



T r a n s l a t i o n

**Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin**

(Federal Institute of Physics and Metrology)

- (1) CERTIFICATE OF CONFORMITY
- (2) PTB No. Ex-95.D.2106
- (3) This document has been awarded to the electrical apparatus
Multi-calibrator type Ex-CAL 3000
- (4) of the company ECOM Rolf Nied GmbH
D-97959 Assamstadt
- (5) The design of this electrical apparatus as well as its different permissible variations are stipulated in the appendix to this certificate of conformity.
- (6) The Physikalisch-Technische Bundesanstalt (Federal Institute of Physics and Metrology) certifies as qualified authority according to article 14 of the directive of the European Council dated 18th December 1975 (76/117/EEC) that this electrical apparatus meets the harmonized European standards
Electrical equipment for potentially explosive atmospheres
EN 50 014:1977 + A1...A5 (VDE 0170/0171 Section 1/1.87) General Terms
EN 50 020:1977 + A1...A5 (VDE 0170/0171 Section 7/4.92) Inherent Safety "i"
after the apparatus has successfully passed inspections and testings. The results of the tests are described in the confidential test records.
- (7) The apparatus must be equipped with the following marking:
EEx ia IIC T6
- (8) The manufacturing company is responsible for the fact that the design of each apparatus labelled as per above complies with test records mentioned in the appendix to this certificate and that the prescribed routine check tests have successfully been executed.
- (9) The electrical apparatus may bear the common distinctive mark (stated in this certificate) according to appendix II of the directive of the European Council dated 6th February 1979 (79/196/EEC).

By Order

Braunschweig, 21st September 1995

(Signature)

(Stamp)

Dr.-Ing. Johannsmeyer
Oberregierungsrat

Test documents without signature and official stamp are invalid.
Certificates must be reproduced in full.
Excerpts or alterations must officially be approved by the
Physikalisch-Technische Bundesanstalt
(Federal Institute of Physics and Metrology)

Physikalisch-Technische Bundesanstalt
(Federal Institute of Physics and Metrology)

1st A P P E N D I X
to the Certificate of Conformity PTB No. Ex-95.D.2106

of the company ECOM Rolf Nied GmbH
D-97959 Assamstadt

From this time on the explosion-proof multi-calibrator Ex-CAL 3000 may also be manufactured and operated according to the below mentioned test records.

Modifications concern the internal construction.

Supply (U=9 V) is effected either by 6 pieces primary batteries IEC 285 type LR 14 or by 6 pieces NiCd-accumulators
type 50014, Messrs. VARTA or
type VR2C, Messrs. Saft or
type R14S Messrs. Ansmann.

All further specifications - especially the other electrical data remain unchanged.

Test records

signed on

- | | | |
|----|--------------------------------------|---------------|
| 1. | Supplement to description (22 pages) | 28th May 1997 |
| 2. | Drawing no. | |
| | 015G0600 | 28th May 1997 |
| | 015G0500 | 28th May 1997 |
| | 015G0400 | 28th May 1997 |
| | 015G0700 | 28th May 1997 |
| | 015G2300 | 28th May 1997 |
| | 015G2200 | 28th May 1997 |
| | 015G1800 | 28th May 1997 |
| | 015G1900 | 28th May 1997 |
| | 015G2000 | 28th May 1997 |
| | 015G2100 | 28th May 1997 |
| | 015G1300 | 28th May 1997 |
| | 015F1600 | 28th May 1997 |
| | 015G1400 | 28th May 1997 |
| | 015G1500 | 28th May 1997 |
| | 015G1700 | 28th May 1997 |
| | 015G2400 | 28th May 1997 |
| | 015G2500 | 28th May 1997 |
| | 015G2600 | 28th May 1997 |
| | 015G2700 | 28th May 1997 |
| | 015G2800 | 28th May 1997 |
| | 015G3200 | 28th May 1997 |
| | 015G3100 | 28th May 1997 |
| | 015G3000 | 28th May 1997 |
| | 015G2900 | 28th May 1997 |

By Order

Braunschweig, 15th September 1997

(Signature)
Dr.-Ing. Johannsmeyer
Oberregierungsrat
(stamp)

EEx ia IIC T6



Physikalisch-Technische Bundesanstalt
(Federal Institute of Physics and Metrology)

Appendix to the Certificate of Conformity PTB No. Ex-95.D.2106

Interface-circuitry ... type of protection inherent safety EEx ia IIC T6 resp.
EEx ib IIC
with following maximum values:

$$U_o = 9 \text{ V}$$
$$I_o = 153 \text{ mA}$$

For maximum permissible inductances and capacitances,
please see the following table:

| | EEx ia IIC | EEx ib IIC |
|-------|------------|------------|
| C_o | 720 nF | 7 μ F |
| L_o | 0.5 mH | 1 mH |

Test records

signed on

- Description (29 pages) 3rd February 1995
- Drawing no. ZG50900 30th May 1995
ZG50901 30th May 1995
ZG50903 30th May 1995
ZG50904 30th May 1995
ZG50905 30th May 1995
ZG50906 30th May 1995
ZG50907 30th May 1995
ZG50908 30th May 1995
ZG50909 30th May 1995
ZG50910 30th May 1995
ZG50911 30th May 1995
ZG50912 30th May 1995
ZG50914 30th May 1995
ZG50915 30th May 1995
ZG50916 30th May 1995
ZG50917 30th May 1995
ZG50918 31st July 1995
ZG50919 31st July 1995
ZG50920 31st July 1995
ZG50921 31st July 1995
ZG50922 31st July 1995
ZG50923 31st July 1995
ESV 10A 13 30th May 1995

By Order
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Braunschweig, 21st September 1995

Dr.-Ing. Johannsmeyer
Oberregierungsrat

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Certified English Translation

The translation of the official document issued in German language is TRUE,
CORRECT and COMPLETE to the best of my knowledge.

Sersheim, 6th October 1995


(Signature)

Claudia Salamon, Translator (BDÜ)
Alleenstraße 17/1, 74372 Sersheim, FRG,
Tel: 07042/32984 - Fax: 07042/34663





A P P E N D I X

to the Certificate of Conformity PTB No. Ex-95.D.2106

The multi-calibrator type Ex-CAL 3000 serves the measurement and simulation at thermoelectric cells, PT100-sensors; it serves the measurement of current and voltage and as voltage or current generator.

Electrical Data

Supply U = 9 V; 6 pcs. primary batteries IEC 285 type LR 6 or R6
internal battery resp. 6 pcs. NiCd accumulators
type 751 RS Messrs. VARTA
or type GL 800 AA Messrs. Energizer
or type 500 RL Messrs. Saft
or type P 50 AA Messrs. Panasonic
or type R6S, R6 Superprofi Messrs. Ansmann

Input circuitry type of protection inherent safety EEx ia IIC
with following maximum values:

$$\begin{aligned} U_i &= 65 \text{ V} \\ I_i &= 500 \text{ mA} \\ P_i &= 1000 \text{ mW} \end{aligned}$$

Inner capacitance and inductance are negligibly small.

Output circuitry type of protection inherent safety EEx ia IIC
with following maximum values:

$$\begin{aligned} U_o &= 22.45 \text{ V} \\ I_o &= 78.7 \text{ mA} \end{aligned}$$

For maximum permissible inductances and capacitances, please see the following table:

| | EEx ia IIC | EEx ib IIC |
|-------|------------|------------|
| C_o | 68 nF | 135 nF |
| L_o | 0.5 mH | 5 mH |

RTD-measuring circuitry type of protection inherent safety EEx ia IIC T6 resp.
EEx ib IIC
with following maximum values:

$$\begin{aligned} U_o &= 6.3 \text{ V} \\ I_o &= 2.5 \text{ mA} \end{aligned}$$

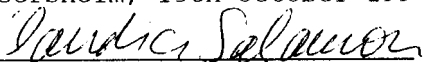
For maximum permissible inductances and capacitances, please see the following table:

| | EEx ia IIC | EEx ib IIC |
|-------|------------|------------|
| C_o | 2 μ F | 40 μ F |
| L_o | 2 mH | 1000 mH |

Certified English Translation

The translation of the official document issued in German language is TRUE, CORRECT and COMPLETE to the best of my knowledge.

Sersheim, 15th October 1997


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