

Basic Safety & Operational Specifications for Active Barriers

X57-528N Powered Zener Barrier -- I to I Repeater for 2-Wire 4-20 mA Field Transmitters

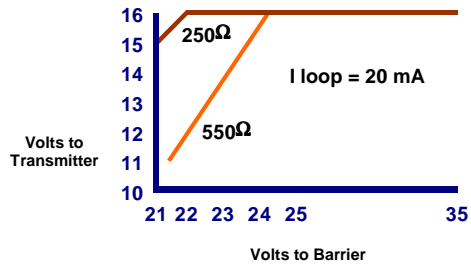
- ◆ Solves the Rend-end Resistance Problem of Zener Barriers
- ◆ Plug-in Style to Simplify Installation, Commissioning, and Maintenance
- ◆ Barrier Powers The Input Signal Loop
- ◆ Internal Current Limiting Protects Safety Fuse
- ◆ DIN Rail or Multi-barrier Surface mount Chassis Options



DESCRIPTION: The Model X57-528N I.S. Barrier provides an intrinsically safe interface from a safe area to a 2-wire transmitter located in a hazardous area. The barrier is powered by a dc power supply in the range of 21 to 35 Vdc. The module supplies a minimum of 16VDC to the 2-wire transmitter with up to 550 ohms load resistance in the safe area. The Model X57-528N has an internal current limiter that holds the current to about 35 mA, even if the 2-wire transmitter terminals are inadvertently shorted, thereby protecting the barrier circuit and safety fuse. Directional diodes are used in the power supply and 2-wire transmitter path to protect against the inadvertant application of reversed polarity voltages.

SPECIFICATIONS:

- Type:** powered zener (I.S. ground required)
- Chassis:** plug-in single or multi-barrier chassis
- Mounting:** surface mount (single/multiple barrier) or single DIN rail mount
- Wiring:** all wiring and grounding connects to terminals on the chassis
- Wire Size:** up to #12 awg (1.5 mm²)
- Size:** 3.6"H X 0.88"W X 4.75"D (without chassis) (91.44mm X 22.35mm X 120.65 mm)
- Weight:** 12 oz (340 gm) (without chassis)
- Power Supply:** nominal 24 vdc (21-35 vdc)
- Power Consumption:** < 1.0 watts at 24 vdc (@ 20 mA output)
- Input:** 4-20mA (from I.S. certified 2-wire field transmitter)
- Input Loop Power:** 16 vdc min. (for 250 ohm load; see chart)



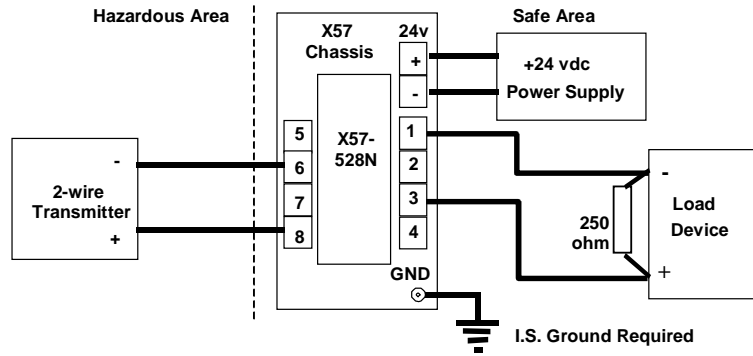
- Max. Input Loop Resistance:** (16 - Vtrans. min.)/20 mA
- Output:** 4-20mA in max. 550 ohm load (barrier powers output)
- Accuracy:** better than +/- 0.1% error
- Operating Temp.:** -4°F to 131°F (-20°C to +55°C)
- Storage Temp.:** -40°F to 176°F (-40°C to +80°C)

Specifications apply at 23 +/- 2°C (74 +/- 2°F) unless otherwise specified, and are subject to change without notice,

SAFETY PARAMETERS:				Ca (μF)			La (mH)		
	Voc/ Vmax/Uz	Isc (mA)	Rmin (ohms)	Groups A/B	Groups C, E	Groups D,F,G	Groups A/B	Groups C, E	Groups D,F,G
FM	28.5	100		0.14	0.41	1.1	3.8	15.0	29.6
CSA	28.0		300	approved	approved	approved	approved	approved	approved
UL	Pending								
CENELEC	See Data Sheet "X57EN-528N" for CENELEC approved equivalent barriers.								

X57-528N Powered Zener Barrier -- I to I Repeater for 2-Wire Field Transmitters (con't)

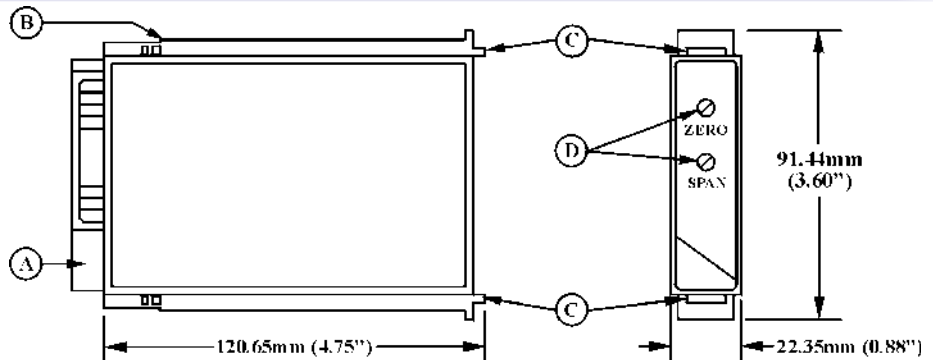
APPLICATION:



- Important Notes:**
- 1.) Negative output and positive input terminals are connected to I.S. ground.
 - 2.) I.S. ground is required.

MECHANICAL DETAIL:

- A = connector protection/
alignment shroud
B = chassis locking ears
C = quick release tabs



ORDERING INFORMATION:

Barriers:

X57-528N Economical I to I current repeater for use with I.S. certified 2-wire field transmitters.

Chassis Options:

- X57SM-1 single barrier surface mount chassis
- X57SM-1-3-4 single barrier surface mount chassis with optional ground bar and four ground clamps
- X57SM-4-(?)-(??)-(???) four (4) barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-10-(?)-(??)-(???) ten (10) barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-16-(?)-(??)-(???) sixteen barrier surface mount chassis (gnd. bars & clamps optional)
- X57SM-20-(?)-(??)-(???) twenty barrier surface mount chassis (gnd. bars & clamps optional)

- ? ➔ 1= optional ground bar on safe side; 2= optional gnd. bar on haz. side; 3= gnd. bars on both sides; omit if not needed
- ?? ➔ Qty of gnd. clamps on safe side gnd bar. (max qty.= 16 for SM-4, 40 for SM-10, 64 for SM-16; 80 for SM-20) or omit
- ??? ➔ Qty of gnd. clamps on haz. side gnd bar. (max qty.= 16 for SM-4, 40 for SM-10, 64 for SM-16; 80 for SM-20) or omit

Accessories:

- X57-GC ground clamps
- X57-BLK blank panel for unused chassis position