'ATEX C' Zone 22 (category 3D)
non-conductive dust

ATEX C Zone 22 Enclosure

How safe is your workspace?

From July 2006 the onus was placed upon companies to ensure that all equipment within their organisations is suitable for the environment in which it is being used. This was aimed particularly at areas where there may be a possibility of a combustible atmosphere being present, even for short periods i.e. less than 10 hours / year.

People normally think of such atmospheres as being gases, mists or vapours. However there are various industries where a conductive or non conductive dust mixed with air in the right proportion can become explosive. It is these areas where the Craig & Derricott ATEX Group II (Zone 22) equipment can be used to help you comply with Health & Safety regulations.

Typical industries where such atmospheres may be generated :-

- Grain Mills
- Textiles
- Cargo Handling
- Pharmaceuticals
- Powder Coating Plant
- Chemicals
- Woodworking
- Waste Processing

There are differing degrees of protection against explosive dusts, **and Zone 22 is defined as :-**
"A place in which an explosive atmosphere, in the form of a cloud of combustible dust in air, is not likely to occur in normal operation but, if it does occur, will persist for a short period only."

Applicable Regulations / Specifications

- Directive 94/9/EC ("Manufacturers Directive") Sets out the route equipment manufacturers must take to get their products certified for use in hazardous environments.
- Directive 1999/92/EC ("Users Directive") Defines the classifications for protection Zones, and the approach users must take to ensure that the correct equipment is matched to specific hazardous environments.

Both of the above are classed as **'ATEX'** directives and are concerned solely with ensuring safety in the work place.

- DSEAR — Dangerous Substances and Explosive Atmospheres Regulations 2002
- BS EN 61241-0 — Electrical apparatus for use in the presence of combustible dust - General requirements.
- BS EN 61241-1 — Electrical apparatus for use in the presence of combustible dust - Protection by enclosures 'tD'.
- BS EN 60204-1 — Safety of machinery - electrical equipment of machines - Part 1 General requirements.
- BS EN 60529 — Specification for degrees of protection provided by enclosures (IP code).
- BS EN 60947-3 — Specification for low-voltage switchgear and controlgear.
- BS EN 60204-1 — Safety of machinery. Electrical equipment of machines - General requirements.

ATEX Switch Disconnectors 25A - 63A

Die-Cast Padlocking Handle
2L Lid mounted interior (25A)
2B Base mounted interior (32A)

Sheet Steel Enclosure
3B Base mounted interior (63A)

Craig & Derricott has been manufacturing enclosed switchgear for more than 50 years. We have incorporated all of that experience in producing an outstanding product that has now been approved for use in explosive dust atmospheres.

Two purpose designed die-cast enclosures are used to cover the 25A & 32A items, whilst the 63A items are supplied in a sheet steel enclosure.
All items have a minimum ingress protection of IP65. The following table lists two popular formats that will fulfil most applications. However, if you specifically require an alternative arrangement, then contact our technical sales staff who will advise on options available.

Catalogue Numbers

Rating	Format	Assembly Form (see left)	Cat. No.	Enclosure Size *
25A	3P+2 EB Aux	2L	DGM253EBZ22	A
	6P+2 EB Aux		DGM256EBZ22	
32A	3P+2 EB Aux	2B	DGM403EBZ22	B
	6P+2 EB Aux		DGM406EBZ22	
63A	3P+2 EB Aux	3B	DGM633EBZ22	C
	6P+2 EB Aux		DGM636EBZ22	

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Safety Features

Padlocking

All versions allow the fitting of a padlock in the 'Off' position. ***Form 2*** construction allows the use of a single padlock, whilst ***Form 3*** will accept 2 or more.

For Form 2 items it is recommended that padlocking devices with a minimum hasp diameter of 6.4mm are used. This will limit the movement of the handle away from the 'Off' position.

Form 2 can accommodate padlocking in both the 'Off' & 'On' positions. Please add /10 to the cat. No. if required:- e.g. DGM323EBZ22.

Design Features

Auxiliary Contacts

The 'EB' addition to the catalogue numbers denotes the inclusion of 2 off ***early break*** contacts.

In all cases these are factory fitted to the isolator interior.

Form 2 auxiliary contacts are fully rated and are designed to open before the main contacts when switching 'Off'. By definition the contacts would be ***late make*** when switching 'On'.

Technical Specification — Isolator Interiors

Data supplied against tests to IEC/BS EN 60947-3

				Rating		
Application	Sym.	Unit	Category	25A	32A	63A
Rated thermal current	I_{the}	A		25	40	63
Rated insulation voltage	U_i	V		690	690	690
Rated impulse voltage	U_{imp}	kV		4.0	-	6.0
Rated operational current (AC)		A	400/415V - AC21A	25.0	32.0	63.0
			400/415V - AC22A	25.0	32.0	-
			400/415V - AC23A	25.0	28.0	-
Rated operational power (AC)		kW	3 x 400V - AC23	10.0	15.0	25.0
Conditional short circuit current	I_{imp}	kA		6.0	50.0*	50.0**
Minimum mechanical endurance			Cycles	0.3 x 10^6	0.5 x 10^6	-
Connecting capacity		-	Terminal type			
		mm^2	Flexible cable	2.5 - 6.0	10 max	16.0
		mm^2	Stranded cable	2.5 - 6.0	10 max	25.0
		Nm	Tightening torque	1.6	2.0	2.0

*Fuse in circuit - GEC 'TIS 40'

** Fuse in circuit 63A

Certification Details — 25A -63A

Coding:	Ex II 3D EX tD A22 IP65 T85°C
Complies in part or full with Standards:	BS EN 50014, BS EN 50281-1-1, BS EN 60529 BS EN 60947-3, BS EN 60204-1

*(Must **not** be used in areas which exhibit **conductive** dust.)*