Physikalisch-Technische Bundesanstalt

(1) **Conformity Certificate**

(2) **PTB Nr. Ex- 82/2114**

(3) This certificate concerns the electrical operation equipment

Control Device type FS810

(4) of the company

Hessler Elektronic GmbH

D - 6731 Lindenberg

(5) The make of this electrical operation equipment as well as the different allowable executions are defined in the Annex to this Conformity Certificate.

(6) The Physical-Technical Federal Institution as the Inspecting authority certifies according to Article 14 of the Directive of the Council of the European Communities, dated December 18, 1975 (76/117/EWG) the conformity of this electrical operation equipment with the harmonised European Norms:

Electrical operation equipment for explosion-endangered areas

EN 50 014:1977 + A1 ...A5 (VDE 0170/0171 Teil 1/1.87) General directives
EN 50 020:1977 + A1 ...A5 (VDE 0170/0171 Teil 7/4.92) Intrinsic Safety ‘i’

after the equipment of a certain make has been inspected with success. The results of the inspection are defined in a confidential inspection protocol.

(7) The operation equipment is to be marked with the following mark:

[EEx ib] IIC

(8) The manufacturer is responsible to mark each equipment of this make according to this certificate’s Annex of the inspection documents and that the required piece inspections have passed the testing successfully.

(9) The electrical equipment may be marked with the here printed mutual distinctive mark according to Annex II of the directive of the council, dated 6. February 1979 (79/196/EWG).

In behalf Braunschweig, 24. August 1982

Stamp

Dr.-Ing. Schebsdat
Oberregierungsrat

This is a translation of a certificate. Regard, this translation on its own is not valid.

Physikalisch-Technische Bundesanstalt

Annex
to the Conformity Certificate PTB Nr. Ex-82/2114

The control unit serves to transform switch orders from control current circuit to make circuit.

Electrical details

Mains connection (Terminals 7,8)	24/42/110/220 V 48 ..62 Hz about 2 VA, according to the accomplishment of the mains transformer.
Control circuit (Terminals 1 ..6)	Ignition proction class intrinsic safe EEx ib IIC highest values: $U \leq 16$ V $I \leq 70$ mA $P \leq 280$ mW maximum external inductivity: 6 mH maximum external capacity: 380 nF
Make circuits (Terminals 9,10 and 11, 12 and 13,14,15 and 16,17,18, active switch contacts)	$U \leq 250$ VAC, $I \leq 4$ A, $\cos \varphi \geq 0{,}7$ $U \leq 60$ VDC, $I \leq 0{,}5$ A, L/R = 200 ms

Intrinsic safe control circuit is safe gavanically separated to make circuits as well as to main circuit.

The control unit must be placed outside hazardous area.

Inspection Documents:		Date
1. Description	(17 pages)	19.5.1982
2. Drawing No.	FS 810 10 03	4.6.1982
	FS 810.300.4	7.6.1982
	FS 810.300.4 (St) (2 Blatt)	26.4.1982
	FS 810.400.4	1.6.1982
	FS 810.600.3	2.6.1982
	FS 810.600.4 St	7.6.1982
	FS 810.500.4	1.6.1982
	FS 810.501.4	21.5.1982

In behalf

Braunschweig, 24. August 1982

Stamp

Dr.-Ing. Schebsdat
Oberregierungsrat

This is a translation of a certificate. Regard, this translation on its own is not valid.

Physikalisch-Technische Bundesanstalt

1. Amendment
to the Conformity Certificate PTB Nr. Ex-82/2114

of the company

Hessler Elektronic GmbH
D - 6731 Lindenberg

In future the control device may also be manufactured under the designation of type

FS810-A

according to the inspection documents mentioned below.

The changes refer to the inside built as well as the electrical details of the device.

Electrical details

	For type FS810-A
Control circuit	Ignition proction class intrinsic safe EEx ib IIC highest values: $U \leq 16$ V $I \leq 154$ mA $P \leq 620$ mW maximum external inductivity: 1 mH maximum external capacity: 380 nF

All further details remain unchanged.

Inspection Documents: signed on 14.10.1982

1. Description (4 pages)

2. Drawing No. FS 801.301.4 (ST) (4 pages)
FS 801.301.4
FS 801.200.4
FS 801.101.3
FS 801.402.3

in behalf Braunschweig, 14.12.1982
Stamp

Dr.-Ing. Schebsdat
Oberregierungsrat

[EEX ib] IIC

This is a translation of a certificate. Regard, this translation on its own is not valid.

Physikalisch-Technische Bundesanstalt

2. Amendment
to the Conformity Certificate PTB Nr. Ex-82/2114

of the company

Hessler Elektronic GmbH
D - 6731 Lindenberg

In future the control devices type FS 810 and type FS810-A may also be manufactured using the relay type MZP 002 ..05 of company Maluska Elektronik GmbH instead of the relay of the company E. Haller u. Co.

Inspection documents:

Part certificate PTB Nr. Ex-83/2011 U

in behalf Braunschweig, 15.5.1985

Stamp

Dr.-Ing. Schebsdat
Oberregierungsrat

[EEx ib] IIC

This is a translation of a certificate. Regard, this translation on its own is not valid.

Physikalisch-Technische Bundesanstalt

3. Amendment
to the Conformity Certificate PTB Nr. Ex-82/2114

of the company

Gönnheimer Elektronic GmbH
D - 6730 Neustadt

In future the control device may also be manufactured according to the inspection documents mentioned below.

The changes refer to the the electrical details of the device. They are from now on:

Electrical details

Mains connection (Terminals 7,8)	24/42/110/220/230 V	48 ..62 Hz	about 2 VA, according to the accomplishment of the mains transformer.

All further details remain unchanged.

Inspection Documents:	signed on
1. Description (1 page) (Amendment FS 810 Drawing No.: FS 810.900.4)	07.02.1990
2. Drawing No. FS 810.900.4 (1 page) (Construction survey transformer)	19.02.1991
3. Description (1 page) (Function description FS 810.910.4)	27.03.1991
4. Drawing No. FS 810.960.4 (1 page) (Block diagram)	27.03.1991
5. Drawing No. FS 810.900.4 (1 page) (Test report transformer WED 25/7.5 BV 9001)	07.02.1990
6. Drawing No. FS 810.900.4 (1 page) (Test report transformer WED 25/7.5 BV 9002)	07.02.1990
7. Drawing No. FS 810.900.4 (1 page) (Temperature test transformer)	07.02.1990

in behalf Braunschweig, 16.05.1991

Stamp

Dr.-Ing. Schebsdat
Oberregierungsrat

[EEX ib] IIC

This is a translation of a certificate. Regard, this translation on its own is not valid.

Physikalisch-Technische Bundesanstalt

4. Amendment
to the Conformity Certificate PTB Nr. Ex-82/2114

of the company

Gönnheimer Elektronic GmbH
D - Neustadt

In future the control device FS 810 may also be manufactured according to the inspection documents mentioned below.

The changes refers to the inside built of the device.

Electrical specifications remain unchanged.

Inspection Documents: all signed on 24.10.1994

1. Description (1 page)
2. Drawing No. FS 81010
   FS 810.301.4
3. Part list No. FS 801.301.4 (2 pages)
   FS 810 300

in behalf Braunschweig, 03.02.1995

Stamp

Dr.-Ing. Johannsmeyer
Oberregierungsrat

[EEX ib] IIC

This is a translation of a certificate. Regard, this translation on its own is not valid.