



1. **EC-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. EC-Type Examination Certificate Number: **ITS09ATEX16433X**

4. Equipment or Protective System: **G21 to G28 Range of Control/Distribution Stations**

5. Manufacturer: **Petrel Limited**

6. Address: **22 Fortnum Close, Kitts Green, Birmingham, B33 0LB, UK**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report 09040319 part A1, B1, C1 & D1 dated 03 February 2010.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN60079-0:2006, EN60079-1:2007, EN61241-0:2006 and EN61241-1:2004 except in respect of those requirements referred to at item 18 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

**Ex II 2 GD Ex d IIB T<sub>6</sub>/5/4\* T<sub>amb</sub>-20°C to +40/60°C\***  
**Ex tD A21 IP6x T135°C**

\* See schedule for details



**P Moss**  
**Certification Officer**  
**10 February 2010**

**Intertek Testing & Certification Limited**  
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**Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA**

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- 13. SCHEDULE
- 14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS09ATEX16433X
- 15. Description of Equipment or Protective System

The G21 to G28 range of Control/Distribution Stations are flameproof enclosures which may contain a variety of internal components.

The Control/Distribution Stations consist of a flanged enclosure body and a flanged cover. The G22 to G28 models have the option of a hinged cover. The body and cover are manufactured from either grade 150 cast iron to ISO 185 (minimum tensile strength 150 N/mm<sup>2</sup>) or aluminium alloy (minimum tensile strength 230 N/mm<sup>2</sup>).

The cover is secured to the enclosure body by hexagonal socket head cap screws. On the G22 to G28 models the cover has additional facilities for making the screws captive and providing them with weather protection. Internal holes are provided in the base of the enclosure for the mounting of internal apparatus. The enclosure is mounted by either steel bars or studs secured to the base of the enclosure.

The Control/Distribution Stations can be fitted with Actuators, Windows and Cable entries that are controlled by the drawings listed on the certificate which specifies their limits of use.

Additionally, the G22 to G28 enclosures may be coupled together using ATEX certified BARTEC Type 07-91 Threaded Line Bushings (Certificate Number PTB 97 ATEX 1047U – of which the conditions of use must be adhered to).

Internal and external earth facilities are provided.

Enclosures covered by this certificate are:

Type Designation	Dimensions (mm) (* indicates optional cover heights)	Number and Type of Fasteners	Internal Mounting Holes
G21	180 x 145 x 155	4 x M6	3 x M4
G22	205 x 156 x 205	4 x M8	4 x M4
G23	248 x 176/211* x 316	6 x M8	4 x M4
G24	321 x 193/228* x 361	6 x M8	4 x M4
G25	366 x 193/228* x 406	12 x M8	4 x M6
G26	416 x 228 x 456	12 x M10	4 x M6
G27	486 x 228 x 516	14 x M10	4 x M6
G28	586 x 294 x 670	20 x M10	4 x M6

Widow assemblies covered by this certificate are:

Type Designation	Ø (mm)		Bezel Thread Form	
	Bezel	Window	External	Internal
W2	48	27	M40	M30
W3	71	50	M63	M53
W4	98	77	M90	M80
W5	133	112	M125	M115

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Actuators covered by this certificate are:

Actuator Type	Model Numbers
Rotary Switch Actuator	R1, R2, R3 and R4
Push Button Actuator	P1, P2, P3, P4 and P5
Rotary Handle Assembly	S1 and S2

The relationship between Max Power Rating, T-Class and Ambient Range is as per the following table:

Enclosure	Ambient: -20°C to +40°C			Ambient: -20°C to +60°C		
	Max Watts for T6	Max Watts for T5	Max Watts for T4	Max Watts for T6	Max Watts for T5	Max Watts for T4
G21 Deep	42W	64W	135W	16W	35W	93W
G22	56W	85W	173W	24W	47W	119W
G23 Shallow	118W	168W	304W	55W	108W	220W
G23 Deep	120W	173W	345W	56W	110W	233W
G24 Shallow	128W	184W	360W	56W	112W	248W
G24 Deep	148W	212W	400W	64W	125W	290W
G25 Shallow	149W	216W	398W	64W	128W	289W
G25 Deep	166W	236W	432W	71W	146W	312W
G26	192W	285W	542W	88W	156W	385W
G27	312W	440W	768W	144W	272W	572W
G28	400W	656W	1296W	190W	369W	907W

- 16. Report Number:

Intertek Report 09040319 part A1, B1, C1 & D1 dated 03 February 2010.

- 17. CONDITIONS OF CERTIFICATION:

(a). Special Conditions for safe use

1. Number, size and spacing of Window Assemblies, Cable Entries and Actuators is controlled via drawings SR3760 and SR3754.
2. Rotating or other devices, which create turbulence, shall not be incorporated.
3. No primary and secondary cells or batteries shall be fitted within the enclosure.
4. Liquids shall not be used when there is a risk of producing an explosive mixture by the decomposition of or release of oxygen by the liquids.

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5. Enclosures which can be opened more quickly than the time necessary for the discharge of incorporated capacitors or the cooling of hot components shall be labelled in accordance with the requirements of Clause 6.3 of EN60079-0:2006.
6. Oil filled circuit breakers and contactors shall not be used.
7. All entry or closure devices when fitted shall satisfy the requirements of Clause 5 of EN60079-1:2007 or be specifically certified with the equipment and be suitable for the conditions of use.
8. If used with conduit, ATEX certified flameproof stopping boxes shall be fitted at the wall of the enclosure.
9. Suitably sized terminals must be provided within the enclosure for connection purposes.
10. The content of the enclosure apparatus may be placed in any arrangement provided that an area of at least 20% of each cross-sectional area remains free to permit unimpeded gas flow and therefore, unrestricted development of an explosion.
11. For the purpose of the above, the separation relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5mm.
12. Internally, the equipment dissipating power must be equally distributed within the enclosure.
13. The fasteners used to secure the lid to the enclosure shall be either Steel grade 12.9 with yield stress of  $> 1170\text{N/mm}^2$  or Stainless Steel A480 with yield stress  $> 699\text{N/mm}^2$ .
14. When the G22 to G28 enclosures are coupled together, each enclosure is to be individually supported except where a G22 or G23 enclosure is attached to a G24 to G28 enclosure or where a G22 enclosure is attached to a G23 enclosure and must comply with the requirements of Table 8 of EN60079-1:2007 (Minimum distance of obstructions from flameproof "d" flange openings).
15. The G21 enclosure shall not be close coupled with any other enclosure.
16. The G22 to G28 enclosures are not permitted to be used within explosive dust atmospheres when close coupled using the BARTEC Type 07-91 Line Bushing.
17. Temperature limitations for the window and cement are as follows:  
Glass window:  $+200^{\circ}\text{C}$

**Intertek Testing & Certification Limited**

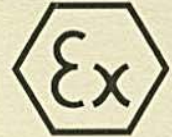
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Cement: +150°C

(b). Conditions For Use (Routine Tests)

Each G28 enclosure shall be subjected to a routine overpressure test of 10.55bar for at least 10s in accordance with Clause 16 of EN60079-1:2007 and shall be recorded.

18. Essential Health and Safety Requirements (EHSR's)

The relevant EHSR's have been identified and assessed in Intertek Report 09040319 part E1 dated 03 February 2010.

19. Drawings and Documents

Number	Title	Issue	Date
SR3741	G21 Flameproof Enclosure	5	18.08.09
SR3742	G22 Flameproof Enclosure	4	18.08.09
SR3743	G23 Flameproof Enclosure	4	18.08.09
SR3744	G24 Flameproof Enclosure	4	18.08.09
SR3745	G25 Flameproof Enclosure	4	18.08.09
SR3746	G26 Flameproof Enclosure	4	18.08.09
SR3747	G27 Flameproof Enclosure	4	18.08.09
SR3748	G28 Flameproof Enclosure	4	18.08.09
SR3750	Pushbutton And Rotary Switch Actuators	3	17.12.09
SR3755	Kraus & Naimer S1 & S2 Rotary Handle Assembly	1	18-08-09
S1SS0001	Kraus & Naimer S1 Handle Shaft	2	19-08-09
S2SS0001	Kraus & Naimer S2 Handle Shaft	2	19-08-09
SR3751	Windows For F.L.P Enclosures	2	02-12-09
SR3754	Holes For Windows Etc. In Covers	1	July 2002
SR3760	Tapped Entries For Cable Glands Or Conduit Direct Entry	2	18.08.09
LAB0047	Restricted Opening G20 Series ATEX Certification Plate	3	05-11-09
LAB0049	Restricted Opening G20 Series ATEX Certification Agency Plate	2	19-08-09

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1. **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**
3. Supplementary EC-Type Examination Certificate Number: **ITS09ATEX16433X**
4. Equipment or Protective System: **G21 to G28 Range of Control/Distribution Stations**
5. Manufacturer: **Petrel Limited**
6. Address: **22 Fortnum Close, Kitts Green, Birmingham, B33 0LB, UK**
7. This supplementary certificate extends EC-Type Examination Certificate Number ITS09ATEX16433X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Report 10048742, dated 31 August 2010.

This Supplementary Certificate shall be held with the original Certificate.



**P Moss**  
**Certification Officer**  
**31 August 2010**

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## Schedule

**SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER: ITS09ATEX16433X**

### VARIATION ONE

#### Description of the Variation to the Equipment or Protective System.

To permit the following change:

To include the use of two new operating handles (Craig & Derricott Small Handle and Craig & Derricott Large Handle).

#### Report No.

Intertek Report 10048742, dated 31 August 2010.

### CONDITIONS OF CERTIFICATION

- (a) Special Conditions for Safe Use:  
Conditions of original certification apply.
- (b) Conditions for Use (Routine Tests):  
Conditions of original certification apply.

### Essential Health and Safety Requirements

See original certificate.

### DRAWINGS

Number	Issue	Date	Description
CM20-028	2	21/05/10	Craig & Derricott Large Handle Spindle
CM20-029	3	05/07/10	Craig & Derricott Small Handle Spindle
CM20-030	2	20/05/10	Craig & Derricott Oil Seal Retainer Plate Small Handle
CM20-031	2	21/05/10	Craig & Derricott Oil Seal Retainer Plate Large Handle
CM20-032	1	05/08/10	Craig & Derricott Small Handle Mounting Gasket
CM20-033	1	05/08/10	Craig & Derricott Large Handle mounting Gasket
CM20-035	1	16/12/10	GA for Craig & Derricott handles in G20 range of enclosures – Large Handle
CM20-036	1	20/08/10	GA for Craig & Derricott handles in G20 range of enclosures – Small Handle

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