



Member of the FM Global Group

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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

***FU20F-a. Wide body sensor digital (4 in 1 unit).***

IS / I / 1 / ABCD / T3 Ta = 85°C, T4 Ta = 85°C, T5 Ta = 75°C, T6 Ta = 60°C – FF1-K1226QS

Entity Parameters:

V<sub>Max</sub> = 6.1 V, I<sub>Max</sub> = 230 mA, P<sub>Max</sub> = 1.2 W, C<sub>i</sub> = 30 uF, L<sub>i</sub> = 4 µH.

a = Type NPT or FSM.

Note: When Ta = 85°C, Process Temperature = 105°C maximum.

***FU24F-a. Wide body sensor digital, (press. Comp.).***

IS / I / 1 / ABCD / T3 Ta = 85°C, T4 Ta = 85°C, T5 Ta = 75°C, T6 Ta = 60°C – FF1-K1226QT

Entity Parameters:

V<sub>Max</sub> = 6.1 V, I<sub>Max</sub> = 230 mA, P<sub>Max</sub> = 1.2 W, C<sub>i</sub> = 30 uF, L<sub>i</sub> = 4 µH.

a = Type NPT or FSM.

Note: When Ta = 85°C, Process Temperature = 105°C maximum.

***PH20F-a. pH/ORP Combination sensor digital (4 in 1 unit).***

IS / I / 1 / ABCD / T3 Ta = 85°C, T4 Ta = 85°C, T5 Ta = 75°C, T6 Ta = 60°C – FF1-K1246QX

Entity Parameters:

V<sub>Max</sub> = 6.1 V, I<sub>Max</sub> = 230 mA, P<sub>Max</sub> = 1.2 W, C<sub>i</sub> = 30 uF, L<sub>i</sub> = 4 µH.

a = Type NPT.

Note: When Ta = 85°C, Process Temperature = 105°C maximum.

***SC24F-a-b. 12 mm differential digital pH sensor.***

IS / I / 1 / ABCD / T3 Ta = 85°C, T4 Ta = 85°C, T5 Ta = 75°C, T6 Ta = 60°C – FF1-K1224QS

Entity Parameters:

V<sub>Max</sub> = 6.1 V, I<sub>Max</sub> = 230 mA, P<sub>Max</sub> = 1.2 W, C<sub>i</sub> = 30 uF, L<sub>i</sub> = 4 µH.

a = Sensor Type: ALN26.

b = Sensor length: -120 or -225.

Note: When Ta = 85°C, Process Temperature = 120°C maximum.

**SC25F-a-b. 12 mm combined pH/ref/LE/temp digital pH sensor.**

IS / I / 1 / ABCD / T3 Ta = 85°C, T4 Ta = 85°C, T5 Ta = 75°C, T6 Ta = 60°C – FF1-K1224QT

Entity Parameters:

$V_{Max} = 6.1 \text{ V}$ ,  $I_{Max} = 230 \text{ mA}$ ,  $P_{Max} = 1.2 \text{ W}$ ,  $C_i = 30 \text{ uF}$ ,  $L_i = 4 \text{ uH}$ .

a = Sensor Type: AGP25 or ALP25.

b = Sensor length: -120 or -225.

Note: When Ta = 85°C, Process Temperature = 130°C maximum.

**Special Condition of Use:**

1. Electrostatic charges on the enclosure and or cable shall be avoided.

**Equipment Ratings:**

Intrinsically Safe with Entity parameters for use in Class I, Division 1, Groups ABCD in accordance with manufacturer's Control Drawings: FF1-K1226QS, FF1-K1226QT, FF1-K1246QX, FF1-K1224QS and FF1-K1224QT; hazardous (Classified) locations

**FM Approved for:**

YPA Europe BV

Euroweg 2, 3825 HD, Amersfoort, The Netherlands

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

Class 3610	2010
Class 3600	2011
Class 3810	2005

Original Project ID: 3046277

Approval Granted: October 12, 2012

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
140922	December 12, 2014		

FM Approvals LLC

  
J.E. Marquedant  
Manager of Electrical Systems

12 December 2014  
Date