

Current Instrument Transformer J 123

J 123 current instrument transformers are used to feed measurement and protection systems in electrical power grids with the highest operating voltage of 123 kV and a frequency of 50 Hz. They are used in grids with isolated or effectively grounded zero point. J 123 transformers are suitable to operate in outdoor conditions in moderate climate zones at an ambient temperature ranging from 233K (-40°C) to 313K (+40°C) and a relative humidity of up to 100% at 303K (+30°C), and at the altitude not exceeding 1000 m above sea level.



Design

A current transformer type J 123 consists of active current transformer parts enclosed in an aluminum, hermetic casing filled with transformer oil. The casing consists of the following parts:

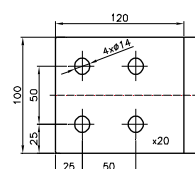
- bottom basis,
- porcelain or composite insulator,
- head with current transformer,
- shielded expansion bellows.

A terminal box is fixed to the bottom container made of aluminium-alloy. Secondary current circuits as well as screens' ends are led out to the box. Terminal strips allow the connection of the 10 mm² wires and can be furnished with surge arresters for current circuits. Current winding terminals used for electric energy settlement can be suited for sealing. The terminal box is fitted with two M40 cable glands (throttling range from R19 mm to R28 mm). The hollow insulator is made of brown porcelain with creepage distance required for III class of pollution. Grey coloured composite insulator with creepage distance required for IV class of pollution can be mounted at client's request. Current module primary connection terminals are mounted in a head made of aluminium-alloy. Standard terminals are flat 100 mm or 200 mm wide terminals made of aluminium. If requested 30 mm or 40 mm copper or aluminium bolt terminals can be made. Current

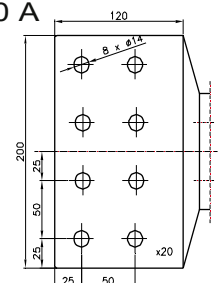
instrument transformer main insulation is made of cable paper saturated with transformer oil. Thermal oil volume changes are compensated by stainless steel expansion bellows placed on the upper part of the current instrument transformer. Current instrument transformer is environmentally safe due to a small amount of oil. Spacing of the fixing holes used to mount the current instrument transformer to a support structure equals 450 x 450 mm. Current instrument transformer can be fitted with two terminal boxes, other type of secondary terminals (e. g. threaded), covers for secondary terminals sealing, number and size of glands etc.

Primary flat terminals

< 1250 A



> 1250 A



Technical data

J 123

Parameter	Value
Compliance with the standards	PN-EN 60044-1, IEC 60044-1
Rated primary voltage	110: $\sqrt{3}$ kV
Highest system voltage	123 kV
Rated power – frequency withstand voltage at 50 Hz	230 kV
Rated lightning – impulse withstand voltage 1.2/50 μ s	550 kV
Minimum creepage distance	3625 mm (porcelain) or 3800 mm (composite)
Rated frequency	50 Hz
Total weight	350 kg (porcelain) or 310 kg (composite)
Insulation oil weight	<80 kg
Dimensions: W x H x D	according to the dimensional drawing

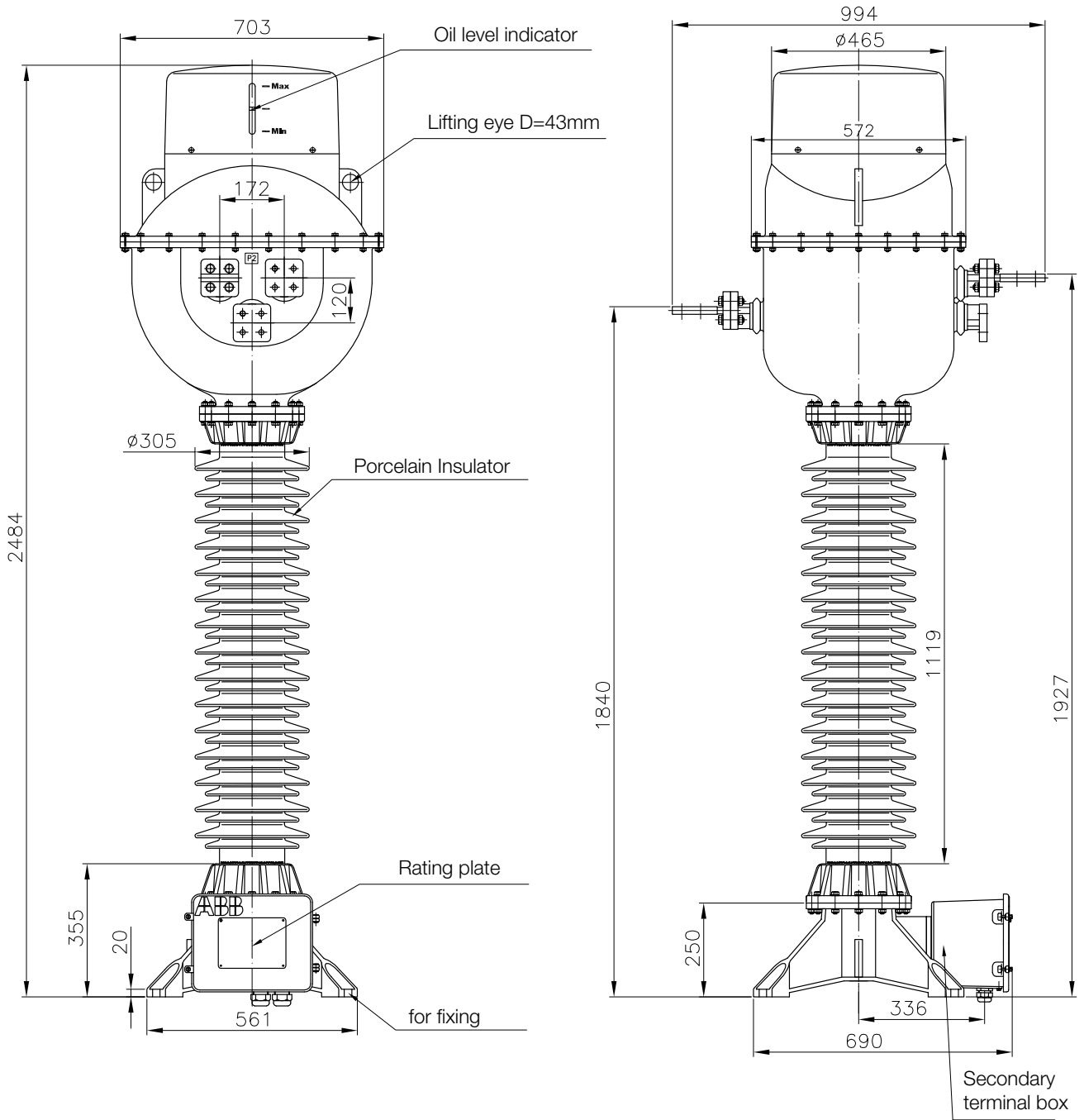
Current module

Rated current [A]	Rated 1s thermal current [kA]	Rated dynamic current [kA]
50	20	50
100	40	100
150	40	100
200	40	100
300	50	125
400	50	125
500	50	125
600	50	125
800	50	125
1000	50	125
1200	50	125
1600	50	125
2000	50	125
3000	63	157

Reconnectable 1:2 or 1:2:4

Parameter	Value
Rated secondary current	120%; 150%; 200%
Rated continuous thermal current	1A; 5 A
Number of:	1 - 6
Measuring windings	1 - 3
Protection windings	1 - 4
Measuring windings parameters:	
Total rated output	2,5–30 VA 2,5–60 VA 2,5–120 VA
Accuracy class	0.1 or 0.1 s 0.2 or 0.2 s 0.5 or 1
Protection windings parameters:	
Total rated output	2,5–120 VA
Accuracy class	5P; 10P

Dimensional drawing



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