

Translation

(1) Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 94/9/EC
- (3) No. of Type Examination Certificate: **BVS 15 ATEX E 048 X**
- (4) Equipment: **Control unit for pressurised enclosure systems types FS830/FS840**
- (5) Manufacturer: **Gönnheimer Electronic GmbH**
- (6) Address: **Dr.-Julius-Leber-Str. 2, 67433 Neustadt/W, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of category 3 intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 15.2073 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with

EN 60079-0:2012+A11:2013	General requirements
EN 60079-2:2014	Pressurised Enclosure "p"
EN 60079-11:2012	Intrinsic Safety "i"
EN 60079-15:2010	Type of Protection "n"
EN 60079-31:2014	Protection by Enclosure "t"

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 3G Ex nA nC ic [pzc] IIC T6 Gc; T_a = 40°C
II 3G Ex nA nC ic [pzc] IIC T5 Gc; T_a = 60°C

II 3D Ex tc ic [pzc] IIIB T85°C Dc; T_a = 60°C
II 3D Ex tc ic [pzc] IIIC T85°C Dc; T_a = 60°C

DEKRA EXAM GmbH
Bochum, dated 2015-06-09

Signed: Christian Simanski

Certification body

Signed: Ute Hauke

Special services unit

- (13) Appendix to
 (14) **Type Examination Certificate**
BVS 15 ATEX E 048 X
 (15) 15.1 Subject and type

Control unit for pressurised enclosure system types FS830 / FS840

15.2 Description

The pressurised enclosure system of types FS830 and FS840 are used to construct explosion-protected equipment for the type of protection Pressurised Enclosure according to EN/IEC 60079-2 and EN/IEC 60079-31. The control unit FS840.*.* is fitted with an enclosure and an integrated outlet valve; the control unit FS830.*.* is open at the rear and intended for installation at a front plate.

Type code

Control unit FS840.*.*

	.*	.*
Mains voltage:		
230 V AC.....	.0	
115 V AC.....	.2	
24 V DC.....	.6	
Pressure measuring range:		
standard 0-18mbar.....		.0
extended 0-27mbar.....		.1

Steuergerät FS830.*.*

	.*	.*
Mains voltage:		
230 V AC.....	.0	
115 V AC.....	.2	
24 V DC.....	.6	
Pressure measuring range:		
standard 0-18mbar.....		.0
extended 0-27mbar.....		.1

Air outlet LA830

	.*
Type:	
diameter 40 mm.....	.0
diameter 16 mm.....	.1

15.3 Parameters

FS840.*.* and FS830.*.*

Terminal	Voltage	Current	Power	Comment
1, 2	U _m = 250 V AC U _m = 250 V AC U _m = 30 V DC	I _m = 5 A at AC1 I _m = 1.2 A at AC15 I _m = 5 A at DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
3, 4	U _m = 250 V AC U _m = 250 V AC U _m = 30 V DC	I _m = 5 A at AC1 I _m = 1.2 A at AC15 I _m = 5 A at DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
5, 6				Purge valve connection
7/8, 9/10	U _n = 230 V AC U _n = 115 V AC U _n = 24 V DC			Power supply



(16) Test and assessment report

BVS PP 15.2073 EG, as of 2015-06-09

(17) Special conditions for safe use

The examination of the pressurised enclosure defining the pneumatic parameters and the temperature class requires a separate certification.

The bypass shall only be actuated if there is no risk that explosive atmosphere will occur.

All cables have to be installed as permanent cables.

The purge valve has to be suitable for use in explosive atmospheres in which category 3 equipment is operated and for the conditions applicable at the place of use. A fuse that is suitable for use together with the purge valve can be installed upstream in the control unit of types FS840.*.* or FS830.*.*.

Where FS830.*.* is installed, the following degrees of ingress protection are required:

IP54 at applications for II 3G;

IP6X at applications for II 3D for equipment group IIIC, and

IP5X at applications for II 3D for equipment group IIIB.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 2017-09-11
BVS-Alh/Ar E 7206/17

Certification body

Special services unit

Translation

Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 15 ATEX E 048 X**

Product: **Control unit for pressurised enclosure systems types FS830 / FS840**

Manufacturer: **Gönnheimer Elektronik GmbH**

Address: **Dr.-Julius-Leber-Str. 2, 67433 Neustadt an der Weinstraße, Germany**

This supplementary certificate extends Type Examination Certificate No. BVS 15 ATEX E 048 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

DEKRA EXAM GmbH certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential Report No. BVS PP 15.2073 EU.

The Essential Health and Safety Requirements are assured in consideration of:

EN 60079-0:2012+A11:2013	General requirements
EN 60079-2:2014	Pressurised Enclosure “p”
EN 60079-11:2012	Intrinsic Safety “i”
EN 60079-15:2010	Type of Protection “n”
EN 60079-31:2014	Protection by Enclosure “t”

If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

 II 3G Ex nA nC ic [pzc] IIC T6 Gc; T_a = 40°C
II 3G Ex nA nC ic [pzc] IIC T5 Gc; T_a = 60°C
II 3D Ex tc ic [pzc] IIIB T85°C Dc; T_a = 60°C
II 3D Ex tc ic [pzc] IIIC T85°C Dc; T_a = 60°C

DEKRA EXAM GmbH
Bochum, 2018-09-04

Signed: Jörg Koch

Certifier

Signed: Dr Michael Wittler

Approver

13 **Appendix**

14 **Type Examination Certificate**

**BVS 15 ATEX E 048 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Control unit for pressurised enclosure system types FS830 / FS840

15.2 **Description**

With this supplement the certificate is changed to Directive 2014/34/EU.
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

The pressurised enclosure system of types FS830 and FS840 are used to construct explosion-protected equipment for the type of protection Pressurised Enclosure according to EN/IEC 60079-2 and EN/IEC 60079-31. The control unit FS840.*.* is fitted with an enclosure and an integrated outlet valve; the control unit FS830.*.* is open at the rear and intended for installation at a front plate.

Reason for the supplement:

The type designation was changed. For the AC model there is only one design with AC/DC module-type power supply and 90 V to 230 V power supply range.

The DC/DC converter for the 24 V_{DC} model was changed.

Digital inputs are added.

Change of components and layout.

15.3

Type designation

Control unit FS840.*.*

Mains voltage:		*	*
24 V _{DC}6		
90 V to 230 V _{AC}8		
Pressure measurement range:			
Standard 0 - 18 mbar.....	.0		
Extended 0 - 27 mbar.....	.1		

Control unit FS830.*.*

Mains voltage:		*	*
24 V _{DC}6		
90 V to 230 V _{AC}8		
Pressure measurement range:			
Standard 0 - 18 mbar.....	.0		
Extended 0 - 27 mbar.....	.1		

Air exhaust LA830

Design:		*	*
Diameter 40 mm.....	.0		
Diameter 16 mm.....	.1		

15.4

Parameters

FS840.*.*

Terminal	Voltage	Current	Power	Remark
1, 2	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
3, 4	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
5, 6				Contact for the flush medium valve
7/8, 9/10	U _n = 90 V to 230 V _{AC} U _n = 115 V _{AC} U _n = 24 V _{DC}		P _n < 1.5 W	Supply
11/12	For connection of passive contacts inside of Ex p enclosure			Switch input



FS830.**

Terminal	Voltage	Current	Power	Remark
1, 2	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
3, 4	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
5, 6				Contact for the flush medium valve
7/8, 9/10	U _n = 90 V to 230 V _{AC} U _n = 115 V _{AC} U _n = 24 V _{DC}		P _n < 1.5 W	Supply
11/12/13				PE
14/15	For connection of passive contacts inside of Ex p enclosure			Switch input

16 **Report Number**

BVS PP 15.2073 EU, as of 2018-09-04

17 **Special Conditions for Use**

The examination of the pressurised enclosure defining the pneumatic parameters and the temperature class requires a separate certification.

The bypass shall only be actuated if there is no risk that explosive atmosphere will occur.

All cables have to be installed as permanent cables.

The purge valve has to be suitable for use in explosive atmospheres in which Category 3 equipment is operated and for the conditions applicable at the place of use. A fuse that is suitable for use together with the purge valve can be installed upstream in the control unit of types FS840.** or FS830.**.

Where FS830.** is installed, the following degrees of ingress protection are required:

IP54 at applications for II 3G;

IP6X at applications for II 3D for equipment Group IIIC, and

IP5X at applications for II 3D for equipment Group IIIB.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-09-04
BVS-AIh/Mu A20170853

Certifier

Approver



Translation

Type Examination Certificate Supplement 2

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

Type Examination Certificate Number: **BVS 15 ATEX E 048 X**

Product: **Control unit for pressurised enclosure systems types FS830 / FS840**

Manufacturer: **Gönnheimer Elektronik GmbH**

Address: **Dr.-Julius-Leber-Str. 2, 67433 Neustadt an der Weinstraße, Germany**

This supplementary certificate extends Type Examination Certificate No. BVS 15 ATEX E 048 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any variations specified in the appendix attached to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential Report No. PP 15.2073 EU.

The Essential Health and Safety Requirements are assured in consideration of:

EN 60079-0:2012 + A11:2013	General requirements
EN 60079-2:2014	Pressurised Enclosure "p"
EN IEC 60079-7:2015 + A1:2018	Increased Safety "e"
EN 60079-11:2012	Intrinsic Safety "i"
IEC 60079-15:2017	Type of Protection "n"
EN 60079-31:2014	Protection by Enclosure "t"

Except in respect of those requirements listed under item 18 of the appendix.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

 II 3G Ex ec nC ic [pzc] IIC T6 Gc; T_a = 40°C
II 3G Ex ec nC ic [pzc] IIC T5 Gc; T_a = 60°C

 II 3D Ex tc ic [pzc] IIIB T85°C Dc; T_a = 60°C
II 3D Ex tc ic [pzc] IIIC T85°C Dc; T_a = 60°C

DEKRA Testing and Certification GmbH
Bochum, 2019-07-29

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**

14 **Type Examination Certificate**

**BVS 15 ATEX E 048 X
Supplement 2**

15 **Product description**

15.1 **Subject and type**

Control unit for pressurised enclosure systems type FS830 / FS840

15.2 **Description**

The pressurised enclosure system of types FS830 and FS840 are used to construct explosion-protected equipment for the type of protection Pressurised Enclosure according to EN/IEC 60079-2 and EN/IEC 60079-31. The control unit FS840.*.* is fitted with an enclosure and an integrated outlet valve; the control unit FS830.*.* is open at the rear and intended for installation at a front plate.

Reason for the supplement:

The model type with polyester housing was added. The type key was extended. The device was tested in accordance to the standards listed on page 1. The marking was modified in accordance to the standards.

15.3 **Type designation**

Control unit FS840	*	*	*
Mains voltage:			
24 V DC.....	.6		
90 V to 230 V AC.....	.8		
Pressure measurement range:			
Standard 0 - 18 mbar.....		.0	
Extended 0 - 27 mbar.....		.1	
Housing material:			
Aluminium.....			.0
Polyester.....			.1
Control unit FS830	*	*	
Mains voltage:			
24 V DC.....	.6		
90 V bis 230 V AC.....	.8		
Pressure measurement range:			
Standard 0 - 18 mbar.....		.0	
Extended 0 - 27 mbar.....		.1	
Air exhaust LA830	*		
Design:			
Diameter 40 mm.....		.0	
Diameter 16 mm.....		.1	

15.4 Parameters

FS840.*.*

Terminal	Voltage	Current	Power	Remark
1, 2	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
3, 4	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
5, 6				Contact for the flush medium valve
7/8, 9/10	U _n = 90 V to 230 V _{AC} U _n = 115 V _{AC} U _n = 24 V _{DC}		P _n < 1.5 W	Supply
11/12	For connection of passive contacts inside of Ex p enclosure			Switch input

FS830.*.*

Terminal	Voltage	Current	Power	Remark
1, 2	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
3, 4	U _m = 250 V _{AC} U _m = 250 V _{AC} U _m = 30 V _{DC}	I _m = 5 A for AC1 I _m = 1.2 A for AC15 I _m = 5 A for DC1	P _m = 1500 VA P _m = 300 VA P _m = 150 W	Signal contact 1
5, 6				Contact for the flush medium valve
7/8, 9/10	U _n = 90 V to 230 V _{AC} U _n = 115 V _{AC} U _n = 24 V _{DC}		P _n < 1.5 W	Supply
11/12/13				PE
14/15	For connection of passive contacts inside of Ex p enclosure			Switch input

16 Report Number

BVS PP 15.2073 EU, as of 2019-07-29

17 Special Conditions for Use

The examination of the pressurised enclosure defining the pneumatic parameters and the temperature class requires a separate certification.

The bypass shall only be actuated if there is no risk that explosive atmosphere will occur.

All cables have to be installed as permanent cables.

The purge valve has to be suitable for use in explosive atmospheres in which Category 3 equipment is operated and for the conditions applicable at the place of use. A fuse that is suitable for use together with the purge valve can be installed upstream in the control unit of types FS840.*.* or FS830.*.*.

Where FS830.** is installed, the following degrees of ingress protection are required:
IP54 at applications for II 3G;
IP6X at applications for II 3D for equipment Group IIIC, and
IP5X at applications for II 3D for equipment Group IIIB.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

For this product the standard IEC 60079-0:2017 Ed. 7.0 is equivalent to the harmonized standard EN 60079-0:2012 + A11:2013 in terms of safety.

For this product the standard IEC 60079-15:2017 is equivalent to the harmonized standard EN 60079-15:2010 in terms of safety.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2019-07-29
BVS-Alh/Mu A 20190390



Managing Director