SSA-ECx Series Emergency Stop Push Button Product Manual

Original Instructions
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23-Oct-26
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Chapter 1 About This Document

1.1 Important... Read this before proceeding!

The user is responsible for satisfying all local, state, and national laws, rules, codes, and regulations relating to the use of this product and its application. Banner Engineering Corp. has made every effort to provide complete application, installation, operation, and maintenance instructions. Please contact a Banner Applications Engineer with any questions regarding this product.

The user is responsible for making sure that all machine operators, maintenance personnel, electricians, and supervisors are thoroughly familiar with and understand all instructions regarding the installation, maintenance, and use of this product, and with the machinery it controls. The user and any personnel involved with the installation and use of this product must be thoroughly familiar with all applicable standards, some of which are listed within the specifications. Banner Engineering Corp. makes no claim regarding a specific recommendation of any organization, the accuracy or effectiveness of any information provided, or the appropriateness of the provided information for a specific application.

WARNING:

- **Not a safeguarding device**
- Failure to follow these instructions could result in serious injury or death.
- This device is not considered a safeguarding device because it requires an overt action by an individual to stop machine motion or hazards. A safeguarding device limits or eliminates an individual's exposure to a hazard without action by the individual or others. This device cannot be substituted for required safeguarding. Refer to the applicable standards to determine those requirements.

1.2 Use of Warnings and Cautions

The precautions and statements used throughout this document are indicated by alert symbols and must be followed for the safe use of the SSA-ECx-xQx Series Emergency Stop Push Button. Failure to follow all precautions and alerts may result in unsafe use or operation. The following signal words and alert symbols are defined as follows:

Signal Word and Symbol	Definition
WARNING:	**Warnings** refer to potentially hazardous situations which, if not avoided, could result in serious injury or death.
CAUTION:	**Cautions** refer to potentially hazardous situations which, if not avoided, could result in minor or moderate injury.

These statements are intended to inform the machine designer and manufacturer, the end user, and maintenance personnel, how to avoid misapplication and effectively apply the SSA-ECx-xQx Series Emergency Stop Push Button to meet the various safeguarding application requirements. These individuals are responsible to read and abide by these statements.

1.3 EU Declaration of Conformity (DoC)

Banner Engineering Corp. herewith declares that these products are in conformity with the provisions of the listed directives and all essential health and safety requirements have been met. For the complete DoC, please go to www.bannerengineering.com.

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Product	Directive
SSA-ECx-xQx Series Emergency Stop Push Button	EU: Machinery Directive 2006/42/EC

Representative in EU: Spiros Lachandidis, Managing Director, Banner Engineering BV | Park Lane | Culliganlaan 2F bus 3 | 1831 Diegem, BELGIUM

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Chapter 2 Product Description



- Rugged design; easy installation with no assembly or individual wiring required
- Compact 50 mm body with 30 mm mounting and 30 mm “mushroom style” push button
- Push-to-stop, twist-to-release, or pull-to-release operation per EN 60947-5-5
- Models with the FDA-grade washdown cover raise the protection level to IP69 and are push-to-stop and pull-to release operation per EN 60947-5-5
- Compliant with ANSI B11.19, NFPA 79, and IEC/EN 60204-1 Emergency Stop requirements
- 5-pin and 8-pin M12 quick disconnect
- Models designed to interface with Safety BUS nodes/gateways
- Optional field Installable protective shroud accessory designed in accordance with ISO 13850 and ANSI B11.19

2.1 Models

Model	E-stop Contacts	Button EZ-LIGHT® Illumination Logic and Description	Connection
SSA-EC-02Q5	2 N.C.	None	Integral 5-pin M12 male quick-disconnect connector CH1 = pins 1 & 4, CH2 = pins 2 & 3
SSA-EC-02Q5A	2 N.C.		Safety BUS node compatible(1) Integral 5-pin M12 male quick-disconnect connector CH1 = pins 1 & 2, CH2 = pins 4 & 5
SSA-EC-02Q5B	2 N.C.		Safety BUS node compatible(2) Integral 5-pin M12 male quick-disconnect connector CH1 = pins 1 & 4, CH2 = pins 2 & 5
SSA-EC-02Q5C	2 N.C.		Safety BUS node compatible(3) Integral 5-pin M12 male quick-disconnect connector CH1= pins 1 & 2, CH2= pins 3 & 4
SSA-EC-02Q8	2 N.C.		Integral 8-pin M12 male quick-disconnect connector
SSA-EC-12Q8	1 N.O., 2 N.C.		
SSA-EC1-02Q5A	2 N.C.	OFF (armed), RED (flash, PUSH)	Safety BUS node compatible(1) Integral 5-pin M12 male quick-disconnect connector CH1 = pins 1 & 2, CH2 = pins 4 & 5
SSA-EC1-02Q5B	2 N.C.		Safety BUS node compatible(2) Integral 5-pin M12 male quick-disconnect connector CH1 = pins 1 & 4, CH2 = pins 2 & 5
SSA-EC1-02Q8	2 N.C.		Integral 8-pin M12 male quick-disconnect connector

To order a model with the washdown cover installed, add "**-WC**" to the model number. For example, **SSA-EC...-WC**.

Contact Banner for alternate -WC washdown models that are not currently available.

2.2 Emergency Stop Considerations

NFPA 79, ANSI B11.19, IEC/EN 60204-1, and ISO 13850 specify emergency stop requirements, including the following:

(1) Compatible with Banner CIP Safety™ Remote Safety I/O (RSio) and AllenBradley ArmorBlock® 1732DS Safe DeviceNet remote I/O and AllenBradley 1732ES Safe EtherNet remote I/O.
(2) Compatible with Siemens ET 200pro PROFIsafe gateway and with Turck models TBIP-Lx-FDIO1-2IOL, TBPN-Lx-FDIO1-2IOL, TBIP-Lx-4FDI-4FDX, or TBPN-Lx-4FDI-4FDX. Value of x defines the power supply plug.
(3) Compatible with Beckoff EP19xx-0002 EtherCAT Box, M12, TwinSAFE

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- Emergency-stop push buttons shall be located at each operator control station and at other operating stations where emergency shutdown is required.
- Stop and emergency-stop push buttons shall be continuously operable and readily accessible from all control and operating stations where located. Do not mute or bypass E-stop buttons.
- Actuators of emergency-stop devices shall be colored red. The background immediately around the device actuator shall be colored yellow (where possible). The actuator of a push-button-operated device shall be of the palm or mushroom-head type.
- The emergency-stop actuator shall be a self-latching type.



WARNING:

- **Do not mute or bypass any emergency stop device**
- Muting or bypassing the safety outputs renders the emergency stop function ineffective.
- ANSI B11.19, NFPA 79 and IEC/EN 60204-1 require that the emergency stop function remains active at all times.



WARNING:

- **Connect two or more devices to the same safety module (controller) in series**
- Connecting devices in parallel defeats the switch contact monitoring ability of the module and creates an unsafe condition that could result in serious injury or death.
- Failure to test each device individually in this manner could result in undetected faults and create an unsafe condition that could result in serious injury or death.
- Connect the contacts of the corresponding pole of each switch in series. Never connect the contacts of multiple switches in parallel. Individually actuate (engage) each device, then release (or re-arm) and reset the safety module. This allows the module to check each switch and its wiring to detect faults. Perform this check during the prescribed checkouts.

2.3 Overview

SSA-ECx-xQx series models are "mushroom-style" electro-mechanical emergency stop push buttons. When the button is armed, the switch's safety contacts (normally closed/NC) are closed and its monitoring contacts (normally open/NO), if present, are open. When the button is pushed, the switch's safety contacts open, and the monitoring contacts close. The contacts remain in this condition until the push button is manually rearmed by pulling or twisting clockwise the red push button actuator.

The SSA-ECx-xQx Series Emergency Stop Push Button has a 30 mm mounting base for ease of mounting without requiring an additional enclosure.

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Chapter 3 Installation Instructions

3.1 Installation Requirements

The device must not be affected by environmental conditions. **Install the device so that operation is not impeded, but should be protected against inadvertent operation** (for example, accidental actuation by being bumped or leaned against). Do not operate the switch using a tool. Do not expose the switch to excessive shocks and vibrations, otherwise the switch may be deformed or damaged, causing malfunction or operation failure.

Electrical installation must be made by a Qualified Person[4] and must comply with NEC (National Electrical Code), NFPA 79 or IEC/EN 60204-1, and all applicable local standards. It is not possible to give exact wiring instructions for a device that interfaces to a multitude of machine control configurations. The following is general in nature; it is recommended to perform a risk assessment to ensure appropriate application, interfacing/hookup, and risk reduction (see ISO 12100 or ANSI B11.0).

WARNING:

- **Risk of electric shock**
- Use extreme caution to avoid electrical shock. Serious injury or death could result.
- Always disconnect power from the safety system (for example, device, module, interfacing, etc.), guarded machine, and/or the machine being controlled before making any connections or replacing any component. Lockout/tagout procedures might be required. Refer to OSHA 29CFR1910.147, ANSI Z244-1, or the applicable standard for controlling hazardous energy.
- Make no more connections to the device or system than are described in this manual. Electrical installation and wiring must be made by a Qualified Person[5] and must comply with the applicable electrical standards and wiring codes, such as the NEC (National Electrical Code), NFPA 79, or IEC 60204-1, and all applicable local standards and codes.

3.2 Mechanical Installation

The SSA-ECx-xQx series is supplied with all necessary mounting hardware.

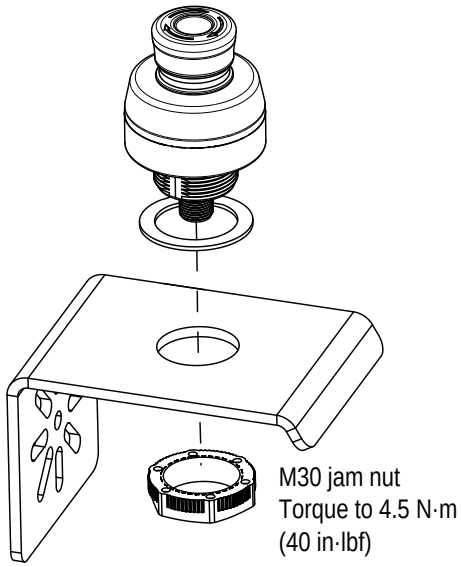
IMPORTANT: Install the emergency stop in a manner that discourages tampering or defeat. Mount emergency stops to prevent bypassing at the terminal chamber or quick disconnect (QD) connection.

The hardware supplied with the 30 mm mount SSA-ECx-xQx series includes a jam nut and washer. The threaded base contains external M30 threads for the supplied jam nut.

[4] A Qualified Person is a person who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work.
[5] A Qualified Person is a person who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training and experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work.

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Figure 1. Mount the E-Stop



3.3 Wiring

Table 1. SSA-EC-02Q5 (2 N.C.)

Pin	Color	02Q5		Pinout
		Function	Contacts	
1	Brown	CH1b	N.C.	Male 
2	White	CH2a	N.C.	
3	Blue	Ch2b	N.C.	
4	Black	CH1a	N.C.	
5	n.a.	n.a.	n.a.	

Table 2. SSA-EC...Q5C (2 N.C.)[6]

Pin	Color	02Q5C		Pinout
		Function	Contacts	
1	Brown	CH1a	N.C.	Male 
2	White	CH1b	N.C.	
3	Blue	CH2a	N.C.	
4	Black	CH2b	N.C.	
5	n.a.	n.a.	n.a.	

Table 3. SSA-EC...Q5A (2 N.C.) [7] and SSA-EC...Q5B (2 N.C.)[8]

Pin	Color	02Q5A		02Q5B		Pinout
		Function	Contacts	Function	Contacts	
1	Brown	CH1a	N.C.	CH1b	N.C.	Male 
2	White	CH1b	N.C.	CH2a	N.C.	
3	Blue	n.c.		n.c.		
4	Black	CH2a	N.C.	CH1a	N.C.	
5	Gray	CH2b	N.C.	CH2b	N.C.	

[6] Compatible with Beckoff EP19xx-0002 EtherCAT Box, M12, TwinSAFE
[7] Compatible with Banner CIP Safety™ Remote Safety I/O (RSio) and AllenBradley ArmorBlock® 1732DS Safe DeviceNet remote I/O and AllenBradley 1732ES Safe EtherNet remote I/O.
[8] Compatible with Siemens ET 200pro PROFIsafe gateway and with Turck models TBIP-Lx-FDIO1-2IOL, TBPN-Lx-FDIO1-2IOL, TBIP-Lx-4FDI-4FDX, or TBPN-Lx-4FDI-4FDX. Value of x defines the power supply plug.

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Table 4. SSA-EC-02Q8 (2 N.C.), SSA-EC1-02Q8 (2 N.C.) and SSA-EC-12Q8 (1 N.O./2 N.C.)

Pin	Color	SSA-EC-02Q8		SSA-EC1-02Q8		SSA-EC-12Q8		Pinout
		Function	Contacts	Function	Contacts	Function	Contacts	
1	White	No connection		+24 V	LED Power	AUX1a	N.O.	Male 
2	Brown	No connection		No connection		No connection		
3	Green	No connection		Common	LED Power	AUX1b	N.O.	
4	Yellow	CH2a	N.C.	CH2a	N.C.	CH2a	N.C.	
5	Gray	CH2b	N.C.	CH2b	N.C.	CH2b	N.C.	
6	Pink	CH1a	N.C.	CH1a	N.C.	CH1a	N.C.	
7	Blue	No connection		No connection		No connection		
8	Red	CH1b	N.C.	CH1b	N.C.	CH1b	N.C.	

3.4 Checkout

At machine set up, a *Designated Person*[9] should test each safety point for proper machine shutdown response. A *Designated Person* should check the safety point for proper operation, physical damage, button looseness, and excessive environmental contamination. This should take place on a periodic schedule determined by the user, based on the severity of the operating environment and the frequency of switch actuations.

Adjust or replace components as needed. If inspection reveals contamination on the switch, thoroughly clean the switch and eliminate the cause of the contamination. Replace the switch when any parts or assemblies are damaged, broken, deformed, or badly worn; or if the electrical/mechanical specifications (for the environment and operating conditions) have been exceeded.

Always test the control system for proper functioning under machine control conditions after performing maintenance or replacing the device.

3.5 Install the Silicone Cover

To properly install the FDA-grade silicone cover and achieve an IP69 rating, follow these instructions.

1. Turn the cover inside-out, except for the top portion the button fits into.
2. Place the cover on top of the emergency stop unit.
3. Roll the cover onto the E-stop unit.
4. Continue rolling the cover down, around the base of the E-stop unit, until the entire unit is covered.
5. Mount the E-stop unit and cover assembly to a bracket wide enough to cover the assembly base. The cover should be clamped firmly between the E-stop unit and the bracket.



NOTE: This cover is suitable for applications with pull-to-release resetting methods.

NOTE: The FDA-grade silicone cover withstands high pressure, high-temperature washdown, and increases the product rating to IP69.

NOTE: The cover is not compatible with the E-stop shroud, SSA-EC-SA.

[9] A *Designated Person* is identified in writing by the employer as being appropriately trained to perform a specified checkout procedure. A Qualified Person possesses a recognized degree or certificate or has extensive knowledge, training, and experience to solve problems relating to the emergency stop installation.

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Chapter 4 Specifications

Impulse Withstand Voltage
500 V

Contact Material/Bounce
Gold plated silver

When designing a control circuit, take the contact debounce into consideration. Do not expose the switch to external shocks that may induce contacts bounce.

Electrical Rating
Minimum load:

1 mA at 5 V AC/DC
5 mA at 3 V AC/DC

Voltage (Ue)		30 V
AC 50/60 Hz	Resistive load (AC-12)	-
	Resistive load (AC-15)	-
DC	Resistive load (DC-12)	2 A
	Resistive load (DC-15)	1 A

UL-recognized ratings:

Pilot Duty DC 1A / 30V
Maximum ambient air temperature +60 °C (+140 °F)

TÜV / CCC certified ratings:

DC-13 1A / 30V

Illumination Rating
Rated voltage: 24 V AC/DC

Operating voltage: 24 V AC/DC ±10%

Rated current: 10 mA, typical

LED life: 60,000 hours (Ta = +25 °C (77 °F), 45% relative humidity (The total illumination life in which the illuminance maintains a minimum of 50% of the initial value.)

Pollution Degree
3

Output Configuration
See "Installation Instructions" on page 7

Overvoltage Category
II

Electrical Life
100,000 operations minimum, 250,000 operations minimum at 24 V AC/DC, 100 mA

Mechanical Life
250,000 operations

Rated Insulation Voltage (Ui)
30 V DC

Rated Current (Ith)
2A

B10d
100,000 cycles

Vibration Resistance
Operating extremes: 10 Hz to 500 Hz, amplitude 0.35 mm acceleration 50 m/s^2

Shock Resistance
Operating extremes: 150 m/s^2 (15G)

Construction
Housing: Polycarbonate

Threaded base has M30 by 1.5 external threads; Maximum Tightening Torque: 4.5 N·m (40 in·lbf)

Connections
SSA-ECx-02Q5x models: Integral 5-pin M12 male quick-disconnect connector

SSA-ECx-x2Q8x modes: Integral 8-pin M12 male quick-disconnect connector

Operating Conditions
–25 °C to +50 °C (–13 °F to +122 °F)

45% to 85% relative humidity (no condensation)

Storage Temperature
–30 °C to +70 °C (–22 °F to +158 °F)

No freezing moisture

Environmental Rating
For Indoor Use Only

IP65

UL Type 1, UL Type 4X Indoor, UL Type 13

For models with the **SSA-EC-WC** cover installed:

IP65, IP69
UL Type 1, UL Type 4X, UL Type 13

Design and Application Standards
Compliant with:

60947-1
60947-5-1
ISO 13850

Certifications
Certifications pending

Required Overcurrent Protection

WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

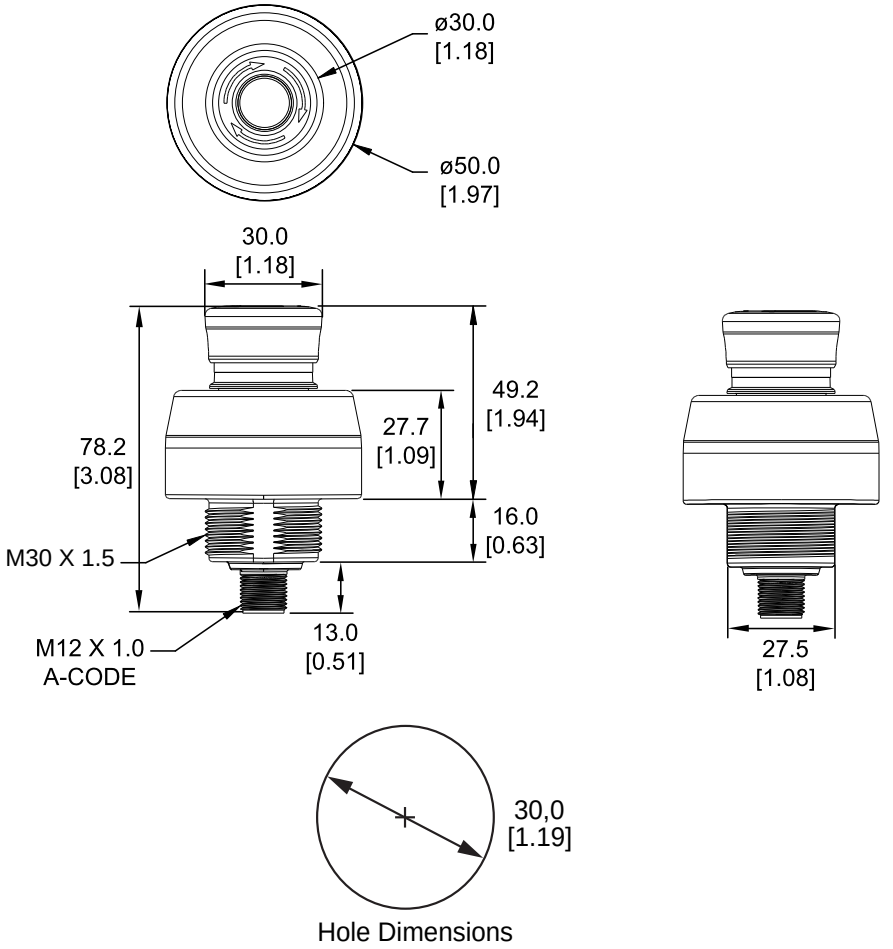
For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

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4.1 Dimensions

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

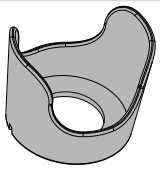


Hole Dimensions

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Chapter 5 Accessories

SSA-EC-SA
- Field-installable emergency stop shroud
- Fits SSA-EC compact E-stop
- Clear color
- CAD Files: DXF, PDF, IGS, STP

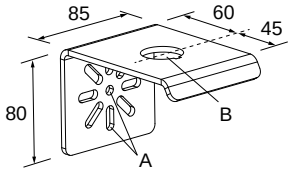


5.1 Brackets

The SSA-MBK-EECx brackets offer:
- Horizontal and vertical (post) mounting
- Interchangeable positions of mounted devices (e.g. OTB/STB/VTB, E-Stop, K50s)

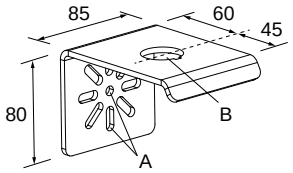
SSA-MBK-EEC1
- Single 30 mm hole
- 8 gauge steel, black finish (powder coat)
- Front surface for customer-applied labels
- CAD Files: DXF, PDF, IGS, STP

Hole size: A = ø 7 , B = ø 30



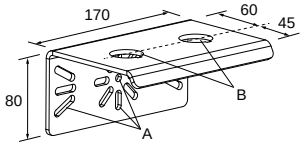
SSA-MBK-EEC1-SS
- Single 30 mm hole
- 8 gauge 316 stainless steel
- Front surface for customer-applied labels
- CAD Files: DXF, PDF, IGS, STP

Hole size: A = ø 7 , B = ø 30



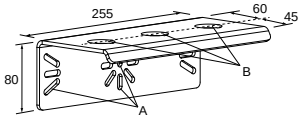
SSA-MBK-EEC2
- Two 30 mm holes
- 8 gauge steel, black finish (powder coat)
- Front surface for customer-applied labels
- CAD Files: DXF, PDF, IGS, STP

Hole size: A = ø 7 , B = ø 30



SSA-MBK-EEC3
- Three 30 mm holes
- 8 gauge steel, black finish (powder coat)
- Front surface for customer-applied labels
- CAD Files: DXF, PDF, IGS, STP

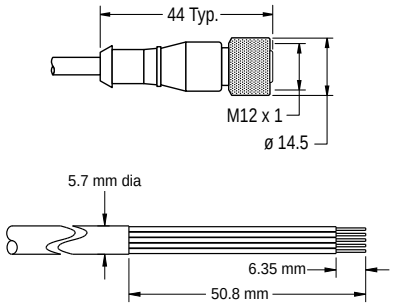
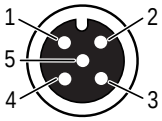
Hole size: A = ø 7 , B = ø 30

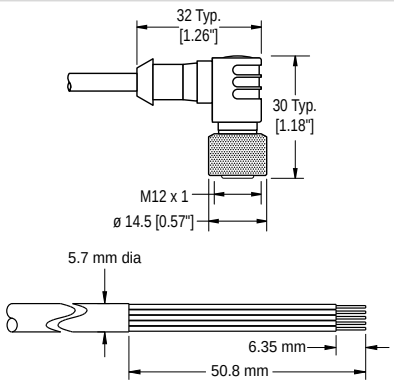
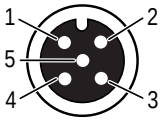


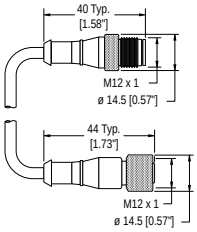
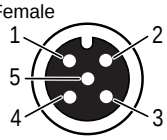
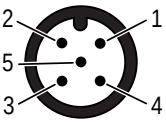
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5.2 Cordsets

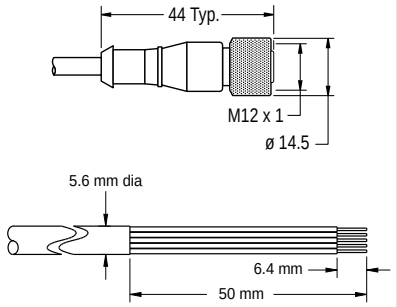
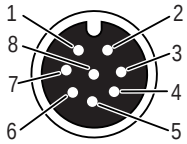
See Banner Engineering catalog or go to www.bannerengineering.com for additional models and complete information.

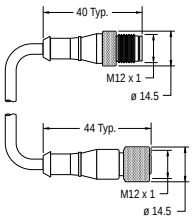
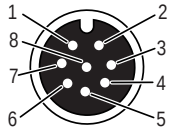
5-Pin A-Code Single-Ended M12 Female Cordsets (datasheet p/n 235936)				
Model	**Length**	**Dimensions (mm)**	**Pinout (Female)**	
BC-M12F5-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
BC-M12F5-22-2	2 m (6.56 ft)			
BC-M12F5-22-5	5 m (16.4 ft)			
BC-M12F5-22-8	8 m (26.25 ft)			
BC-M12F5-22-10	10 m (30.81 ft)			
BC-M12F5-22-15	15 m (49.2 ft)			

5-Pin A-Code Single-Ended M12 Female Right-Angle Cordsets (datasheet p/n 235936)				
Model	**Length**	**Dimensions (mm)**	**Pinout (Female)**	
BC-M12F5A-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
BC-M12F5A-22-2	2 m (6.56 ft)			
BC-M12F5A-22-5	5 m (16.4 ft)			
BC-M12F5A-22-8	8 m (26.25 ft)			
BC-M12F5A-22-10	10 m (30.81 ft)			
BC-M12F5A-22-15	15 m (49.2 ft)			

5-Pin A-Code Double-Ended M12 Female to M12 Male Cordsets (datasheet p/n 236183)				
Model	**Length**	**Dimensions (mm)**	**Pinouts**	
BC-M12F5-M12M5-22-0.3	0.3 m (1 ft)		Female  Male 	1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
BC-M12F5-M12M5-22-1	1 m (3.28 ft)			
BC-M12F5-M12M5-22-2	2 m (6.56 ft)			
BC-M12F5-M12M5-22-5	5 m (16.4 ft)			
BC-M12F5-M12M5-22-8	8 m (26.25 ft)			
BC-M12F5-M12M5-22-10	10 m (30.81 ft)			
BC-M12F5-M12M5-22-15	15 m (49.2 ft)			

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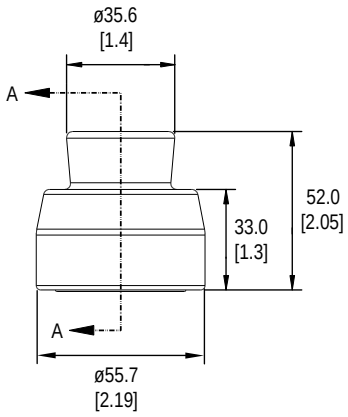
8-Pin A-Code Single-Ended M12 Female Cordsets (datasheet p/n 235941)				
Model	**Length**	**Dimensions (mm)**	**Pinout (Female)**	
BC-M12F8-24-1	1 m (3.28 ft)			1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red
BC-M12F8-24-2	2 m (6.56 ft)			
BC-M12F8-24-5	5 m (16.4 ft)			
BC-M12F8-24-10	10 m (30.81 ft)			

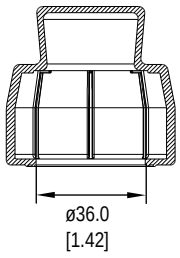
8-Pin A-Code Double-Ended M12 Female to M12 Male Cordsets (datasheet p/n 235955)				
Model	**Length**	**Dimensions (mm)**	**Pinouts (Female)**	**Pinouts (Male)**
BC-M12F8-M12M8-24-1	1 m (3.28 ft)			
BC-M12F8-M12M8-24-2	2 m (6.56 ft)			
BC-M12F8-M12M8-24-5	5 m (16.4 ft)			
BC-M12F8-M12M8-24-8	8 m (26.25 ft)		1 = White 2 = Brown 3 = Green 4 = Yellow	5 = Gray 6 = Pink 7 = Blue 8 = Red
BC-M12F8-M12M8-24-10	10 m (30.81 ft)			
BC-M12F8-M12M8-24-15	15 m (49.2 ft)			

5.3 Washdown Silicone Cover

SSA-EC-WC

- FDA Grade Silicone
- Fits SSA-EC Compact E-Stops
- IP67 & IP69K Rated
- CAD Files: DXF, PDF, IGS, STP





Section A-A

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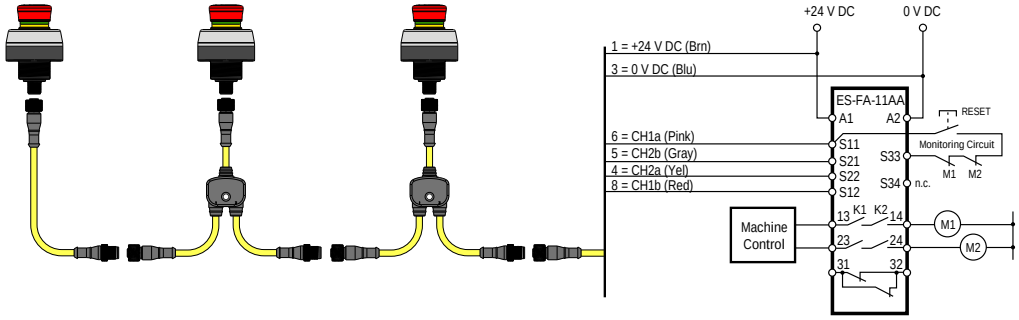
5.4 Series Connection Cordset Solution

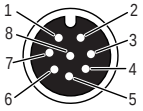
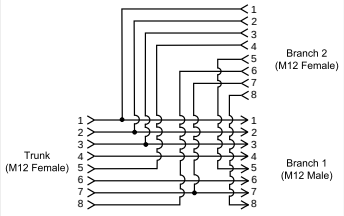
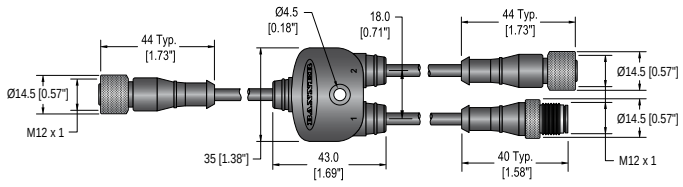
This interconnection solution allows for quick wiring of a series of emergency stop buttons. The splitter cordset models are listed below and the wiring diagrams follow.

WARNING:

- **Do not defeat the cordset installation**
- Defeating the series connection cordset solution could result in serious injury or death.
- Install the CSS series connection cordset solution so they cannot be easily defeated. Ensure that mounting and routing of the cordsets that are connected to the Trunk, Branch #1, Branch #2, and the E-Stop QD connector does not allow access to the QD connectors or allow improper connection bypassing the function of the Emergency Stop.

Figure 2. Series Connection Example using SSA-EC1-02Q8 Models



8-pin M12 Quick-Disconnect Splitter Cordset				
Model	**Trunk (Female)**	**Branches (1 Male, 1 Female)**	**Pinout**	**Wiring**
CSS-M12F81M12M81M12F81	0.30 m (1 ft)	0.30 m (1 ft)	Female  Male  1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red	
CSS-M12F83M12M81M12F81	0.91 m (3 ft)	0.30 m (1 ft)		
CSS-M12F88M12M81M12F81	2.44 m (8 ft)	0.30 m (1 ft)		
				

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Figure 3. SSA-EC-02Q8 Model—Series Wiring

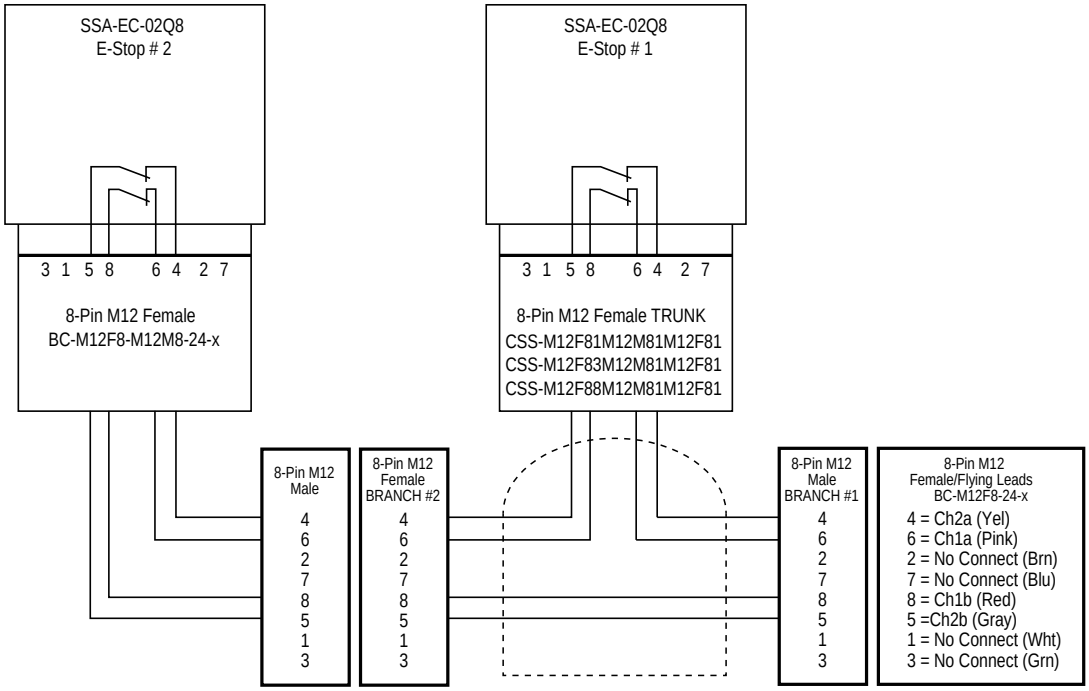
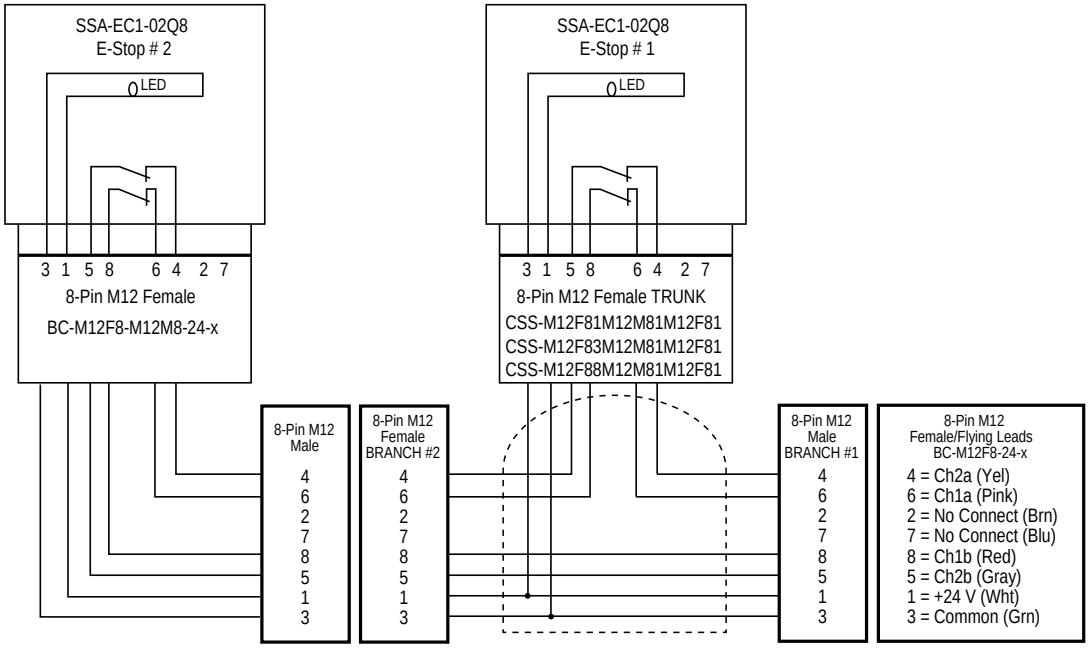


Figure 4. SSA-EC1-02Q8 Model—Series Wiring



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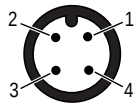
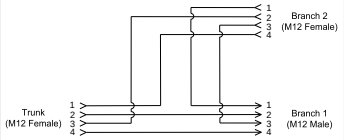
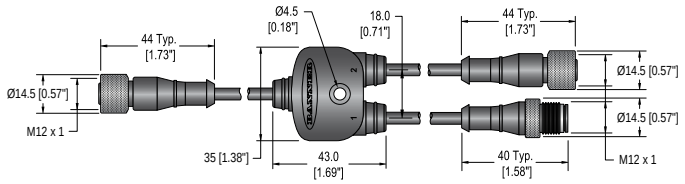
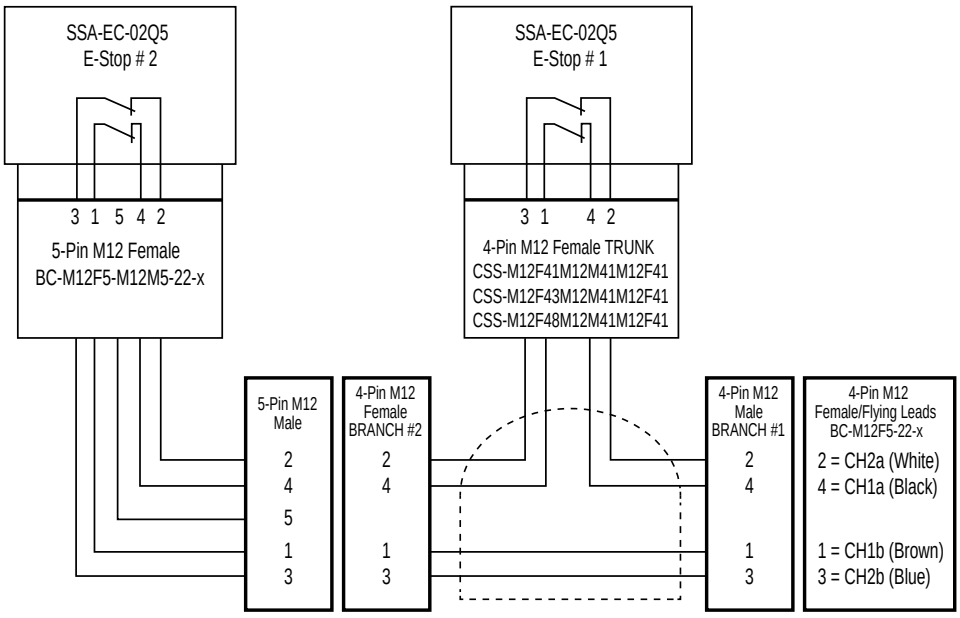
4-pin M12 Quick-Disconnect Splitter Cordset				
Model	**Trunk (Female)**	**Branches (1 Male, 1 Female)**	**Pinout**	**Wiring**
CSS-M12F41M12M41M12F41	0.30 m (1 ft)	0.30 m (1 ft)	Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused	
CSS-M12F43M12M41M12F41	0.91 m (3 ft)	0.30 m (1 ft)		
CSS-M12F48M12M41M12F41	2.5 m (8.2 ft)	0.30 m (1 ft)		
				

Figure 5. Q5 Model—Series Wiring (does not include the Q5A, Q5B or Q5C models)



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Chapter 6 Product Support and Maintenance

6.1 Maintenance and Service

Do not use alcoholic cleaning agents.

The SSA-ECx-xQx is maintenance-free.

For long-term and trouble-free operation, please periodically check the following points:

- solid fit of all components
- reliable switching function
- if damage occurs, please exchange the relevant components

Liability disclaimer— By breach of the given instructions (concerning the intended use, the safety instructions, the installation and connection through qualified personnel and the testing of the safety function) manufacturer's liability expires.

6.2 Repairs and Translations (No Field-Replaceable Parts)

English

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

```
IMPORTANT: If instructed to return the device, pack it with care. Damage that occurs in return
shipping is not covered by warranty.
```

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at www.bannerengineering.com or contact Banner directly at (763) 544-3164.

Deutsch

Wenden Sie sich zur Fehlerbehebung dieses Geräts an Banner Engineering. **Versuchen Sie nicht, Reparaturen an diesem Banner-Gerät vorzunehmen. Das Gerät enthält keine am Einsatzort auszuwechselnden Teile oder Komponenten.** Wenn ein Banner-Anwendungstechniker zu dem Schluss kommt, dass dieses Gerät, ein Teil oder eine Komponente davon defekt ist, erhalten Sie von dem Techniker Erläuterungen zu Banners RMA-Verfahren (Return Merchandise Authorization) für die Warenrückgabe.

```
WICHTIG: Wenn Sie der Techniker anweist, das Gerät zurückzusenden, verpacken Sie es bitte
sorgfältig. Transportschäden bei der Rücksendung werden von der Garantie nicht abgedeckt.
```

Unterstützung bei Produktreparaturen erhalten Sie von Ihrem örtlichen Banner Engineering Corp Händler oder direkt von Banner unter Tel. (763) 544-3164. Die in Ihre Muttersprache übersetzte Literatur finden Sie auf der Banner-Website unter www.bannerengineering.com oder kontaktieren Sie Banner direkt unter Tel. (763) 544-3164.

Français

Pour plus d'informations sur le dépannage du produit, contactez Banner Engineering. **Ne tentez pas de réparer ce dispositif Banner. Il ne contient aucun composant ou pièce qui puisse être remplacé sur place.** Si un ingénieur de Banner conclut que le dispositif ou l'une de ses pièces ou composants est défectueux, il vous informera de la procédure à suivre pour le retour des produits (RMA).

```
Important : Si vous devez retourner le dispositif, emballez-le avec soin. Les dégâts
occasionnés pendant le transport de retour ne sont pas couverts par la garantie.
```

Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local our appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

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Italiano

Per le procedure di individuazione e riparazione dei guasti di questo dispositivo, contattare Banner Engineering. **Non tentare di riparare questo dispositivo Banner, in quanto non contiene parti o componenti sostituibili dall'utente.** Se il dispositivo, una parte del dispositivo o un componente del dispositivo viene riscontrato difettoso da un tecnico Banner, il nostro personale vi comunicherà la procedura da seguire per ottenere l'autorizzazione al reso.

Importante: Se si ricevono istruzioni di rispedire il dispositivo al produttore, imballarlo con cura. I danni dovuti al trasporto non sono coperti dalla garanzia.

Per assistenza nelle riparazioni dei prodotti, contattare il distributore locale Banner Engineering Corp o contattare direttamente Banner al numero (763) 544-3164. È possibile accedere alla documentazione tradotta nella propria lingua madre sul sito Web Banner all'indirizzo www.bannerengineering.com o contattare direttamente Banner al numero (763) 544-3164.

Español

Comuníquese con Banner Engineering para solucionar de problemas de este dispositivo. **No intente ninguna reparación a este dispositivo de Banner, contiene piezas o componente que no se pueden cambiar en terreno.** Si algún ingeniero de aplicaciones de Banner determina que el dispositivo, alguna de las piezas o alguno de los componentes del dispositivo está defectuoso, le informará el procedimiento de autorización de devolución de mercancía (RMA, por sus siglas en inglés) de Banner.

Importante: Si se le solicita devolver el dispositivo, empáquelo con cuidado. Puede haber daños durante el envío de devolución que no estén cubiertos por la garantía.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

中国人

如需对本装置进行故障排查，请联系邦纳。**请勿尝试自行维修该邦纳装置；本装置不包含任何可在现场更换的部件或组件。** 若经邦纳应用工程师确认设备、设备部件或组件存在缺陷，他们将告知您邦纳退货授权 (RMA) 流程。

重要注意事项： 如被要求退回装置，请妥善包装后寄回。退货运输过程中发生的损坏不在保修范围内。

请联系当地的 Banner Engineering Corp 经销商或直接致电 Banner +1 (763) 544-3164，以获得产品维修帮助。请访问邦纳网站 www.bannerengineering.com 或直接拨打 +1 (763) 544-3164 联系邦纳，获取翻译成您母语的资料。

한국인

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日本語

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重要 ： 返品を指示された場合は、装置を丁寧に梱包してください。返品時に発生した破損は保証の対象外となります。

製品の修理については、最寄りのBanner Engineering Corp代理店にお問い合わせいただくか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。バナーのウェブサイト（www.bannerengineering.com）でお客様の言語に翻訳された資料にアクセスするか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。

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čeština

Pro řešení problémů se zařízením kontaktujte společnost Banner Engineering. **Neprovádějte žádné opravy zařízení Banner. Neobsahují žádné komponenty nebo části, které by byly vyměnitelné.** Pokud je zařízení, jeho část nebo díl označen technikem společnosti Banner jako poškozený, bude Vám doporučeno vyplnit reklamační RMA protokol.

Důležité: Pokud byl vydán požadavek na vrácení zařízení, pečlivě ho zabalte. Poškození vzniklé při dopravě není považováno za záruční opravu.

Pokud produkt potřebuje opravu, vyžádejte si pomoc od místního distributora společnosti Banner Engineering Corp nebo přímo na telefonním čísle (763) 544-3164. Dokumentaci přeloženou do vašeho jazyka si vyhledejte na webových stránkách společnosti Banner na adrese www.bannerengineering.com nebo se obraťte přímo na společnost Banner na telefonním čísle (763) 544-3164.

Polski

W celu rozwiązania problemów z urządzeniem należy skontaktować się z działem technicznym firmy Banner Engineering. **Pod żadnym pozorem nie próbuj naprawiać tego urządzenia firmy Banner; nie zawiera ono części ani elementów, które można wymieniać samodzielnie.** Jeśli urządzenie, jego część lub element zostaną uznane za wadliwe przez inżyniera technicznego Banner, poinformuje on użytkownika o firmowej procedurze zwrotu towaru (RMA) firmy Banner.

Ważne: Jeśli urządzenie ma zostać zwrócone, należy je starannie zapakować. Uszkodzenia powstałe podczas odsyłki nie są objęte gwarancją.

Aby uzyskać pomoc w zakresie naprawy produktu, należy skontaktować się z lokalnym dystrybutorem Banner Engineering Corp lub zadzwonić bezpośrednio do firmy Banner pod numer (763) 544-3164. Dostęp do literatury przetłumaczonej na swój język ojczysty można uzyskać na stronie internetowej firmy Banner pod adresem www.bannerengineering.com lub kontaktując się bezpośrednio z firmą Banner pod numerem (763) 544-3164.

Português

Entre em contato com a Engenharia da Banner para a solução de problemas deste dispositivo. **Não tente fazer nenhum reparo neste dispositivo Banner; ele não contém peças ou componentes substituíveis em campo.** Se um técnico de aplicações da Banner determinar que o dispositivo, peça ou componente do dispositivo está com defeito, ele o informará sobre o procedimento de RMA (Autorização de Devolução de Mercadoria) da Banner.

Importante: Se for instruído a devolver o dispositivo, embale-o com cuidado. Os danos ocorridos no transporte de devolução não são cobertos pela garantia.

Obtenha assistência para reparos do produto entrando em contato com o distribuidor local da Banner Engineering Corp ou ligando diretamente para a Banner no telefone (763) 544-3164. Acesse a literatura traduzida para seu idioma nativo no site da Banner em www.bannerengineering.com ou entre em contato diretamente com a Banner pelo telefone (763) 544-3164.

Türkçe

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6.3 Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

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Chapter 7 Standards and Regulations

The list of standards below is included as a convenience for users of this Banner device. Inclusion of the standards below does not imply that the device complies specifically with any standard, other than those specified in the Specifications/Design Standards section of this manual. See the American National Standards Institute (ANSI) at https://webstore.ansi.org/ or another source for applicable documents.

7.1 Applicable U.S. Standards

Not inclusive

ANSI B11 Standards for Machine Tools Safety

ANSI/RIA R15.06 Safety Requirements for Industrial Robots and Robot Systems

NFPA 79 Electrical Standard for Industrial Machinery

ANSI/PMMI B155.1 Package Machinery and Packaging-Related Converting Machinery — Safety Requirements

ANSI/ASSP Z244.1-2024 The Control of Hazardous Energy – Lockout, Tagout, and Alternative Methods

OSHA 29 CFR 1910 Occupational Safety and Health Standards

7.2 Applicable European and International Standards

Not Inclusive

ISO 12100 Safety of Machinery – General Principles for Design – Risk Assessment and Risk Reduction

EN 60204-1 Electrical Equipment of Machines Part 1: General Requirements

ISO 13849-1 Safety of Machinery – Safety-Related Parts of Control Systems – Part 1: General Principles for Design

IEC 61508 Functional Safety of Electrical/Electronic/Programmable Electronic Safety-Related Systems

ISO 13850 Emergency Stop Devices, Functional Aspects – Principles for Design

EN 13855 The Positioning of Protective Equipment in Respect to Approach Speeds of Parts of the Human Body

ISO 13857 Safety of Machinery – Safety Distances to Prevent Hazard Zones Being Reached

ISO 14119 Interlocking Devices Associated with Guards – Principles for Design and Selection

ISO 14120 Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards

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