ENT.A30MN
SERIES 333 mV
LV CURRENT
TRANSFORMERS
USER MANUAL

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1. INTRODUCTION

This document aims to provide guidance for the safe usage of current transformers and to help protect the installation where they are being used. Our products are in compliance with the TS EN 61869-2 / IEC 61869-2 standards, which specify the requirements for current transformers used for metering, protection, and control purposes.

2. SYSTEM FEATURES

Operating voltage:

The maximum operating voltage of the current transformer, which is a device used to measure or protect electrical systems, is 720 volts. This means that the transformer is designed and tested to safely operate at voltages up to 720V, and that any electrical system in which the transformer is used should not exceed this voltage to ensure proper and safe operation.

Nominal Primary Current:
Nominal primary current, which ranges from 50A to 600A, is the maximum current that can be safely passed through a current transformer without causing damage or measurement errors. It is important to choose the appropriate nominal primary current for accurate and reliable current measurements and to ensure safety in electrical systems.

Nominal Secondary Voltage:
The nominal secondary voltage of a transformer can be specified in different values depending on the design and intended use of the transformer. In this case, the options are 333 mV, which means that the transformer can be rated for carrying a maximum current of either 333 mV on its secondary winding. The choice of current rating depends on various factors such as the load requirements, voltage levels, and efficiency considerations, among others.

Operating Frequency:
The operating frequency is 50Hz or 60Hz. It is important to consider the operating frequency when selecting electrical devices to ensure proper operation and prevent damage or safety hazards.

3. CONDITIONS OF ENVIRONMENT

Operating Temperature:
The operating temperature range of an electrical system is an important consideration when selecting and using electrical equipment. Operating temperature range is -5 to +40 C, and insulation class F.

Humidity:
Humidity is up to 95%, to prevent the negative effects of high humidity levels, it is recommended to use equipment that is rated for such environment.

4. INSTALLATION

Installation of current transformers (CTs) involves several steps to ensure their safe and accurate operation. Here are the general guidelines for installing current transformers:

- Choose the appropriate CT: Select the appropriate CT based on the current rating, voltage rating, and type of application.
- Mount the CT: Mount the CT on a suitable surface with appropriate clearance and secure it with clamps, brackets, or other mounting hardware.
- Connect the CT: Connect the CT to the primary conductor or busbar. Make sure that the CT is properly aligned and secured to the conductor to ensure accurate measurements.
- Connect the CT secondary winding: Connect the CT secondary winding to the measuring or protection equipment, such as voltmeters, multimeters, or meters, using appropriate wiring and terminals.
- Test the CT: Test the CT for its accuracy, polarity, and saturation using suitable test equipment and procedures.

Safety Distance:

- Make sure that the CT installation site is clear of any hazardous materials, such as flammable liquids or gases.
- Keep a safe distance from live conductors while installing or removing CTs.
- Wear appropriate personal protective equipment, such as insulating gloves, goggles, and safety shoes, to protect against electrical shock and physical injuries.
- Follow the safety procedures and regulations, such as lockout/tagout, before performing any maintenance or repair work.

Storage and Transport:

- Store CTs in a clean, dry, and ventilated area to prevent moisture, dust, and other contaminants from affecting their performance.
- Protect CTs from physical damage, such as impact, vibration, or bending, during storage and transport.
- Use suitable packaging and cushioning materials, such as foam, bubble wrap, or cardboard boxes, to protect CTs during transport.
- Handle CTs with care and avoid dropping or mishandling them to prevent damage to their internal components.

In order to avoid personal and material damage the following assembling steps must be performed by qualified and trained personnel only.

5. MAINTENANCE

Current transformers (CT) need regular maintenance to ensure accurate readings and continued reliability. Here are some key maintenance activities:

- Tightening the secondary terminal screws regularly
- Visual inspection to check for damage.
- Keeping a logbook of all maintenance activities.

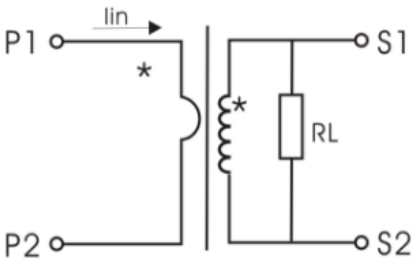
Remember to always follow the manufacturer's instructions and applicable safety codes and regulations when performing maintenance on CTs. Also, make sure that only qualified personnel perform maintenance on CTs.

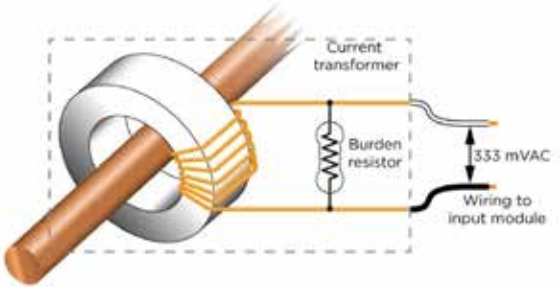
6. TECHNICAL DATA

Technical Specifications	
Standards	TS EN 61869-2 / IEC 61869-2
Maximum operating voltage (Un)	720V
Operating frequency	50/60Hz
Operating temperature	-5°C...+40°C
Nominal thermic current	1,2xIn
Nominal thermic short circuit current (Ith)	60xIn max 60kA 1sn
Rated dynamic current(Idyn)	2,5xIth 1 period
Isolation test voltage	3kV/1 min.
Cable temperature class	H(180°C max.)
Flammability Rating	V-2
Protection class	IP20
Seconder terminals	Nickel Plated Brass M5 Screw
Recommended Tightening Torque	2Nm (Seconder terminals)
Accuracy Class	1
Nominal Primary current	50A-600A
Nominal Seconder current	333 mV
Usage type	Building/Indoor
Seconder Output Cable Size	0,75 mm^2 - 2.5 mm^2

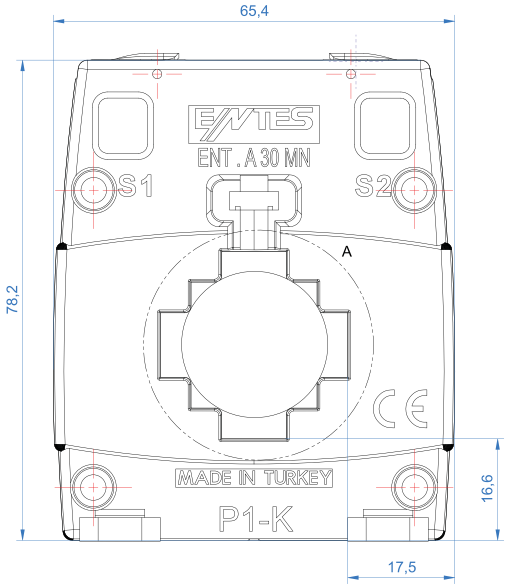
Accuracy Class					
Accuracy Class	Rated current ± % Current Error				
	1%	5%	20%	100%	120%
0,2	-	0,75	0,35	0,2	0,2
0,2s	0,75	0,35	0,2	0,2	0,2
0,5	-	1,5	0,75	0,5	0,5
0,5s	1,5	0,75	0,5	0,5	0,5
1	-	3	1,5	1	1
3	-	-	3	-	3
Current error limit according to TS EN 61869-2					

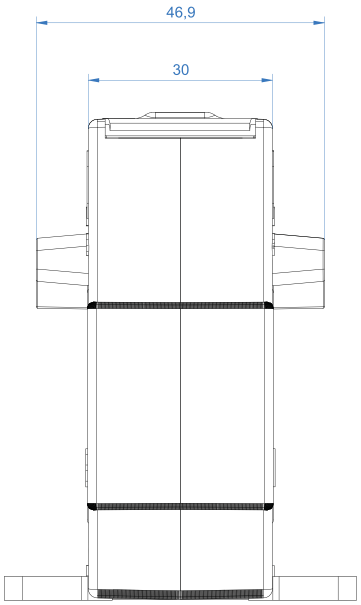
Connection Diagram

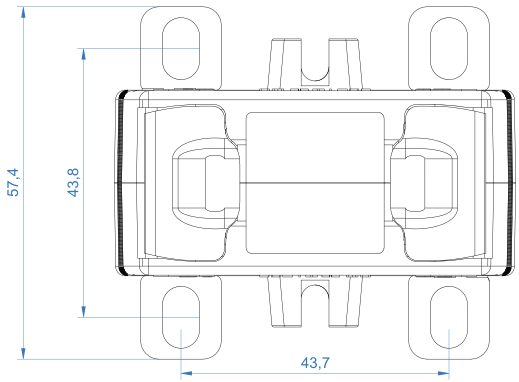


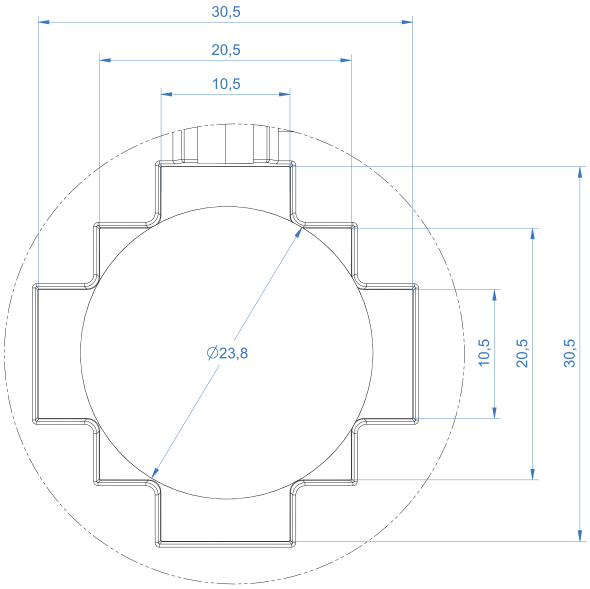


Technical Drawing









ENTES Elektronik Cihazlar Imalat ve Ticaret A.S.
Adr: Dudullu OSB; 1. Cadde; No:23 34776
Umraniye - ISTANBUL / TÜRKİYE
Tel: +90 216 313 01 10 **Fax:** +90 216 314 16 15
E-mail: contact@entes.eu **Web:** www.entes.eu
Technical Support Call Center: +90 850 888 84 25