CERTIFICATE OF CONFORMITY

FM Approvals

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** **FM24US0232**

3. **Equipment:**
   (Type Reference and Name)
   3766-3 Pneumatic Positioner Single-Acting
   3767-3 I/P Positioner Single-Acting
   3768-3 Limit Switch
   3963-3 Solenoid Valve
   4746-3 Limit Switch
   4763-3 I/P Positioner Single-Acting
   6116-4 I/P Converter

4. **Name of Listing Company:** **Samson AG**

5. **Address of Listing Company:** **Weismullerstrasse 3, Postfach 101901, Frankfurt, D60314, Germany**

6. The examination and test results are recorded in confidential report number:

   3020228 dated 28th February 2005

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM 3600:2022, FM 3610:2010, FM 3611:2004, FM 3810:2005, NEMA 250:1991, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-11:2009

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

    Intrinsically Safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F, G
    Intrinsically Safe for Class I, Zone 0, AEx ia IIC
    Nonincendive for Class I, II, III Division 2, Groups A, B, C, D, F, G

Certificate issued by:

J.E. Marquedant

2 January 2025

J.E. Marquedant
VP, Manager - Electrical Systems

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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11. The marking of the equipment shall include:

    See Annex

12. **Description of Equipment:**

    The 3766-3 Pneumatic Positioner is intended to be connected to pneumatic control valves and converts control signals of 0.2 to 1 bar from a control device into a pneumatic signal pressure of 6 bar maximum.

    The 3767-3 I/P Positioner is intended to be connected to pneumatic control valves and converts control signals of 4-20mA from a control device into a pneumatic signal pressure of 6 bar maximum.

    The 3768-3 Limit Switch is intended to be connected to rotary and linear actuators with a conceal lever system and is equipped with up to two proximity switches and a solenoid valve.
    The solenoid valve converts electrical binary signals opening and closing an associated control valve.

    The 3963-3 Solenoid Valve coverts electrical binary signals to the input circuit into pneumatic output signals. It is intended for connection to actuators as part of a control system.

    The 4746-3 Limit Switch converts mechanical manipulated variables into electrical signals and, depending on the version, are equipped with various types of limit contacts. They are intended for attachment to pneumatic, electrical or hydraulic actuators installed inside and outside hazardous locations.

    The 4763-3 I/P Positioner is intended to be connected to pneumatic control valves. It converts control signals or 4-5mA or 1-5mA from a control device into a pneumatic signal pressure of 6 bar maximum. The inductive limit switches, positioner indicator and solenoid valves are passive two-terminal.

    The 6116-4 I/P Converter converts a load-independent current into a standard pressure signal in the 0.2 to 1 or 0.4 to 2 bar range. It consists of an I/P Module and a downstream pneumatic amplifier. It is a passive two-terminal network.

13. **Specific Conditions of Use:**

    None

14. **Test and Assessment Procedure and Conditions:**

    This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

    A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

    Details of the supplements to this certificate are described below:

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SCHEDULE

US Certificate of Conformity No: FM24US0232

Date	Description
28 February 2005	Original Issue.
2 January 2025	Supplement 3: Report Reference: RR243493 dated 2 January 2025. Description of the Change(s): Delist of 3701-3abcd. Solenoid Valve, 3760-31abc. i/p Positioner Single-Acting, and the 3964-3. Pilot Valve with Model 1070-9 Position Indicator Module, Model 1079-27 e/p Binary Converter Coil or Model 1079-29 Solenoid Valve. Re-formatted the certificate. Updated FM 3600.

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ANNEX

3766-3 Pneumatic Positioner Single-Acting

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 8355-1 EN; Entity; Type 4X
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 8355-1 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 8355-1 EN

Description of Equipment:

3766-3abc. Pneumatic Positioner Single-Acting with Model 1070-9 Position Indicator Module, Model 1079-27 e/p Binary Converter Coil or Model 1079-29 Solenoid Valve
Entity Parameters:

Position Indicator:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 1 W, C_i= 5.3 nF, L_i= 0

Limit Switches (Inductive):
$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 25 mA, $P_{Max}(P_i)$ = 64 mW, C_i= 30 nF, L_i= 100 µH
$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 52 mA, $P_{Max}(P_i)$ = 169 mW, C_i= 30 nF, L_i= 100 µH

Solenoid Valve:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.25 W, C_i= 0, L_i= 0
Solenoid valve (nominal signal) 6VDC version $P_{Max}(P_i)$ = 250 mW
Solenoid valve (nominal signal) 12VDC and 24VDC version $P_{Max}(P_i)$ not limited

a = Inductive limit switch: 00 (none) or 6 (with position indicator).
b = Solenoid valve with solenoid valve without limit switches: 00 (none), 2 (nominal signal 6V), 3 (nominal 12V) or 4 (nominal 24V).
c = Electrical connections: 1 (cable gland M 20 x 1.5 optionally metal or plastic), 3 (HARTING-connector) or 4 (round connector).

3767-3 I/P Positioner Single-Acting

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 8355-2 EN; Entity; Type 4X
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 8355-2 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*

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T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 8355-2 EN

Description of Equipment:

3767-3abcd. I/P Positioner Single-acting with Model 1070-9 Position Indicator Module, Model 1079-27 e/p Binary Converter Coil or Model 1079-29 Solenoid Valve

Entity Parameters:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.7 W, C_i= 0, L_i= 0

Position Indicator :
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 100 mA, $P_{Max}(P_i)$ = 1 W, C_i= 5.3 nF, L_i= 0

Limit Switches (Inductive) :
$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 25 mA, $P_{Max}(P_i)$ = 64 mW, C_i= 30 nF, L_i= 100 µH
$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 52 mA, $P_{Max}(P_i)$ = 169 mW, C_i= 30 nF, L_i= 100 µH

Solenoid Valve :
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.25 W, C_i= 0, L_i= 0

Solenoid valve (nominal signal) 6VDC version $P_{Max}(P_i)$ = 250 mW
Solenoid valve (nominal signal) 12VDC and 24VDC version $P_{Max}(P_i)$ not limited

a = Inductive limit switch: 00 (none) or 6 (with position indicator).
b = Solenoid valve with solenoid valve without limit switches: 00 (none), 2 (nominal signal 6V), 3 (nominal 12V) or 4 (nominal 24V).
c = Electrical connections: 1 (cable gland M 20 x 1.5 optionally metal or plastic), 3 (HARTING-connector) or 4 (round connector).
d = Data not relating to explosion protection such as input signal: 1 (4 to 20mA), 2 (4 to 20mA) or 3 (1 to 5mA).

3768-3 Limit Switch

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 8356 EN; Entity; Type 4X
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 8356 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 8356 EN

Description of Equipment:

3768-3abc Limit Switch
Entity Parameters:Limit Switches (Inductive) :
$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 25 mA, $P_{Max}(P_i)$ = 64 mW, C_i= 30 nF, L_i= 100 µH

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$V_{Max}(U_i)$ = 16 V, $I_{Max}(I_i)$ = 52 mA, $P_{Max}(P_i)$ = 169 mW, C_i= 30 nF, L_i= 100 µH
Solenoid Valve :
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.25 W, C_i= 0, L_i= 0
Solenoid valve (nominal signal) 6VDC version $P_{Max}(P_i)$ = 250 mW
Solenoid valve (nominal signal) 12VDC and 24VDC version $P_{Max}(P_i)$ not limited

a = Proximity switches; 1 = one proximity switch SJ-2 SN or 2 = two proximity switches SJ-2 SN
b = Solenoid valve 0 = none, 2 = nominal signal 6Vdc, 3 = nominal signal 12Vdc or 4 = nominal signal 24Vdc.
c = Electrical connections according to section 5 of the annex: air connections attachment, special versions.

3963-3 Solenoid Valve

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 3963; Entity; Type 4X
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 3963 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 3963 EN

Description of Equipment:

3963-3abcd. Solenoid Valve with Model 1079-27 e/p Binary Converter Coil
Entity Parameters:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.25 W, C_i= 0, L_i= 0
Solenoid Valve (nominal signal) 6VDC version $P_{Max}(P_i)$ = 250 mW
Solenoid valve (nominal signal) 12VDC and 24VDC version $P_{Max}(P_i)$ not limited

a = Nominal signal: 1 (6 volts), 2 (12 volts) or 3 (24 volts).
b = Pneumatic switching functions: attachment with or without functional test.
c = Ambient temperatures: 0 (= -20°C +80°C) or 1 (= - 45°C +80°C).
d = Electrical Connection: Connection thread type of protection or manual operation

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4746-3 Limit Switch

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 8365 EN; Entity; Type 3R
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 8365 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Ran ge per Dwg. Addendum to EB 8365 EN

Description of Equipment:

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Model 4746-3abc. Limit Switch
Entity Parameters:
Limit Switches (Inductive):
Terminals 41/42 & 51/52 GP ABCDEFG and GP IIC:
Vmax (Ui) = 16V, Imax (Ii) = 25mA, Pmax (Pi) = 34mW, Ci = 150nF, Li = 150µH
Vmax (Ui) = 16V, Imax (Ii) = 25mA, Pmax (Pi) = 64mW, Ci = 60nF, Li = 250µH
Vmax (Ui) = 16V, Imax (Ii) = 52mA, Pmax (Pi) = 169mW, Ci = 50nF, Li = 250µH
Limit Switches (Electrical):
Vmax (Ui) = 45V, Imax (Ii) = 115mA, Pmax (Pi) = 2W, Ci = 0, Li = 0

a = Proximity switches;
2 = with inductive proximity switches
3 = with electrical proximity switches.
b = Contact Types;
00 = type SC3,5 inductive contact
10 = type SJ3,5-SN inductive contact
11 = type SJ3,5-S1N inductive contact
20 = type XGK 3 electrical contact (silver)
21 = type XGK 3-81 electrical contact (gold)
c = Switching elements;
1 = one contact
2 = two contacts

4763-3 I/P Positioner Single-Acting

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 8359-2 EN; Entity; Type 3R
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 8359-2 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 8359-2 EN

Description of Equipment:

4763-3abc I/P Positioner Single-Acting
Entity Parameters:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.7 W, C_i= 0, L_i= 0

a = Electrical connections: 1 (cable gland M 20 x 1.5 metal or plastic), 3 (HARTING-connector) or 4 (round connector).
b = i/p-Baustein: 1 (Model 6109 I/P Module) or 2 (Model 6112 I/P Module).
c = Input signal (signal circuit): 1 (0-20mA), 2 (4-20mA) or 3 (1-5mA).

6116-4 I/P Converter

Markings:

IS Class I, II, III, Div. 1, GP A, B, C, D, E, F, G, T* - Addendum to EB 6116 EN; Entity; Type 4X
IS Class I, Zn 0, AEx ia IIC, T* - Addendum to EB 6116 EN; Entity
NI Class I, Div. 2, GP A, B, C, D, F, G T*
T* = Temperature Class and Ambient Temperature Range per Dwg. Addendum to EB 6116 EN

Description of Equipment:

6116-4abcd. I/P Converter
Entity Parameters:
$V_{Max}(U_i)$ = 28 V, $I_{Max}(I_i)$ = 115 mA, $P_{Max}(P_i)$ = 0.7 W, C_i= 0, L_i= 0

a = input and output variables not relating to explosion protection
b = Type of protection 0 (no protection) or 2 (Ex version to input circuit category ia).
c = Style 1 module for controllers or further devices.
d = Input and output signals not related to explosion protection

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