

COMPONENTS OF ZIEGLER ROUND TYPE CURRENT TRANSFORMER



Rated	ZiR 7.30B			PRIMARY	ZiR 7.30D			PRIMARY	ZiR 8.43B			
Primary	Dimension of busbar hole. \varnothing 30mm			CURRENT	Dimension of busbar hole. Ø 30 mm			CURRENT	Dimension of busbar hole. Ø 43 mm			
Current	Accuracy Class				Accuracy Class				Accuracy Class			
	0.5	1	3		0.5	1	3		0.2	0.55	0.5	1
50A	-	1.5VA	2.5VA	50A	-	1.5VA	3.75VA	50A	-	-	-	-
60A	-	1.5VA	2.5VA	60A	-	1.5VA	5VA	60A	-	-	-	1VA
75A	-	1.5VA	3.75VA	75A	1.5VA	2.5VA	5VA	75A	-	-	-	1VA
80A	-	-	-	-	-	-	-	-	-	-	-	1.5VA
100A	1.5VA	2.5VA	5VA	100A	2.5VA	5VA	7.5VA	100A	-	-	1VA	2.5VA
120A	1.5VA	2.5VA	5VA	120A	2.5VA	5VA	7.5VA	120A	-	-	1VA	2.5VA
125A	2.5VA	3.75VA	5VA	125A	2.5VA	5VA	7.5VA	125A	-	-	1VA	2.5VA
150A	2.5VA	5VA	7.5VA	150A	5VA	10VA	10VA	150A	-	-	1.5VA	3.75VA
200A	5VA	10VA	-	200A	10VA	15VA	-	200A	1.5VA	5VA	5VA	10VA
250A	-	-	-	250A	-	-	-	250A	2.5VA	7.5VA	7.5VA	15VA
300A	-	-	-	300A	-	-	-	300A	3.75VA	10VA	10VA	20VA

ZIR SERIES CURRENT TRANSFORMER POSSIBLE COMBINATIONS :

Rated	ZiR 10.58B				ZiR 11.72B				ZiR 15.11B			
Primary	Dimension of busbar hole. Ø 58mm				Dimension of busbar hole. Ø 72 mm				Dimension of busbar hole. Ø 113 mm			
Current	Accuracy Class				Accuracy Class				Accuracy Class			
	0.2	0.55	0.5	1	0.2	0.55	0.5	1	0.2	0.55	0.5	1
120A	-	-	-	1VA	-	-	-	-	-	-	-	-
125A	-	-	-	1.5VA	-	-	-	-	-	_	-	-
150A	-	-	1VA	2.5VA	_	-	-	-	_	_	-	-
200A	-	1.5VA	2.5VA	5VA	-	-	-	1.5VA	-	-	-	-
250A	-	2.5VA	3.75VA	7.5VA	-	-	1.5VA	2.5VA	-	-	-	-
300A	-	3.75VA	5VA	10VA	-	-	2.5VA	5VA	-	-	-	-
400A	3.75VA	5VA	10VA	20VA	2.5VA	5VA	7.5VA	12.5VA	-	-	-	-
500A	5VA	7.5VA	15VA	25VA	3.75VA	7.5VA	10VA	15VA	-	_	-	-
600A	7.5VA	10VA	15VA	25VA	5VA	7.5VA	10VA	15VA	1.5VA	3.75VA	5VA	10VA
800A	-	-	-	-	10VA	15VA	15VA	30VA	2.5VA	7.5VA	10VA	15VA
1000A	-	-	-	-	10VA	15VA	15VA	30VA	3.75VA	7.5VA	10VA	15VA
1200A	-	-	-	-	-	-	-	-	15VA	15VA	20VA	30VA
1250A	-	-	-	-	-	-	-	-	15VA	15VA	20VA	30VA
1500A	-	-	-	-	-	-	-	-	15VA	15VA	20VA	30VA
1600A	-	-	-	-	-	-	-	-	15VA	15VA	20VA	30VA
2000A	-	-	-	-		-	-	-	15VA	20VA	25VA	45VA
2500A	-	-	-	-	_	-	-	-	15VA	20VA	25VA	45VA
3000A	-	-	-	-	_	-	-	-	15VA	25VA	30VA	45VA
3200A	-	-	-	-	-	-	_	-	15VA	25VA	30VA	45VA

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ZIR 8.43B ZIEGLER ZIR SERIES CURRENT TRANSFORMER

ZiR 8.43B





ZIR 8 & 10 SERIES CURRENT TRANSFORMER POSSIBLE COMBINATIONS :

Rated	ZiR 8.43B								
Primary	Dimensions of busbar hole.Dia 43 mm								
current		Accura	cy Class						
	0.25	0.55	0.5	1					
50A	-	-	-	-					
60A	-	-	-	1VA					
75A	-	-	-	1VA					
80A	-	-	-	1.5VA					
100A	-	-	1VA	2.5VA					
120A	-	-	1VA	2.5VA					
125A	-	-	1VA	2.5VA					
150A	-	-	1.5VA	3.75VA					
200A	1.5VA	5VA	5VA	10VA					
250A	2.5VA	7.5VA	7.5VA	15VA					
300A	3.75VA	10VA	10VA	20VA					

NOTE : On request orders for types different from table are accepted. 1A Secondary available on request

ORDER EXAMPLE: ZIR 8.43B 300A/5A, CL.0.5, 10VA

SYS VTG.: 720Vmax TEST VTG.: 4kV 50 Hz 1min



ZIEGLER INSTRUMENTS

Schnepfenreuther Weg 6, D-90425 Nürnberg, Germany.

TEL. FAX. (+49)(911) 38 492 45 E-MAIL (+49)(911) 32 26 212 WEBSITE info@ziegler-instruments.com www.ziegler-instruments.com





ZIR 8.43B

► ROUTINE TEST:

- Tests carried out on each current transformer to check requirements likely to vary during production.
- The following tests apply to each individual transformer:
- A. Verification of terminal markings
- B. Power-frequency withstands test primary winding.
- C. Partial discharge measurement.
- **D.** Power-frequency withstand test on secondary windings.
- E. Power-frequency withstand test, between sections.
- F. Inter-turn over voltage test
- G. Determination of errors.

The order of the tests is not standardized, but determination of error shall be performed after the other test.

SPECIAL TESTS / OPTIONAL TESTS:

Test which may be in the nature of type tests or routine tests, and are carried out only by agreement between manufacturer and purchaser.

TYPE TEST:

- Tests carried out to prove the general qualities and design of a given type of current transformer in accordance with the requirements of the applicable standards.
- Tests may be carried out on a prototype which may incorporate special arrangements for the measurements required by applicable standard.

The following tests are type test:

- A. Short time current test
- **B.** Temperature rise test
- **C.** Lightning impulse test
- **D.** Switching impulse test
- E. Wet test for outdoor type transformer
- F. Determination of errors
- G. Radio Interference Voltage measurement (RIV) (As specified in IEC 60044-1)

All the dielectric type test should be carried out on the same transformer, unless otherwise specified.

SHORT TIME CURRENT TEST:

For the thermal short time current (I_{th}) test the transformer shall be at a temperature 10°C to 40°C. The test shall be made with the secondary winding short circuited and at the current "I" for a time "t", so that (I^2t) is not less then (I_{th}^2) and provided t has a value between 0.5s and 5s.

The dynamic test shall be made with the secondary winding (s) short-circuited and with a primary current the peak value of which is not less than the rated dynamic current (I_{dyn}) for at least one peak.

The dynamic test may be combined with the thermal test above, provided the first major peak current of that test is not less than the rated dynamic current (I_{dyn}).

The transformer shall be deemed to have passed these tests if, after cooling to ambient temperature (between 10°C and 40°C), it satisfies the following requirements:

A. It is not visibly damaged;
B. Its errors after demagnetization do not differ from those recorded before the tests by more than half the limits of error appropriate to its accuracy class
C. It withstands the dielectric tests specified in 8.2, 8.3 and 8.4 but with the test voltage or currents reduced to 90% of those given.
D. On examination, the insulation next to the surface of the conductor does not show significant deterioration (e.g. Carbonization).

TEMPERATURE-RISE TEST:

A test shall be made to prove compliance with the requirement of 4.6. for the purpose of this test, current transformers shall be deemed to have attained steady temperature when the rate of temperature rise does not exceed 1 K per hour.

The test-site ambient temperature shall be between 10°C and 30°C. For the test the transformer shall be mounted in a manner representative of the mounting in service.

The temperature rise of winding shall, when practicable, be measured by the increase in resistance method, but for winding of very low resistance, thermocouples may be employed.

The temperature rise of parts other than windings may be measured by thermometer or thermocouples.

► VERIFICATION OF TERMINAL MARKINGS:

It shall be verified that the terminal markings are correct.

POWER-FREQUENCY TEST:

The power frequency withstand test shall be performed in accordance with IEC 60060-1.

The test voltage shall have the appropriate value given in table 3 or 5 (in IEC 60044-1 standard) depending on the highest voltage for equipment. The duration shall be 60sec.

The test voltage shall be applied between the short-circuited primary winding and earth. The short-circuited secondary winding (s), the frame, case (if any) and core (if there is a special earth terminal) shall be connected to earth.

► INTER-TURN OVER VOLTAGE TEST:

The inter-turn over voltage test shall be performed in accordance with one of the following procedures.

Procedure : with the primary winding open-circuited, the prescribed test voltage (at same suitable frequency) shall be applied for 60sec to the terminals of each secondary winding, providing that the r m s value of the secondary current does not exceed the rated secondary current (or rated extended current).

The value of the test frequency shall not be greater than 400 Hz. At this frequency if the voltage value achieved at the rated secondary current (or rated extended current) is lower than 4.5 kV peak the obtained voltage is to be regarded as the best voltage. When the frequency exceeds twice the rated frequency, the duration of the test may be reduced from 60 s.

(Note: The tests which are applicable to ring type/ window type, low tension, [LT] C.T. are given here. For remaining test procedure, please refer applicable standard.)

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