

EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive
2014/34/EU

- EU-Type Examination Certificate Number:** ITS09ATEX16433X **Issue 05**
- Product:** G21 to G28 Control / Distribution Stations
- Manufacturer:** Tech-Ex Systems Ltd
- Address:** Coventry Technology Park, Puma Way, Coventry, CV1 2TT, UK
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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 of the Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule 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 GD Ex db IIB T4/5/6* Gb



Ex tb IIIC T135°C Db

*Dependant on Max Power Rating

-20°C ≤ Ta ≤ +40°C/+60°C

Certification Officer: _____ **Date:** 12 February 2020
M Newman

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11. 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 entire range of enclosure bodies and covers are manufactured from either grade 150 cast iron to ISO 185 (minimum tensile strength 150 N/mm²) or aluminium alloy (minimum tensile strength 230 N/mm²).

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.

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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

Window 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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Intertek Testing & Certification Limited, Cleeve Road, Leatherhead, Surrey, KT22 7SA
Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

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12. Report Number

Intertek Report: 104146159CHE-001 Dated: 10 February 2020.

13. Special Conditions of Certification

(a). Special Conditions of Use

- Number, size and spacing of Window Assemblies, Cable Entries and Actuators is controlled via drawings SR3760 and SR3754.
- Rotating or other devices, which create turbulence, shall not be incorporated.
- No primary or secondary cells or batteries shall be fitted within the enclosure.
- 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.
- 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 EN 60079-0:2018.
- Oil filled circuit breakers and contactors shall not be used.
- All entry or closure devices when fitted shall satisfy the requirements of Clause 5 of EN 60079-1:2014 or be specifically certified with the equipment and be suitable for the conditions of use.
- If used with conduit, ATEX certified flameproof stopping boxes shall be fitted at the wall of the enclosure.
- Suitably sized terminals must be provided within the enclosure for connection purposes.
- 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.
- For the purpose of the above, the separation relief areas may be aggregated provided that each are has a minimum dimension in any direction of 12.5mm.
- Internally, the equipment dissipating power must be equally distributed within the enclosure.
- The fasteners used to secure the lid to the enclosure shall be either Steel grade 12.9 with yield stress $>1170\text{N/mm}^2$ or Stainless Steel A480 with yield stress $>699\text{N/mm}^2$.
- 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 11 of EN 60079-1:2014 (minimum distance of obstructions from flameproof “d” flange openings).
- The G21 enclosure shall not be close coupled with any other enclosure.

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- The G22 to G28 enclosures are not permitted to be used within explosive dust atmospheres when close coupled using BARTEC Type 07-91 Line Bushing.
- Temperature limitations for the window and cement are as follows:

Glass Window: +200°C

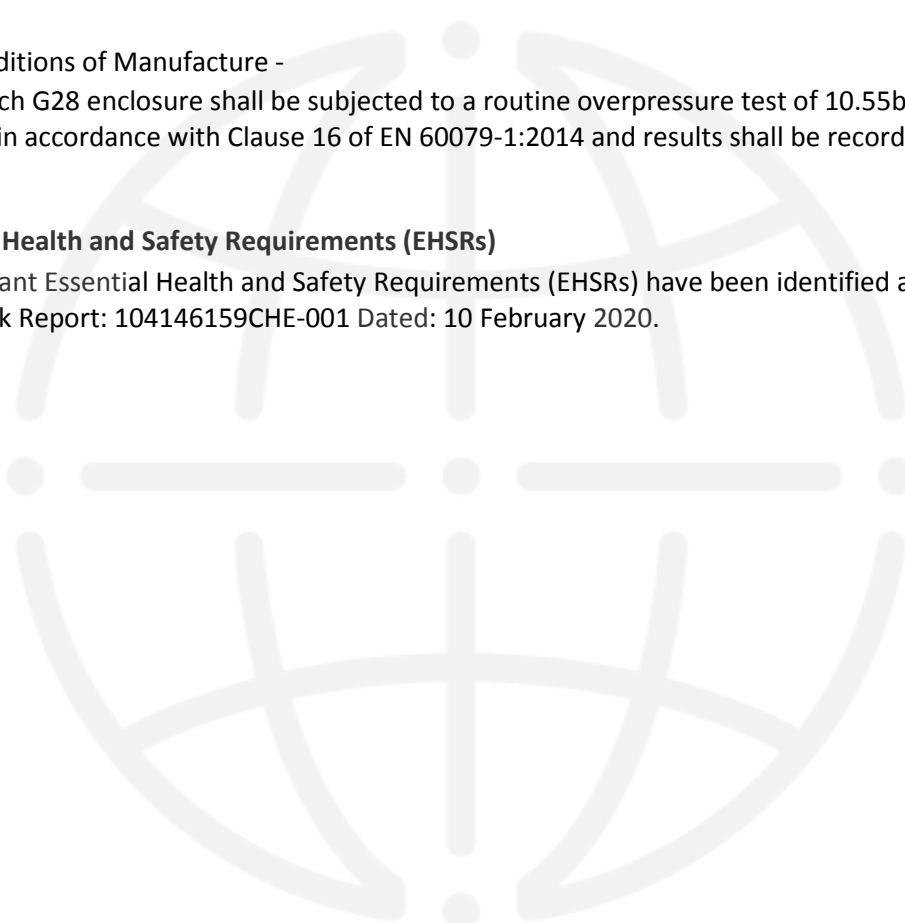
Cement: +150°C.

(b). Conditions of Manufacture -

- Each G28 enclosure shall be subjected to a routine overpressure test of 10.55bar for at least 10s in accordance with Clause 16 of EN 60079-1:2014 and results shall be recorded.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104146159CHE-001 Dated: 10 February 2020.



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15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
*G28 With MOOG Device Dimensions	CM8-152	2	23/12/19
*Craig & Derricott Large Handle Spindle	CM20-028	3	23/12/19
*Craig & Derricott Small Handle Spindle	CM20-029	4	23/12/19
*Craig & Derricott Oil Seal Retainer Plate Small Handle	CM20-030	3	23/12/19
*Craig & Derricott Oil Seal Retainer Plate Large Handle	CM20-031	3	23/12/19
*Craig & Derricott Small Handle Mounting Gasket	CM20-032	2	23/12/19
*Craig & Derricott Large Handle Mounting Gasket	CM20-033	2	23/12/19
*GA for Craig & Derricott handles in G20 range of enclosures – Large Handle	CM20-035	2	23/12/19
*GA for Craig & Derricott handles in G20 range of enclosures – Small Handle	CM20-036	2	23/12/19
*Restricted Opening G20 Series ATEX Certification Plate	LAB0047	7	21/12/19
*G22L Base Penetrations	MM_0065	3	23/12/19
*Cast Enclosure ~ Lid – G22L	MM_0059	5	23/12/19
*Cast Enclosure Base – G22L	MM_0060	4	23/12/19
*G22L Lid Penetrations	MM_0063	3	23/12/19
*G21 Flameproof Enclosure	SR3741	7	23/12/19
*G22 Flameproof Enclosure	SR3742	6	23/12/19
*G23 Flameproof Enclosure	SR3743	6	23/12/19
*G24 Flameproof Enclosure	SR3744	6	23/12/19
*G25 Flameproof Enclosure	SR3745	6	23/12/19
*G26 Flameproof Enclosure	SR3746	6	23/12/19
*G27 Flameproof Enclosure	SR3747	6	23/12/19
*G28 Flameproof Enclosure	SR3748	6	23/12/19
*Pushbutton and Rotary Switch Actuators	SR3750	4	23/12/19
*Windows for F.L.P Enclosures	SR3751	3	23/12/19
*Holes for Windows Etc. in Covers	SR3754	3	23/12/19
*Kraus & Naimer S1 & S2 Rotary Handle Assembly	SR3755	2	23/12/19
*Tapped Entries for Cable Glands or Conduit Direct Entry	SR3760	4	21/12/19
*Kraus & Naimer S1 Handle Shaft	S1SS0001	3	19-12-19

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16. Details of Certificate changes

Report Number: 09040319, Dated 3 February 2010 – Original

Issue 1, Dated 31 August 2010, Report Number: 10048742, Dated 31 August 2010 –

To permit the following changes:

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

Issue 2, Dated 13 October 2011, Report Number: 11052931A1, Dated 12 October 2011 –

To permit the following changes:

- To include a new size enclosure – Model Number G22L;
- To include an optional jackscrew indent on the G23 to G28 enclosure;
- To include a change to the o-ring groove on the G22 to G28 enclosure;
- Upgrade of certificate to the latest version of EN 60079-0 and EN 60079-31 (EN 60079-0:2009 and EN 60079-31:2009).

The relationship between Max Power Rating, T-Class and Ambient Range for the G22L enclosure is as follows:

<u>T-Class</u>	<u>Watts (Amb +40°C)</u>	<u>Watts (Amb +60°C)</u>
T6	37W	16W
T5	56W	32W
T4	110W	79W

Issue 3, Dated 04 January 2012, Report Number: 11055512A1, Dated January 2012 –

To permit the following changes:

- To allow a MOOG Controller containing internal fans (Part No T200-TC-003) to be fitted within the G28 enclosure (and limited to the G28 enclosure only).

Issue 04, Dated 03 December 2019, Report Number: 104162271CHE-001, Dated 26 November 2019 –

To permit the following change:

- Update to the latest standards; EN 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014.

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Issue 5, This issue, Report Number: 104146159CHE-001, Dated 10 February 2020 –

To permit the following changes:

- Change of manufacturer name and address; from Petrel Limited, 22 Fortnum Close, Kitts Green, Birmingham, B33 0LB UK, to Tech-Ex Systems Limited, Coventry Technology Park, Puma Way, Coventry, CV1 2TT, UK.
- Updating controlled documents from Petrel Limited to Tech-Ex Systems Limited.
- Removal of drawing LAB0049, Restricted Opening G20 Series ATEX Certification Agency Plate.

