



Three-phase accurate ratiometer

MRT 3

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

4 Test Voltages, option for 5 tests voltages
Mono Phase injection (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: 3 V - 10 V - 40 V - 120 V (Mono), 220V mono in option
Clock Index/vector group: 00-11
Simultaneous display of results on 3 phases

Main functions

Direct measurement of turns ratio
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 test results' memory and PC Transfer
Built-in auto test & auto protection
2 USB plugs (Storage, printing, ...)
Ready/Editing 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

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	$1 \mu\text{A}$	$\leq 1.0 \% \text{ Rdg. } \pm 1 \text{ digit}$

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	10 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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"HV" side & "LV" side

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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...)

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
	GTR	True Three 40 V generator (= "G " option)
	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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