Installation Instructions

Original Instructions

Inductive Proximity Sensors
Division 1 Installation Wiring Diagrams

Catalog Numbers 937ZH-DPBN-1, 937ZH-DPBN-2, 937ZH-DPDP-2

WARNING: These parameters must be adhered to. If not, injury may be caused to person or property.

Allen-Bradley Catalog Number: 871TM-DRaNeb-c

where:

- a = nominal operating distance [2, 5, or 10 (mm, shielded); 4, 8, or 15 (mm, unshielded)]
- b = 12, 18, or 30 (mm, housing diameter)
- c = A2 (2 meter PVC cable), D4 (4-pin micro connector), C2 (2 meter ToughLink™ cable - 12 mm),
or H2 (2 meter ToughLink cable -18 and 30 mm)

Class I, II, III, Division 1, Group A, B, C, D, E, F, G
Class I, II, III, Division 2, Group A, B, C, D, F, G

Zener Diode Barriers

Entity Parameters:

- Vmax = 31.5V
- Imax = 130mA
- Pmax = 1.25W
- Ci = 0 µF
- Li = 0 mH
- Ca >= Cable
- La >= Leable

Supply and Signal Return

Sourcing PLC Input

Power Supply

Supply and Signal Return

Sourcing Output Wiring

Sinking Output Wiring

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where:

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or H2 (2 meter ToughLink cable -18 and 30 mm)

Class I, II, III, Division 1, Group A, B, C, D, E, F, G
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Supply and Signal Return

Sourcing PLC Input

Power Supply

Supply and Signal Return

Sourcing Output Wiring

Sinking Output Wiring
**WARNING:** These parameters must be adhered to. If not, injury may be caused to person or property.

**Factory Mutual Installation Notes:**
1. Installation must be in accordance with the National Electrical Code™ (NFPA 70, Article 504). ANSI/ISA-RP12.6, and the manufacturer's instructions.
2. If the electrical parameters of the cable used are unknown, the following values may be used: Capacitance — 60 pF/ft; Inductance — 0.20 μH/ft.
3. The wiring between each Inductive Proximity Sensor and its corresponding channel of the dual-channel barrier is a separate intrinsically safe circuit. Each of the two separate intrinsically safe circuits shall be in separate cables or shall be separated from each other as specified in NEC 504-30. The supply return conductors may be connected at the barrier's grounding terminal.
4. The Barrier bus must be insulated from other grounded metal. Use Power Rail 937A-PR08, 937A-PR20 and Power Feed Module 937A-PSFD.
5. The maximum nonhazardous location voltage must not exceed 250V AC or DC.
6. Barriers are not required for Division 2 (31.5V DC max.). Division 2 applications must be installed in accordance with the NEC.
7. **WARNING:** Substitution of components may impair Intrinsic Safety.
8. No revision to drawing without prior FMRC approval.

**Canadian Standards Association Installation Notes:**
1. Installation must be in accordance with the Canadian Electrical Code (Part I), ANSI/ISA-RP12.6, and the manufacturer's instructions.
2. If the electrical parameters of the cable used are unknown, the following values may be used: Capacitance — 60 pF/ft; Inductance — 0.20 μH/ft.
3. The wiring between each Inductive Proximity Sensor and its corresponding channel of the dual-channel barrier is a separate intrinsically safe circuit. Each of the two separate intrinsically safe circuits shall be in separate cables or shall be separated from each other as specified in CEC. The supply return conductors may be connected at the barrier's grounding terminal.
4. The Barrier bus must be insulated from other grounded metal. Use Power Rail 937A-PR08, 937A-PR20 and Power Feed Module 937A-PSFD.
5. The maximum nonhazardous location voltage must not exceed 250V AC or DC.
6. Barriers are not required for Division 2 (31.5V DC max.). Division 2 applications must be installed in accordance with the CEC.
7. **WARNING:** EXPLOSION HAZARD. Do not disconnect equipment unless power has been switched off or the area is known to be nonhazardous.
8. No revision to drawing without prior CSA approval.

**Rockwell Automation maintains current product environmental information on its website at**

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