



Three-phase accurate ratiometer

MRT 3G

TECHNICAL SPECIFICATIONS



General information

Vettiner has over 86 years' experience in ratio test measurement. Since 1933, we design ratiometer for all transformer types (mono & three-phase)

Configuration

5 Test Voltages, option for 6 tests voltages
 1 three phase injection, 4 Mono Phase injection values (Automatic phase after phase).
 Touch Screen 7" or Keyboard/Mouse or PC control
 Power supply 85 V - 264 V / 45 Hz - 65 Hz,
 Autonomous power supply on rechargeable battery in option
 Industrial frequency of the mains power supply

Main applications

Power Transmission & Distribution Transformers
 Auto Transformers
 Instrument Transformers (CT, VT & CVT's)

Calibration

Vettiner calibration certificate included (BNM Traceable)*

**External laboratory calibration (ISO 17025,...) under request*

Environment

Operating temperature: -0°C up to +40°C
 Storage temperature: -10°C up to +50°C

Measurement

Test voltages: 3V - 10V - 40V - 120 V + 220V (mono) integrated + 40V (tri-phase)
 Clock Index/vector group: 00-11 & 0°00 - ±180,00°
 Simultaneous display of results on 3 phases

Main functions

Direct measurement of turns ratio
 Real phase measurement (Tri phase mode)
 Ratio error detection
 Phase angle error detection
 Polarity test
 Interturn short circuit detection
 Cut winding / circuit detection
 Coupling connection errors
 Inversion of sub-coils detection
 Abnormality in magnetic circuit detection

Benefits

Easy to use (Built-in soft assistance in addition)
 Automatic Vector Group detection
 Up to 1 spire more or less detection
 Built-in internal memory of test results and PC Transfer
 Built-in auto test & auto protection
 2 USB plugs (Storage, printing, ...)
 Ready/Edition of a test report on Excel or pdf
 Sturdiness & reliability over time
 Total safety of operator
 2 years warranty, 3 or 5 years in option
 10 years' service guaranteed, up to 50 years' service recorded

Some of the above technical data are valid at the above-mentioned date but could change without any notice at any time (Ex. dimensions or weight or else...)

Measuring specification

	Ranges	Display	Resolution	Accuracy
Turns ratio range	0.1 / 1 -> 20 000 / 1	5 1/2 digits	1.10^{-4}	$\leq 0.025 \% \text{ Rdg. } \pm 1 \text{ digit}$
Phase angle	$0^\circ - \pm 180^\circ$	5 1/2 digits	0.01°	$\leq 0.5^\circ \text{ Rdg. } \pm 1 \text{ digit}$
Excitation current	0 - 1 A	6 or more digits	1 μA	$\leq 1.0 \% \text{ Rdg. } \pm 1 \text{ digit}$

Cases

All MRT products are available in carrying case or rack case on simple request.

Carrying case

Dimension	465 mm x 380 mm x 175 mm
Weight	13 kg
Specification	Proof case IP 67

Option and accessories

Available sets of measuring cables

New High Quality of re-enforced elastomer cables

Different length & clamps, all possible combinations are available including possibility of addition of different length of extension cables.

1. Select your required length of cables "extension" ("XX")

2. Select your expected size of clamps with octopus cables

Ex. 5 m Extension cable + octopus with small crocodile clamps

Note: 5 m cables test set is already included

Octopus Cables + small Clamps

"HV" side & "LV" side

	Ref	Length
	TCAG-MRT-XX	1,25 m *

* Octopus cables length can be increased under request

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Cables Extension

"HV" side & "LV" side



Ref	Length
TCA-MRT-5	5 m
TCA-MRT-10	10 m
TCA MRT 15	15 m
TCA MRT XX	XX m under request

Extensions are "inter-connectable" together

Other accessories

Ref	Description
	ASS 12-230
	Autonomous supply /12V rechargeable battery
Nart	Artificial neutral (When neutral not accessible)
C-PRT-MRT	Multi-ratio standard for calibration
TCA-PP-MRT	Wireless portable printer for test result printing

All options and accessories specifications under request

**To be agreed*

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