

EZ-SCREEN® AC Interface Box

EZAC Series for use with Type 4 Emitters and Receivers

Emitter-only models



Emitter/Receiver models

Features

- AC power supply for use with EZ-SCREEN Safety Light Screen sensors. Models EZAC-R.. can be interfaced with up to three receivers or two cascaded emitter/receiver pairs; models EZAC-E.. can power up to four emitters
- Supplies +24V dc power @ 0.7 amps (16.8 W max. power)
- Accepts input voltages from 100-250V ac (50-60 Hz)
- Models available with external device monitoring (EDM) – see Models table Key reset switch on EZAC-R.. models (Receiver/Pair models)
- Replaceable relay module with 8 Amp / 250V ac/dc safety output contacts (models EZAC-R.. only)
- IP65 metal housing
- Can be mounted directly onto sensor housing (hardware included)
- Emitter models available for 5-pin (with Test input) or 8-pin (no Test input available) emitter connections
- Easy QD receiver and emitter hookup
- Easy QD or hard-wired power and output/EDM connections (depending on model)

Models

Emitter/Receiver Boxes					
Model	Outputs	EDM	Emitter/Receiver Connection	AC Power Connection	Output and EDM Connections
EZAC-R9-QE8	3 N.O.	Selectable 1- or 2-Channel or no EDM	8-Pin M12 Euro-style QD	Hard-wired	Hard-wired
EZAC-R11-QE8	2 N.O., 1 N.C.				
EZAC-R15A-QE8-QS83	1 N.O. + 1 SPDT (Form C)	1-Channel		3-pin Mini-style QD	8-pin Mini-style QD
EZAC-R8N-QE8-QS53	1 N.O., 1 N.C.	Power Monitoring			
EZAC-R10N-QE8-QS53	2 N.O.				

Emitter-Only Boxes			
Model	For Emitter Models	Emitter Connection	AC Power Connection
EZAC-E-QE8	SLSE...Q8 (without Test input)	8-Pin M12 Euro-style QD	Hard-wired
EZAC-E-QE5	SLSE...Q5 (with Test input)	5-Pin M12 Euro-style QD	
EZAC-E-QE8-QS3	SLSE...Q8 (without Test input)	8-Pin M12 Euro-style QD	3-Pin Mini-style QD
EZAC-E-QE5-QS5	SLSE...Q5 (with Test input)	5-Pin M12 Euro-style QD	5-Pin Mini-style QD



EZ-SCREEN® AC Interface Box

Overview

The EZ-SCREEN AC Interface Box (EZAC Series) is powered by 100-250V ac. EZAC-R.. models can supply one EZ-SCREEN receiver, a single emitter-receiver pair, or two cascaded emitter-receiver pairs; see Figure 4. Emitter-only models (EZAC-E..) can supply up to four cascaded emitters, and have no output circuitry.

The integrated interface module, located on a replaceable PC-board, converts the EZ-SCREEN receiver OSSD output signals into isolated redundant output channels with an 8 amp / 250V ac/dc switching capacity for ac or dc safety circuits (see Models on page 1 for output descriptions). The outputs of the interface module follow the action of the EZ-SCREEN OSSD outputs, with a 10 millisecond response time in turning OFF, and approximately 10 millisecond delay in turning ON. All models feature external device monitoring (EDM) in the form of 1-Ch, 2-Ch or power monitoring.

All models have one 8-pin M12 Euro-style QD to connect to the EZ-SCREEN receiver or emitter. Other connections are dependent on model; see page 1. Hookups, therefore, are also model-dependent; see pages 6-9. See pages 14 and 15 for cabling options.

Indicators

A bicolor LED indicates the output contact status of internal relays K1 and K2. (Emitter-only models have a Green Power ON/OFF indicator.)

LED Status	Power	K1 and K2	N.O. Output	N.C. Output	Light Screen
ON Green	ON	Energized	Closed	Open	Clear and reset
ON Red	ON	De-energized	Open	Closed	Blocked, latched, or locked out
OFF	No ac power	De-energized	Open	Closed	OFF

WARNING . . . This Interface Box is not a point-of-operation guarding device, as defined by OSHA regulations.

It is necessary to install point-of-operation guarding devices, such as safety light screens and/or hard guards, to protect personnel from hazardous machinery. **Failure to install point-of-operation guards on hazardous machinery could lead to serious injury or death.**

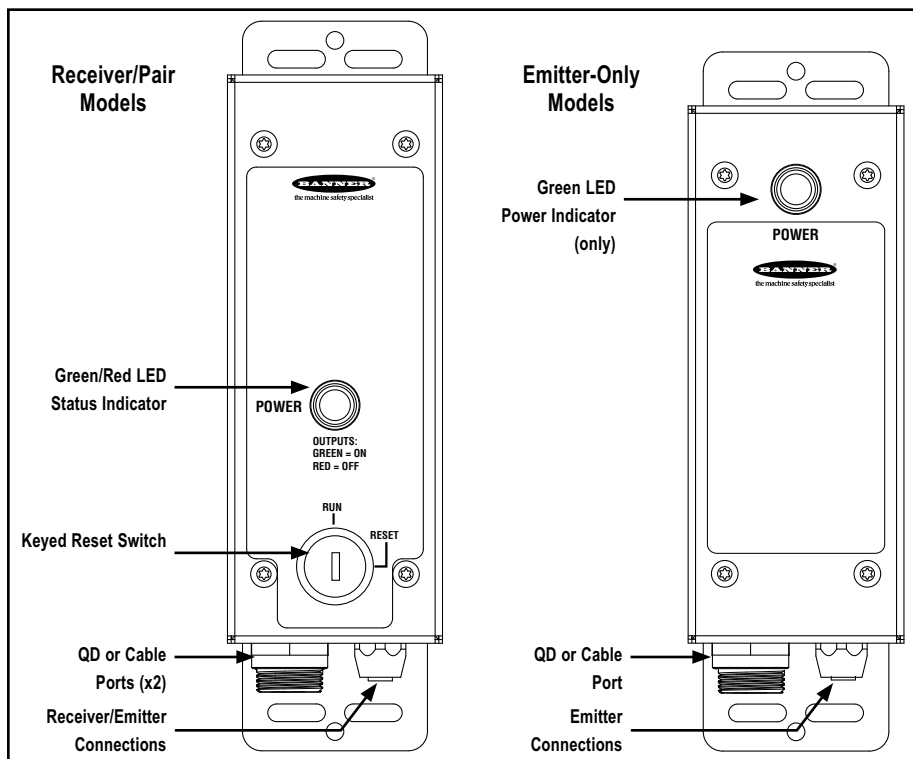


Figure 1. Features

EZ-SCREEN® AC Interface Box

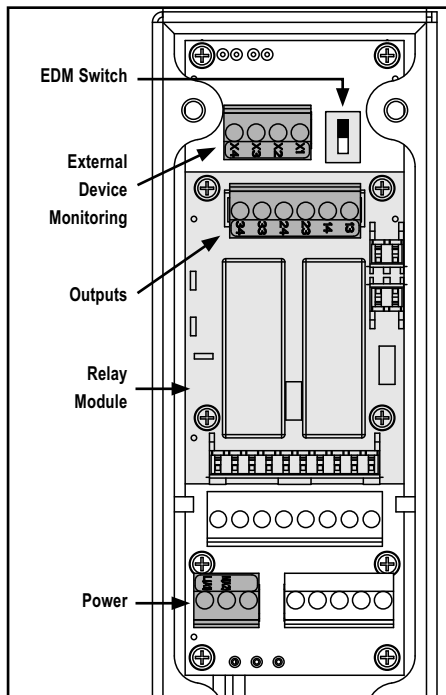


Figure 2. Internal board layout – EZAC-R.. models

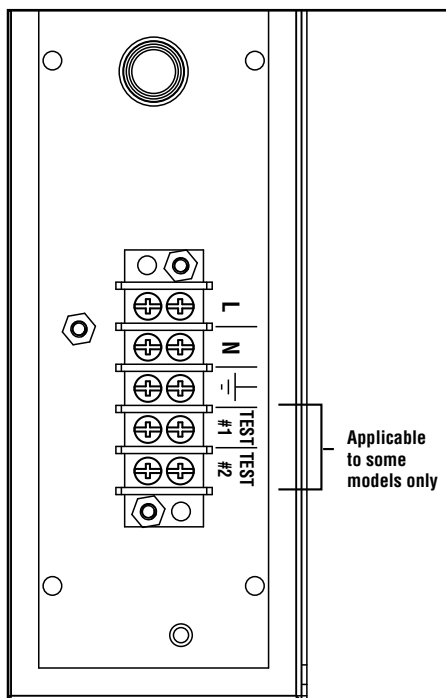


Figure 3. Inside cover – EZAC-E.. hard-wired models

Configuration

Models EZAC-R9-QE8 and EZAC-R11-QE8 can be configured for 1-Channel, 2-Channel, or No EDM. The EDM slide switch setting must match the EZ-SCREEN receiver's DIP switch setting. For example, if the slide switch is set for "EDM 1-CH," then "E1" must be selected on the EZ-SCREEN receiver.

Models EZAC-R8N-QE8-QS53, EZAC-R10N-QE8-QS53, and EZAC-R15A-QE8-QS53 are pre-configured. However, the EZ-SCREEN receiver's DIP switch setting must still match the EZAC Interface EDM setting:

- EZAC-R8N-QE8-QS53 – No EDM; EZ-SCREEN configuration – E2 (default)
- EZAC-R10N-QE8-QS53 – No EDM; EZ-SCREEN configuration – E2 (default)
- EZAC-R15A-QE8-QS53 – 1-Channel EDM; EZ-SCREEN configuration – E1

See Sections 3.5.3 and 4.2 of EZ-SCREEN manual (p/n 112852) for further information.

Mechanical Installation

Mount the box in a convenient location that is free from heavy impulse force and high-amplitude vibration. The box and any auxiliary Reset switches must be located outside the guarded area, where the switch operator has a full unobstructed view of the entire guarded area and any associated hazards as the reset is performed. The box and any auxiliary reset switch(es) must not be reachable from within the guarded area and must be protected (through the use of rings or guards, for example) against unauthorized or inadvertent operation. See Figures 13 and 14 for dimensions and mounting hole locations.

The box is designed for mounting directly to the emitter or receiver housing, if desired. The box meets IEC IP65 standards; an additional enclosure or cabinet is not required.

EZ-SCREEN® AC Interface Box

Electrical Installation

The hookup for a particular box is dependent on the model (see Figures 5-9). For models with EDM, this should be configured before the initial checkout and use of the light screen. EDM is configured via a combination of the electrical hookup and a sliding switch inside the box (depending on model; see page 6).

All EZAC-R.. models have one 8-pin M12 Euro-style QD to connect to the EZ-SCREEN receiver and/or emitter. QD models have one 3-pin Mini-style QD for power and ground input, plus a Mini-style I/O connector (either 8-pin or 5-pin, depending on model) to connect to the safety outputs and monitoring contacts (i.e., EDM). Non-QD (hard-wired) models have two holes with 1/2" NPT threads to accommodate conduit fitting or cable gland and hard-wire cables (two cable glands and one hole plug included with box).

EZAC-E.. models have one (8-pin or 5-pin) M12 Euro-style QD to connect to the emitter, plus a 3-pin or 5-pin Mini-style connector for power and ground. Hard-wired emitter models have one hole and one cable gland.

Connection to the Guarded Machine

The hook-up diagrams in Figures 5-9 show a generic connection of two safety output channels of the models EZAC-R.. AC Interface box to machine primary control elements MPCE1 and MPCE2. A machine primary control element is an electrically powered device, external to the box, which stops the machinery being controlled by immediately removing electrical power from the machine and (when necessary) by applying braking to dangerous motion.

WARNING . . . Not for Use as a Stand-Alone Safety Module

1. **DO NOT connect E-stop switches, 2-hand control switches, safety interlock switches, or similar devices directly to this interface module.**
2. Always connect pins 2 and 3 of the receiver/emitter M12/Euro-style QD connection to the monitoring input of the Primary Safeguarding Device that controls it (see Figure 4).

The EZAC box does not have the circuitry required to perform a self-check. A single fault inside the unit or in external devices (like switches or E-stop buttons) can go undetected and create an unsafe condition. **Failure to properly connect the EZAC box to a control-reliable Primary Safety Device could result in serious injury or death.**

WARNING . . . Electrical

Shock Hazard

Electrical shock hazard exists when the EZ-SCREEN AC Interface Box has power applied to it and the box cover is open. Use extreme caution to avoid electrical shock during installation or servicing, or when the box cover is open to change the switch configuration or replace the relay board module.

Always disconnect all power from the box and the guarded machine before making any connections, replacing any component, or before opening the enclosure housing of the box.

CAUTION . . .

Ensure Proper Monitoring

The primary safeguarding system must be capable of external device monitoring of the EZAC-R.. models, and employ a Normally Open Reset contact. Thus, the EZ-SCREEN AC Interface Box is not intended to be used with EZ-SCREEN Type 2 (model numbers LS2..).

WARNING . . . Electrical

Hookup

Electrical hookup must be made by a qualified electrician, and must comply with NEC (National Electrical Code) and local standards. Also, make no more connections to the EZ-SCREEN AC Interface Box than are described in this document.

Connection of other wiring or equipment to the box could result in serious bodily injury or death.

EZ-SCREEN® AC Interface Box

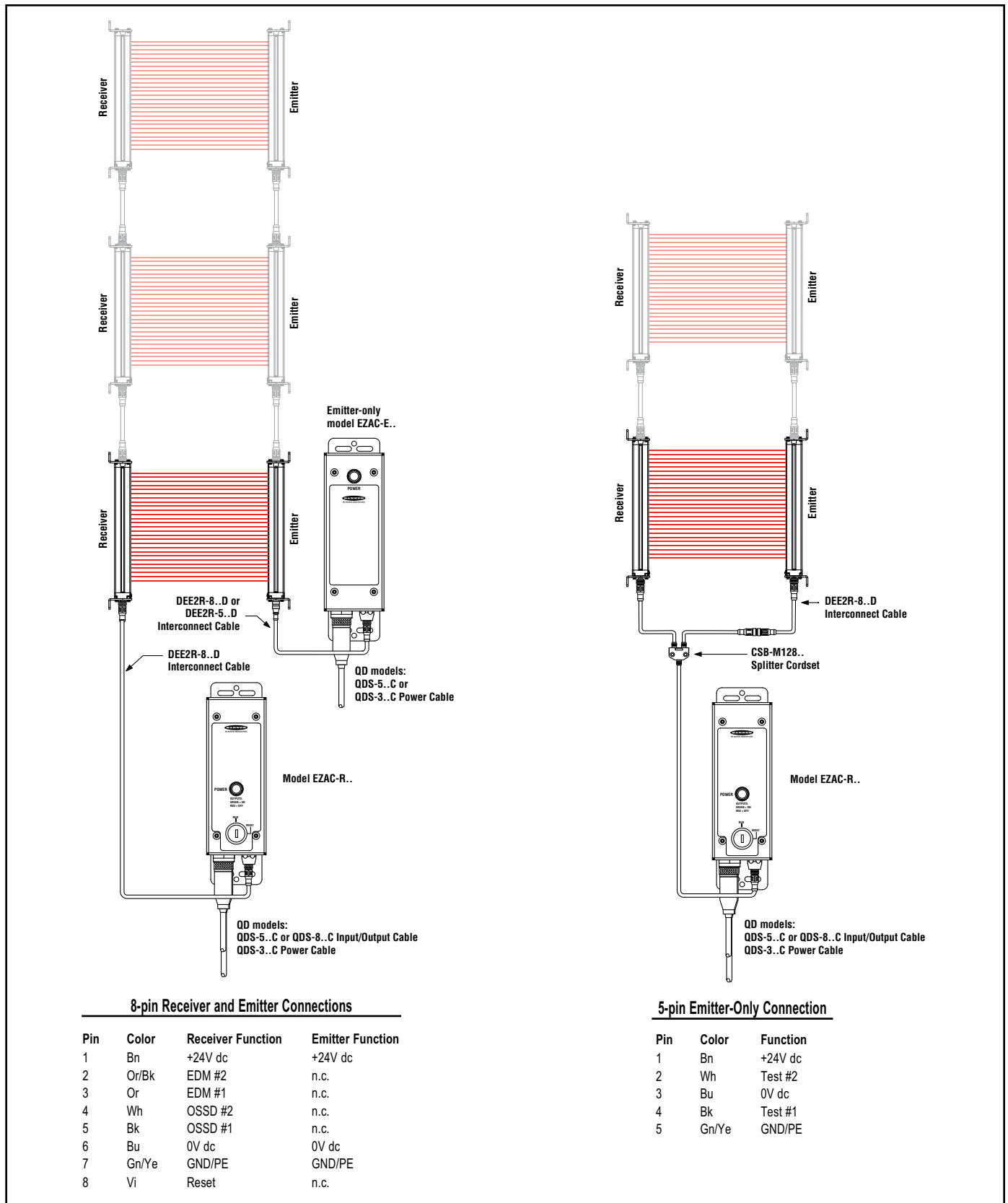


Figure 4. Connection to EZ-SCREEN Emitter and Receiver

EZ-SCREEN® AC Interface Box

Models EZAC-R9-QE8 and EZAC-R11-QE8

- Model **EZAC-R9-QE8**: Three N.O. relay contacts
Model **EZAC-R11-QE8**: Two N.O. and one N.C. relay contact
- Selectable 1-channel or 2-channel EDM, or no EDM
- Hard-wired I/O, power and ground
- 8-pin QD sensor connection

EDM Monitoring Configuration

Models EZAC-R9-QE8 and EZAC-R11-QE8 can monitor external normally closed, forced-guided monitoring contacts (see table at right). The factory default setting is “2-channel monitoring.” Jumpers are supplied to configure 1-channel EDM or No EDM.

	Selector Switch	Terminals X1-X2	Terminals X3-X4	EZ-SCREEN Receiver
No Monitoring	2-Ch.	Jumper	Jumper	E2
1-Channel Monitoring	1-Ch.	External N.C. Contacts	Jumper	E1
2-Channel Monitoring (Factory Default)	2-Ch.	MPCE1 External N.C. Contact	MPCE2 External N.C. Contact	E2 (Default)

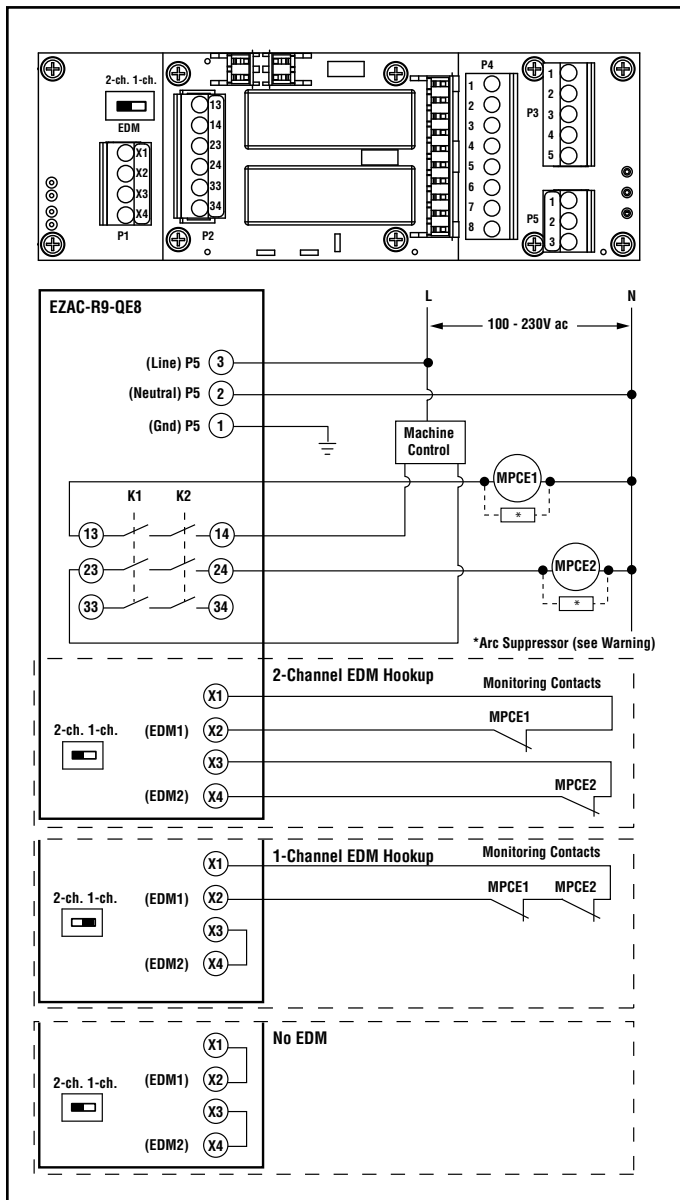


Figure 5. Hookup – model EZAC-R9-QE8

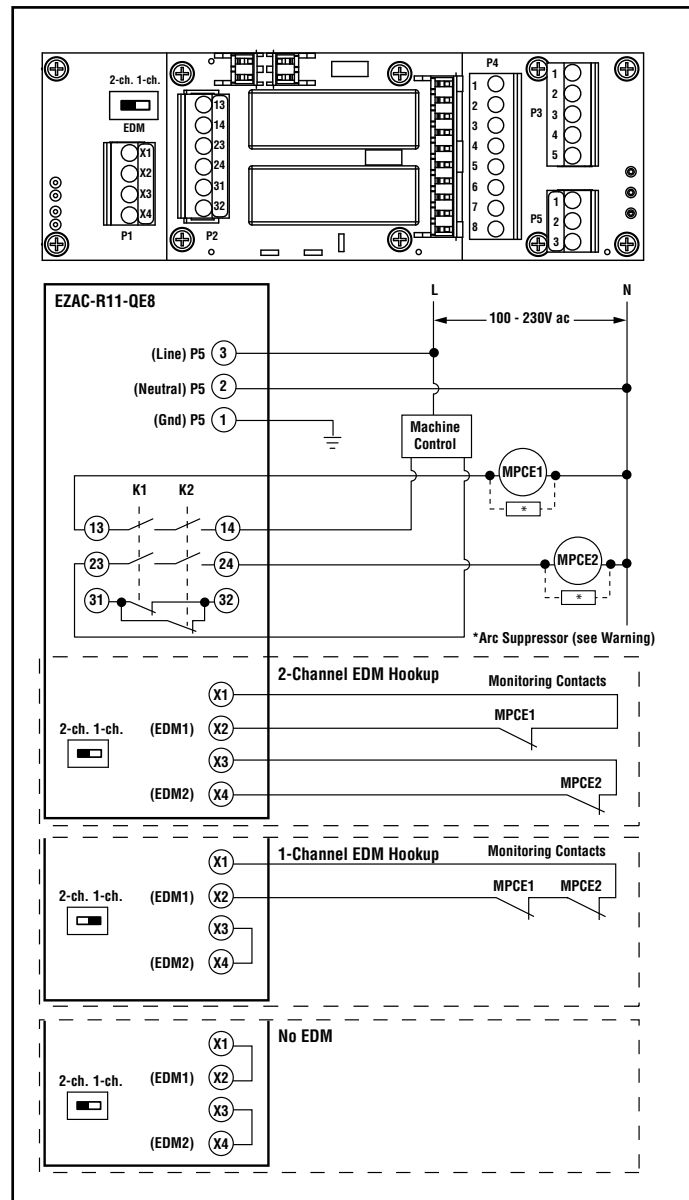


Figure 6. Hookup – model EZAC-R11-QE8

EZ-SCREEN® AC Interface Box

WARNING ... Live Voltage
Even when EZAC box power is OFF, dangerous voltage could be present via voltage connected to outputs.

Take care to properly terminate pin 8 of the output connector (N.C. Aux output) if it is not used.

WARNING ... Wiring of Arc Suppressors

If arc suppressors are used, they **MUST** be installed as shown across the actuator coil of the Machine Primary Control Elements (MPCE1 to MPCE2). **NEVER** install suppressors directly across the output contacts of the Safety Module. It is possible for suppressors to fail as a short circuit. If installed directly across the output contacts of the Safety Module, a short-circuited suppressor will create an unsafe condition which could result in serious injury or death.

Model EZAC-R15A-QE8-QS83

- One N.O. and one SPDT (Form C) relay contact
- 1-Channel EDM (EZ-SCREEN must be configured for E1)
- QD: 8-pin Mini-style for I/O, and a 3-pin Mini-style for power and ground

EDM Monitoring Configuration

Model EZAC-R15A-QE8-QS83 is factory-set for 1-channel monitoring of external normally closed, forced-guided monitoring contacts.

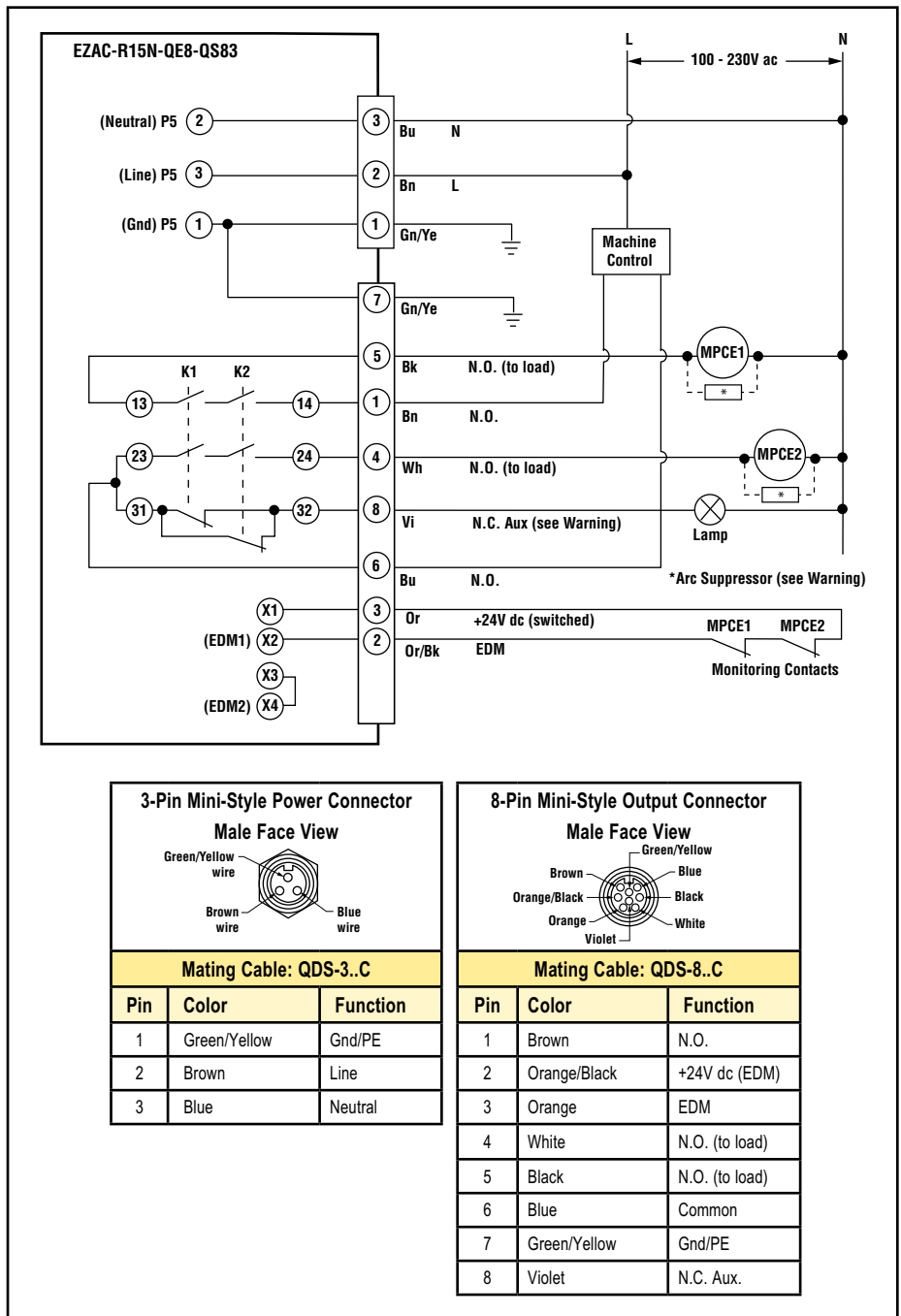


Figure 7. Hookup – model EZAC-R15A-QE8-QS83

EZ-SCREEN[®] AC Interface Box

Model EZAC-R8N-QE8-QS53

- One N.O. and one N.C. relay contact
- Power monitoring (EZ-SCREEN must be configured for E2)
- QD: 5-pin Mini-style for I/O, and a 3-pin Mini-style for power and ground

⚠ WARNING ... Live Voltage

Even when EZAC box power is OFF, dangerous voltage could be present via voltage connected to outputs.

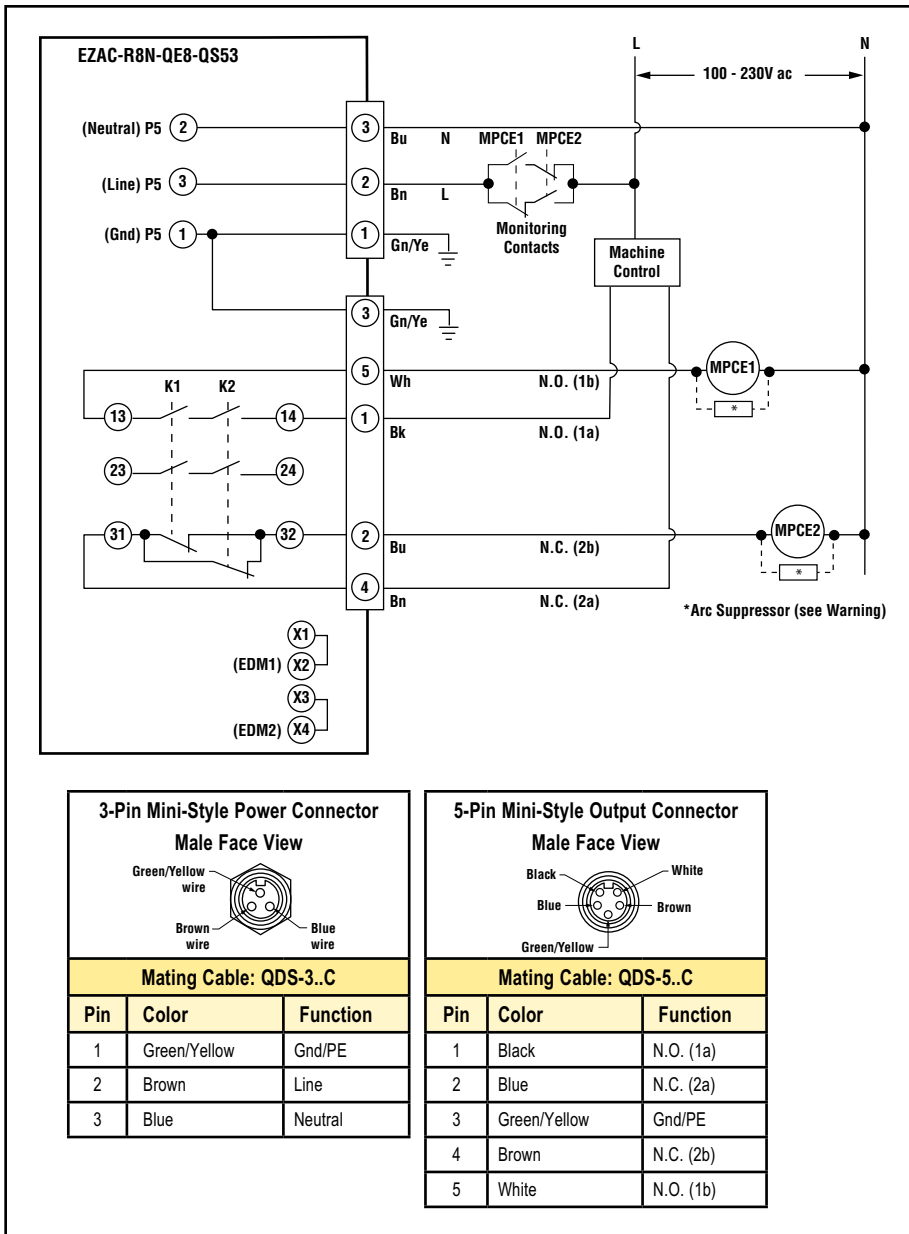


Figure 8. Hookup – model EZAC-R8N-QE8-QS53

EZ-SCREEN® AC Interface Box

⚠ WARNING ... Wiring of Arc Suppressors

If arc suppressors are used, they **MUST** be installed as shown across the actuator coil of the Machine Primary Control Elements (MPCE1 to MPCE2). **NEVER** install suppressors directly across the output contacts of the Safety Module. It is possible for suppressors to fail as a short circuit. If installed directly across the output contacts of the Safety Module, a short-circuited suppressor will create an unsafe condition which could result in serious injury or death.

Model EZAC-R10N-QE8-QS53

- Two N.O. relay contacts
- Power monitoring (EZ-SCREEN must be configured for E2)
- QD: 5-pin Mini-style for I/O, and a 3-pin Mini-style for power and ground

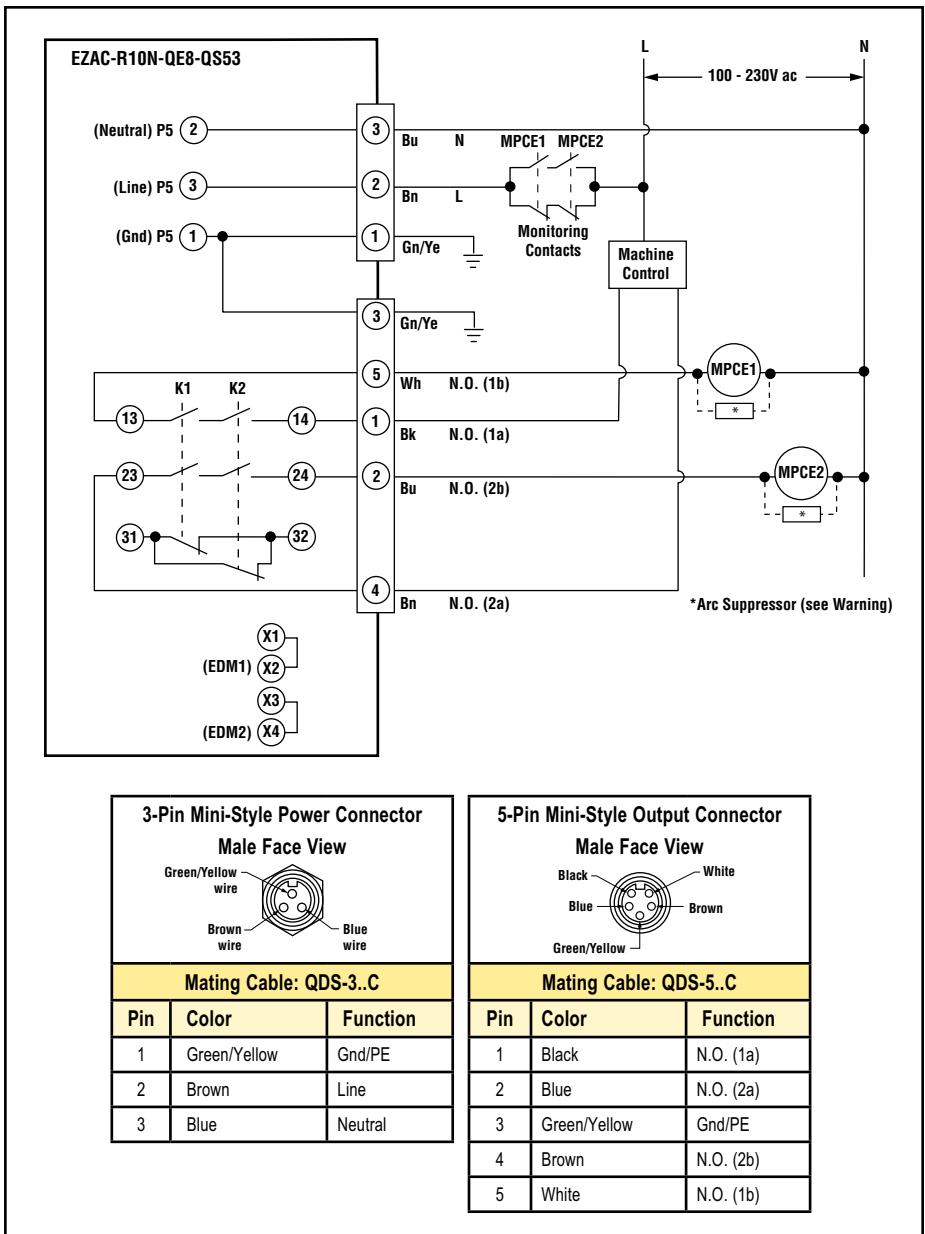


Figure 9. Hookup – model EZAC-R10N-QE8-QS53

EZ-SCREEN® AC Interface Box

Models EZAC-E-QE8 and EZAC-E-QE8-QS3

- Power source for emitters only
- No Test input available
- 8-pin M12 Euro-style connection to emitter, plus
 - Model **EZAC-E-QE8**: hard-wired power and ground inputs (see Figure 10)
 - Model **EZAC-E-QE8-QS3**: 3-pin Mini-style connector for power and ground inputs (see Figure 11)

WARNING ... Electrical Connection

Electrical hookup must be made by a qualified electrician, and must comply with NEC (National Electrical Code) and local standards. Also, make no more connections to the EZAC.. interface box than are described in this document.

Connection of other wiring or equipment to the box could result in serious bodily injury or death.

Models EZAC-E-QE5 and EZAC-E-QE5-QS5

- Power source for emitters only
- Test input available
- 5-pin M12 Euro-style connection to emitter, plus
 - Model **EZAC-E-QE5**: hard-wired power, ground and test inputs (see Figure 10)
 - Model **EZAC-E-QE5-QS5**: 5-pin Mini-style connector for power, ground inputs, and test inputs (see Figure 12)

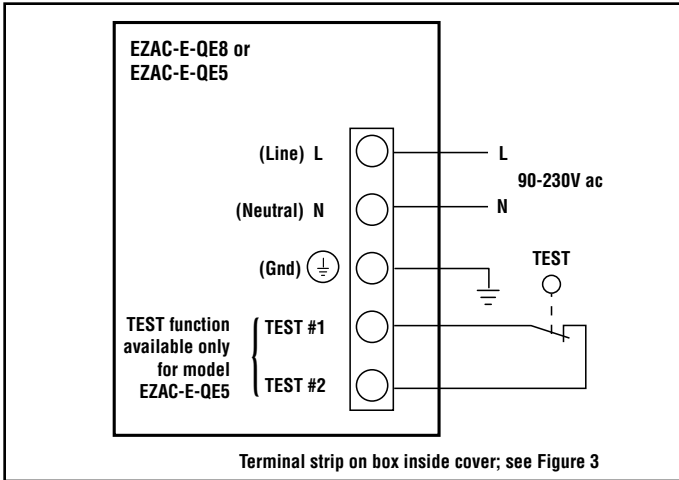


Figure 10. Hookup – models EZAC-E-QE8 and EZAC-E-QE5 (Hard-wired)

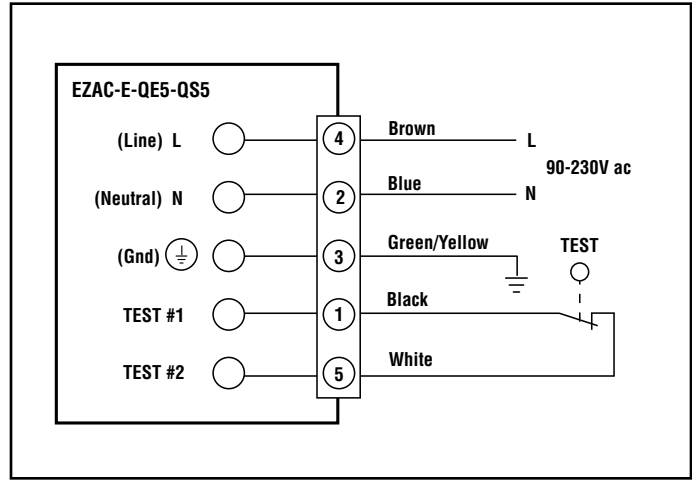


Figure 12. Hookup – model EZAC-E-QE5-QS5 (5-pin Mini-style QD)

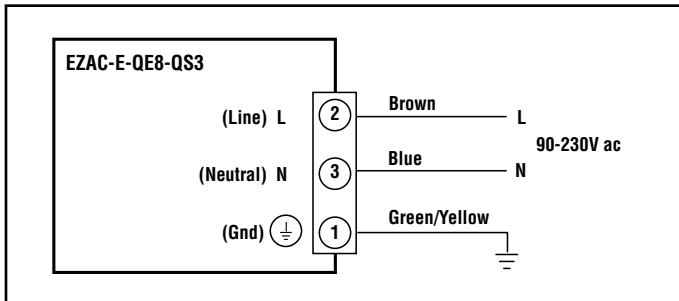
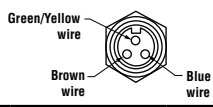


Figure 11. Hookup – model EZAC-E-QE8-QS3 (3-pin Mini-style QD)

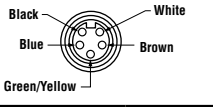
3-Pin Mini-Style Power Connector
Male Face View



Mating Cable: QDS-3..C

Pin	Color	Function
1	Green/Yellow	Gnd/PE
2	Brown	Line
3	Blue	Neutral

5-Pin Mini-Style Output Connector
Male Face View



Mating Cable: QDS-5..C

Pin	Color	Function
1	Black	TEST #1
2	Blue	Neutral
3	Green/Yellow	Gnd/PE
4	Brown	Line
5	White	TEST #2



CAUTION ... Disconnect Power Prior to Checkout

Before performing the initial checkout, make certain all power is disconnected from the machine to be controlled. Dangerous voltages may be present along the box wiring barriers whenever power to the machine control elements is ON.

Exercise extreme caution whenever machine control power is or may be present. Always disconnect power to the machine control elements before opening the box enclosure.

Initial Checkout

NOTE: The EZ-SCREEN AC Interface box can be used safely only when its operation is controlled via an appropriate primary safeguarding device (such as the Banner EZ-SCREEN light screen) and connected to the interface according to the wiring diagrams shown in Figures 5-12.

Procedure:

1. Remove the power that controls (and is switched by) the machine primary control elements (see Warning at right).
2. Verify that the AC Interface Box indicator LED is ON either Green or Red. Verify that the primary safety device controlled by the box is operating correctly, according to its product documentation and manufacturer's recommendations.
3. Confirm proper connection of the box to the controlled primary safety device according to the appropriate wiring diagram (see Figures 5-9).
4. Verify that all box output contacts follow exactly the operation of the safety output contacts of the controlled Primary Safety Device, when the primary safety device is operated according to its product documentation and manufacturer's recommendations.

Refer to EZ-SCREEN or primary safeguarding device literature for full checkout procedures.

Periodic Checkout Procedure

The initial checkout procedure described above should be performed according to the intervals specified by the product documentation of the primary safety device controlling the interface module integrated within the EZAC box.

Repairs

Do not attempt any repairs to the box, other than replacing the relay module with an original Banner replacement relay module (see information below). Other than the relay module, the box contains no field-replaceable components; for other problems, return the box to the factory for warranty repair or replacement.

If it ever becomes necessary to return a box to the factory, please do the following:

1. Contact the Banner Factory Application Engineering Group at the address or at the numbers listed at the bottom of the back page. They will attempt to troubleshoot the system from your description of the problem. If they conclude that a component is defective, they will issue an RMA (Return Merchandise Authorization) number for your paperwork and give you the proper shipping address.
2. Pack the box carefully. Damage that occurs in return shipping is not covered by warranty.


Relay Module Replacement

Replacement relay modules are dependent on the box model. To order the correct replacement module, refer to the table at left.

EZAC Box Model Number	Replacement Output Relay Contact Module Model
EZAC-R9-QE8	EZAC-RM-1
EZAC-R10N-QE8-QS53	
EZAC-R11-QE8	EZAC-RM-2
EZAC-R15A-QE8-QS83	
EZAC-R8N-QE8-QS53	

EZ-SCREEN® AC Interface Box

Specifications

Input Voltage and Current	100-230V ac ±15% Input current: typ. 0.37A @ 100V ac in typ. 0.23A @ 200V ac in Inrush current: typ. 15A @ 100V ac in (5 ms max.) typ. 30A @ 200V ac in (5 ms max.)																		
Output Voltage and Current	24V dc @ 0.7 A (16.8 W) SELV; capable of buffering 20 ms power interruptions																		
Input Channels	24V dc ± 15%; 40 mA per channel (pin 4 and pin 5 in Figure 3)																		
Supply Protection Circuitry	Protected against transient voltages																		
Output Configuration	<p>Models EZAC-R.. only; see models listing on page 1</p> <p>Each normally open output channel is a series connection of contacts from two forced-guided (positive-guided) relays, K1-K2. The normally closed contact is a parallel connection of contacts from K1-K2.</p> <p>Contacts: AgNi, 5 µm gold-plated</p> <p>Low Current Rating: Caution: The 5 µm gold-plated contacts allow the switching of low current/low voltage. In these low-power applications, multiple contacts can also be switched in series (e.g., “dry switching”)</p> <p>To preserve the gold plating on the contacts, the following max. values should not be exceeded at any time:</p> <table> <tr> <td>Min. voltage: 1V ac/dc</td> <td>Max. voltage: 60V ac/dc</td> </tr> <tr> <td>Min. current: 5 mA ac/dc</td> <td>Max. current: 300 mA</td> </tr> <tr> <td>Min. power: 5 mW (5 mVA)</td> <td>Max. power: 7 W (7 VA)</td> </tr> </table> <p>High Current Rating: If higher loads must be switched through one or more of the contacts, the minimum and maximum values of the contact(s) changes to:</p> <table> <tr> <td>Min. voltage: 15V ac/dc</td> <td>Max. voltage: 250V ac/dc</td> </tr> <tr> <td>Min. current: 250 mA ac/dc</td> <td>Max. current: 8 A</td> </tr> <tr> <td>Min. power: 5 W (5 VA)</td> <td>Max. power: 200 W (2000 VA)</td> </tr> </table> <p>Mechanical life: 50,000,000 operations Electrical life: 100,000 operations (typical @ 200 W [2000 VA] switched power, resistive load)</p> <p>Feedback Contact Rating (Y1-Y2, Y3-Y4):</p> <table> <tr> <td>Min. voltage: 1V ac/dc</td> <td>Max. voltage: 60V ac/dc</td> </tr> <tr> <td>Min. current: 5 mA ac/dc</td> <td>Max. current: 300 mA</td> </tr> <tr> <td>Min. power: 5 mW (5 mVA)</td> <td>Max. power: 7 W (7 VA)</td> </tr> </table> <p>NOTE: Transient suppression is recommended when switching inductive loads. Install suppressors across load. Never install suppressors across output contacts (see Warning, page 9).</p>	Min. voltage: 1V ac/dc	Max. voltage: 60V ac/dc	Min. current: 5 mA ac/dc	Max. current: 300 mA	Min. power: 5 mW (5 mVA)	Max. power: 7 W (7 VA)	Min. voltage: 15V ac/dc	Max. voltage: 250V ac/dc	Min. current: 250 mA ac/dc	Max. current: 8 A	Min. power: 5 W (5 VA)	Max. power: 200 W (2000 VA)	Min. voltage: 1V ac/dc	Max. voltage: 60V ac/dc	Min. current: 5 mA ac/dc	Max. current: 300 mA	Min. power: 5 mW (5 mVA)	Max. power: 7 W (7 VA)
Min. voltage: 1V ac/dc	Max. voltage: 60V ac/dc																		
Min. current: 5 mA ac/dc	Max. current: 300 mA																		
Min. power: 5 mW (5 mVA)	Max. power: 7 W (7 VA)																		
Min. voltage: 15V ac/dc	Max. voltage: 250V ac/dc																		
Min. current: 250 mA ac/dc	Max. current: 8 A																		
Min. power: 5 W (5 VA)	Max. power: 200 W (2000 VA)																		
Min. voltage: 1V ac/dc	Max. voltage: 60V ac/dc																		
Min. current: 5 mA ac/dc	Max. current: 300 mA																		
Min. power: 5 mW (5 mVA)	Max. power: 7 W (7 VA)																		
Output Response Time	10 ms (max.)																		
Status Indicators	<p>Models EZAC-R.. : One bicolor (Red/Green) LED indicator on box cover indicates the power and output status of internal relays K1 and K2; see page 2.</p> <p>Models EZAC-E.. : One Green LED indicator on box cover indicates the power status (ON when power is ON).</p>																		
Construction	Welded steel box with yellow polyester powder paint finish																		
Environmental Rating	IEC IP65																		
Vibration Resistance	10 to 50 Hz @ 0.35 mm displacement per IEC 68-2-6																		
Mounting	Box provides flanges for screw mounting; can be mounted directly to EZ-SCREEN receiver or emitter housing.																		
Operating Conditions	Temperature: 0° to +50°C (+32° to 122°F) Max. Relative Humidity: 90% @ +50°C (non-condensing)																		
Dimensions	See Figures 13 and 14.																		
Application Notes	The box offers a field-replaceable relay module; see Repairs, page 11, for more information.																		
Certifications																			

EZ-SCREEN® AC Interface Box

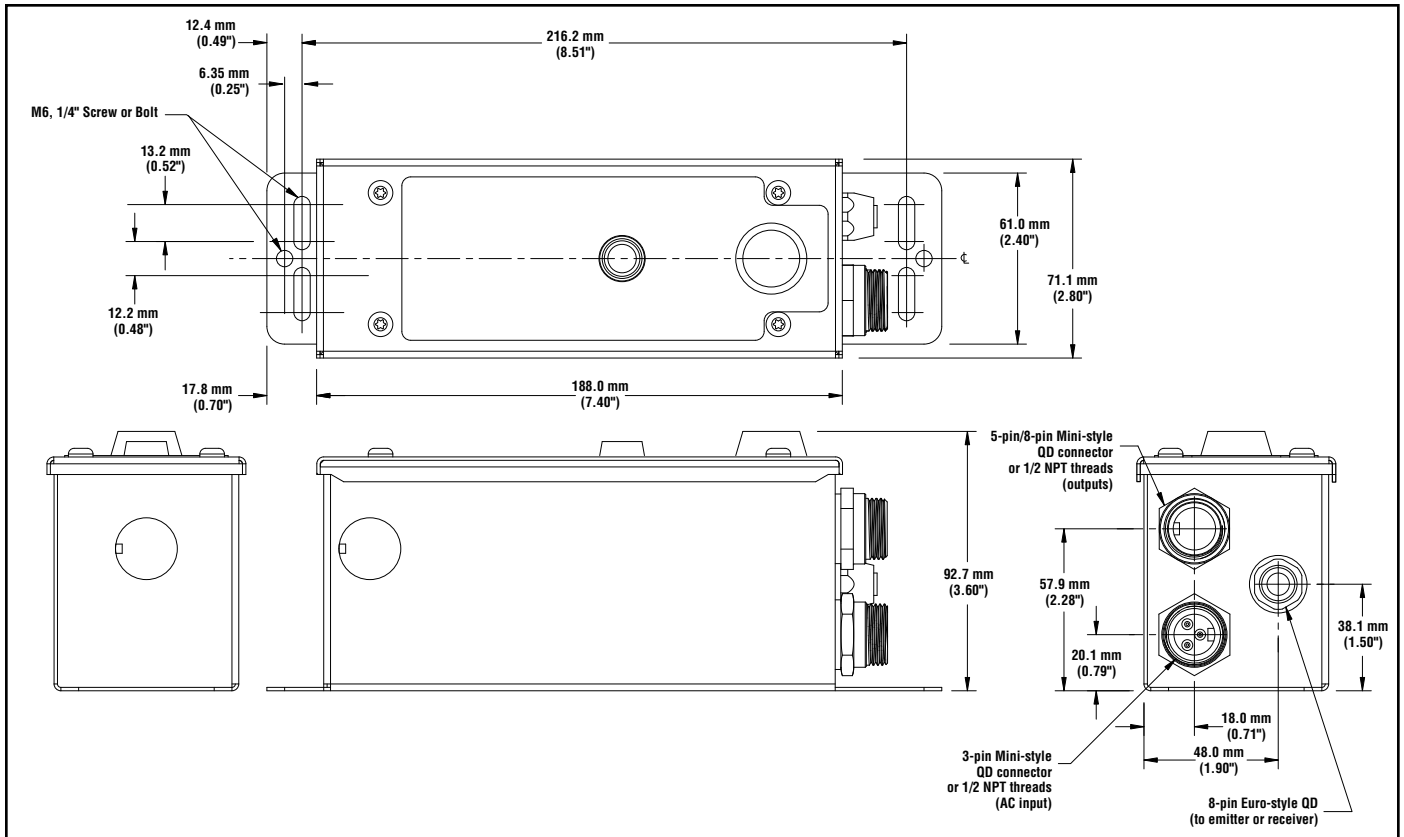


Figure 13. Model EZAC-R.. EZ-SCREEN AC Interface Box dimensions

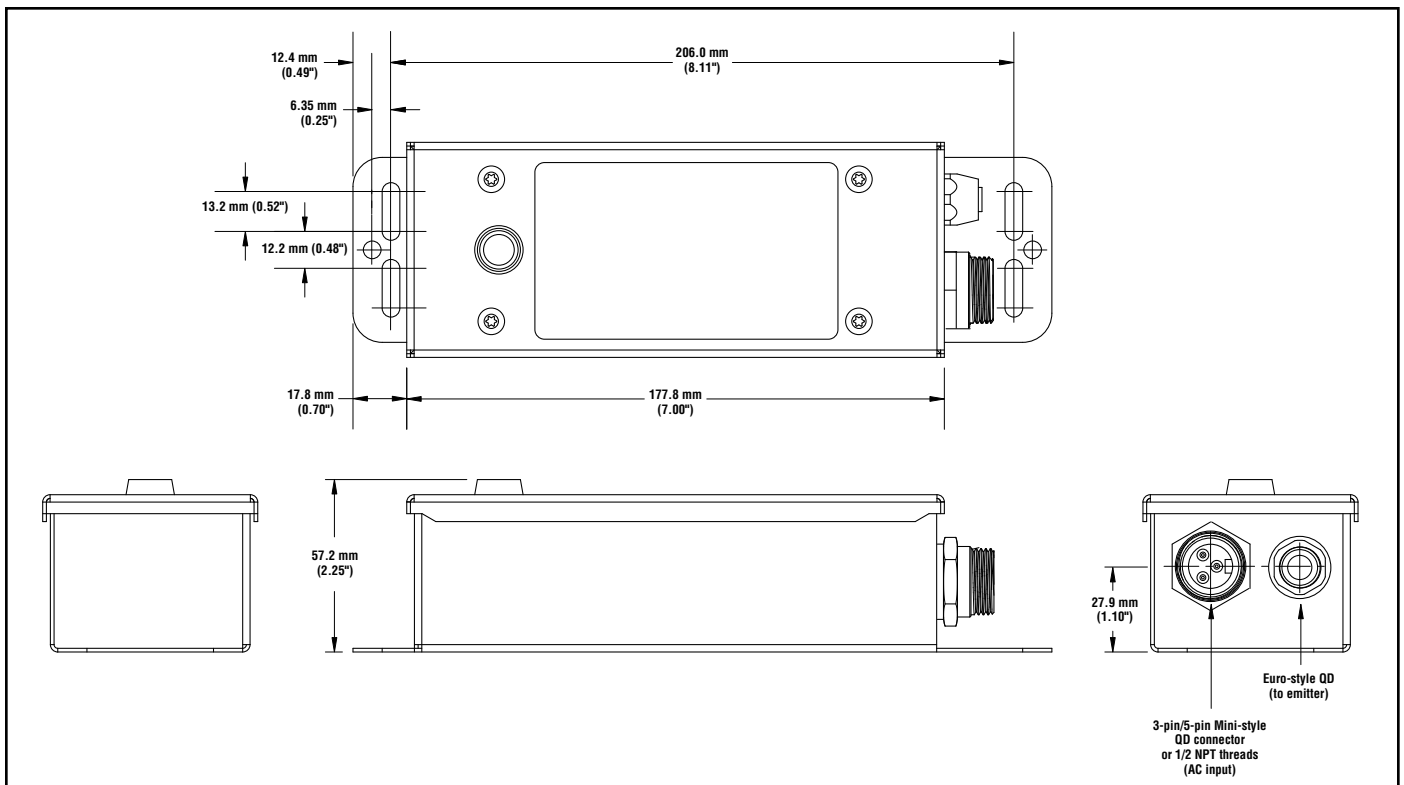


Figure 14. Model EZAC-E.. EZ-SCREEN AC Interface Box dimensions

EZ-SCREEN® AC Interface Box

Quick-Disconnect (QD) Cordsets

EZ-SCREEN Safety Light Screen Receiver and Emitter Cordsets

Model Number	Length	Termination	Wire	EZ-SCREEN Pinout/Color Code	European M12 Specification*	Connector (female face view)
Splitter Cables (for Q8 emitters and receivers)			22 gauge	Pin Color Function	Pin Color Function	
CSB-M1281M1281	300 mm (1') Trunk	8-pin splitter cables: M12/Euro-style connectors, 300 mm female branches, male (rotateable) or unterminated trunk		1 Bn +24V dc	1 Wh +24V dc	
CSB-M1288M1281	2.5 m (8') Trunk			2 Or/Bk EDM #2	2 Bn EDM #2	
CSB-M12815M1281	4.5 m (15') Trunk			3 Or EDM #1	3 Gn EDM #1	
CSB-M12825M1281	8 m (25') Trunk			4 Wh OSSD #2	4 Ye OSSD #2	
CSB-UNT825M1281	8 m (25') Trunk (unterminated)			5 Bk OSSD #1	5 Gy OSSD #1	
Double-Ended Cables (for Q8 emitters and receivers)				6 Bu 0V dc	6 Pk 0V dc	
DEE2R-81D	0.5 m (1')	8-pin double-ended cables: M12 Euro-style female connectors female to male (rotateable)		7 Gn/Ye Gnd/Chassis	7 Bu Gnd/Chassis	
DEE2R-83D	1 m (3')			8 Vi Reset	8 Rd Reset	
DEE2R-88D	2.4 m (8')					
DEE2R-815D	4.5 m (15')					
DEE2R-825D	8 m (25')					
DEE2R-850D	15 m (50')					
DEE2R-875D	23 m (75')					
DEE2R-8100D	30 m (100')					
Single-Ended Cables (for separate SLSE..Q8 emitter hookup)			Pin Color Function	Pin Color Function		
QDE-815D	5 m (15')	8-pin Euro-style female connector on one end; cut to length	1 Bn +24V dc	1 Bn +24V dc		
QDE-825D	8 m (25')		2 Wh Test #2	2 Wh Test #2		
QDE-850D	15 m (50')		3 Bu 0V dc	3 Bu 0V dc		
QDE-875D	23 m (75')		4 Bk Test #1	4 Bk Test #1		
QDE-8100D	30 m (100')		5 Gn/Ye Gnd/Chassis	5 Shield Gnd/Chassis		
Double-Ended Cables (for SLSE..Q5 emitter with TEST hookup)						
DEE2R-51D	0.5 m (1')	5-pin double-ended cables: M12 Euro-style female connectors female to male (rotateable)				
DEE2R-53D	1 m (3')					
DEE2R-58D	2.4 m (8')					
DEE2R-515D	4.5 m (15')					
DEE2R-525D	8 m (25')					
DEE2R-550D	15 m (50')					
DEE2R-575D	23 m (75')					
DEE2R-5100D	30 m (100')					
Single-Ended Cables (for SLSE..Q5 emitter hookup)						
QDE-515D	5 m (15')	5-pin Euro-style female connector on one end; cut to length				
QDE-525D	8 m (25')					
QDE-550D	15 m (50')					
QDE-575D	23 m (75')					
QDE-5100D	30 m (100')					

*The European M12 specification pin assignment and color codes are listed as a customer courtesy. The user must verify suitability of these cables for each application.

EZ-SCREEN® AC Interface Box

Quick-Disconnect (QD) Cordsets, continued

Power and Input/Output Cordsets**

Model Number	Length	Termination	Wire	Banner Cable Pinout/Color Code	SAE H1738-2*** Pinout/Color Code	Connector (female face view)
Power Cordsets			20 gauge	Pin Color	Pin Color	
QDS-315C	5 m (15')	3-pin Mini-style Female connector on one end; cut-to-length.		1 Gn/Ye	1 Gn/Ye	
QDS-325C	8 m (25')			2 Bn	2 Rd/Bk	
QDS-350C	15 m (50')			3 Bu	3 Rd/Wh	
QDS-3100C	30 m (100')					
Input/Output Cordsets				Pin Color	Pin Color	
QDS-515C	5 m (15')	5-pin Mini-style Female connector on one end; cut-to-length.		1 Bk	1 Wh	
QDS-525C	8 m (25')			2 Bu	2 Rd	
QDS-550C	15 m (50')			3 Gn/Ye	3 Gn	
				4 Bn	4 Or	
			5 Wh	5 Bk		
QDS-815C	5 m (15')	8-pin Mini-style Female connector on one end; cut-to-length.	Pin Color	Pin Color		
QDS-825C	8 m (25')		1 Bn	1 Or		
QDS-850C	15 m (50')		2 Or/Bk	2 Bu		
			3 Or	3 Wh/Bk		
			4 Wh	4 Bk		
			5 Bk	5 Wh		
			6 Bu	6 Rd		
			7 Gn/Ye	7 Gn		
		8 Vi	8 Rd/Bk			

**Unterminated bulk cable available (UTB-3...C, UTB-5...C, UTB-8...C) in 25', 50', 100', and 250' lengths. See below.

***The SAE H1738-2 pin assignment and color codes are listed as a customer courtesy. The user must verify suitability of these cables for each application.

Unterminated Bulk Cable

Model Number	Length	Wire	Description
UTB-325C	8 m (25')	20 gauge	3-conductor, unterminated bulk cable
UTB-350C	15 m (50')		
UTB-3100C	30 m (100')		
UTB-3250C	75 m (250')		
UTB-525C	8 m (25')		5-conductor, unterminated bulk cable
UTB-550C	15 m (50')		
UTB-5100C	30 m (100')		
UTB-5250C	75 m (250')		
UTB-825C	8 m (25')		8-conductor, unterminated bulk cable
UTB-850C	15 m (50')		
UTB-8100C	30 m (100')		
UTB-8250C	75 m (250')		

EZ-SCREEN[®] AC Interface Box



WARRANTY: Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.

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