



## CURRENT TRANSFORMER WITH OIL INSULATION FOR VOLTAGE LEVEL 72.5 kV – 420 kV TYPE IST



### DESCRIPTION

New generation of outdoor current transformer with oil-impregnated paper insulation, IST Type, is the result of own development and long-time experience in manufacturing of instrument transformers.

A main insulation system made of high quality pure cellulose paper, then processes of drying, vacuuming and impregnation by high quality transformer oil, as well as capacitor lining for electric field formation insure humidity content under 10 mg/kg, and also, high dielectric hardness, low level of partial discharge, resistance to atmospheric over-voltage and high safety degree of inverse current transformer in service.

Due to a symmetric configuration of primary winding conductor and toroidal cores with secondary windings uniformly wound, inverse current transformer is more advantageous, especially if there is a request for low reactance dispersion, and also, with much better response under condition of transition regime.

Inverse current transformer is very resistant to thermal and dynamic stresses caused by power shortcut in network due to its primary winding configuration fitted into transformer head. Primary winding is not in a direct contact with porcelain insulator, so its dynamic stresses and energy of arc caused by eventual puncture through insulation system does not damage insulator itself, so the surrounding equipment in switchgear is not disturbed by pieces of exploded insulator. In case of puncture and arc phenomena, only a metal dilatable diaphragm will be damaged inside transformer.

Reconnected primary winding consists of 2 or 4 copper or aluminum profiled conductors fitted into protective pipe inside transformer head. Primary winding is totally separated from insulation system what protects latter from thermal and dynamic stresses during short-circuits in network. In case of intervention on primary winding (e.g. due to elimination of overheating causes) there is no need for oil discharge and any disturbance of insulation system.

Used transformer oil is very resistant to aging and does not contain PCB which is ecologically harmful.

Toroidal cores are made of cold-rolled oriented metal sheet or of magnetic material sheet with low induction of saturation (e.g. mumetal), depending upon required accuracy class.

As a regular delivery there is transformer with insulator of high quality electro-technical porcelain with specific creepage distance 25 mm/kV for highest system voltage.

But, upon request, we deliver transformer with porcelain insulator at specific creepage distance 31 mm/kV, or with composite insulator of specific creepage distance value, as required.

Sealing system resistant to oil and aging insures a reliable sealing during entire transformer service life. Each connecting element is made of stainless steel, but construction parts of aluminum, or steel protected by hot galvanizing.

High dielectric hardness of insulation system, resistance to thermal and dynamic stresses, sealing system and anti-corrosive protection are a guarantee for long service life of the transformer and its minimal maintenance.

### TO SPECIFY FOR AN ORDER

- Highest voltage for equipment
- Rated frequency
- Rated primary and secondary current
- Rated continuous thermal current ( $I_{cth}$ )
- Rated short-term thermal current ( $I_{th}$ )
- Rated dynamic current ( $I_{dyn}$ )
- Rated output, accuracy class, safety factor SF (measurement)
- Rated output, accuracy class, accuracy limiting factor (protection)
- Specific creepage distance
- Ambient temperature
- Altitude
- Standard

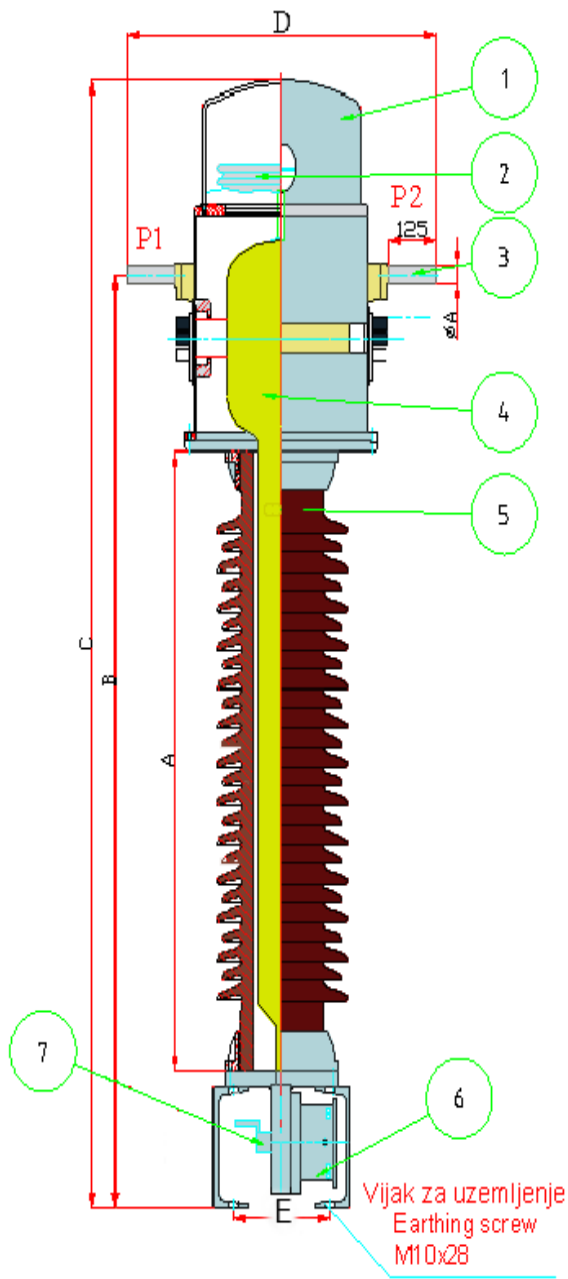
### STANDARD

Current instrument transformers are in accordance with IEC, JUS, ANSI and BS, or some other upon request.

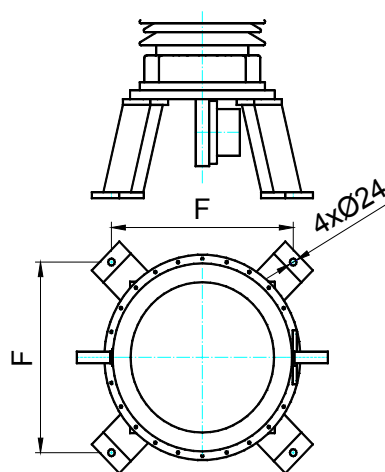
## TECHNICAL CHARACTERISTICS

Type	Unit	IST 72,5B	IST 72,5C	IST 123-2	IST 245	IST 420	
Highest voltage for equipment	kV	72,5	72,5	123	245	420	
Withstand voltage of net frequency	kV	140	140	230	460	630	
Impulse withstand atmospheric voltage	kV	325	325	550	1050	1425	
Rated frequency	Hz	50 or 60					
Flashover distance (min)	mm	740	740	1160	2050	3400	
Rated primary current I <sub>pn</sub>	A	Up to 3000			Up to 3000	Up to 3000	
Primary reconnection		1:2:4			1:2:4	1:2	
Rated secondary current I <sub>sn</sub>	A	1 or 5					
Rated continuous thermal current I <sub>cth</sub>	%I <sub>n</sub>	120					
Short-term thermal current I <sub>th</sub> / 1s	kA	40					
Rated dynamic current I <sub>dyn</sub>	kA	100					
Rated power	VA	upon request					
Accuracy class / Safety factor Accuracy class / Accuracy limiting factor		For measurement: 0,2 – 0,5 – 1/ FS= 5 – 10 For protection: 5P – 10 P / 5-10-15-20-30					
Number of cores		upon request					
Primary terminals		plate or round					
Mass	kg	300	320	357	960	1300	
Oil quantity	kg	40	40	57	264(260)	453	
Ambient temperature	°C	– 25 to +40					
Dimension	A	mm	900	900	1320	2289	3368
	B	mm	1348	1598	1990	3235	4703
	C	mm	1968	2218	2408	3226	5478
	D	mm	800	800	800	902	1124
	F	mm	380	520	251	654	727

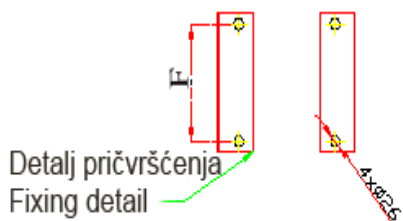
Note: All data contained herewith are to be considered as information only.  
The manufacturer reserves the right to perform certain changes for the purpose of technical improvement.  
A list of guaranteed values with dimension drawing attached should be submitted upon customer's request.



1. Protective cap
2. Below
3. Primary terminals
4. Active part
5. Insulator
6. Secondary box terminal
7. Oil drain valve



Fixing detail for IST 245 and IST 420



Fixing detail for IST 72.5B; IST 72.5C and IST 132-2