

TURN RATIO TESTER DAC-RT-6

DAC-RT-6 is designed to measure winding turns ratio between primary and secondary winding of a power transformer and an instrument transformer, precisely.
Built-in amplifier power source realizes stable measurement without interference by harmonic current in power-line.

Further, a preliminary measurement (for 10 sec.) is given before the main measurement to secure safety. In case of detecting wrong connection between primary and secondary windings, or any miss setup of turn ratio etc, the tester stops measurement with alarm sound.

Moreover, to pursue usability for users, max 10 sample (Turns ratio: 5 points for every sample) can be registered in an internal memory.

DAC-RT-6 is an ideal tester for safe, accurate, and efficient measurement of winding turns ratio.

Specimens

Power Transformers, Instrument Transformers

Features

- Preliminary measurement function to secure safety.
(Stop measurement with alarm sound at any abnormal condition)
- Built-in amplifier power source prevents interference from harmonic current in Power-line.
- Max 10 types of turns ratio can be registered, and 5 different ratio settings are available for every type. (totally 50 settings)
- Durable, compact, and light weight.
- Simple operation with LCD screen.

Specification

Measuring Voltage AC100V (20VA)
Turns Ratio Range 0.8:1 to 1:1500

Ratio Error Rate Range $\pm 2\%$ range : 0 - $\pm 2.00\%$
 $\pm 20\%$ range : 0 - $\pm 20.00\%$

Accuracy

Turns Ratio	Range	Accuracy
< 200	2%	$\pm 0.05\% \pm 2$ digits
	20%	$\pm 0.1\% \pm 2$ digits
201 - 1000	2%	$\pm 0.1\% \pm 2$ digits
	20%	
1001 - 1500	2%	$\pm 0.3\% \pm 2$ digits
	20%	

Setting Range HV(N1): 0.001 – 99999
LV(N2): 0.1 – 9999
Input Power AC100V-240V, 50/60Hz
Interface RS232C
Size and Weight W270xH180xD260mm Approx. 5kg
Accessory Measuring Cable (H.V/L.V) (5M)
AC Cord (1.5M), Grounding Cable (3M)



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Principal

Winding turns ratio error means how much real turns ratio (TRn) is different from nominal turns ratio (TR), and is calculated by using the following formula.

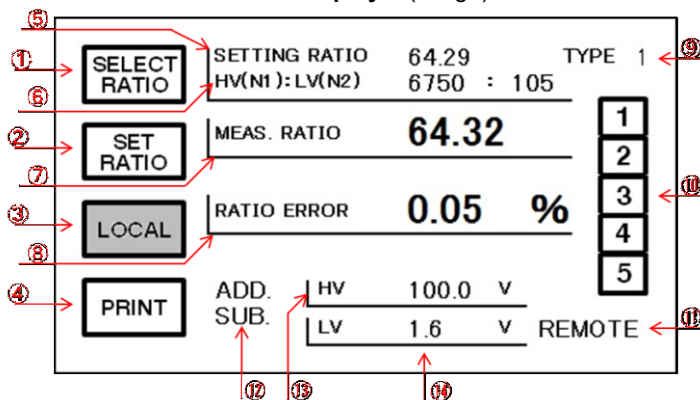
$$\varepsilon = (\text{TR} - \text{TRn}) / \text{TRn} \times 100 \%$$

Turns Ratio : TR
Nominal Turns Ratio : zTRn
Turns-Ratio Error : ε

DAC-RT-6 applies test voltage (100V) to HV side of a transformer under test and detect generated voltage at LV side. Turns ratio error will be measured by comparing nominal turns ratio value. Polarity (ADD or SUB) is discerned from phase differences between HV side and LV side. True turns ratio value will be displayed by calculating with the measured ratio error and nominal turns ratio value.

Display

Display 1 (image)



- (1) **SELECT RATIO** : Move to ratio selection screen
- (2) **SET RATIO** : Move to ratio setting screen
- (3) **LOCAL** : Release REMOTE condition
- (4) **PRINT** : Print out from an option printer
- (5) **SETTING RATIO** : Turns ratio value calculated from HV(N1) and LV(N2).
- (6) **HV(N1):LV(N2)** : Set-up values of HV(N1) and LV(N2)
- (7) **MEAS. RATIO** : Measured turns ratio
- (8) **RATIO ERROR** : Measured turns ratio error
- (9) **TYPE** : Move to list of transformer (display 2)
- (10) **Tap number** : Select registered ratio
- (11) **REMOTE** : Shown when the tester is in Remote mode
- (12) **POLARITY** : Discerned polarity (ADD or SUB)
- (13) **HV** : Voltage applied to N1 H.V
- (14) **LV** : Voltage generate to N2 L.V

Display 2 (image)

TYPE 1 /10	HV(N1) : LV(N2)	PRESET
1	6750 : 105	NEXT
2	6600 : 105	TYPE SELECT
3	6550 : 105	ENT
4	6300 : 105	ESC
5	6150 : 105	

Max 10 transformer types can be registered and numbered from 1 to 10, and Max 5 ratios can be registered for every type. Each of 5 ratios is displayed on a screen and can be selected by touching the number from 1 to 5. (Ref. display 2)