





## Wolf ATEX GRP Transformer Fitted With STAHL Sockets. Operation and Maintenance Instructions.

### Please Retain – Read Before Use

LL-114/E/STAHL...LL-214/E/STAHL...LL-221/E/STAHL... (The suffixes define; cable type, input plug and fuse arrangement)

The Wolf ATEX GRP Transformer range are rated at Up to 400VA and use a durable GRP (glass reinforced polyester) enclosure housed in a protective 316 stainless steel skid. The transformer is Group II, Category 2 equipment for use in Zone 1 & 2 potentially explosive gases, vapours & mists, where temperature class T4 is permitted, and zone 21 & 22 potentially explosive dusts where a maximum surface temperature of 70°C is permitted.

#### Approval Codes/Certification:

| Model No   | Input Voltage       | Output Voltage              |
|--|---------------------|-----------------------------|
| LL-114/E/STAHL***  | 110V AC +15V/-15V   | 24V AC.                     |
| LL-214/E/STAHL ***   | 230V AC +15V/-15V   | 24V AC.                     |
|  II 2 G D   | IP66                |                             |
| For output power ≤ 360VA   |                     |                             |
| Ex eb IIC T3 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +45°C |                             |
| For output power ≤ 320VA   |                     |                             |
| Ex eb IIC T3 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +55°C |                             |
| Ex eb IIC T4 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +40°C |                             |
| For output power ≤ 300VA   |                     |                             |
| Ex eb IIC T4 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +55°C |                             |
|  |                     |                             |
| Model No   | Input Voltage       | Output Voltage              |
| LL-221/E/STAHL***  | 230V AC +15V/-15V   | 110V AC.                    |
| LL-221/E/STAHL***/CTE  | 230V AC +15V/-15V   | 110V AC<br>CTE (55V-0V-55V) |
|  II 2 G D | IP66                |                             |
| For output power ≤ 400VA   |                     |                             |
| Ex eb IIC T4 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +50°C |                             |
| For output power ≤ 320VA   |                     |                             |
| Ex eb IIC T4 Gb - Ex tb IIIC T70°C Db  | Tamb = -20 to +55°C |                             |

**Check model identification label attached to the lid for rated voltage and the transformer's power rating. The user must ensure this power rating is not exceeded. I max per socket – 12 A.**

**ATEX Certificate: INERIS 22 ATEX 0030X.  
Certificate 'X' suffix – Do not open when energised.**

**Declarations and Attestations of conformity are also enclosed.**

**The transformer is also IECEx approved as described above:  
IECEx INE 22.0048X.**

#### IMPORTANT INFORMATION

- Read these instructions carefully before commencing to use the Transformer and retain them for future use.
- Check the approval label to ensure the Transformer is suitable for the supply provided, ambient temperature present and the environmental conditions.
- Ensure the cable type is suitable for your application as certain cables and their operational use / installation may alter the temperature range of the product:
  - SY cable has a lower operational temperature range of -5°C for flexed applications. Note this cable's insulation is made from PVC.
  - SB cable has a lower operational temperature range of -20°C for flexed applications.
  - H07RN-F cable has a lower operational temperature range of -25°C flexed applications.
  - Helkama cable has a lower operational temperature range of -35°C for flexed applications.
- It is the user's responsibility to ensure there is no potential difference between the earth supply to the transformer and the earth where it is sited. Where this is not possible the transformer should also be locally earth bonded. A flexible cable with a conductor area of 6mm<sup>2</sup> minimum which is no longer than two metres is recommended for this. The transformer must be de-energised during connection or disconnection of the local earth bond.
- The Transformer housing is constructed from GRP (Glass Reinforced Polyester) and the mounted sockets are plastic, the end user must ensure that these materials are suitable for the atmosphere the transformer will be used in. Excessive force should not be used on plastic components.

- The Transformer must not be opened when energised. After disconnection from the mains supply a delay of 5 mins must be observed before opening.
- Ensure all replacement fuses are of the correct type and current rating.

**Details of the fuses fitted are found on the transformer model identification label attached to the lid.**

- Prices and design are subject to alteration without notice. All products sold are subject to our conditions of sale. A copy of these instructions with any relevant revisions can be found at – [www.wolfsafety.com](http://www.wolfsafety.com)
- When using the product, the plugs must be connected and fully engaged in their corresponding socket to maintain the IP rating of the plug & socket. Check the seals are present and in good condition in the socket lid on any fitted sockets. The covers on the sockets must be fully closed and latched to seal surfaces and maintain the stated IP rating of the product.  
Note - Plugs do not have latching covers or other devices to prevent the ingress of fluid and/or dusts. They are only IP rated when engaged in their corresponding sockets. Plugs must be kept clean and dry when not engaged with a socket.

#### MAINTENANCE

- Isolate the Transformer from the mains.
- It is essential that the Transformer is maintained in accordance with the requirements of EN60079-17
- A visual check should be carried out to ensure all internal cable is in good condition, and not suffering any sign of damage or degradation. All internal connections should be checked to ensure that they are correctly secured.
- The transformer input and any connected equipment cables, glands and plugs should be inspected before each use. Any damaged cables, glands and plugs should be replaced immediately.
- The condition of the GRP Enclosure, door gaskets and sockets should be inspected for damage, and to ensure there is no breakdown in the IP66 rating.
- If changing the input or output fuses, care should be taken to secure the screwed cover on fully.
- IMPORTANT** - No modifications are permitted to the Transformer.

#### USER GUIDANCE FOR WOLF ATEX TRANSFORMERS

- It is a requirement of the certification that the transformer is only operated in a vertical orientation, with the component transformer at the bottom. This is indicated by the orientation warning label affixed to the transformer door.  
This Wolf ATEX Transformer is fitted with IEC 60269, 80kA breaking capacity cartridge fuses and is designed to supply a maximum load of up to 400VA dependent on the ambient temperature that the transformer is operated in. The fuse types and maximum values must not be exceeded. The total power of apparatus operated from the transformer should not exceed the given maximum VA. Document LL-1577, contains suggested combinations of Wolf lamps that can be connected. Where apparatus other than Wolf lighting products are connected, its load should be checked to ensure it is suitable for use with type gG (general) fuses. Details of the fuses fitted are found on the transformer model identification label attached to the lid.
- In the event of a fault in a circuit connected to the transformer, it is important that this fault current is interrupted by the output fuses before overheating damage to circuits and a potentially unsafe condition in the safe or hazardous area can occur. The user must therefore ensure that the maximum total impedance of the potential fault current flow path, from the source to the point of a fault, will not prevent this happening. The connected circuit impedance is proportional to the length and conductor area of the cable. Document LL-1577 contains Wolf's recommended maximum cable lengths for given transformer output voltage and fuse fitted.

**Check model identification label on lid to establish whether the output of the transformer is CTE connected.**

- Apparatus with long cable lengths (>20m @ 24V) must be checked to ensure the calculated voltage drop will not prevent the apparatus from operating within the specified voltage tolerance (see apparatus instructions).
- DIN rail mounted screw type terminal blocks are fitted to the transformer to connect the input cable. Each terminal is suitable for a single conductor up to 4mm<sup>2</sup> only. These terminals should be tightened down to 0.6 Nm whether a conductor is fitted or not.
- Approved cable glands must be used and be suitable for the type of cable used. Any unused cable entries should be blanked off with an approved stopper plug to maintain a minimum IP rating as marked on the certification label. Gland and stoppers should be approved to maintain the certification and IP rating as per the label.  
Brass M20 Trumpet glands fitted by Wolf have the cable clamp tightened to 1Nm. If contact between the two clamping faces is not made then low strength threadlock is applied to prevent clamp fixing from loosening. Black polyamide M25 Trumpet glands have the cable clamp tightened to 2.0Nm.

## **DISPOSAL OF WASTE MATERIAL**

Disposal of packaging, Transformer and associated parts should be carried out in accordance with applicable regulations.

## **TRANSFORMER SPARES**

Use only Genuine Wolf Spares

| Wolf part No. | Spare Part Description   |
|---------------|--|
| LL-1282       | ATEX & IECEx 400VA 230:110V component transformer.               |
| LL-1077       | ATEX & IECEx dual wound 400VA 230/110V:24V component transformer |
| LL-1350       | STAHL 8572 110-130V 1P+N+E 16A FLANGE SOCKET                     |
| LL-1352       | STAHL 8573 20-25V 3P 16A 50/60Hz FLANGE SOCKET                   |
| LL-377        | 4A aM Fuse   |
| LL-1002       | 2A aM Fuse   |
| LL-1007       | 4A gG Fuse   |
| LL-379        | 16A gG Fuse  |
| LL-1067       | 12A gG Fuse  |
| LL-1110       | 10A gG Fuse  |
| LL-1024       | 8A gG Fuse   |
| LL-1016       | 6A gG Fuse   |
| LL-1007       | 4A gG Fuse   |

For other spares contact Wolf Safety.

The Wolf Safety Lamp Co. Ltd has a policy of continuous product improvement. Changes in design details may be made without prior notice.

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