

FACTORY MUTUAL



Factory Mutual Research Corporation
1151 Boston-Providence Turnpike
P.O. Box 9102
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Telephone: (781) 762-4300
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APPROVAL AGREEMENT

The Agreement is made by and between **FACTORY MUTUAL RESEARCH CORPORATION** (herein called **FMRC**),
and **Yokogawa Electric Corp., Musashino-shi , 180 Tokyo, Japan**
herein called the Client). The Client is making a product or providing a service known and described as:

Model YTA Series Temperature Transmitters
For Use In
Hazardous (Classified) Locations

This product or service has been examined by FMRC as described in the report bearing
Job Identification 3002145 , dated January 7, 1999 .

In consideration of FMRC Approval of the product or service the Client is authorized to indicate such approval, as stated by the above report, and agrees to the following and terms stated on the reverse side of this Agreement:

1. The client shall place a unique identification mark (i.e. model or type number) on the product as stated in the above report and shall not place this mark on any other product unless covered by separate agreement with FMRC.
2. The Client shall use the FMRC Approval mark on the product, but shall not use this mark on any other product unless such other product is covered by separate agreement with FMRC.
3. The Client shall not use, reproduce or distribute the above referenced report by FMRC except in its entirety without any change, deletion or addition thereto. The Client agrees that FMRC may distribute the referenced report and related information within the Factory Mutual System.

(See Over)

Yokogawa Electric Corporation Client

R. Ichikawa Signature

Kuniaki Ichikawa Name

Manager

Corporate Quality Assurance Dept. Title

2-9-32 Naka-cho, Musashino-shi

Tokyo 180-8750, Japan Address

January 21, 1999 Date

FACTORY MUTUAL RESEARCH CORPORATION

John Rennie Signature

John Rennie Name

Vice President Title

January 11, 1999 Date

4. The Client shall assume full responsibility for the design, material, workmanship and operation of the product or the quality of the service rendered and agrees to hold harmless and indemnify FMRC from any claims and liability to the Client or others for any kind or type of injury or damage, including without limitation, loss of earnings or profits, caused by or in any way connected with any of the services rendered by FMRC, or arising out of any defect, accident, damage or injury related to the product or service referenced herein.

5. The Client shall manufacture the product or provide the service as approved by FMRC and no changes of any nature shall be made in the product or service unless notice of the proposed change has been given and written authorization obtained from FMRC. Client agrees to make full and immediate disclosure to FMRC of all information concerning any defect in or potential hazard of the product or service referenced herein. Failure to provide such notification of changes or defects may result in suspension or withdrawal of FMRC Approval.

6. The Client shall (1) provide the user with adequate instructions for the proper installation, maintenance, and operation of the product; (2) provide adequate facilities for repair of the product and supply parts; (3) provide services to ensure proper installation, inspection or maintenance for products of such nature that it would not be reasonable to expect the average user to be able to provide such installation, inspection or maintenance.

7. The Client shall permit periodic unannounced audits of the manufacturing facilities and quality control procedures for the approved product or unannounced audits of the service locations by FMRC or its representative and shall furnish samples of the approved product for re-examination on request.

8. The Client shall manufacture the product or provide the service only at locations audited by FMRC or its representative and manufacture of products bearing the FMRC Approval mark shall not be done at any other locations without prior written authorization by FMRC.

9. The Client shall pay within thirty (30) days after date of invoice the costs of Approval, audit, and subsequent re-inspection re-examination and listing as a condition of continued Approval.

10. FMRC Approval does not imply or express any warranty of any kind with respect to the Client's product or service, and FMRC assumes no responsibility for defects, failure in service or patent infringement.

11. FMRC reserves the right in its sole judgment to change or revise its standards, criteria, methods or procedures.

12. Approval may be withdrawn by FMRC due to unsatisfactory performance, unsatisfactory results in meeting requirements of reexamination, unsatisfactory quality control, or for violation of or non-compliance with any part of this Agreement. The Client may at any time withdraw from the terms of this Agreement by so notifying FMRC in writing. Regardless of whether withdrawal is made by FMRC or the Client, all activities that would indicate or imply Approval shall be immediately discontinued by the Client unless otherwise agreed to in writing by FMRC. FMRC reserves the right to notify the public in general and/or appropriate party if in its sole judgment the product or service is found to present an unusual danger or hazard.

13. This Agreement is not transferable to another party without prior written authorization by FMRC.



FM Approvals
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Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

YTAa-bAcde/fg. Temperature Transmitter.

IS-AIS / I,II,III / 1 / ABCDEFG / T4 Ta = 60°C - IFM015-A13 P.1; Entity; Type 4X

NI-ANI / 1 / 2 / ABCD / T4 Ta = 60°C - IFM015-A13 P. 2; NIFW; Type 4X

S / II / 2 / FG / T4 Ta = 60°C; Type 4X

S / III / 1 / T4 Ta = 60°C; Type 4X

Entity Parameters:

Nonincendive Field Wiring Parameters:

Input Terminals: Vmax = 30 V, Imax = 165 mA, Ci = 18 nF, Li = 730 uH, Pmax = 0.9 W.

Output Terminals: Vt = 9 V, It = 40 mA, Ca = 1 uF, La = 10 mH, Pmax = 0.09 W.

a = Temperature transmitter: 110, 310 or 320.

b = Output signal: D, J or E.

c = Cable conduit connection: 2.

d = Indicator: D or N.

e = Mounting bracket: B, D, J, K or N.

f = Product safety specification: FS1 or FU1.

g = Optional specification: A, X1, X2, PX, D2, C1, CM1, CF, E1, Z, CM2, PR, C2, C3, CA, HC or N4.

Equipment Ratings:

The equipment was evaluated as intrinsically safe (entity) with intrinsically safe connections to Class I, II, III, Division 1, Groups: A, B, C, D, E, F and G, hazardous (classified) locations in accordance with Drawing No. IFM015-A13 P.1; Nonincendive electrical apparatus with Nonincendive Field Wiring Parameters for Class I, Division 2, Groups A, B, C, and D in accordance with Drawing No. IFM015-A13 P.2; Suitable for Class II, Division 2, Group F and G; Suitable for Class III, Division 1, indoor and outdoor Type 4X, hazardous (classified) locations. T4 Ta = -40°C to +60°C.

FM Approved for:

Yokogawa Electric Corporation
Musashino-shi, Tokyo, 180-8750 Japan

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3810	2005
NEMA-250	1991

Original Project ID: 3002658

Approval Granted: May 6, 1999

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3007172	February 28, 2000		
110209	April 29, 2011		
3041647	August 15, 2011		
083011	December 27, 2011		

FM Approvals LLC



J. E. Marquedant
Group Manager, Electrical

27 December 2011
Date