

SAFEX (INDIA)

**MINING EQUIPMENTS & ACCESSORIES
ELECTRONIC DIVISION**



Phone : 9234603003
: 9431125525
E-mail: safexindia_2003@yahoo.co.in

OFFICE & FACTORY:
Ashirwad Complex
P.O. Nagnagar-826004
Dhanbad (Jharkhand)

FLAMEPROOF POWER BOX UNIT TYPE: SI/T/01

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:

• Statutory Approval / Certificates/ Licence

DGMS approval No. 326 of 1993 (revaluated & updated) under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Power Box unit type SI/T/01 rated at 550/110/15 volts AC Cast iron construction conforming to IS / IEC 60079-1: 2007, IS/IEC 60079- 0 / 2011 , for use in below ground coal mines.

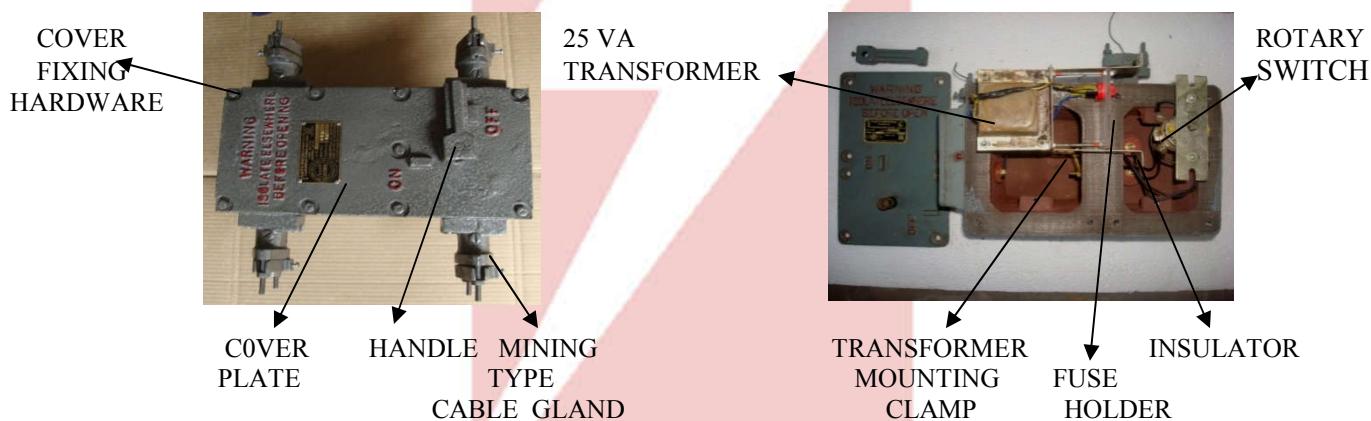
Backed by CIMFR test report No. – CIMFR/TC/P/H 241 DT. 03.08.2011

BIS LICENCE NO. – CM/L – 5063756

ALTERNATIVE VARIATIONS –

- a) The enclosure may be used as a Bell Signaling Transformer with out any change in the features of flameproof design, construction, and dimension.
- b) Material of construction of the enclosures of the unit may be high grade mild steel.
- c) Maximum three nos of epoxy resin sealed FLP brass line bushing with one pair of intrinsically safe cable in each in place of two epoxy resin sealed brass bushing with typical brass terminal stud bushing may be provided.
- d) Alternatively there shall be a provision of direct cable entry through mining type cable gland with compound filling arrangement on input and output entry.
- e) The unit may be used as an intrinsically safe power supply for audio visual alarm and outgoing supply should be intrinsically safe.

- **ENCLOSURE** – Ex- d as per IS/IEC 60079-1:2007, IS/IEC 60079-0:2011.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Cast Iron / Mild Steel.
- **RATING** – INPUT 550 V / 110 V AC OUTPUT 15 V AC / DC
- **COMPONENTS** – As depicted in the below mentioned picture
- **CABLE ENTRIES** – Through mining type gland.
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH** - As per Customer's choice.
- **END USE** – To cater intrinsic safe Power (as per IS/IEC 60079 – 11- 2006) to various units like Audio Visual Alarm, Signaling Bell etc.



SAFEX (INDIA)

ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



INTRINSICALLY SAFE AUDIO VISUAL ALARM UNIT
TYPE : "KEM" V-25 (UG).

MANUFACTURER : SAFEX (INDIA)

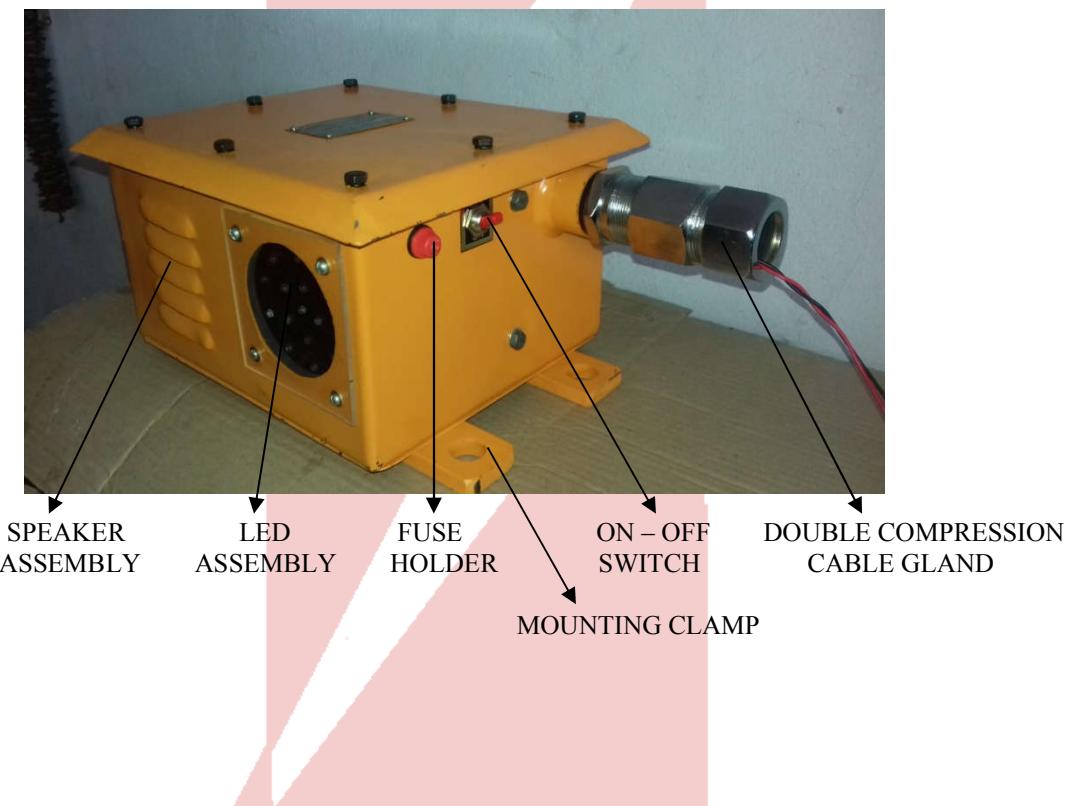
SPECIFICATION:-

• Statutory Approvals / Certificates / Licence

DGMS Tech. circular (Electrical), (Approval) No. 21 dated 05/10/2015 of the Coal Mines Regulation 208 (3) of the Coal Mines Regulation 2017 for Intrinsically safe Audio Visual Alarm Unit. Type "KEM" V-25 (UG). use in below ground coal mines conforming to IS/IEC 60079 – 11- 2006 with 12 Volt D.C input.

Backed by CIMFR test report No. – CIMFR/TC/P/H 726 DT. 13.03.12 & CIMFR/TC/P/H 756 Dt 23.03.2012
BIS LICENCE NO. – CM/L – 5028855

- **ENCLOSURE** – IP 54 protection.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Mild Steel
- **COMPONENTS** – Electronic module, visual indication, speaker assly, fuse with holder.
- **CABLE ENTRIES** – Through threaded type Double Compression Cable Gland.
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH** – As per Customer's choice.
- **END USE** – Operation **Warning alarm** for SDL/LHD machine



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INTRINSICALLY SAFE AUDIO VISUAL ALARM UNIT
TYPE: "KEM" V-25 (UG).

MANUFACTURER : SAFEX (INDIA)

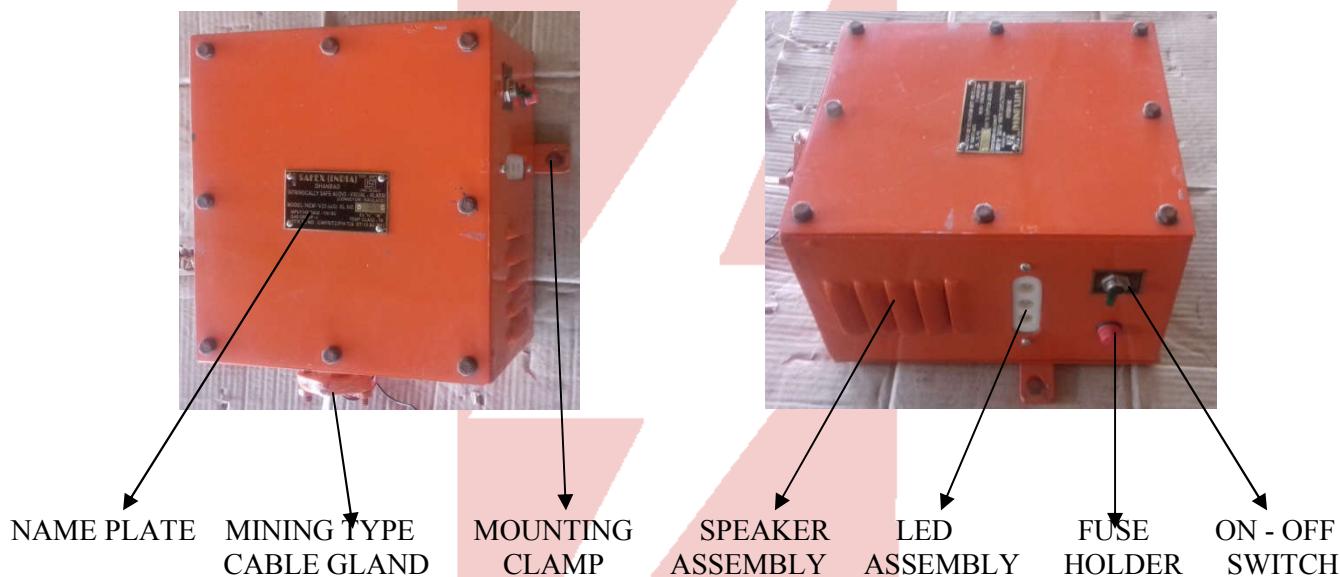
SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS Tech. circular (Electrical), (Approval) No. 21 dated 05/10/2015 under regulation 208 (3) of the Coal Mines Regulation 2017 for Intrinsically safe Audio Visual Alarm Unit. Type "KEM" V-25 (UG).for use in below ground coalmines conforming to IS /IEC 60079 – 11- 2006, with 15 Volt D.C input.

Backed by CIMFR test report No. – CIMFR/TC/P/H 726 DT.13.03.12 & CIMFR/TC/P/H756 DT. 23.03.12
BIS LICENCE NO. – CM/L – 5028855

- **ENCLOSURE – IP 54 protection.**
- **AREA OF CLASSIFICATION – Gas Group I atmosphere.**
- **MATERIAL OF CONSTRUCTION – Mild Steel**
- **RATING – 15 V DC**
- **COMPONENTS – Electronic module, visual indication, speaker assy.**
- **CABLE ENTRIES – Mining type cable Gland.**
- **HARDWARE – High Tensile Strength M.S Bolt / Electroplated.**
- **COLOUR FINISH – As per Customer's choice.**
- **END USE – Pre start warning alarm for Belt conveyor/Haulage operation in below ground Coal Mines.**



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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF COMPOSITE POWER BOX UNIT
TYPE : LT - 02

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION :-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 541 of 2006 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Composite Power Box unit with in built start / stop provision for the operation of SDL / LHD machine along with audio visual alarm actuation and machine running hour indicator, type LT- 02 conforming to IS/IEC 60079-1:2007 and IS/IEC 60079- 11: 2006 for use in belowground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 434 DT 07.12.2011 & CIMFR/TC/S/H 32

DT 11.04.2013

BIS LICENCE NO. – CM/L – 5063756

ALTERNATIVE VARIATION –

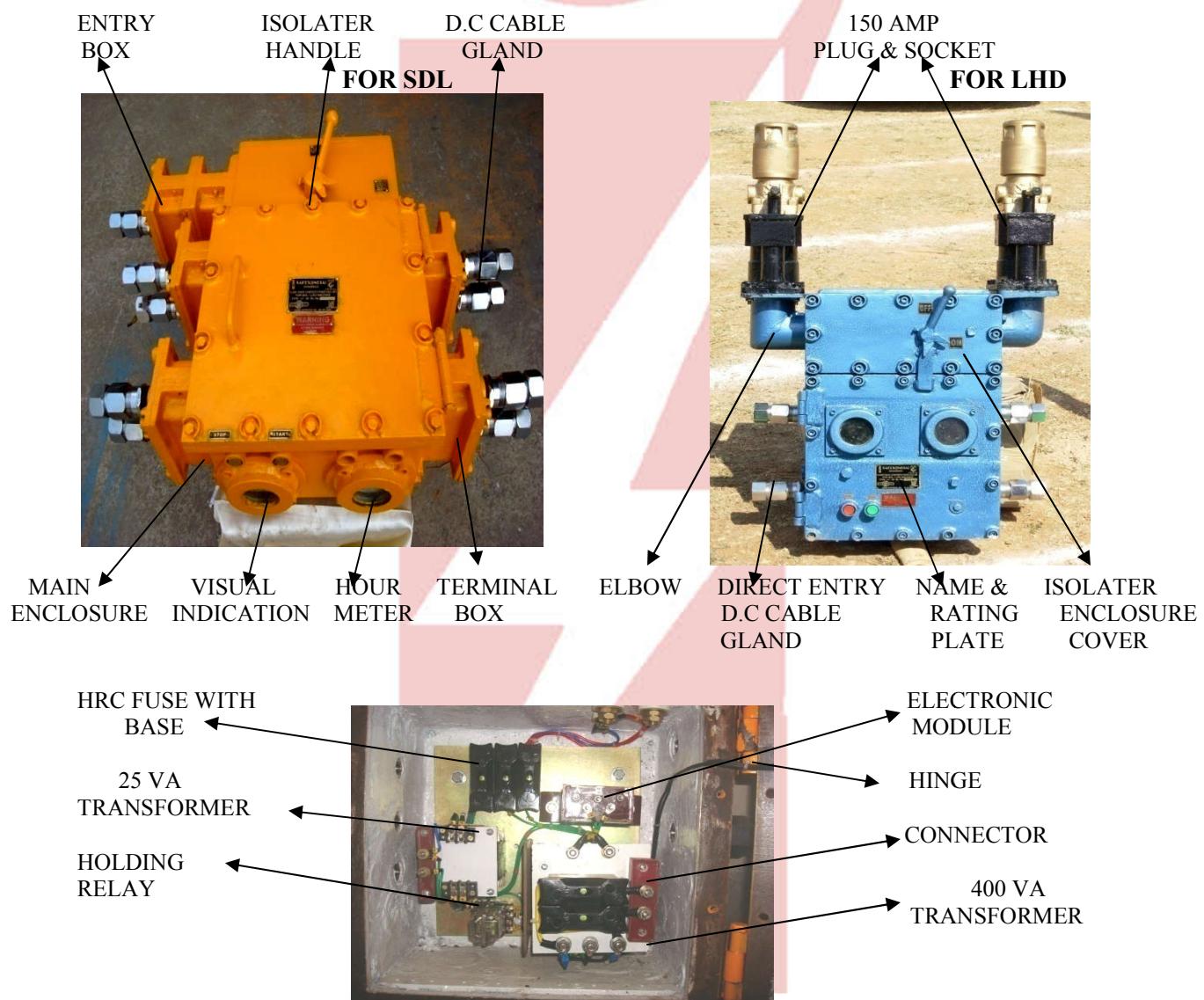
- a) The material of construction of FLP Power Box Unit may be Cast Iron / M.S for application in Group : I,
- b) The FLP Power Box unit may be used as a lighting transformer of the following specification:-

1. Input- 550V / 110V	Out put- 24V / 12VAC	VA Rating - 500VA (max)
2. Input- 550V / 110V	Out put- 24V /15V / 12V AC/ DC	VA Rating- 25 VA (max)
- c) Alternatively the FLP Power Box Unit may be used as a Direct on line Starter up to 20 HP,3Ø 550V(max)
- d) Module of the Intrinsically Safe Audio Visual Alarm Model : “KEM” V – 25 (UG) already certified by CMRI test certificate No. CMRI/TC/P/565 Dated: 07/07/2004 may be fitted in side the Flameproof Power Box Unit without affecting the flameproof properties.
- e) There is a provision of two nos. of Start / Stop Knob and 1 no Rotary Switch Knob and two nos glass windows for incorporating Hour meter / Ammeter / Volt meter on the front door of the main chamber or on the bottom plate of the enclosure.
- f) Inside the main enclosure there are certified Intrinsically safe circuit unit along with 500VA & 25 VA transformer and one (1) no of ELCB provided / placed in the main chamber.
- g) Upto and within 1KVA Transformer input 550/525/500/440/415 and output 55-0-55V may be used in place of 500 VA transformer.
- h) Unused cable entry shall be plugged by the certified FLP Plug.
- i) All the cable entries (on the main encl.), shall be direct entry through CMRI tested D.C cable gland.
- j) On the either end (left & right side) of the enclosure ELBOW as detailed in the drawing shall be used in place of the existing type cable entry arrangement. 150 amps FLP Plug & Socket shall be mounted and fitted on the elbow, where in 16/25 sq. mm trilling flexible cable shall be connected .
- p) The total arrangement on the front cover of the main enclosure (2 nos. start / stop push button, 2nos set / reset push button , 1 no rotary switch and 2 nos. glass windows for incorporating Hour meter / Ammeter / Voltmeter) shall be provided on the bottom plate of the enclosure.

COMPOSITE POWER BOX UNIT

- 2 -

- **ENCLOSURE** – Ex- d as per IS/IEC 60079-1:2007 and IS/IEC 60079- 11: 2006.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Mild Steel
- **RATING** – 550 V AC 50 Amps.
- **COMPONENTS** – 500 VA transformer , 25 VA transformer, hour meter, electronic module, Holding relay assy., HRC fuse base, zener barrier, Isolator, terminals , DC Glands, 150 Amps plug & socket / 2" DC Gland., elbow
- **CABLE ENTRIES** – Through Double Compression Cable Gland.
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH** – Golden Yellow or as per Customer choice.
- **END USE** – Below ground mobile machine , SDL , LHD.



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DIST – DHANBAD, JHARKHAND, INDIA.
e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF FOOT SWITCH ASSEMBLY.
TYPE : FSA

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 495 of 2003 under regulation 208 (3) of the Coal Mines Regulation 2017 for Flameproof Foot Switch Assembly, Type FSA rating 16Amps 550V in Cast iron construction, conforming to IS/IEC 60079-1 : 2007, IS/IEC 60079-0: 2011 & IS/IEC60529 : 2001 (Reaffirmed 2014) for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 79 DT 13.05.2011.

BIS LICENCE NO. – CM/L – 5063756

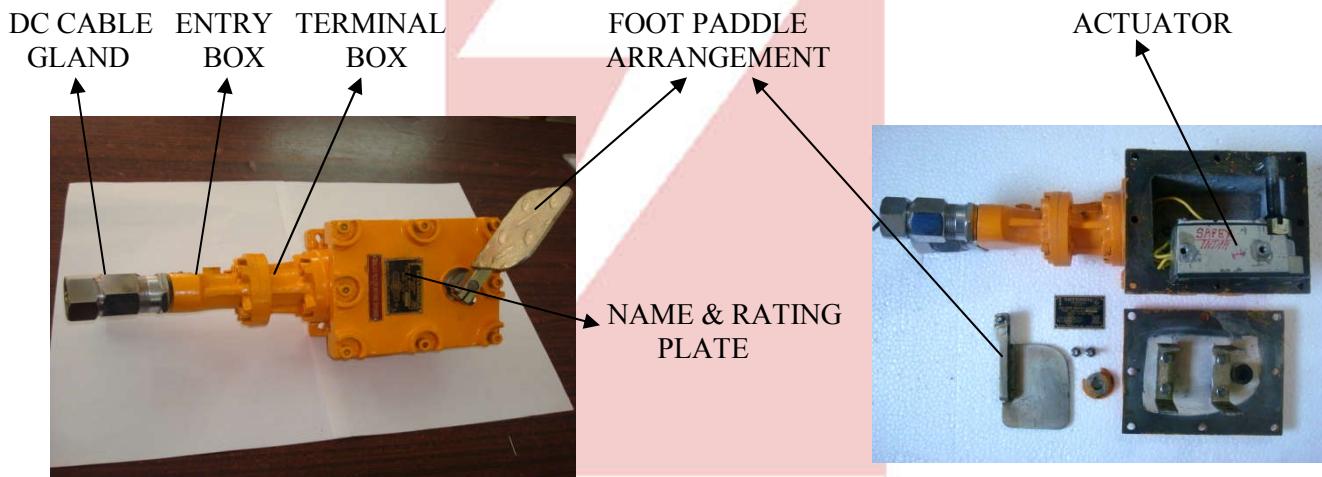
ALTERNATIVE VARIATION –

a) The foot switch may be operated either clock wise or counter clock wise.

b) The various types of FSA Switches with their assembly code and cable entry sizes are given below:

ASSEMBLY CODE					
Sl. No.	M 19 entry Clock wise	M 19 entry C . Clock wise	M 25 entry Clock wise	M 25 entry C . Clock wise	Description
1.	FSA 75 E1 CW	FSA 75 E1 CCW	FSA 01 E1 CW	FSA 01 E1 CCW	Single Straight Cable Entry
2.	FSA 75 E2 CW	FSA 75 E2 CCW	FSA 01 E2 CW	FSA 01 E2 CCW	Twin Cable Entry
3.	FSA 75 E3 CW	FSA 75 E3 CCW	FSA 01 E3 CW	FSA 01 E3 CCW	Triple Cable Entry
4.	FSA 75 E4 CW	FSA 75 E4 CCW	FSA 01 E4 CW	FSA 01 E4 CCW	Elbow Single Cable Entry

- **ENCLOSURE –** Ex- d as per IS/IEC 60079-1:2007 , IS/IEC 60079-0:2011 & IS/IEC 60529 : 2001
- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION –** Cast Iron .
- **RATING –** 550 V AC 16 amps.
- **COMPONENTS –** Insulator , NO/NC Contact block , paddle arrangement
- **CABLE ENTRIES –** Through Double Compression Cable Gland
- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH–** As per Customer choice.
- **END USE –** Below ground mobile machine.



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 DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF FLUID STATUS INDICATOR SWITCH TYPE : FSIS

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

- **Statutory Approvals / Certificates / Licence -**

DGMS approval No. 493 of 2003 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Fluid Status Indicator switch type FSIS rating at 24 volts with compound filled sealing box in cast steel construction conforming to IS/IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS: 12063 - 1987 for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 129 DT 08.06.2011

BIS LICENCE NO. - CM/L - 5063756

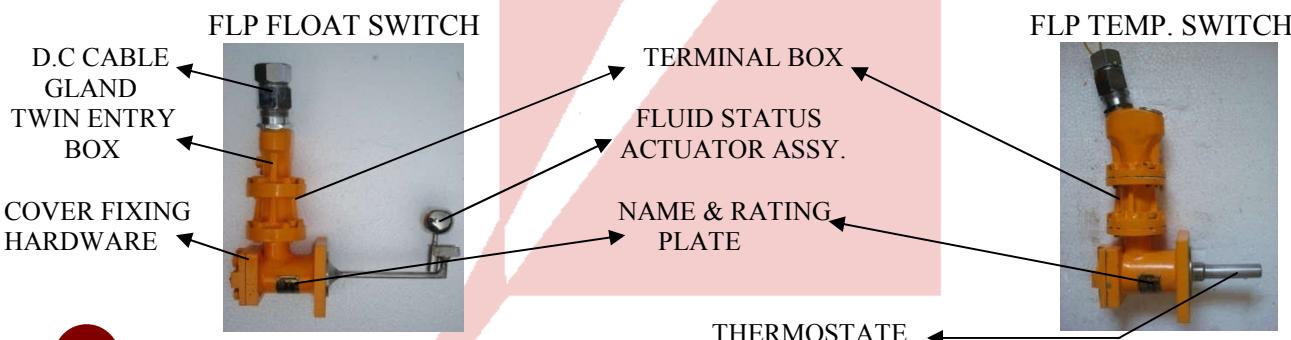
ALTERNATIVE VARIATION –

ALTERNATIVE VARIATION

- a) Material of construction of the various types of FSIS Switches may be of stainless steel or mild steel or cast iron instead of cast steel.
- b) FLP Fluid status indicator switch may be used as (i) FLP Temperature Switch (ii) FLP Float Switch top mounted (iii) FLP Float Switch side mounted by replacing the internal gears.
- c) The various types of FSIS Switches with their assembly code and cable entry sizes are given below:

Sl. No.	Assembly Code		Description
	M 20	M 25	
1.	FSIS 75 T1	FSIS 1 T1	Temp. Switch assembly with single st. cable entry.
2.	FSIS 75 T2	FSIS 1 T2	Temp. Switch assembly with twin cable entry.
3.	FSIS 75 T4	FSIS 1 T4	Temp. Switch assembly with elbow single cable entry.
4.	FSIS 75 FT1	FSIS 1 FT1	Top float. Switch assembly with single st. cable entry.
5.	FSIS 75 FT2	FSIS 1 FT2	Top float. Switch assembly with twin cable entry.
6.	FSIS 75 FT4	FSIS 1 FT4	Top float. Switch assembly with elbow single cable entry.
7.	FSIS 75 FS1	FSIS 1 FS1	Side Float Switch assembly with single st. cable entry.
8.	FSIS 75 FS2	FSIS 1 FS2	Side Float Switch assembly with twin cable entry.
9.	FSIS 75 FS4	FSIS 1 FS4	Side Float Switch assembly with elbow single cable entry.

- **ENCLOSURE** – Ex- d as per IS/IEC 60079-1:2007 , IS/IEC 60079-0:2011 , IS/IEC 60529- 2001.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Cast Steel / Cast Iron / Stainless Steel.
- **RATING** – 24 V AC / DC .
- **COMPONENTS** – Insulator , Float, Fluid status actuator assy./ Thermostat, Pointer
- **CABLE ENTRIES** – Through Double Compression Cable Gland .
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH**–As per Customer choice.
- **END USE** - Below ground mobile machine .



SAFEX (INDIA)

ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,

ASTHAWALI CONCRETE, P.O. NATIONAL
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in.

FLAMEPROOF / WEATHERPROOF HEAD & TAIL LAMP
TYPE : LF-03

MANUFACTURER : SAFEX (INDIA)

• SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No 457 of 1998 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof / Weatherproof Head & Tail lamp designated as type LF-03 suitable for 24/40W halogen lamp at 24 volt AC/ DC (max) in cast iron construction conforming to IS/IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 78 DT 13.05.2011.

BIS LICENCE NO. – CM/L – 5063756

• ALTERNATIVE VARIATION –

a) Number of cable entry of three types: (i) Single entry (ii) Double entry (iii) Triple entry.

b) Entry size shall be M 25 .

c) Unused cable entry shall be plugged with certified stopping FLP Plug.

d) The following lamps are may be used with the Head & Tail Lamp:

(i) 24 V AC / DC - 24W / 40W / 70W / 90W halogen lamp.

(ii) 12 V AC / DC – 24W / 40W / 60W / 70W / 75W halogen lamp.

(iii) 15 W incandescent lamp 12/24 V AC/DC as a parking bulb.

• ENCLOSURE – Ex- d as per IS/IEC 60079-1:2007, IS/IEC 60079- 0 : 2011.

• AREA OF CLASSIFICATION – Gas Group I atmosphere.

• MATERIAL OF CONSTRUCTION – Cast Iron

• RATING – 24 V AC / DC .

• COMPONENTS – Insulator, reflector , halogen bulb, “O” ring , round toughened glass wire guard.

• CABLE ENTRIES – Through Double Compression Cable Gland / flange type D.C cable gland.

• HARDWARE – High Tensile Strength M.S Bolt / Electroplated.

• COLOUR FINISH– As per Customer choice.

• END USE - Below ground mobile machine.



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF INTRINSICALLY SAFE POWER SUPPLY UNIT

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

- **Statutory Approvals / Certificates / Licence -**

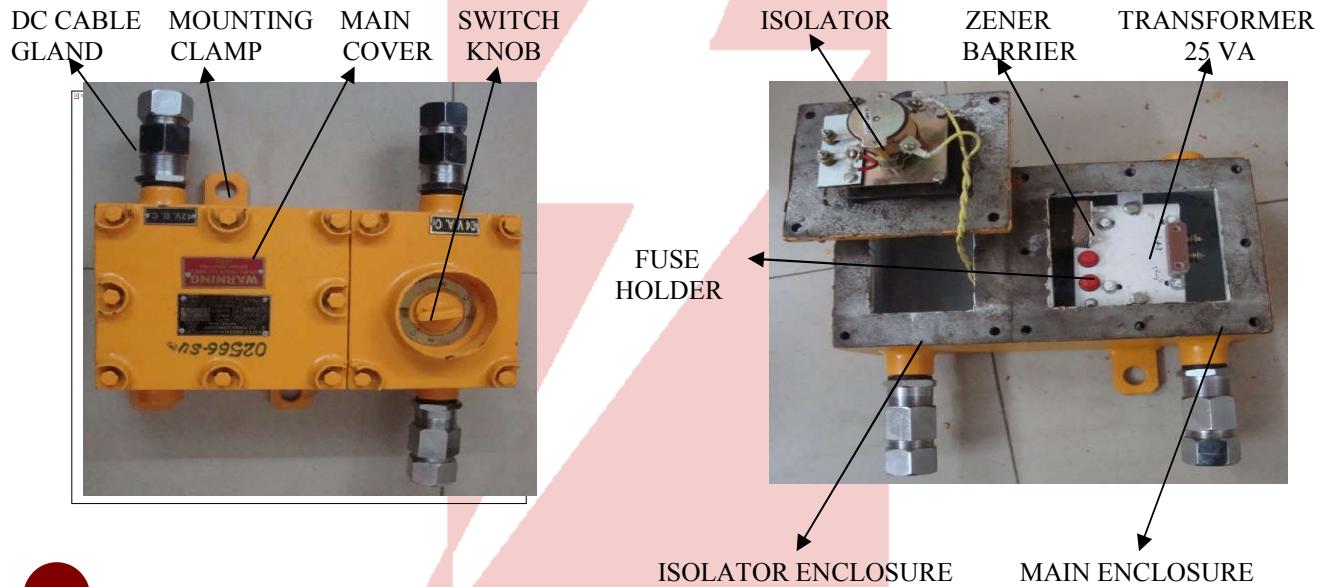
DGMS approval No. 332 of 1994 under regulation 208 (3) of the Coal Mines Regulation,2017 for Flameproof Intrinsically safe Power Supply unit rated at input of 24 volt AC and output of 12 volts DC in MS fabricated construction conforming to IS / IEC 60079-1:2007 , IS/IEC 60079- 0 : 2011, for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 188 DT 20.06.2012 & CIMFR/TC/P//H 96 Dt 24.05.2011
BIS LICENCE NO. – CM/L – 5063756

- **ALTERNATIVE VARIATION –**

a) The enclosure may be used to housed the circuitry of input voltage 125 V AC.

- **ENCLOSURE –** Ex- d as per IS/IEC 60079-1: 2007, IS/IEC 60079-0:- 2011
- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION –** Mild Steel
- **RATING –** 24 V AC 12 DC
- **COMPONENTS –** 25 VA Transformer, Zener Barrier, Insulator, Rotary Switch, Limiting Resistance
- **CABLE ENTRIES –** Threaded type Double Compression Cable Gland.
- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH –** As per Customer choice.
- **END USE –** Below ground mobile machine , SDL / LHD / Road Headers / LCCM / CM



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



FLAMEPROOF / WEATHERPROOF JUNCTION BOX TYPE – JB- 5

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

- Statutory Approvals / Certificates / Licence -**

DGMS approval No. 672 of 2014 under regulation 208 (3) of Coal Mines regulation 2017 for Flameproof / Weatherproof Junction Box suitable for rated 25 A 550 V AC type no : JB- 5 conforming to IS/ IEC 60079-1:2007, IS/IEC60079- 0 : 2011 ,IS: 12063-1987 (IEC60529:1989), for use in below ground Coal Mines .

Backed by CIMFR test report No. – CIMFR/TC/P/H 215 DT 18.07.2011

BIS LICENCE NO. – CM/L – 5063756

- ALTERNATIVE VARIATION –**

Enclosure may be used as below :

- a) Start & Stop Push button with lock & key designated by type PB- 4401.
- b) Indicator (ammeter / voltmeter) designated by type PB- 4402.
- c) Rotary/ selector Switch designated by type PB- 4403.
- d) Stop push button designated by type PB- 4404.
- e) Start push button designated by type PB- 4405.
- f) Maximum no. of cable entries provided are 4 nos. of size M 25 .
- g) Cable entry arrangement may be maximum 4 way through spigot type M T cable gland.

- ENCLOSURE -Ex- d as per IS/ IEC 60079-1:2007, IS/IEC60079- 0 : 2011 ,IS: 12063-1987.**

- AREA OF CLASSIFICATION – Gas Group I atmosphere.**

- PROTECTION – IP 65**

- MATERIAL OF CONSTRUCTION – Cast Iron**

- RATING – 550 V AC 25 amps.**

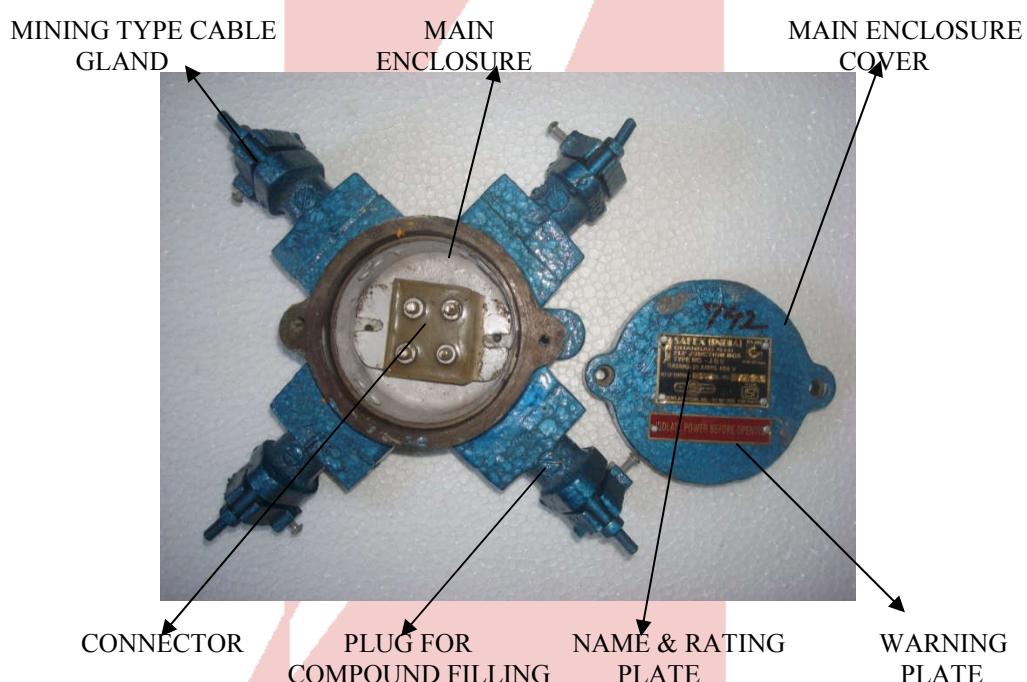
- COMPONENTS – Connector , 'o' ring ,**

- CABLE ENTRIES – Through Mining type Cable Gland.**

- HARDWARE – High Tensile Strength M.S Bolt / Electroplated.**

- COLOUR FINISH – As per Customer choice.**

- END USE – Below ground coal mines / Oil mines as a cable junction box.**



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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



**FLAMEPROOF INTRINSICALLY SAFE JUNCTION BOX CUM LIGHTING AND SIGNALING UNIT
TYPE: – MLT**

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 449 of 1997 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Intrinsically safe Junction Box com Lighting and Signaling Unit Type : MLT rated at 550- 440 volt AC up to 1 KVA 550 / 110 V Lighting Transformer and 25 VA 550 / 15 V Intrinsically Safe Signaling Transformer,50 Hz in MS construction conforming to IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS /IEC 60079 – 11- 2006 and IS: 12063-1987 use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 481 DT 23.12.2011 & CIMFR/TC/P/H 591 DT 10.12.2012.

BIS LICENCE NO. – CM/L – 5063756

• ALTERNATIVE VARIATION –

- a) Material of construction of the enclosures may be cast iron instead of M.S for I.
- b) Lighting Transformer Of 550 / 440 V AC upto 1 KVA.
- c) Lighting Transformer cum Signaling Unit upto 550/440/110 to 24/15/12 V AC or DC upto 400VA or upto 1KVA.
- d) Upto 50 amps 550V 3Ø 50 Hz, Direct on line starter.
- e) The enclosure may be used as a **Flameproof controlling unit**,

ENCLOSURE – Ex- d as per IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS /IEC 60079 – 11- 2006 and IS: 12063-1987

• AREA OF CLASSIFICATION – Gas Group I atmosphere.

• MATERIAL OF CONSTRUCTION – Mild Steel / Cast Iron.

• RATING – 550 V AC 50 amps.

• COMPONENTS – Insulators , Isolator, upto 1KVA transformer, 25 VA transformer, all electrical components for 50 HP Starter or 50 HP G.E.B.

• CABLE ENTRIES – Through mining type cable gland / double compression cable gland.

• HARDWARE – High Tensile Strength M.S Bolt / Electroplated.

• COLOUR FINISH – As per Customer choice.

• END USE – Below ground mobile machine / Gate End Box / 50 HP starter.

ISOLATOR ENCLOSURE



ISOLATOR
HANDLE



25VA TRANSFORMER 1000VA TRANSFORMER

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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



**FLAMEPROOF RESTRAINED TYPE PLUG & SOCKET 150 AMPS.
TYPE: SI/PLG/150**

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 462 of 1999 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof restrained type Plug & Socket rated 150 Amps 550 Volts (max) Type No. SI/PLG/150 in Gun metal / Brass construction conforming to IS/ IEC 60079-1: 2007, IS/IEC 60079-0: 2011 and IS: 12063-1987 for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 186 DT. 04.07.2011
BIS LICENCE NO. – CM/L – 5063756

• ALTERNATIVE VARIATION –

The Plug & Socket is also suitable for 225 A 550 V.

• ENCLOSURE – Ex-d as per IS/ IEC 60079-1: 2007, IS/IEC 60079-0: 2011.

• AREA OF CLASSIFICATION – Gas Group I atmosphere.

• MATERIAL OF CONSTRUCTION – Brass / Gun metal.

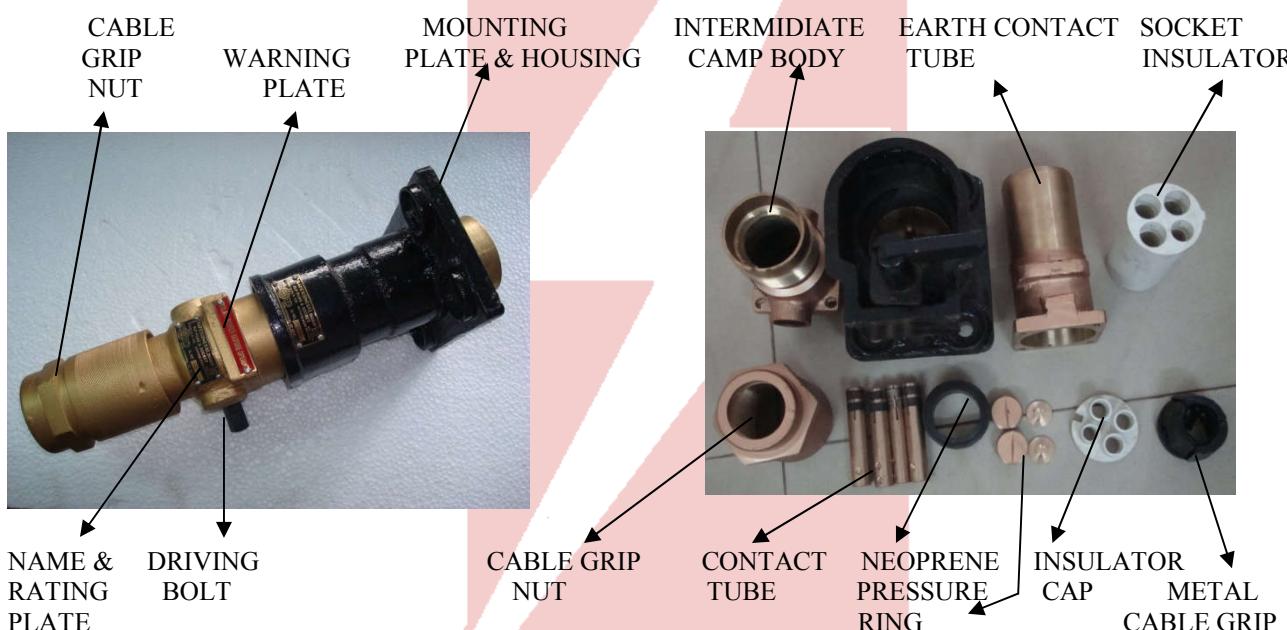
• RATING – 550 V AC 150 amps.

• COMPONENTS – Insulators , Pilot pin , Pilot tube, Power pin, Power tube. Neoprene, Metal cable grip

• HARDWARE – High Tensile Strength M.S Bolt / Electroplate

• COLOUR FINISH – As per Customer choice.

• END USE – Below ground mobile machine / Gate End Box.



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DIST – DHANBAD, JHARKHAND, INDIA.
e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF RESTRAINED TYPE PLUG & SOCKET 30 AMPS TYPE : SI/PLG/30

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

- **Statutory Approvals / Certificates / Licence -**

DGMS approval No. 461 of 1999 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof restrained type Plug & Socket rated 30 Amps 125 Volts type SI/PLG/30 consisting of plug type P&S- 30A and socket type P&S- 30 brass construction conforming to IS/IEC 60079-1:2007, IS/IEC 60079- 0 : 2011 for use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 122 DT 06.06.2011

BIS LICENCE NO. – CM/L – 5063756

- **ALTERNATIVE VARIATION –**

The Plug & Socket is also suitable for 30A 550 V AC.

- **ENCLOSURE –** Ex- d as per IS/IEC 60079-1:2007, IS/IEC 60079- 0 : 2011.

- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.

- **MATERIAL OF CONSTRUCTION –** Brass / Gun metal

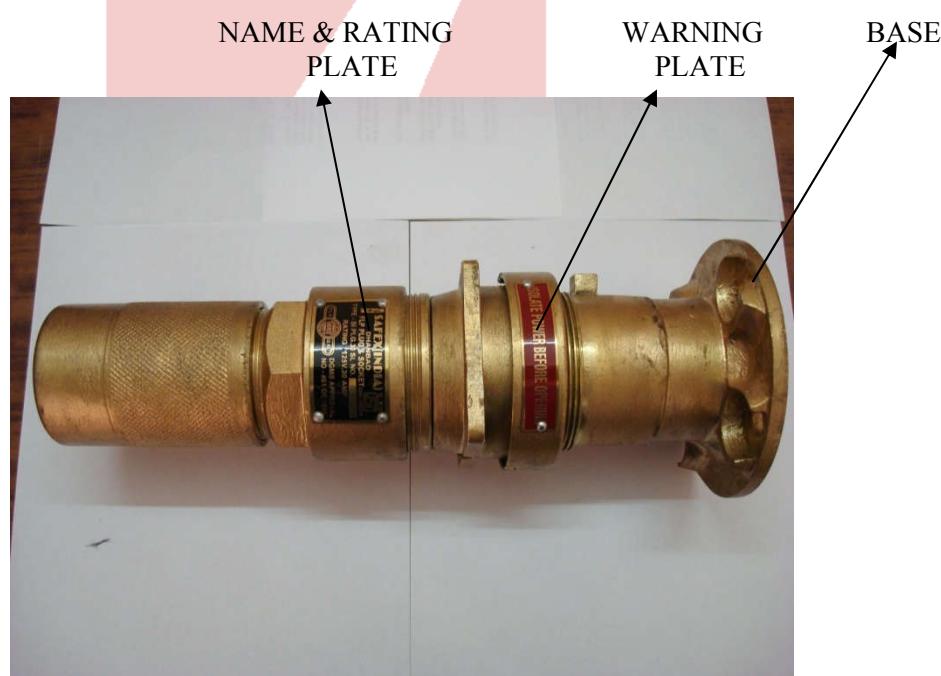
- **RATING –** 550 V AC (max)., 30Amps.

- **COMPONENTS –** Plug Insulator , Socket Insulator , Power pin, Pilot Pin Neoprene, Metal cable grip .

- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.

- **COLOUR FINISH –** As per Customer choice.

- **END USE –** Flameproof Drill Panel / Gate End Box / Motor terminal box of FLP Bucket type Pump.



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



FLAMEPROOF PULL CORD SWITCH TYPE: PCS- 01

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:

- **Statutory Approvals / Certificates / Licence -**
- DGMS approval No. 488 of 2003 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Pull Cord switch type PCS- 01 in cast iron construction rated 10 amps, 550 Volt conforming to IS /IEC 60079- 1 : 2007, IS/IEC 60079- 0 : 2011 for use in below ground coal mines .
Backed by CIMFR test report No. – CIMFR/TC/P/H 330 DT 19.09.2011.
BIS LICENCE NO. – CM/L – 5063756
- **ALTERNATIVE VARIATION –**

- a) Material of construction of the enclosures may be mild steel instead of cast iron.

- **ENCLOSURE –** Ex- d as per IS/IEC 60079-1:2007 & IS/IEC 60079-0:2011

- **PROTECTION – IP- 55.**

- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.

- **MATERIAL OF CONSTRUCTION –** Mild Steel / Cast Iron.

- **RATING –** 10 Amps 550 V AC.

- **COMPONENTS –** Connector, Micro switch, Lever arrangement, Indicating Lamp.

- **CABLE ENTRIES –** Two nos. Through Mining type Cable Gland.

- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.

- **COLOUR FINISH –** As per Customer choice.

- **END USE –** Below ground belt conveyor .



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



FLAMEPROOF/ WEATHERPROOF PUSH BUTTON STATION
TYPE : PB 330 - -

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence

DGMS approval No. 474 of 2000 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof / Weatherproof Push Button Station type PB 330- - series, in cast iron rated at 16 amps, 550 V conforming to IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS: 60529-1989 for IP: 65 use in below ground Coal Mines. Backed by CIMFR test report No. – CIMFR/TC/P/H 118 DT 12.04.2011

BIS LICENCE NO. – CM/L – 5063756

• ALTERNATIVE VARIATION –

1) The following may also be deemed as alternative permissible variation for FLP/WP (IP- 65)

Push Button Station under reference:

- a) Only Stop push button station designated by type : PB- 33001.
- b) Start and Stop push button station designated by type : PB- 33002
- c) Only Start push button station designated by type : PB- 33003.
- d) Start and Stop push button station with indicating lamp designated by type : PB- 33004.
- e) Provision for Electrical / Mechanical Locking, on the stop push button , is facilitated.

• ENCLOSURE – Ex- d as per IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS: 60529-1989.

• AREA OF CLASSIFICATION – Gas Group I atmosphere.

• PROTECTION – IP 65

• MATERIAL OF CONSTRUCTION – Cast Iron

• RATING – 550 V AC 16 amps.

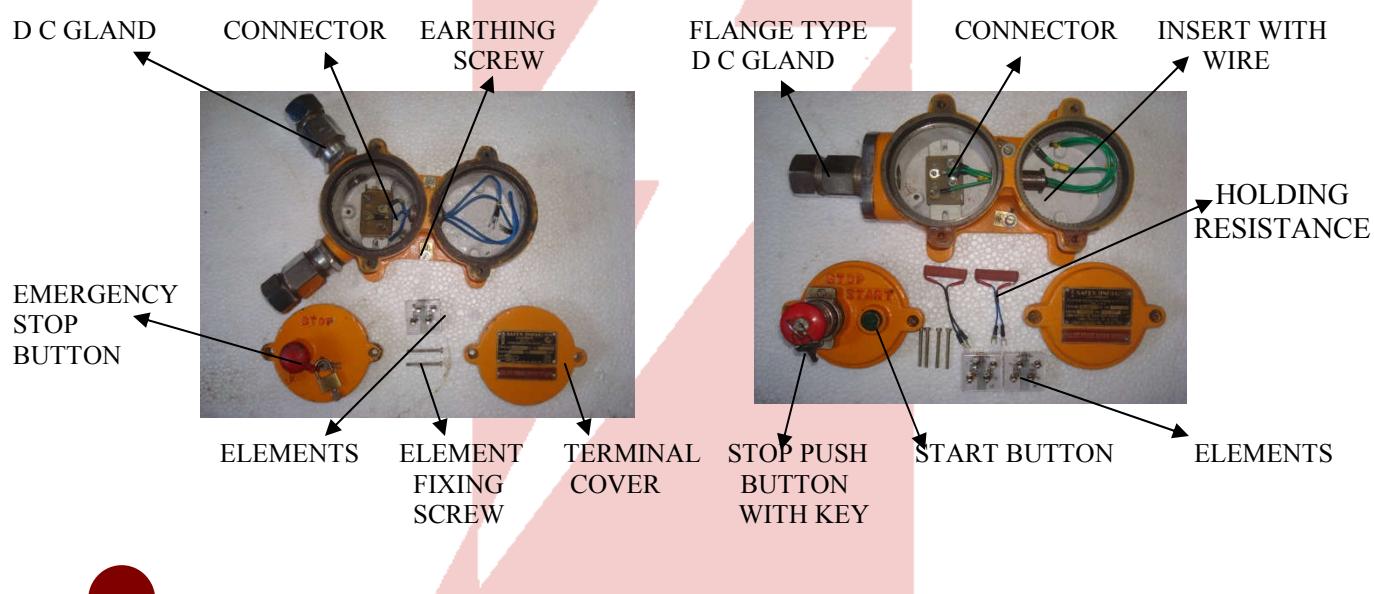
• COMPONENTS – Connector , Elements, Mechanical lock, Bush with insert , Push knob. 'O' ring

• CABLE ENTRIES – Through threaded type Double Compression Cable Gland.

• HARDWARE – High Tensile Strength M.S Bolt / Electroplated

• COLOUR FINISH – As per Customer choice.

• END USE – In below ground coal mines.



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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
 DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

**INTRINSICALLY SAFE SIGNALING BELL AND BELL TRANSFORMER
TYPE : SI BELL 95**

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

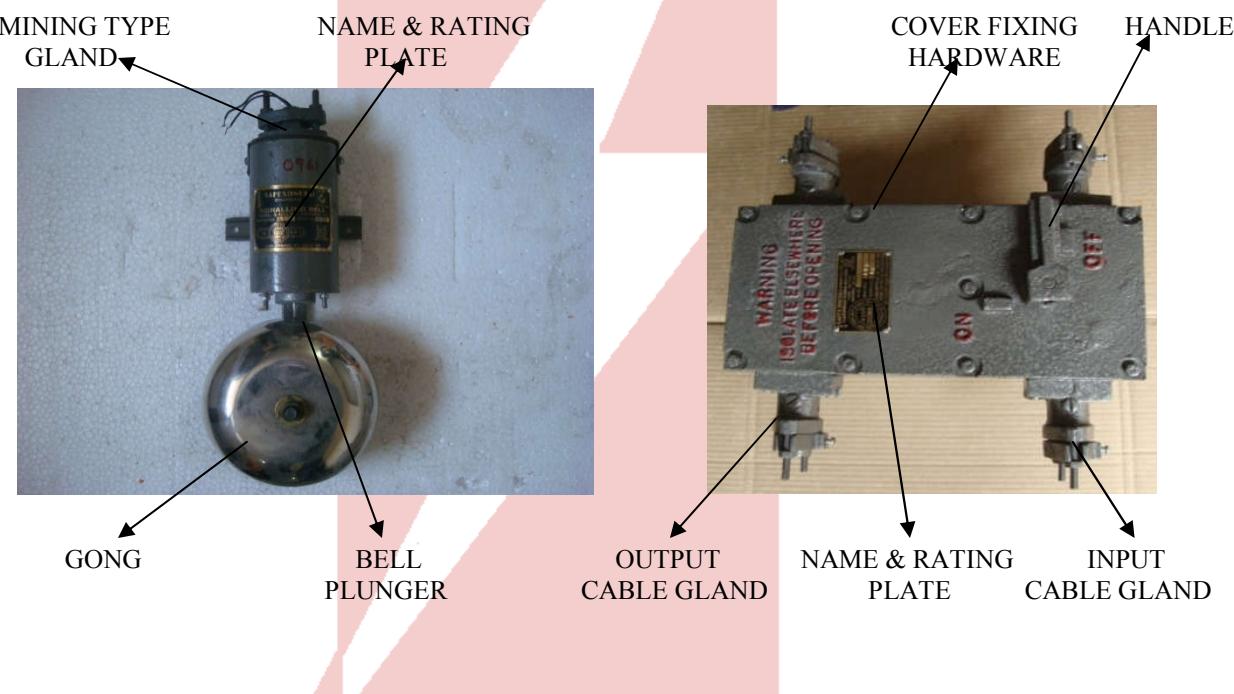
DGMS approval No. 445 of 1996 under regulation 208 (3) of the Coal Mines Regulation 2017 for Intrinsically safe Signaling Bell and Bell Transformer conforming IS/IEC 60079 – 11: 2006 and IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011 use in below ground Coal mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 241 DT. 03.08.2011

CMRI/TC/P/H 49 Dt. 20.04.2012

BIS LICENCE NO. – CM/L – 5063756 and 5028855

- ENCLOSURE** – Ex- d as per IS/IEC 60079 – 11: 2006 and IS/ IEC 60079-1:2007& IP 54 protection (Bell housing)
- AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- MATERIAL OF CONSTRUCTION** – Cast Iron / Mild Steel
- RATING** – 550V / 110 V AC - 15 V AC
- COMPONENTS** – Bell plunger, Gong, Striker, 25 VA Transformer, Rotary switch.
- CABLE ENTRIES** – Through Mining type Cable Gland .
- HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- COLOUR FINISH** – As per Customer choice.
- END USE** – Signaling purpose in below ground coal mines.



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DIST – DHANBAD, JHARKHAND, INDIA.
e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF FLUORESCENT LIGHTING FITTING TYPE : FTL- 40

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION :-

- Statutory Approvals / Certificates / Licence -**

DGMS Approval No. 489 of 2003 Under Regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Fluorescent Tube Light Fitting (Flat Toughened Glass) in Mild Steel / Cast Iron Construction Designated By Type FTL- 40, Rated 2x 20 Watt, 125 Volt (Max) for Gas Group – I Atmosphere Conforming to IS/IEC 60079-1 : 2007, IS/IEC 60079- 0 : 2011 for use in below ground Coal Mines. Overall length 450 mm to 500 mm with mirror polished reflector.

Backed by CIMFR test report No. – CIMFR/TC/P/H 257 DT 08.08.2011

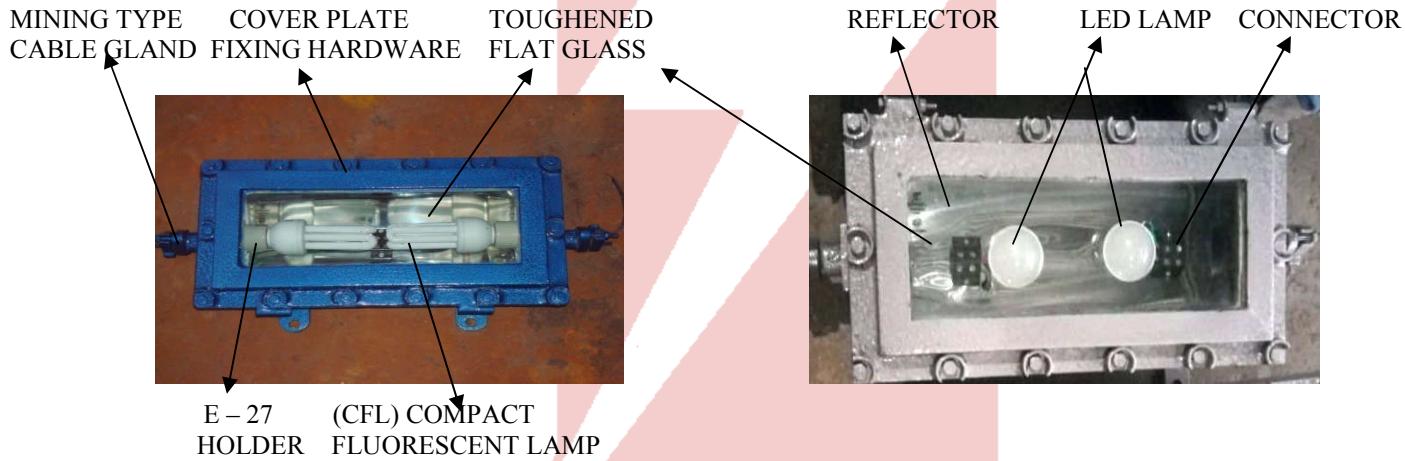
BIS LICENCE NO. – CM/L – 5063756

- ALTERNATIVE VARIATION –**

- In place of 2 X 20 W (125v Max) Fluorescent tube light , CFL lamp upto and within 2 X 42w (125v Max) shall be used. alternatively 1 X 42w CFL (125v Max) as applicable may also be used.
- In place of 2 X 20 W Fluorescent Tube Light (125v Max) , 1x20W Fluorescent Tube Light (125V Max) as applicable shall be used.
- Fluorescent tube light fitting upto and within 2 x 15W Fluorescent tube (125V max) may be used.
- The equipment is also suitable for 2 x 10 Watt or 1 x 20 W LED lamp.

ENCLOSURE – Ex- d as per IS/IEC 60079-1: 2007, IS/IEC 60079- 0 : 2011.

- AREA OF CLASSIFICATION –** Gas Group I atmosphere.
- MATERIAL OF CONSTRUCTION –** Mild Steel / Cast Iron.
- DIMENSION –** 450 mm to 500 mm length.
- RATING –** 125 V AC (MAX).
- COMPONENTS –** **Flat Toughened Glass** , E- 27 holder for CFL , LED, **Mirror Polished Reflector**, Connector, Mining type cable gland,
- CABLE ENTRIES –** Two nos. Through Mining type Cable Gland .
- HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.
- COLOUR FINISH –** As per Customer choice.
- END USE –** In below Ground Coal mines.



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



**FLP/ WP WELL GLASS LIGHTING FITTING
TYPE: LF-01
(WITH ISOLATER OR WITHOUT ISOLATER)**

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 463 of 1999 under regulation 208 (3) of the Coal Mines Regulation 2017 for FLP/ WP Well Glass Lighting Fitting designated by type LF-01 rated at 110 V (max) AC / DC suitable for 60W GLS Lamp in cast iron construction conforming to IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011 ,IS/IEC: 60529 : 2001 for IP: 65 use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 172 DT 22.06.2011

BIS LICENCE NO. – CM/L – 5063756

• ALTERNATIVE VARIATION –

a) The Well Glass Lighting Fitting is suitable for 11W to 42 W CFL .

b) The Well Glass Light fitting also suitable with 2 pole Isolator / On-Off switch / Push Switch.

c) The Well Glass light fitting also suitable for use upto 40W LED Lamp 110 V AC .

• ENCLOSURE – IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011 & IS: 12063-1987.

• AREA OF CLASSIFICATION – Gas Group I atmosphere.

• PROTECTION – IP 65

• MATERIAL OF CONSTRUCTION – Cast Iron

• RATING –125 V AC .

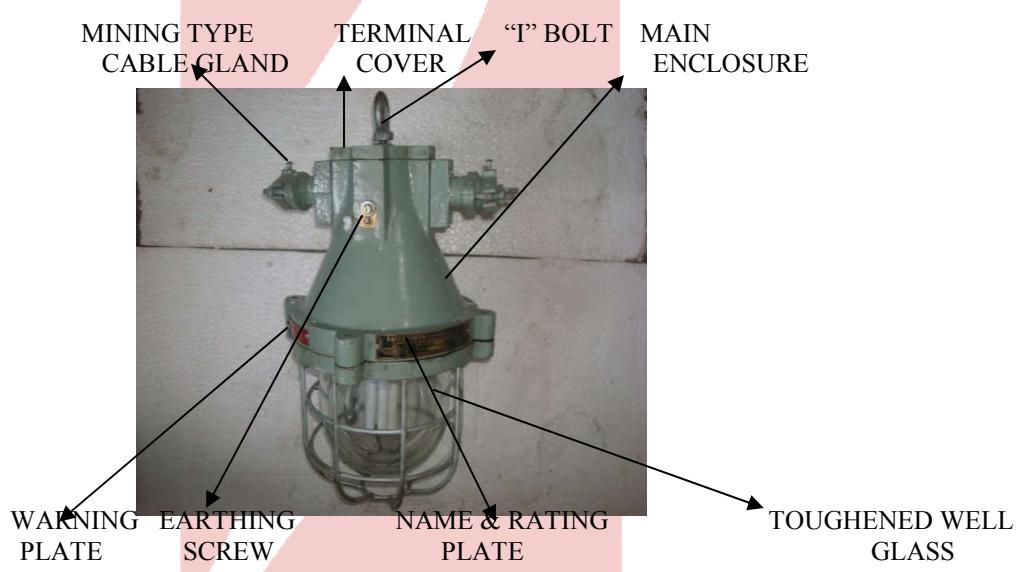
• COMPONENTS – E- 27 holder, Toughened Dome Type Well glass , insulator, CFL / LED , J- hook, I – bolt , wire guard, ‘O’ ring .

• CABLE ENTRIES – Through Mining type Cable Gland.

• HARDWARE – High Tensile Strength M.S Bolt / Electroplated

• COLOUR FINISH – As per Customer choice.

• END USE – Lighting purpose in below ground coal mines.



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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in



**INTRINSICALLY SAFE UNDERGROUND BLASTING SIREN
TYPE :"KEM" U-15**

MANUFACTURER : SAFEX (INDIA)

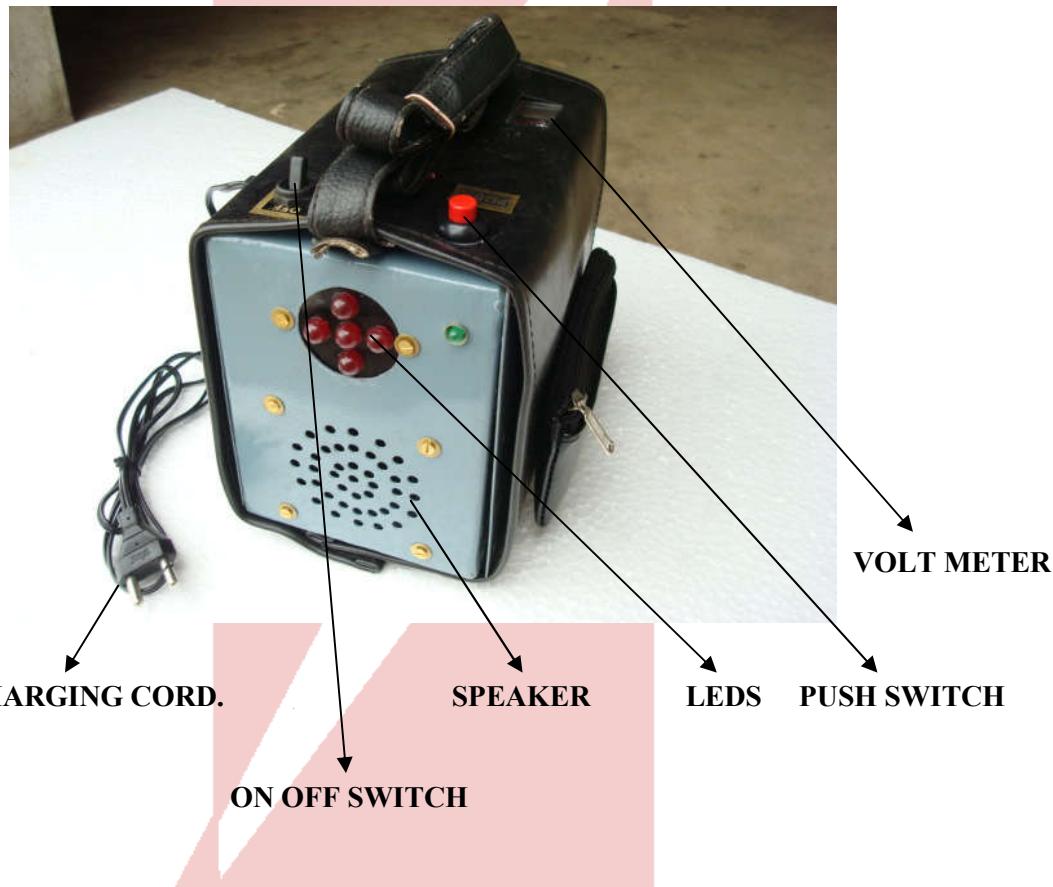
SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 49 of 1990 under regulation 208 (3) of the Coal Mines Regulation 2017 for Intrinsically safe "KEM" U-15 Siren for use in underground coalmines conforming to IS/IEC 60079 – 11:2006 , IS/IEC 60079-0 : 2011 for Gr.-I use in below ground Coal Mines.

Backed by CIMFR test report No. – CMRI/TC/P/H 13 DT 10.04.2012
BIS LICENCE NO. – CM/L – 5028855

- **ENCLOSURE** – IP 54 protection.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Mild Steel
- **RATING** – 9 V DC
- **COMPONENTS** – Electronic module, visual indication , speaker assy battery.
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated
- **COLOUR FINISH** – As per Customer choice.
- **END USE** – In below ground coal mines for warning purpose before blasting.



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ASHIRWAD COMPLEX, P.O – NAGNAGAR – 826 004,
DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

**FLAMEPROOF / WEATHERPROOF AND INTRINSICALLY SAFE BELTWEIGHER
TYPE NO – WM - 01**

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence

DGMS approval no 693 OF 2015 under regulation 208 (3) of the coal mines regulation, 2017 for Flameproof / weatherproof and Intrinsically safe electrical equipment to be associated with Belt Weigher suitable for 110 / 550 V AC, Type No WM-01 conforming to IS/IEC 60079-1:2007 and IS/IEC 60079-11:2006 for use in below ground coal Mines.

Backed by CIMFR test report No. – CMRI/TC/P/H113 dt 17.05.2013 , CIMFR/TC/P/H 219 dt. 26.06.2013 CIMFR/TC/P/H684 dt 24.01.2014 and CIMFR/TC/P/H 649 dt 08.01.2014.

BIS LICENCE NO. – CM/L – 5063756

- **ENCLOSURE – IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011 & IS: 12063-1987.**
- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.
- **PROTECTION – IP 65**
- **MATERIAL OF CONSTRUCTION –** Mild Steel
- **RATING –110 / 550 V AC .**
- **COMPONENTS –** Isolator , Display Unit, SMPS , MCB , Zener Barrier , Relay board , Switch Amplifier
- **CABLE ENTRIES –** Through Mining type Cable Gland.
- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated
- **COLOUR FINISH –** As per Customer choice.
- **END USE –** On line weighing of coal on conveyor belt Underground coal mines.



**Flameproof /Weatherproof
Beltweigher**



Speed Transducer



Load Cell



FLP/WP Junction Box



Stringer



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF PULL CORD SWITCH (IP 65)

TYPE: PCS- 01

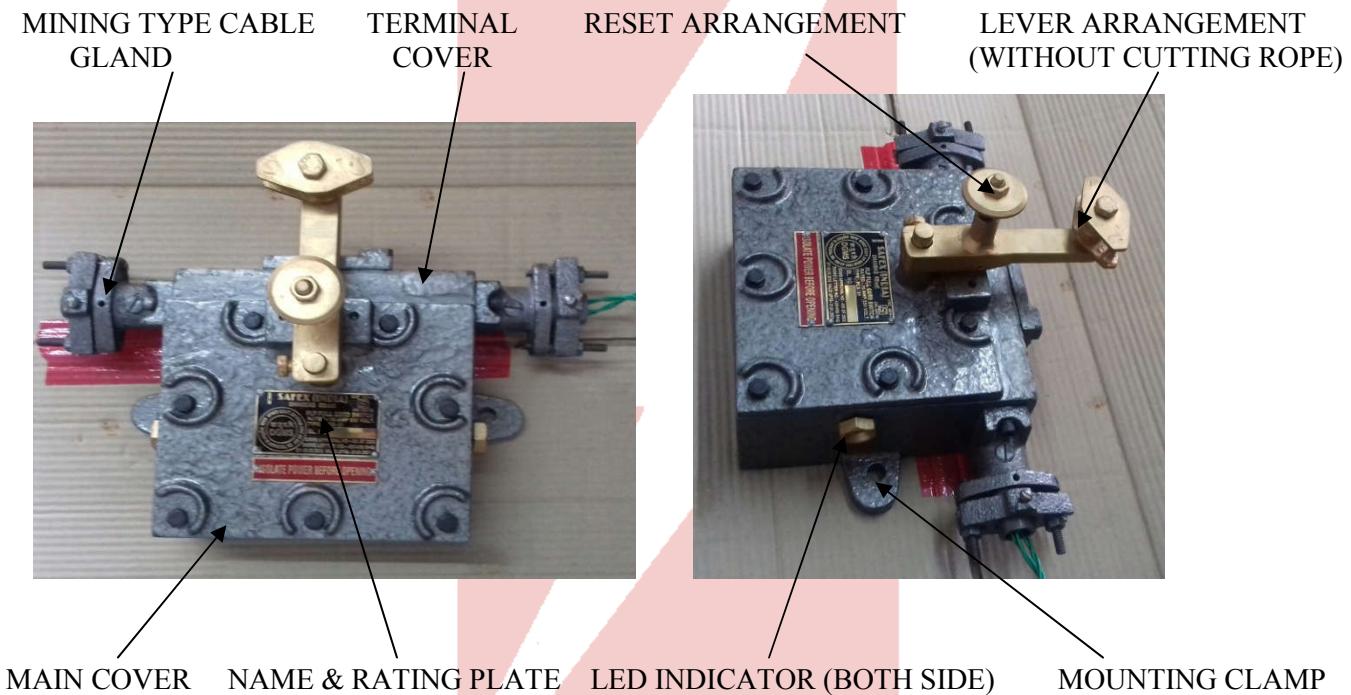
MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:

- **Statutory Approvals / Certificates / Licence -**
- DGMS approval No. **488 of 2003** under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Pull Cord switch type PCS- 01 in cast iron construction rated 10 amps, 550 Volt conforming to IS /IEC 60079-1 : 2007, IS/IEC 60079- 0 : 2011 for use in below ground coal mines .
- **CIMFR test report No.** – CIMFR/TC/P/H 330 DT 19.09.2011 & CIMFR/TC/S/H 179 DT. 29.11.18

BIS LICENCE NO. – CM/L – 5063756

- **ENCLOSURE** – Ex- d as per IS/IEC 60079-1:2007 & IS/IEC 60079-0:2011
- **PROTECTION** – IP- 65.
- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.
- **MATERIAL OF CONSTRUCTION** – Mild Steel / Cast Iron.
- **RATING** – 10 Amps 550 V AC.
- **COMPONENTS** – Connector, Micro switch 2NO/2NC or 1 NO / 1 NC , Lever arrangement, Indicating Lamps. “O” Ring Gasket .
- **CABLE ENTRIES** – Two nos. Through Mining type Cable Gland.
- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.
- **COLOUR FINISH** – As per Customer choice.
- **END USE** – In below ground belt conveyor .



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

FLAMEPROOF/ WEATHERPROOF WELL GLASS LIGHT FITTING TYPE : LF – 07

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

- **Statutory Approvals / Certificates / Licence**

DGMS approval No. 741 of 2019 under regulation 208(3) of the Coal Mines Regulation,2017 for Flameproof / Weatherproof Well Glass Light Fitting type LF- 07 in cast iron conforming to IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS/IEC 60529-2001 for IP: 65 use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/P/H 298 DT 20.02.2017

BIS LICENCE NO. – CM/L – 5063756

- **ALTERNATIVE VARIATION –**

- a) The Well Glass Lighting Fitting is suitable for up to 20 W LED , up to 26 W CFL Lamp,
- b) The Well Glass light fitting also suitable for use with or without Isolator / On – Off switch.

- **ENCLOSURE –** Ex- d as per IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS/IEC: 60529-2001.

- **AREA OF CLASSIFICATION –** Gas Group I atmosphere.

- **PROTECTION –** IP 65

- **MATERIAL OF CONSTRUCTION –** Cast Iron

- **RATING –** 110 / 125 V AC.

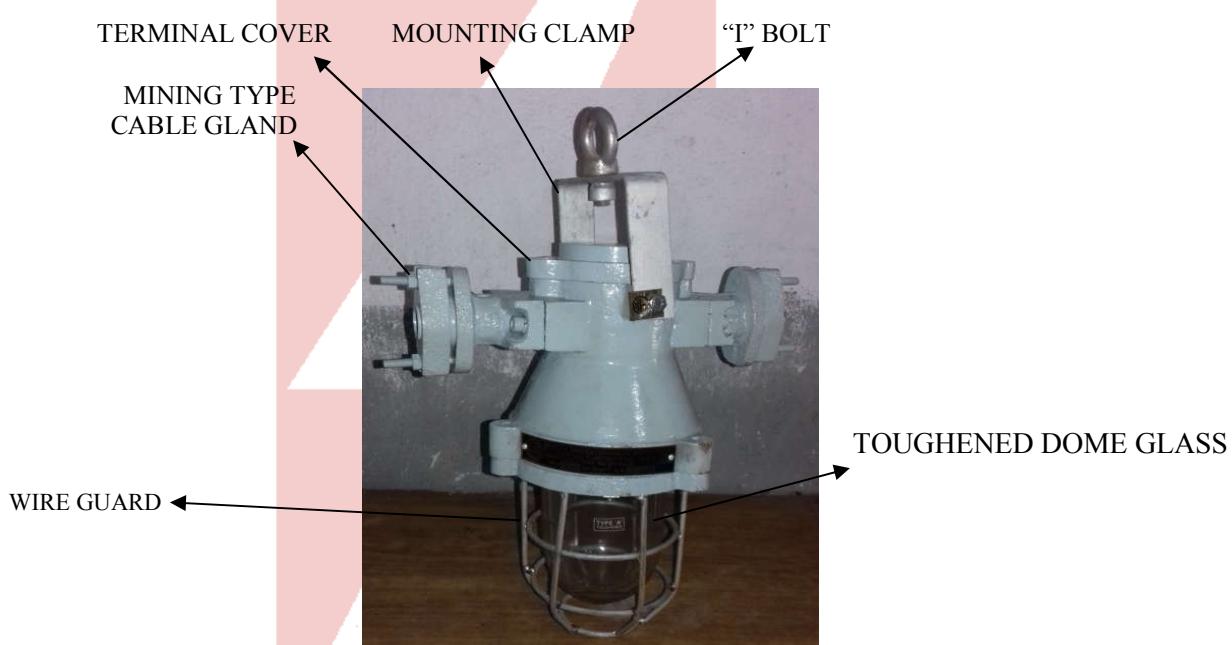
- **COMPONENTS –** E- 27 holder, Toughened Dome glass ,Connector, CFL / LED ,
I – bolt with clamp, wire guard, ‘O’ ring , Isolator (optional)

- **CABLE ENTRIES –** Through Mining type Cable Gland with compound filling arrangement.

- **HARDWARE –** High Tensile Strength M.S Bolt / Electroplated.

- **COLOUR FINISH –** As per Customer choice.

- **END USE –**Below ground in coal mines.



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in.



FLAMEPROOF CONTROLLING UNIT
TYPE: – MLT- 02

MANUFACTURER : SAFEX (INDIA)

SPECIFICATION:-

• Statutory Approvals / Certificates / Licence -

DGMS approval No. 449 of 1997 under regulation 208 (3) of the Coal Mines Regulation, 2017 for Flameproof Intrinsically safe Junction Box com Lighting and Signaling Unit Type : MLT rated at 550- 440 volt AC up to 1 KVA 550 / 110 V Lighting Transformer and 25 VA 550 / 15 V Intrinsically Safe Signaling Transformer,50 Hz in MS construction conforming to IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, and IS: 12063-1987 use in below ground Coal Mines.

Backed by CIMFR test report No. – CIMFR/TC/SR/H 481 DT 23.12.2011 & CIMFR/TC/S/H 64 DT 12.05.2015.

DGMS Permissible variation letter no – 1423 / EHQ / Dhanbad DT. 03.08.2015

BIS LICENCE NO. – CM/L – 5063756 (Endorsement No- 32 DT – 07.07.2015

- The FLP Controlling unit is suitable for belt conveyor sequence system. It has a provision for interlocking with Starter as well as provision of contact for pull cord switch and Audio Visual alarm with power supply.

- **ENCLOSURE** – Ex- d as per IS/ IEC 60079-1:2007, IS/IEC 60079- 0 : 2011, IS: 12063-1987

- **AREA OF CLASSIFICATION** – Gas Group I atmosphere.

- **MATERIAL OF CONSTRUCTION** – Mild Steel / Cast Iron.

- **RATING** – 550 V AC 50 amps.

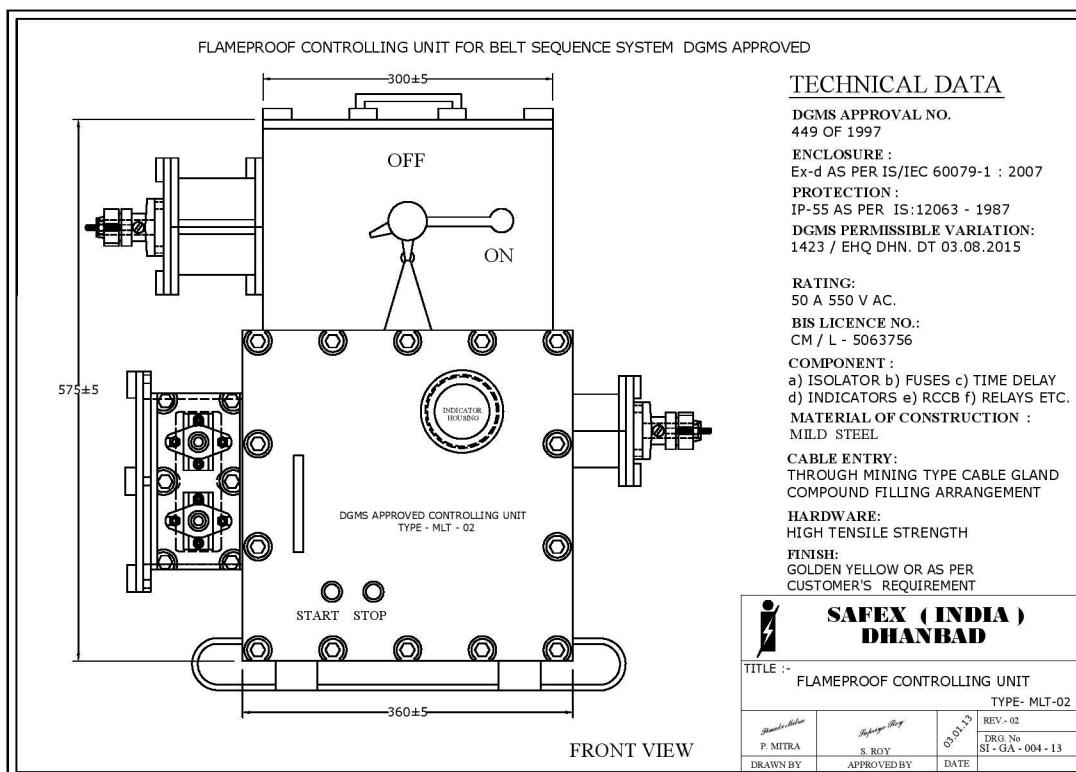
- **COMPONENTS** – Insulators , Isolator, Time Delay relay , Start Stop switch , Indicator Housing , RCCB , Relays for sequence control , Pull cord actuation , Indicator etc.

- **CABLE ENTRIES** – Through mining type cable gland with compounding filling arrangement

- **HARDWARE** – High Tensile Strength M.S Bolt / Electroplated.

- **COLOUR FINISH** – As per Customer choice.

- **END USE** – Below ground with Belt Conveyor Sequence system.



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DIST – DHANBAD, JHARKHAND, INDIA.

e-mail : safexindia_2003@yahoo.co.in

