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CCS/FM6.0
CSA

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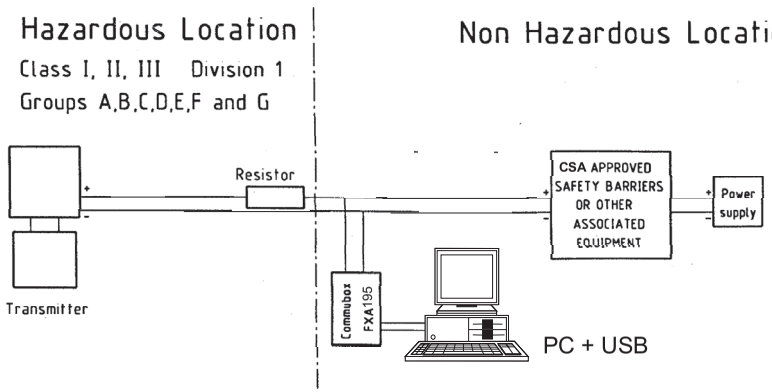
Installation drawing
960007251

Commubox FXA195

Endress+Hauser

People for Process Automation



Entity Concept Definition - The entity concept allows interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in such combination. The criteria for interconnection is that the voltage and current which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal to or greater than the voltage (V_{oc} or V_t) and current (I_{sc} or I_t) levels which can be delivered by the associated apparatus, considering faults and applicable factors. In addition, the maximum unprotected capacitance (Ci) and inductance (Li) of the intrinsically safe apparatus, including interconnecting wiring and other equipment, must be equal to or less than the capacitance and inductance which can be safely connected to associated apparatus.

Entity parameters:

Output: V_{oc} = 6.5 Vdc I_{sc} = 6,1 mA Ca = 21 µF La = 790 mH

If connected to an intrinsically safe circuit the maximum allowable connected inductance (La) of the associated apparatus has to be determined by adding 6,1 mA to the I_{sc} of the barrier ($I_m = I_{sc}$ + 6,1 mA) and entring Table 1 at the resulting value I_m or the next higher value of I_m to determine the La.

Example: I_{sc} of barrier = 120 mA (Group A)

I_m = 120 mA + 6,1 mA = 126,1 mA

Enter Table 1 at I_m = 130 mA La = 1.7 mH

Only one Commubox FXA195 may be connected to the circuit in the non-hazardous area

Table 1

	La		
Im (mA)	Gp. A, B, C D, E, F, G (mH)	Gp. C, D E, F, G (mH)	Gp. D F, G (mH)
500	—	—	1.2
450	0.1	0.2	1.6
400	0.12	0.5	1.7
380	0.15	0.8	1.8
360	0.16	1.0	2.1
340	0.17	1.3	2.5
320	0.18	1.45	2.7
300	0.19	1.6	3.2
290	—	1.8	3.6
280	0.2	1.9	3.7
270	0.21	2.1	3.8
260	0.23	2.4	4.0
250	0.25	2.5	4.3
240	0.27	2.7	4.5
230	—	2.7	5.0
220	0.3	2.8	5.3
210	0.4	3.5	6.8
200	—	3.6	6.9
190	0.5	3.8	7.0
180	—	4.0	7.5
170	0.6	5.0	9.5
160	0.7	5.4	10.2
150	0.8	5.2	10
140	1.3	6.7	14
130	1.7	7.0	15
120	2.2	9.0	18
110	2.7	11	22
100	3.5	12	25
90	4.0	16	32
85	4.3	16.6	34.4
80	4.8	18.5	38.4
75	5.4	20.7	43.3
70	6.1	23.4	49.2
65	6.9	26.6	56.3
60	8.0	30.6	65.1
55	9.3	35.5	76.1
50	11	48	90.2
45	16	49.6	108.7
40	16.1	60.7	133.5
35	20.2	75.6	167.8
30	26.1	96.8	217.2
25	34.9	128.6	292.7

Note:

SUBSTITUION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY

LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSEQUE