

420-4-17		SHT 1 OF 7	APP'D BY SGA
ISSUE	EDO NO.	APP'D	DATE
A	10-11-94EJC	EJC	10-18-94
1	11-97-211	OJM	12-22-97



**(1) CERTIFICATE OF CONFORMITY**

**(2) KEMA No. Ex-93.C.9958 X**

**(3) This certificate is issued for the electrical apparatus:**

**Level Control Model 408-82 . . . - K . 1 with  
Sensing Element Series 70 . . . . . and  
Cable Type 380 - . . . - 1 .**

**(4) Manufacturer:**

**Drexelbrook Engineering Company  
205 Keith Valley Road  
Horsham, PA 19044  
U.S.A.**

**(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 ... A2, Intrinsic safety "i"**

and has successfully met the examination and test requirements which are recorded in its confidential test report.

**(7) The apparatus marking shall include the code:**

**EEx ia IIC T4 or EEx ia IIC T6 ... T3**

**(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 to the Commission Directive of 16 January 1984 (84/47/EEC).**

**Arnhem, 7 October 1994  
by order of the Board of Directors of N.V. KEMA**

**C.M. Boschloo  
Certification Manager**

**N.V. KEMA**

## ANNEX

to Certificate of Conformity KEMA No. Ex-93.C.9958 X

### Description

The Sensing Elements Series 700 connected by a Cable Type 380 - . . . - 1 . to Level Control Model 408-82 . . - K . 1 are used to indicate the level of a fluid.

The relation between maximum ambient temperature, maximum process temperature and temperature class is shown in the following tables:

#### Probe with integral transmitter

Ambient temperature	Process temperature	Temperature class
$\leq 75 \text{ }^\circ\text{C}$	$\leq 135 \text{ }^\circ\text{C}$	T4

#### Probe with remote transmitter

Transmitter: Temperature class T4 for ambient temperatures  $\leq 75 \text{ }^\circ\text{C}$

#### Probe:

Ambient and Process temperature	Temperature class of probe
$\leq 85 \text{ }^\circ\text{C}$	T6
$\leq 100 \text{ }^\circ\text{C}$	T5
$\leq 135 \text{ }^\circ\text{C}$	T4
$\leq 200 \text{ }^\circ\text{C}$	T3

### Electrical data

#### Transmitter

Supply and signal circuit ..... in type of explosion protection intrinsic safety EEx ia IIC only for connection to a certified intrinsically safe circuit with following maximum values:

$$\begin{aligned}
 U_o &= 30 && \text{V} \\
 I_k &= 100 && \text{mA} \\
 P &= 1 && \text{W}
 \end{aligned}$$

The effective internal capacitance  $C_i = 2,2 \text{ nF}$   
The effective internal inductance is negligibly small.

Probe circuit .....  
(terminal GND, SH, CW)

in type of explosion protection intrinsic safety EEx ia IIC only for connection to a Model 700 series probe (maximum cable length 100 m).

**Certificate of Conformity KEMA No. Ex-93.C.9958 X**

**Electrical data (continued)**

Probes

Probe circuit ..... in type of explosion protection intrinsic safety EEx ia IIC, only for connection to the probe circuit of transmitter Model 408-82 . . - K . 1.

**Special conditions for safe use**

As the intrinsically safe probe circuit is operationally grounded, a potential equalization wire must be installed for the complete intrinsically safe circuit.  
The storage tank is to be included in this potential equalization circuit.

**Test documentation**

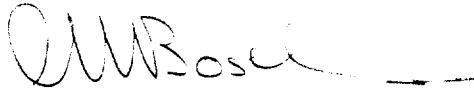
	<u>signed</u>
1. Description (13 pages)	17.05.1994
2. Drawing No. 270-1-912, Rev.4	17.05.1994
270-2-47, Rev.2	17.05.1994
270-101-098, Rev.C	23.08.1994
270-101-099, Rev.C	23.08.1994
270-0002-109, Rev.A	23.08.1994
377-5-1	27.07.1993
377-0001-019, Rev.5	27.07.1993
377-0001-019-CD, Rev.4 (2 sheets)	17.05.1994
377-0001-024, Rev.4 (6 sheets)	17.05.1994
377-1-24-CD, Rev.1	27.07.1993
383-0001-543, Rev.4	17.05.1994
383-0001-544, Rev.5	17.05.1994
408-8200-LM, Rev.1	27.07.1993
420-0004-005, Rev.D	23.08.1994
420-0004-006, Rev.D	23.08.1994
440-17-201, Rev.2 (2 sheets)	27.07.1993
440-1601-947, Rev.4 (6 sheets)	17.05.1994
440-1601-948, Rev.5 (6 sheets)	17.05.1994
418-0001-156, Rev.1	17.05.1994
385-0037-501 (2 sheets)	17.05.1994
899-1812-244, Rev.E	27.07.1993
899-1812-245, Rev.E	27.07.1993
385-0037-001, Rev.1 (3 sheets)	17.05.1994
385-0037-002, Rev.1 (4 sheets)	25.08.1994
899-1812-277, Rev.B	27.07.1993
899-1812-288, Rev.E	27.07.1993
899-1812-290, Rev.A	27.07.1993
899-1812-292, Rev.A	27.07.1993

**Certificate of Conformity KEMA No. Ex-93.C.9958 X****Test documentation (continued)**

Drawing No.	320-0002-032, Rev.1 (3 sheets)	17.05.1994
	320-0002-033, Rev.1 (3 sheets)	17.05.1994
	899-1814-103, Rev.A	27.07.1993
	899-1814-102, Rev.A	27.07.1993
	899-1814-102PL, Rev.A	27.07.1993
	899-1814-264, Rev.A	27.07.1993
	385-0037-005, Rev.1 (4 sheets)	26.08.1994
	899-1814-277, Rev.A	27.07.1993
	899-1814-301, Rev. A (3 sheets)	27.07.1993

Arnhem, 7 October 1994

by order of the Board of Directors of N.V. KEMA



C.M. Boschloo  
Certification Manager

## AMENDMENT 1

to Certificate of Conformity KEMA No. Ex-93.C.9958 X

Manufacturer:

**Drexelbrook Engineering Company**  
**205 Keith Valley Road**  
**Horsham, PA 19044**  
**USA**

### Description

In future the ambient temperature range of the probe with integral or remote transmitter Model 408-82...-K.1 with Sensing Element Series 70.-..... and Cable Type 380-...-1. is -60 °C ... +75 °C.

The coding of the probe with remote transmitter is EEx ia IIC T6 ... T1.

The relation between maximum ambient temperature, maximum process temperature and temperature class for the probe with remote transmitter is shown in the following table:

#### Probe with remote transmitter

Transmitter: Temperature class T4 for ambient temperatures  $\leq 75$  °C.

Probe:

Ambient and process temperature	Temperature class of probe
$\leq 85$ °C	T6
$\leq 100$ °C	T5
$\leq 135$ °C	T4
$\leq 200$ °C	T3
$\leq 300$ °C	T2
$\leq 450$ °C	T1

All other data remain unchanged.

## AMENDMENT 1

to Certificate of Conformity KEMA No. Ex-93.C.9958 X

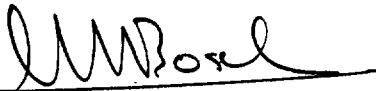
### Test documentation

signed

1. Drawing No. 270-101-98, rev. 4 ) 30.07.1997  
270-101-99, rev. 4 )

Arnhem, 21 August 1997

by order of the Board of Directors of N.V. KEMA



C.M. Boschloo  
Certification Manager

## AMENDMENT 2

to Certificate of Conformity KEMA No. Ex-93.C.9958 X

Manufacturer:

**Drexelbrook Engineering Company**  
**205 Keith Valley Road**  
**Horsham, PA 19044**  
**USA**

**Description**

In future the Level Control Model 408-82..-K.1 with Sensing Element Series 70.-..... and Cable Type 380-...-1. may also be constructed in accordance with the documentation stated below.

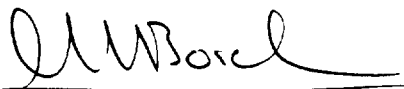
The modification concerns the addition of RFI filter assemblies.

All other data remain unchanged.

**Test documentation**

		<u>signed</u>
1. Drawing No. 401-16-19, rev. 6 (4 sheets)	)	11.06.1997
401-16-20, rev. 5 (3 sheets)	)	07.02.1997
322-1-30, rev. 2	)	03.04.1996
330-1-500, rev. 1	)	29.03.1990

Arnhem, 25 July 1997  
by order of the Board of Directors of N.V. KEMA


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C.M. Boschloo  
Certification Manager