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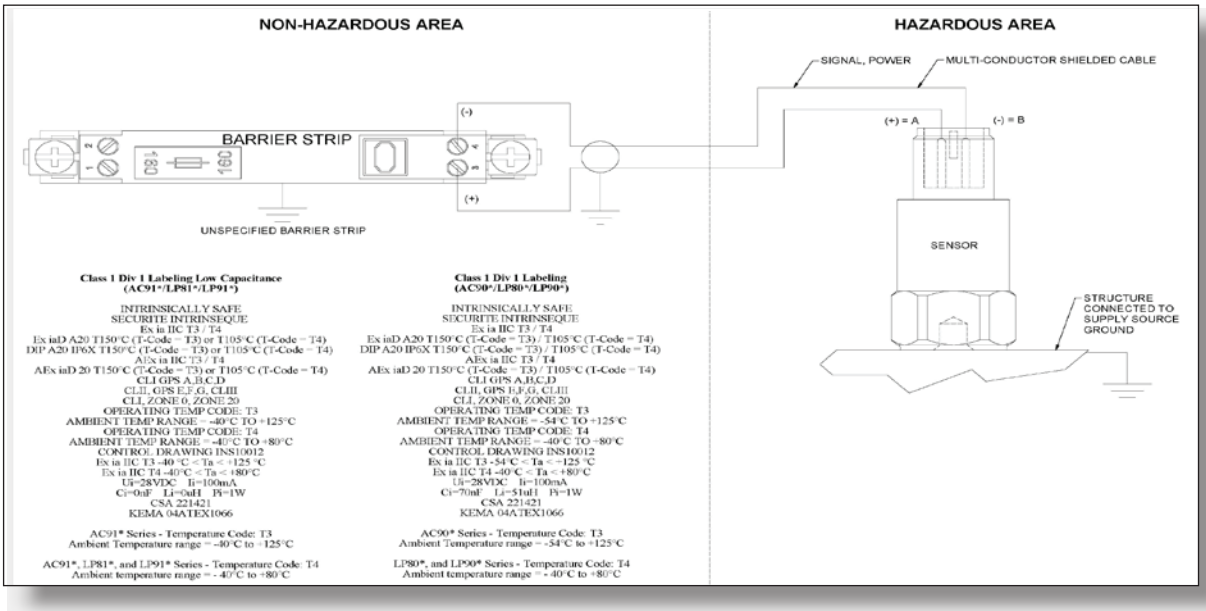
For AC90X Series

Intrinsic Safety Control Drawing



Overview & Requirements

- A barrier is required for the installation of IS sensors. The barrier passes signals in either direction as required but limits the voltage and current that can reach the hazardous area under fault conditions. The barrier is put in series and is installed in a safe area (see Typical Connection Diagram).

  Proper IS Barrier must be used with this sensor to ensure compliance with entity parameters

  - IS111 and IS211 barriers are compatible with AC90X series sensors
  - Please contact a CTC Representative if you require assistance in specifying the correct barrier for CTC sensors
- Approved cabling (maximum 200 ft./60 m) of CB102, CB103, CB193, CB111, or CB206 must be used to bring the signal from the sensor to the Zener diode barrier or galvanic isolator, which is the energy-limiting interface. The standard cable, for integral cables is CB103 polyurethane jacketed, twisted, shielded pair cable
- Sensors must be grounded to a grounded structure by stud mounting the sensor directly to the machine surface, ensuring metal (of the sensor) to metal (of the machine surface) contact

Entity Parameters

All CTC Sensors have the identical entity parameters for their IS approved sensors. This information is used to specify the barrier required for the installation of the IS sensors.

Model	Description	Vmax	Ci	Imax	Li	Pi
AC90X Series	Accelerometer	28 V	70 nF	100 mA	51 uH	1 W
LP802 Series	Loop Powered 4-20 mA output sensor, velocity	28 V	70 nF	100 mA	51 uH	1 W
LP902 Series	Loop Powered 4-20 mA output sensor, acceleration	28 V	70 nF	100 mA	51 uH	1 W

Vmax	=	Maximum Voltage
Ci	=	Total Capacitance of Circuit Allowable
Imax	=	Maximum Allowable Current
Li	=	Total Inductance of Circuit Allowable
Pi	=	Total Power of Circuit Allowable

Regulatory Approvals

Regulatory Approvals	**US & Canada:**	C SP US	Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III Temperature Code T3; ambient temperature range -40ºC to +125ºC Temperature Code T4; ambient temperature range -40ºC to +80ºC Canada: Ex ia IIC T3/T4; DIP A20 IP6X T150ºC (T-Code =T3) or T105ºC (T-Code = T4) USA: AEx ia IIC T3/T4; Class I, Zone 0; AEx iaD 20 T150ºC (T-Code =T3) or T105ºC (T-Code = T4)
	ATEX:	Ex II 1 G/D	Ex ia IIC T3/T4 – Ex iaD A20 T150°C/T105°C Temperature Code T3; ambient temperature range -40ºC to +125ºC Temperature Code T4; ambient temperature range -40ºC to +80ºC