



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:

3730-23-abcdef. e/p-Positioner.

IS / I,II,III / 1 / ABCDEFG / T6 Ta = 60°C - Addendum to EB 8384-2EN, pages 7 - 11; Entity; Type 4X
I / 0 / AEx ia / IIC / T6 Ta = 60°C - Addendum to EB 8384-2EN, pages 7 - 11; Entity; Type 4X
NI / I / 2 / ABCD / T6 Ta = 60°C; S / II,III / 2 / FG / T6 Ta = 60°C; Type 4X

Entity Parameters:

Signal Circuit:

$V_{max}(U_i) = 28\text{ V}$, $I_{max}(I_i) = 115\text{ mA}$, $P_{max}(P_i) = 1\text{ W}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Position Indicator:

$V_{max}(U_i) = 28\text{ V}$, $I_{max}(I_i) = 115\text{ mA}$, $P_{max}(P_i) = 1\text{ W}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Software Limit Switches:

$V_{max}(U_i) = 20\text{ V}$, $I_{max}(I_i) = 60\text{ mA}$, $P_{max}(P_i) = 250\text{ mW}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Inductive Limit Switch:

$V_{max}(U_i) = 16\text{ V}$, $I_{max}(I_i) = 25\text{ mA}$, $P_{max}(P_i) = 64\text{ mW}$, $C_i = 60\text{ nF}$, $L_i = 200\text{ }\mu\text{H}$,
 $V_{max}(U_i) = 16\text{ V}$, $I_{max}(I_i) = 52\text{ mA}$, $P_{max}(P_i) = 169\text{ mW}$, $C_i = 60\text{ nF}$, $L_i = 200\text{ }\mu\text{H}$.

Forced Venting Function (Solenoid Valve):

$V_{max}(U_i) = 28\text{ V}$, $I_{max}(I_i) = 115\text{ mA}$, $P_{max}(P_i) = 500\text{ mW}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Fault Alarm Output:

$V_{max}(U_i) = 20\text{ V}$, $I_{max}(I_i) = 60\text{ mA}$, $P_{max}(P_i) = 250\text{ mW}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Programming Jack BU:

$V_{max}(U_i) = 20\text{ V}$, $I_{max}(I_i) = 60\text{ mA}$, $P_{max}(P_i) = 250\text{ mW}$, $C_i = 0$, $L_i = 0$,
 $V_{oc}(U_o) = 6.51\text{ V}$, $I_{sc}(I_o) = 57.5\text{ mA}$, $C_a(C_o) = 22\text{ }\mu\text{F}$, $L_a(L_o) = 10\text{ mH}$.

External Position Sensor:

$V_{oc}(U_o) = 6.51\text{ V}$, $I_{sc}(I_o) = 56\text{ mA}$, $C_a(C_o) = 11.2\text{ }\mu\text{F}$, $L_a(L_o) = 11.6\text{ mH}$.

Leakage Detection:

$V_{max}(U_i) = 28\text{ V}$, $I_{max}(I_i) = 100\text{ mA}$, $P_{max}(P_i) = 0.7\text{ W}$, $C_i = 5.3\text{ nF}$, $L_i = 0$.

Binary Input:

$V_{max}(U_i) = 28\text{ V}$, $I_{max}(I_i) = 100\text{ mA}$, $P_{max}(P_i) = 0.7\text{ W}$, $C_i = 56.3\text{ nF}$, $L_i = 0$.

- a = Limit Switches 0 (not provided), or 1 (provided).
- b = Solenoid valve 0 (not provided), or 4 (provided).
- c = Positioner indicator 0 (not provided), or 1 (provided).
- d = External position sensor 0 (not provided), or 1 (provided).
- e = Leakage Detection: 0 (not provided), or 1 (provided).
- f = Binary Input: 0 (not provided), or 2 (provided).

3730-33-abcdef. Hart Capable Positioner.

IS / I, II, III / 1 / ABCDEFG / T6 Ta = 60°C - Addendum to EB 8384-3EN, pages 7 - 11; Entity; Type 4X

I / 0 / AEx ia / IIC / T6 Ta = 60°C - Addendum to EB 8384-3EN, pages 7 - 11; Entity; Type 4X

NI / I / 2 / ABCD / T6 Ta = 60°C; S / II / 2 / FG / T6 Ta = 60°C; Type 4X

Entity Parameters:**Signal Circuit:** $V_{\max}(U_i) = 28 \text{ V}$, $I_{\max}(I_i) = 115 \text{ mA}$, $P_{\max}(P_i) = 1 \text{ W}$, $C_i = 35 \text{ nF}$, $L_i = 0$.**Position Indicator:** $V_{\max}(U_i) = 28 \text{ V}$, $I_{\max}(I_i) = 115 \text{ mA}$, $P_{\max}(P_i) = 1 \text{ W}$, $C_i = 5.3 \text{ nF}$, $L_i = 0$.**Software Limit Switch:** $V_{\max}(U_i) = 20 \text{ V}$, $I_{\max}(I_i) = 60 \text{ mA}$, $P_{\max}(P_i) = 250 \text{ mW}$, $C_i = 13.4 \text{ nF}$, $L_i = 0$.**Inductive Limit Switch:** $V_{\max}(U_i) = 16 \text{ V}$, $I_{\max}(I_i) = 25 \text{ mA}$, $P_{\max}(P_i) = 64 \text{ mW}$, $C_i = 60 \text{ nF}$, $L_i = 100 \text{ }\mu\text{H}$, $V_{\max}(U_i) = 16 \text{ V}$, $I_{\max}(I_i) = 52 \text{ mA}$, $P_{\max}(P_i) = 169 \text{ mW}$, $C_i = 60 \text{ nF}$, $L_i = 100 \text{ }\mu\text{H}$.**Forced Venting Function:** $V_{\max}(U_i) = 28 \text{ V}$, $I_{\max}(I_i) = 115 \text{ mA}$, $P_{\max}(P_i) = 0.5 \text{ W}$, $C_i = 5.3 \text{ nF}$, $L_i = 0$.**Fault Signal:** $V_{\max}(U_i) = 20 \text{ V}$, $I_{\max}(I_i) = 60 \text{ mA}$, $P_{\max}(P_i) = 250 \text{ mW}$, $C_i = 13.4 \text{ nF}$, $L_i = 0$.**Serial Interface Bill:** $V_{\max}(U_i) = 16 \text{ V}$, $I_{\max}(I_i) = 25 \text{ mA}$, $P_{\max}(P_i) = 250 \text{ mW}$, $C_i = 0$, $L_i = 0$, $V_{\text{oc}}(U_o) = 7.88 \text{ V}$, $I_{\text{sc}}(I_o) = 61.8 \text{ mA}$, $P_{\max}(P_o) = 120 \text{ mW}$, $C_a(C_o) = 0.65 \text{ }\mu\text{F}$, $L_a(L_o) = 10 \text{ mH}$.**External Position Sensor:** $V_{\text{oc}}(U_o) = 7.88 \text{ V}$, $I_{\text{sc}}(I_o) = 61 \text{ mA}$, $P_{\max}(P_o) = 120 \text{ mW}$, $C_a(C_o) = 0.66 \text{ }\mu\text{F}$, $L_a(L_o) = 10 \text{ mH}$, or $C_i = 730 \text{ nF}$, $L_i = 370 \text{ }\mu\text{H}$.**Leakage Detection:** $V_{\max}(U_i) = 28 \text{ V}$, $I_{\max}(I_i) = 100 \text{ mA}$, $P_{\max}(P_i) = 0.7 \text{ W}$, $C_i = 5.3 \text{ nF}$, $L_i = 0$.**Binary Input:** $V_{\max}(U_i) = 28 \text{ V}$, $I_{\max}(I_i) = 100 \text{ mA}$, $P_{\max}(P_i) = 0.7 \text{ W}$, $C_i = 56.3 \text{ nF}$, $L_i = 0$:

a = Proximity Switches 0 (not provided), or 1 (provided).

b = Force venting Function 0 (not provided), or 4 (24 Vdc provided).

c = Position indicator 0 (not provided), or 1 (provided).

d = External position sensor 0 (not provided), or 1 (provided).

e = Leakage Detection: 0 (not provided), or 1 (provided).

f = Binary Input: 0 (not provided), or 2 (provided).

Equipment Ratings:

Intrinsically safe for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F and G; Class I, Zone 0, IIC in accordance with control drawing nos. Addendum to EB 8384-2EN, pages 7 - 11 and Addendum to EB 8384-3EN, pages 7 - 11. Nonincendive for Class I, Division 2, Groups A, B, C and D; Suitable for Class II, III, Division 2, Groups F and G indoor/outdoor NEMA Type 4X hazardous (Classified) Locations

FM Approved for:

Samson AG
D-60314 Frankfurt, Germany

This certifies that the equipment described has been found to comply with the following



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Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3810	2005
NEMA-250	1991
ANSI/ISA-60079-0	2009
ANSI/ISA-60079-11	2009

Original Project ID: 3012394

Approval Granted: December 4, 2002

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3018702	02/02/2004		
3034227	11/03/2008		
3042057	06/06/2001		
110809	11 th August 2011		

FM Approvals LLC

Timothy Adam
Technical Team Manager

Re-issued

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Date