

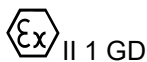


EU Type Examination Certificate CML 16ATEX3149X Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **ABCS Range of Control Stations**
- 3 Manufacturer **Abtech Limited**
- 4 Address **199/201 Newhall Road,
Lower Don Valley,
Sheffield, S9 2QJ,
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, 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 equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2012+A11:2013	EN 60079-1:2014	EN 60079-7:2015
EN 60079-11:2012	EN 60079-18:2015	EN 60079-31:2014

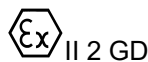
- 10 The equipment shall be marked with the following:



II 1 GD

Ex ia IIC T4 Ga

Ex ta IIIC T135°C Da

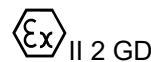


II 2 GD

Ex eb IIC T* Gb

Ex eb mb IIC T* Gb

Ex db eb IIC T* Gb



II 2 GD

Ex db eb mb IIC T* Gb

Ex tb IIIC T*°C Db

Ta= -55°C up to +60°C*

* T-class and assigned maximum surface temperature are dependent on the enclosure, the equipment fitted and the power dissipation, as well as the upper ambient temperature assigned.

Note: Protection concept symbols and the minimum/maximum ambient applied depend on the parts installed. The limits of the ambient range are shown here. Refer to Conditions of Manufacture for further details.



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11 Description

The ABCS range of Control Stations utilise a previously certified non-metallic ABTECH BPG terminal enclosure. The enclosures are manufactured with a polyester resin base and are fitted with an arrangement of suitably certified control devices such as ammeters, switches, signal lamps and terminals. The enclosures may be fitted with an optional window.

ABCS Range of Control stations (dimensions):

ABCS Ref	6	7	8	9	10	11	12	12.5	13	13.5	14	15	15.5
Width (mm)	122	220	160	260	360	560	255	205	400	400	600	400	400
Height (mm)	120	120	160	160	160	160	250	200	250	250	250	405	405
Depth (mm)	90	90	90	90	90	90	120	120	120	160	120	120	201

Components permitted to be fitted:

The ABCS control stations may be fitted with the following control instrumentation and control devices in any combination, provided they do not exceed specified power dissipation values.

Component Details	Certificate Numbers	Code	Temperature Range
CZ Explosion-Proof Appliances Co. Ltd			
CZ4000 Series Operation Heads	Sira 15ATEX3333U	Ex eb IIC Gb Ex tb IIIC Db	Tamb: -55°C to +65°C
CZ0201 Series Switch Module	Presafe 16 ATEX 9096U	Ex db eb IIC Gb	Tamb: -40°C to +60°C (Type L)
			Tamb: -55°C to +60°C (Type H)
CZ0202-**1* / **3* / **4* Signal Lamp Module	Presafe 16 ATEX 8565U	Ex db eb IIC Gb	Tamb: -40°C to +60°C (Type L)
			Tamb: -55°C to +60°C (Type H)
CZ0202-**2* Signal Lamp Module	Presafe 16 ATEX 8565U	Ex db eb IIC Gb	Tamb: -40°C to +50°C (Type L) Tamb: -55°C to +50°C (Type H)



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Component Details	Certificate Numbers	Code	Temperature Range
CZ0202-**0H Signal Lamp Module	Presafe 16 ATEX 8565U	Ex ia IIC Ga	Tamb: -55°C to +55°C
CZ0203 Control Module Series	Presafe 16 ATEX 9214U	Ex db eb IIC Gb	Tamb: -40°C to +60°C (Type L)
			Tamb: -55°C to +60°C (Type H)
CZ0212-**1* / **3* / **4* Signal Lamp with Button Module	DNV 12 ATEX 11183U	Ex db eb IIC Gb	Tamb: -40°C to +60°C (Type L)
			Tamb: -55°C to +60°C (Type H)
CZ0212-**0H Signal Lamp with Button Module	DNV 12 ATEX 11183U	Ex ia IIC Ga	Tamb: -55°C to +55°C
CZ0205-_A/_ Ammeter Module	Sira 14ATEX3169U	Ex e IIC Gb	Tservice: -40°C to +95°C
CZ0205-_mA/_ Ammeter and CZ0205-_V/_ Voltmeter Module	Sira 14ATEX3169U	Ex e mb IIC Gb	Tservice: -40°C to +95°C
CCZ1208/2-7 (flash) Buzzer with plastic body	ETP 16 ATEX 2404 U	Ex eb ib mb IIC Gb Ex ib tb IIIC Db	Tamb: -40 to +50°C
CCZ1208/1-7 (flash) Buzzer with metal body	ETP 16 ATEX 2404 U	Ex db eb ib mb IIC Gb Ex ib tb IIIC Db	Tamb: -40 to +55°C
CZ1208-9 (flash) Buzzer	ETP 19 ATEX 3084 X	Ex eb ib mb IIC Gb Ex ib tb IIIC T130°C Db	Tamb: -40 to +45°C
Bartec			
07-3323-1 Control and Signalling Device Adapters	CML 13ATEX3010U	Ex eb IIC Gb Ex tb IIIC Db	Tservice: -55°C to +70°C
07-33 Circuit Module and Control Switch	CML 17ATEX1105U	Ex db eb IIC Gb	Tamb: -55°C to +40°C (16A) -55°C to +60°C (11A) Tservice: -55°C to +85°C



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Component Details	Certificate Numbers	Code	Temperature Range
07-335 Illuminated Indicator Module and 07-336 Illuminated Push Button	CML 17ATEX1106U	Ex db eb IIC Gb	Tamb: -55°C to +50°C -55°C to +60°C* *if operating voltage is less than 26.4V.
07-337*-*D* Control and Switching Module - Potentiometer	CML 17ATEX1119U	Ex db eb IIC Gb	Tamb -55 to +40°C (1W) -55 to +50°C (0.75W) -55 to +60°C (0.5W)
07-7311-61TW/??00.. (?? = resistance value code)	PTB98ATEX1010U	Ex db e IIC Gb	Tamb -40 to +40°C (1.4W @ 16mm, 1.3W @ 8mm) -40 to +60°C (1.4W @ 16mm, 1.3W @ 8mm) -40 to +65°C (0.7W @ 16mm, 0.6W @ 8mm) -40 to +85°C (0.7W @ 16mm, 0.6W @ 8mm)
Quintex			
QX0201 Switch Module	EPS 11ATEX1396U	Ex de IIC Gb Ex tD A21	Tamb: -55°C to +60°C
QX0202 Signal Lamp Module	EPS 11ATEX1397U	Ex de IIC Gb Ex tD A21	Tamb: -55°C to +60°C
QX0212 Signal Lamp with Button Module	EPS 11ATEX1400U	Ex de IIC Gb Ex tD A21	Tamb: -55°C to +60°C
QX0205 Ammeter Module	EPS 11ATEX1399U	Ex e IIC Gb Ex tD A21	Tamb: -55°C to +60°C
Allen Bradley / Rockwell Automation			
800G Actuating and Indicator Light Elements	CML 14ATEX3303U	Ex eb IIC Gb Ex tb IIIC Db	Tservice: -55 to +70°C
800G Switch Module	CML 17ATEX1107U	Ex db eb IIC Gb	Tamb: -55°C to +40°C (16A) -55°C to +60°C (11A) -55 to +85°C



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Component Details	Certificate Numbers	Code	Temperature Range
800G Lamp Module and Illuminated Push Button	CML 17ATEX1108U	Ex db eb IIC Gb	Tamb: -55°C to +50°C -55°C to +60°C* *if operating voltage is less than 26.4V.



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Maximum Power Dissipation:

Maximum Power (W), EPL Gb & Db									
T-class:	T6/T85°C (a)			T5/T100°C (b) (e)			T4/T135°C (c) (d) (e)		
Max ambient:	+40°C	+55°C	+60°C	+40°C	+55°C	+60°C	+40°C	+55°C	+60°C
ABCS6	9.38	2.00	1.70	11.00	9.38	8.75	12.25	11.00	10.25
ABCS7	10.50	2.30	1.70	12.25	10.50	9.75	13.75	12.25	11.50
ABCS8	10.35	2.00	3.29	12.00	10.35	9.50	13.50	12.00	11.50
ABCS9	11.93	2.30	1.70	13.75	11.93	11.00	15.50	13.75	13.25
ABCS10	13.79	4.50	3.29	16.00	13.79	12.75	18.25	16.00	15.25
ABCS11	18.34	6.68	5.20	21.50	18.34	17.00	24.25	21.50	20.50
ABCS12	15.47	2.30	1.70	18.00	15.47	14.25	20.25	18.00	17.25
ABCS13	20.87	5.2	4.00	24.25	20.87	19.50	27.50	24.25	23.25
ABCS14	30.38	7.97	6.59	35.63	30.38	28.42	40.19	35.63	33.97
ABCS15	31.35	8.26	6.00	36.76	31.35	29.33	41.47	36.76	35.05

Where the Intrinsically Safe version of the equipment is used, the following maximum power dissipation values apply:

Maximum Power (W), EPL Ga & Da		
T-class:	T4/T135°C (c) (d) (e)	
Max ambient:	+40°C	+55°C
ABCS6	12.25	11.00
ABCS7	13.75	12.25
ABCS8	13.50	12.00
ABCS9	15.50	13.75
ABCS10	18.25	16.00
ABCS11	24.25	21.50
ABCS12	20.25	18.00
ABCS13	27.50	24.25
ABCS14	40.19	35.63
ABCS15	41.47	36.76

The letter in the brackets next to the temperature class and associated upper ambient in the table above relates to the following maximum operating temperatures required of the terminals fitted.

(a)	(b)	(c)	(d)	(e)
≥85°C	≥100°C	≥120°C	≥190°C	≥105°C

Note: All terminals fitted shall be suitable for the lower operating temperature marked on the certification label.



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- The maximum power dissipation for each enclosure shall be reduced by 1 W for each control component.
- The maximum power dissipation for each enclosure shall be reduced by 0.5 W for each ammeter.
- Control stations of sizes not specified in the table may be manufactured subject to the maximum power being based on a smaller enclosure.
- 2.5 mm² size terminals are limited to a maximum current of 15 A or less as, permitted by their marking.

Variation 1

This variation introduced the following modifications:

- To update the certificate references of component approved parts. The certificate description has been updated accordingly.
- The introduction of optional Ex eb mb fuse terminals.
- The introduction of an X suffix to the certificate numbers and Specific Conditions of Use.
- A Zone 0/20 intrinsically safe design option was introduced. Appropriate I.S. marking was applied to this option and standard EN 60079-11 was added to the certificate. The certificate description was updated to show the power rating and maximum ambient options of the I.S. versions.
- Change to a condition of manufacture relating to the terminals fitted.
- The transfer of the ATEX certificates from CML UK to CML B.V.

Variation 2

This variation introduced the following modifications:

- To acknowledge the change of certificate references for the Allen Bradley 800G range of operators.
- To allow Bartec Control and Switching Module, Potentiometer and Terminal resistors to be fitted.
- To allow CZ1208/2-7 (flash) Buzzer with plastic body, CZ1208/1-7 (flash) Buzzer with metal body and CZ1208-9 (flash) Buzzer to be fitted.
- The description has been updated to incorporate the above modifications.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	20 Jul 2016	R1233A/00	Issue of Prime Certificate
1	12 Apr 2019	R12398A/00	Introduction of Variation 1
2	16 Jun 2020	R13257A/00	Introduction of Variation 2

Note: Drawings that describe the equipment or component are listed in the Annex.



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13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. The manufacturer shall carry out a dielectric strength test in accordance with clause 6.1, EN 60079-7:2015 on all pre-wired junction boxes, taking into account the rated voltage of each unit. When the Control Stations are fitted with Phoenix Type SSK 0525 Ker-Ex Terminals, a dielectric strength test at 1836 V is to be applied between each adjacent terminal and between each terminal and earth in accordance with EN 60079-7:2015, clause 7.1.
- ii. The total dissipated power of the enclosure shall be calculated in accordance with EN 60079-7:2015, Annex E.2, and shall not exceed the maximum power rating defined in this certificate.
- iii. The Control Stations covered by this certificate incorporate previously certified devices. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform CML of any modification of the devices that may impinge upon the explosion safety.
- iv. The manufacturer shall modify the marking to include additional protection concept letters and to select the gas group, ambient temperature and Ingress Protection rating, that are appropriate the combination of devices that are fitted.
- v. The terminals used in these Control stations shall be suitably approved ATEX terminals. All terminals shall be installed in accordance with their certificate conditions and relevant codes of practice/wiring regulations, paying particular attention to the following:
 - The maximum service temperature range.
 - The minimum creepage distances shall be maintained.
 - Terminals rated for voltages above 690 VAC shall not be used at voltages above 690 VAC within the Control Stations.
 - The rated voltages and currents may vary if cross-section facilities are used.
 - The reduction in rating of adjacent terminals shall be observed, where applicable.
 - The limiting temperature of the terminal insulation shall be in accordance with the limiting temperatures defined in the product description on this certificate.
- vi. The maximum ambient, temperature class and assigned maximum surface temperature of the equipment are dependent on the model and maximum power dissipation. Hence the maximum ambient, temperature class and assigned maximum surface temperature shall be marked in accordance with the 'Maximum Power Dissipation' table in the description on this certificate.
- vii. The marked minimum ambient temperature assigned to the equipment shall be no lower than the minimum ambient/service temperature of any previously certified parts installed. All previously certified parts shall be used within their defined maximum ambient or service temperature.
- viii. When fuses are fitted that are certified "Ex e mb" or "Ex eb mb" then the enclosure marking shall include the symbols 'eb mb' as part of the label marking code, as well as the appropriate gas/dust group marking, as defined by the fuse approval.



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- ix. All fuses fitted shall be approved to the appropriate ATEX and IECEx standards and ratings for this apparatus. Additionally, the fuses shall:
- Be suitable for the intended temperature range of the junction box.
 - Be suitable to maintain the required creepage and clearances in accordance with EN 60079-7.
 - Have a declared contact resistance or power dissipation rating.
 - Be installed in accordance with their certificate conditions and the relevant codes of practice/wiring regulations
 - The power dissipation of the fuse shall be deducted from the maximum allowable power dissipation of the enclosure.
- x. When the control stations are fitted with the CZ1208-9 (flash) Buzzer the following additional warning shall be applied "WARNING – CLEAN ONLY WITH A DAMP CLOTH"



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14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. The flameproof joints of flameproof components shall not be repaired.
- ii. Where the intrinsically safe options of CZ0202 Signal Lamp Module (Presafe 16ATEX8565U) and CZ0212 Signal Lamp with Button Module (DNV 12ATEX11183U) are used, the power supply shall be from an appropriate safety barrier with specified output parameters that are equal to or less than the input parameters. In an ambient temperature of 55°C, the temperature class of modules CZ0202 and CZ0212 with type of protection “Ex ia” is T4.
- iii. The CZ4000-M□ Calotte (glass window) and CZ4000-4019 safety latches (Sira 15ATEX3333U) present a potential electrostatic hazard and as such shall be fitted to fixed installations only to allow them to comply with EN 60079-0: Clause 7.4.2 (e) and Clause 7.4.3 (d). They shall only be cleaned with a damp cloth and sited away from any static charging methods e.g. near forced air movement or where they can easily be rubbed by passers-by.
- iv. The cable gland may not provide sufficient clamping; the user shall provide additional clamping of the cable to ensure that pulling and twisting is not transmitted to the terminations.
- v. When the control stations are fitted with the CZ1208-9 (flash) Buzzer the following additional warning shall be applied “WARNING – CLEAN ONLY WITH A DAMP CLOTH”
- vi. The control component shall be fitted in an enclosure complying with an approved explosion protection type in accordance with EN 60079-0.
- vii. When fitted in an enclosure of explosion protection type “e” increased safety in accordance with EN 60079-7, the clearance and creepage distances in accordance with section 4.3, section 4.4 and table 1 shall be met.
- viii. The control and switching unit shall be installed in an enclosure which meets the requirements of a recognized type of protection as specified in EN 60079-0.
- ix. When the switch module and the control switch are installed in an enclosure of the type of protection increased safety “e” in compliance with EN 60079-7, the clearance and creepage distances according to clause 4.3, clause 4.4 and table 1 shall be complied with.
- x. When the control stations are fitted with the CZ1208-9 (flash) Buzzer, under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
- xi. When the control stations are fitted with the CZ1208/1-7 (flash) buzzer or the CZ1208/2-7 (flash) buzzer the electrical connection must be protected.
- xii. In order to guarantee the IP degree of the component, the wall of the enclosure where it's installed shall be plane and smooth.
- xiii. The permitted service temperature is -55°C and +90°C for CZ1208/1-7 model and between -40°C and +90° for CZ1208/2-7 model; when used in an ambient with a temperature not greater than +55°C for CZ1208/1-7 and +50°C for CZ1208/2-7 the limit for the maximum service temperature is respected.



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- xiv. When the control stations are fitted with component Cz1208/1-7 the earth protection must be managed.
- xv. When the control stations are fitted with the CZ1208/1-7 (flash) buzzer or the CZ1208/2-7 (flash) buzzer the minimum number of engaged threads and the protection against unscrewing must be managed.

Certificate Annex

Certificate Number CML 16ATEX3149X
Equipment ABCS Range of Control Stations
Manufacturer Abtech Limited



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
ABT30497	1 of 1	A	11 Jul 2016	ABCS Control Stations
ABT30498	1 of 1	A	11 Jul 2016	ABCS Certification Label
ABT30623	1 to 2	A	11 Jul 2016	Permitted Control Devices for ABCS and SXCS control Stations

Issue 1

Drawing No.	Sheets	Rev	Approved date	Title
ABT30497	1 of 1	B	04 Apr 2019	ABCS Control Stations
ABT30498	1 of 1	B	04 Apr 2019	ABCS Certification Label
ABT35304	1 of 1	A	04 Apr 2019	ABCS Ex ia Certification Label
ABT30623	1 to 3	B	04 Apr 2019	Permitted Control Devices for ABCS and SXCS control Stations

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Drawing No.	Sheets	Rev	Approved date	Title
ABT30497	1 of 1	C	16 Jun 2020	ABCS Control Stations
ABT30623	1 to 3	C	16 Jun 2020	Permitted Control Devices for ABCS and SXCS control Stations
ABT37194	1 of 1	A	16 Jun 2020	ABCS Control Stations with Buzzer
ABT37217	1 of 1	A	16 Jun 2020	ABCS Control Stations with Resistor Terminals