



FM Approvals  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

I. 6000 Series Servo Tank Gauge

***N6005abcdefghijklmn. Servo Tank Gauge.***

XP-AIS/II/1/CD/T4 Ta = 60°C – Ex421-691; Entity

XP-AIS/II/1/IIB/T4 Ta = 60°C – Ex421-691; Entity

XP-ANI/II/2/CD/T4 Ta = 60°C – Ex421-691; Entity

DIP/II,III/1/EFG/T4 Ta = 60°C; Type 4X

- a = Pressure rating 1, 2, 4, 5 or 6
- b = Protection class 5, N or P
- c = Measuring Function A, B, C, D, E or F
- d = Primary (digital) output A, B, C, D, E, F, G, H, J, K, L, M or N
- e = Secondary output 0, 1, 2, 3, 4 or 5
- f = Signal input from field units 0, 1, 2, 3, 4, 5 or 6
- g = Measuring range, wire material A, B, C, G, H, J or K
- h = Cable entry E, F, G, H, J, K, L or M
- i = Process connection A, C, E, G, J, L, N, Q or S
- j = Power supply 3 or 4
- k = Displacer shape/diameter/material A, B, D, K, N, R, S or T
- l = O-ring, chamber finishing 0, 1, 2 or 5
- m = Options A, C, D, E, F, G, H or K

Entity/Nonincendive Field Wiring Parameters:

Protection Class P:

U<sub>o</sub> = 11.3 V, I<sub>o</sub> = 81.6 mA, P<sub>o</sub> = 406 mW, C<sub>o</sub> = 1.3 μF, L<sub>o</sub> = 4.0 mH

Protection Class N:

U<sub>o</sub> = 28.7 V, I<sub>o</sub> = 113 mA, P<sub>o</sub> = 810 mW, C<sub>o</sub> = 165 nF, L<sub>o</sub> = 2.5 mH

## II. Servo Monitor

### **N4560ab1. Servo Monitor.**

XP/II/1/ABCD/T4 Ta = 60°C

DIP/II,III/1/EFG/T4 Ta = 60°C; Type 4X

a = Power supply 3 or 4

b = Mounting bracket 1 or 2

## III. Averaging Temperature Transmitter

### **N4535-7abcdefgAh. Averaging Temperature Transmitter.**

IS/II/1/CD/T4 Ta = 60°C Tprocess = 100°C; T2 Ta = 60°C Tprocess = 200°C – Ex407-692; Entity

I/O/AEx ia IIB/T4 Ta = 60°C Tprocess = 100°C; T2 Ta = 60°C Tprocess = 200°C – Ex407-692; Entity

NI/II/2/CD/T4 Ta = 60°C Tprocess = 100°C; T2 Ta = 60°C Tprocess = 200°C – Ex407-692; Type 4X

a = Cable entry B or D

b = Process connection 0, 1, 2 or 3

c = Flange material 0 or 1

d = Measuring range 0 (Tprocess = 100°C), 1 (Tprocess = 200°C), 2 (Tprocess = 200°C) or 3 (Tprocess = 80°C)

e = Number of elements A, B, C, D, E, F, G, H, J, K, L, M, N, O or P

f = Element spacing 1, 2, 3 or 4

g = Probe length A or B

h = Mounting attachment A, B, C or D

Entity/Nonincendive Field Wiring Parameters:

V Max = 30 V, I Max = 120 mA, P Max = 1W, C i = 5.3 nF, L i = 0.2 mH

## IV. Averaging Temperature Transmitter

### **N4538-7a1bc. Averaging Temperature Transmitter.**

IS/II/1/CD/T4 Ta = 60°C – Ex443-693; Entity

I/O/AEx ia IIB/T4 Ta = 60°C – Ex443-693; Entity

NI/II/2/CD/T4 Ta = 60°C – Ex443-693; Type 4X

a = Cable entry B or D

b = Measuring range 1 or 2

c = Compatible elements 0, 1, 2 or 3

Entity/Nonincendive Field Wiring Parameters:

Supply/Input Terminals 1, 2:

V Max = 30 V, I Max = 120 mA, P i = 1W, C i = 5.3 nF, L i = 0.2 mH

Sensor/Output Terminals 3-22:

V oc = 11.3 V, I sc = 81.6 mA, P o = 406 mW, C a = 0.22 μF, L a = 4.0 mH



## Equipment Ratings:

### I. 6000 Series Servo Tank Gauge

Explosionproof with Intrinsically Safe outputs for use in Class I, Division 1, Groups C & D, and Class I, Zone 1, Group IIB, in accordance with manufacturer's Control Drawing No. Ex421-691

Explosionproof for use in Class I, Division 1, Groups C & D with Nonincendive Field Wiring Parameters for use in Class I, Division 2, Groups C & D, in accordance with manufacturer's Control Drawing No. Ex421-691

Dust-Ignition Proof for Class II & III, Division 1, Groups E, F & G, indoor/outdoor (Type 4X) hazardous (classified) locations

### II. Servo Monitor

Explosionproof for use in Class I, Division 1, Groups A, B, C & D

Dust-Ignition Proof for Class II & III, Division 1, Groups E, F & G, indoor/outdoor (Type 4X) hazardous (classified) locations

### III. Averaging Temperature Transmitter

Intrinsically Safe, with entity parameters, for use in Class I, Division 1, Groups C & D, and Class I, Zone 0, Group IIB, in accordance with manufacturer's Control Drawing No. Ex407-692

Nonincendive, with nonincendive field wiring parameters, for use in Class I, Division 2, Groups C & D; Suitable for Class II, III, Division 2, Groups F & G, indoor/outdoor (Type 4X) hazardous (classified) locations, in accordance with manufacturer's Control Drawing No. Ex407-692

### IV. Averaging Temperature Transmitter

Intrinsically Safe, with entity parameters, for use in Class I, Division 1, Groups C & D, and Class I, Zone 0, Group IIB, in accordance with manufacturer's Control Drawing No. Ex443-693

Nonincendive, with nonincendive field wiring parameters, for use in Class I, Division 2, Groups C & D; Suitable for Class II, III, Division 2, Groups F & G, indoor/outdoor (Type 4X) hazardous (classified) locations, in accordance with manufacturer's Control Drawing No. Ex443-693

## Approved for:

Varec, Inc.  
5834 Peachtree Corners East  
Norcross, GA 30092, USA



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

Class 3600	1998
Class 3610	1999
Class 3611	1999
Class 3615	1989
Class 3810	1995
ANSI/NEMA 250	1991

Original Project ID: 3019368

FM Approval Granted: February 11, 2004

Subsequent Revision Reports / Date FM Approval Amended

Report Number	Date	Report Number	Date
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FM Global Technologies LLC

*Donald E Major*

Donald E. Major  
Technical Team Manager

*19 February 2004*

Date

