

EXPLOSION PROTECTION EQUIPMENT

PRODUCT CATALOGUE



Automation is our world. Perfect application solutions are our goal.

A willingness to take entrepreneurial risks, a pioneering spirit, and a firm belief in their own inventive powers – these were the assets that Walter Pepperl and Ludwig Fuchs started out with when they opened their Mannheim radio repair shop in 1945. Their invention of the proximity switch a few years later proved their strength. It was also the starting point in a successful history defined by close customer relationships as well as innovative automation technologies and procedures.

Then as now, our focus is squarely on the individual requirements of each customer. Whether as a pioneer in electrical explosion protection, or as a leading innovator of highly efficient sensors – the intensive communication with our customers is what allowed us to become the leader in automation technology. Our main objective is combining state-of-the-art technologies and comprehensive services to optimize our customers' processes and applications.

For more information, please visit our website: www.pepperl-fuchs.com





A PEPPERL+FUCHS BRAND

Explosion Protection Equipment

Pepperl+Fuchs the world's leading manufacturer of intrinsically safe explosion protection and electronic sensors acquired all the assets of Melbourne based GOVAN Industries. This acquisition, will allow Pepperl+Fuchs to increase expertise and capacity in the manufacture of explosion protection equipment products for use in hazardous areas and harsh environments.

Since 1949, GOVAN Australia has been a supplier of explosion protection equipment. Leveraging from this expertise, Pepperl+Fuchs Australia Pty Ltd are pleased to announce that we will continue to supply GOVAN – A Pepperl+Fuchs Brand, products from the dedicated 4000 sq mtr facility in Melbourne.

A complete range of explosion protection equipment products and customised solutions are manufactured in this facility to support customers throughout the Australia and the South East Asian markets.

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Hazardous Areas and Hazardous Area Equipment

Hazardous Areas and Hazardous Area Equipment

Description

A hazardous area is defined as an area in which an explosive atmosphere is present, or may be expected to be present, in quantities such as to require special precautions for the construction, installation and use of potential ignition sources.

Major industries affected would include oil, gas, petroleum refineries, chemical plants, sewerage treatment and grain handling. Other industries include spray painting shops, aircraft hangars, petrol depots, terminal and garages.

Therefore the use of any electrical apparatus in these areas is strictly controlled through various protection techniques to enable the operators to facilitate the handling or processing of the hazardous materials. This removes the possibility of ignition being caused by the electrical apparatus contained within hazardous area.

The International Electrotechnical - Commission (IEC) have developed the IEC 60079 set of standards specific for Electrical equipment in explosive Gas and Dust atmospheres. These standards define the Protection Techniques in preventing electrical equipment creating a possible ignition source in a hazardous environment.

In having the IECEx Scheme in place it allows products to be tested and evaluated under these standards in being issued an IECEx certificate of conformity. Under the IECEx scheme the manufacturing of such certified equipment is audited by the accredited IEC bodies to ensure the quality systems and processes are in place to ensure compliance. After issuing the manufacturer with an IECEx QAR, ongoing surveillance audits are conducted annually to ensure such quality is maintained.

The IECEx standards have been adopted by Australia and the ANZEx Scheme is in-line with the IECEx Scheme. Therefore IECEx certificates are accepted into the ANZEx scheme for use in Australian installations.

The European Directive 94/9/EC - ATEX follows the CENELEC EN standards that are generally now harmonised with the IEC standards. There may be some small differences as the standards are harmonised across all the hazardous area, installation and protection techniques standards.

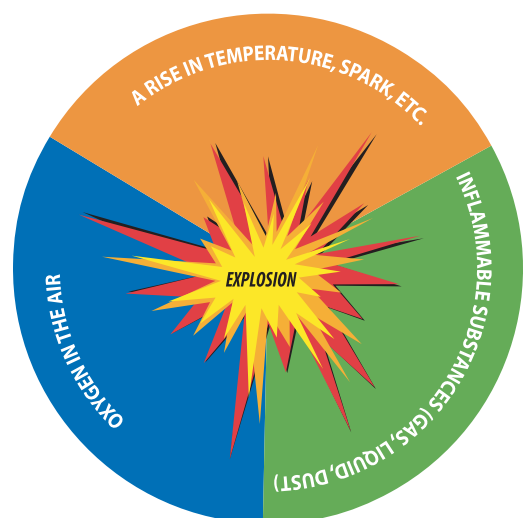
It should be noted that under the ANZEx Scheme, unless ATEX equipment has had a Conformity Assessment conducted, it is not accepted for installation within Australia.

Conditions Required For An Explosion

An explosion will only occur when three basic conditions are present:

- Explosion material
- Oxygen / Air
- Sources of ignition

Remove any one of these basic conditions and an explosion will not occur.



To produce an explosion, three elements are required

Hazardous Areas and Hazardous Area Equipment

Classification of Hazardous Areas

Definition

- Explosive gas vapours atmospheres
- Combustible Dusts
- Specific occupancies

Group Classification

Hazardous area equipment is specified in terms of the types of gases present or where dust is present.

- Group I - Underground mining applications
- Group II - Industries other than mining
- Group III - Industries having dust or fibres

Group I :

Equipment has a representative gas of Methane and all equipment used in underground mining applications fall into this category.

Group II:

As shown in the below table this Group II is segmented into three different representative gas groups, IIA, IIB and IIC.

Group III:

Equipment is segmented concerning the thickness of the dust - Practice A and B regarding maximum surface temperatures relating to the ignition temperatures of the material. The Group III dusts are segmented into three different representative dusts IIIA, IIIB and IIIC, with the worst case being IIIC for conductive dusts.

Group Classification and Representative Gas Data Table

Group Classification	Representative Gas
I	Methane
IIA	Propane
IIB	Ethylene
IIC	Hydrogen, Acetylene

Equipment Protection Levels EPLs

The introduction of Equipment Protection Levels (EPLs) is provided to give further segregation of products and protection techniques for hazardous areas. The EPLs consider assessment of the risk involved with an installation and the suitable equipment protection techniques. These EPLs are generally in line with Zones, however on risk assessment a higher EPL may be used to provide higher protection. Where an EPL is specified on a hazardous document it takes precedence over the Zone classification.

Group and Zone Classification Data Table

Group I	Group II	Group III
Zone 0 - EPL Ma	Zone 0 - EPL Ga	Zone 20 - EPL Da
Zone 1 - EPL Ma and Mb	Zone 1 - EPL Ga, Gb	Zone 21 - EPL Da, Db
	Zone 2 - EPL Ga, Gb and Gc	Zone 22 - EPL Da, Db and Dc

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Hazardous Areas and Hazardous Area Equipment

Zone Classification

Definition

The classification of a Zone is a complex problem with the main factors to consider:

- The probability of the presence of Gas or Vapour or Dust
- The quantity and duration of the hazardous environment
- The amount of ventilation
- The nature of the Gas being lighter or heavier than Air

The division of the plants or parts into Zones is generally undertaken by the supervisory authority in that industry with process engineers / chemists at the design and / or construction stage.

Zone 0 Continuously Hazardous (Protection Technique Allowed)

Ex ia Intrinsically Safe

Ex ma Encapsulation

Zone 1 Frequently Hazardous (Protection Technique Allowed)

Ex ib Intrinsically Safe

Ex d Flameproof

Ex e Increased Safety

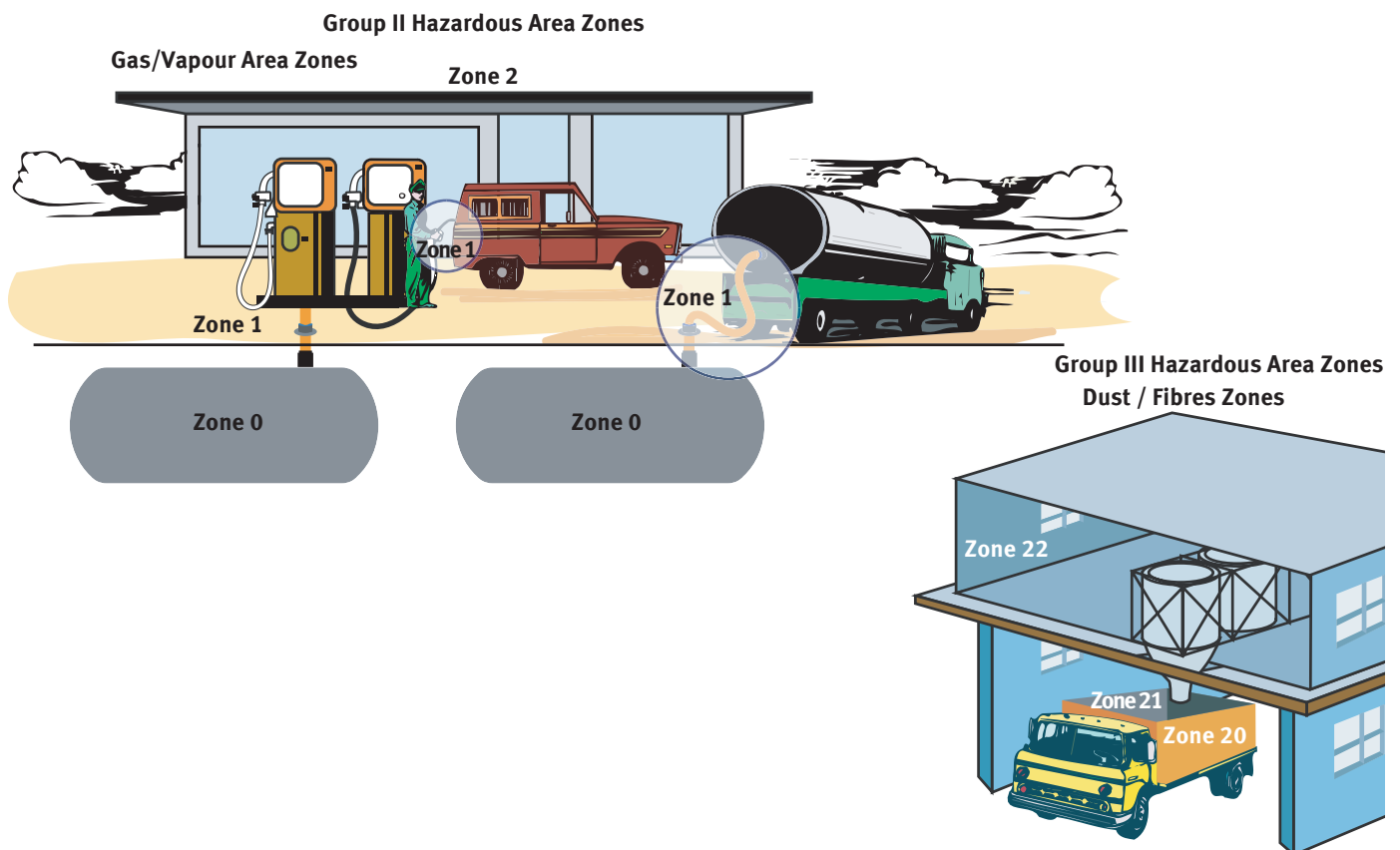
Ex p Pressurized or Purged

Ex s Special Protection

Zone 2 Infrequently Hazardous (Protection Technique Allowed)

Ex n Non-sparking

Typical Example of Zones



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Hazardous Areas and Hazardous Area Equipment

Temperature Classification

Description

Temperature classification takes into account the ignition temperature of the flammable gases present in the particular environment.

Ambient temperatures are of course considered in this appraisal; however circumstances which may increase this surface temperature must also be taken into account.

For example, an enclosure over a period of time, collects a layer of dust on its surfaces. This shall increase the units overall operating and surface temperatures, to a point where if it rises to a point nearing the flash or combustion point of surrounding gases, liquids or dusts, an explosive situation would occur.

For Group I classified electrical equipment, where coal dust can form a layer, the maximum surface temperature shall not exceed 150°C. If this layer can be avoided through sealing or protection from the ingress of dust, the internal surfaces must not exceed 450°C.

In respect to Group II electrical equipment, temperatures are classified as per the following table. In respect to Group III, the surface temperature is given in considering the thickness of the dust layer, Practice A or Practice B, in marking equipment with its maximum T* rating. ie: T80°C.

Temperature class T1 to T6 are used for all protection techniques and correspond to the electrical devices maximum operational temperature.

The better the equipment, the lower the rated surface temperature. In other words, a rating of T4 is better than T2.

Therefore those items certified as being T6 can be used in T1, T2, T3, T4, T5 and T6 gases. Whereas a T2 certification only allows a piece of equipment to be used in T1 and T2 gases.

Temperature Class Data Table

Temperature Class	T1	T2	T3	T4	T5	T6
Maximum surface temperature (°C)	<450	<300	<200	<135	<100	<85

Hazardous Areas and Hazardous Area Equipment

Zone Protection Techniques

Description

The protection technique is a specific process which negates one of the three components of combustion.

The Australian standards are based on the International Electrotechnical Commission IEC standards and with the CENELEC standards being similar and now being harmonised with IEC, in respect of Zone classification, Gas groups temperature ratings and testing methods.

Group II and Group III Data Table

Applicable Zone	Protection Technique	Equipment	Relevant Standard Installation	Description
Zone 1 & 2	Gas - Ex d	IEC 60079-1	IEC 60079-14	Flameproof Enclosures "d"
Zone 1 & 2	Gas - Ex p	IEC 60079-2	IEC 60079-14	Pressurized Enclosures "p"
Zone 1 & 2	Gas - Ex q	IEC 60079-5	IEC 60079-14	Powder Filling "q"
Zone 1 & 2	Gas - Ex o	IEC 60079-6	IEC 60079-14	Oil immersion "o"
Zone 1 & 2	Gas - Ex e	IEC 60079-7	IEC 60079-14	Increased Safety "e"
Zone 0-ia, 1-ib, 2-ib	Gas - Ex i	IEC 60079-11	IEC 60079-14	Intrinsic Safety "i"
Zone 2	Gas - Ex n	IEC 60079-15	IEC 60079-14	Types of Protection "n"
Zone 1, 2, 21 & 22	Gas - Ex m	IEC 60079-18	IEC 60079-14	Encapsulation "m"
Zone 20, 21 & 22	Dust - Ex t	IEC 60079-31	IEC 60079-14	Dust Ignition Proof "tD"
Zone 20, 21 & 22	Dust - Ex p	IEC 61241-4	IEC 60079-14	Dust Pressurization "pD"
Zone 20, 21 & 22	Dust - Ex m	IEC 61241-18	IEC 60079-14	Encapsulation "m"

Zone Protection Techniques Data Table

Items		Australia		IEC		CENELEC		USA					
Zone Classification		Zone 0		Zone 0		Zone 0		Division 1					
Zone Classification		Zone 1		Zone 1		Zone 1							
Zone Classification		Zone 2		Zone 2		Zone 2		Division 2					
Applicable Standards For Various Explosion Protection Techniques	Ex d	AS/NZ 60079-1		IEC 60079-1		EN 60079-1		UL698					
	Ex e	AS/NZ 60079-7		IEC 60079-7		EN 60079-7		-					
	Ex n	AS/NZ 60079-15		IEC 60079-15		EN 60079-15		CSA22213					
	Ex p	AS/NZ 60079-2		IEC 60079-2		EN 60079-2		NPF496					
	Ex i	AS/NZ 60079-11		IEC 60079-11		EN 60079-11		ANS14913					
Gas Groups and Representative Gases		II A		Ammonia, Btane, Propane, Pentane, Benzene, Acetone, Hexane Heptane, Iso-octane, Decane, Cyclohexane, Methanol				D Acetone, Propane Ethane, Butane					
		II B		Butadiene, Ethylene Oxide, Town Gas, Coke-oven Gas				C Acetaldehyde, Ethylene					
		II C		Hydrogen, Acetylene				B Hydrogen, Butadiene, Ethylene oxide					
								A Acetylene					
Temperature Rating (Limit of Temp, Rise Over Ambient of 40°C)		Max Ignition Temp (°C)						Max Ignition Temp (°C)					
		T1		T2		T3		T4		T5		T6	
		450		300		200		135		100		85	
		Degrees Of Protection											
Weather Proof		IP54										Nema 3	
Water Tight		IP65										Nema 4	
Dust Tight		IP66										Nema 4x	
Immersion Proof		IP67										Nema 6	
Explosion Proof		Ex d										Nema 7	
Dust ignition Proof		D.I.P										Nema 9	

Note: The information in this catalogue is subject to change and should always be verified against the current standards.

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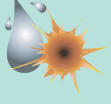



Hazardous Areas and Hazardous Area Equipment

Explosion Protection Techniques

Types of Protection Techniques Data Table

Method	Symbol	Type of Protection
Exclusion	Ex tD	Dust-excluding ignition proof
	Ex m	Encapsulation
	Ex n	Non-sparking (hermetically sealed devices, sealed devices and restricted breathing)
	Ex p	Pressurized enclosure / Rooms
	Ex q	Sand-filled (powder filling)
Explosion containment	Ex d	Flameproof enclosure
Energy limitation	Ex i	Intrinsic safety
Dilution	Ex v	Ventilation
Avoidance of ignition source	Ex e	Increased safety
	Ex n	Non-sparking (inherently non-sparking)

Types of Application and Protection Techniques Data Table



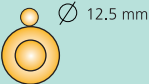

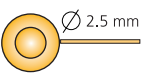
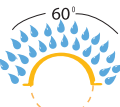
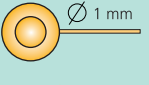

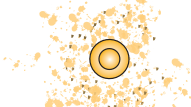





Types of Protection	Principle	Symbol	Typical Application
Flameproof Enclosure		d	Power Apparatus, Switchgears, Motors (all devices able to ignite flammable mixtures in normal operations)
Powder Filling		q	Capacitors, Electronics
Pressurized Apparatus		p	Power Apparatus (requires special measures to maintain safety features)
Oil Immersion		o	Transformers
Encapsulation		m	Measuring and Control Systems (avoiding hot spots on printed boards)
Increased Safety		e	Terminal and Connection Boxes, Squirrel Cage Motors and Lightning (no incendiary or hot surfaces in normal operations)
Intrinsic Safety		i	Terminal and Connection Boxes, Data Processing (small electrical values)

Hazardous Areas and Hazardous Area Equipment

Ingress Protection (IP) and Ratings to AS1939 (IEC 529)

Definition

The degree of protection of the enclosures for electrical equipment is in accordance with the IEC 60529 and EN 60529 standards.

Protection Against Solid Bodies Data Table			Protection Against Liquids Data Table		
0	Tests	No Protection	0	Tests	No Protection
1	 Ø 50 mm	Protected against solid bodies larger than 50 mm (eg. accidental contact with the hand)	1		Protected against vertically-falling drops of water (condensation)
2	 Ø 12.5 mm	Protected against solid bodies larger than 12.5 mm (eg. finger of the hand)	2	 15°	Protected against drops of water falling at up to 15° from the vertical
3	 Ø 2.5 mm	Protected against solid bodies larger than 2.5 mm (eg. tools, wires)	3	 60°	Protected against drops of water falling at up to 60° from the vertical
4	 Ø 1 mm	Protected against solid bodies larger than 1 mm (eg. fine tools, small wires)	4		Protected against projections of water from all directions
5		Protected against dust (no harmful deposit)	5		Protected against jets of water from all directions
6		Completely protected against dust	6		Completely protected against jets of water of similar force to heavy seas
			7		Protected against the effects of immersion
			8		Protected against effects of prolonged immersion under specific conditions

Notes:

- The explosion protection certification of the equipment alone does not necessarily mean it has an adequate degree of protection for specified weather or environment. Hence it is necessary to check the IP rating of the equipment before selection for a particular environment.
- All Pepperl+Fuchs GOVAN equipment is tested and certified for minimum IP 65 rating.

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Increased Safety and Dust Ignition Proof Junction Boxes (Ex e and Ex tD)

EP and DP Polyester Enclosures

Specifications: EP and DP

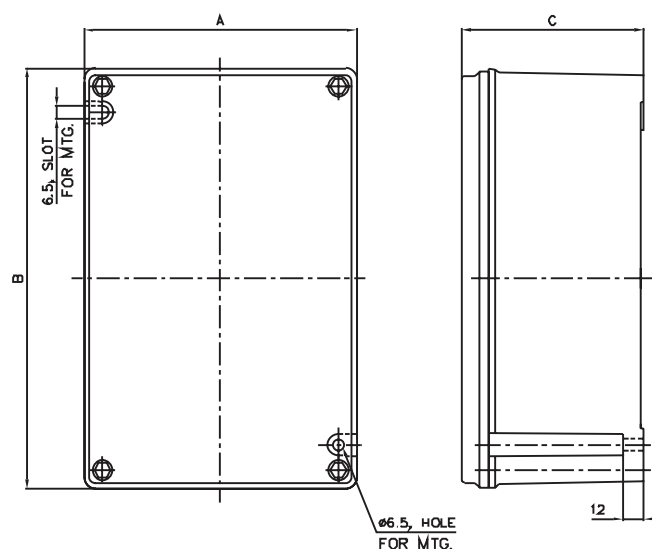
Classification	Zone 1, 2, 21 & 22 Gas IIC
Temperature class	T6/T5
Ambient temperature	-20°C to +65°C (+40°C & +55°C)
Approvals	IECEX SIM 08.0018X SIRA 09ATEX3083X
Degree of protection	IP 65/66
Material	Glass reinforced polyester
Strength	Impact resistant
Hinges	For EP/DP 4227 For EP/DP 4327 For EP/DP 6042
Gaskets	Neoprene rubber
Earth Continuity Plate	Stainless Steel 1. Small Sizes : 1mm thick 2. Large Size : 2mm thick

Product



EP2315

Drawing



EP2315

Ordering Information Data Table

Dimensions [mm] , Terminals [mm²] and approx. Weight [Kg]

Type	Enclosure			Maximum number of terminals					Side	Maximum number of entries						Weight
	A	B	C	2.5	4	6	10	16		M20	M25	M32	M40	M50	M63	
EP1511	119	154	87	12	10	8	6	-	Short	2	2	1	-	-	-	1.25
EP2315	150	230	115	25	22	18	15	12	Short	4	3	2	1	1	-	2
EP4227	270	420	180	90	80	70	55	50	Short	12	10	6	3	2	1	2.7
EP4237	370	420	210						All	20	15	7	5	3	2	4.3
EP6042	420	600	210						Short	20	14	6	5	3	2	7
DP1511	119	154	87	12	10	8	6	-	Long	3	2	2	-	-	-	1.25
DP2315	150	230	115	25	22	18	15	12	Long	6	5	3	2	2	-	2
DP4227	270	420	180	90	80	70	55	50	Long	20	15	7	5	3	2	2.7
DP4237	370	420	210						All	20	15	7	5	3	2	4.3
DP6042	420	600	210						Long	28	22	9	7	6	4	7

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Increased Safety and Dust Ignition Proof Junction Boxes (Ex e and Ex tD)

ES and DS Stainless Steel Enclosures

Specifications: ES and DS

Classification	Zone 1, 2, 21 & 22 Gas IIC
Temperature class	T6/T5
Ambient temperature	-20°C to +65°C (+40°C & +55°C)
Approvals	IECEx SIM 09.0001X SIRA 09ATEX3135X
Degree of protection	IP 66
Material	316L Stainless steel
ES1511 / ES2315 option	1.5mm thick Gland plates
Gaskets	Neoprene rubber
Rated voltage	600 V AC
Rated current	To be advised
Cable entries	To be advised

Product

ES2315



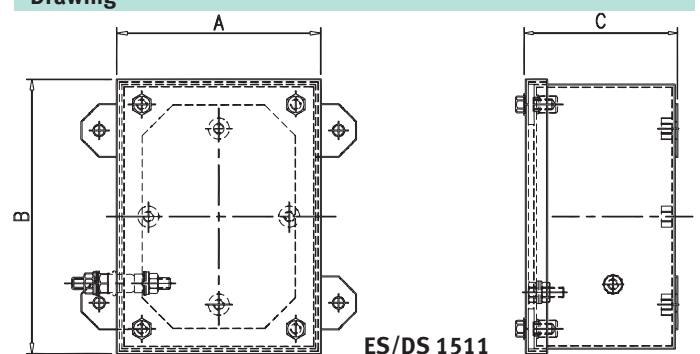
ES1511



ES1110



Drawing



Ordering Information Data Table

Dimensions [mm] , Terminals [mm²] and approx. Weight [Kg]

Type	Enclosure			Maximum number of terminals					Side	Maximum number of entries					Weight
	A	B	C	2.5	4	6	10	16		M20	M25	M32	M40	M50	
ES1110	100	110	70	6	5	4	-	-	Short	2	2	1	-	-	1.2
ES1511	110	150	80	12	10	8	6	-	Short	2	2	1	-	-	1.7
ES2315	150	230	115	25	22	18	15	12	Short	4	3	1	1	1	2.7
DS1110	100	110	70	6	5	4	-	-	Long	2	2	1	-	-	1.2
DS1511	110	150	80	12	10	8	6	-	Long	3	2	1	-	-	1.7
DS2315	150	230	115	25	22	18	15	12	Long	6	5	3	2	2	2.7

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Increased Safety and Dust Ignition Proof Junction Boxes (Ex e and Ex tD)

ES and DS Stainless Steel Enclosures

Specifications: ES and DS

Classification	Zone 1, 2, 21 & 22 Gas IIC
Temperature class	T6/T5
Ambient temperature	-20°C to +65°C (+40°C & +55°C)
Approvals	IECEX SIM 09.0001X SIRA 09ATEX3135X
Degree of protection	IP 66
Material	316L Stainless steel
Gland plates	1.5mm thick 3mm thick
Gaskets	Neoprene rubber
Gland plates	1 or 3 or 4 Material - Stainless steel
Hinges	2-pin type or bracket type or continuous Options: 1. Quarter turn lock 2. 300mm depth 3. 2mm thick material

Product

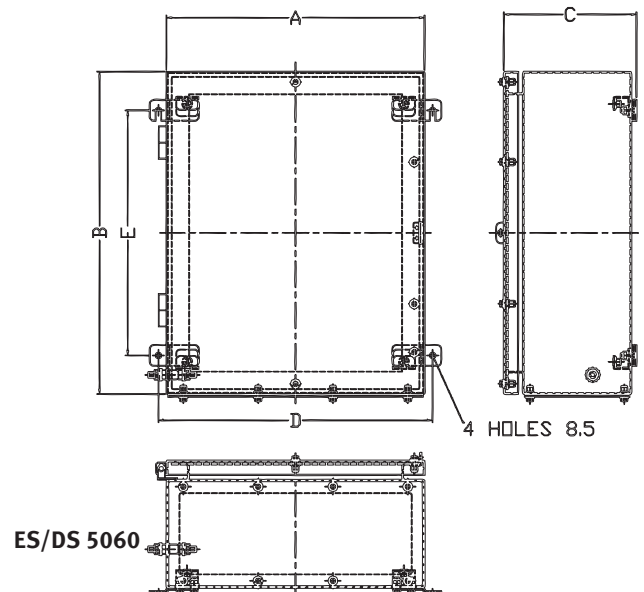
ES/DS 5060



ES/DS 3030



Drawing



Ordering Information Data Table

Dimensions [mm] , Terminals [mm²] and approx. Weight [Kg]

Type	Enclosure					Maximum number of terminals					Side	Maximum number of entries					Weight
	A	B	C	D	E	2.5	4	6	10	16		20	25	32	40	50	
ES3030	300	300	200	325	180	45	38	25	32	20	All	17	14	8	6	3	9.2
ES4050	400	500	200	425	380	120	110	90	70	60	Long	32	26	14	12	5	14.7
ES5060	500	600	200	530	480	180	150	120	100	90	Short	32	26	14	12	5	18.7
ES6090	600	900	200	630	780	-	-	-	-	-	Short	41	22	19	13	7	38
ES8013	800	1300	200	825	1180	-	-	-	-	-	Short	57	32	25	22	15	67
DS3030	300	300	200	325	180	45	38	25	32	20	All	17	14	8	6	3	9.2
DS4050	400	500	200	425	380	120	110	90	70	60	Short	26	20	12	10	4	14.7
DS5060	500	600	200	530	480	180	150	120	100	90	Long	40	32	18	16	7	18.7
DS6090	600	900	200	630	780	-	-	-	-	-	Long	62	33	30	20	12	38
DS8013	800	1300	200	825	1180	-	-	-	-	-	Long	95	55	38	36	22	67

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Increased Safety and Dust Ignition Proof Junction Boxes (Ex e and Ex tD)

EA/DA Range Aluminum Junction Boxes

Specifications: EA/DA	
Classification	Zone 1, 2, 21 & 22 Gas IIC
Temperature class	T6/T5
Ambient temperature	-20°C to +65°C (+40°C & +55°C)
Approvals	IECEX SIM 08.0017X SIRA 09ATX3178X
Degree of protection	IP 66
Rated voltage	415 V
Standard finish	Cast aluminum alloy
Material	Stainless steel hexagon screws
Gaskets	Neoprene

Description

The EA/DA range of junction boxes are certified by Standards Australia for installation in Group II hazardous gas and dust areas. They are also suitable for heavy duty industrial use both indoor and outdoor.

Product



EA/DA 7535

EA/DA 1608

EA/DA 2020

Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	Dimension			Maximum power dissipations (W)			
	H	W	D	T6/T80°C (Ta 40°C)	T5/T95°C (Ta 40°C)	T6/T80°C (Ta 55°C)	T5/T95°C (Ta 55°C)
EA/DA 1608	173	98	74	13	17	8.5	13
EA/DA 2020	210	210	155	23.5	29.5	14.5	23.5
EA/DA 3030	305	305	160	41	51.5	25	41
EA/DA 7535	750	305	155	61	76.5	38	61
EA 7535-BUS	750	305	155	76.50	76.50		86

Type	Maximum number of terminals				
	2.5mm ²	4mm ²	6mm ²	10mm ²	16mm ²
EA/DA 1608	12	12	-	-	-
EA/DA 2020					
EA/DA 3030					
EA/DA 7535					

Other terminal sizes and numbers available on request

Note: Other terminal sizes or combinations of terminals available on request.

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Increased Safety and Dust Ignition Proof Junction Boxes (Ex e and Ex tD)

EA/DA Range Aluminum Junction Boxes

Specifications: EA/DA 1608

Materials	Cast Aluminum
Approx. Weight	1.5kg

Specifications: EA/DA 2020

Materials	Cast Aluminum
Approx. Weight	4.2kg

Specifications: EA/DA 3030

Materials	Cast Aluminum
Approx. Weight	9.5kg

Specifications: EA/DA 7535

Materials	Cast Aluminum
Approx. Weight	18.5kg

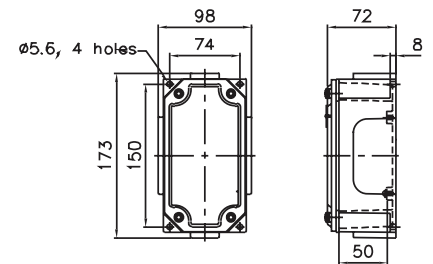
Product



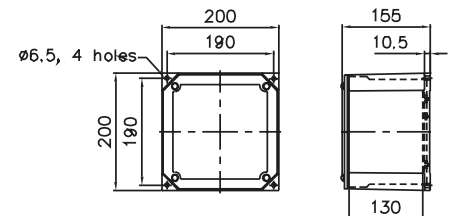
EA/DA Range (Aluminium)

Drawing

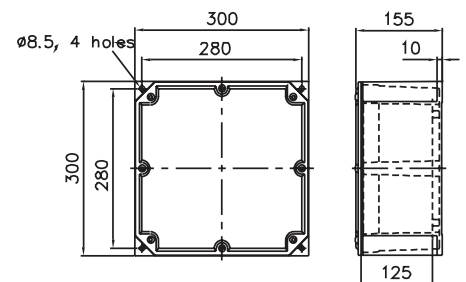
EA/DA 1608



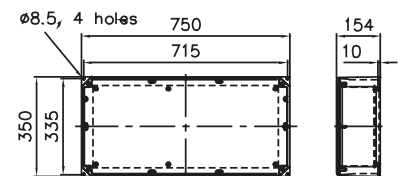
EA/DA 2020



EA/DA 3030



EA/DA 7535



Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Enclosure	Side	Maximum number of entries					
Type		M20	M25	M32	M40	M50	M63
EA 1608	Short	1	1	-	-	-	-
EA 1608	Long	2	1	1	-	-	-
EA 2020	All	6	6	2	2	1	-
EA 3030	All	10	8	5	3	2	2
EA 7535	Short	19	11	6	3	3	3
EA 7535	Long	30	23	15	10	8	6
DA 1608	Short	1	1	-	-	-	-
DA 1608	Long	2	2	1	-	-	-
DA 2020	All	6	6	2	2	1	-
DA 3030	All	10	8	5	3	2	2

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Flameproof Junction Boxes (Ex d)

FW Junction Boxes

Specifications: FW Series

Classification	IEC 60079-0 IEC 60079-1
Temperature class	T6
Ambient temperature	-20°C to +60°C (+55°C)
Approvals	IECEX TSA 07.0005X Ex d IIC T6 IP 66 SIRA 07ATEX1132X II2 GD
Degree of protection	IP 66
Weight	600g
Standard finish	Cast aluminum
Accessories	4 way terminal blocks

FW Junction Box Data Table

Type	Layout	Entry size	Number of entries
FW22I		M20	2
FW22L		M20	2
FW23T		M20	3
FW24X		M20	4
FW32I		M25	2
FW32L		M25	2
FW32T		M25	3
FW34X		M25	4

Product



FW22L



FC4

FC4 Junction Boxes

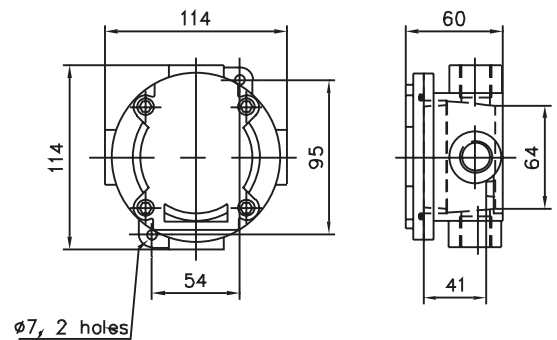
Specifications: FC4 Series

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX SIM 07.0001X Ex d IIC T6 IP 66 SIRA 07ATEX1133X II2 GD
Degree of protection	IP 66
Weight	1.1kg
Standard finish	Cast aluminum / Stainless steel hardware

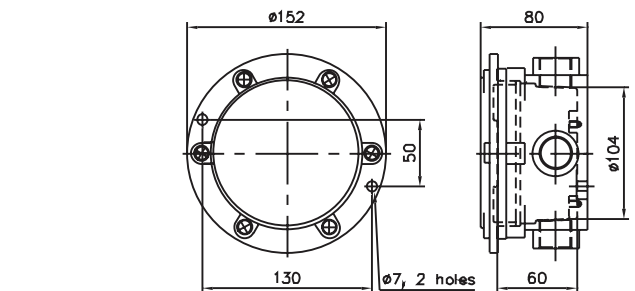
FC4 Junction Box Data Table

Type	Layout	Entry size	Number of entries
FC4 22I		M20	2
FC4 22L		M20	2
FC4 23X		M20	3
FC4 24X		M20	4
FC4 32I		M25	2
FC4 32L		M25	2
FC4 32T		M25	3
FC4 34X		M25	4

Drawing



FW22L



FC4

Flameproof Junction Boxes (Ex d)

FC4/5 Junction Boxes

Specifications: FC4 and FC5 Junction Boxes

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Temperature class	T6
Ambient temperature	-20°C to +60°C
Max watts dissipation	40°C
FC4	22 watts
FC4/5	26 watts
Approvals	IECEX SIM 07.0001X Ex tD A21 IP 66 SIRA 07ATEX1133X IIC G D
Degree of protection	IP 66
Weight	8 kg / 2.6 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Data Table

Entry location	M16	M20	M25	M32	M40	M50
Top	4	4	3	2	1	1
Bottom	4	4	3	2	1	1
Sides	2	2	2	1	-	-
Back (optional)	1	1	1	1	-	-

Product



FC4/5



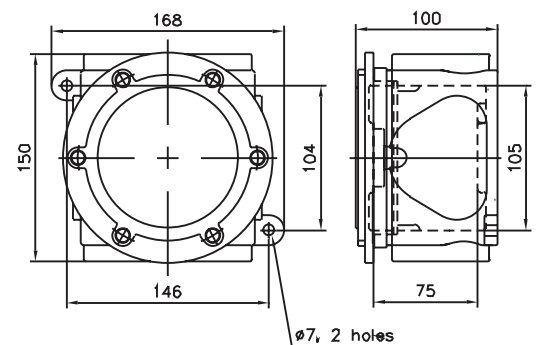
FC15

FC15 Junction Boxes

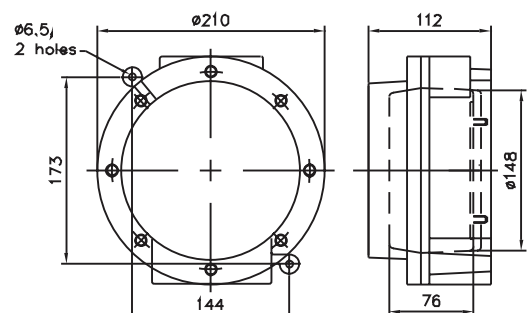
Specifications: FC15 Junction Boxes

Classification	Ex d Zone 1 and 2 Gas IIB
Temperature class	T6
Approvals	Ex d to AS 2380.2 Aus EX 1260
Degree of protection	IP 66 to AS 1939
Weight	4.2kg - FC 15D 3.5kg - FC 15
Standard finish	Cast aluminum Stainless steel

Drawing



FC4/5



FC15

Maximum Number of Entries Data Table

Entry location	M16	M20	M25
Top	2	2	2
Bottom	2	2	2

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Flameproof Junction Boxes (Ex d)

F7 Junction Boxes

Specifications: F7

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC61241-1
Temperature class	T6
Ambient temperature	-20°C to +60°C
Max watts dissipation	40°C
F7	59 watts
Approvals	IECEX TSA 07.0029 Ex d IIB T6 IP 66 Ex tD A21 T80 IP 66 SIRA 07ATEX1134 II 2 G D
Degree of protection	IP 66
Weight	F7 - 8 kg / 19 kg F7D - 9 kg / 20 kg
Standard finish	Cast Aluminium Stainless steel

Maximum Number of Entries Per Side Data Table

Entry location	20 mm	25 mm	32 mm	40 mm
All sides	6	5	3	2

Maximum Number of Entries Per Side Data Table

Entry location	1/2"	3/4"	1"	1 - 1/4"	1 - 1/2"
All sides	6	5	3	2	2

FH22 Junction Boxes

Specifications: FH22

Classification	Zone 1 & 2 Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C
5H22	68 watts
Approvals	IEC 60079-0 IEC 60079-1 IECEX SIM 08.0007X SIRA 08ATEX1321X
Degree of protection	IP 66
Weight	15.5 kg / 40 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50
Top & bottom only for standard junction boxes	9	9	6	4	2
FH22	4	3	1	1	1

Maximum Number of Entries Per Side Data Table

Entry location	1/2"	3/4"	1"	1 - 1/4"	1 - 1/2"	2"
Top & bottom only for standard junction boxes	9	9	6	4	2	1

Product

F7

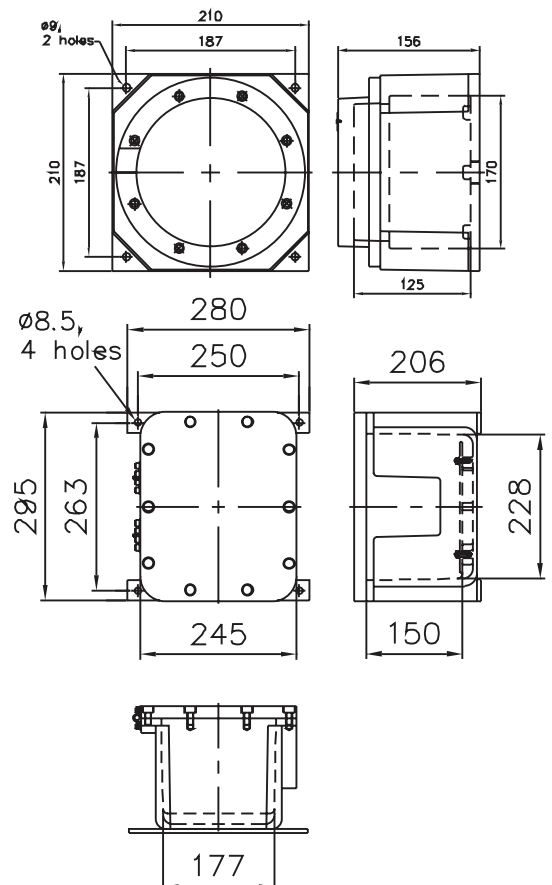


FH22



Drawing

F7



FH22

Flameproof Junction Boxes (Ex d)

FH35 Junction Boxes

Specifications: FH35

Classification	Zone 1 & 2 Gas IIB
Also available	Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 95 watts
Approvals	IECEX SIM 10.0005X SIRA 10ATEX1343X
Degree of protection	IP 66
Weight	15.5 kg
Standard finish	Cast aluminum

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50
Top & bottom only for standard junction boxes	11	9	6	4	2

Maximum Number of Entries Per Side¹⁾

Entry location	1/2"	3/4"	1"	1 - 1/4"	1 - 1/2"	2"
Top & bottom only for standard junction boxes	11	9	6	4	2	1

FH42 Junction Boxes

Specifications: FH42

Classification	Zone 1 & 2 Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 88 watts
Approvals	IECEX SIM 10.0006X SIRA 10ATEX1342X
Degree of protection	IP 66
Weight	21 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Per Side Data Table

Entry size	Standard centers	Long side (Qty)	Short side (Qty)
M20	40 mm	24	12
M25	50 mm	15	8
M32	60 mm	10	6
M40	70 mm	8	4
M50	88 mm	4	2
M63	105 mm	3	1

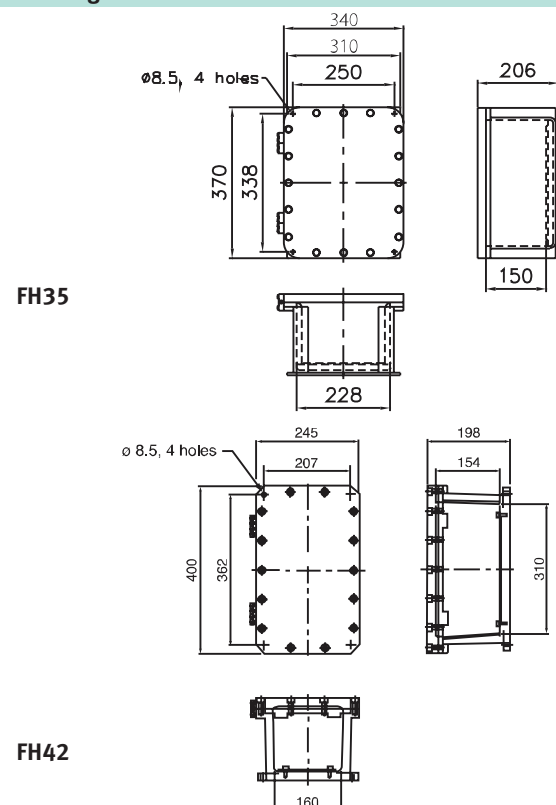
Description

The FH35 is made from standard or marine grade aluminum and comes complete with stainless steel hardware. Fixing is by means of two zinc plated steel straps. Entries are possible in the top and bottom only in standard junction boxes. Special side filled boxes with entries on all sides are possible on request.

Product



Drawing



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Flameproof Junction Boxes (Ex d)

F150 and FH150 Junction Boxes

Specifications: F150 and FH150

Classification	IEC 60079-0 IEC 60079-1
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 160 watts
Approvals	IECEX TSA 06.0054 IECEX SIR 12.0108 SIRA 07ATEX1135X II 2 G
F150 -	Ex d IIB T6 IP 66
FH150 -	Ex d IIB + H2 T6 IP 66
Degree of protection	IP 66
Weight	15.5 kg
Standard finish	Cast aluminum Stainless steel

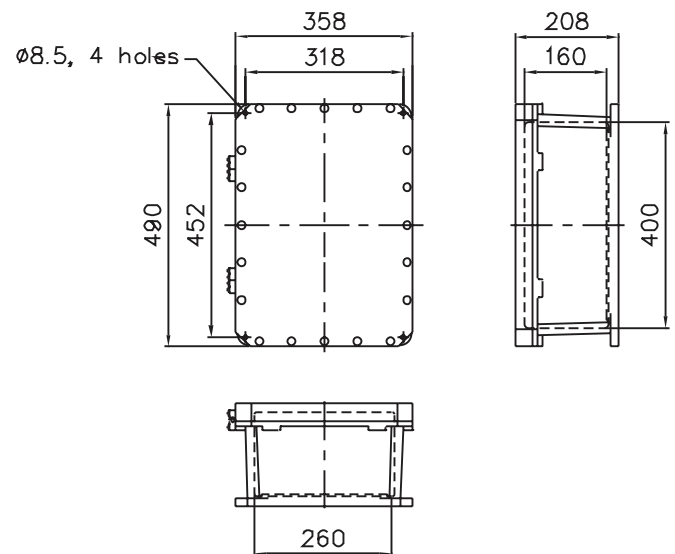
Description

The F150 is made from standard or marine grades of aluminum and comes complete with stainless steel hardware. Fixing is by means of four feet cast into the enclosure. Entries are possible on all sides.

Product



F150 & FH150



F150 & FH150

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50
Long side	26	18	12	8	6
Short side	12	8	6	5	3

Maximum Number of Entries Per Side¹⁾ Data Table

Entry location	1/2"	3/4"	1"	1 - 1/4"	1 - 1/2"	2"
Long side	26	18	12	8	6	4
Short side	12	8	6	5	3	2

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Flameproof Junction Boxes (Ex d)

F160 and FH160 Junction Boxes

Specifications: F160 and FH160

Classification	IEC 60079-0 IEC 60079-1
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 160 watts
Approvals	IECEX TSA 07.0040 SIRA 07ATEX1136X II 2 G Ex d IIB T6 IP 66 Ex d IIB + H2 T6 IP 66
F160	
FH160	
Degree of protection	IP 66
Weight	15.5 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50
Long side	26	18	12	8	6
Short side	12	8	6	5	3

Maximum Number of Entries Per Side¹⁾

Entry location	½"	¾"	1"	1 - ¼"	1 - ½"	1 - ¾"	2"
Long side	26	18	12	8	6	6	4
Short side	12	8	6	5	3	3	2

FH400 Junction Boxes

Specifications: FH400

Approvals	IECEX SIM 07.0005X Ex d IIB + H2 T6 IP 66 IEC 60079-0 IEC 60079-1 SIRA 07ATEX1138X II 2 G
Degree of protection	IP 66
Temperature rating	T6
Internal dimensions	507 × 305 × 206 mm
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 153 watts
FH400	
Weight	15.5 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50	M63
Standard centers	40mm	50mm	60mm	70mm	88mm	105mm
Long side	34	28	14	12	8	6
Short side	20	17	9	7	5	3

Description

The F160 is made from standard or marine grade aluminum and comes complete with stainless steel hardware. Fixing is by means of four feet cast into the enclosure. Entries are possible on all sides.

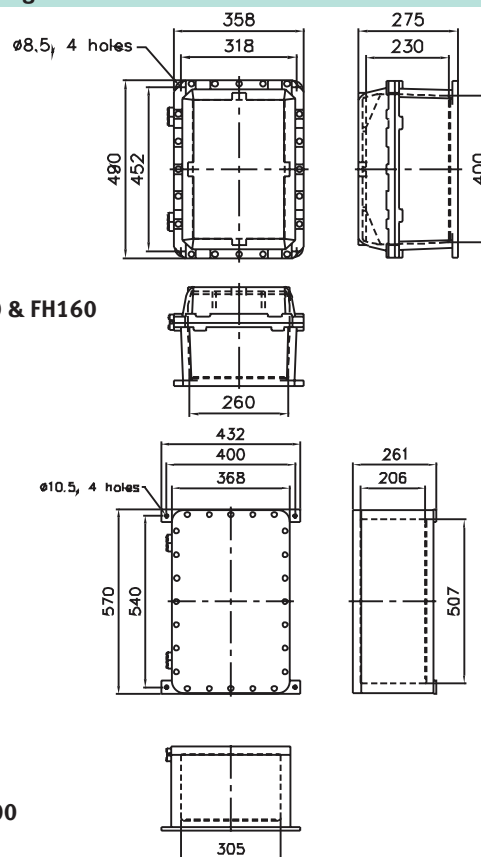
Product

F160 & FH160



FH400

Drawing



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Flameproof Junction Boxes (Ex d)

F560 and FH560 Junction Boxes

Specifications: F560 and FH560

Classification	IEC 60079-0 IEC 60079-1
Temperature class	T6
Ambient temperature	-20°C to +60°C
Maximum watts dissipation	40°C 205 watts
Approvals	IECEX SIR 12.0091 SIRA 07ATEX1137X II 2 G
F560	Ex d IIB T6 IP 66
FH560	Ex d IIB + H2 T6 IP 66
Degree of protection	IP 66
Weight	54 kg / 153 kg
Standard finish	Cast aluminum Stainless steel

Maximum Number of Entries Per Side Data Table

Entry location	M20	M25	M32	M40	M50	M63
Long side	31	29	12	10	6	5
Short side	26	24	10	7	5	4

Maximum Number of Entries Per Side¹⁾

Entry location	1/2"	3/4"	1"	1 - 1/4"	1 - 1/2"	2"
Long side	31	29	12	10	6	4
Short side	26	24	10	7	5	4

FH24/2 Junction Boxes

Specifications: FH24 / 2

Classification	Zone 1 & 2 Gas IIB Gas IIB + H2
Also available	
Temperature class	T6/T5/T4
Ambient temperature	-20°C to +60°C
Maximum watts dissipation at T6	40°C 260 watts
Approvals	IECEX SIM 10.0004X IECEX SIR 12.0090X SIRA 10ATEX1341X
Degree of protection	IP 66
Weight	85 kg
Standard finish	Cast aluminum Stainless steel
Internal dimensions	698 x 394 x 190 mm

Description

The F560 is made from standard or marine grade aluminum and comes complete with stainless steel hardware. Fixing is by means of four feet cast into the enclosure. Entries are possible on all sides.

The FH24/2 is made from standard or marine grade aluminum and comes complete with stainless steel hardware. Entries are possible on all sides.

Product

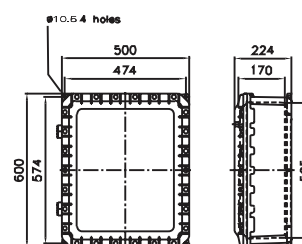


FH24/2

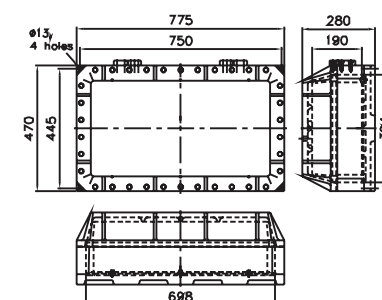
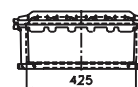


F500/FH560

Drawing



F560 & FH560



FH24/2

Quick Selection Chart for Flameproof Enclosures (Ex d)

Quick Reference Guide to GOVAN flameproof and Ex tD

Dimensions in millimeters (approximately only)

Type	Internal Dimensions H × W × D (mm)	External Dimensions H × W × D (mm)	Entries	Cover	Classification		Klippon terminal	P/buttons	
								P/light modules	Switch modules
					Ex d	Ex tD			
FW	64 × 41	114 × 60	All sides	Flat & dome	X		1 × MK4	1	1
FC4	104 × 60	152 × 80	All sides	Flat & dome	X	X	10 × WDU 2.5	4	2
FC4/5	110 × 80	160 × 170 × 100	All sides	Flat & dome	X		12 × WDU 2.5	4	2
EA/DA 1608	120 × 78 × 50	172 × 85 × 70	All sides	Flat	Ex e	X	15 × WDU 2.5	2	1
EA/DA 2020	178 × 178 × 128	200 × 200 × 152	All sides	Flat	Ex e	X	24 × WDU 2.5	6	6
EA/DA 3030	246 × 246 × 128	300 × 300 × 160	All sides	Flat	Ex e	X	64 × WDU 2.5	9	9
EA/DA 7535	680 × 300 × 128	738 × 350 × 160	All sides	Flat	Ex e	X	160 × WDU 2.5	40	40
FC15	150 × 75	210 × 110	Top & bottom	Flat	X	X	20 × WDU 2.5	7	4
F7	170 × 170 × 120	210 × 210 × 156	All sides	Flat	X	X	20 × WDU 2.5	7	4
F7D	170 × 170 × 177	210 × 210 × 213	All sides	Dome	X	X	43 × WDU 2.5	4	4
FH22	228 × 177 × 150	295 × 245 × 200	Top & bottom	Flat	X		33 × WDU 2.5	9	9
FH35	304 × 228 × 150	370 × 295 × 200	Top & bottom	Flat	X		50 × WDU 2.5	12	12
FH150	411 × 279 × 160	490 × 358 × 208	All sides	Flat	X		150 × WDU 2.5	24	24
FH160	411 × 279 × 230	490 × 358 × 275	All sides	Dome	X		150 × WDU 2.5	4	4
FH42	362 × 207 × 154	400 × 245 × 196	All sides	Flat			42 × WDU 2.5	15	15
FH400	507 × 305 × 206	570 × 368 × 255	All sides	Flat	X		200 × WDU 2.5	28	28
FH24/2	698 × 394 × 190	775 × 470 × 280	All sides	Dome	X		400 × SAK 2.5	32	32
FH560	525 × 425 × 170	600 × 500 × 224	All sides	Dome	X		160 × SAK 2.5	36	36

Flameproof Junction Boxes

How to order:

Step 1. Select enclosures from Quick Reference Chart above

Step 2. Select entry type from Table A below

Step 3. Check enclosure in catalogue if the number of entries required is permissible

Step 4. Select entry arrangement from Table B

Table A

	0	1	2	3	4	5	6	7
Metric = (M)	-	16	20	25	32	40	50	63
BSP = (P)	1/2"	-	3/4"	1"	1 1/4"	1 1/2"	2"	-
NPT = (T)	1/2"	-	3/4"	1"	1 1/4"	1 1/2"	2"	-
Conduit = (C)	-	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"

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Quick Selection Chart for Flameproof Enclosures (Ex d)

Quick Selection Chart for Flameproof Enclosures (Ex d)

Table B

When ordering, please specify type of wiring method, eg. Conduit - pyrotenax - gland, etc.

1 	2 	3 	4 	
6 	7 	8 	9 	10
11 	12 	13 	14 	15
16 	17 	18 		20
21 	22 	23 	24 	25
26 	27 	28 	29 	30
31 	32 		34 	35

F7
Enclosure

M3
Metric 25 mm

5
5 entries

23
Entry arrangement

Polyester and Stainless Steel Control Stations (Ex de)

Specifications: EP Polyester Control Stations

Classification	Ex de IIC T6 Zone 1 & 2
Degree of protection	IP 65/66
Approvals	IECEx SIM 08.0018X SIRA 09ATEX 3083X
Rated voltage	600 V AC
Ambient temperature	-20°C to +60°C (+55°C)
Rated current	16 A
Cable entries	TBA (not threaded)
Materials	Glass reinforced polyester (GRP) Surface resistant to 10° OHMS UV stabilized Flame retardant/self extinguishing Captive stainless cover screws Stainless steel earth continuity plate Costing is taken with 4 x sides continuity plates

Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	H	W	D	Weight
EP1511	154	119	87	1.25
EP2315	230	150	115	2
EP4237	420	370	210	4.3
EP6042	600	420	210	7
EP4227	420	270	180	2.7

Specifications: ES Stainless Control Stations

Classification	Ex de IIC Zone 1 & 2
Temperature rating	T6/T5/T4
Approvals	IECEx SIM 09.0001X SIRA 09ATEX3135X
Degree of protection	IP 66 / IP 65
Ambient temperature	-20°C to +60°C (+55°C)
Rated voltage	600 V AC
Rated current	16 A / 20 A
Materials	316L stainless steel

Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	H	W	D	Weight
ES1110	110	100	70	1.2
ES1511	150	110	80	1.7
ES2315	230	150	115	2.7
ES3030	300	300	200/300	9.2
ES4050	500	400	200/300	14.7
ES5060	600	500	200/300	18.7
ES6090	900	600	200/300	38
ES8013	1300	800	200/300	67

Product



Polyester control stations



Stainless steel control stations



Ex de control stations

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Polyester and Stainless Steel Control Stations (Ex de)

Single Operator

Ordering Information Data Table

Polyester Type	Stainless steel Type	Description
EP1511-1	ES1110-1	1 Pushbutton 1 N/O + 1 N/C recessed actuator
EP1511-3	ES1110-3	1 Mushroom head 1 N/O + 1 N/C emergency stop button twist to reset
EP1511-4	ES1110-4	1 Mushroom head 1 N/O + 1 N/C emergency stop pushbutton key to reset
EP1511-8	ES1110-8	1 Mushroom head 1 N/O + 1 N/C stop button
EP1511-11	ES1110-11	1 LED pilot light 24, 48, 110, 240 V AC/DC Nominate voltage
EP1511-201	ES1511-A201	1 Selector switch OFF/ON + 2 N/O

Note: Other combinations available on request

Product



EP1511-1

Dual Operators

Ordering Information Data Table

Polyester Type	Stainless steel Type	Description
EP1511-1-1	ES1511-1-1	2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP1511-1-3	ES1511-1-3	1 Mushroom head 1 N/O + 1 N/C Emergency stop pushbutton twist to reset 1 Pushbutton 1 N/O + 1 N/C recessed actuator
EP1511-1-4	ES1511-1-4	1 Mushroom head 1 N/O + 1 N/C Emergency stop pushbutton key to reset 1 Pushbutton 1 N/O + 1 N/C recessed actuator
EP1511-1-8	ES1511-1-8	1 Mushroom head 1 N/O + 1 N/C 1 Pushbutton 1 N/O + 1 N/C recessed actuator
EP1511-11-11	ES1511-11-11	2 LED pilot lights 24, 48, 110, 240 V AC/DC Nominate voltage
EP2315-201-201	ES2315-201-201	2 Selector switches OFF/ON + 2 N/O

Note: Other combinations available on request



EP1511-201



ES1110-1

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Polyester and Stainless Steel Control Stations (Ex de)

Multiple Operator

Ordering Information Data Table

Polyester Type	Stainless steel Type	Description
EP2315-1-1-1	ES2315-1-1-1	3 Pushbutton 1 N/O + 1 N/C engraved to suit
EP2315-1-1-3	ES2315-1-1-3	1 Mushroom head 1 N/O + 1 N/C Emergency stop button twist to reset 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-1-1-4	ES2315-1-1-4	1 Mushroom head 1 N/O + 1 N/C Emergency stop key to reset 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-1-1-8	ES2315-1-1-8	1 Mushroom head 1 N/O + 1 N/C stop button 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-1-1-11	ES2315-1-1-11	1 LED pilot light 24, 48, 110, 240 V AC/DC 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-1-1-201	ES2315-1-1-201	1 Selector switch OFF/ON + 2 N/O 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-ME-1-1	ES2315-ME-1-1	1 Meter 48 mm 2 Pushbuttons 1 N/O + 1 N/C recessed actuator
EP2315-ME-201	ES2315-ME-201	1 Meter 48 mm 1 Selector switch OFF/ON 2 N/O

Note: Other combinations available on request

Product



ES2315-1-1-1-1-1-1



ES2315-ME-1-3-11



EP2315-1-8-201

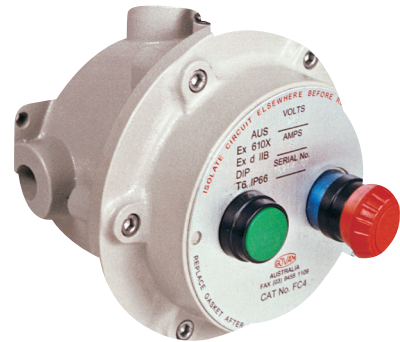
Control Stations with Combinations of Modules (Ex d and Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FC4 Control Stations

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 612-41-1
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX SIM 07.0001X Ex d IIC T6 IP 66 Ex tD A21 IP 66 SIRA 07ATEX1133X II 2 G D
Degree of protection	IP 66
Standard entries	2 × M20
Weight	1.9 kg

Product



FC4

Drawing

Table A

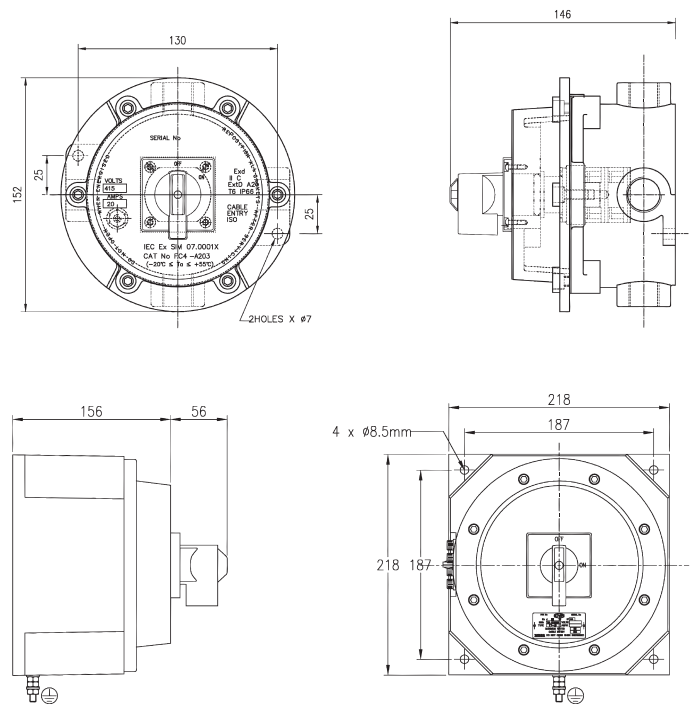
Combinations of Up to Four Modules

Type	No. of pushbuttons	No. of switches	No. of pilot lights
FC4E	2	1	
FC4F		1	1
FC4G		1	2
FC4H	1	1	1
FC4L	1		1
FC4M	2		1
FC4N	1		2
FC4Z	Any combination of 4		Any combination of 4

Note: For all combinations, contact your local branch office.

Ordering Information Data Table

- Step 1: Select Type of basic configuration from table A, e.g. 1PB/SW/1PL = FC4H
- Step 2: Select type of switch from table B
e.g. 2 pole isolator = 201
- Step 3: Select pushbutton from table C e.g. mushroom head
turn to reset = 3
- Step 4: Select type, color and voltage of pilot light from table D
e.g. Incandescent 240 V blue = FC4-H- 201-3-9 blue



Control Stations with Combinations of Modules (Ex d and Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Table B - Switches

Code	Rated Thermal Current I _{th}	Poles	Description
201	240/20 A	2	Isolator
210	240/20 A	1	Change over with off
220	240/20 A	1	Change over without off
176	240/20 A	1	Start stop
178	240/20 A	1	Start stop off
203	415/20 A	4	Isolator
211	415/20 A	2	Change over with off
221	415/20 A	2	Change over without off

Table C - Pushbuttons

Code	Description
1	Pushbutton recessed actuator
2	Pushbutton projecting actuator
3	Pushbutton mushroom head twist to reset
4	Pushbutton mushroom head key to reset
5	Key operated pushbutton
6	Pushbutton mushroom head pull to reset padlockable
8	Pushbutton mushroom head

Table D - Pilot Lights

Code	Description
9	Incandescent 12 V / 240 V
11	7 × LED - nominate color and voltage Colors - red, green, amber, blue, white

Combinations of more than four modules

The following table is an indication to the number of modules that can be installed in the enclosures. For example, the F7 enclosure can have seven pushbuttons, seven pilot lights, four CA10 switches, two CA20B switches or combinations of modules. Where required, enclosures can be joined together.

Type	Pushbuttons	Pilot lights	SM & SMH Series CA10 switches	SM & SMH Series CA20B switches
F7	7	7	4	2
F22	9	9	9	9
F35	12	12	12	12
F42	15	15	10	8
F150	24	24	24	24
F560	36	36	36	TBA

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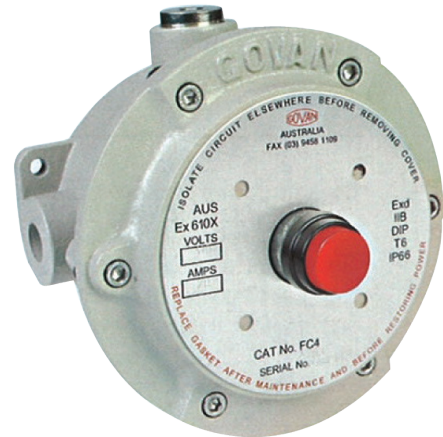
Single Pushbutton Stations (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FC4I Pushbuttons

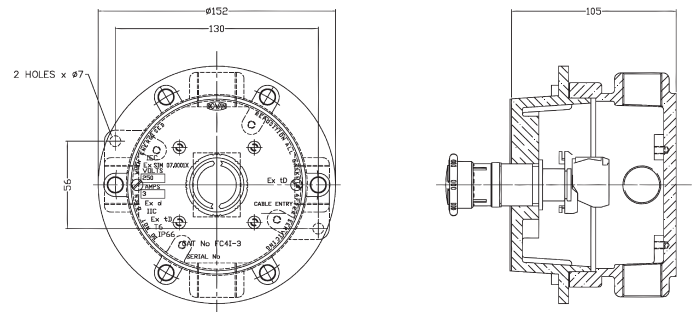
Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Temperature rating	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX SIM 07.0001X Ex d IIC T6 IP 66 Ex tD A21 IP 66 SIRA 07ATEX1133X II 2 G D
Standard entries	2 x M20
Weight	1.7 kg

Product



FC4I-3

Drawing



Ordering Information Data Table

Type	Description
FC4I-1	Pushbutton recessed actuator
FC4I-2	Pushbutton projecting actuator
FC4I-3	Pushbutton mushroom head twist to reset
FC4I-4	Pushbutton mushroom head key to reset
FC4I-5	Key operated pushbutton
FC4I-6	Pushbutton mushroom head pull to reset padlockable
FC4I-8	Pushbutton mushroom head

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Multiple Operator Pushbutton Stations (Ex d and Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FC4J Pushbutton Stations

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Temperature rating	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX SIM 07.0001X Ex d IIC T6 IP 66 Ex tD A21 IP 66 SIRA 07ATEX1133X II 2 G D
Degree of protection	IP 66
Standard entries	
FC4J	2 × M20
FC4K	2 × M25
Weight	
FC4J	1.7 kg
FC4K	1.8 kg

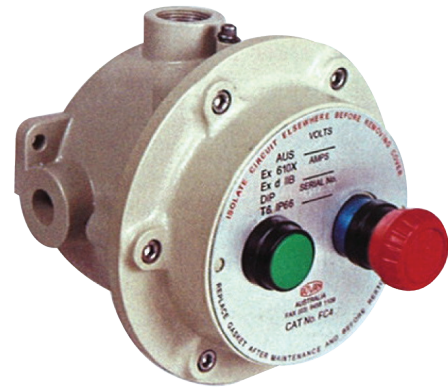
Ordering Information Data Table

Type	Description
FC4J-1-1	1 × pushbutton recessed actuator 1 × pushbutton recessed actuator
FC4J-1-2	1 × pushbutton recessed actuator 1 × pushbutton recessed actuator
FC4J-1-3	1 × pushbutton recessed actuator 1 × pushbutton mushroom head twist to reset
FC4J-1-4	1 × pushbutton recessed actuator 1 × pushbutton mushroom head key to reset
FC4J-1-5	1 × pushbutton recessed actuator 1 × key operated pushbutton
FC4J-1-6	1 × pushbutton recessed actuator 1 × pushbutton mushroom head pull to reset padlockable
FC4J-1-8	1 × pushbutton recessed actuator 1 × pushbutton mushroom head

Ordering Information Data Table

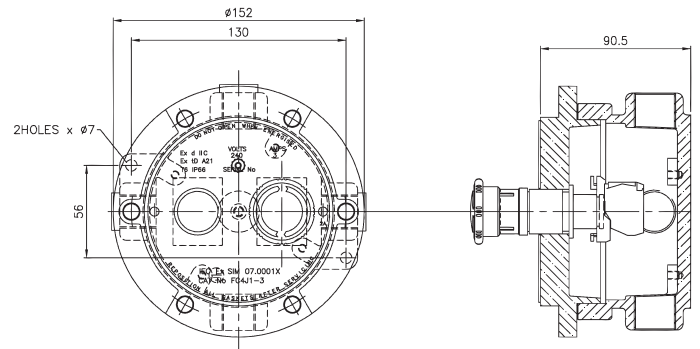
Type	Description
FC4K-1-1-1	3 × pushbutton recessed actuator
FC4K-1-2-2	1 × pushbutton recessed actuator 2 × pushbutton projecting actuator
FC4K-1-3-3	1 × pushbutton recessed actuator 2 × pushbutton mushroom head twist to reset
FC4K-1-4-4	1 × pushbutton recessed actuator 2 × pushbutton mushroom head key to reset
FC4K-1-5-5	1 × pushbutton recessed actuator 2 × key operated pushbuttons
FC4K-1-6-6	1 × pushbutton recessed actuator 2 × pushbutton mushroom head pull to reset padlockable
FC4K-1-8-8	1 × pushbutton recessed actuator 2 × pushbutton mushroom head

Product



FC4

Drawing



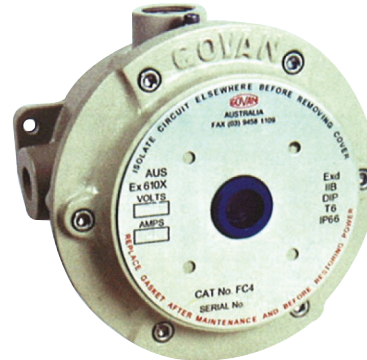
Pilot Light Station (Ex d and Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: Pilot Light Stations

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Temperature rating	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX SIM 07.0001X Ex d IIC T6 IP 66 Ex tD A21 IP 66 SIRA 07ATEX1133X II 2 G D
Degree of protection	IP 66
Standard Voltage	240 V
Standard colors: red, green, white, amber	

Product



FC40-11

Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	Description	Standard entries	Weight
FC40-11	1 × (7 × LED) type pilot light; Color and voltage to be nominated	2 × M20	1.5
FC4P-11	2 × (7 × LED) type pilot lights; Color and voltage to be nominated	2 × M20	1.5

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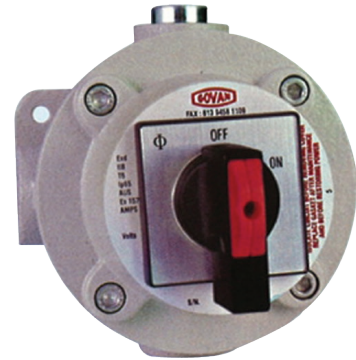
Single Gang Switches (Ex d and Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

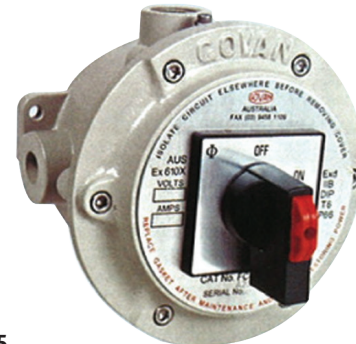
Specifications: Single Gang Switches

Classification	IEC 60079-0 IEC 60079-1 IEC 60079-0 IEC 61241-0 IEC 61241-1
Temperature rating	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	Ex d IIC T6 IP 66 Ex d IIC T6 IP 66 Ex tD A21 IP 66 SIRA 07ATEX1133X II 2 G D SIRA 07ATEX1132X II 2 G IECEX SIM 07.0001X IECEX TSA 07.0005X
FC4 - FW -	
Standard entries	
FW & FC4A series -	4 × M20
FC4B & FC4C series -	4 × M25
FC4U & FC4V series -	2 × M32
Weight	
FW series -	1 kg
FC4A series -	1.7 kg
FC4B series -	2.9 kg
Material	Marine grade aluminum Stainless steel

Product



FW201-240V
2 pole, 20 amps isolator



FC4A 203-415
4 pole, 20 amps isolator

Ordering Information Data Table

Type	Description	Electrical components	e style	No. of poles	Current rating
FW201	Isolator	A201 CA10		2	240 V 20 A ACI
FW210	Change over with off	A210 CA10		1	240 V 20 A ACI
FW220	Change over without off	A220 CA10		1	240 V 20 A ACI
FC4A203	Isolator	A203 CA10	4	4	415 V 20 A ACI
FC4A211	Change over with off	A211 CA10	4	2	415 V 20 A ACI
FC4A221	Change over without off	A221 CA10	4	2	415 V 20 A ACI
FC4A212	Change over with off	A212 CA10	4	3	415 V 20 A ACI
FC4A222	Change over without off	A222 CA10	4	3	415 V 20 A ACI
FC4A401	Reversing	A401 CA10	4	3	415 V 20 A ACI
FC4A213	Change over with off	A213 CA10	7	4	415 V 20 A ACI
FC4A223	Change over without off	A223 CA10	7	4	415 V 20 A ACI
FC4C203	Isolator	A203 C26	4	4	415 V 32 A ACI
FC4U203	Isolator	A203 C32	7	4	415 V 50 A ACI
FC4V203	Isolator	A203 C42	7	4	415 V 63 A ACI

Notes:

1. Special control switches, spring return, multi-position available on request.
2. Control switches with gold plated contacts available on request.
3. Switches with barriers between power and control contacts available on request.
4. Combination of switches wired to terminal blocks available on request.

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Flameproof Control Station and Modules (Ex d and Ex tD)

FC4 Range of Combinations

Ordering Information Data Table

Type	Description
FC4A	CA10 switch
FC4A-SS	Sail switch
FC4A-FS	Float switch
FC4B	CA20B switch
FC4C	C26 switch
FC4D	Switch (CA10 to C26) + 1 pushbutton
FC4E	Switch (CA10) + 2 pushbuttons
FC4F	Switch (CA10 to C26) + 1 pilot light
FC4G	Switch (CA10) + 2 pilot lights
FC4H	Switch (CA10) + 1 pushbutton + 1 pilot light
FC4I-Q	Break glass alarm station
FC4I	Single pushbutton
FC4-BELL	6" bell 25 V DC or 240 V AC
FC4J	2 pushbuttons
FC4K	3 pushbuttons
FC4L	1 pushbutton + 1 pilot light
FC4M	2 pushbuttons + 1 pilot light
FC4N	1 pushbutton + 2 pilots
FC4O	1 pilot light
FC4P	2 pilot lights
FC4R	3 pilot lights
FC4S	2 × switches (CA10)
FC4T	Thermostat
FC4TC	Thermostat / 2.5 kW element
FC4U	C32 switch (style 7 only)
FC4V	C42 switch (style 7 only)
FC4X	Combination of 4 pushbuttons (style 6 only)
FC4Z	Combination of pushbuttons and pilot lights (style 6 only)

Type	Modules for (Ex d) flameproof enclosure
MN1	Recessed actuator
MN2	Projecting actuator
MN3	Mushroom head twist to release (emergency stop)
MN4	Mushroom head press in key to reset (emergency stop)
MN5	Key operated pushbutton
MN6	Mushroom head push in pull to reset padlockable (emergency stop)
MN7	Module blanking plug (used for spares)
MN8	Mushroom actuator (non-latching)
MN8A	Large mushroom head black actuator (non-latching)
MN11	240 V LED pilot light (other voltages available)
MN13	Potentiometer

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Circuit Breakers Panel (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FCB Circuit Breakers Panel

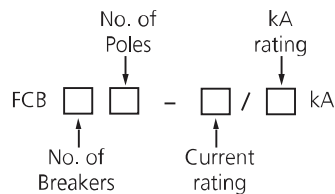
Classification	Zone 1 & 2 Gas IIB
Temperature class	IP 66
Approvals	SIRA 07ATEX1135X II 2 G SIRA 07ATEX1134 II 2 G D IECEX TSA 07.0029 IECEX SIM 08.0007X IECEX TSA 06.0054
Degree of protection	T6
Current rating	415/240 V, 6/100 A / 225
Ordering information	Type FCB / No. breakers / No. of poles
Standard finish	Aluminum
Dimensions	Please refer to enclosure data pages

Product

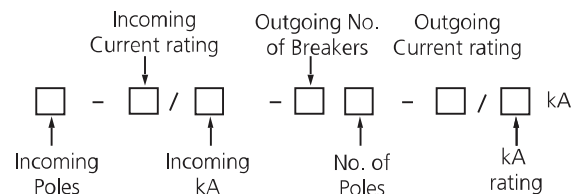


Ordering Information:

1.



2. Combination of different kA incoming and outgoing breaker



3. Circuit breakers available with earth leakage relay and shunt trip on request.

4. For a greater number of breakers and distribution boards, more than one enclosure is joined together by compound bush.

5. Custom built distribution boards with a combination of isolators and circuit breakers are available.

FCB Circuit Breaker Panel - Data Table

Type	Enclosure	Poles	Breakers	kA	Current (Amp)
FCB2	F7D	2	1	6	6-40
FCB22	F7D	2	2	6	6-40
FCB3	F7D	3	1	6	6-40
FCB4	F7D	4	1	6	6-40
FCB23	FH22	3	2	6	6-100
FCB24	F35	4	2	6	6-100
FCB32	FH22	2	3	6	6-100
FCB33	F35	3	3	6	6-100
FCB44	F150	4	4	6	6-100
FCB53	F150	3	5	6	6-100
FCB72	F150	2	7	6	10-100
FCB82	F150	2	8	6	10-100
FCB2EL	F7D	2	1	6	10-40
FCB2EL	F7D	2	2	6	10-40
FCB3EL	FH22	3	1	6	10-13
FCB4EL	FH22	4	1	6	10-13
FCB3-63	FH22	3	1	18	10-63
FCB4-63	FH22	4	1	18	10-63
FCB3-100	F35	3	1	18	10-100
FCB4-100	F35	4	1	18	10-100
FCB3-125	F35	3	1	18	10-125
FCB4-125	F35	4	1	18	10-125
FCB3-160	F150	3	1	18	10-160
FCB4-175	F150	4	1	18	10-175
FCB3-200	F150	3	1	18	10-200
FCB4-200	F150	4	1	18	10-200

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Motor Starters Panel (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications

Direct on Line Motor Starters

Classification	Zone 1 & 2 Gas IIB
Degree of protection	IP66
Approvals	AS 2380-2
Temperature class	T6
Voltage rating	415 V

Specifications

Direct on Line Reversing Starter

Classification	Zone 1 & 2 Gas IIB
Degree of protection	IP 66
Approvals	SIRA 08ATEX1321X SIRA 07ATEX1134 II 2 G D IECEX SIM 08.0007X IECEX TSA 07.0029
Standard finish	Aluminum
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Voltage rating	415 V, Amps to be advised

Specifications

Auto Star Delta Starters

Classification	Zone 1 & 2 Gas IIB
Degree of protection	IP 66
Approvals	Approvals subject to enclosure
Temperature rating	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Voltage rating	415 V, Amps to be advised
Standard finish	Aluminum

Notes:

- 1) Dimensions for these enclosures can be found in Section 3.
- 2) When ordering, select either on line, direct on line reversing, or star delta type starter.
- 3) Then select HP or kW rating, thus giving you the Model Type and Type of Enclosure.
- 4) Ex tD starters are available on request.

Product



FH22

Direct on Line Motor Starter - Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	Enclosure	kW	HP	Weight
F7 DOL4	F7D	4	5.5	5
F7 DOL5	F7D	5.5	7	5
F7 DOL7.5	F7D	7.5	10	5
F7 DOL11	F7D	11	15	5
FC22 DOL15	FH22	15	20	5
FC22 DOL18.5	FH22	18.5	25	17
FC22 DOL22	FH22	22	30	17
FC35 DOL30	F35	30	40	20
FC150 DOL45	F150	45	60	37
FC150 DOL55	F150	55	75	37
FC150 DOL60	F150	60	-	37
FC150 DOL75	F150	75	100	37
FC150 DOL90	F160	90	125	38

Direct on Line Reversing Starter - Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	Enclosure	kW	HP	Weight
F7R DOL4	F7D	4	5.5	11
F22R DOL7.5	FH22	7.5	-	17

Auto Star Delta Starter - Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	Enclosure	kW	HP	Weight
FASD 7.5	FH22	7.5	10	1
FASD 11	FH22	11	15	1
FASD 18.5	F35	18.5	25	20
FASD 22	F150	22	30	37
FASD 30	F150	30	40	37
FASD 45	F150	45	60	37
FASD 55	F150	55	75	37
FASD 75	FH400	75	100	62



Custom Built Control Stations, Starters, Panels and Switchboards (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Description

Control stations / switchboards are suitable for hazardous area Zone 1, Gas IIA and IIB+H₂.

Product



Custom Built Control Stations, Starters, Panels and Switchboards (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

On Request

By adding the Ex d modules in Section 2 to the enclosures in Section 3, numerous combinations are available.

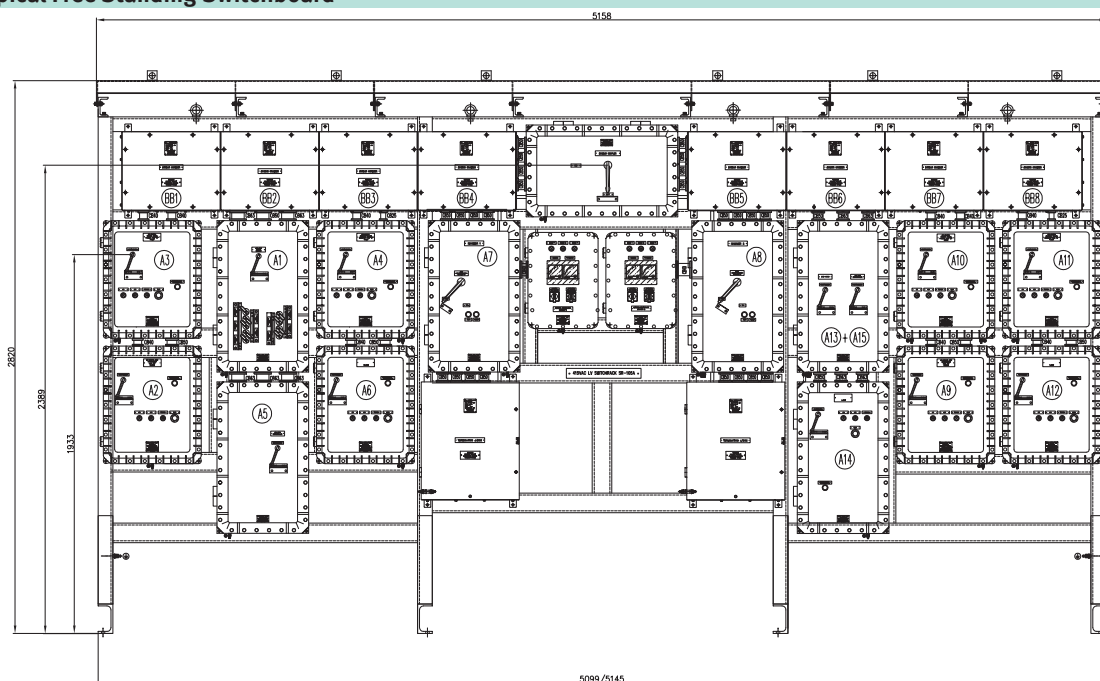
Our technical staff are at your service and can provide design information and drawing to meet your requirements.

Flameproof control stations/switchboards can be supplied wired and ready to install.

Product - Typical Free-Standing Switchboard



Drawing - Typical Free Standing Switchboard



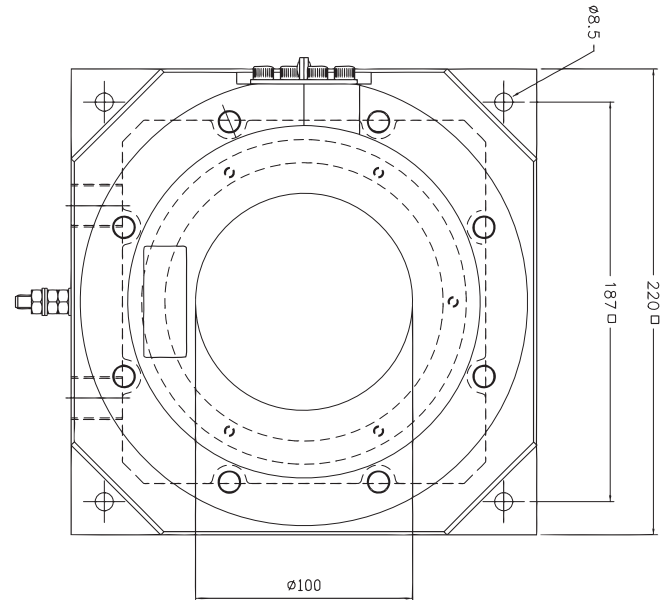
Flameproof Enclosures with Window (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FC15A2 and F7A2

Classification	Zone 1, 2, 21 & 22 Gas IIB
Temperature class	T6
Ambient temperature	-20°C to +60°C (F7A2)
Approvals	IECEX TSA 07.0029 SIRA 07ATEX1134 II 2 G D Aus Ex 1260
FC15	
Degree of protection	IP 66
Standard finish	Aluminum
Dimensions	FC15A2 - 210 × 210 × 129 mm F7A2 - 210 × 210 × 184 mm

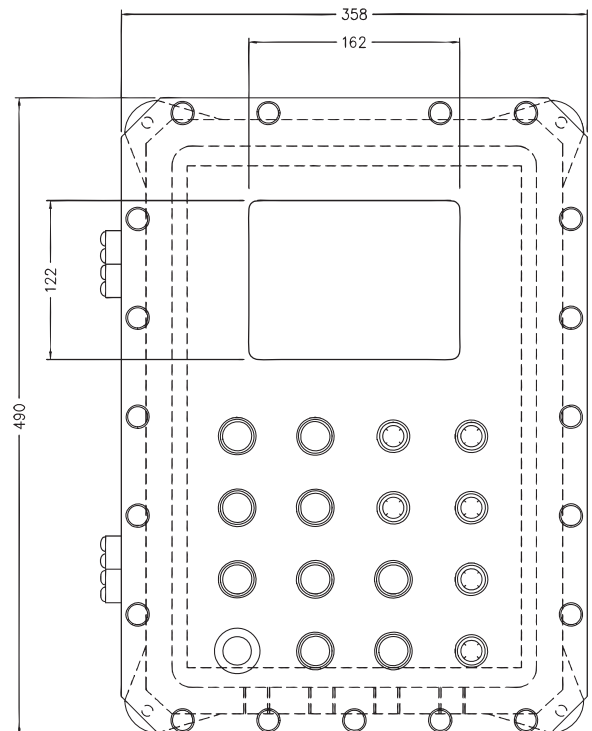
Drawing



F7 with A2 window

Specifications: FH22

Classification	Zone 1 & 2 Gas IIB + H2
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C, +50°C & +55°C)
Approvals	IEC 60079-0 IECEX SIM 08.0007X SIRA 08ATEX1321X
Degree of protection	IP 66
Standard finish	Aluminum
Dimensions	295 × 245 × 200 mm



F150 with A4 window

Specifications: FH150

Classification	IEC 60079-0 IEC 60079-1 Ex d IIB T6 IP 66 Ex d IIB + H ₂ T6 IP 66
F150	
FH150	
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX TSA 06.0054 IECEX SIR 12.0108 SIRA 07ATEX1135X
Degree of protection	IP 66
Standard finish	Aluminum
Dimensions	495 × 375 × 216 mm
Weight	40 kg

Flameproof Enclosures with Window (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: F560

Classification	IECEx SIR 12.0091 SIRA 07ATEX1137X II 2 G Ex d IIB T6 IP 66 Ex d IIB + H2 T6 IP 66
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Degree of protection	IP 66
Standard finish	Aluminum
Dimensions	600 × 500 × 224 mm

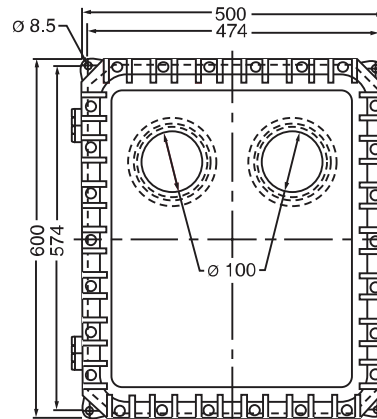
Description

Our instrument enclosures with windows are available in various shapes and sizes. Combinations of two different size windows are possible in one enclosure, along with control components mounted in the front cover for custom built control panels. The typical window sizes are "A1" Ø 50 mm, "A2" Ø 100 mm, "A4" Ø 162×122 mm, "A5" 340×200 mm (only available in F150 Gas IIB). Windows are made from toughened impact resistant heat treated glass and are suitable for hazardous areas Zone 1 and 2 Ex d protection to IECEx 60079.1, T6 Temperature rating, Gas IIA and IIB, IP 65.

Specifications: FH42

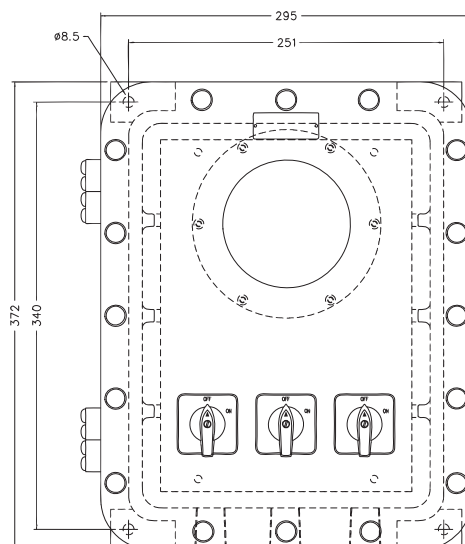
Classification	Zone 1 & 2 Gas IIB Also available Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IEC 60079-0 & 1 IECEx SIM 10.0006X SIRA 10ATEX 1342X
Degree of protection	IP 66
Standard finish	Aluminum
Dimensions	400 × 245 × 198 mm
Weight	37 kg

Drawing



Specifications: FH35

Classification	Zone 1 & 2 Gas IIB Also available Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IEC 60079-0 & 1 IECEx SIM 10.0005X SIRA 10ATEX 1343X
Degree of protection	IP 66
Dimensions	370 × 295 × 200 mm
Weight	15.5 kg



F35 with "A1" window

Specifications: FH24/2

Classification	Zone 1 & 2 Gas IIB Also available Gas IIB + H ₂
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IEC 60079-0 & 1 SIRA 10ATEX 1341X IECEx SIR 12.0090X
Degree of protection	IP 66
Dimensions	775 × 470 × 280 mm
Weight	85 kg

Typical Applications:

Ammeters, voltmeters, kWh meters, pressure and temperature indicators, electronic PLC boards with indicators, field instruments, security cameras, control panels with viewing windows etc.

Explosion Proof Steady and Flashing Beacons (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FB1 Beacon Light

Classification	Zone 1 & 2
Approvals	ANZEx 08.3053 Ex d D.I.P IIB T6 IP 66
Voltage	24 V DC / 110 - 240V AC
Colours	Red, Green, Amber, Clear
Weight	1.5 kg
Dimensions	Refer FC4 Junction Box

Product



FB1

FB1 Beacon mounted in FC4 Junction Box Option Data Table

Type	Options
FB1S	Single element strobe beacon, 60 flashes/min Flasher wattage 12 W max, 2 - 2.7 Joules
FB1TS	Daylight switch for automatic switching lighting circuits 3A rated, 240 V/50Hz nominal input, Operating levels "ON" 31.5-125 Lux, "OFF" <400 Lux
FB1	Pilot lamp up to 15 W, Steady

Specifications: FB2 Beacon Light

Classification	Zone 1 & 2
Approvals	ANZEx 08.3054 Ex d D.I.P IIB T* IP 66
Voltage	24 V DC / 110 - 240V AC
Colours	Red, Green, Amber, Clear
Weight	5.25 kg
Dimensions	Refer FC15 Junction Box



FB1S

FB2 Beacon Lamp - Temperature Rating Data Table

Lamp Rating	Temperature Rating
100 W	T4
40 WFL	T5
25 W	T6
12 W Zenith Flasher	T6

FB2 Beacon mounted in FC 15 Junction Box Option Data Table

Type	Options
FB2	25 W Incandescent lamp
FB2/FL	Fluorescent lamps up to 25 W
FB2S/4	Flashing Beacon, 10 Joules, 60/90 flashes/min
FB2S/1	Flashing Beacon, 2-2.7 Joules, 60 flashes/min



FB2

Note: Both units afford protection to Ex d IIB T*, IP66 and D.I.P tested to AS2380, AS2236 and AS1939.

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Flameproof Break Glass Alarm (Ex d)

Flameproof Electrical Equipment for Explosive Atmospheres

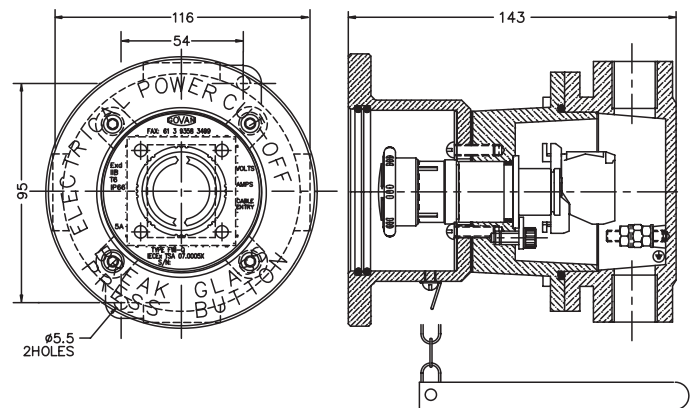
Specifications: FWI-Q Break Glass Alarm

Classification	IEC 60079-0 IEC 60079-1
Temperature class	T6
Ambient temperature	-20°C to +60°C (+40°C & +55°C)
Approvals	IECEX TSA 07.0005X SIRA 07ATEX1132X Ex d IIC T6 IP 66
Degree of protection	IP 66
Current Rating	240 V, 3A
Weight	1.9 kg
Standard finish	Aluminium
Dimensions	114 × 114 × 143 mm

Product



Drawing



FWI-Q

Plugs and Sockets (Ex de)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: PS16, PS32, PS63 and PS125 Series

Classification	IEC/EN 60079-0 IEC/EN 60079-1 IEC/EN 60079-7 IEC/EN 60079-31
Ambient temperature	-40°C ≤ Ta ≤ +55°C
Approvals	IECEX SIR 11.0026 SIRA 11ATEX1044
Ta= -40°C to +45°C	Ex de IIC T6 Gb Ex t IIIC T80°C Db IP66
Ta= -40°C to +55°C	Ex de IIC T5 Gb Ex t IIIC T95°C Db IP66
Degree of protection	IP 66
Current Rating	16A, 32A, 63A and 125A
Voltage Rating	3-Pole 415VAC 50/60Hz 4-Pole 690VAC 50/60Hz 5-Pole 500VAC 50/60Hz
Switch Capacity Rating AC3	3-Pole 250V 4-Pole 400V 5-Pole 400V
Cable Entries	
Wall Type Socket	M25, M32, M50 and M63 respectively
Coupler Type Socket	M25, M32, M50 and M63 respectively
Plug Type Socket	M25, M32, M50 and M63 respectively
Enclosure Material	GRP - Glass Fibre Reinforced Polyester

Notes

3-pole, 4-pole and 5-pole

Clock corresponding position (in the location of earthing inserting sets in socket), colour (colour of socket hinge cover and plug insulation block), service voltage) confirms to IEC 60309

Description

The PS series types of plugs and sockets comprise of a non-metallic plastic GRP material enclosure, having an IP 66 rating and are used to provide cable connection in potentially explosive areas.

Product



16A



32A



63A



125A

Panel Mount Plugs and Sockets (Ex de)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: PS16, PS32 Series

Classification	IEC/EN 60079-0 IEC/EN 60079-1 IEC/EN 60079-7 IEC/EN 60079-31
Ambient temperature	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$
Approvals	IECEx SIR 11.0025U SIRA 11ATEX1043U Ex de IIC Gb Ex t IIIC C Db IP66
$T_a = -40^{\circ}\text{C}$ to $+45^{\circ}\text{C}$	Ex de IIC Gb Ex t IIIC C Db IP66
$T_a = -40^{\circ}\text{C}$ to $+55^{\circ}\text{C}$	Ex de IIC Gb Ex t IIIC C Db IP66
Degree of protection	IP 66
Current Rating	16A and 32A
Voltage Rating	3-Pole 415VAC 50/60Hz 4-Pole 690VAC 50/60Hz 5-Pole 500VAC 50/60Hz
Switch Capacity Rating AC3	3-Pole 250V 4-Pole 400V, 690V 5-Pole 400V, 690V
Cable Entry	
Plug Type Socket	Suitable for 1 x M25, 1 x M32
Enclosure Material	GRP - Glass Fibre Reinforced Polyester
Notes	3-pole, 4-pole and 5-pole
	Clock corresponding position (in the location of earthing inserting sets in socket), colour (colour of socket hinge cover and plug insulation block), service voltage) confirms to IEC 60309

Description

The PS series cover panel mount types of plugs and sockets and comprise of a non-metallic plastic GRP material enclosure, having an IP 66 rating and are used to provide cable connection in potentially explosive areas.

Product



16A Coupler Socket



16A Panel Socket



32A Coupler Socket



32A Panel Socket

Control Stations Type DP (GRP) and DS (Stainless Steel) (Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: DP Polyester Control Stations

Classification	Ex tD Zone 21 & 22
Degree of protection	IP 65
Approvals	IECEX SIM 08.0018X SIRA 09ATEX 3083X
Rated voltage	240 V AC
Rated current	3 A
Cable entries	Control stations 2 × 20 mm (not threaded)
Materials	Glass reinforced polyester (GRP) Surface resistant to 10 ⁹ OHMS UV stabilised Flame retardant/self extinguishing Captive stainless cover screws Stainless steel earth continuity plate optional
Note	Custom built Ex tD Control Stations are available

Product



Complete range of stainless steel and polyester control stations



DP range



DS range

Specifications: DS Stainless Steel Control Stations

Classification	Ex tD Zone 21 & 22
Temperature rating	T6
Approvals	IECEX SIM 09.0001X SIRA 09ATEX 3135X
Degree of protection	IP 65
Rated voltage	240 V AC
Rated current	3 A
Cable entries	2 × 20 mm (not threaded)
Materials	316L Stainless steel

Ordering Information Data Table

Dimensions [mm] and approx. Weight [Kg]

Type	H	W	D	Weight
DP1511	154	119	87	1.25
DP2315	230	150	115	2
DP4237	420	370	210	4.3
DP6042	600	420	210	7
DS1110	110	100	70	1.2
DS1511	150	110	80	1.7
DS2315	230	150	115	2.7
DS3030	300	300	200	9.2
DS4050	500	400	200	14.7
DS5060	600	500	200	18.7
DS6090	900	600	200	38

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Control Station - DA Range (Aluminum) (Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: DA Range Control Stations

Classification	Ex tD Zone 21 & 22
Degree of protection	IP 65
Approvals	IECEX SIM 08.0017X SIRA 09ATEX3178X
Rated current	TBA
Cable entries	TBA
Notes	Custom build D.I.P control stations are available using enclosure types DA2020/3030/7535, or a combination of enclosures.

Product

**DA 1608-CS
SAMPLE 1**



**DA 1608-CS
SAMPLE 2**



**DA 1608-CS
SAMPLE 3**



**DA 1608-CS
SAMPLE 4**



Ordering Information Data Table

Type	Description	Refer section
DA 1608-CS	Single pushbutton station	2 and 3
DA 1608-CS	Single pilot light station	2 and 3
DA 1608-CS	Twin pushbutton station	2 and 3
DA 1608-CS	Twin pilot light station	2 and 3
DA 1608-CS	Single gang switch 2 pole	2 and 3
DA 1608-CS	Single gang switch 4 pole	2 and 3

Other types available



Control Stations (Ex tD)

Flameproof Electrical Equipment for Explosive Atmospheres

Specifications: FC4 and F7D Control Stations

Classification	IEC 60079-0 IEC 60079-1 IEC 61241-0 IEC 61241-1
Degree of protection	IP 66
Approvals	IECEX SIM 07.0001X (FC4) Ex tD A21 IP 66 IECEX TSA 07.0029 (F7) Ex tD A21 T80°C IP 66 SIRA 07ATEX1133X (FC4) II 2 G D SIRA 07ATEX1134 (F7) II 2 G D
Materials	Marine grade aluminum
Rated current	TBA
Cable entries	TBA
Notes	Select enclosures complete with pushbuttons and selector switch modules as well as pilot lights.

Product



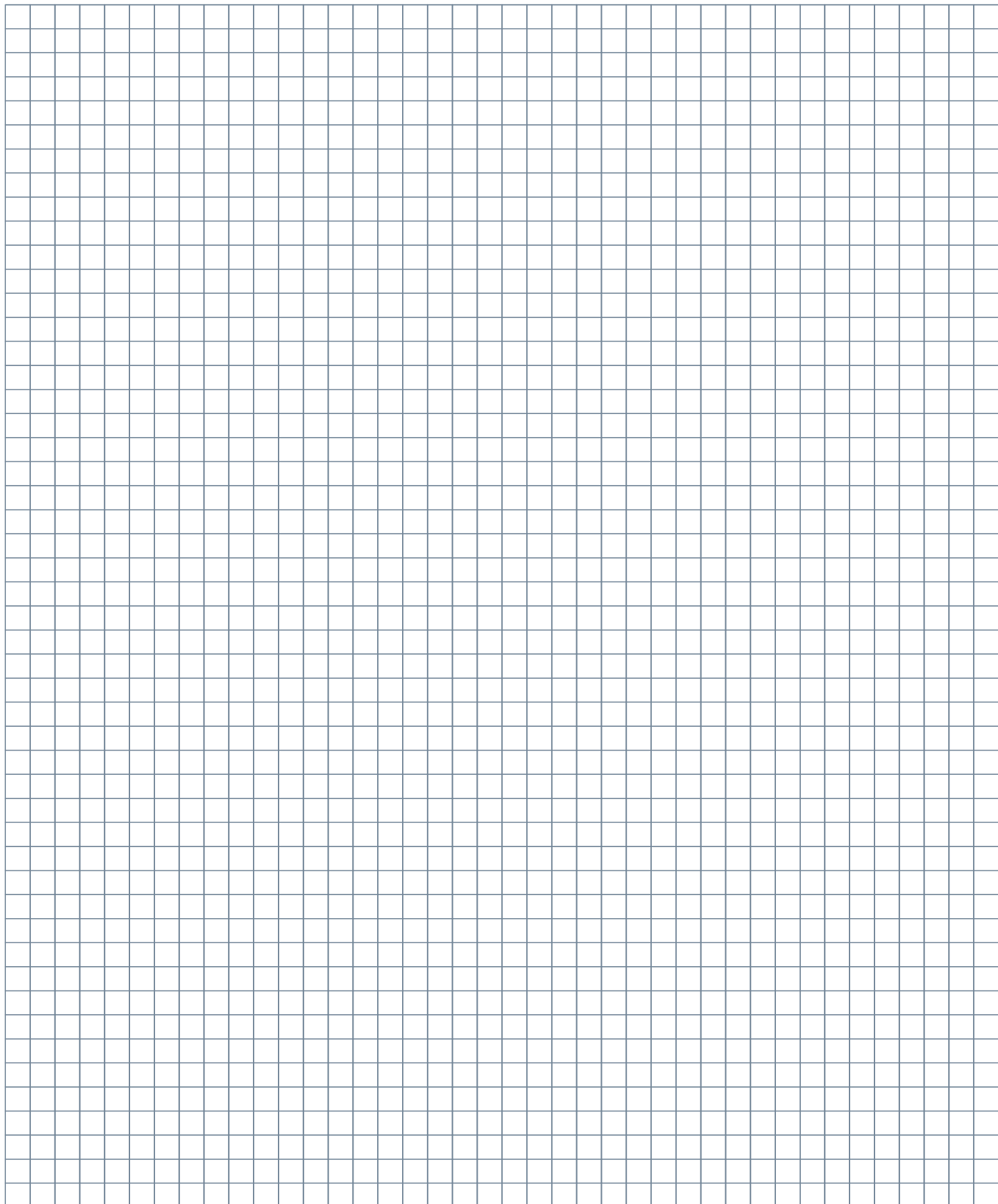
FC4



FC4A203



F7D



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PROCESS INTERFACES

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- Signal conditioners
- Fieldbus infrastructure
- Remote I/O systems
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- Level measurement
- Purge and pressurization systems
- Industrial monitors and HMI solutions
- Explosion protection equipment
- Solutions with process interfaces

INDUSTRIAL SENSORS

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- Photoelectric sensors
- Industrial vision
- Ultrasonic sensors
- Rotary encoders
- Positioning systems
- Inclination and acceleration sensors
- AS-Interface
- Identification systems
- Logic control units



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