Translation from the original document

(1) **EEC Type Examination Certificate**

(2) Devices and protective systems to be used in hazardous areas for the approved purpose – **EC Regulation 94/9/EC**

(3) **TÜV 98 ATEX 1370 X**

(4) Device: Positioner Type Doc. 901047 (TZID-C)

(5) Manufacturer: Hartmann & Braun GmbH & Co. KG
Geschäftsbereich Gerätetechnik

(6) Address: D-30179 Hannover, Hackethalstr. 7

(7) The design of this device and the various approved versions are stipulated in the appendix to this EEC Type Examination Certificate.

(8) TÜV Hannover/Sachsen-Anhalt e.V., TÜV-CERT Zertifizierungsstelle, approved body No. 0032 to Article 9 of the Regulation 94/9/EC issued by the Council of the European Community on March 23, 1994 herewith certifies that the device complies with the basic safety and health requirements for the conception and construction of devices and protective systems to be used in hazardous areas for the approved purpose stipulated in Appendix II of the regulation.

The results of the examination are laid down in writing in the confidential test report No. 98/PX25180.

(9) The fundamental safety and health requirements are met due to compliance with

EN 50 014:1997 **EN 50 020:1994**

(10) If the letter "X" appears to the right of the number of this EEC Type Examination Certificate, this means that safe operation of this device is governed by the special requirements documented in the appendix of this certificate.

(11) This EEC Type Examination Certificate is only valid for the conception and construction of the specified device. Additional requirements have to be met for the manufacturing and marketing of these devices.

(12) The device must be marked with the following number

II 2 G EEx Ib IIC T6

TUV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Hannover, December 8, 1998

Signature

(13) **APPENDIX**

(14) **EEX Type Examination Certificate No. TÜV 98 ATEX 1370 X**

(15) Description of the Device

The positioner Type Doc. 901047 (TZID-C) is used for the control of pneumatically actuated valves through a load-independent signal current of 4 ... 20 mA. An integral position sensor determines the current position of the valve actuator. An integral current/pressure (I/P) converter controls the air supply.

The permissible ambient temperature range as a function of the temperature class is specified in the following table:

Temperature class	Ambient temperature range
T4	-40 °C to +85 °C
T5	-40 °C to +50 °C
T6	-40 °C to +35 °C

Electrical Specifications

Signal circuit Terminals 11+), 12(-)	Explosion protection: intrinsically safe EEx ib II C only for connection to approved intrinsically safe current circuits with the following max. values: V_i = 30 V I_i = 320 mA P_i = 1.1 W Effective internal capacitance C_i = 6.6 nF The effective internal inductance is negligible.
Digital input Terminals 81(+), 82(+)	Explosion protection: intrinsically safe EEx ib II C only for connection to approved intrinsically safe current circuits with the following max. values: V_i = 30 V Effective internal capacitance C_i = 3.7 nF The effective internal inductance is negligible.
Digital output Terminals 83(+), 84(-)	Explosion protection: intrinsically safe EEx ib II C only for connection to approved intrinsically safe current circuits with the following max. values: V_i = 30 V P_i = 500 mW Effective internal capacitance C_i = 3.7 nF The effective internal inductance is negligible.

Appendix to the EEC Type Examination Certificate TÜV 98 ATEX 1370 X

Local communication interface (LKS)	For connection to an external programming device outside the hazardous area

The intrinsically safe current circuits are electrically isolated from each other in a safe manner, up to a voltage of 60 V. The local communication interface (LKS) is connected to the signal current circuit.

(16) The test documents are compiled in the test report No. 98/PX25180.

(17) Special Requirements:

The external control unit connected to the local communication interface (LKS) must be located outside the hazardous area.

(18) Special Safety and Health Requirements

No additional requirements.

Translation from the original document

1st Supplement to the

EEC Type Examination Certificate TÜV 98 ATEX 1370 X

Manufacturer: Hartmann & Braun GmbH & Co. KG
Geschäftsbereich Gerätetechnik
Hackethalstr. 7
D-30179 Hannover,

The positioner type Doc 901047 (TZID-C) may be produced in accordance with the documents compiled in the test report. Additional option cards are provided. The electrical specifications, the special requirements and further specifications of the type examination certificate continue to be valid. The electrical specifications of the new cards are listed below:

Mechanical kit for digital position feedback (Terminals Limit1 +51, -52 or Limit2 +41, -42)	refer to PTB Certificate No. Ex-95.D.2195 X for the maximum values
Digital position feedback card (Terminals +51, -52 or +41, -42	Explosion protection: intrinsically safe EEx ib IIC only for connection to approved intrinsically safe current circuits with the following max. values: V_i = 30 V P_i = 500 mW Effective internal capacitance C_i = 3.7 nF The effective internal inductance is negligible
Analog position feedback card (Terminals +31, -32	Explosion protection: intrinsically safe EEx ib IIC only for connection to approved intrinsically safe current circuits with the following max. values: V_i = 30 V P_i = 1100 mW Effective internal capacitance C_i = 6.6 nF The effective internal inductance is negligible

(16) The test documents are compiled in the Test Report No. 99/PX05990.

(17) Special Requirements:

No additional requirements

(18) Special Safety and Health Requirements

No additional requirements.

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Hannover, April 9, 1999

Signature

Translation

2. SUPPLEMENT to

EC-TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

formerly: Hartmann & Braun GmbH & Co. KG
Geschäftsbereich Gerätetechnik
Hackethalstr. 7
D-30179 Hannover

In the future, the type designation of the Positioner type Doc. 901047 (TZID-C) also reads as written in the test documents listed in the test report.

The electrical data, the special condition for safe use and further specifications remain unchanged.

(16) The test documents are listed in the test report N° 00/PX05991.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
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D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Head of the
Certification Body

Hanover, 2003-08-29

TÜV NORD CERT GmbH & Co. KG
legal successor of the notified body of
TÜV Hannover/Sachsen-Anhalt e.V.
German original certificate
issued on 2000-01-31

BA 02 03.02

Translation

3. SUPPLEMENT to

EC-TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

In the future, the Positioner type Doc. 901047 (TZID-C) may also be manufactured according to the test documents listed in the test report. The modifications refer to the internal construction and electrical data.

Electrical data

Shutdown-switch-input (Terminal +41 and –42)	in type of protection „Intrinsic Safety" EEx ib IIC only for the connection to a certified intrinsically safe circuit with the maximum values of: U_i = 30 V C_i = 3,7 nF L_i negligibly small

All other details remain unchanged.

The test documents are listed in the test report N° 00/PX21000.

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i.V.

Head of the
Certification Body

Hanover, 2003-08-29

TÜV NORD CERT GmbH & Co. KG
legal successor of the notified body of
TÜV Hannover/Sachsen-Anhalt e.V.
German original certificate
issued on 2000-01-31

BA 02 03.02

Translation

4. SUPPLEMENT to

EC-TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

In the future, the Positioner type Doc. 901047 (TZID-C) may also be manufactured according to the test documents listed in the test report. The modifications refer to the internal construction.

The electrical data as well as further specifications remain unchanged.

The test documents are listed in the test report N° 00/PX27500.

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Head of the
Certification Body

Hanover, 2003-08-29

TÜV NORD CERT GmbH & Co. KG
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TÜV Hannover/Sachsen-Anhalt e.V.
German original certificate
issued on 2000-01-31

BA 02 03.02

Translation

5. SUPPLEMENT to

EC-TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

In the future, the Positioner type Doc. 901047 (TZID-C) may also be manufactured according to the test documents listed in the test report. The modifications refer to the internal construction.

The electrical data as well as further specifications remain unchanged.

The test documents are listed in the test report N° 01/PX13810.

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Head of the
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Hanover, 2003-08-29

TÜV NORD CERT GmbH & Co. KG
legal successor of the notified body of
TÜV Hannover/Sachsen-Anhalt e.V.
German original certificate
issued on 2000-01-31

BA 02 03.02

Translation

6. SUPPLEMENT to

EC-TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

In the future, the Positioner type Doc. 901047 (TZID-C) may also be manufactured according to the test documents listed in the test report. The modifications refer to the internal construction.

The electrical data as well as further specifications remain unchanged.

The test documents are listed in the test report N° 01YEX771292.

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Head of the
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TÜV NORD CERT GmbH & Co. KG
legal successor of the notified body of
TÜV Hannover/Sachsen-Anhalt e.V.
German original certificate
issued on 2000-01-31

BA 02 03.02

Translation

7. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1370 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

In the future the Positioner type Doc.901047 (TZID-C) may also be manufactured according to the test documents listed in the test report. The modifications refer to the internal construction, the enclosure as well as the "Electrical data".

Electrical data

Mechanical digital feedback (Terminals Limit1 +51, -52 resp. Limit2 +41, -42)	Maximum values see EC-Type Examination Certificate No. PTB 00 ATEX 2049 X (proximity switches of the company Pepperl & Fuchs)
Shutdown-switching input (Terminals +51 and –52 resp. +85 and -86)	in the type of protection Intrinsic Safety EEx ib IIC only for the connection to a certified intrinsically safe circuit with the maximum values of: U_i = 30 V C_i = 3.7 nF L_i negligibly small

All other data remain unchanged.

(16) Test documents are listed in the test report N° 03 YEX 550212.

(17) Special conditions for safe use

Variants, which also comply with the type of protection „Flameproof Enclosure" according to a separate certificate, may not be operated intrinsically safe after use as apparatus in the type of protection „Flameproof Enclosure".

(18) Essential Health and Safety Requirements

no additional ones

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Hanover, 2003-03-21

Head of the
Certification Body

BA 02 11.03