



ISOLATORS-EX[GD] SERIES

Switch disconnectors for applications in potentially explosive atmospheres - GAS & DUST



**THORNE &
DERRICK
INTERNATIONAL**

WWW.CABLEJOINTS.CO.UK
THORNE & DERRICK UK
TEL 0044 191 490 1547 FAX 0044 477 5371
TEL 0044 117 977 4647 FAX 0044 977 5582

 **SCAME**
electrical solutions

ISOLATORS-EX[GD] Series



SWITCHES DISCONNECTORS



VERSIONS

	Switch disconnecter Thermosetting - General use
	Switch disconnecter Thermosetting - Emergency control
	Switch disconnecter Stainless steel - General use
	Switch disconnecter Stainless steel - Emergency control
	Switch disconnecter Aluminium - General use
	Switch disconnecter Aluminium - Emergency control

REFERENCE STANDARDS

IEC/EN 60079-0

Electrical apparatus for potentially explosive atmospheres.
Part 0: general requirements.

IEC/EN 60079-7

Electrical apparatus for potentially explosive atmospheres.
Part 7: equipment protection by increased safety "e".

IEC/EN 60079-31

Electrical apparatus for potentially explosive atmospheres.
Part 31: equipment dust ignition protection by enclosures "t".

EN 60079-1

Electrical apparatus for potentially explosive atmospheres.
Part 1: flameproof enclosures "d".

EN 60947-1

Low-voltage switchgear and controlgear.
Part 1: general requirements.

EN 60947-3

Low-voltage switchgear and controlgear.
Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units.

TECHNICAL CHARACTERISTICS

ATEX Code:	 II 2GD
Certificate:	INERIS 14 ATEX 0030X IECEx INE 14.0040X
Ex Protection type:	EX d e IIC T4/T5 Gb Ex tb IIIC T80°C Db IP66
Protection degree:	IP66
Ambient temperature:	-20°C/-50°C +40°C/+60°C (see table ambient temperature)
Maximum permissible surface temperature:	T80°C (dust)
Ambient temperature:	T4/T5 (gas)
Material:	Thermosetting (GRP) Stainless steel AISI 316L Aluminium
Colour:	RAL 9006 (aluminium) Satin (stainless steel) RAL 9005 (thermosetting)
Polarity:	2P - 3/4P
Rated current:	20A-25A-32A-40A-63A
Use Category:	AC22A - AC23A AC3 (up to 32A)



■ AMBIENT TEMPERATURE

	ISOLATORS-EX[GD] Series					
	591.xxx20xx-xxx 591.xxx25xx-xxx 591.xxx32xx-xxx	591.xxx40xx-xxx 591.Axx63xx-xxx	591.Pxx63xx-xxx		591.Sxx63xx-xxx	
Ambient temperature range	Temperature Class for Gas	Maximum Surface Temperature for Dust	Temperature Class for Gas	Maximum Surface Temperature for Dust	Temperature Class for Gas	Maximum Surface Temperature for Dust
From -20°C to +40°C	T5	T80°C	T5	T80°C	T5	T80°C
From -20°C to +50°C	T5	T80°C	T5	T80°C	T5	T80°C
From -20°C to +55°C	T5	T80°C	T5	T80°C	N/A	T80°C
From -20°C to +60°C	T4	T80°C	N/A	T80°C	N/A	T80°C
From -50°C to +40°C	T5	T80°C	T5	T80°C	T5	T80°C
From -50°C to +50°C	T5	T80°C	T5	T80°C	T5	T80°C
From -50°C to +55°C	T5	T80°C	T5	T80°C	N/A	T80°C
From -50°C to +60°C	T4	T80°C	N/A	T80°C	N/A	T80°C

591.P.../591.S.../591.A... (see table configuration optional accessories pg. 7).

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS - THERMOSETTING

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

For specific substances please contact our technical service.

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS - STAINLESS STEEL

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant

For specific substances please contact our technical service.

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS - ALUMINIUM

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Resistant	Resistant	Not Resistant	Not Resistant	Not Resistant	Limited Resistance	Resistant	Resistant

For specific substances please contact our technical service.

ISOLATORS-EX[GD] Series



ELECTRICAL FEATURES

		Rated Current				
ISOLATORS-EX[GD] Series		591.xGE200X 591.xEM200X	591.xGE250X 591.xEM250X	591.xGE320X 591.xEM320X	591.xGE400X 591.xEM400X	591.xGE630X 591.xEM630X
Rated Current (In)		20A	25A	32A	40A	63A
Max. Voltage (Ui)		690V	690V	690V	690V	690V
Category	Rated Voltage					
AC22A	690V	20A	25A	32A	40A	63A
AC23A	690V	-	-	-	40A	63A
	500V	20A	25A	32A	40A	63A
AC3	500V	20A	25A	25A	-	-
Frequency		50/60Hz	50/60Hz	50/60Hz	50/60Hz	-

TERMINALS CONTACTS - TORQUE

Terminals Contacts - Torque		
Type COMMAND-EX In	Cross Sectional Areas Conductors mm²	Tightening Torque - (Nm)
32A	10 finely-stranded	0.8
	16 single-wire	0.8
63A	25 finely-stranded	2.5
	35 single-wire	2.5
Earth-stud - 32A WPE 10	10 finely-stranded	2.4
	16 single-wire	2.4
Earth-stud - 63A WPE 35	35 finely-stranded	5
	35 single-wire	5

CABLE ENTRIES

Rated Current	Poles	Cable Entries (mm)	Auxiliary Entries (mm)	Breather/Drain Valve (mm)
20 A	2	2xM25x1,5	M20x1,5	M20x1,5
	3/4			
25 A	2	2xM25x1,5	M20x1,5	M20x1,5
	3/4			
32 A	2	2xM25x1,5	M20x1,5	M20x1,5
	3/4	2xM32x1,5		
40 A	2	2xM32x1,5	M20x1,5	M20x1,5
	3/4	2xM40x1,5		
63 A	2	2xM40x1,5	M20x1,5	M20x1,5
	3/4	2xM50x1,5		

BREATHING/DRAIN VALVE, EARTH-STUD AND AUXILIARY CONTACTS

Optional accessories available on request (see pg. 7)



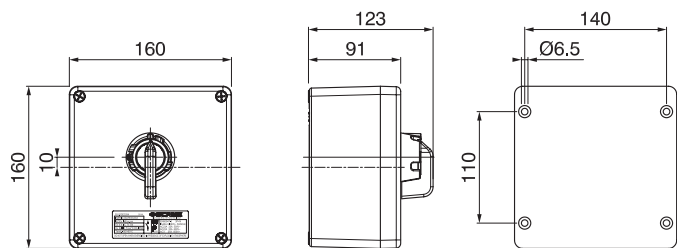
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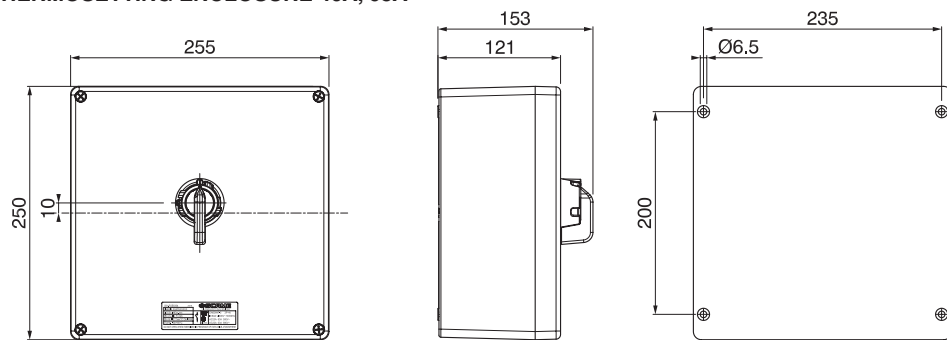


DIMENSIONS

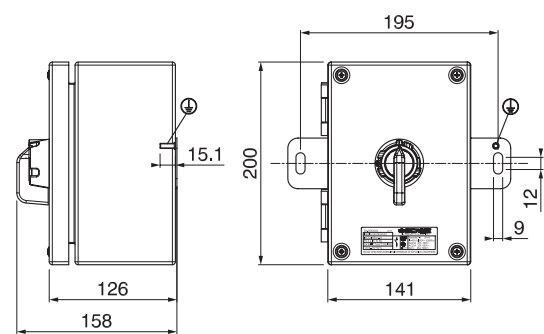
THERMOSETTING ENCLOSURE 20A, 25A, 32A



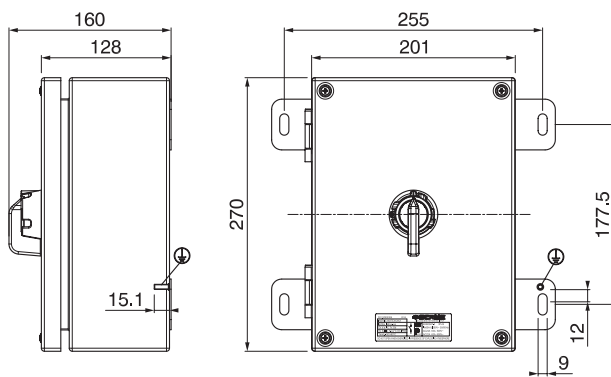
THERMOSETTING ENCLOSURE 40A, 63A



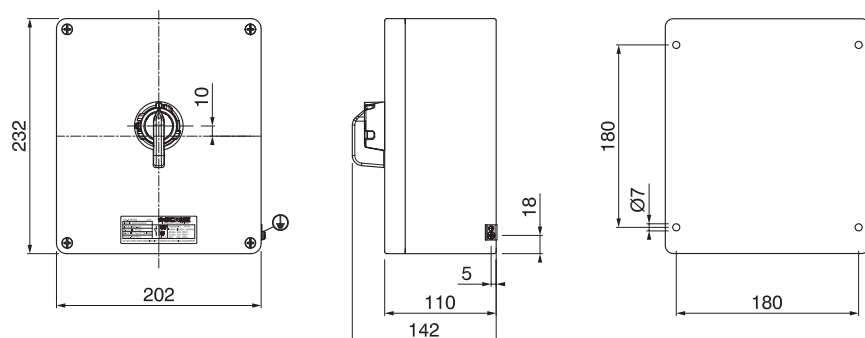
STAINLESS STEEL ENCLOSURE 20A, 25A, 32A



STAINLESS STEEL ENCLOSURE 40A, 63A



ALUMINIUM ENCLOSURE 20A, 25A, 32A, 40A, 63A



(Dimensions in mm)



ISOLATORS-EX[GD] Series

THERMOSETTING SWITCHES DISCONNECTORS - IP66

Current	Poles	Cable inlets	Dimensions (mm)	□	 	
					GENERAL USE	EMERGENCY CONTROL
20A	2	2xM25	160x160x90	1	591.PGE2002	591.PEM2002
	3/4		160x160x90	1	591.PGE2004	591.PEM2004
25A	2	2xM25	160x160x90	1	591.PGE2502	591.PEM2502
	3/4		160x160x90	1	591.PGE2504	591.PEM2504
32A	2	2xM25	160x160x90	1	591.PGE3202	591.PEM3202
	3/4	2xM32	160x160x90	1	591.PGE3204	591.PEM3204
40A	2	2xM32	250x255x120	1	591.PGE4002	591.PEM4002
	3/4	2xM40	250x255x120	1	591.PGE4004	591.PEM4004
63A	2	2xM40	250x255x120	1	591.PGE6302	591.PEM6302
	3/4	2xM50	250x255x120	1	591.PGE6304	591.PEM6304

□ Package/Bulk Pack.

Optional accessories available:

(E) Earth-stud
(D) Breather/Drain valve
(1,2,3,4,5) Auxiliary contacts

(see table configuration optional accessories)

STAINLESS STEEL SWITCHES DISCONNECTORS - IP66

Current	Poles	Cable inlets	Dimensions (mm)	□	 	
					GENERAL USE	EMERGENCY CONTROL
20A	2	2xM25	141x200x126	1	591.SGE2002	591.SEM2002
	3/4		141x200x126	1	591.SGE2004	591.SEM2004
25A	2	2xM25	141x200x126	1	591.SGE2502	591.SEM2502
	3/4		141x200x126	1	591.SGE2504	591.SEM2504
32A	2	2xM25	141x200x126	1	591.SGE3202	591.SEM3202
	3/4	2xM32	141x200x126	1	591.SGE3204	591.SEM3204
40A	2	2xM32	270x201x160	1	591.SGE4002	591.SEM4002
	3/4	2xM40	270x201x160	1	591.SGE4004	591.SEM4004
63A	2	2xM40	270x201x160	1	591.SGE6302	591.SEM6302
	3/4	2xM50	270x201x160	1	591.SGE6304	591.SEM6304

□ Package/Bulk Pack.

- Earth-stud included

Optional accessories available:

(D) Breather/Drain valve
(1,2,3,4,5) Auxiliary contacts

(see table configuration optional accessories)



■ ALUMINIUM SWITCHES DISCONNECTORS - IP66

Current	Poles	Cable inlets	Dimensions (mm)		 GENERAL USE	 EMERGENCY CONTROL
20A	2	2xM25	202x232x142	1	591.AGE2002	591.AEM2002
	3/4		202x232x142	1	591.AGE2004	591.AEM2004
25A	2	2xM25	202x232x142	1	591.AGE2502	591.AEM2502
	3/4		202x232x142	1	591.AGE2504	591.AEM2504
32A	2	2xM25	202x232x142	1	591.AGE3202	591.AEM3202
	3/4	2xM32	202x232x142	1	591.AGE3204	591.AEM3204
40A	2	2xM32	202x232x142	1	591.AGE4002	591.AEM4002
	3/4	2xM40	202x232x142	1	591.AGE4004	591.AEM4004
63A	2	2xM40	202x232x142	1	591.AGE6302	591.AEM6302
	3/4	2xM50	202x232x142	1	591.AGE6304	591.AEM6304

 Package/Bulk Pack.
- Earth-stud included

Optional accessories available:
(D) Breather/Drain valve
(1,2,3,4,5) Auxiliary contacts

(see table configuration optional accessories)

 Padlockable handle in two positions (ON/OFF).

OFF position = 3 padlocks
ON position = 1 padlock

■ ACCESSORIES

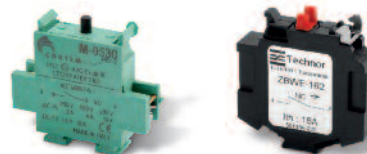
EARTH-STUD



BREATHER/DRAIN VALVE

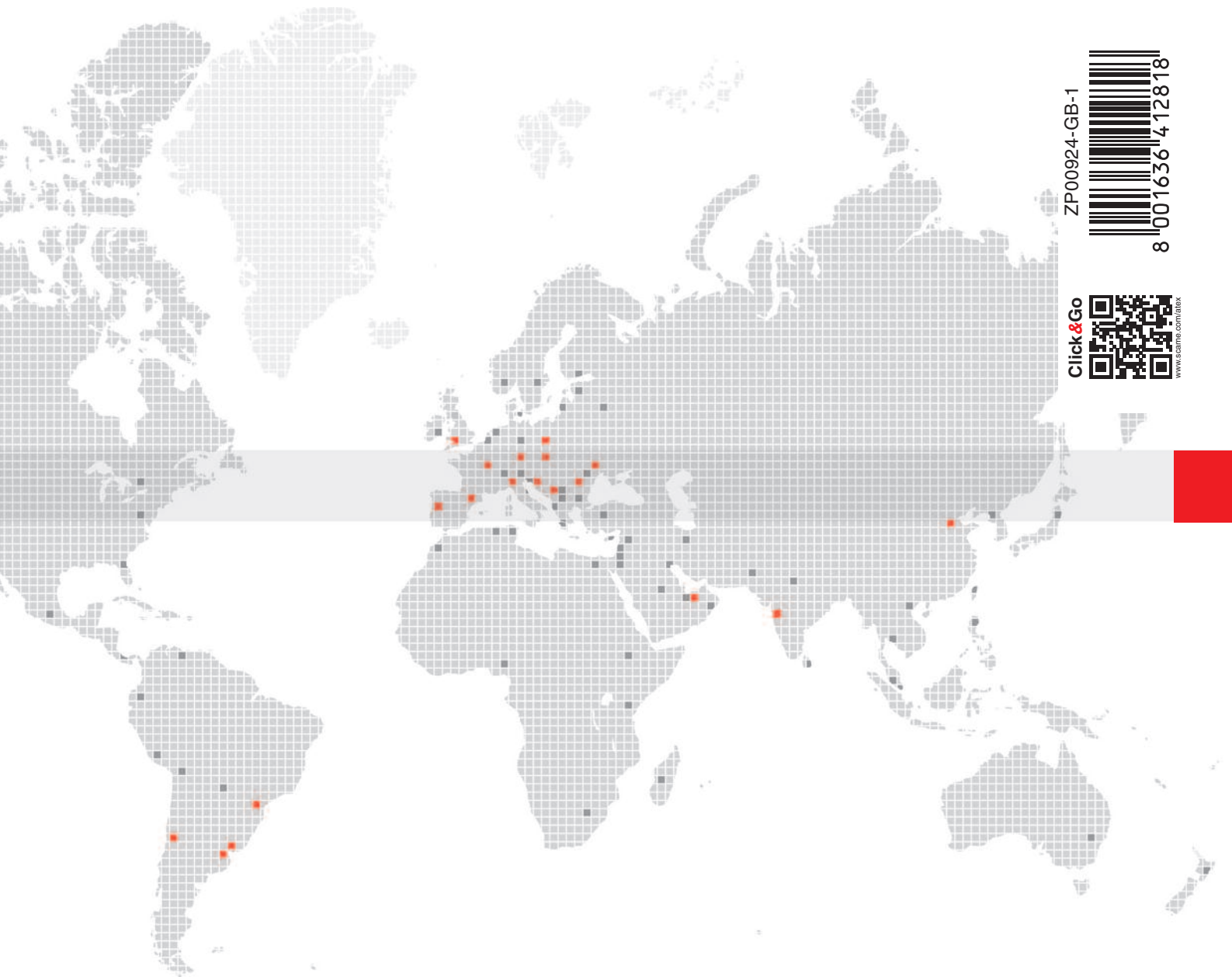


AUXILIARY CONTACTS



■ CONFIGURATION OPTIONAL ACCESSORIES

591.	P	EM	25	02	-	D	E	1
	TYPE P = Thermosetting S = Stainless Steel A = Aluminium	USE GE = General use EM = Emergency control	RATED CURRENT 20A - 25A - 32A 40A - 63A	NUMBER OF POLES 02 = 2P 04 = 4P		BREATHER/DRAIN VALVE D = drain	EARTH-STUD E (only for thermosetting isolators)	AUXILIARY CONTACTS 1 = 1 NO 2 = 1 NC 3 = 2 NO 4 = 2 NC 5 = 1 NO+1 NC



ZP00924-GB-1



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