

## **Standard Current Transformer up to 1000 A**

### **Type CT-N1K0**

### **Instruction Manual**

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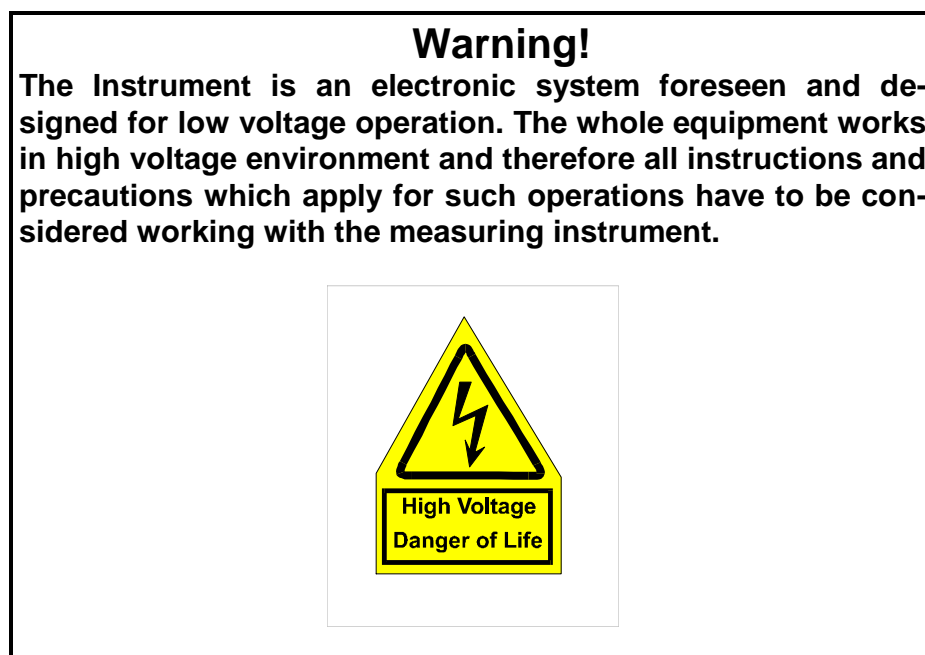
## **1 Safety precautions**

### **1.1 Safety**

The instrument described in this manual is designed to be used by properly trained personnel only. Adjustment, maintenance and repair of the exposed equipment should be carried out only by qualified personnel aware of the hazards involved.

### **1.2 Safety precautions**

For correct and safe use of this instrument it is essential that both operation and service personnel follow generally accepted safety procedures in addition to the safety precautions specified in the manual. Specific warning and caution statements, where they apply, will be found throughout the manual. Safety is the responsibility of the user.



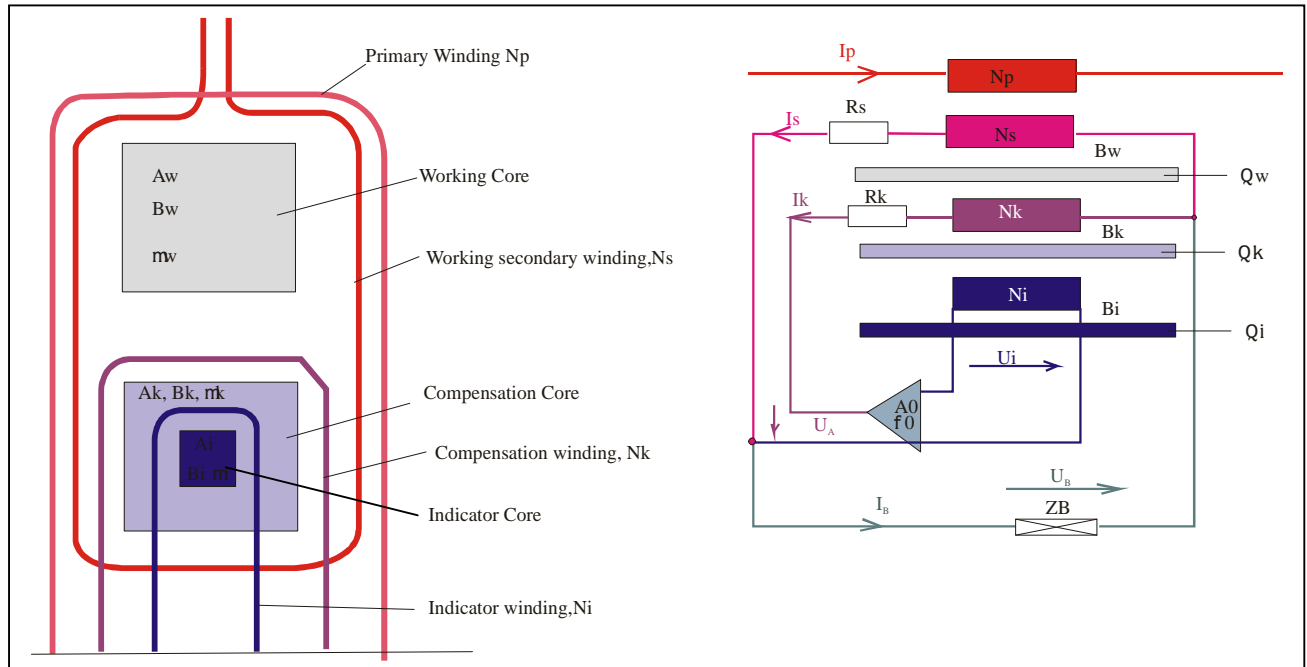
### **1.3 Impaired safety precautions**

Whenever it is likely that safety protection has been impaired, the instrument must be made inoperative and be secured against any unintended operation. Safety protection is likely to be impaired if, for example, the instrument fails to perform the intended measurements or shows visible damage.

## 2. Introduction

### 2.1 Function Principle

The unit is made from a magnetic current transformer/comparator and an electronic compensation unit:



The primary current flows in the winding  $N_p$  and magnetizes all the three cores:

- $Q_w$  Working core
- $Q_k$  Compensation core
- $Q_i$  Indicator core

The secondary working winding ( $N_s$ ) sends a current to the Burden of the transformer. The magnetizing effect of the secondary current is subtracted from the magnetizing of primary.

The  $N_i$  "Indicator winding" detects a voltage proportional to the difference of magnetizing and with the high gain amplifier  $A_0$  sends a compensating current to the compensating winding  $N_k$ .

This regulation loop trends to reduce the overall magnetizing in the cores  $N_k$  and  $N_i$  and because the  $I_k$  is fed to the output, the overall input current makes a "zero flux" CT. This "zero flux" leads to very low errors.

### 3. Technical Data

#### 3.1. Specification under Reference Conditions

Nominal primary currents ( $I_N$ ):)	1'000, 500, 250, 125, 100, 50, 25, 12.5, 10, 5 A
Nominal Secondary current	5 A
Rated Burden	5 VA
Working range	1 ... 200 % of nominal current
Frequency	50 / 60 Hz
Uncertainty of ratio	$\pm 0.001$ %
Uncertainty of phase	$\pm 0.05$ Min.
Overload protection	with indication
Mains	230 V 50 / 60 Hz
Dimensions	T 330 x B 490 x H 610 mm
Hole diameter	40 mm (for 1'000 A range)
Weight	approx. 30 kg

#### Reference Conditions

Temperature	$23^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Humidity	45 ... 75 %
Air Pressure	101.3 kPa

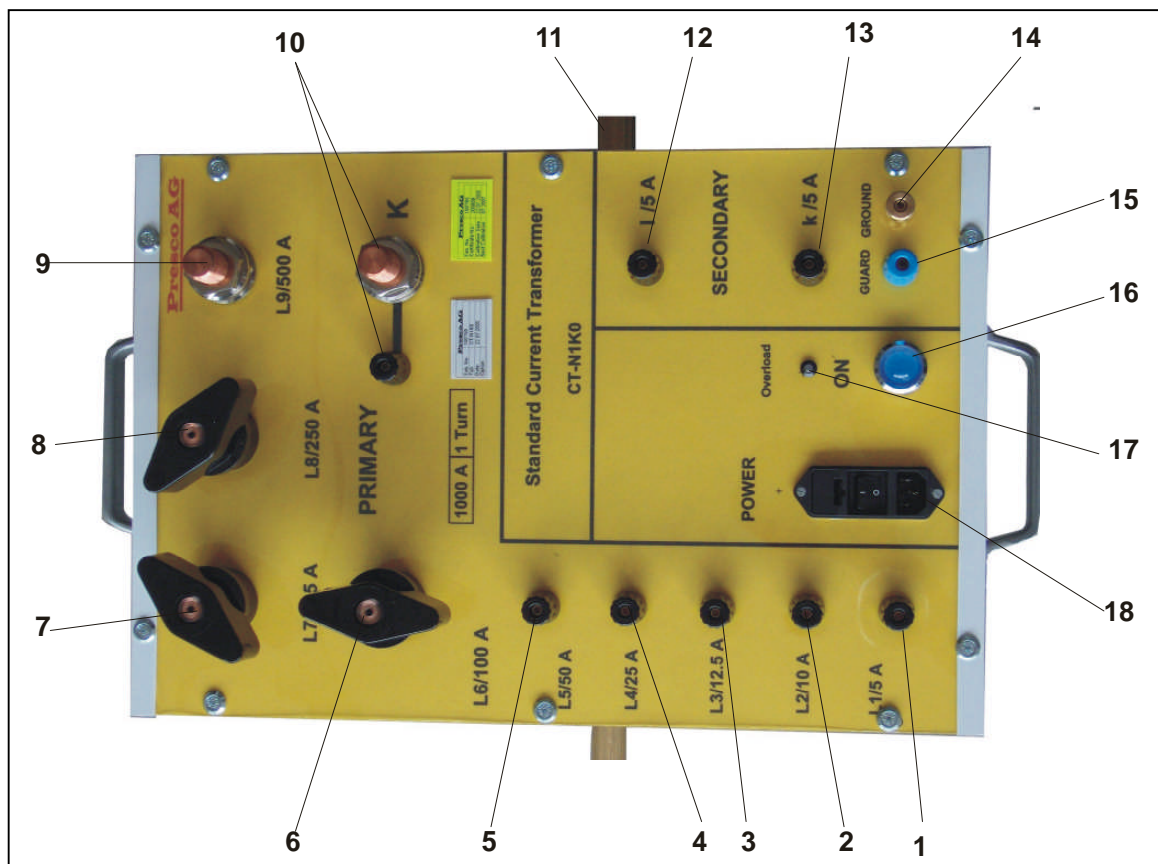
#### Rated range of use

according to Standard IEC 359

Temperature	$5^{\circ}\text{C} \dots 40^{\circ}\text{C}$
Humidity, not condensing	10 ... 90 %
Air Pressure	70 ... 106 kPa

## 4 Operation

### 4.1 Connections



#### Legend:

1. "L1/5A" Primary 5A
2. "L2/10A" Primary 10A
3. "L3/12.5 A" Primary 12.5A
4. "L4/25A" Primary 25A
5. "L5/50A" Primary 50A
6. "L6/100A" Primary 100A
7. "L7/125A" Primary 125A
8. "L8/250A" Primary 250A
9. "L9/500A" Primary 500A
10. "K" Common Terminal of Primary
11. Trough hole for 1000A
12. "I/5A" I terminal of Secondary (5A): proposed as grounded terminal.
13. "k/5A" k terminal of Secondary (5A)
14. Ground connection from line
15. Guard connection: Screen of the CT. Must be grounded.
16. Power ON light
17. Overload lamp: If green = no overload. If red= overload.
18. Power line connector and switch

**5. Secondary Connection**

Connect secondary to the CT testing instrument using min. 6.5 mm<sup>2</sup> cables.  
The total burden on the Standard CT must not exceed 5 VA!

**6. Servicing**

Repair work and maintenance can only be done by qualified personnel of Presco AG. In case of problems please contact the representative which delivered the instrument or Presco AG directly.