of equipment, or when in the work area, keep the work area fully ventilated.</p> <p>Always wear personal protective equipment (PPE) when in the work area or during equipment operation. Refer to the Personal Protective Equipment warnings in this manual.</p> <p>Store hazardous fluid in approved containers and refer to local, municipal, state, and national codes governing the disposal of hazardous fluids.</p>
<p>Spray Area and Equipment Use</p> 	<p>High-pressure fluid sprayed from the applicator, hose fittings, or ruptured/damaged components can pierce the skin.</p> <p>While this injury can appear as cut skin, this is a severe injury that can result in the amputation of the affected area.</p>	<p>Do not point or operate the spray applicator at the body part of a person.</p> <p>Do not put your hand or fingers over the applicator fluid nozzle or fittings in the hose or Proportioner. Do not try to stop or deflect leaks with your hand, glove, body, or shop rag.</p> <p>Do not “blowback” fluid, as the equipment is not an air spray system.</p> <p>Relieve pressure in the supply hoses, Proportioner, and QuickHeat™ hose before the equipment is inspected, cleaned, or serviced.</p> <p>Use the lowest possible pressure to recirculate, purge, or troubleshoot the equipment.</p> <p>Examine the hoses, couplings, and fittings every day. Service or immediately replace parts that leak, are worn, or are damaged. Replace high-pressure hose sections. They cannot be recoupled or serviced.</p>

<p>AREAS</p> <p>INDICATE POSSIBLE HAZARD OCCURENCES.</p>	<p>HAZARDS</p> <p>INDICATE POSSIBLE HAZARDS.</p>	<p>SAFEGUARDS</p> <p>PREVENTION OF POSSIBLE HAZARDS.</p>
<p>Equipment and Fluids</p> 	<p>Skin and Clothing Burns</p> <p>Equipment surfaces and fluids can become very hot during operation.</p>	<p>Do not touch hot fluid or equipment during operation.</p> <p>Do not let clothing touch the equipment during operation or immediately after the equipment is stopped.</p> <p>Let the equipment fully cool before the examination or servicing of the component.</p>
<p>Pressurized Aluminum Parts</p> 	<p>The use of certain solvents and chemicals can cause equipment damage and severe personal injury.</p>	<p>Do not use 1,1,1-trichloroethane, methylene chloride or other halogenated hydrocarbon solvents or fluids that contain such solvents.</p> <p>These solvents can cause a severe chemical reaction and equipment rupture that results in equipment and property damage, serious bodily injury, or death.</p>
<p>Spray Areas</p> 	<p>Do Not Touch</p> <p>The effect of paint flow rates and formulations on the quality of atomization can cause the turbines to rotate at high speeds.</p>	<p>Do not use a rag or gloved hand against the bell edge to stop or slow down a bell during rotation.</p> <p>Do not try to clean the bell edge during rotation.</p>

04.3 ADDITIONAL SAFETY INFORMATION

⚠ CAUTION

Only operate the equipment after you have read this section.

Observe all local or municipal safety measures and wear approved protective equipment when servicing this equipment. Clean all spilled chemicals and materials and do all work in a clean and organized environment to prevent personal injury and equipment damage.

⚠ DANGER

To prevent injury or electrocution while the system is under power, do not contact, disconnect, or manipulate electrical connections or devices. The main disconnect on the right side of the controller can be locked out. Follow the proper Lockout–Tagout (LOTO) procedures for internal controller electrical work.

Only qualified electrical personnel can perform the work if diagnosis and troubleshooting are not possible during working conditions.

⚠ WARNING

To prevent possible chemical spillage when personnel are not on site, air and fluid supplies for the equipment must be disabled when the equipment idles for an extended period, such as an end-of-day shutdown.

NOTICE

During the initial commission of the equipment and at periodic times throughout equipment life, visually examine all fluid fittings for leaks.

Periodically, it is necessary to visually examine all pieces of this equipment for signs of noticeable degradation due to chemicals or other conditions in the equipment's environment.

SAFETY

Obey local or municipal regulations that require installed fire suppression for equipment operation.

If the operation of this equipment, sensors, switches, or other ancillary equipment occurs in the presence of flammable gases and vapors, connect this equipment through intrinsic-safe or Zener barriers. Classify them as a 'simple apparatus' or approve them for use in these areas.

04.4 SAFETY SIGNS ON THE EQUIPMENT

Safety signs identify dangerous areas of the equipment. Follow the precautions below to ensure safe operation.

- Keep safety signs clean
- Never cover safety signs
- Replace missing or damaged safety signs immediately

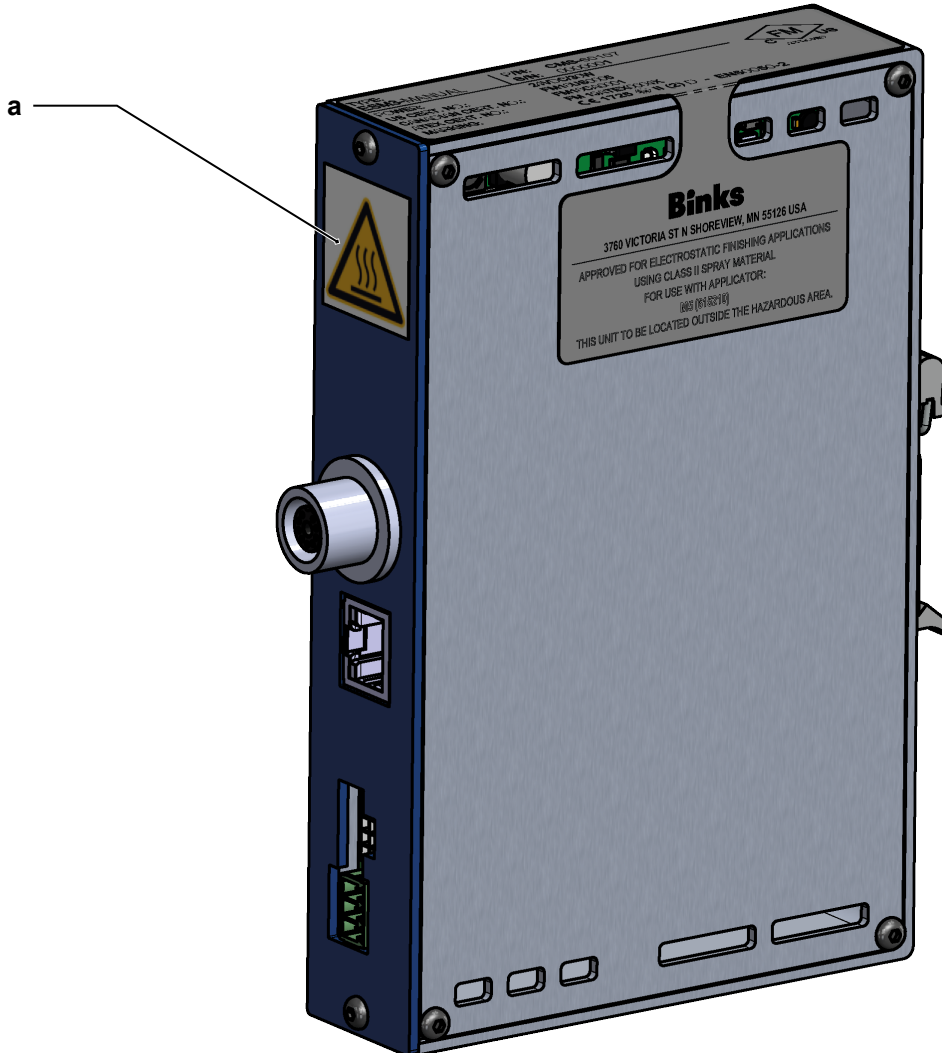


Illustration 1: Safety signs on the equipment

a



Warning – hot surfaces

05 PRODUCT OVERVIEW

05.1 IDENTIFICATION

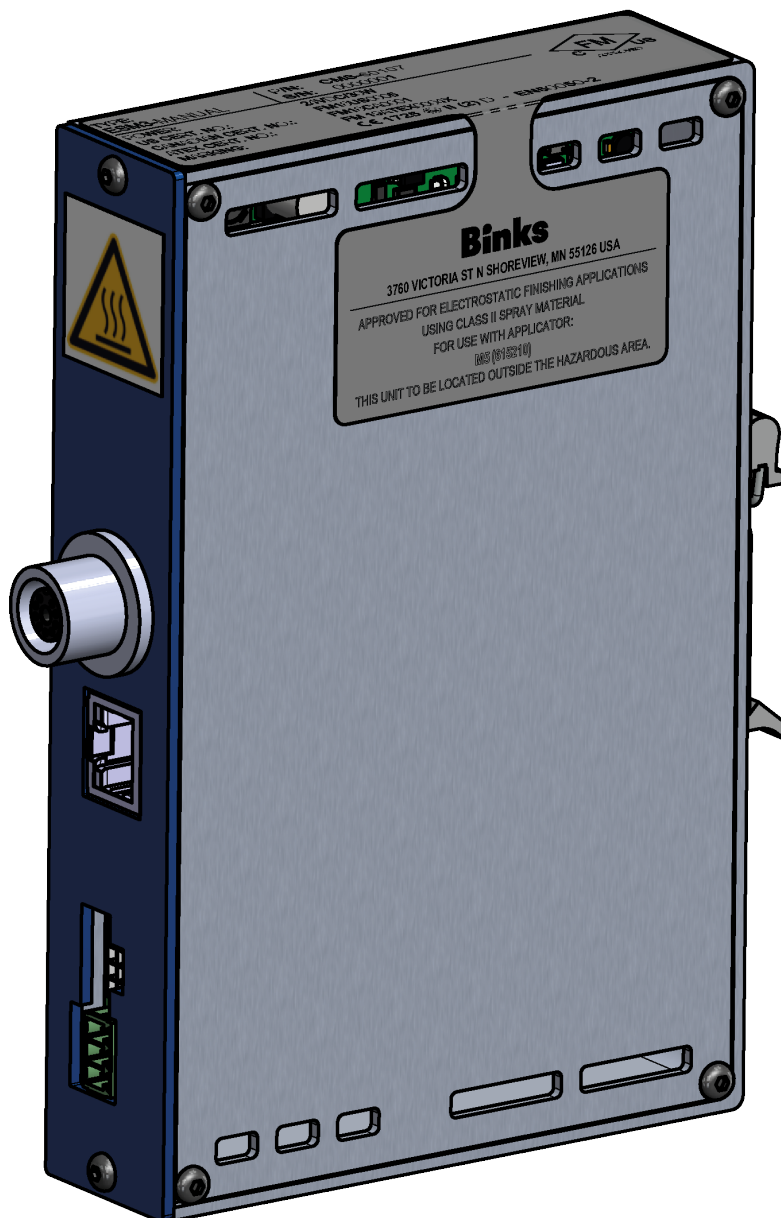
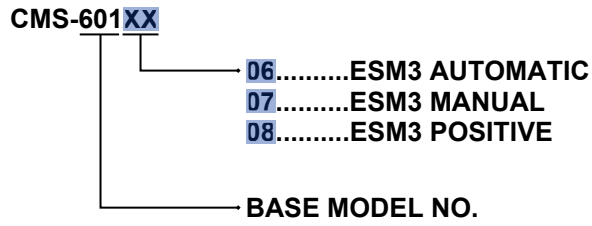


Illustration 2: Identification

05.2 OVERVIEW



The Configuration Drawings (see → Chap. 08 [▶ 22]) have technical drawings including an overview of components.

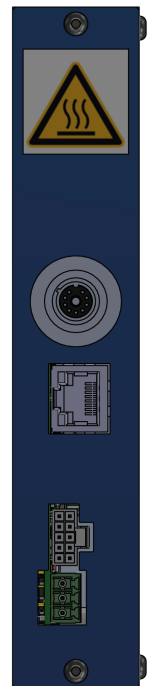
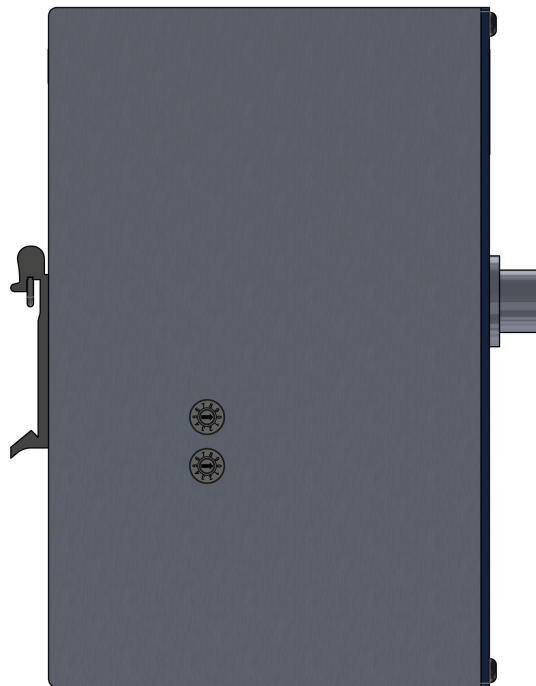


Illustration 3: Overview

05.2.1 Connections

All connections are on the front of the control module.

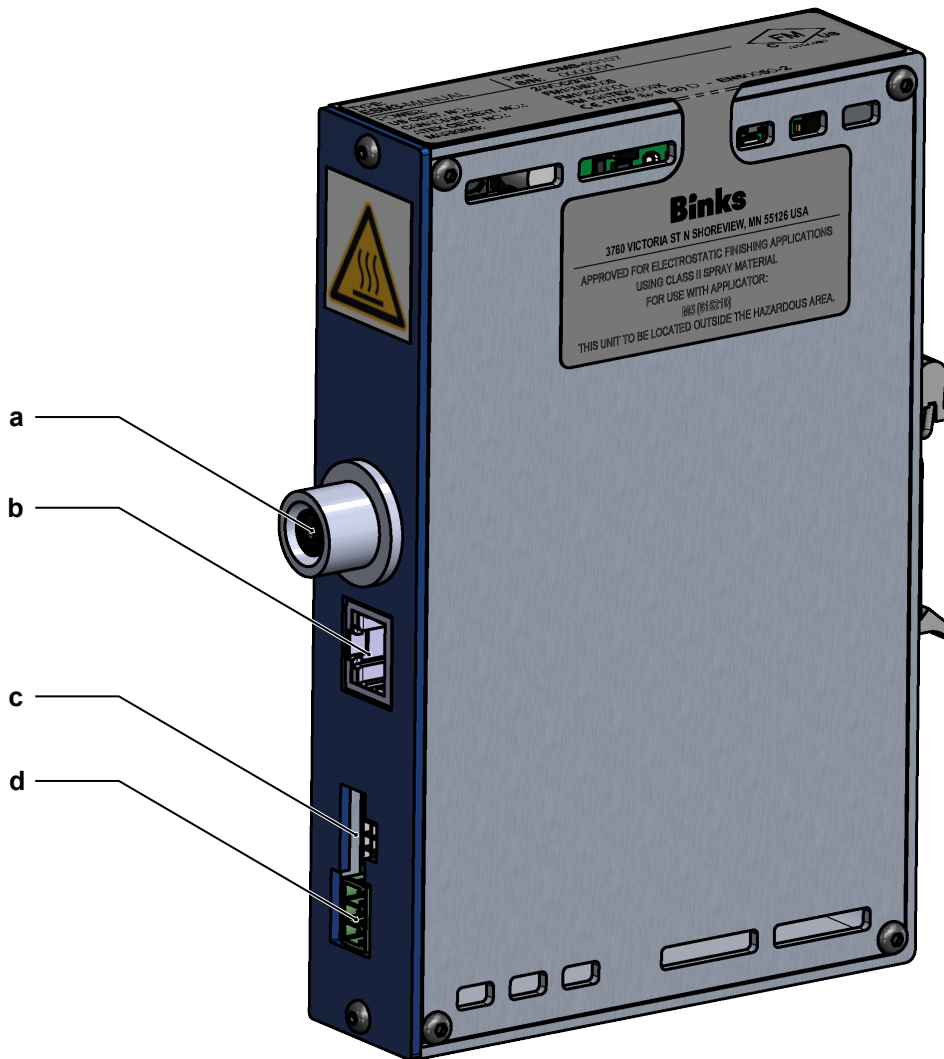


Illustration 4: Connections

Powder coating applicator

- a**
- ESM3 AUTOMATIC: Automatic powder coating applicator
 - ESM3 MANUAL: Manual powder coating applicator
 - ESM3 POSITIVE: Electron absorption panel (EAP) *

b Ethernet connection

c Proportional valve block assembly connection **

d Power supply connection

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

** The ESM3 POSITIVE does not have this connection because it is not required.

05.2.2 LED indicator

The LED indicator indicates the status of the network connection and the powder coating applicator.

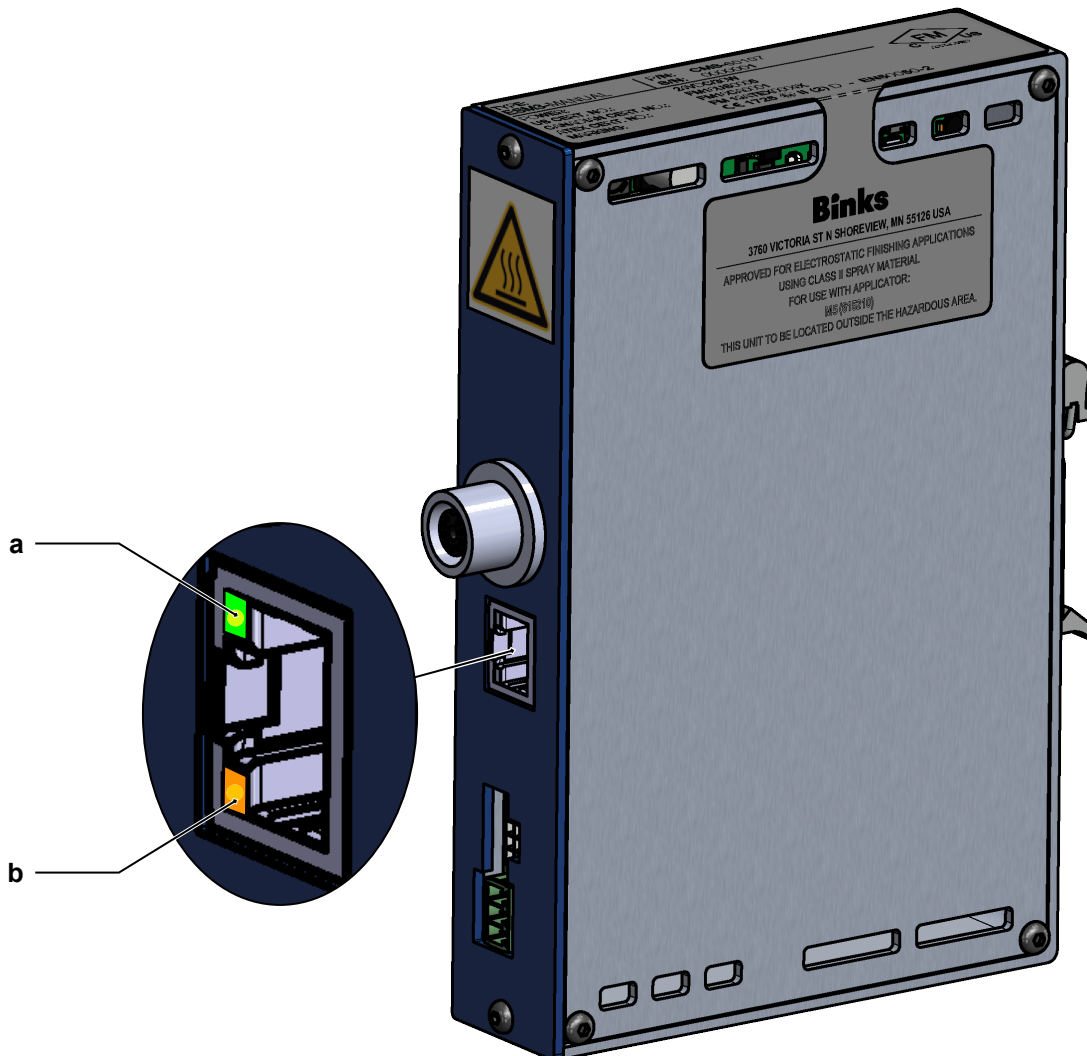


Illustration 5: LED indicator

Status of powder coating applicator

- ESM3 AUTOMATIC: On when the automatic powder coating applicator is on.
- ESM3 MANUAL: On when all conditions below are met:
 - The manual powder coating applicator is on.
 - The controller is sending the „enable“ signal to the module.
 - The trigger of the manual powder coating applicator is pressed.
- ESM3 POSITIVE: On when the electron absorption panel (EAP) is on. *

a Green

Network status

b Orange

- On when packages are being sent and received via LAN.

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

05.2.3 Rotary dials

The left side of the control module has two rotary dials. Use the rotary dials to set the last two digits of the IP address.

This assigns a unique IP address to the control module.

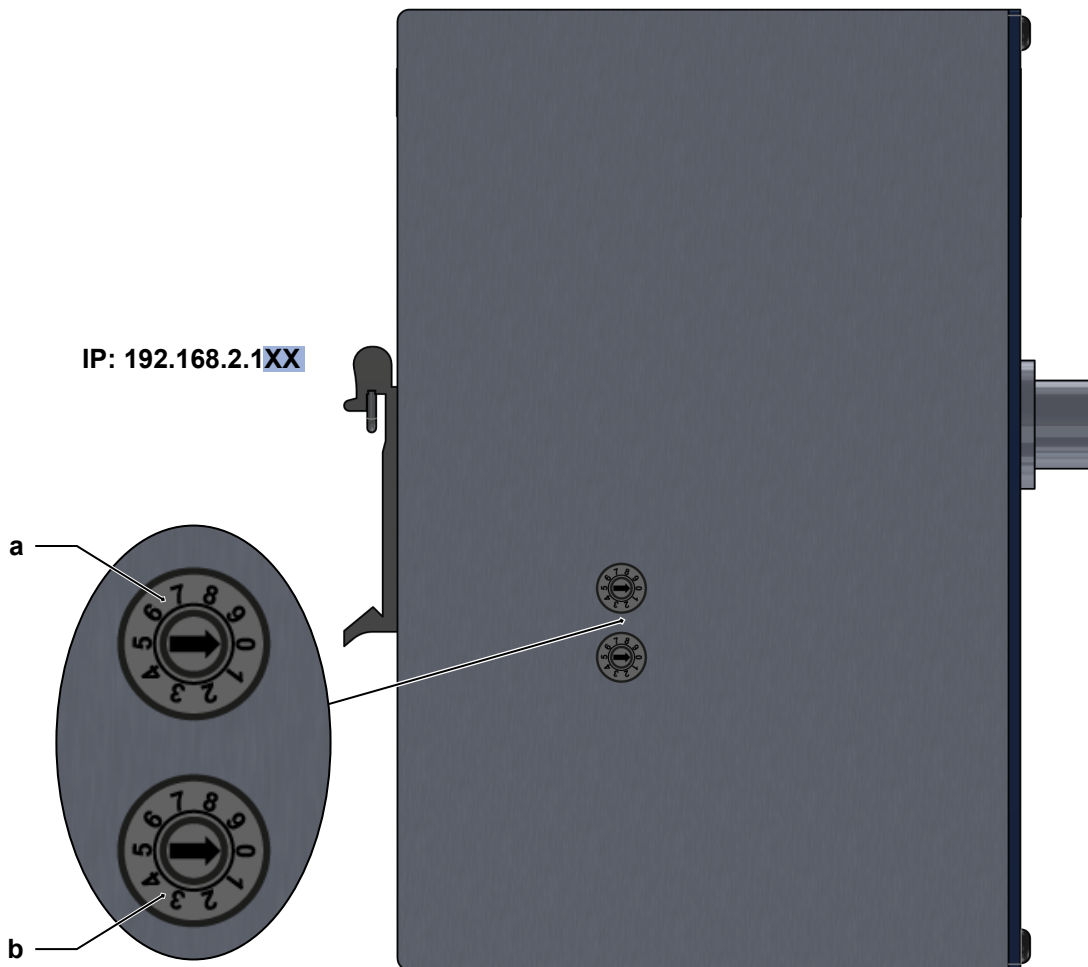


Illustration 6: Rotary dial

- | | | |
|----------|--------|---|
| a | Top | Sets the second-to-last digit of the IP address |
| b | Bottom | Sets the last digit of the IP address |

05.3 SPECIFICATIONS

GENERAL SPECIFICATIONS	
Depth	127 mm
Width	30 mm
Height	162 mm
Weight	540 g
Voltage	24 VDC
Power	30 W
Fuse	2 A
Temperature range	10°C to 40°C
Relative humidity	Max. 85% (non-condensing)
Degree of protection	-
Certification USA	FM18US0005
Certification CANADA	FM18CA0001
Certification ATEX	FM19ATEX0004X

06 INSTALLATION

⚠ DANGER

Risk of explosion from improper installation.

Improper installation can cause serious injury and system damage.

- ▶ Install the equipment outside the hazardous area.
- ▶ Observe local regulations regarding wiring.

The equipment can be installed in a control cabinet of a powder coating system via DIN rail.

Ensure the following during installation:

- There is an efficient path for routing cables from the powder coating applicators to the control cabinet or control module.
- Use the correct control module for the type of powder coating applicator being controlled by the equipment.
 - ESM3 AUTOMATIC: Automatic powder coating applicator
 - ESM3 MANUAL: Manual powder coating applicator
 - ESM3 POSITIVE: Electron absorption panel (EAP) *



The supplied documents show the differences between the three types of control modules (see ⇒ Chap. 08 [▶ 22]).

The proportional valve block assembly is connected directly to the ESM3 AUTOMATIC and ESM3 MANUAL control modules. No proportional valve block assembly is connected for the ESM3 POSITIVE control module.

For synchronized control of the powder coating system, the control module can be connected via Ethernet to a PLC on the network. The control modules communicate via Modbus TCP protocol over Ethernet.

CONNECTING THE EQUIPMENT



For an overview of the module connections, see ⇒ Chap. 05.2.1 [▶ 16].

1. Develop a layout for the system's control cabinet.
 2. Install the control module in the system's control cabinet.
 3. When using the ESM3 AUTOMATIC or ESM3 MANUAL control module, connect the proportional valve block assembly to connection (c) of the control module.
 4. Route the cable for the powder coating applicator to connection (a) of the control module efficiently.
 5. Route the Ethernet cable of the PLC on the network to connection (b) of the control module efficiently.
 6. Route the power supply line to connection (d) of the control module efficiently.
- ✓ Initial installation of the control module is complete.
 - ✓ Network communication between the modules and the system controller can now be established.

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

07 OPERATION

⚠ CAUTION

Risk of burns from touching hot surfaces.

The equipment housing can become hot during operation.

- ▶ Use a safe method to ensure surfaces have cooled before touching them.
- ▶ Wear personal protective equipment (gloves) and handle equipment carefully.

07.1 CONTROL MODULE COMMUNICATION CAPABILITIES

Control modules are usually used in powder coating systems where multiple powder coating applicators are being controlled simultaneously. This requires communication between the control modules and a controller.

Communication occurs via Ethernet cables between the Ethernet port on the control module and a network switch in the system control cabinet. This network switch is connected to a PLC or PLC Gateway module via Modbus RTU protocol.

All control modules on a network must have a unique IP address.

Use the rotary dials on the left side of the control module to set the last two digits of each control module's static IP address (see ⇒ Chap. 05.2.3 [▶ 18]).

Modbus TCP protocol enables communication over Ethernet. This enables various parameters (e.g., voltage and current) to be set.

SETTING A UNIQUE IP ADDRESS



The static part of the IP address is 192.168.2.1XX.
“XX” is a placeholder for the two digits that can be set via the rotary dials on the left side of the control module.



Ping the control module after setting the IP address to determine which rotary dial corresponds to which position.

1. Determine the IP addresses to be assigned.
2. Set the second-to-last digit of the IP address by setting the top rotary dial on the left side of the control module to the desired number.
3. Set the last digit of the IP address by setting the bottom rotary dial on the left side of the control module to the desired number.

08 APPENDIX

08.1 CMS-60106 ESM3 AUTOMATIC

ITEM	TABLE	DESCRIPTION
1	A	APPLICATOR
2	B	CABLE
3	C	CONTROL MODULE

REV	EON	CHANGES	DATE	BY
01	38362	RELEASE TO MFG	03 FEB 25	PEHO

TABLE "A" APPLICATOR	
PART NUMBER	DESCRIPTION
83520	AUTOMATIC APPLICATOR



TABLE "B" CABLE	
PART NUMBER	DESCRIPTION
461973-12	AUTOMATIC GUN CABLE 12m
461973-16	AUTOMATIC GUN CABLE 16m
461973-20	AUTOMATIC GUN CABLE 20m
461973-25	AUTOMATIC GUN CABLE 25m
461973-01	AUTOMATIC GUN CABLE EXTENSION 1m



TABLE "C" MODULE	
PART NUMBER	DESCRIPTION
CMS-60106	ESM3 AUTOMATIC



NOTES:

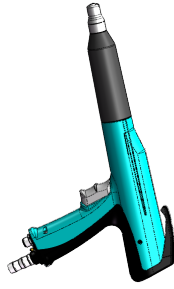
1. THIS CONFIGURATION DRAWING IS FOR CONNECTION TO AUTOMATIC APPLICATOR 83520. ALL APPROVED CONFIGURATIONS OF THAT MODEL MAY BE USED AND ACCEPTED WITH THIS CONFIGURATION.

08.2 CMS-60107 ESM3 MANUAL

ITEM	TABLE	DESCRIPTION
1	A	APPLICATOR
2	B	CABLE
3	C	CONTROL MODULE

REV	EON	CHANGES	DATE	BY
01	38362	RELEASE TO MFG	03 FEB 25	PEHO

TABLE "A" APPLICATOR	
PART NUMBER	DESCRIPTION
615210	MANUAL APPLICATOR



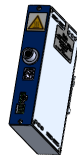
SCALE 1:5

TABLE "B" CABLE	
PART NUMBER	DESCRIPTION
46194206	MANUAL GUN CABLE 6m
46194210	MANUAL GUN CABLE 10m
46194216	MANUAL GUN CABLE 16m
46194220	MANUAL GUN CABLE 20m



SCALE 1:5

TABLE "C" MODULE	
PART NUMBER	DESCRIPTION
CMS-60107	ESM3 MANUAL



SCALE 1:5



- NOTES:
- THIS CONFIGURATION DRAWING IS FOR CONNECTION TO MANUAL APPLICATOR 615210. ALL APPROVED CONFIGURATIONS OF THAT MODEL MAY BE USED AND ACCEPTED WITH THIS CONFIGURATION.

08.3 CMS-60108 ESM3 POSITIVE *

* ESM3 POSITIVE has not yet been certified but is intended for future product approval.

09 MANUAL REVISIONS

MANUAL CHANGE SUMMARY		
DATE	DESCRIPTION	VERSION
03/31/2025	First version	R1
04/07/2025	Update of product marking	R2

WARRANTY POLICY

This product is covered by Binks' materials and workmanship limited warranty.

The use of parts or accessories from sources other than Binks will void all warranties. Failure to follow reasonable maintenance guidance provided can invalidate the warranty.

For specific warranty information, please contact Binks.

For technical assistance or to locate an authorized distributor, contact one of our international sales and customer support locations listed below.

REGION	BINKS CONTACT
Americas	Tel: 1-800-445-3988
Europe, Africa, Middle East	Tel: +4401202571111
India	marketingroa@binks.com
China	Tel: +862133730108
Korea	Tel: +82313663303
Japan	Tel: +81457856421
Australia	Tel: +61085257555

WARRANTY PAGE



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