

File E139529
Project 01NK7526

April 4, 2001

REPORT

on

TELEMETERING EQUIPMENT
FOR USE IN HAZARDOUS LOCATIONS

Metrix Instrument Co.
Houston, TX

Copyright © 2001 Underwriters Laboratories Inc.

Underwriters Laboratories Inc. authorizes the above named company to reproduce this Report provided it is reproduced in its entirety.

METRIX DOC NO: 1162323 REV: B

DESCRIPTION

PRODUCT COVERED:

USL, CNL Models IT6810 and IT6811 followed by 00, followed by 1, 2, 3, or 0, may be followed by a four digit number, may be followed by a three digit number Impact Transmitter for Class I, Division 2, Groups A, B, C, and D Hazardous Locations

NOTE: CNL = Canadian Standards - Listed
USL = United States Standards - Listed

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

* USL indicates investigation to United States UL 508 and ANSI/ISA
12.12.01-2007.

CNL indicates investigation to Canadian Standards C22.2 No. 142-M1987
and C22.2 No. 213-M1987.

GENERAL:

Models IT6810 and IT6811 are impact transmitters that can be attached to machinery by a screw that runs through the center of the devices. These devices are used to sense vibrations that may be caused by pieces of the machinery coming loose.

The constructions of Models IT6810 and IT6811 are identical except for the connectors that are provided.

Models IT6810 and IT6811 with a MIL-C connector have been evaluated for nonincendive field wiring. All necessary entity parameters for nonincendive equipment and associated nonincendive field wiring apparatus are listed in Control Drawing 9683. See ILL. 24 for control drawing.

NOMENCLATURE:

Impact Transmitter - $\frac{IT6810}{I} - \frac{00}{II} \frac{0}{III} - \frac{XXXX}{IV} - \frac{XXX}{V}$

I - Basic prefix for all models

- * IT6810 - No cable provided
- * IT6811 - Cable provided

II - Standard on all models

00 - Standard

III - RPM

- 1 - Low = 300 RPM
- 2 - Mid = 600 RPM
- 3 - High = 1200 RPM
- 0 - Specify

IV - RPM in increments

Blank - This position is left blank if there is a 1, 2, or 3 in position III.

XXXX - RPM given in 10 RPM increments

V - Threshold in increments

Blank - This position is left blank if there is a 1, 2, or 3 in position III.

XXX - Threshold given in 0.5 G increments

* VI - Cable Length

Blank - This position is left blank for Model IT6810.

XXX - Cable length for Model IT6811 given in 0.1 m increments.

ELECTRICAL RATINGS:

Transmitter supply voltage - 15 to 30 Vdc

Output current - 4 to 20 mA

Maximum ambient temperature: +100°C

MARKINGS:

General - The impact transmitter will bear the following markings.

1. Manufacturer's name and part number.
2. Hazardous Location, Classes, Groups and Division as shown under "Product Covered".
3. The Underwriters Laboratories' Listing Mark as described on the Listing Mark Data Page.
4. Applicable electrical ratings as described under "Electrical Ratings".
5. Ambient temperature: -40°C to +100°C
6. Temperature Code: **T4A or T4**
7. Date Code or Serial Number.

INSTALLATION INSTRUCTIONS:

The following statements are included in the installation instructions provided with the product.

1. This apparatus is suitable for use in Class I, Division 2, Groups A, B, C, and D, or unclassified or non-hazardous locations.
2. WARNING: EXPLOSION HAZARD. DO NOT DISCONNECT WHILE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS.
3. WARNING: SUBSTITUTION OF ANY COMPONENTS MAY IMPAIR SUITABILITY FOR DIVISION 2.

CONSTRUCTION DETAILS:

General - The construction details are shown in the following photographs, associated descriptive pages and illustrations. The general shape and arrangement shall be shown in the photographs unless variations are specifically indicated.

MODEL IT6810 IMPACT TRANSMITTER

1. Cover - 303 stainless steel, 1-3/4 in. hexagonal shape with a height of approx 1-31/50 in. Provided with 9/32 in. hole that runs through the center of the device for the insertion of the screw, Item 3. See ILLS. 1, 1A, 2, and 5.
2. Lid - Overall dimensions of 1-5/8 in. diameter by 1/25 in. thick. Welded to cover. Provided with two tapped holes for screws that are used in connection with potentiometers. See ILL. 4.
3. Screw - 1/4-28 UNF socket head cap screw. Dimensions shown in ILL. 3.
4. Accelerometer - Connected to the circuit boards by two wires. For dimensions and parts, see ILLS. 8 and 9.
5. Connector - See ILLS. 6 and 7 for Model IT6810 and ILLS. 22 and 23 for Model IT6811. IT6811 is for use with Listed (QPTZ) PLTC cable manufactured by **Alpha, mechanically secured by threads.**
6. Make/Break Components - Potentiometers R15, R16, R11, and R9. Located in nonincendive circuits.
7. **Potting Compound - RTV, rated 180°C (Relied on only for placement of components when device is assembled, not relied on for spacings or protection method).**



The following pages are the prior revisions of this certificate.

UNDERWRITERS LABORATORIES INC.®



CERTIFICATE OF COMPLIANCE

- (1)
- (2) UL Certificate Number 01.27205
- (3) This certificate is issued for: **Impact Transmitters**
Type/Model: **Model IT6810 followed by 00, followed by 1, 2, 3, or 0,
may be followed by a four digit number**
- (4) Issued to: **Metrix Instrument Co.
1711 Townhurst Dr
Houston, TX 77043**
- (5) Report Reference: **E139529; Issued 4 April 2001**
- (6) This product has been investigated by Underwriters Laboratories Inc.® in accordance with the following Standard(s) for Safety indicated on this Certificate:

**UL1604
CSA C22.2 No. 213**


- (7) The product marking shall include the following information:
- Class I, Division 2, Groups A, B, C, and D**
- (8) Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for the US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers; "UL" with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

LOOK FOR THE UL LISTING MARK ON THE PRODUCT

Signed:

Issued: 18 June 2001


Paul T. Kelly
Associate Managing Engineer

METRIX DOC No: 1162323
REV: A

This certificate may only be reproduced in its entirety and without alterations.