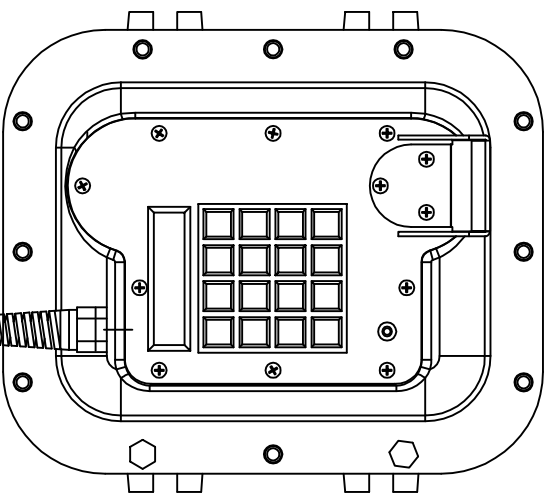


FEDERAL SIGNAL, MODEL E1-JS INTERCOM
INTRINSICALLY SAFE CONTROL DRAWING - FOR HEADSET CONNECTION

HAZARDOUS AREA - CLASS I, DIVISION I, GROUPS C & D, CLASS II, GROUPS E, F, AND G; AND CLASS III HAZARDOUS LOCATIONS

MODEL E1-JS INTERCOM (Um=250V)



WIRING PIN-OUT POSITION	CHANNEL
1	10
2	11
3	12
Ⓟ	13



When the IS device meets 500V Dielectric	
Uo	6.6 V
Io	10.53 mA
Co	500 μF
Lo	2.88 mH
Lo/Ro	8.18 mH/Ω
Uo	6.6 V
Io	24.5 mA
Co	500 μF
Lo	0.53 mH
Lo/Ro	3.52 mH/Ω
Uo	6.6 V
Io	35 mA
Co	500 μF
Lo	0.26 mH
Lo/Ro	2.46 mH/Ω

When the IS device does not meet 500V Dielectric	
Uo	6.6 V
Io	42.11 mA
Co	500 μF
Lo	0.18 mH
Lo/Ro	2 mH/Ω
Uo	6.6 V
Io	97.8 mA
Co	500 μF
Lo	0.033 mH
Lo/Ro	0.88 mH/Ω
Uo	6.6 V
Io	139.9 mA
Co	500 μF
Lo	0.016 mH
Lo/Ro	0.616 mH/Ω

- NOTES:
- 1) This associated apparatus has not been evaluated for use in combination with another associated apparatus. Safe use and Compatibility to be determined by end user.
 - 2) For installations in which both the Ci and Li of the intrinsically safe apparatus exceeds 1% of the Co and Lo parameters of the associated apparatus (excluding the cable), the 50% of Co and Lo parameters are applicable and shall not be exceeded.
 - 3) Associated Apparatus Headset plug to be Hirschmann Type CA 3 LS / Order No. 934 124-100 or any UL Recognized ECBT2 connector having a minimum ingress protection rating of IP6X.

- 4) The output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current.
- 5) Selected intrinsically safe equipment must be third party listed as intrinsically safe for the application, and have intrinsically safe entity parameters conforming with Table 1 (cf. right).

- 6) Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Table 1. Cable capacitance, Cable, plus intrinsically safe equipment capacitance, Ci must be less than the marked capacitance, Ca (or Co), shown on any associated apparatus used. The same applies for inductance (Lcable, Li and La or Lo, respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 μH/ft.

- 7) The associated apparatus must be connected to a suitable ground electrode per the National Electrical Code (ANSI/NFPA 70), the Canadian Electrical Code or other local installation codes, as applicable. The resistance of the ground path must be less than 1 ohm.
- 8) Control equipment must not use or generate more than 250 V rms or dc with respect to earth.

TABLE 1

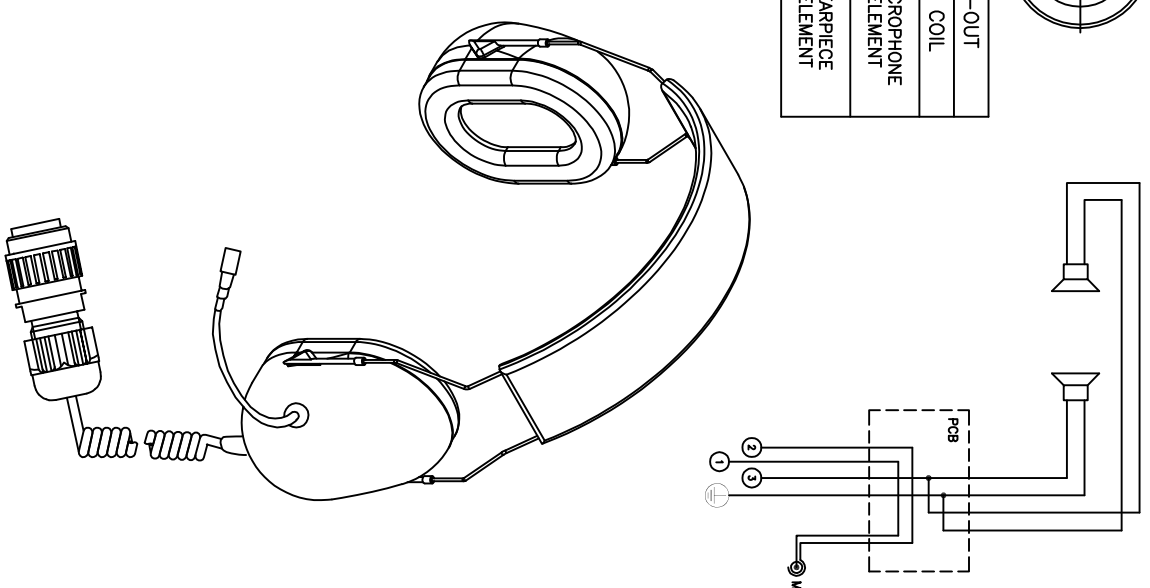
IS Equipment Associated Apparatus	
V max (or Uo)	≥ Voc or Vt (or Uo)
I max (or Ii)	≥ Isc or It (or Io)
P max, PI	≥ Po
Ci + Ccable	≤ Ca (or Co)
Li + Lcable	≤ La (or Lo)

HAZARDOUS AREA - CLASS I, DIVISION I, GROUPS C & D, CLASS II, GROUPS E, F, AND G; AND CLASS III HAZARDOUS LOCATIONS

HEADSET



WIRING PIN-OUT POSITION	
1	COIL
2	MICROPHONE ELEMENT
3	EARPIECE ELEMENT
Ⓟ	



SHEET: 1 OF 1
UNITS: INCHES

REV.	DATE	BY	CHKD.	DESCRIPTION
A1	09/23/14	SM		ADDITIONAL NOTES REQUIRED
A0	09/09/14	SM		RELEASE FOR CERTIFICATION

NAME	GROUP	DATE	DATE	DATE
NEC/c1, D1 - INTRINSICALLY SAFE CONTROL DRAWING	GROUP	09/23/14	09/09/14	09/09/14