

CURRENT TRANSFORMERS OUTDOOR

EPOXY RESIN

Up to 36 kV

CTH 20

CTH 30

Exclusively Distributed by:
MONTRELEC INC.

INDUCTIVE VOLTAGE TRANSFORMERS OUTDOOR

EPOXY RESIN

Up to 36 kV

VTH 20

VTH 30

2VTH 20

2VTH 30

EXCLUSIVELY DISTRIBUTED BY:



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DESCRIPTION

Production

ESIT outdoor epoxy resin current transformers and inductive voltage transformers are manufactured in Istanbul Turkey.

Special Desing

Non Standard core data, creepage, seismic, etc. designs are available on request.

Standards

All transformers are subjected to full routine tests as described in the relevant standards.
Type test can also be performed (except short time current test for CT) in our own testing laboratories but should be negotiated during the order stage.

Quality Assurance

ESIT is ISO 9001 and ISO 14001 certified by both TUV CERT and TSE Turkish Standards Institute.

DATA REQUIRED TO MAKE AN OFFER

General

- * Quantity
- * Delivery Time
- * Destination
- * Service Conditions
- * Other Commercial Conditions

Electrical Data

- * Insulation
- * Frequency
- * Number of Windings/Cores
- * Voltage/Current Ratio
- * Rated Burden for Each Winding/Cre

- * Accuracy Class for Each Winding / Core
- * Standards
- * Voltage/Curent Rating Factor
- * Creepage Distance
- * Short Time Current for CT

DESIGN CHARACTERISTICS OF CURRENT TRANSFORMER

General Description

Post type with wound primary.

The cores and winding are encapsulated with epoxy resin, thereby ensuring a product with high reliability, maintenance free, light weight, mounting in any position, high mechanical strength, high short circuit capability.

Frequency

50 Hz, 60 Hz

Standards

IEC, BS, ANSI, AS, other standards on request.

Epoxy Resin

Araldite cycloaliphatic casting resin.

The cores and windings of the current transformers are moulded in epoxy resin, supplied by BAKALITE.
vacuum is applied during material preparation and casting processes.

Primary Terminals

Primary terminals are made from tin plated brass or copper.
Stud, nema pad or clamp type primary terminals are available
On request and can be made from tin plated brass or copper.

Changing of Ratio

Ratio change can be achieved by primary series-parallel Connection or by secondary tapping or by both.

Cores

Grain oriented silicon steel is used.

The core shapes are toroidal without air gap.

Number of cores accommodated in CT depends on core details

Primary Windings

Electrolytic strip copper suitable to withstand rated continuous

Secondary Windings

Enamelled electrolytic copper wire is used.

Base Plate

Base of the transformers are fabricated from aluminium or hot dip galvanised steel.

four holes are provided on the base to assemble the transformers.

Name Plate

Name plates are stainless steel or aluminium and weatherproof.

Secondary Terminal Box

The secondary terminals box is made from polypropylene or epoxy or aluminium.

If CT's are used for revenue metering provision can be made to seal the covers.

secondary terminal size is M6 stud or clamp type.

Secondary Current

1 A or 5 A, others on request.

Primary Current

up to 3000 A

Thermal and Dynamic Ratings

Short time thermal current up to 40 kA/3 sec and dynamic current ratings up to 100 kA peak are possible.

Continuous Thermal Current

1.2 x I_n continuous, higher values on request.

Earthing

M12 earthing terminal is used and is located on the body of the transformers.

External Binding Elements

All external bolts, nuts, washers etc. are stainless steel or hot dip galvanised steel.

Ambient Temperature

Standard design is suitable for temperature range -25 C to +40 C. other ranges on request.

Altitude

Standard design is suitable up to 1000 m above sea level higher values on request.

Maintenance

Maintenance free, simple recommendations are : cleaning of body
To eliminate deposits of all type of pollution.

Special Tools

No special tools are required for maintenance.

Packing

The transformers are packed in rugged wooden crates which are suitable for overseas transportation.

The transformers are encapsulated in polyethylene covers to protect them from environmental effects such as rain-fall, dust and sand etc. (during transport and storage)

Storage

It is recommended to store the transformers packed prior to installation to avoid physical damage.

Spare Parts

There are no user serviceable parts, therefore no spare are required.

Assembly

Before the assembly, following visual check should be made.

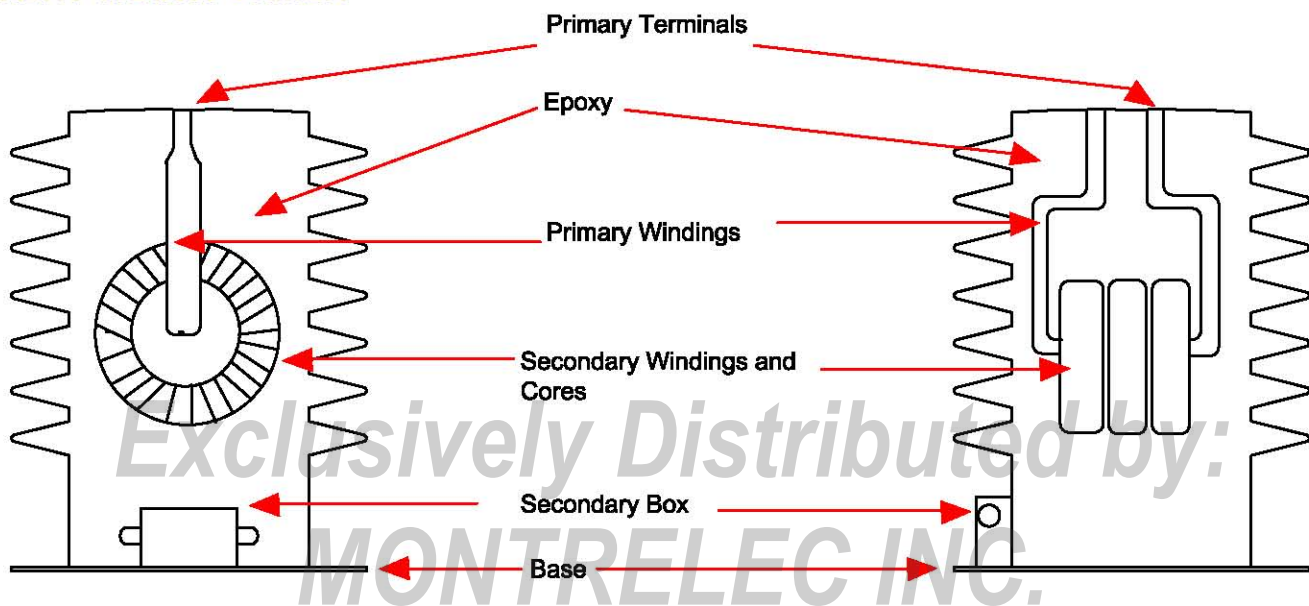
Ensure that there are no cracks on the transformers body

Ensure that the body is clean

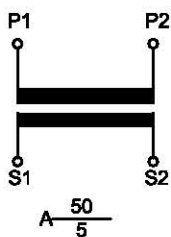
Ensure that there is no damage on the base or secondary terminal box.

Current transformers can be assembled in any position.

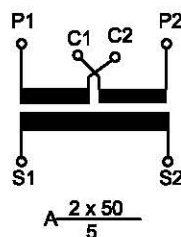
CROSS SECTION CURRENT TRANSFORMER



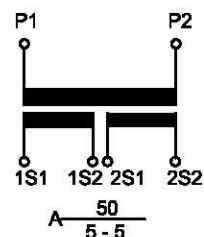
SINGLE LINE DIAGRAM



The primary winding terminals of the current transformers are identified with the letters P1 and P2 and the secondary winding terminals with the letters S1 and S2



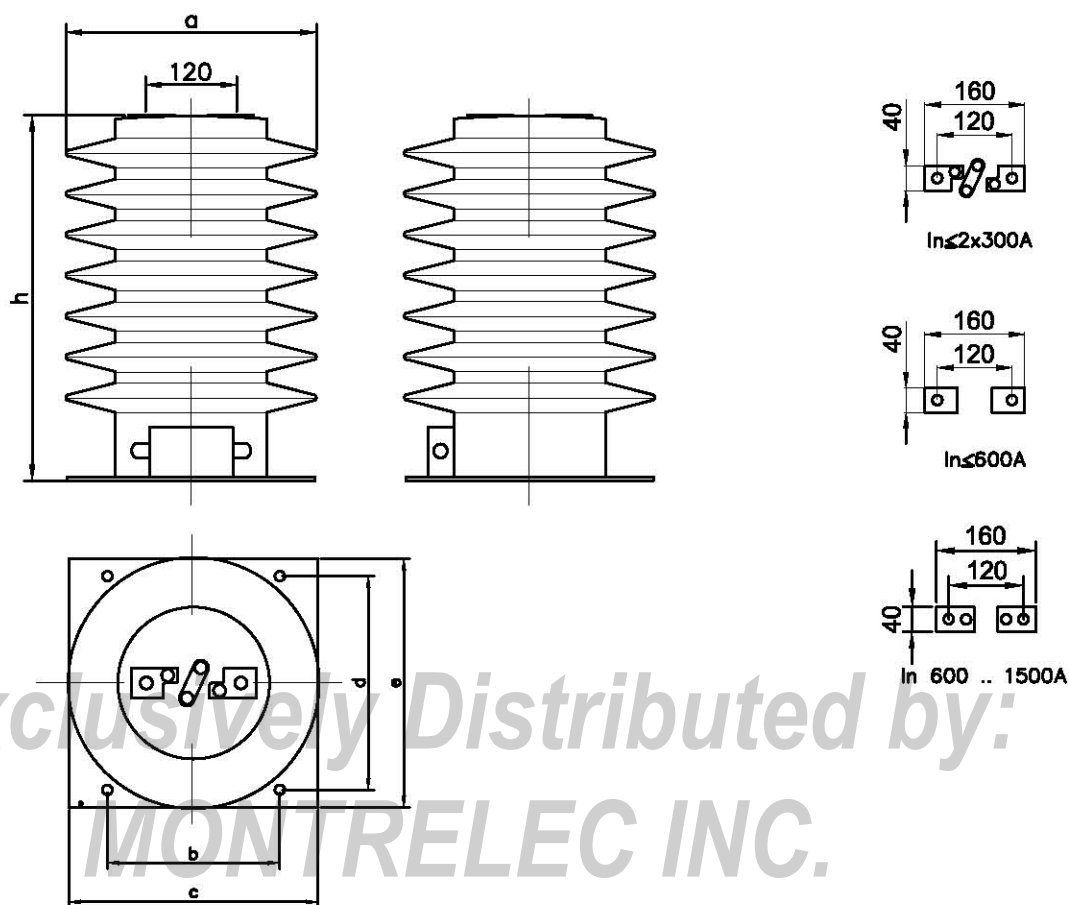
When transformers have two rated currents which can be obtained by the different connection of two identical winding sections, the terminals of identical windings are identified with the subscripts P1, P2, C1, C2. The rated currents given in the from 2 x rated current of the series connection.



In the case of current transformers with more than one core the secondary winding terminals of the first core are identified with 1S1 and 1S2 those of the second with 2S1 and 2S2 and those of the third with 3S1 and 3S2. The identifying figure is given to the core with the greatest accuracy, in the case of equal accuracy to the core with the smaller rated output, or when the outputs are also equal, to the core with smaller rated over current factor.



Outdoor type current transformers CTH 20 - CTH 30



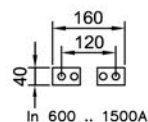
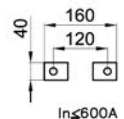
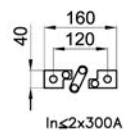
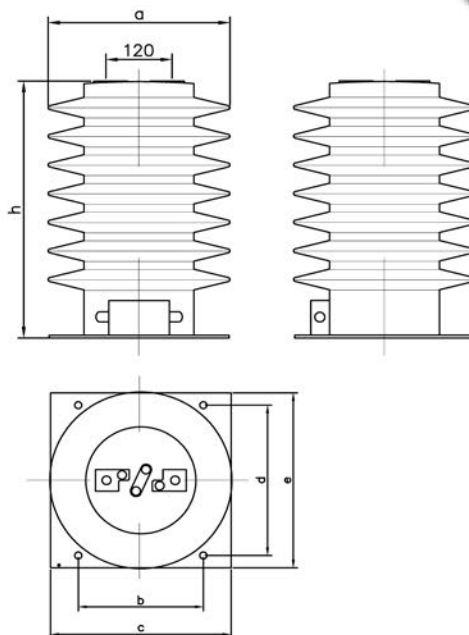
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Type	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	h (mm)	Rippes	Crepape Distance(mm)	Weight (kg)
CTH 20	275	225	180	235	235	344	10	720	28
CTH 30	326	226	280	326	329	480	7	1100	61

Technical Data

Type	CTH 20	CTH 30
Operating voltage (maximum)	17.5 kV	24 kV
Rated power-frequency withstand voltage (1 minute)	38 kv	50 kV
Rated impulse test voltage (1,2/50 μs) full wave	95 kV	125 kV
Rated frequency	50 Hz, 60 Hz	
Primary rated current	10 - 1500 A	
Primary reconnection	2x10 A - 2x300 A	
Secondary rated current	1A, 5A	
Rated short-time thermal current I _{th} (1s)	max. 60 kA (max.1000 x I _n)	
Rated dynamic current I _{dyn}	2.5 I _{th} , max. 120 kA	
Short-time load (mechanical)	5000 N	
Insulation class	E	
Ambient temperature	-5.....+40 °C	
Altitude	1000 m	
Standard	IEC, VDE, ANSI	

OUTDOOR CURRENT TRANSFORMERS



CTH 20

Type	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	h (mm)	Rippes
CTH 20	275	225	180	235	235	344	10

TECHNICAL DATA	
TYPE	CTH20
Rated Voltage (KV)	15kV
Rated Ratio	Up to 1500A
Rating Factor	2
Accuracy Class	0.3
Rated Burden (VA)	15VA
Rated Frequency	60Hz
Instrument Safety Factor (Metering Only)	Fs5
Short Time Current Rating (kA)	
Dynamic	$2.5 \times 100 \times I_n$
Primary Winding	38kV
Secondary Winding	2.5kV
Impulse Withstand Voltage (kV) 1/50 microsecond)	95kV
Temperature Rise at ambient Temperature 50°C	55°C
Minimum Creepage Distance	720mm
Standards	ANSI/IEEE C57.13/IEC/IEC 60044-1

- CTs are available in Dual (2 ratios), Multi (4 ratios) and Extended Range (Single Ratio accurate from 1% up to 150% of rated current).
- Full Secondary Reconnection is available
- High Basic Insulation Level (BIL) due to 24kV Mold
- Made from Cycloaliphatic Epoxy Resin Material
- Guaranteed European Quality, Made in Turkey
- Post Shipment testing by ERC using sophisticated Red Phase Error Tester
- Supplied with ERC Sticker and Test Report
- Prior to delivery, goods are re-tested using our OMICRON Analyzer for added quality assurance.

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*Specification may change without prior notice