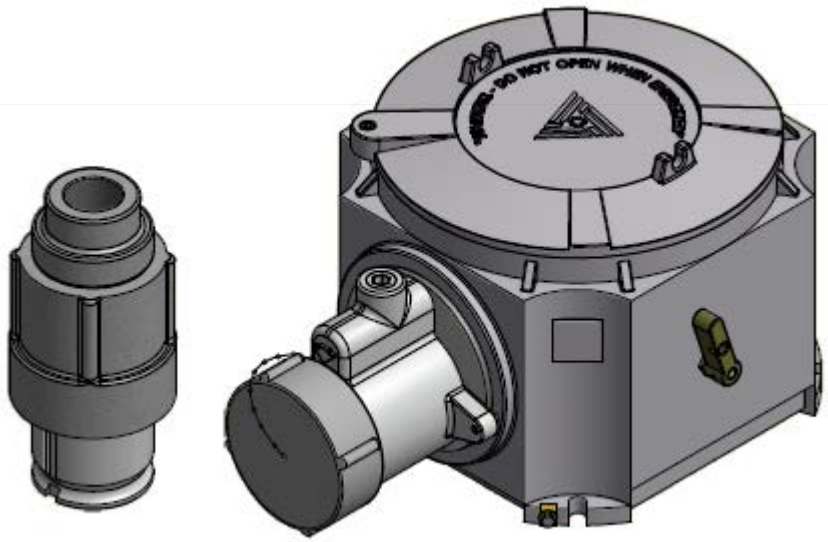
Shomal Engineering & Manufacturing Co.(Pirooz)

ماشین سازی شمال

Operating Instruction for RE…&PL... series
Application II 2 G Ex db IIC T6 Gb
II 2 D Ex tb IIIC T85°C Db

Socket & plug

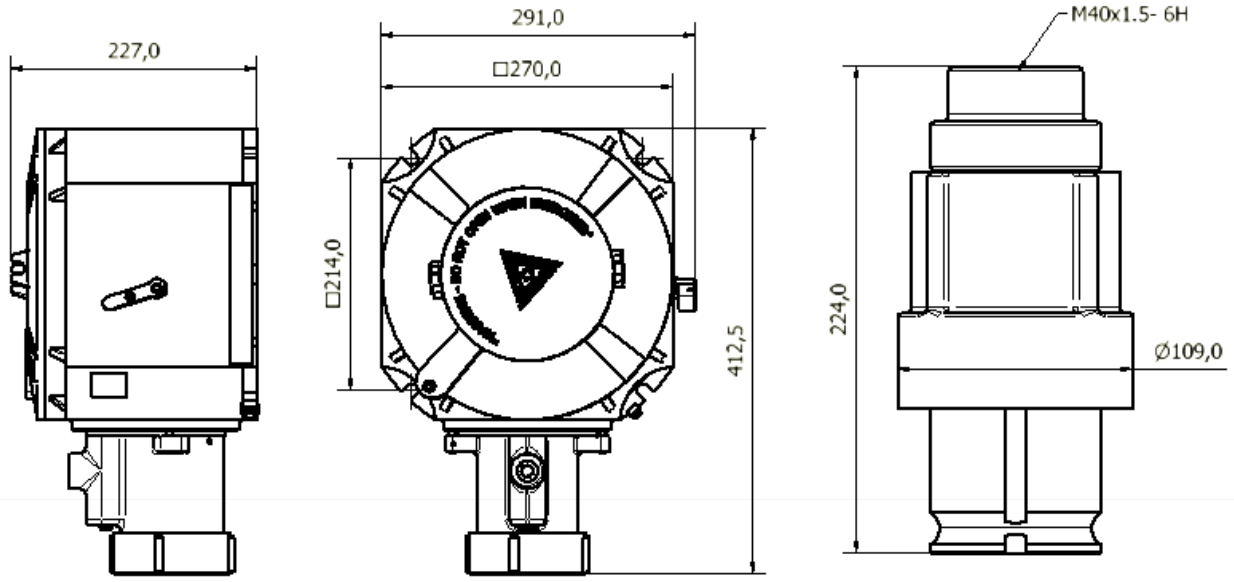


THIS GUIDE SHOULD BE READ CAREFULLY BEFORE INSTALLATION.
INCORRECT INSTALLATION AND USE OF THE EQUIPMENT CAN INVALIDATE THE GUARANTEE!

CONTENT:

Dimensional Drawings:

Fig. A



Important notes:

- This guide should be read carefully before installation,
- Incorrect installation and use of the socket & plug can invalid guarantee**.**
- The purchaser should make the manufacturer aware of any External effects or Aggressive substances that the equipment may be exposed to.

Conformity With Standards:

The socket & plugs 125A meet the requirements of the following standards:

IEC-60079-0
IEC-60079-1
IEC60079-31
AND ACCORDING TO DIRECTIVE 2014/34/EU.

Safety Instructions:

Note: for a skilled electricians and trained personnel in accordance with national regulations, including the relevant standards and where applicable, in accordance with IEC 60079-17 on electrical apparatus for explosive gas atmospheres.

1. THE SOCKET & PLUG IS NOT SUITABLE FOR ZONE 0 AND ZONE 20 HAZARDOUS AREAS.
2. MODIFICATIONS TO THE EQUIPMENT OR DESIGN CHANGES ARE PROHIBITED.THEY SHALL BE USED FOR THEIR INTENDED PURPOSE AND IN PERFECT AND CLEAN CONDITION.
3. ONLY GENUINE SHOMAL SPARE PARTS SHALL BE USED FOR REPAIR AND REPLACEMENT.
4. THE TECHNICAL DATA AND MARKING MUST BE OBSERABLE.
5. THE EQUIPMENT SHALL BE OPERATED AS INTENDED AND ONLY IN UNDAMAGED AND PERFECT CONDITION.
6. REPAIRS THAT AFFECT THE EXPLOSION PROTECTION MAY ONLY BE CARRIED OUT BY S.E.M.C. OR QUALIFIED ELECTRICIANS AND WILL SUBSEQUENTLY HAVE TO BE CHECKED BY AN EXPERT IN COMPLIANCE WITH THE RESPECTIVE NATIONAL REGULATIONS.
7. PRIOR TO PUTTING SOCKET AND PLUG INTO OPERATION, THEY SHALL BE CHECKED IN ACCORDANCE WITH THE “PUTTING INTO OPERATION” SECTION OF THIS MANUAL.
8. ALL FOREIGN MATTER SHALL BE REMOVED FROM THE EQUIPMENTBEFORE THE INITIAL OPERATION.
9. REMOVE THESE OPERATING INSTRUCTIONS BEFORE OPERATION.

OBSERVE THE NATIONAL SAFETY RULES AND REGULATIONS FOR PREVENTION OF ACCIDENTS AS WELL AS SAFETY INSTRUCTIONS INCLUDED IN THIS OPERATING INSTRUCTIONS.

Putting into operation:

Prior to putting the apparatus into operation, the test specified in the relevant national regulations should be carried out.

In addition, the correct functioning and installation of the apparatus in accordance with these operating instructions and other applicable regulations must be checked.

Incorrect installation and use of the equipment can invalidate the guarantee.

- All unused entry holes must be sealed by a suitable certified stopping plug with the same protection level of the equipment.
- The IP rating of the equipment must be maintained for the area of use, using the correct arrangement of Cable/gland/sealing arrangements and in accordance with the installation codes as detailed in IEC 60079-14, and these operating instructions.
- Each entry shall have no more than one thread adaptor, and that thread adaptors shall not be used with blanking elements.

The apparatus must not be modified without reference to S.E.M.C. as this will invalidate certification.

Field of Application:

Equipment protection level of Re and PL "Gb" for gas group IIC and "Db" for dust group IIIC, reference in IEC/EN60079-0 the RE and PL series is suitable for use in zone 1, 2 or 21,22 hazardous areas according to IEC/EN 60079-10-1 and IEC/EN60079-10-2.

Ambient Temperature:

-20°C TO +40°C

-20°C TO +55°C

Technical Specification:

Marking	II 2GD Ex d IIC T6 Gb Ex tb IIIC T85°C Db Socket : IP66 (IP66 with protective cover) Plug : IP00 plug + socket : IP66
Approval	EU type examination certificate: XXXXX
Voltage range AC	MAX.690 V*
Frequency range	50/60 Hz
Nominal current	From 63A to MAX.125A
Conductor section	MAX.50 mm^2
Ambient temperature	-20 ºC to + 55ºC
Material of enclosure	Metal alloy aluminum, copper free aluminum
Entries of cables	Socket : up to M40 /M50 Plug : 1x M40
Dimensions	See figure A
Weight	See Table 1

Notes:

Socket body: Low copper content aluminum alloy and fastening with threaded socket closure Cap attached to body with a safety chain

Cover: Screw fastened, aluminum alloy with low copper content for opening socket and making electrical Connection

Plug: Low copper content aluminum alloy

Pins: Nickel-plated brass

Gaskets: Silicone, high resistance temperature, positioned between the body and the cap.

Screws: Stainless steel

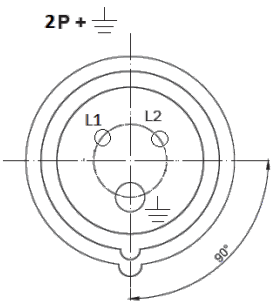
Earth screw: M5 external and M6 internal

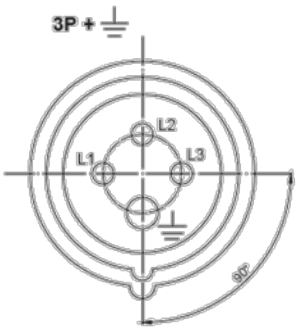
Threaded entry points: 2xM40/M50

safety system: The external control lever and mechanically interlocked safety system prevents the electrical circuit from closing if the plug has not been correctly inserted in its explosion-proof housing, and prevents

extraction if the automatic circuit breaker has not be opened previously. These sockets can be used in

any environment with a potentially explosive atmosphere, and are manufactured so they cannot be used with industrial type plugs





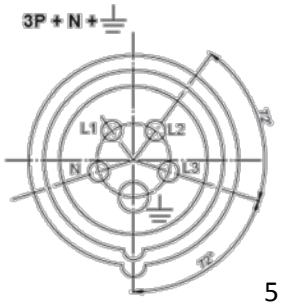


Table 1								
	Number of pins	Frequency (HZ)	Rate voltage/color	Arrangement	Socket code	Socket Weight (Kg)	Plug code	Plug Weight (Kg)
63A	3P+N+ ⏚	50/60	Max 690 V	 6h	REP63	17	PLP125	2.4
	3P+ ⏚	50/60		 6h	REQ63		PLQ125	
	2P + ⏚	50/60		 6h	RET63		PLT125	
125A	3P+N+ ⏚	50/60		 6h	REP125		PLP125	
	3P+ ⏚	50/60		 6h	REQ125		PLQ125	
	2P + ⏚	50/60		 6h	RET125		PLT125	

Detail of cable connection into plug:

Internal connection details between cable and pins for plug:

Take off the grub screw “1” through the hole on the sleeve (see fig. B)

Unscrew the lower part “3” and slip off the sleeve “2” from the plug “5” (see fig. B)

Loosen the grub screw “4” and draw out the insulating bodies from plug “5” (see fig. C)

House and solder the wires in the proper cavities on the pins the earthed neutral to be connected with the longer pin

Reinsert the insulating bodies sure that earth pin in line with the longitudinal cavity on the plug (see fig. D)

Slip sleeve “2” on plug “5”

Completely screw on the lower part “3” adjusting its position that its circular niche should coincide with the threaded the hole on the plug “5”

Reinsert the grub screw “1” through the hole on sleeve

⚠ Attention : - screw on without blocking the grub screw “4” taking care does not protrude damaging the coupling between sleeve

- The cylindrical coupling between sleeve “2” and plug “5” kept constantly lubricated avoiding carefully the damaging
- The lower part “3” of the plug is not interchangeable with corresponding part of the others plugs

Plug connection:

Take off the cover “B” on socket “A” fig. 1

Insert the plug “C” keeping the reference marks “e” duly aligned fig. 2

Screw only the part “f” of the plug, keeping the part “g” with the reference marks “e” aligned fig.2

Insert completely the part “f” of plug.

To operate the internal switch lift up the handle “h” of socket fig. 3

In this moment voltage is applied to the plug

To take off the plug :

Move the handle “h” on of position.

Unscrew the part “f” keeping the reference marks “e” duly aligned fig. 4

⚠ Attention : the plug will be locked into the socket, if the switch is in “ON” position (with handle “h” in up position), or/and if the reference marks “e” are not aligned on the same axis.

Before inserting the plug, make sure that the threaded joints are clean and duly lubricated. After removing the plug reassemble the protection cover “B” on the socket and screw it completely.

⚠ Attention: wire connection to the internal switch , to access the internal switch , take off the cover “d”. connect the wires directly to the internal switch. The cover “d” can be screwed directly to the body of the plug.

Fig. B

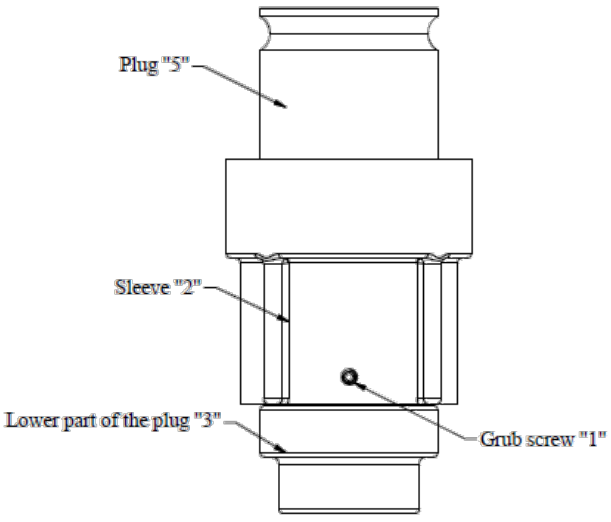


Fig. C

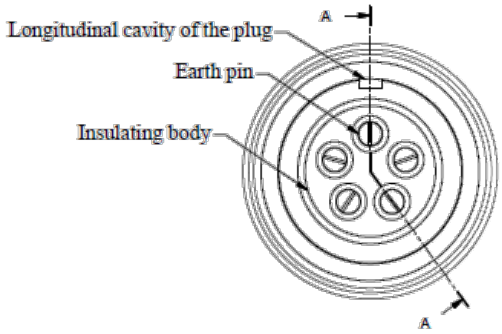
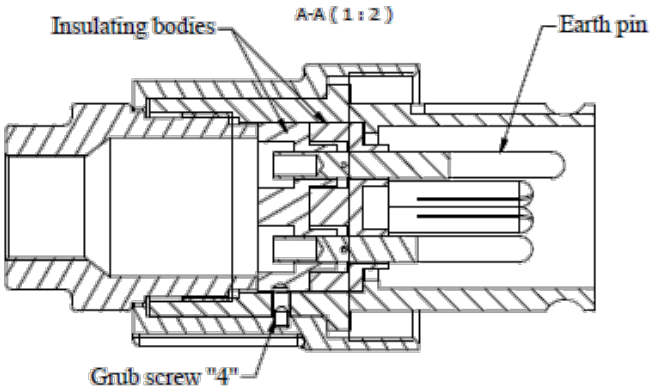


Fig. D



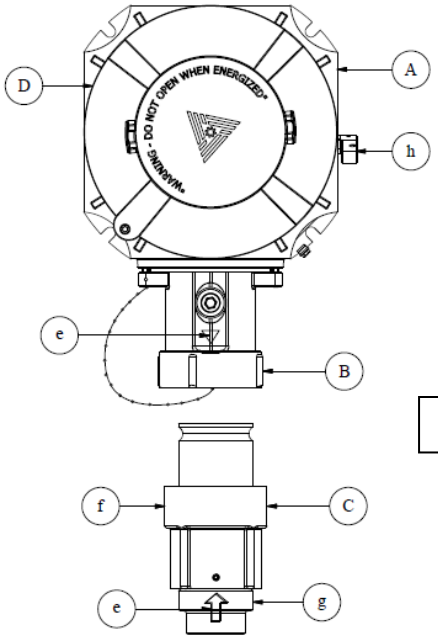


Fig. 1

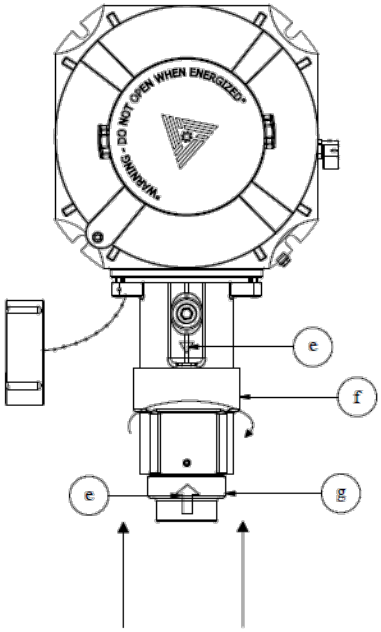


Fig. 2

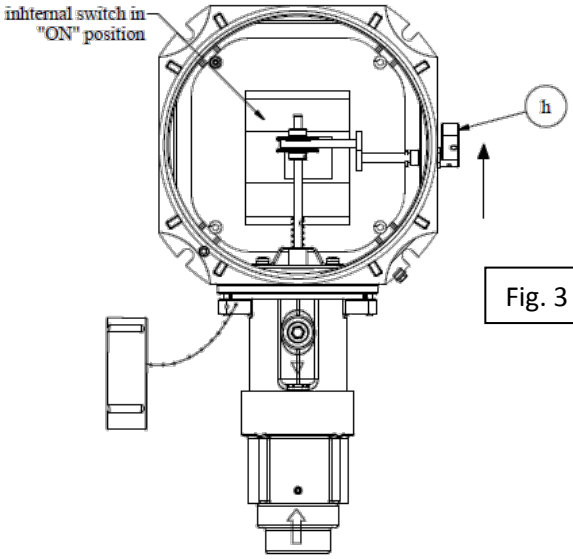


Fig. 3

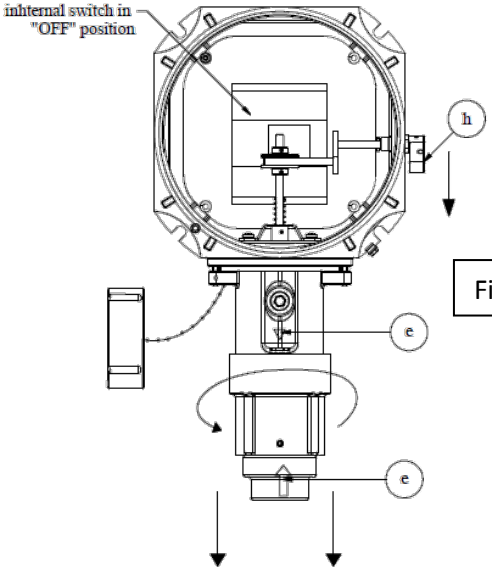


Fig. 4

Maintence /Servicing:

Observe the national rules applicable to maintenance, servicing, inspection and repairing of apparatus for explosive atmospheres, as well as the general rules of engineering.

NOTE: Before opening the equipment ensure that the apparatus is disconnected from the supply voltage! Or take appropriate protective measures.

The required maintenance intervals depend on the respective application and will therefore have to be determined by the user depending on the conditions of use.

Those components that affect the explosion protection must be checked at servicing stages, e.g.:

- The flameproof joints must be cleaned, undamaged, without corrosion and perfectly greased.
- Gaskets/O-rings must be examined for their perfect conditions.
- Cable entries must be free of corrosion.
- Blinding plugs must be examined for their firm fit.

If during servicing it is discovered that repairs are necessary, the Repair/Overhaul/Modification section of this manual must be observed.

The flame paths of these apparatus must be permanently greased in order to ensure protection in front of the corrosion, water ingress and seize-up problems. The remaining grease and corrosion must be cleaned without using sharp metallic devices, which can damage the surface of the joint. Thermally and chemically stable grease with a drop point > 200˚C must be used.

Storage Preservation Guide:

- The Products shall not be stored or left in a wet or damp environment.
- Do not store The Products under direct sun light.
- Permanent Storage Temperature In Original Package is: -40°C TO +60°C
- Transport and storage of equipment is permitted in original package only

Inspection/Repair/Overhaul/Modification:

The national regulations must be observed.

Repairing

- The national regulations must be observed. The tasks of repairing must be carried out by “qualified” personnel.
- Repairs may only be carried out using genuine SHOMAL spare parts.
- Repairs that affect the explosion protection may only be carried out by SHOMAL or a qualified electrician in compliance with the applicable rules.

Modifications to the apparatus or design changes are strictly prohibited

Earth connection:

These apparatus are provided with external and internal earth facility suitable for the largest conductor size.

DISPOSAL / RECYCLING:

S.E.M.C. is concerned about environmental protection and will therefore take appropriate action with due consideration of relevant respect to terms and regulations of the goods destination to ensure the proper disposal of its goods’ packing and wrapping. Diversified waste disposal is strongly recommended.

When the equipment is disposed, the relevant waste and disposal national regulations must be observed.