



the standard in safety

Underwriters  
Laboratories

File E325007

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Revised:

FOLLOW-UP SERVICE PROCEDURE  
(TYPE R)

TELEMETERING EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS  
(WYMV, WYMV7)

Manufacturer: ELECTRO-SENSORS INC  
(116027-001) 6111 BLUE CIRCLE DR  
MINNETONKA MN 55343

Applicant: SAME AS MANUFACTURER  
(116027-001)

Listee: SAME AS MANUFACTURER  
(116027-001)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc. (UL), or any authorized licensee of UL, only on products covered by this Procedure, in accordance with the applicable UL Services Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. (UL) or any authorized licensee of UL, upon request.

This PROCEDURE, and any subsequent revision, is the property of Underwriters Laboratories Inc. (UL) and the authorized licensee of UL and is not transferable.

Underwriters Laboratories Inc.

Stephen Hewson  
Senior Vice President  
Global Follow-Up Service Operations

William R. Carney  
Director  
North American Certification Program

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

LISTING MARK

The Listing Mark consists of four elements placed in close proximity and shall appear on Listed products only. Minimum size is not specified, as long as the Listing Mark is legible. The following is suggested.



XXXX = The control number assigned by UL, 3SYV.

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible to the naked eye.

The product identity is: "TELEMETERING EQUIPMENT FOR HAZARDOUS LOCATIONS", "SECTION OF TELEMETERING EQUIPMENT FOR HAZARDOUS LOCATIONS", "TELEMETERING EQUIPMENT RELATING TO HAZARDOUS LOCATIONS" or "SECTION OF TELEMETERING EQUIPMENT RELATING TO HAZARDOUS LOCATIONS", an appropriate abbreviation or other appropriate product identity as shown in the individual Listing.

The product identity may be omitted if the Mark is directly and permanently applied to the product by stamping, molding, ink-stamping, silk screening or similar process. The product identity may appear elsewhere on the product if the other three elements are part of the nameplate which includes the rating or the catalog or model designation.

Separable Listing Mark (not part of a nameplate and in the form of decals, stickers or labels) will always include the four elements.

The manufacturer may reproduce the Mark or obtain it from a UL authorized supplier.

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

LISTING MARK

The Listing Mark consists of four elements placed in close proximity and shall appear on Listed products only. Minimum size is not specified, as long as the Listing Mark is legible. The following is suggested. (If only Canadian coverage is authorized, use only the C-UL Symbol).

UL Symbol to the left and the C-UL Symbol to the right.



Alternatively, the Canadian/US Mark may be used. The UL Symbol with "C" to the left and "US" to the right.



XXXX = The control number assigned by UL, 3SYV.

The minimum height of the registered trademark symbol ® shall be 3/64 of an inch. When the overall diameter of the UL Mark is less than 3/8 of an inch, the trademark symbol may be omitted if it is not legible to the naked eye.

The product identity is: "TELEMETERING EQUIPMENT FOR (USE IN) HAZARDOUS LOCATIONS", "SECTION OF TELEMETERING EQUIPMENT FOR (USE IN) HAZARDOUS LOCATIONS", "TELEMETERING EQUIPMENT RELATING TO HAZARDOUS LOCATIONS", or "SECTION OF TELEMETERING EQUIPMENT RELATING TO HAZARDOUS LOCATIONS", or other appropriate product identity, as shown in the individual Listing. The wording in parentheses may be omitted.

The product identity may be omitted if the Mark is directly and permanently applied to the product by stamping, molding, ink-stamping, silk screening or similar process. The product identity may appear elsewhere on the product if the other three elements are part of the nameplate which includes the rating or the catalog or model designation.

Separable Listing Mark (not part of a nameplate and in the form of decals, stickers or labels) will always include the four elements.

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ModelsSection      Report Date

Temperature Transmitter Models TT420, TT420Z, TT420F and TT420S (Parts Nos. 800-001500, 800-001501, 800-001502, 800-001503, 800-001504, 800-001505, 800-001510 and 800-001520) and Shaft Tachometer Sensors Models ST420-L and ST420-H (Part Nos. 800-001600 and 800-001601)

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2008-10-13

## and Report

## DESCRIPTION

## PRODUCT COVERED:

USL, CNL Temperature Transmitter Models TT420, TT420Z, TT420F and TT420S (Parts Nos. 800-001500, 800-001501, 800-001502, 800-001503, 800-001504, 800-001505, 800-001510 and 800-001520) and Shaft Tachometer Sensors Models ST420-L and ST420-H (Part Nos. 800-001600 and 800-001601) for use in Class I, Groups C and D; Class II, Groups E, F, and G Hazardous Locations when installed in accordance with Users Manual Nos. 990-003500 and 990-003900 respectively.

## GENERAL:

The Models TT420, TT420Z, TT420F and TT420S (Parts Nos. 800-001500, 800-001501, 800-001502, 800-001503, 800-001504, 800-001505, 800-001510 and 800-001520) are temperature transmitter that provide a 4-20 mA signal. The models only differ in the temperature sensor housing and mounting variations. The Models ST420-L and ST420-H (Part Nos. 800-001600 and 800-001601) are shaft speed sensors that provide a 4-20mA signal that is directly proportional to the rotational speed of a monitored shaft. The devices are permanently mounted and connected to an Intrinsically Safe Barrier as detailed in the User Manuals 990-003500 and 990-003900 respectively.

## RATINGS:

## Models TT420

## Electrical -

Input:  $V_{max}$ : 30 Vdc,  $I_{max}$ : 100 mA,  $P_{max}$ : 0.75 W

## Environmental -

Ambient: -20°C to 80°C

T-Code: T4

## Models ST420

## Electrical -

Input:  $V_{max}$ : 30 Vdc,  $I_{max}$ : 100 mA,  $P_{max}$ : 0.75 W

## Environmental -

Ambient: -20°C to 80°C

T-Code: T4

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE)

USL indicates investigation to the following standards:

Standard No. UL 913, 7th Ed., Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations

CNL indicates investigation to the following standards:

Standard No. CAN/CSA C22.2 No. 157-92, Rev. 2003-06, Intrinsically Safe and Non-incendive Equipment for Use in Hazardous Locations

MARKINGS:

The devices are marked as detailed in ILLS. 2, and 20 through 22.

ASSEMBLY AND CONSTRUCTION DETAILS:

Spacings - Spacings were evaluated in accordance with Table 4 of UL 60079-11 and Table 1 in CAN/CSA C22.2 No. 157-92.