



ISO 9001
REGISTERED

Basic Safety & Operational Specifications for Active Barriers

X57-680 4-20 mA Input Current Repeating I to I Isolator

- ◆ Barrier Can Power the Input and Output Loops
- ◆ Output Can Also be Loop Powered from PLC or DCS
- ◆ Plug-in Style to Simplify Installation, Commissioning, and Maintenance
- ◆ 2500 Vrms Input to Output Isolation
- ◆ Front Access to Zero and Span Adjustments
- ◆ DIN Rail or Multi-barrier Surface Mount Chassis Options

DESCRIPTION: The X57-680 is an active isolation barrier designed to provide power to field mounted I.S. certified 2 or 3-wire transmitters, or it can accept a 4-20 mA signal without powering the input loop. The X57-680 monitors the 4-20 mA current signal from the field transmitter and then repeats the the signal into the safe area. The X57-680's output 4-20 mA signal loop can be powered by the barrier (i.e. does not require separate power supply), or it can be loop powered from the load device (typically a PLC or DCS input). The DCS or PLC input can either source or sink the 4-20 ma current signal. The barrier is powered by 24 vdc.



SPECIFICATIONS:

Type: active galvanic isolation

Chassis: plug-in single or multi-barrier chassis

Mounting: surface mount (single/multiple barrier)
or single DIN rail mount

Wiring: all wiring 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: 6 oz (168 gm) (without chassis)

Power Supply: nominal 24 vdc (21.6-26.4 vdc)

Power Consumption: 2.2 watts (100 mA @ 24 vdc)

Input: 4-20mA

Input Impedance: 24.9 ohms (pins 6 to 7)

Power to Field Transmitter: >16.5 vdc @ 25 mA

Max. input loop resistance: (16.5 - V_{trans. min})/.02

Output: Max. load

barrier powered: 4-20 mA into 0-900 ohm load

loop powered: (V_{ps}-3.5V) / .02 amps
typically 1000 ohms min. with V_{ps} = 24 vdc

Response Time: 50 msec (0-99% of final value)

Accuracy: +/- 0.1 % of span

Temp. Coefficient: zero is < +/- 0.01%/°C

span is < +/- 0.01%°C

Operating Temp.: -4°F to 131°F (-20°C to +55°C)

Storage Temp.: -40°F to 176°F (-40°C to +80°C)

Approvals: Class I, II, III; Div.1; Grps A-G

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	Pending								
CSA	28.0	95.0		0.13	0.39	1.04	3.0	12.0	24.0
UL	Pending								
CENECLEC	Pending								

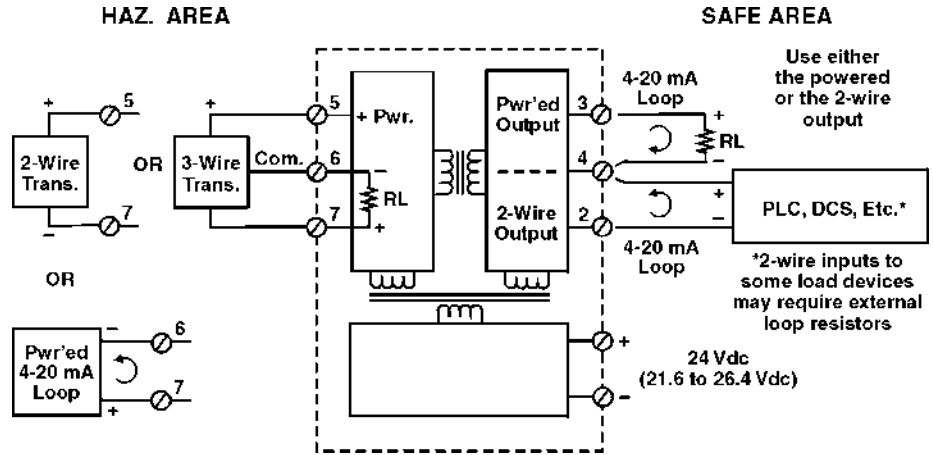
X57-680

4-20 mA Input Current Repeating I to I Isolator (con't)

APPLICATION:

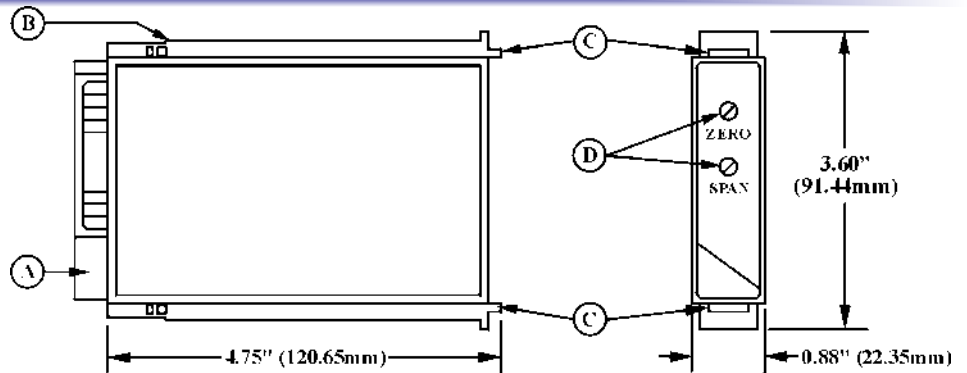
Important Notes:

- 1.) Barrier requires 24 vdc power.
- 2.) I.S. ground is not required.



MECHANICAL DETAIL:

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



ORDERING INFORMATION:

Barriers:

X57-680 for I.S. certified 2 or 3-wire transmitters or 4-20 mA sources with proper safety parameters.

Chassis Options:

X57-PDIN-32 single barrier chassis for 32 mm "G" style DIN rails

X57-PDIN-35 single barrier chassis for 35 mm "U" style DIN rails

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

D1-32x15 32 mm X 15mm "G" style DIN rail (order by the foot)

D2-35x7.5 35 mm X 7.5 mm "U" style DIN rail (order by the foot)

