Toroidal Current Transformers
User Manual



ADDRESS: Ikitelli OSB Mah. Cevre 14.
Blok Sok. Telas Blok Dıs Kapı No: 1
Kat: 1-2 Basaksehir/Istanbul

Phone: +90 212 438 80 24
Fax: +90 212 438 80 25

info@gruparge.com

V.25.1

CONTENTS

PROPER USE and SAFETY REQUIREMENTS 3
1. INTRODUCTION 4
1.1. General Features 4
1.2. Considerations 4
1.3. Technical Drawing 4
1.3.1. Circular Toroid Current Transformer Technical Drawing 5
1.3.2. Rectangular Toroidal Current Transformer Technical Drawing 5
1.4. Connection Diagram 6
1.4.1. Circular Toroid Current Transformer Connection Diagram 6
1.4.2. Rectangular Toroidal Current Transformer Connection Diagram..... 6

PROPER USE and SAFETY REQUIREMENTS



Cut all the power when connecting and disconnecting the device to a panel.



Do not clean the device with a solvent or similar material. Only use a dry cloth.



Please do not intervene to the device when a technical problem is encountered and get in contact with a technical service within the shortest time.



If the warnings are not taken into account, our company or the authorized dealer shall not be held responsible for the negative consequences.



Do not dispose in the trash, the device must be delivered to the collection centers (electronic device recycling centers). It should be recycled or disposed of without harming human health and environment.



The installation, assembly, activation and operation of the device hould be done and used by only expert professionals and in accordance with safety regulations and instructions.

1. INTRODUCTION

1.1. General Features

Toroidal current transformers are high precision devices used to ensure safety and current measurement in electrical systems. These transformers create a magnetic field by sensing the phase and neutral currents passing through them and induces voltage in the secondary winding. If there is a difference between the phase and neutral currents, this indicates the presence of leakage current. The leakage current transformer senses this difference and activates the protection mechanism and takes precautions against electrical leakage.

Thanks to its toroid design, it shows high resistance to external influences, minimizes electromagnetic interference and maximizes measurement accuracy. After the phase and neutral lines are passed through the transformer, the output terminals **KAR01 and KAR11** should be connected to **terminals S1 and S2**. Although the connection direction does not matter, the correct connection ensures safe and efficient operation of the system.

Leakage current transformers are produced in **8 different models** for different needs. **According to the inner diameter size**, it offers 40 mm, 80 mm, 110 mm, 160 mm, 210 mm and 300 mm **circular** types; 280 × 115 mm and 470 × 160 mm **rectangular** types. With different size options, safe and precise measurements can be realized by choosing the most suitable model for installation and system requirements.

NOTE: Toroid Current Transformers must be used together with Toroid Leakage Current Relay since they are compatible with Toroid Leakage Current Relay.

1.2. Considerations

- All phases and neutral cables must be passed through the Toroidal Current Transformer as shown in **Figure A**.
- The earth cable must never be passed through the Toroidal Current Transformer.
- The sum of the volumes of the phase and neutral conductors to be passed through the Toroidal Current Transformer must be smaller than the internal volume of the Toroidal Current Transformer. (Toroidal Internal Diameter ø ≥ 1,5 x Total Cable Diameter ø)
- Cables should be passed through the center of the Toroidal Current Transformer as much as possible as shown in **Figure B**.

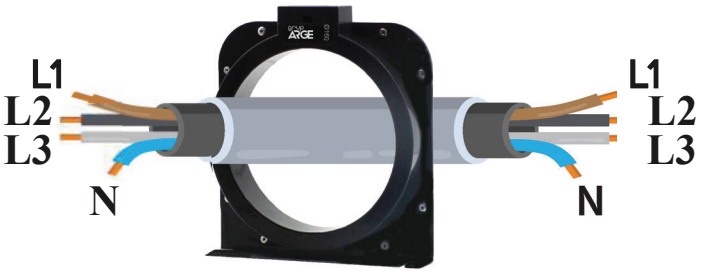


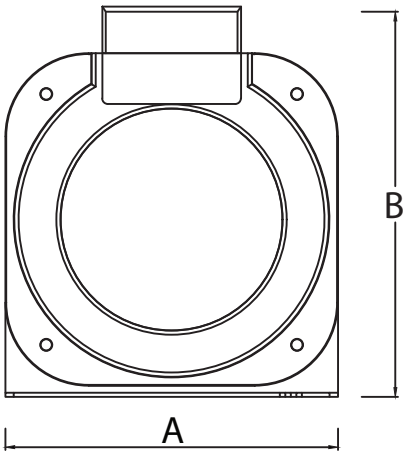
Figure A

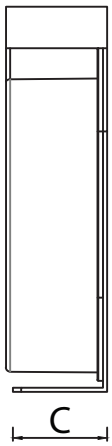


Figure B

1.3. Technical Drawing

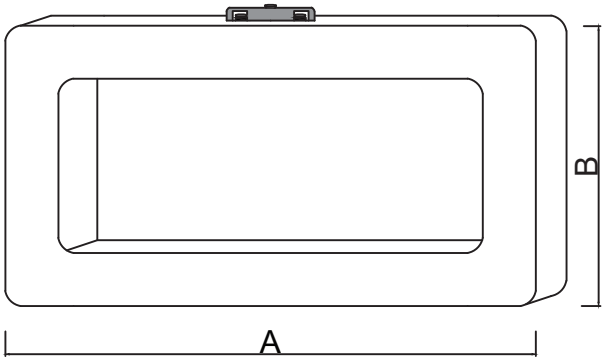
1.3.1. Circular Toroid Current Transformer Technical Drawing





Product Code	Product Name	Internal Diameter ø (mm)	A	B	C
GA6930	TAT00	40	80	99,5	17,5
GA6931	TAT01	80	121	139	34
GA6932	TAT02	110	155	174	34
GA6933	TAT03	160	205	224	35,5
GA6934	TAT04	210	254	272	33,8
GA6935	TAT05	300	345	367	47

1.3.2. Rectangular Toroidal Current Transformer Technical Drawing

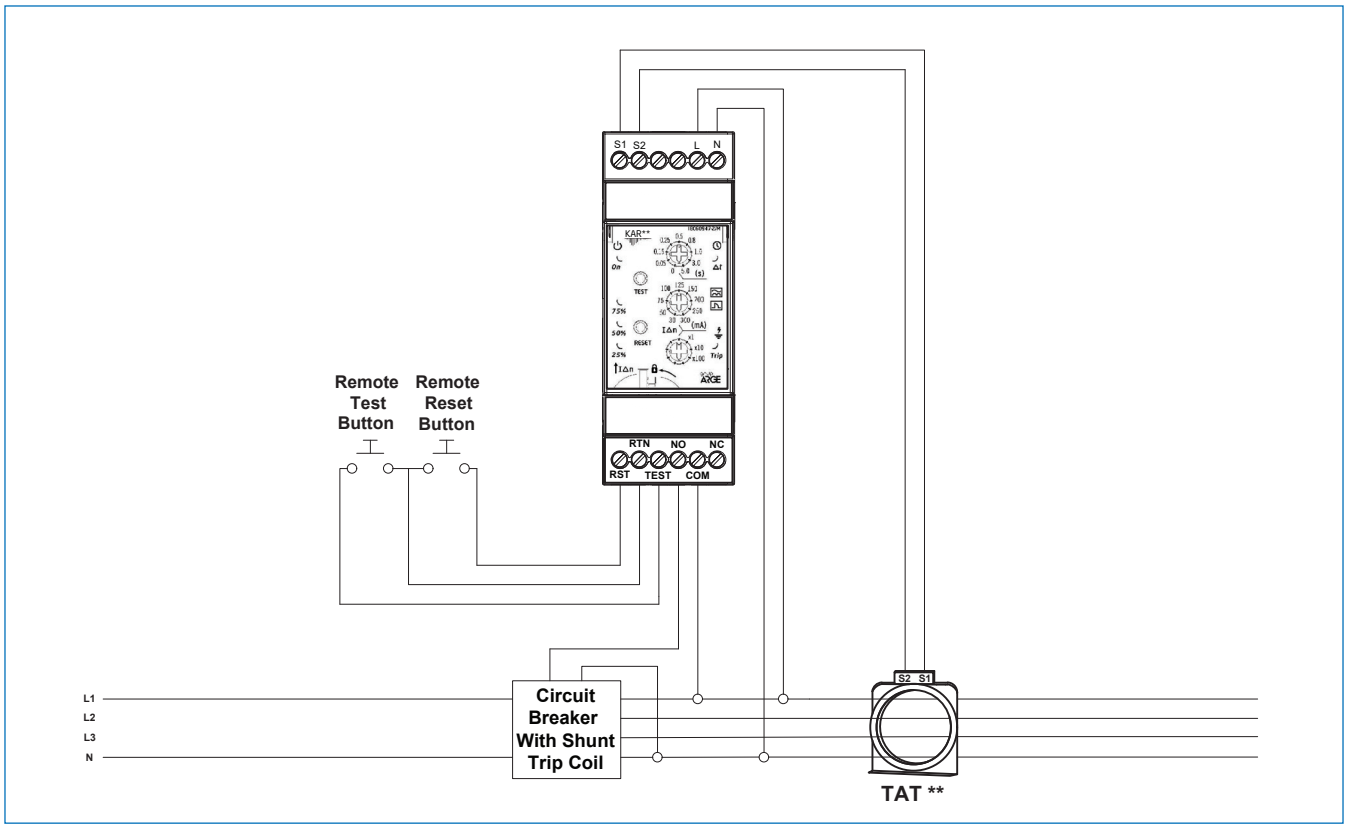




Product Code	Product Name	Internal Dimensions (mm)	A	B	C
GA6936	TAT06	280 x 115	350	185	40
GA6937	TAT07	470 x 160	545	235	40

1.4. Connection Diagram

1.4.1. Circular Toroid Current Transformer Connection Diagram



1.4.2. Rectangular Toroidal Current Transformer Connection Diagram

