



Instrument Transformers

RITZ INSTRUMENT TRANSFORMERS, INC.

Current Transformer

GIF 72.5

General Description

Ritz Instrument Transformers manufactures an extensive line of cast epoxy resin insulated instrument transformers across the voltage range from 5.5 kV to 72.5kV.

This brochure describes Outdoor Current Transformers in the 69 kV class and offers some representative catalog numbers for single core tapped winding designs. Ritz, because of product depth, familiarity with international standards and custom design capability can also design a solution to your specific needs.

The GIF 72.5 represents a cost-effective alternative to traditional oil-paper insulated current transformers for 69 kV applications. It is available in multi-core, multi-ratio configurations with accuracies and burdens to meet your specifications.

Standards

Ritz designs to all national and international standards, such as IEEE, CSA, IEC, BS, AS, VDE, SEN, etc.

Insulation Level

Maximum System Voltage:	72.5kV
Power Frequency Applied Voltage:	140.0 kV
Basic Impulse Level:	350.0 kV

Primary Current

Standard designs up to 3000A maximum continuous current. Designs for high current ratings available on request.

Secondary Current

5A or 1 A, any other value on request.



Primary Terminal

Horizontal palms with 4-hole NEMA pads of silver plated copper are standard. Details are shown over leaf. Other primary terminals (2-hole pads, bolt type terminals) available on request.

Base

Bottom plate is made of corrosion resistant aluminum

Secondary Terminal Box

The secondary terminal box is made of cast aluminum. The cover is sealable. Copper terminals with stainless steel screws are standard. Each terminal can be earthed inside the terminal box. Two threaded 1 " horizontal hubs with pipe plugs are provided for making connection to 1" conduit. In the event of multi-core, multi-ratio designs it may be necessary to accommodate the secondary terminals in two separate terminal boxes

Nameplate

Nameplate data is engraved on blackened stainless steel plates

Grounding

A ground lug designed to accept a one hole connector is provided at the terminal box.

Commissioning and Maintenance

The Current Transformers are supplied ready for service. Must be installed in a vertical, upright position. Just connect to system. No additional work or special tools are necessary. Instruction manuals are provided with the units. Periodic wiping down of the units with silicone grease is recommended

CURRENT TRANSFORMER TYPE: GIF 72.5-68

Current Ratio (A)	Catalog Number	IEEE Accuracy Class 60 Hz		Rating Factor
		Meter	Relay	
5/10:5	116026068 45995	0.3B-2.0	C200/C400	2.0/1.5
10/20:5	116026068 45999	0.3B-2.0	C200/C400	2.0/1.5
20/40:5	116026068 45998	0.3B-2.0	C200/C400	2.0/1.5
25/50:5	116026068 45980	0.3B-2.0	C200/C400	2.0/1.5
50/100:5	116026068 45981	0.3B-2.0	C200/C400	2.0/1.5
75/150:5	116026068 45982	0.3B-2.0	C200/C400	2.0/1.5
100/200:5	116026068 45983	0.3B-2.0	C200/C400	2.0/1.5
150/300:5	116026068 45984	0.3B-2.0	C200/C400	2.0/1.5
200/400:5	116026068 45985	0.3B-2.0	C200/C400	2.0/1.5
300/600:5	116026068 45986	0.3B-2.0	C200/C400	2.0/1.5
400/800:5	116026068 45987	0.3B-2.0	C200/C400	2.0/1.5
500/1000:5	116026068 45988	0.3B-2.0	C200/C400	2.0/1.5
600/1200:5	116026068 45989	0.3B-2.0	C200/C400	2.0/1.5
800/1600:5	116026068 45990	0.3B-2.0	C200/C400	2.0/1.5
1000/2000:5	116026068 45991	0.3B-2.0	C200/C400	2.0/1.5
1500/3000:5	116026068 45992	0.3B-2.0	C400/C800	2.0/1.0
200:5	116026068 79159	0.15B-1.8 1% to 150% Rated Current	---	1.5
1000:5	116026068 79158	0.15B-1.8 1% to 150% Rated Current	---	1.5

Changing of Ratio

Ratio change can be accomplished either by primary series-parallel reconnection up to 600 x 1200A or by secondary taps. Combinations of series-parallel connection and secondary taps are also possible.

Frequency

60 Hz or 50 Hz, other values on request

Cores and Secondary Windings

Each core is custom designed and manufactured to meet specification. Up to 4 independent cores for metering or protection can be provided.

For Metering: all IEEE designated accuracy classes, i.e. 0.3, 0.6, 1.2 and for burdens B0.1 through B2.0.

For Protection: all IEEE accuracy classes up to C800 depending on current and number of cores required. Table over leaf offers catalog numbers for standard metering designs.

Thermal & Dynamic Rating

For designs up to 600A the short time thermal rating is 100 times nominal current for 1 second and above 600A it is 60kA/1second.

The dynamic short time rating is 2.5 times the thermal rating.

Ambient Air Temperatures

The standard design is suitable for a daily mean temperature of +50°C and a minimum temperature of -40°C. Other ambient temperature ranges can be provided on request, e.g. a range for -50°C to +50°C.

Mechanical Strength

Static test load (applied to the primary terminal in any direction and to the top housing): 1100 lbs. (4900N).

Earthquake-Proof Design

The standard design is earthquake-proof up to 0.3 g. More stringent seismic design criteria can be achieved on special request.

Tests

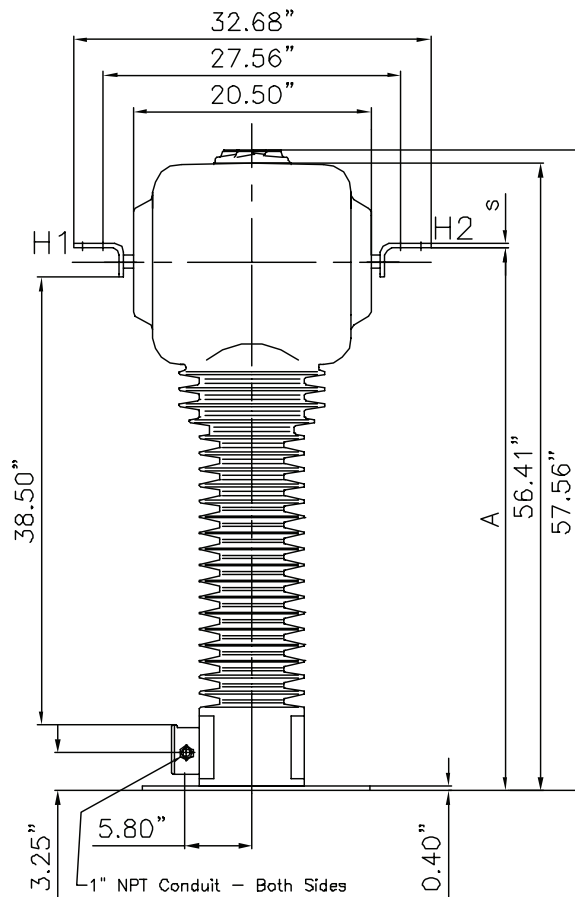
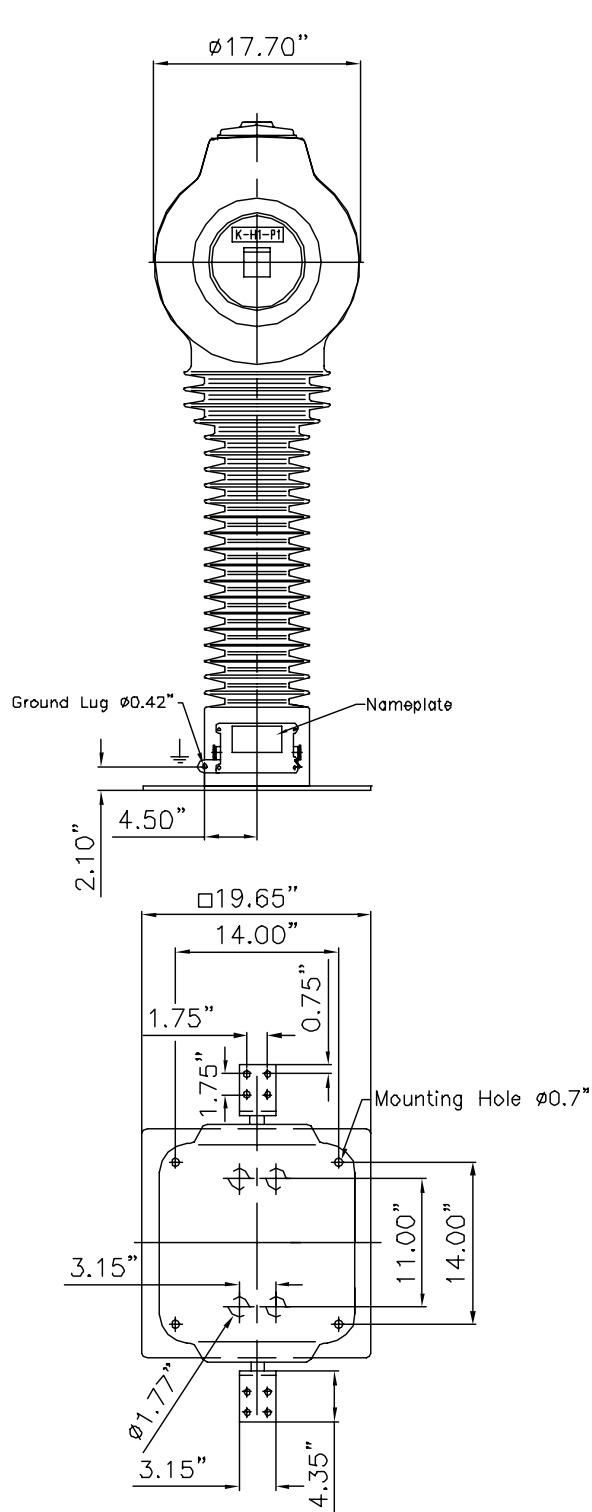
Routine tests performed in compliance with IEEE or other standard. Measurement of internal partial discharges is performed as a routine test on each unit. Max permissible PD-level: <50 pC at 1.2 x V_m, <20 pC at 1.2 x V_m/√3

Construction

Post-type design with solid conductor or wound primary. The core and coil assembly is encapsulated in cycloaliphic epoxy resin in a single process under vacuum using the pressure gelation method. The resin color is grey. Brown is available by special order.

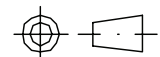
Benefits to this design include:

- elimination of oil from substation
- excellent tracking resistance
- noncombustible
- good ability to withstand ultra-violet rays
- high mechanical strength



I_{MAX} / A	s	A
<500	0.4"	46.85"
>500...1250	0.4"	46.85"
>1250...2000	0.6"	46.85"
>2000...3000	0.8"	47.25"

Maximum System Voltage	72.5 kV
Power Freq. Withstand Volt.	140 kV
Basic Impulse Level	350 kV
Creepage Distance	101.8"
Strike Distance	38.5"
Weight	550 lbs
Cantilever Strength	1100 lbs
Small deviations in weight and dimensions are possible.	



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