

**LISTING REPORT**  
**INTERTEK TESTING SERVICES NA, INC.**  
OAKDALE, MN 55128

Job No. J20016003.001

Issued: 06/15/00

REPORT No. J20016003.001

INSPECTION, TESTS AND EVALUATION  
OF  
HALL EFFECT SENSORS, MAGNETO RESISTIVE SENSORS, AND RING KITS

RENDERED TO

Electro-Sensors  
Minnetonka, MN 55343

**GENERAL:** This Report gives the results of the inspection, tests and evaluation of Hall Effect Sensors, Magneto Resistive Sensors, and Ring Kits for compliance with applicable requirements of the Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division I, Hazardous Classified Locations UL913 (1997) and Intrinsically Safe and None-Incendive Equipment for Use in Hazardous Locations CAN/CSA-C22.2 No. 157-92. Some of the information for this report was taken from Listing Report 561743 and Factory Audit Manual Category 16 issued January 11, 1996. This report replaces Listing Report 561743 and Factory Audit Manual Category 16. This investigation was authorized on 06/05/00. The investigation was begun on 06/01/00 and completed on 06/15/00. A prototype sample in good (or other) condition was provided by the client and tested at ITS's Oakdale, Minnesota, facility.

**Applicant:** Electro-Sensors  
6111 Blue Circle Drive  
Minnetonka, MN 55343

**Contact:** Mr. George Edwards  
612/930-0100 Phone; 612/945-2815 FAX

**Manufacturer:** Same as Applicant

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### PRODUCT DESCRIPTION

#### PRODUCTS COVERED

Hall Effect Sensors - Models 906,907, 930, 931, and 1101;  
Magneto Resistive Sensors - Models 932, 933, and 1102;  
Ring Kits - Models DRK and QDRK.

#### PRODUCT DESCRIPTION

The sensors are connected to an associated apparatus with a maximum voltage rating of 30V, maximum rating of 200mA, and a maximum power rating of 1.0W.

#### ELECTRICAL RATINGS

Model	Voltage	Amperage	VA	Hz	Phases
Hall Effect Sensors, Magneto Resistive Sensors, and Ring Kits	24 VDC Maximum	10mA			

#### HAZARDOUS LOCATION LABEL

See Page 6 item 8

#### MODEL SIMILARITY

None

**TEST PERFORMANCE**

A representative sample of the product was tested in accordance with the Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division I, Hazardous Classified Locations UL913 (1997) and Intrinsically Safe and None-Incendive Equipment for Use in Hazardous Locations CAN/CSA-C22.2 No. 157-92. The following tests were performed:

<u>Description</u>	<u>Standard(s)/Clause</u>
Temperature Test	27.0
Dielectric Tests	29.0

Results of the tests indicate the sample conform to applicable test criteria.

**Dielectric Strength Test:**

Model 907 was used as the representative sample and was unpotted as a more severe test. The product was capable of withstanding 500VAC from the power leads-to-case for 1 minute without breakdown.

**Temperature Test:**

Model 931 was found to be have a maximum temperature rise of 60° on the lead of CR1 when dissipating 1 Watt. The temperature rating is NOT required to be marked since a T5 temperature code has been determined.

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**CONCLUSION**

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division I, Hazardous Classified Locations UL913 ( 1997) and Intrinsically Safe and None-Incendive Equipment for Use in Hazardous Locations CAN/CSA-C22.2 No. 157-92.

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