

TI20 Intelligenter Temperaturmeßumformer Intelligent Temperature Transmitter

Model Code	Zündschutzart Type of Protection	Konformitätsbescheinigung Certificate of Conformity
TI20-.... EAA :	EEx ia IIC T6	BIA 409
..... EDZ :	EEx d IIC T6	BDE 409
..... KNZ :	Ex N IIC T6	BN 409 (Test Certificate)

Inhalt - Contents

BIA 409	KEMA Nr. Ex-95.D.4252 X
BDE 409	KEMA Nr. Ex-95.D.4462
BN 409	KEMA Nr. Ex-95.Y.4253 X

Seite

Page

E - 1
E - 3
E - 4



KEMA
REGISTERED QUALITY

KEMA

(1) CERTIFICATE OF CONFORMITY

- (2) KEMA No. Ex-95.D.4252 X
- (3) This certificate is issued for the electrical apparatus:
I/A series Intelligent Temperature Transmitter
Type RTT20 - EAA
- (4) Manufacturers: **The Foxboro Company and Eckardt AG**
38, Neponset Avenue
Foxboro, MA 02035
U.S.A.
Applicant: **Foxboro Nederland N.V.**
Baarnsche Dijk 10
3741 LS Baarn
The Netherlands
- (5) This electrical apparatus and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.
- (6) KEMA, being an Approved Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18 December 1975 (76/117/EEC), confirms that the apparatus has been found to comply with the harmonised European standards:
Electrical apparatus for potentially explosive atmospheres
EN 50 014 : 1977 + A1 ... A5, General requirements
EN 50 020 : 1977 + A1 ... A5, Intrinsic safety "i"
and has successfully met the examination and test requirements which are recorded in a confidential test report.
- (7) The apparatus marking shall include the code:
EEx ia IIC T4 ... T6
- (8) The manufacturer of the electrical apparatus referred to in this certificate, has the responsibility to ensure that the apparatus conforms to the specification laid down in the Annex to this certificate and has satisfied routine verifications and tests specified therein.
- (9) This apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Commission Directive of 16 January 1984 (84/47/EEC).

Arnhem, 12 December 1995
by order of the Board of Directors of N.V. KEMA

C.M. Boschloo
Certification Manager

• This Certificate including the Annex forms an inseparable whole; reproduction in abridged or modified form is not permitted

N.V. KEMA
Utrechtseweg 310, 6812 AR Arnhem, P.O. Box 9035, 6800 ET Arnhem, The Netherlands
Telephone (+31) 26 356 28 80, Telex (+31) 26 351 49 22, Telex 45016 kema nl, 45715 kadhoni.

Foxboro Nederland N.V.
t.a.v. de heer ing. H. Zetzema
Baarnsche Dijk 10
3741 LS BAARN

your letter 96-01-30
your reference QA-6005/HZ

our reference KRO/LHL
6-0023 Cve/PTB

author C.G. van Es
direct line +31 26 3 56 22 65
telex +31 26 3 51 01 78
filing code

Arnhem, February 6, 1996

subject
Additional model codes of RTT20 transmitters

Dear Mr. Zetzema,

Herewith we confirm, that as an interim solution, the temperature transmitters of the RTT20 series, certified as listed below, may also be manufactured with the model codes as specified:

Certificate of Conformity KEMA No. Ex-95.D.4252 X: Model BIA409
Certificate of Conformity KEMA No. Ex-95.D.4462: Model BDE409
Test Certificate KEMA No. Ex-95.Y.4253 X: Model BN409

The construction of these models has not been changed and is in accordance with the applicable certificates.

Per following amendments, these model codes shall be added to the certificates.

Yours sincerely,
KEMA Registered Quality Nederland B.V.

C.G. van Es

KEMA Registered Quality Nederland B.V.
Utrechtseweg 310, 6812 AR Arnhem
P.O. Box 9035, 6800 ET Arnhem
The Netherlands
Telephone +31 26 3 56 91 11
Telex 45016 kema nl
Postbank 6794687
ABN AMRO Bank Arnhem 43.10.71.748
Registered Arnhem 85596

Member of the KEMA Registered Quality Network

Description

I/A series Intelligent Temperature Transmitter Type RTT20 - EAA - is used to convert the measurement signal from a thermo couple or an RTD into a digital signal or into an analog signal (4 - 20 mA).
Optionally a digital indicator can be connected.

Ambient temperature range: - 20 °C ... + 80 °C

Electrical data

Supply and output circuit in type of explosion protection intrinsic safety EEx ia IIC, (terminals + and -) only for connection to a certified intrinsically safe circuit, with following maximum values:

$$U_i = 30 \text{ V}$$

$$I_i = 125 \text{ mA}$$

$$P_i = 0,9 \text{ W @ } T_A = 80 \text{ °C for T4}$$

$$= 0,7 \text{ W @ } T_A = 40 \text{ °C for T5}$$

$$= 0,5 \text{ W @ } T_A = 80 \text{ °C for T5}$$

$$= 0,5 \text{ W @ } T_A = 40 \text{ °C for T6}$$

the effective internal capacitance $C_i = 1 \text{ nF}$
the effective internal inductance L_i is negligibly small

Input circuit in type of explosion protection intrinsic safety EEx ia IIC (terminals 1 ... 4) with following maximum values:

$$U_o = 14,6 \text{ V}$$

$$I_o = 9,2 \text{ mA}$$

the maximum allowed external capacitance $C_o = 640 \text{ nF}$
the maximum allowed external inductance $L_o = 5 \text{ mH}$

The output and input circuits are infallibly galvanically isolated to a maximum peak voltage of 60 V.

Mounting instruction

The transmitter must be mounted in an enclosure providing a degree of protection of at least IP 20 per IEC 529, when installed in an indoor location, and in an enclosure providing a degree of protection of at least IP 44 per IEC 529, when installed in an outdoor location.

Routine test

Capacitors C14, C21 ... C32 and C59 must withstand a test voltage of 500 V rms or 707 Vdc without breakdown, during 1 minute.

Test documentation

1. Description QA5047/HZ (16 pages)) signed
2. Drawing No. PS10510)
- PS10511)
- PS10512 (6 sheets))
- PS10513)
- PS10514)
- PS10515) 07.08.1995
- PS10516 (4 sheets))
- PS10517 (4 sheets))
- PS10518 (2 sheets))
- PS10519)
- PS10520)
- PS10521 (2 sheets))
- PS10522 (3 sheets))

3. Samples

Arnhem, 12 December 1995
by order of the Board of Directors of N.V. KEMA



C.M. Boschloo
Certification Manager



to Certificate of Conformity KEMA No. Ex-95.D.4462

(1) CERTIFICATE OF CONFORMITY

- (2) KEMA No. Ex-95.D.4462
- (3) This certificate is issued for the electrical apparatus:
Temperature Transmitter Series RTT20-..... EDZ-.....
- (4) Manufacturer: Applicant:
The Foxboro Company and Eckardt A.G. Foxboro Nederland N.V.
38, Neponset Avenue Pragstraße 82 Baarnsche Dijk 10
Foxboro, MA 02035 70376 Stuttgart 3741 LS Baarn
USA Germany The Netherlands
- (5) This electrical apparatus and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.
- (6) KEMA, being an Approved Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18 December 1975 (76/117/EEC), confirms that the apparatus has been found to comply with the harmonised European standards:
Electrical apparatus for potentially explosive atmospheres
EN 50 014 : 1977 + A1 ... A5, General requirements
EN 50 018 : 1977 + A1 ... A3, Flameproof enclosure "d"
and has successfully met the examination and test requirements which are recorded in a confidential test report.
(7) The apparatus marking shall include the code:
EEK d IIC T6
(8) The manufacturer of the electrical apparatus referred to in this certificate, has the responsibility to ensure that the apparatus conforms to the specification laid down in the Annex to this certificate and has satisfied routine verifications and tests specified therein.
(9) This apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Commission Directive of 16 January 1984 (84/47/EEC).

Arnhem, 24 January 1996
by order of the Board of Directors of N.V. KEMA

[Signature]
C.M. Boschloo
Certification Manager
F.W. Volkmann

This Certificate including the Annex forms an inseparable whole; reproduction in abridged or modified form is not permitted

Description

The Temperature Transmitter Series RTT20-..... EDZ-..... converts a RTD or thermocouple signal into a digital or analog signal (4-20 mA).

Ambient temperature range -40 °C ... +70 °C

Electrical data

Voltage: ≤ 42 Vdc
Current: ≤ 35 mA
Power: ≤ 1 W

Installation instruction

The cable entry device shall be of a certified flameproof type, suitable for the conditions of use.

Routine tests

Routine tests according to Clause 15 of EN 50 018 are not required since the type test has been made at a static pressure of four times the reference pressure.

Test documentation

1. Description (5 pages)	signed	
2. Drawing No. PS10526		04.09.1995
PS10527-B (2 sheets)		04.09.1995
PS10528-D		11.12.1995
PS10529)	11.12.1995
PS10530 (7 sheets))	
PS10531)	04.09.1995
PS10532)	
PS10533-B		11.12.1995

3. Samples

Arnhem, 24 January 1996
by order of the Board of Directors of N.V. KEMA

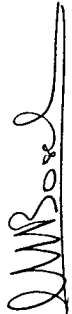
[Signature]
C.M. Boschloo
Certification Manager
F.W. Volkmann

A N N E X

to Test Certificate KEMA No. Ex-95.Y.4253 X

TEST CERTIFICATE

- (1) KEMA No. Ex-95.Y.4253 X
- (2) This certificate is issued for the electrical apparatus:
I/A series Intelligent Temperature Transmitter
Type RTT20 KNZ
- (3) Manufacturers: Applicant:
The Foxboro Company and Eckardt A.G. Foxboro Nederland N.V.
38, Neponset Avenue Pragstraße 82 Baarsche Dijk 10
Foxboro, MA 02035 70376 Stuttgart 3741 LS Baarn
U.S.A. Germany The Netherlands
- (4) This electrical apparatus and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.
- (5) KEMA, being an Approved Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18 December 1975 (76/117/EEC), confirms that the apparatus has been found to comply with the following standard:
BS 6941 : 1988, Electrical apparatus for explosive atmospheres with type of protection N
- (6) and has successfully met the examination and test requirements which are recorded in a confidential test report.
- (7) The apparatus marking shall include the code:
Ex N IIC T4 ... T6
- (8) The manufacturer of the electrical apparatus referred to in this certificate, has the responsibility to ensure that the apparatus conforms to the specification laid down in the Annex to this certificate and has satisfied routine verifications and tests specified therein.

Arnhem, 12 December 1995
by order of the board of Directors of N.V. KEMA

C.M. Boschloo
Certification Manager

• This Certificate including the Annex forms an inseparable whole; reproduction in abridged or modified form is not permitted

Description

I/A series Intelligent Temperature Transmitter Type RTT20 KNZ is used to convert the measurement signal from a thermocouple or an RTD into a digital signal or in to an analog signale (4 - 20 mA).
Optionally a digital indicator can be connected.

Ambient temperature range: - 20 °C ... + 70 °C

Electrical data

Supply and output circuit (terminals + and -):

Rated voltage:	24	Vdc
Rated current:	30	mA
Maximum voltage:	30	Vdc
Maximum current:	125	mA
Maximum power:	900	mW

@ T_A = 70 °C for T4
@ T_A = 70 °C for T5
@ T_A = 40 °C for T6

Sensor input circuit (terminals 1 ... 4):

For connection to a passive thermocouple or RTD sensor.

Installation instructions

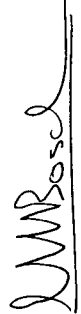
A Temperature Transmitter without enclosure must be mounted in an enclosure providing a degree of protection of at least IP 54 per IEC 529.

The degree of protection of at least IP 54 to IEC 529 is only achieved if cable entries are used that are suitable for the application and correctly installed.
Cable entries must comply with Clause 5.3.2 of BS 6941.

Test documentation

- 1. Description QA-5048/HZ (4 pages)) signed 07.08.1995
- 2. Drawing No. PS10523 (3 sheets))
- 3. Drawings listed in Certificate of Conformity KEMA No. Ex-95.D.4252 X
- 4. Samples

Arnhem, 12 December 1995
by order of the Board of Directors of N.V. KEMA


C.M. Boschloo
Certification Manager

Änderungen vorbehalten - Nachdruck, Vervielfältigung und Übersetzung nicht gestattet. Die Nennung von Waren oder Schriften erfolgt in der Regel ohne Erwähnung bestehender Patente, Gebrauchsmuster oder Warenzeichen. Das Fehlen eines solchen Hinweises begründet nicht die Annahme, eine Ware oder ein Zeichen seien frei.

Subject to alterations - reprinting, copying and translation prohibited. Products and publications are normally quoted here without reference to existing patents, registered utility models or trademarks. The lack of any such reference does not justify the assumption that a product or symbol is free.

FOXBORO ECKARDT GmbH
Postfach 50 03 47
D-70333 Stuttgart
Tel. # 49(0)711 502-0
Fax # 49(0)711 502-597

DOKT 533 956 976

