

Plugs & Receptacles

Product Series	Description	Area Classification	Page No.
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FSQA Interlocked Receptacles 10 to 32 Amps

Application:

FSQA interlocked receptacles are used with PP series explosionproof plugs:

- To supply power to portable electrical equipment such as power tools, conveyors, portable pumps, handlamps and similar equipment
- In areas which are hazardous due to the presence of flammable liquids, gases or vapours
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants

Features:

- FSQA interlocked receptacles are available with different locking arrangements as shown in the listings, each of which is positively polarised to prevent mismatching. With this choice of locking arrangements, power outlets for several different voltages can be installed in the same area with assurance that portable equipment cannot be connected to a receptacle of improper voltage
- A unique safety feature where the plug must be fully inserted in the receptacle and rotated clockwise to operate the enclosed switch, closing the circuit to the receptacle
- The plug cannot be withdrawn until it is rotated counter-clockwise and the switch is opened, rendering the receptacle pins dead front
- Plug and receptacle contacts cannot be made or broken under load conditions
- 1 x 25mm top entry
1 x 25mm bottom entry
top entry plugged
- 20mm entry can be accommodated using reducer

Standard Materials:

- Receptacle Body Copper free aluminium
- Receptacle Sleeve Stainless steel
- Insulation Phenolic
- Pins Brass

Flameproof, Exd, IIB, IP66/67
Zone 1
Combustible Dust
Zone 21 & 22



Electrical Ratings:

- 32, 240 and 440 volts AC
- 10, 16, 20 and 32 Amps

Standard Finishes:

- Receptacle Body Grey polyurethane
- Power Pins Natural
- Earth Pins Zinc plated

Options:

- Corro free powder polyester finish ...
- Information available on request

Compliances:

- Zone 1, Group IIB Gases to AS2480
 - "Electrical equipment for explosive atmospheres. Flameproof enclosure Type of Protection d, IP66 to AS1939 "Degrees of protection for electrical equipment"
- Certificate of Compliance
No Ex 709

Note:

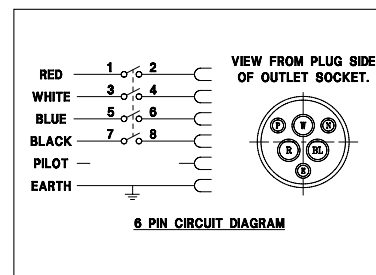
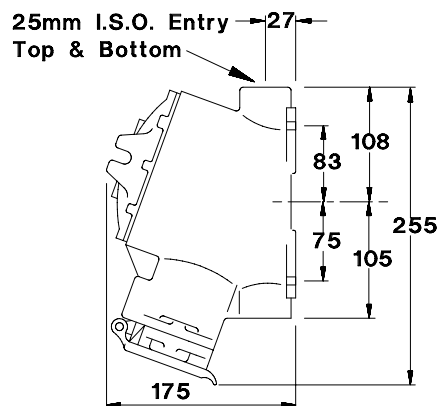
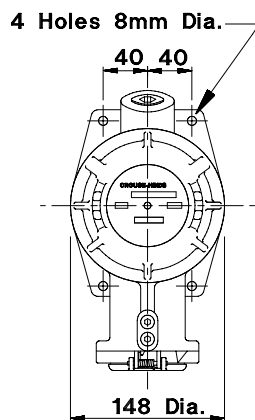
If a ground fault safety switch (GFS) is required (also known as an Earth Leakage Circuit Breaker - ELCB or a Residual Current Device - RCD), see page 7-4

Ordering Information

Current Rating (Amps)	No. of Pins (Inc. Earth)	Voltage	Locking Arrangement	Receptacle Cat. No.	Plug Cat. No.
10	3	32 V.A.C.	A	FSQA 103A	PP103A
10	3	240 V.A.C.	B	FSQA 103B	PP103B
10	3	240 V.A.C.	C	FSQA 103C	PP103C
10	4	440 V.A.C.	B	FSQA 104B	PP104B
10	4	440 V.A.C.	C	FSQA 104C	PP104C
16	3	32 V.A.C.	A	FSQA 163A	PP163A
16	3	240 V.A.C.	B	FSQA 163B	PP163B
16	3	240 V.A.C.	C	FSQA 163C	PP163C
16	6	440 V.A.C.	B	FSQA 166B	PP166B
16	6	440 V.A.C.	C	FSQA 166C	PP166C
20	3	32 V.A.C.	A	FSQA 203A	PP203A
20	3	240 V.A.C.	B	FSQA 203B	PP203B
20	3	240 V.A.C.	C	FSQA 203C	PP203C
20	4	440 V.A.C.	B	FSQA 204B	PP204B
20	4	440 V.A.C.	C	FSQA 204C	PP204C
20	6	440 V.A.C.	B	FSQA 206B	PP206B
32	4	440 V.A.C.	B	FSQA 324B	PP324B
32	4	440 V.A.C.	C	FSQA 324C	PP324C
32	6	440 V.A.C.	B	FSQA 326B	PP326B
32	6	440 V.A.C.	C	FSQA 326C	PP326C

NOTE: Standard locking arrangements for stocking purposes are type B for 240 and 440 volt. Other arrangements are made to order.
Types A, B and C sockets are not interchangeable and will only accept their respective plugs. However B sockets will also accept C plugs but not visa versa.

Dimensions: (mm)



GFSA1 Residual Current Device

Flameproof, Exd, IIB, IP66/67
Zone 1

Application:

GFSA RCD units are used to protect personnel against injury from electric shock due to earth or ground faults:

- When working with portable electrical equipment such as power tools, portable lights, compressors and similar devices.
- In areas made hazardous by the presence of flammable liquids, vapours or gases.
- In branch circuits of 15 to 20 amperes at 240 Volts AC.
- In conjunction with Exd (Flameproof) receptacles such as the FSQA and FNO series in Zone 1 hazardous locations.

Features:

- Heavy duty cast copper free aluminium enclosures suitable for outdoor or indoor use in hazardous and arduous locations.
- GFSA1 protects personnel against possible injury due to unwanted ground faults. Meets the requirements for personnel protection as defined in the Australian Standards.
- Decentralisation of ground fault protection on branch circuits permits immediate identification of the circuit where a fault is occurring.
- Does not interrupt power on the total branch circuit if tripped or when periodically tested.
- Significantly reduces incidence of nuisance tripping; provides for use of 240 Volt AC portable lighting even when working on metal floors or catwalks.
- Can be installed on any single or double gang DSAB base.
- A single GFSA1 can be used to protect a group of several receptacles if fault identification for the complete group is adequate.

Standard Materials:

- Cover..... Copper free aluminium
- Base Copper free aluminium
- Push buttons Stainless steel
- Shafts & bushes... Stainless steel
- Shaft seals & O-Ring gaskets
..... Neoprene



Standard Finishes:

- Copper free aluminium
..... Grey polyurethane
- Stainless steel Natural

Electrical Rating Ranges:

- Current rating 20 Amperes
- Voltage 240 Volts AC
- Trip setting 10 Milliampers

Compliances:

- Australian Standard A2380.2: Electrical equipment for explosive atmospheres - Flameproof enclosure
- Australian Standard 1939: Degrees of protection of electrical equipment - IP66/67.

- Certificate of Compliance No. Ex152

Options:

- 30 Milliampere trip setting
..... specify

Ordering Information:

Amps	Description	Cat. No.
20	Residual current device (RCD)	GFSA1

The above information is for a cover only (including device). For installation a base will need to be ordered separately. Refer to DSA Control Stations (page 4-4) under ordering information for bases (DSAB).

FNO Interlocked Receptacles 63 to 100 Amps

Application:

FNO interlocked receptacles are used with PP series explosion-proof plugs:

- To supply power to motorised portable electrical equipment such as pumps, conveyors, compressors and motor generator sets
- In areas which are hazardous due to the presence of flammable liquids, gases or vapours
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants

Features:

- FNO receptacles feature a built-in rotary switch which can only be operated when the plug is fully inserted and locked
- The plug cannot be unlocked and removed until the switch has been opened
- The plug and receptacle contacts cannot be made or broken under load
- Available with different locking arrangements as shown in the listings, each of which is positively polarised to prevent mismatching. With this choice of locking arrangements power outlets can be installed in the same area with assurance that portable equipment cannot be connected to a receptacle of improper voltage
- Standard entries 25mm, 32mm, 40mm according to rating

Standard Materials:

- Receptacle Body Copper free aluminium
- Receptacle insulation... Phenolic
- Pins Brass

Electrical Ratings:

- 240, 440 volts AC
- 63 and 100 Amps

Standard Finishes:

- Receptacle Body Grey polyurethane
- Power Pins Natural
- Earth Pin Zinc Plated

Flameproof, Exd, IIB, IP65
Zone 1
Combustible Dust
Zone 21 & 22



Options:

- Corro free powder polyester finish. Information available on request
- Deep base for special applications available on request

Compliances:

- Zone 1, Group IIB Gases to AS2480 - "Electrical equipment for explosive atmospheres. Flameproof enclosure ... Type of Protection d, IP65 to AS1939 ... "Degrees of protection for electrical equipment"
- Certificate of Compliance No. Ex660

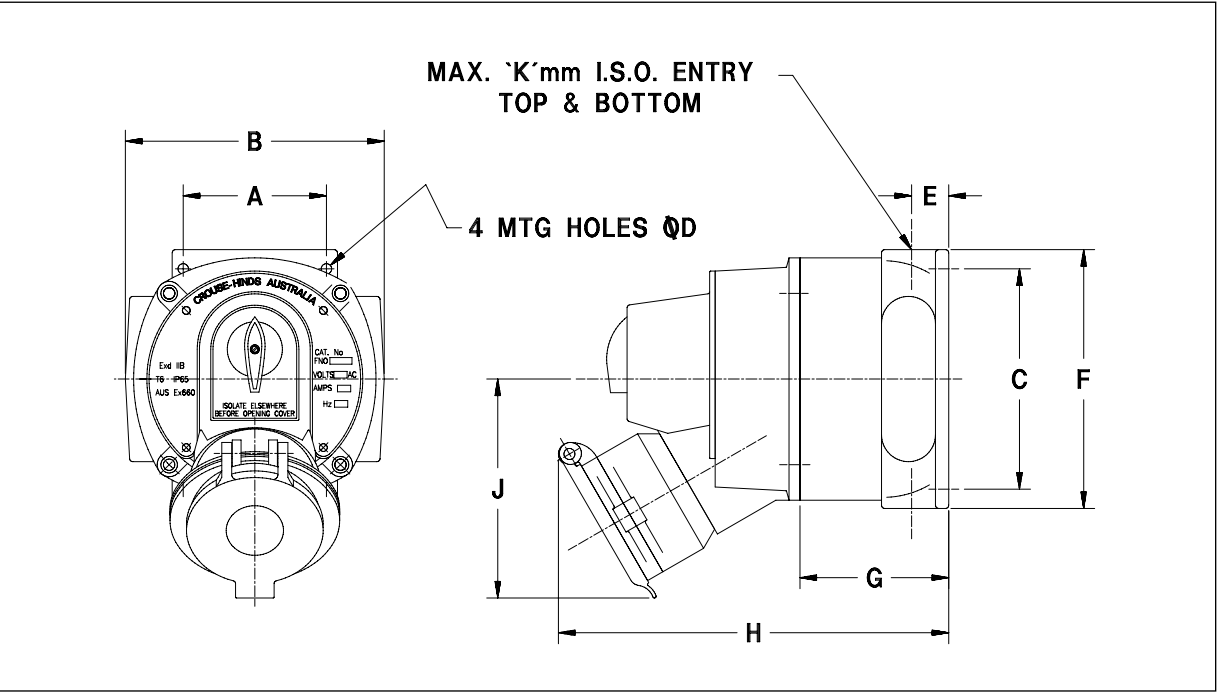
Ordering Information

Current Rating (Amps)	No. of Pins (Inc. Earth)	Voltage	Locking Arrangement	STD Entries	Receptacle Cat. No.	Plug Cat. No.
63	5	440 V.A.C.	C	32	FNO 635C	PP635C
100	5	440 V.A.C.	B	40	FNO 1005B	PP1005B
100	5	440 V.A.C.	C	40	FNO 1005C	PP1005C

NOTE: Types A, B and C sockets are not interchangeable and will only accept their respective plugs. However B sockets will also accept C plugs but not visa versa.

Dimensions: (mm)

	A	B	C	D	E	F	G	H	J	K
63 to 100 Amp Outlet	130	235	200	9.5	34	235	135	360	200	40



7 Hazardous
Plugs &
Receptacles

PP Explosionproof Plugs 10 to 100 Amps

Flameproof, Exd, IIB, IP65
Zone 1
Combustible Dust
Zone 21 & 22

Application:

PP Plugs are used in conjunction with FSQA, FNO and FO Explosionproof Receptacles:

- To supply power to portable electrical equipment such as power tools, conveyors, portable pumps, handlamps and similar equipment
- In areas which are hazardous due to the presence of flammable liquids, gases or vapours
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants

Features:

- PP plugs are designed to match the interlocking mechanism of the mating receptacles to ensure safe operation and proper matching of similarly rated units
- The plug must be fully inserted in the receptacle and rotated clockwise to operate the enclosed switches.
- Similarly, the plug cannot be removed until it is rotated counter-clockwise, disabling the switch and rendering the receptacle pins dead front

Standard Materials:

- Plug Body:
Locking arrangement B.....
..... Stainless Steel
Locking arrangements A & C.....
..... Gunmetal
- Entry hub..... Gunmetal
- Insulation..... Phenolic
- Pins Brass

Electrical Ratings:

- Voltage32, 240, 440 V AC
- Current10, 16, 20, 32, 40, 60, 63 and 100 Amps



Standard Finishes:

- Plug Body:
Locking arrangement B.....
..... Natural
Locking arrangements A & C.....
..... Bright nickel plated
- Entry hub..... Bright nickel plated
- Power Pins..... Natural
- Earth Pins..... Zinc Plated

Compliances:

- Zone 1, Group IIB Gases to AS2480 - "Electrical equipment for explosive atmospheres. Flameproof enclosure Type of Protection d, IP65 to AS1939 "Degrees of protection for electrical equipment" Certificate of Compliance No Ex660 and Ex661

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Crouse-Hinds®

Ordering Information

Current Rating (Amps)	No. of Pins (Inc. Earth)	Voltage	Locking Arrangement	Cat. No.	Standard Entry Size for Cable Gland
10	3	240 V.A.C.	B	PP103B	25mm
10	3	240 V.A.C.	C	PP103C	25mm
10	4	440 V.A.C.	B	PP104B	25mm
10	4	440 V.A.C.	C	PP104C	25mm
16	3	32 V.A.C.	A	PP163A	25mm
16	3	240 V.A.C.	B	PP163B	25mm
16	3	240 V.A.C.	C	PP163C	25mm
16	6	440 V.A.C.	B	PP166B	32mm
16	6	440 V.A.C.	C	PP166C	32mm
20	3	32 V.A.C.	A	PP203A	25mm
20	3	240 V.A.C.	B	PP203B	25mm
20	3	240 V.A.C.	C	PP203C	25mm
20	4	440 V.A.C.	B	PP204B	25mm
20	4	440 V.A.C.	C	PP204C	25mm
20	6	440 V.A.C.	B	PP206B	32mm
32	4	440 V.A.C.	B	PP324B	25mm
32	4	440 V.A.C.	C	PP324C	25mm
32	6	440 V.A.C.	B	PP326B	32mm
32	6	440 V.A.C.	C	PP326C	32mm
40	4	440 V.A.C.	B	PP404B	25mm
40	4	440 V.A.C.	C	PP404C	25mm
60	4	440 V.A.C.	B	PP604B	32mm
60	4	440 V.A.C.	C	PP604C	32mm
63	5	440 V.A.C.	B	PP635B	40mm
63	5	440 V.A.C.	C	PP635C	40mm
100	5	440 V.A.C.	B	PP1005B	40mm
100	5	440 V.A.C.	C	PP1005C	40mm

Types A, B and C sockets are not interchangeable and will only accept their respective plugs. However B sockets will also accept C plugs but not visa versa.

GHG5 Series Switched Socket Outlets & Plugs

Increased Safety, Exde, IIC, IP66
Zone 1

Application:

- GHG5 Series switched socket outlets and plugs enable temporary electrical connection:
- To supply power to portable electrical equipment such as power tools, conveyors, portable pumps, handlamps and similar equipment
- In areas which are hazardous due to the presence of flammable liquids, gases or vapours
- In damp, wet or corrosive locations
- Indoors or outdoors at petroleum refineries, chemical and petrochemical plants

Features:

- IP66 with and without plug inserted
- Unique low resistance laminar contact design ensures reliable connection
- Contacts self clean during plug insertion
- Low handling force required for insertion and withdrawal of plug
- Interlock safety feature requires plug to be fully inserted into the receptacle before the enclosed supply switch can be operated and close the circuit to the receptacle
- The plug cannot be inserted or withdrawn until the enclosed supply switch is moved to the open-off position, ensuring plug and receptacle contacts are not made or broken under load
- Enclosed supply switch is operated simply by rotating the plug after full insertion on 16A and 32A units.
- Plug bayonet locking system provides high plug retention force
- Compatible with CEE/17 pin configuration
- Integral receptacle cap protects contacts from moisture and dust ingress whilst plug is not inserted
- Compact robust construction
- Dedicated brass internal lock ring for metal entries ensures earth continuity

Standard Materials:

- Socket outlet housings, 16A to 63A units - high impact strength corrosion resistant fibreglass reinforced polyester, 125A unit - corrosion resistant coated metal
- Plug bodies - corrosion resistant fibreglass reinforced polyester
- External hardware - stainless steel



Electrical Rating

- 220-240 VAC, 380-415 VAC, 500 VAC, 690 VAC
- AC3 - 16A, 32A, 63A, 125A

Options:

- Consult factory for availability of options
- Alternate pin configurations, current and voltage ratings
 - Plug incorporating 65VA isolating transformer
 - Plug protection caps
 - Plug entry sleeve
 - 3 phase looping terminals for single phase socket
 - Alternate entry sizes

Compliances:

- EN 50014; EN 50018; EN 50019, Electrical apparatus for potentially explosive atmospheres; General Requirements; Flameproof enclosure 'd'; Increased Safety 'e'
- EN 60529 Degrees of protection - IP65
- Certificate of compliance No.

16A	PTB ATEX 1039
16A (3Ø)	PTB ATEX 1039
32A	PTB ATEX 1041
63A	PTB ATEX 1041
125A	PTB ATEX 1041

7 Hazardous
Plugs &
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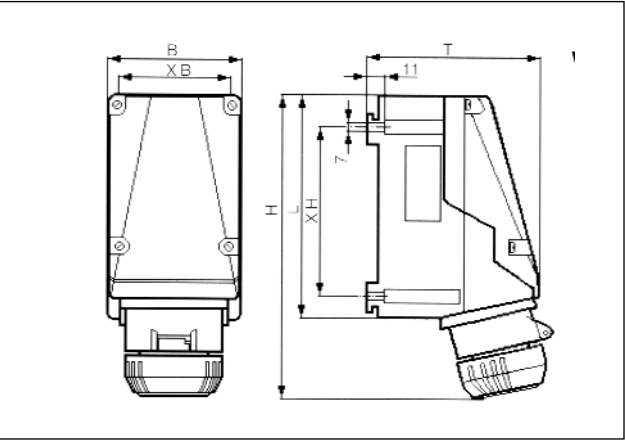
Ordering Information

Current Rating (AC3)	Pins Inc Earth	Standard Voltage Entry	Plug Recept Ø Range	Connection Terminal Cable entry Receptacle	Wire Size Plug	Capacity +	Receptacle Cat. No.	Plug Cat. No.
16A	3	24V/50/60Hz	1xM25	9 - 17mm	2 x 4mm ²	4mm ²	GHG5134300R0001	GHG5422300V0000
16A	3	110V/50/60Hz	1xM25	9 - 17mm	2 x 4mm ²	4mm ²	GHG5114304R3001	GHG5117304R0001
16A	3	240V/50/60Hz	1xM25	9 - 17mm	2 x 4mm ²	4mm ²	GHG5114306R3001	GHG5117306R0001
16A	4	415V/50/60Hz	1xM25	9 - 17mm	2 x 4mm ²	4mm ²	GHG5114406R3001	GHG5117406R0001
16A	5	415V/50/60Hz	1xM25	9 - 17mm	2 x 4mm ²	4mm ²	GHG5114506R3001	GHG5117506R0001
32A	5	415V/50/60Hz	1xM40	18 - 27mm	2 x 10mm ²	6mm ²	GHG5124506R3001	GHG5127506R0001
63A	4	415V/50/60Hz	1xM50	19 - 28mm	2 x 25mm ²	16mm ²	GHG5144406R3001	GHG5147406R0001
63A	5	415V/50/60Hz	1xM50	19 - 28mm	2 x 25mm ²	16mm ²	GHG5144506R3001	GHG5147506R0001
63A	4	690V/50/60Hz	1xM50	19 - 28mm	2 x 25mm ²	16mm ²	GHG5144405R3001	GHG5147405R0001
125A	5	415V/50/60Hz	1xM63	34 - 53mm	2 x 50mm ²	35mm ²	GHG5154506R3001	GHG5157506R0001
125A	4	690V/50/60Hz	1xM63	34 - 53mm	2 x 50mm ²	35mm ²	GHG5154405R3001	GHG5157405R0001

+ Note: Terminals can accommodate larger wire sizes when crimp lugs are utilised. Consult factory for details.

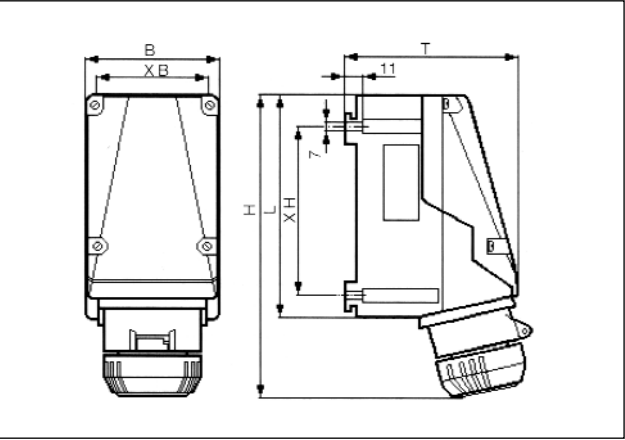
Dimensions:

16A



Type / No. of Poles			
	3p	4p	5p
B	90	110	110
XB	80	100	100
T	121	147	147
H	223	236	236
XH	115	135	135
L	155	175	175

32A



Type / No. of Poles		
	4p	5p
B	120	120
XB	110	110
T	166	168
H	285	293
XH	170	170
L	205	205