



(Translation)



(1) **EC- TYPE- EXAMINATION CERTIFICATE**

(2) Equipment and protective systems intended for use in potential explosive Atmospheres – **Directive 94/9/EC**

(3) EC- type- examination Certificate number

DMT 99 ATEX E 003

(4) Equipment: pressurized enclosure system type F850S

(5) Manufacturer: Gönzheimer Elektronik GmbH

(6) Address: D- 67433 Neustadt an der Weinstraße
Dr.-Julius-Leberstr. 2

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The DMT – Gesellschaft für Forschung und Prüfung mbH, Zertifizierungsstelle, notified body No. 0158 in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report No. BVS PP 99.2005 EG

(9) Compliance with to essential Health and Safety Requirements has been assured by compliance with:

EN 50 014:1992 (VDE 0170/0171 part 1/3.94) General directives
EN 50 016:1995 (VDE 0170/0171 part 3/5/96) type of protection 'p'
EN 50 019:1994 (VDE 0170/0171 part 6/3.96) Increased Safety 'e'
EN 50 020:1994 (VDE 0170/0171 part 7/4.96) Intrinsic Safety 'i'
EN 50 028:1987 (VDE 0170/0171 part 9/7.88) Moulding 'm'
EN 954-1: 1996 Safety of machines - Safety-related parts of control systems

(10) If the sign "X" is places after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC- type- examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:



II 2 (1) G EEx em [ib] IIC T6

for the control unit

EEx p II

for the controlled housing

DMT- Gesellschaft für Forschung und Prüfung mbH

Essen, den 8. Februar 1999

DMT- Zertifizierungsstelle

Fachbereichsleiter



(Translation)



(13) Annex to

(14) EC- TYPE-Examination CERTIFICATE No.

DMT 99 ATEX E 003

(15) 15.1 pressurized enclosure system type F850S

15.2 Description of equipment

The pressurized enclosure system type F850S serves to build up an explosion proofed electrical apparatus with ex- protection type pressurized enclosure according EN 50016:1995. It contents the control unit FS850S, the operator panel BT851, as well as additional devices.

The system based on the parent type F850 (test report PTB Ex 98-27234). According to the requests of EN 50016:1995 some modifications of the organization of the intrinsic loops were necessary.

The safety of the function "pressurized enclosure system" are proved on base EN 954-1 "Safety of machines - Safety-related parts of control systems". The system is equivalent to category 3 to this norm.

15.3 Electrical details

Mains (Terminals 15 to 18)	230, 220, 120, 110, 24 V AC resp. 24 V DC Safety maximum voltage $U_m = 253$ V																
Valve fuse (Terminals 25/26)	Appropriate valve fuse SI850																
Valve terminals (Terminals 21/22 and 23/24)	Maximum voltage as mains																
Proportional valve terminals (Terminals 19/20)	Maximum voltage as mains																
Relay contacts (Terminals 11/12 and 13/14)	<table border="0"> <tr> <td>AC</td> <td></td> <td>DC</td> <td></td> </tr> <tr> <td>U</td> <td>= 250 V</td> <td>U</td> <td>= 30 V</td> </tr> <tr> <td>I</td> <td>= 5 A</td> <td>I</td> <td>= 5 A</td> </tr> <tr> <td>cos φ</td> <td>= 0,7</td> <td>P</td> <td>= 150 W</td> </tr> </table>	AC		DC		U	= 250 V	U	= 30 V	I	= 5 A	I	= 5 A	cos φ	= 0,7	P	= 150 W
AC		DC															
U	= 250 V	U	= 30 V														
I	= 5 A	I	= 5 A														
cos φ	= 0,7	P	= 150 W														
Intrinsically safe terminals	In protection type intrinsic Safety EEx ib IIC See the highest values of voltage, current and reactance in table below:																



(Translation)



Terminal	U_0	I_0	P_0	L_0	C_0
1,9	8,61 V	51 mA	110 mW	10 mH	2 μ H
4	8,61 V	10 mA	22 mW	10 mH	2 μ H
3	8,61 V	20 mA	44 mW	10 mH	2 μ H
5, 6, 10	8,61 V	6 mA	13 mW	10 mH	2 μ H
2	Ground				

All intrinsically safe current circuits (terminal 1 to 10) are safe galvanically separated up to a nominal voltage of 375 V to every remaining current circuit.

The maximum ambient temperature is 45°C in temperature class T6 and 60°C in the temperature class T5.

(16) Test report

Report No. BVS PP 99.2005 EG

11 pages

(17) Special conditions for the same application

The test of the pressurized housing with the definition of the pneumatic parameters, as well as the temperature class has to be considered in a separate certification.



(Translation)



1. Amendment

(completion according to the guideline 94/9/EC addition III digit 6)

to EC- TYPE- EXAMINATION CERTIFICATE DMT 99 ATEX E 003

Equipment: pressurized enclosure system type F850S

Manufacturer: Gönzheimer Elektronik GmbH

Address: D- 67433 Neustadt an der Weinstraße

Description:

The pressurized enclosure system type F850S can also be manufactured according to the examination protocol which are listed in the associated examination certificate. The marking does not change. The changed pressureband will be noted on the type plate.

The basic safety- and health demands of the changed construction are fulfilled in accordance to:

EN 50014:1992 (VDE 0170/0171 part 1/3.94)	general directives
EN 50016:1995 (VDE 0170/0171 part 3/5/96)	type of protection ,p'
EN 50019:1994 (VDE 0170/0171 part 6/3.96)	increased Safety 'e'
EN 50020:1994 (VDE 0170/0171 part 7/4.96)	intrinsic Safety 'i'
EN 50028:1987 (VDE 0170/0171 part 9/7.88)	moulding 'm'
EN 954-1:1996 safety of machines - safety-related parts of control systems	

Examination certificate:

BVS PP 99.2005 EC, date 07.07.2003

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, den 07. Juli 2003

Zertifizierungsstelle

Fachbereich



(Translation)



2. Amendment

(completion according to the guideline 94/9/EC addition III digit 6)

to EC- TYPE- EXAMINATION CERTIFICATE DMT 99 ATEX E 003

Equipment: pressurized enclosure system type F850S and type F860S

Manufacturer: Gönzheimer Elektronik GmbH

Address: D- 67433 Neustadt an der Weinstraße

Description:

The pressurized enclosure system type F850S can also be manufactured according to the examination protocol which are listed in the associated examination certificate. The system is expanded with the type F860S with a bigger flowrate for the flushing. The pressurized enclosure system type F850S also fits the categorie 2D.

The basic safety- and healthdemands of the changed construction are fulfilled in accordance to:

EN 50014:1997-A1-A2	general directives
EN 50016:2002	type of protection ,p'
EN 50019:2000	increased Safety 'e'
EN 50020:2000	intrinsic Safety 'i'
EN 50028:1987	moulding 'm'
EN 954-1:1996	safety of machines - safety-related parts of control systems
	part 1: general designing maxims
IEC 61241-0:2004	general terms
IEC 61241-1:2004	safety through case 'tD'
31H/171/CDV 2004	intrinsic equipment 'iD'
(draft IEC 61241-11)	

The marking of the equipment shall include the following:

for the control unit type FS850S:

II 2G EEx em [ib] [p] IIC T6	$-20^{\circ} \text{ C} \leq T_A \leq 45^{\circ} \text{ C}$
II 2G EEx em [ib] [p] IIC T4	$-20^{\circ} \text{ C} \leq T_A \leq 60^{\circ} \text{ C}$
II 2D Ex tD [ibD] [pD] IP 65 T 70°C	$-20^{\circ} \text{ C} \leq T_A \leq 60^{\circ} \text{ C}$

for the operate tableau BT 851 :

II 2G Eex ib IIC T6
II 2D Ex ibD T 80°C



(Translation)



for the control unit type FS860S :

II 2G EEx em [ib] [p] IIC T6

$-20^{\circ} \text{ C} \leq T_A \leq 45^{\circ} \text{ C}$

II 2G EEx em [ib] [p] IIC T4

$-20^{\circ} \text{ C} \leq T_A \leq 60^{\circ} \text{ C}$

Special conditions for the save application:

Not applicable

Examination certificate:

BVS PP 99.2005 EC, date 03.06.2005

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, den 03. Juni 2005

Zertifizierungsstelle

Fachbereich