

THE CUSTOMS UNION

CERTIFICATE OF CONFORMITY EAC

No. TC RU C-GB.ГБ08.B.02015

Series RU No. 0408349

PRODUCTS CERTIFICATION BODY OF THE EXPLOSION-PROOF EQUIPMENT OF THE CLOSED JOINT-STOCK COMPANY OF TECHNICAL MEASUREMENTS, SAFETY, AND DEVELOPMENTS (CB of EPE of TIBER, CJSC). Registered address of the Certification Body: 8 Ordzonikidze St., Novomoskovsk, 301668, Tula Region, Russia; 1 Gornospasatel'naya St., Bl. A, Donskoy, 301760, Tula Region, Russia. Telephone/fax: 8 (495) 280-16-56, e-mail: pmv@tiber.ru, info@tiber.ru. Registration number RA.RU.11ГБ08, date of registration of the Accreditation certificate of the Certification Body 01.04.2016. Accreditation body that issued the Accreditation certificate – Federal Service for Accreditation (Rosakkreditatsiya)

APPLICANT World Wide Gost, LIMITED LIABILITY COMPANY, OGRN (Primary State Registration Number) 1107746695814. Location, including the actual address: 2/4 naberezhnaya Luzhnetskaya, Bl. 3, Office 104, Moscow, 119270, Russia. Telephone: +74957878770, Fax: +74957878770. E-mail: order@worldwidegost.com

MANUFACTURER Abtech Limited

Location, including the actual address: 199-201 Newhall Road, Lower Don Valley, Sheffield, South Yorkshire, S9 2QJ, UK. The list of the products manufacturers, covered by this Certificate of conformity, is provided in the Appendix hereto, form No. 0286954

PRODUCTS BPG, SX series explosion-proof boxes,
produced in accordance with Directive 2014/34/EU
Serial production.

HS Code of the CU 8536 90 010 0

MEETS THE REQUIREMENTS OF the Customs Union Technical Regulations “On the safety of equipment operating in explosive environments” (CU TR 012/2011)

THE CERTIFICATE ISSUED ON THE GROUND OF Test Report No. 1953/1952-Ex dated 04.05.2016 of the Test laboratory of explosion-proof equipment of the Test Center of Technical Measurements, Safety, and Developments, Closed Joint-Stock Company, registration number of the Accreditation certificate RA.RU.21ГБ08, date of the accredited party registration into the registry 03.03.2016. Manufacturer’s production state analysis act No. 1952/ACII dated 12.09.2016. Manufacturer’s technical documentation.

ADDITIONAL INFORMATION See the Appendix to this Certificate for the storage conditions and terms, operating life (useful life). The information on the products identification is provided in the Appendix hereto. The Certificate is valid only with the Appendix (forms No. 0286954, 0286955, 0286956, 0286957, 0286958, and 0286959).

PERIOD OF VALIDITY SINCE 28.09.2016 **UNTIL AND INCLUDING** 27.09.2021

Seal: Certification Body of the explosion-proof equipment of the closed joint-stock company, MOSCOW, Test Center of Technical Measurements, Safety, and Developments, TIBER, OGRN (Primary State Registration Number) 5077746702801, INN (Taxpayer’s ID) 7748641335

Head (authorized person) of the certification body

/signed/
signature

D. S. Podsevalov
initials, surname

Expert(s) (expert auditor(s))

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M. V. Ponomarev
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APPENDIX
TO THE CERTIFICATE OF CONFORMITY No. TC RU C-GB.ГБ08.B.02015
 Series RU No. 0286954

List of the products manufacturers, covered by this Certificate of conformity:

Full name of the products manufacturers	Address
Abtech Limited	199-201 Newhall Road, Lower Don Valley, Sheffield, South Yorkshire, S9 2QJ, UK
Dongyang Industries Electric Co., Ltd	23, Maegokindustry 1-Gil, Buk-Gu, Ulsan-City, Korean Republic

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 Series RU No. 0286955

1. Purpose and scope of use

BPG series explosion-proof boxes (BPG types without antistatic properties and BPGC with antistatic properties) and SX (MSX types low-carbon steel and SSX stainless steel) (hereinafter referred to as the boxes) are designed for connection and switching of electrical circuits, as well as for use in the capacity of housings for placing electrical elements/products.

The boxes are designed for use in explosive gas environments and explosive dust environments in accordance with the assigned marks.

2. Description of design and means for explosion protection provision

BPG series boxes are produced on the basis of BPG housings (manufactured as Ex-component), equipped with terminals (or other explosion-proof devices). The housing is made of glass-fiber reinforced polyester with or without antistatic protection. The housing consists of the main housing with a removable or hinged cover, which is fixed with the help of captive screws. All the housings are equipped with silicone gaskets.

SX series explosion-proof boxes are housings (manufactured as Ex-component), equipped with terminals (or other explosion-proof devices). The housing is made of steel. All the housings are equipped with silicone gaskets.

Explosion protection is provided by the compliance of the equipment with the requirements of the GOST R IEC 60079-0-2011, GOST R IEC 60079-7-2012, GOST R IEC 60079-11-2010, GOST IEC 60079-31-2013, GOST 31610.26-2012, GOST 31610.28-2012.

3. Special conditions of use (if "X" is specified among the explosion protection marks)**3.1. BPG series boxes**

3.1.1. When mounting a box as a piece of equipment with the explosion protection level Da, the power supply source should be rated for the short circuit current of not more than 10 kA.

3.1.2. The boxes should be used at the temperatures ranging from minus 65°C to plus 90°C.

3.1.3. The boxes without antistatic protection should be used only for stationary units. In order to exclude the possibility of an electrostatic charge generating on the surface, the cleaning should be carried out only with the help of a damp cloth.

3.1.4. If the boxes are equipped with plugs, adapter connectors, adapters, and breather valves, the following should be provided:

- the devices do not exert a negative influence onto the box protection class;
- the devices do not have any special conditions of use that worsen the operation conditions (for example, cable entries "with low impact strength"), however, if there are such conditions of use, "the worst case" should be specified on the marking label;
- the user should provide conditions for the devices to be used within the limits of the maximum and minimum temperature range;
- the user should have copies of the certificates, confirming the safety of the devices in the explosion hazard zone.

3.1.5. Minimum leakage paths and clearances should comply with the requirements.

3.1.6. The grounding wire should comply with the requirements of the GOST R IEC 60079-0-2011.

3.1.7. When using a sealant (for threaded connections), it is necessary to make sure that the temperature range of use complies with the required one.

3.1.8. Bolts, nuts, and washers for grounding connection should not be made of light metals.

3.1.9. The terminals should comply with the following requirements:

Temperature class/maximum temperature of the box surface	Temperature limits for insulation of the terminals
T6/T85°C	100°C
T4/T100°C	130°C

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 Series RU No. 0286956

3.2. SX series explosion-proof boxes

3.2.1. When using Ex ia, Ex ib, and Ex ta, it is necessary to take into account the fault requirements for the explosion protection level:

- for Ex ia when introducing two considered faults
- for Ex ib and Ex ta when introducing one considered fault.

3.2.2. When using Ex ia and Ex ib, the installation of the heater (for protection against condensation) is possible only in the case if the assembly allows preservation of separation of not less than 50 mm.

3.2.3. When using “Ex op pr”, the cable outside the box should be placed in such a way that it will exclude any type of mechanical damage.

3.2.4. When using “Ex op is”, the connected external devices should comply with and should be certified in accordance with the standard GOST 31610.28-2012.

3.2.5. When using “Ex e op pr”, the connectors, designed for connection of the fiber-optic lines, should not be connected and disconnected under voltage if it is possible that there is an explosion hazard environment.

3.2.6. When choosing connectors (for connection of the fiber-optic lines), it is necessary to pay attention to the compliance with the explosion protection level.

3.2.7. The fiber-optic lines should be protected against breakdowns and the connectors should meet the requirements of the standard GOST 31610.28-2012.

4. Marks

The marks, placed onto the equipment, should include the following data:

4.1. Name of the manufacturer or its registered trademark;

4.2. Designation of the equipment type.

The standard dimensions are specified in the table and the coding for the non-standard ones is the following:

BPG XXXxYYYxZZZ or BPGC XXXxYYYxZZZ, where:

XXX = weight

YYY = height

ZZZ = depth

MSX XXXxYYYxZZZ or SSX XXXxYYYxZZZ, where:

XXX = weight

YYY = height

ZZZ = depth

4.3. Serial number of the equipment in accordance with the manufacturer's numbering system;

4.4. Name and mark of the Certification Body and number of the Certificate of conformity;

4.5. Explosion protection marks

4.5.1. BPG series explosion-proof boxes

1Ex e IIC T6 Gb X (minus 65°C≤Tamb≤+*°C)	or	0Ex ia IIC T6 Ga X (minus 65°C≤Tamb≤+*°C)
1Ex e IIC T5 Gb X (minus 65°C≤Tamb≤+*°C)		0Ex ia IIC T5 Ga X (minus 65°C≤Tamb≤+*°C)
1Ex e IIC T4 Gb X (minus 65°C≤Tamb≤+*°C)		0Ex ia IIC T4 Ga X (minus 65°C≤Tamb≤+*°C)
1Ex ib IIC T6 Gb X (minus 65°C≤Tamb≤+*°C)		Ex ta IIIC T85°C Da X (minus 65°C≤Tamb≤+*°C)
1Ex ib IIC T5 Gb X (minus 65°C≤Tamb≤+*°C)		Ex ta IIIC T100°C Da X (minus 65°C≤Tamb≤+*°C)
1Ex ib IIC T4 Gb X (minus 65°C≤Tamb≤+*°C)		
Ex tb IIIC T85°C Db X (minus 65°C≤Tamb≤+*°C)		
Ex tb IIIC T100°C Db X (minus 65°C≤Tamb≤+*°C)		
* – maximum environment temperature depends on the power dissipation and it should comply with the data, specified in section 5 of this Certificate		

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4.5.2. SX series explosion-proof boxes

Without fiber optics

1Ex e IIC T* Gb X Ex tb IIIC T*°C Db X	1Ex ib IIC T* Gb X Ex tb IIIC T*°C Db X	0Ex ia IIC T* Ga X Ex ta IIIC T*°C Da X
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* – temperature class and maximum surface temperature depend on the power dissipation and it should comply with the data, specified in section 5 of this Certificate

With fiber optics

1Ex e op is IIC T* Gb X Ex tb IIIC T*°C Db X	1Ex ib op is IIC T* Gb X Ex tb IIIC T*°C Db X	0Ex ia op is IIC T* Ga X Ex ta IIIC T*°C Da X	0Ex op is IIC T* Ga X Ex ta IIIC T*°C Da X
1Ex e op pr IIC T* Gb X Ex tb IIIC T*°C Db X	1Ex ib op pr IIC T* Gb X Ex tb IIIC T*°C Db X	0Ex ia op pr IIC T* Gb X Ex tb IIIC T*°C Db X	0Ex op pr IIC T* Gb X Ex tb IIIC T*°C Db X

* – temperature class and maximum surface temperature depend on the power dissipation and it should comply with the data, specified in section 5 of this Certificate

4.6. Warning labels;

4.7. Single EAC mark for products turnover in the market of the Customs Union Member States;

4.8. Special Ex mark for explosion safety (Appendix 2 to CU TR 012/2011);

4.9. Other data, which should be provided by the manufacturer if it is required by the technical documentation (environment temperature, cover protection level, etc.).

5. Main technical data

5.1. BPG series explosion-proof boxes

5.1.1. Level of protection against external actions in accordance with the GOST 14254-96..... IP66/IP67

5.1.2. Dependence of the maximum power dissipation on the maximum operating temperature

For Ga, Gb, Db						
Dimension	Maximum power dissipation, W					
	T6/T85°C Tamb max +40°C	T6/T85°C Tamb max +55°C	T6/T85°C Tamb max +60°C	T6/T85°C Tamb max +65°C	T5/T100°C Tamb max +55°C	T4/T100°C Tamb max +90°C
1	8,390	2,23	1,73	1,45	8,390	8,390
2	8,551	2,00	1,70	1,45	8,551	8,551
3	8,833	2,00	1,70	1,45	8,833	8,833
4	9,012	2,07	1,80	1,29	9,012	9,012
5	9,260	2,00	1,70	1,10	9,260	9,260
6	9,378	2,00	1,70	1,45	9,378	9,378
7	10,500	2,30	1,70	1,10	10,500	10,500
8	10,348	2,00	1,70	1,10	10,348	10,348
9	11,933	2,30	1,70	1,10	11,933	11,933
10	13,793	4,50	3,29	2,10	13,793	13,793
11	18,338	6,68	5,20	4,00	18,338	18,338
12.5	11,933	2,30	1,70	1,10	11,933	11,933
12	15,474	2,30	1,70	1,10	15,474	15,474
13	20,867	5,20	4,00	3,00	20,867	20,867
13,5	20,867	5,20	4,00	3,00	20,867	20,867
14	30,384	7,97	6,59	4,79	30,384	30,384
15	31,350	8,26	6,00	4,40	31,350	31,350

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For Da						
1	4,195	1,115	0,865	0,725	4,195	4,195
2	4,2755	1	0,85	0,725	4,2755	4,2755
3	4,4165	1	0,85	0,725	4,4165	4,4165
4	4,506	1,035	0,9	0,645	4,506	4,506
5	4,63	1	0,85	0,55	4,63	4,63
6	4,689	1	0,85	0,725	4,689	4,689
7	5,25	1,15	0,85	0,55	5,25	5,25
8	5,174	1	0,85	0,55	5,174	5,174
9	5,9665	1,15	0,85	0,55	5,9665	5,9665
10	6,8965	2,25	1,645	1,05	6,8965	6,8965
11	9,169	3,34	2,6	2	9,169	9,169
12	7,737	1,15	0,85	0,55	7,737	7,737
13	10,4335	2,6	2	1,5	10,4335	10,4335
13,5	10,4335	2,6	2	1,5	10,4335	10,4335
14	15,192	3,985	3,295	2,395	15,192	15,192
15	15,675	4,13	3	2,2	15,675	15,675

5.2. SX series explosion-proof boxes

5.2.1. Level of protection against external actions in accordance with the GOST 14254-96..... IP66/IP67/IP68

5.2.2. Environment temperature

for Ex e op pr, Ex ib op pr, Ex ia op pr, Ex op pr.....from minus 40°C and up to see the table below (5.2.4)

for all others..... from minus 50°C and up to see the table below (5.2.3)

5.2.3. Dependence of the maximum power dissipation on the maximum operating temperature for all boxes

Dimension	EPL	(a) T6/T85°C	(a) T6/T85°C	(a) T6/T85°C	(a) T6/T85°C
		Tamb max +40°C (b) T5/T100°C Tamb max +55°C (c) T4/T135°C Tamb max +80°C	Tamb max +55°C (b) T5/T100°C Tamb max +70°C (a) T4/T135°C Tamb max +60°C (a) T3/T200°C Tamb max +80°C	Tamb max +60°C (b) T5/T100°C Tamb max +75°C (b) T4/T135°C Tamb max +80°C (b) T3/T200°C Tamb max +80°C	Tamb max +65°C (b) T5/T100°C Tamb max +80°C (a) T4/T135°C Tamb max +60°C (d) T3/T200°C Tamb max +175°C
SX0	Ga, Gb, Db	19	3,34	2,23	1,84
	Da	9,5	1,67	1,115	0,92
SX0.5	Ga, Gb, Db	22	3,9	2,8	2,1
	Da	11	1,95	1,4	1,05
SX1	Ga, Gb, Db	29	4,97	3,86	2,7
	Da	14,5	2,485	1,93	1,35
SX1.5	Ga, Gb, Db	32	5	4	2,8
	Da	16	2,5	2	1,4
SX2	Ga, Gb, Db	36	5,64	4,23	2,88
	Da	18	2,82	2,115	1,44
SX3	Ga, Gb, Db	42	5,9	4,1	3
	Da	21	2,95	2,05	1,5
SX4	Ga, Gb, Db	44	6,1	4,36	3,19
	Da	22	3,05	2,18	1,595

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SX5	Ga, Gb, Db	50	9,35	6,19	4,2
	Da	25	4,675	3,095	2,1
SX6	Ga, Gb, Db	57	10,1	7,97	5,6
	Da	28,5	5,05	3,985	2,8
SX7	Ga, Gb, Db	68	17,14	9,36	6,67
	Da	34	8,57	4,68	3,335
SX8	Ga, Gb, Db	119	15,95	15,17	10,74
	Da	59,5	7,975	7,585	5,37
SX225*	Ga, Gb, Db	359	-	103	-
	Da	179,5	-	51,5	-
SX45	Ga, Gb, Db	8	1,65	1,57	1,28
	Da	4	0,825	0,785	0,64
SX64	Ga, Gb, Db	10	0,7	0,5	0,3
	Da	5	0,35	0,25	0,15
SX66	Ga, Gb, Db	14	2	1,9	1,5
	Da	7	1	0,95	0,75

Note – (a), (b), (c), (d), and (e) relate to different terminal blocks (see the Operation manual)

5.2.4. Dependence of the maximum power dissipation on the maximum operating temperature for all boxes with Ex op pr and Ex op is

Ex op pr	Ex op is
T6/T85°C at Tamb max +60°C	T6/T85°C at Tamb max +65°C T4/T100°C at Tamb max +80°C
When using the connection box, the power is limited to 100 mW and from minus 40°C ≤ Tamb ≤ +60°C	The source is limited to maximum 5 mW/mm ² (surface area, which does not exceed 400 mm ²) The signal power is limited to 15 mW for T6 and 35 mW for T4

6. Storage conditions and terms, operating life (useful life)

Storage – Store in a dry location and avoid the risk of mechanical damage.

Storage terms – 20 years for BPG series and 30 years for SX series, provided that the equipment is mounted and operated in accordance with the Operation manual.

Operation life (useful life) – 20 years for BPG series and 30 years for SX series, provided that the equipment is mounted and operated in accordance with the Operation manual.

When the manufacturer makes changes, influencing the explosion safety indicators of the equipment, in the design and (or) technical documentation, confirming the compliance of the equipment and (or) Ex-components with the TR requirements, he has to provide the CB of EPE of TIBER, CJSC, with the description of the changes, technical documentation (drawings of the means for explosion protection provision) with the made changes, and sample for carrying out of additional tests if the CB of EPE of TIBER, CJSC, considers that carrying out only of the examination of the technical documentation with the made changes is insufficient for making a decision on the compliance of the equipment and (or) Ex-component with the CU TR 012/2011 with the made changes.

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