



# ZSB-409A

## 3-Channel Zener Diode Safety Barrier

### Features

- DIN Rail Mounting
- Space Saving 3-Channel Design
- Compatible with Migatron's RPS-409A-IS, RPS-409A-IS2 and RPS-409A-IS3 Ultrasonic Sensors
- ATEX, IECEx, & UL/cUL Approvals

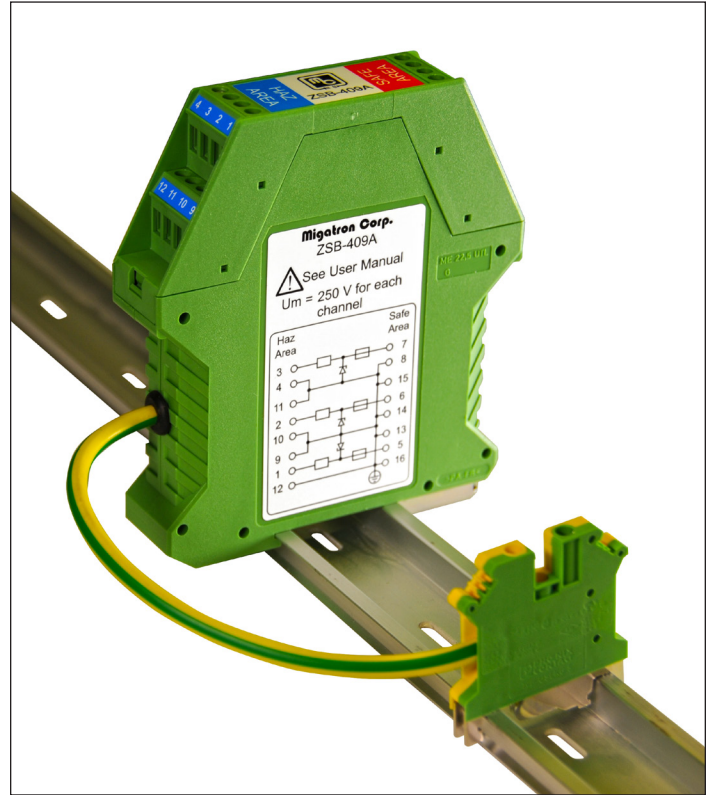


**IECEX**



The ZSB-409A is a 3-channel dc positive polarity zener safety barrier for use in intrinsic safety applications. The 3-channel design has one 24 V dc channel and two 10 V dc channels. The ZSB-409A is compatible with Migatron's RPS-409A-IS, RPS-409A-IS2 and RPS-409A-IS3 ultrasonic sensors, and combines all of the connections into one convenient package. The ZSB-409A provides for the safe operation of an intrinsically safe electrical apparatus installed in a hazardous gas or dust environment classified as Zone 0, 1, 2, 20, 21, or 22 for ATEX/IECEx, and Class I, II, or III for UL/cUL.

The ZSB-409A safety barrier is intended for indoor or outdoor use in locations where the temperature does not exceed the specified range ( $T_a$ ) of the safety barrier. The safety barrier must be installed in a safe area; typically in racks or control cabinets with an appropriate level of protection from dust and liquids. The ZSB-409A is designed for easy installation onto standard 35 mm DIN-Rail, and is fitted with an insulated wire for making the ground connection. Refer to Control Drawing No. Ex05121109 for further information on installation.



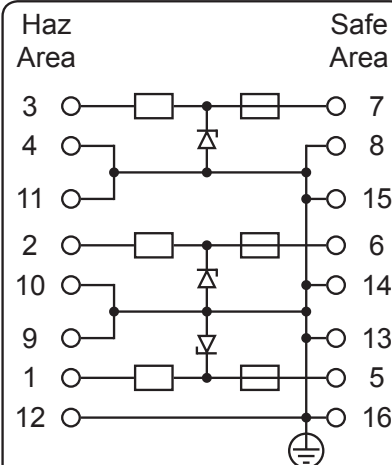
Note: DIN-Rail and DIN-Rail Grounding Block are sold separately.

**Migatron Corp.**  
**ZSB-409A**



See User Manual

$U_m = 250$  V for each channel



## Specifications:

### Safe Area Terminal Connections




Channel #	Terminals	Supply Voltage maximum (V dc)	Fuse Rating (mA)	Nominal Resistance ( $\Omega$ )
1	7 & GND	25.5	50	320 (terminals 7 to 3)
2	5 & GND	10.4	50	2718 (terminals 5 to 1)
3	6 & GND	10.4	50	2718 (terminals 6 to 2)

GND = Safe Area ground terminals are 8, 13, 14, 15, & 16

The maximum voltage  $U_m$  applied to a non-intrinsically safe apparatus or an intrinsically safe associated apparatus/equipment is 250 V rms or dc.

Entity Parameters:	See Control Drawing No. Ex05121109
Connections:	Cage terminals, each maximum 12 AWG solid/stranded wire type Cu, torque 5-7 Lb. In. (0.6-0.8 Nm)
Ambient Temperature:	$-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ ( $-40^{\circ}\text{F} \leq T_a \leq +140^{\circ}\text{F}$ )
Humidity:	0 – 95% Non-Condensing
Housing Material:	Polyamide
Protection:	Model ZSB-409A must be installed inside an end-use enclosure with suitable ratings for the environment, with at least an ingress protection rating of IP20.
Mounting:	DIN-Rail
Weight:	approximate 270 g (9.5 oz.)
Dimensions:	Length = 99 mm (3.9"), Width = 22.5 mm (0.9"), Height = 114.5 mm (4.5")

## Explosion Protection and Approvals:

(ATEX) DEMKO 13 ATEX 1214149X	(IECEX) IECEX UL 13.0030X	(UL/cUL) File # E226209
 I M(1) [Ex ia Ma] I  II (1) G [Ex ia Ga] IIC  II (1) D [Ex ia Da] IIIC	[Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC	Class I, Division 1, Groups A, B, C, and D; Class II, Division 1, Groups E, F, and G; and Class III, Division 1

PART NUMBER	DESCRIPTION
ZSB-409A	3-Channel DC Positive Polarity Zener Safety Barrier
F24-7942744	DIN-Rail (6" section) - Sold Separately
F33-5441504	DIN-Rail Grounding Block - Sold Separately