

# DELTA CONTROLS CORPORATION SHREVEPORT ENGINEERING

App Note AN-55011

## INTRINSIC SAFETY BARRIERS SUITABLE FOR USE WITH DELTA CONTROLS PRESSURE TRANSMITTERS

Delta Controls pressure transmitters are intrinsically safe when used with suitable safety barriers. Barriers to a safe area are suitable if the entity parameters are selected so that:

$$13 \leq V_{max} \leq 35v \quad 20 \text{ mA} \leq I_{max} \leq 180\text{mA} \quad C_a \geq .03\mu\text{F} + C_{cable} \quad L_a \geq L_{cable}$$

In addition, the internal resistance must be selected so that at 20mA, the voltage dropped across the load resistance plus the internal resistance must be less than (Vsupply-13v)

The following are some of the safety barriers that are suitable for use with Delta Controls pressure transmitters.

### MANUFACTURER: STAHL

PART NUMBER	RATED VOLTAGE	INTERNAL RESISTANCE	ALLOWABLE LOAD RESISTANCE AT RATED VOLTAGE	I.S. CONNECTION FOR CL I,II,III, GROUPS:
9001/01-199-150-10	16	160	10	A-G
9001/01-280-075-10	24	440	110	A-G
9001/01-280-085-10	24	356	194	A-G
9001/01-280-100-10	24	302	248	A-G
<b>9001/01-280-110-10</b>	<b>24</b>	<b>277</b>	<b>273</b>	<b>A-G</b>
9001/01-199-165-10	24	187	363	C-G

### MANUFACTURER: CROUSE-HINDS

PART NUMBER	RATED VOLTAGE	INTERNAL RESISTANCE	ALLOWABLE LOAD RESISTANCE AT RATED VOLTAGE	I.S. CONNECTION FOR CL I,II,III, GROUPS:
SB19130 M 1801	18	230	20	A-G
<b>SB19130 M 2401</b>	<b>24</b>	<b>440</b>	<b>110</b>	<b>A-G</b>
SB19130 M 2402	24	535	15	A-G

### MANUFACTURER: ADALET

PART NUMBER	RATED VOLTAGE	INTERNAL RESISTANCE	ALLOWABLE LOAD RESISTANCE AT RATED VOLTAGE	I.S. CONNECTION FOR CL I,II,III, GROUPS:
Z 125/Ex	22	202	133	A-G
<b>Z 129/Ex</b>	<b>28</b>	<b>367</b>	<b>258</b>	<b>A-G</b>
Z 123/Ex-CL	20	178+2V	72	A-G
Z 129/Ex-CL	28	382+2V	268	A-G

Bold selections are the most commonly specified.



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Reliability**

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