

HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, ZONE 2, GROUPS IIC, IIB, IIA (Ta = 50°C) T5
 CLASS I, DIVISION 2, GROUPS A, B, C and D
 CLASS II, DIVISION 1, GROUPS E, F and G
 CLASS III DIVISION 1 HAZARDOUS LOCATIONS

NON-HAZARDOUS LOCATION

PROXIMITY SENSORS

Models C (Capacitive), I (Analog Inductive), M (Magnetic), N (Discrete Inductive), S (Slot), R (Ring) followed by combination of numbers and letters. "-" dashes and/or "+" pluses may be included.

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Control Device

See Table 1. for sensors with nonincendive field wiring parameters.
 See Table 2. for sensors with exceptions.

NOTES:

- ① Wiring methods must be in accordance with the National Electrical Code, ANSI/NFPA 70, Article 501-4(b) for Class I, Division 2; 502-4(a) for Class II, Division 1; 502-4(b) for Class II, Division 2; 503-3(a) for Class III, Division 1; 503-3(b) for Class III, Division 2. Zone 2 wiring requirements are equivalent to Division 2 wiring requirements. See manufacturer's instructions for connection of devices and electrical data.
- ② These proximity sensors are rated "Nonincendive". Proximity sensors without a provision for conduit connection (i.e. via a conduit adapter) or a sensor with a plastic base must be mounted in a tool secured enclosure meeting the requirements of ANSI/ISA S82. Alternatively, sensors in accordance with Table 1 may be wired according to nonincendive field wire methods (a conduit connection or enclosure is not needed).
- ③ Proximity sensors, conduit, enclosures, and exposed noncurrent-carrying metal parts must be grounded and bonded in accordance with the National Electrical Code, ANSI/NFPA 70, Article 250.
- ④ WARNING - DO NOT CONNECT OR DISCONNECT WHILE CIRCUIT IS LIVE UNLESS LOCATION IS KNOWN TO BE NONHAZARDOUS.
- ⑤ The relay outputs of a proximity sensor must be supplied by a nonincendive source.
- ⑥ Sensitivity adjustment should only be done when the area is known to be nonhazardous.
- ⑦ A temperature rating of T5 applies for all nonincendive proximity sensors. SEE TABLE 2 for exceptions
- ⑧ The nonincendive field wiring concept allows interconnection of nonincendive circuits with a nonincendive source when the approved values of Voc and Isc of the nonincendive source are less than or equal to Vmax and Imax of the nonincendive circuit and the approved values of Ca and La for the nonincendive source are greater than Ci + Ccable and Li + Lcable, respectively, for the nonincendive circuit.
- ⑨ All Nonincendive sources must be approved.
- ⑩ Sensors using V93, V94, V95 connectors ("mini" 7/8") with the locking clamp (P+F model V9-CL-D2) and V1, V12 connectors with locking clamp (P & F model V1-Clip) are suitable to be mounted outside the protective enclosure. Wiring methods must be in accordance to the National Electrical Code, ANSI/NFPA 70.
- ⑪ NJa-b-c-d-e. Inductive Cylinder Position Sensor is suitable for Class I, Div 2 only.
 NI/I/2/ABCD/T5 Ta=50°C
 a=1.5, 2, 3
 b=C, D, F, PD, FD1
 c=US, E02, E2, E0
 d=any diameter
 e=V1, V12, V93, V94, V95 connectors
 NEMA 4X

TABLE 1 - NONINCENDIVE PARAMETERS ⑧

MODEL NUMBER	Vmax (V)	Imax (mA)	C _i (UF)	L _i (mH)
NJ2-12GM40-E2	60.0	200	0	0
NJ5-18GM50-E2	60.0	200	0	0


TABLE 2 - EXCEPTIONS

MODEL NUMBER	RESTRICTION
NBN3-F25-E8	Do not use in a Class II, Division 1, Group E Hazardous Location
V9-CL-D2 & V1-Clip	Not Approved for use in Class II or III locations
NJ type SENSOR See Note ⑪	Class I, Div 2 ONLY
NJ2-FD1 type SENSOR See Note 11	Class I, Div 2 ONLY / Ta = 85C /T4A

Certification Status		
Agency	Pending	Final
FM	X	X
CSA		
UL		

Dieses Dokument enthält sicherheitstechnische Angaben. Es darf nicht ohne Absprache mit dem Normenfachmann geändert werden!

This document contains safety-relevant information. It must not be altered without the authorization of the norm expert!

Confidential according to ISO 16016	Only valid as long as released in EDM or with a valid production documentation!	scale: none	date:2009-Feb-25
 Twinsburg	CONTROL DRAWING Nonincendive sensors FM	change notice	respons.
		150-1681	approved
		norm	US.DWR
			US.GAP
			116-0155E
			sheet 1 of 1