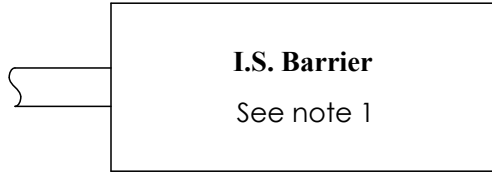


Non-Hazardous Location



(Associated Equipment)

$$V_{max}, U_i \geq U_o, V_{oc} \text{ or } V_t$$

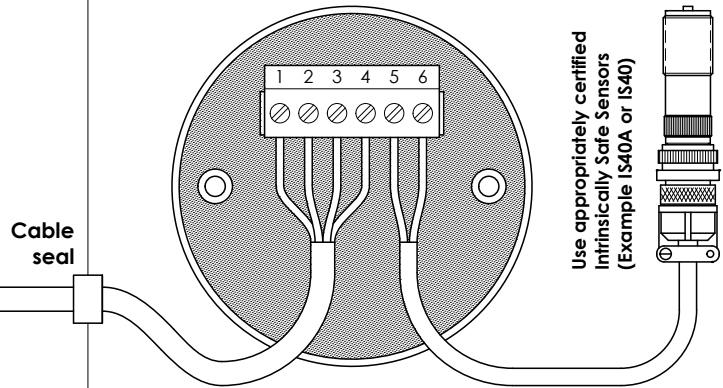
$$I_{max}, I_i \geq I_o, I_{sc} \text{ or } I_t$$

$$C_o \text{ or } C_a \geq C_i + C_c$$

$$L_o \text{ or } L_a \geq L_i + L_c$$

$$P_t \text{ or } P_o \leq P_i$$

Hazardous Location



(Intrinsically Safe Equipment)

$$V_{max}, U_i = 30 \text{ Vdc} \quad (\text{For IS4021-xx \& IS4021A-xx})$$

$$V_{max}, U_i = 25 \text{ Vdc} \quad (\text{For IS4021-xxNC \& IS4021A-xxNC})$$

$$I_{max}, I_i = 100 \text{ mA}$$


$$C_i = 12 \text{ nF}$$

$$L_i = 0 \text{ mH max.}$$

$$P_{max}, P_i = 0.66 \text{ watts}$$

Certifications for IS4021A

ATEX:  II 1 G Ex ia IIC T6...T4 Ga
FM08ATEX0068X

UKEX:  II 1 G Ex ia IIC T6...T4 Ga
FM22UKEX0110X

CE:  Compliance with
EN50081-1, EN50082-1

IECEX:  Ex ia IIC T6...T4 Ga
IECEX FMG 16.0003X

$$T4 @ -40^\circ\text{C} \leq T_{amb} \leq +85^\circ\text{C}$$

$$T5 @ -40^\circ\text{C} \leq T_{amb} \leq +80^\circ\text{C}$$

$$T6 @ -40^\circ\text{C} \leq T_{amb} \leq +60^\circ\text{C}$$



Certifications for IS4021

USA: Intrinsically Safe
Class I, II, III, Division 1
Group ABCDEFG T6...T4
Class I, Zone 0, AEx ia IIC T6...T4



Canada: Intrinsically Safe
Class I, Division 1
Group ABCD T6...T4
Class I, Zone 0, Ex ia IIC T6...T4

$$T4 @ -40^\circ\text{C} \leq T_{amb} \leq +85^\circ\text{C}$$

$$T5 @ -40^\circ\text{C} \leq T_{amb} \leq +80^\circ\text{C}$$

$$T6 @ -40^\circ\text{C} \leq T_{amb} \leq +60^\circ\text{C}$$

NOTES:

1. Barrier must satisfy the electrical requirements listed above.

Barrier manufacturer's installation drawing must be followed when installing the system.

For US installations, the barrier configuration must be FM Global approved. See Bulletin 4003 for recommended barriers.

2. The preamp shall be installed in an enclosure. It shall also be installed in compliance with the enclosure, mounting, spacing, and segregation requirements of the ultimate application.

For ATEX, UKEX, and IECEx installations the enclosure shall maintain an ingress protection rating of IP54 (or greater according to the intended use and environmental conditions) and meets the enclosure requirements of EN 60079-0 and EN 60079-11 (for UKEX installations BS EN IEC 60079-0 and BS EN 60079-11, for IECEx installations IEC 60079-0 and IEC 60079-11).

Installation shall also be in accordance with the following standards:

for US installations follow ANSI/ISA RP12.6 and the National Electrical Code ANSI/NFPA 70,

for Canadian installations follow the Canadian Electrical Code,

for ATEX & UKEX installations follow EN 60079-14, for IECEx installations follow IEC 60079-14.

3. Control Equipment connected to associated equipment must not use or generate more than 250V.

4. The non-metallic cover of the preamp is considered an electrostatic discharge hazard.

Clean only with a damp cloth.

5. Preamplifier should be de-energized before separating connections.

SPECTEC
THUNDERBIRD INTERNATIONAL CORPORATION

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DO NOT ALTER WITHOUT AGENCY APPROVAL

IS


PREAMPLIFIER FOR PASSIVE
MAGNETIC SPEED SENSOR

TITLE
INTRINSICALLY SAFE
INSTALLATION INSTRUCTIONS

AGENCY APPROVAL DATE
Feb 17th, 2023

REV. 3 DATE
11-15-2022

DRAWN BY JE

APPROVED BY 

SCALE PROCESS SPEC.

NUMBER
85051