

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 2016-3-8-E345414  
**Report Reference** E345414-D1001-1/A1/C0-UL  
**Issue Date** 2016-3-8  
**Issued to:** Turck Inc.  
**Applicant Company:** 3000 CAMUS DR  
MINNEAPOLIS MN 55441-2619 UNITED STATES  
**Listed Company:** Same as Applicant

**This is to certify that representative samples of** Temperature transmitter with IOLINK interface  
TTM-series and TTMS-series  
Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 61010-1, 3rd Edition, May 11, 2012, Revised July 15 2015,  
CAN/CSA-C22.2 No. 61010-1-12, 3rd Edition, Revision dated July 2015

**Additional Standards:** n/a

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information.

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.



Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services, UL LLC  
Joseph Hosey, General Manager, Director of Sales – Canada, UNDERWRITERS LABORATORIES OF CANADA INC.

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## Description

**UL TEST REPORT AND PROCEDURE**

|                                    |  |
|------------------------------------|--|
| <b>Standard:</b>                   | UL 61010-1, 3rd Edition, May 11, 2012, Revised July 15 2015, CAN/CSA-C22.2 No. 61010-1-12, 3rd Edition, Revision dated July 2015 |
| <b>Certification Type:</b>         | Listing  |
| <b>CCN:</b>                        | QUYX / QUYX7   |
| <b>Complementary CCNs:</b>         |  |
| <b>Product:</b>                    | Temperature transmitter with IOLINK interface  |
| <b>Model:</b>                      | TTM-series and TTMS-series   |
| <b>Rating:</b>                     | 15-30 Vdc, 20mA (Class 2, LPS or SELV Limited energy circuit)  |
| <b>Applicant Name and Address:</b> | Turck Inc.<br>3000 CAMUS DR<br>MINNEAPOLIS MN 55441-2619, UNITED STATES  |

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability as applicable.

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Prepared by: Grzegorz Medzinski

Reviewed by: Bartlomiej Zmijewski

### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. **Part AC** details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. **Part AE** details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. **Part AF** details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

### Product Description

The device is a temperature transmitter + switch for the RTD temperature probes /four wire technology and supplied by Class 2 or SELV Limited energy circuit

Refer to the Report Modifications page for any modifications made to this report.

### Model Differences

Temperature transmitter Part Number Key

TTMS – 2 0 3 A – CF -LIUPN - H1140 – L100 /D713

1        2 3 4 5    6        7        8        9 10

WHERE:

1 = Style

TTM = Temperature transmitter plastic housing

TTMS = Temperature Transmitter Stainless steel housing

2 = Transmitter Type

1 = If including probe, then with process connection

2 = connection for compression fitting or thermowell

3 = Cable sensor

5 = N/A

3 = Number of elements and conductors

2 = Single element, 2 conductors

3 = Single element, 3 conductors

0 = Single element, 4 conductors

4 = Double element, 4 conductors

4 = Probe Diameter

0 = no probe, just M12 connector

3 = 3 mm outer probe diameter

4 = 4 mm outer probe diameter

4.5 = 4.5 mm outer probe diameter

6 = 6 mm outer probe diameter

8 = 8 mm outer probe diameter

6T = 6 mm tapered Ø 4.4 mm

8T = 8 mm tapered Ø 4.4 mm

5 = 5 mm (IKE XX, no tip/only overmolded body)

5 = Accuracy

A = A

B = B  
AA = Z

6 = Process Connection

Any combination of letters and numbers describes the process connection type.

7 = Electrical Output

LIUPN = 4-20mA, switching output, IO-Link

8 = Connection

H1140 = 4-pin, M12x1, eurofast ® connector, non standard pinning

Blank = bar wire termination

9 = Insertion Depth = L and length in MM (L.../I...)

L = Total length in mm

I = sensing element in mm

10 = D-number (sensing element type)

Blank = standard range

D713 = customer specific adjustment

**Additional Information**

-IP rating is not part of this investigation, further investigation shall be done in the end product based upon end product construction

-analog output is 4-20 mA

**Technical Considerations**

- The product was investigated to the following additional standards: n/a
- The following additional investigations were conducted: n/a
- The product was not investigated to the following standards or clauses: n/a
- The following accessories were investigated for use with the product: n/a
- n/a

**Engineering Conditions of Acceptability**

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- None