

Translation

EU-Type Examination Certificate

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

EU-Type Examination Certificate Number: **BVS 19 ATEX E 015 X**

Product: **Ex p control unit
type 07-37A2-*1*1/**** APEX ^{py} and 07-37A2-*2*1/**** APEX ^{px}**

Manufacturer: **BARTEC GmbH**

Address: **Max-Eyth-Str. 16, 97980 Bad Mergentheim, Germany**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 19.2070 EU.





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

EN 60079-0:2012 + A11:2013	General requirements
EN 60079-2:2014	Pressurized enclosure "p"
EN 60079-7:2015	Increased Safety "e"
EN 60079-11:2012	Intrinsic Safety "i"
EN 60079-18:2015	Encapsulation "m"
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 EU-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 2(1)G Ex eb mb ib [ib pxb] [ia Ga] IIC T* Gb II 2(1)D Ex tb [ib pxb] [ia Da] IIIC T*°C Db	APEX ^{px} Stainless steel enclosure
	II 2(1)G Ex eb mb ib [ib pyb] [ia Ga] IIC T* Gb II 2(1)D Ex tb [ib pyb] [ia Da] IIIC T*°C Db	APEX ^{py} Stainless steel enclosure
	II 2(1)G Ex eb mb ib [ib pxb] [ia Ga] IIC T* Gb	APEX ^{px} Polyester enclosure
	II 2(1)G Ex eb mb ib [ib pyb] [ia Ga] IIC T* Gb	APEX ^{py} Polyester enclosure

* See clause Parameters for details about the temperatures

DEKRA Testing and Certification GmbH
Bochum, 2019-05-27

Signed: Jörg-Timm Kilisch

Managing Director



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15 Product description

15.1 Subject and type

Ex p control unit type 07-37A2-abc1/def (APEX)

<u>Item</u>	<u>Description</u>
a	Enclosure material
1	Stainless steel V2A
2	Stainless steel V4A
3	Polyester
b	Ex p function
1	Ex py (APEX ^{py})
2	Ex px (APEX ^{px})
c	Pressure range
1	0 up to 25 mbar
2	0 up to 300 mbar
d	Power supply
1	DC (wide range)
2	AC (wide range)
e	Variant without influence to explosion protection
ff	Variant without influence to explosion protection

15.2 Description

The Ex p control unit type 07-37A2-***1/**** (APEX) consists either of a of a separately certified empty enclosure (stainless steel) of type 07-56*1-****/**** with certificate IBExU 99 ATEX 1118 U or a separately certified empty enclosure (polyester) of type 07-5185-****/**** with certificate PTB 08 ATEX 1062 U and an installed control unit type 17-5112-***0/**** with certificate BVS 19 ATEX E 018 U.

Depending on the configuration the size of the separately certified enclosures varies as well as the number of built in components / equipment.

The control unit type 17-5*12-****/**** with certificate BVS 19 ATEX E 018 U is responsible for the Ex p controlling function.

For the configuration and for the monitoring of the system a separately certified control panel of 17-51P5-*111/**** with certificate BVS 19 ATEX E 017 X can be connected to the terminals of the Ex p control unit.

Optional a separately certified space heater can be installed inside the enclosure for the variant MPC for low ambient temperatures between $-50\text{ °C} \geq T_{\text{amb, min}} > -20\text{ °C}$. Two separately certified thermostats are used for control. One thermostat is responsible for the temperature range where the space heater is on, the second thermostat is responsible for the temperature range where the Ex p control unit can be on.

Depending on local requirements there are variations of the Ex p control unit possible:

Variant 1

Only the certified Ex p electronic block is installed inside the enclosure. The whole measuring and monitoring components are connected to the electronic block by use of the intrinsically safe circuits.

Variant 2

The pressure sensor PCB is integrated into the same enclosure as the Ex p electronic block. The hoses are led into the enclosure by use of sockets in the enclosure wall.

Variant 3

For equipment which require a high volume flow the Ex p control unit is designed as motor purge control or other customer adjusted variants.

The used valves are separately certified and can either be installed near the Ex p equipment connected to the Ex p control unit or can be installed in an optional add-on enclosure. The add-on enclosure is the same certified enclosure which is used for the Ex p control unit but with modifications not in the scope of the related certificate. This enclosure is only used for mechanical protection of the separately certified built-in equipment and for better installation purposes.

15.3 Parameters

Thermal parameters

Type	Variants	Range T _{amb}	T _{class}	T _{Surface}
07-37A2-***1/****	Standard	-25 °C up to 50 °C	T5	T95 °C
		-25 °C up to 60 °C	T4	T130 °C
	With flange protective housing cf, dp, mv	-25 °C up to 50 °C	T4	T130 °C
07-37A2-***1/*M**	MPC standard	-25 °C up to 50 °C	T4	T130 °C
	MPC with space heater	-50 °C up to 50 °C	T4	T130 °C

Electrical parameters

Power supply		
Rated voltage type 07-37A2-***1/1***	24 up to 44 ± 10 %	VDC
maximum input voltage U _m type 07-37A2-***1/1***	48.4	VDC
Rated current type 07-37A2-***1/1***	11.5	A
Rated voltage type 07-37A2-***1/2***	100 up to 230 ± 10 %	VAC
maximum input voltage U _m type 07-37A2-***1/2***	253	VAC
Rated current type 07-37A2-***1/2***	11.0	A

Ethernet-Interface

Maximum input voltage U_m = 60 V AC/DC

Switching contacts type 07-37A2-***1/****		
For all types maximum switching voltage U _m = 250 VAC / 24 VDC		
Relay K1 (SIL)	250 VAC	5 A
	24 VDC	5 A
Relay K2 (SIL)	250 VAC	3 A
	24 VDC	3 A
Relay K3	250 VAC	1 A
	24 VDC	1 A
Relay K4	250 VAC	1 A
	24 VDC	1 A

Valve control circuit			
Purge valve	Signal form	I/O or PWM	
	Voltage	24	VDC
Exhaust valve	Signal form	I/O or PWM	
	Voltage	24	VDC

Intrinsically safe interfaces

Temperature sensor outputs, intrinsically safe ib Terminal blocks X9, X14, X16

per terminal block:

Maximum output voltage	U_o	DC	18	V
Maximum output current	I_o		150	mA
linear output characteristic				
Maximum connectable capacity	C_o		97	nF
Maximum connectable inductance	L_o		1.4	mH

HMI connection, intrinsically safe ib Terminal block X17

Maximum output voltage	U_o	DC	3.61	V
Maximum output current	I_o		1	A
Maximum stationary output current			350	mA
Maximum output power	P_o		1.25	W
Maximum connectable capacity	C_o		89	uF
Maximum connectable inductance	L_o		36	uH

4-20 mA interface, intrinsically safe ia Terminal block X13

Maximum output voltage	U_o	DC	27	V
Maximum output current	I_o		91	mA
Maximum output power	P_o		615	mW
Maximum connectable capacity	C_o		70	nF
Maximum connectable inductance	L_o		1	mH

4-20 mA interface, intrinsically safe ib Terminal block X15

Maximum output voltage	U_o	DC	27	V
Maximum output current	I_o		114	mA
Maximum stationary output current			53	mA
Maximum output power	P_o		1.34	W
Maximum connectable capacity	C_o		70	nF
Maximum connectable inductance	L_o		1	mH

Pneumatic parameters

<u>Type 07-37A2-*2*1/**** (APEX PX)</u>			
Measuring range (07-37A2-*211/****)		0-25	mbar
Measuring range (07-37A2-*221/****)		0-300	mbar

<u>Type 07-37A2-*1*1/**** (APEX PY)</u>			
Measuring range (07-37A2-*111/****)		0-25	mbar
Measuring range (07-37A2-*121/****)		0-300	mbar

16 **Report Number**

BVS PP 19.2070 EU, as of 2019-05-27

17 **Special Conditions for Use**

Overvoltage Category II of the non-intrinsically safe circuits according to IEC 60664-1 has to be kept.

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 Testing and Certification GmbH
Bochum, 2019-05-27
BVS-Alh/Mu A 20140327



Managing Director